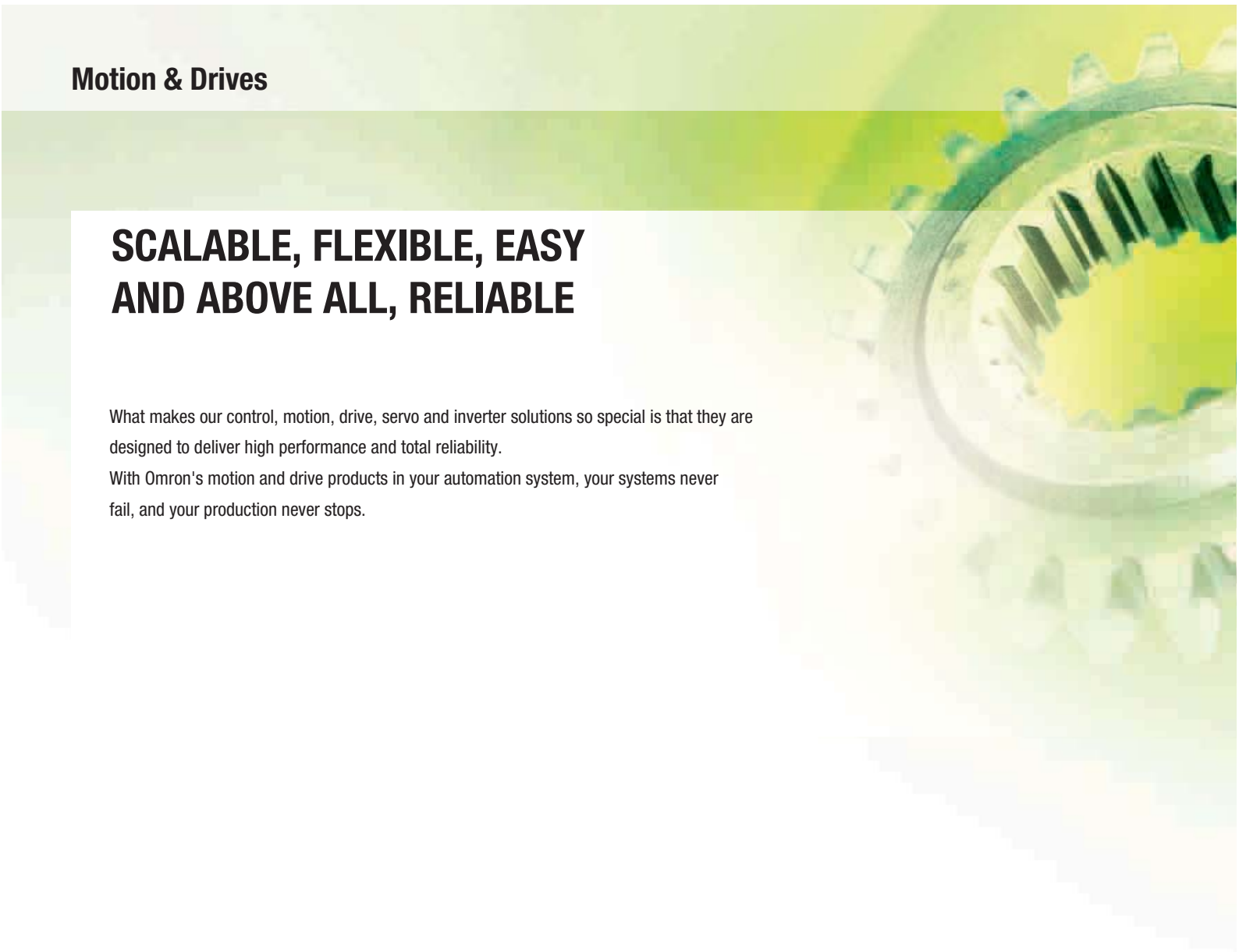


SCALABLE, FLEXIBLE, EASY AND ABOVE ALL, RELIABLE

What makes our control, motion, drive, servo and inverter solutions so special is that they are designed to deliver high performance and total reliability.
With Omron's motion and drive products in your automation system, your systems never fail, and your production never stops.

Motion & Drives – Table of contents

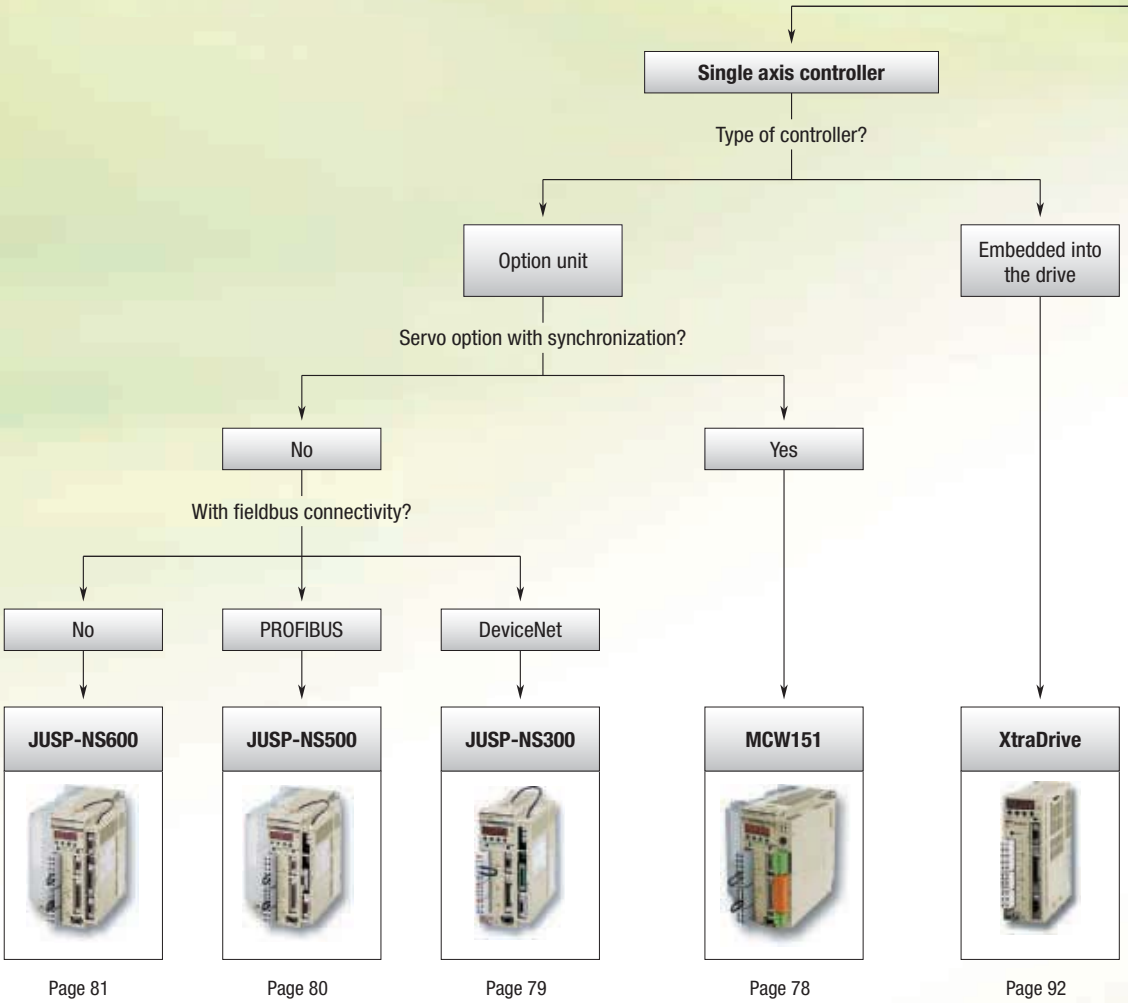
TOTAL FREEDOM IN MOTION CONTROL

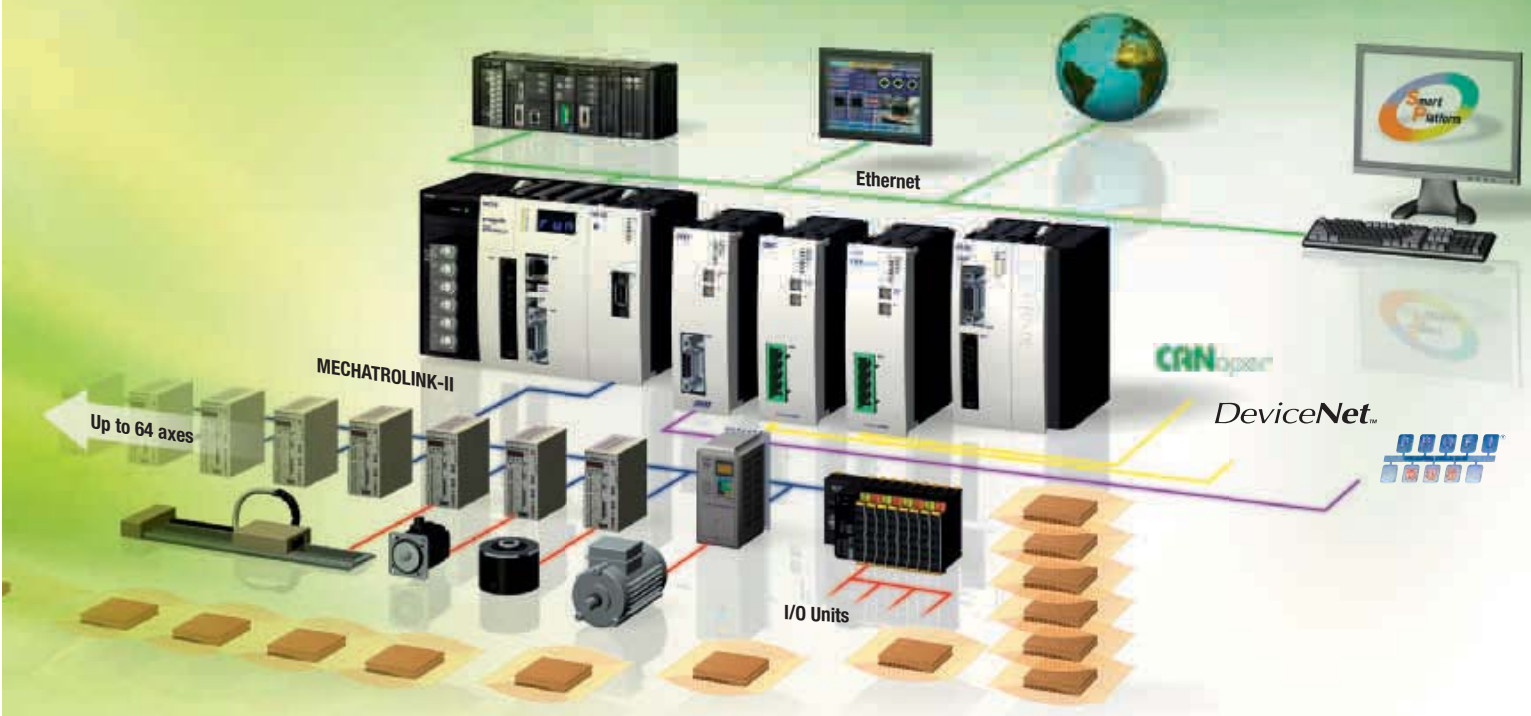
Trajexia – the advanced motion controller that puts you in control

Trajexia is the motion platform that offers you the performance of a dedicated motion system, the ease of use you get from an automation specialist and the peace of mind you have from a global player.

- 64 axes advanced motion coordination over a robust and fast motion link
- Each axis can run complex interpolation moves, e-cams and e-gearboxes
- Advanced debugging tools including trace and oscilloscope functions

Check how Trajexia can give you total freedom in motion control at:
www.trajexia.com





Which motion architecture do you need?

Multi-axis controller

Controller inside the Omron PLC?

Stand-alone controller

Yes

Control over MECHATROLINK?

No

Yes

Control method?

Pulse train output

Analog output

Single to multi-axes PTP applications

Advanced motion, e-cam, multi-axis synchronization

Trajexia stand-alone

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NCs

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MCs

Please contact your Omron representative

NC_71

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Trajexia MCH72

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Multi-axes motion controllers				
				
Model	**Trajexia stand-alone**	**Trajexia-PLC CJ1W-MCH72**	**CJ1W-NC_71**	**CJ1W-NC_**
	Flexible concept of advanced motion control over MECHATROLINK-II motion bus and traditional interfaces	Flexible concept of advanced motion control over MECHATROLINK-II motion bus in PLC format	Point-to-point positioning controller over MECHATROLINK-II motion bus	Point-to-point positioning controller
Axes control method	MECHATROLINK-II motion bus, analogue output and pulse-train output	MECHATROLINK-II motion bus	MECHATROLINK-II motion bus	Pulse train output
Number of axes	4, 16, 64	30 axes	2, 4, 16	1, 2, 4
Applicable servo drive	Junma ML-II, Sigma-II, Sigma-5 ML-II, G-Series, Accurax G5	Junma ML-II, Sigma-II, Sigma-5 ML-II, G-Series, Accurax G5	Junma ML-II, Sigma-II, G-Series, Accurax G5	SmartStep, Junma Pulse, Sigma-II, Sigma-5 A/P, SmartStep2, Accurax G5
Application	Advanced motion, e-cam, e-gearbox, phase shift, registration	Advanced motion, e-cam, e-gearbox, phase shift, registration	From simple PTP to multi axis PTP coordinated systems.	Point to point applications
Servo control mode	Position, speed and torque	Position, speed and torque	Position, speed and torque	Open loop position with linear interpolation
PLC series	Stand-alone motion solution. Serial, Ethernet, PROFIBUS-DP, DeviceNet and CANopen connectivity	CJ1 PLC	CJ1 and CS1 PLCs	CJ1 and CS1 PLCs
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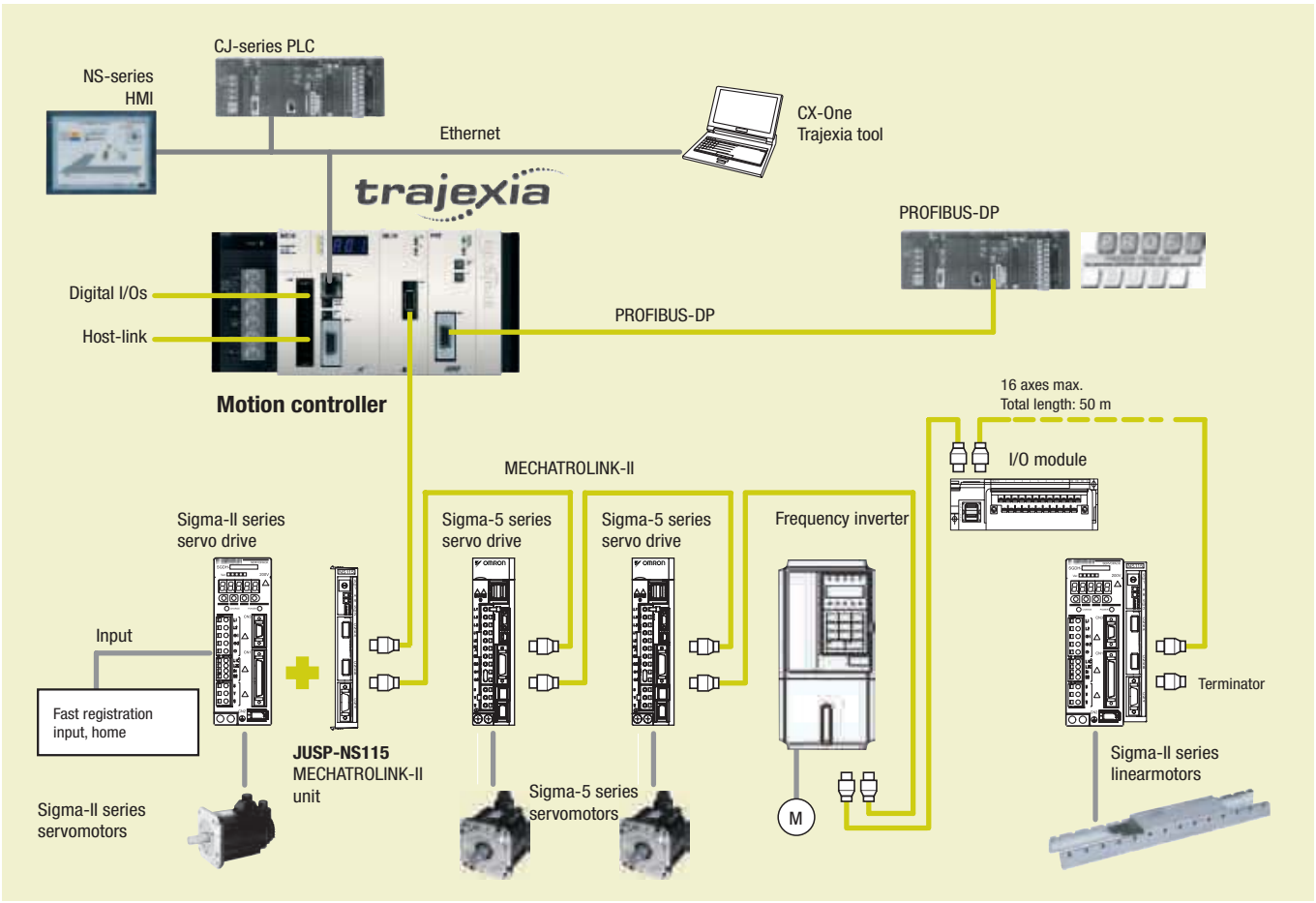
Servo based motion controllers					
					
Model	**R88A-MCW151**	**XtraDrive**	**JUSP-NS300**	**JUSP-NS500**	**JUSP-NS600**
	Advanced motion in a compact package	All in one! Servo drive and motion controller integrated	Position controller over DeviceNet	Position controller over PROFIBUS-DP	Position controller over serial link
Axes control method	Direct connection to servo drive	Integrated into the servo drive	Direct connection to servo drive	Direct connection to servo drive	Direct connection to servo drive
Connectivity	DeviceNet, PROFIBUS, Hostlink	PROFIBUS	DeviceNet	PROFIBUS	RS-485/RS-422
Digital I/O	8 DI, 6 DO, 2 registration inputs, 1 encoder in 1 pulse out + servo I/Os	Servo inputs + expansion available	Uses the servo I/O and adds 2 additional DO and 1 DI	Uses the servo I/O and adds 2 additional DO and 1 DI	Uses the servo I/O and adds 8 additional DI and 6 DO
Application	Advanced motion, e-cam, ELS, phase shift, registration	Advanced motion	Point to point with registration capability	Point to point with registration capability	Point to point with registration capability
Servo control mode	Position, speed and torque. Open loop for additional axis	Position, speed and torque	Position and speed		
Applicable servo drive	Sigma-II	XtraDrive	Sigma-II		
Page	78	92	79	80	81

The advanced motion controller that puts you in control

Trajexia is Omron's new motion platform that offers you the performance of a dedicated motion system, the ease of use you get from an automation specialist and the peace of mind you have from a global player. Trajexia puts you in full control to create the best machines today and… tomorrow.

- Control of up to 64 axes over a robust and fast motion bus
- Advanced motion control such as CAM control, registration control, interpolation and axes synchronization via simple motion commands
- Control of servos, inverters and I/Os over a single motion network
- Multi-tasking controller capable of running up to 22 tasks simultaneously
- Open communication: serial, Ethernet built-in, PROFIBUS-DP, DeviceNet and CANopen

System configuration



Ordering information

Trajexia motion controller

Name	Order code
Trajexia motion controller unit. Controls up to16 servos and 8 inverters, Ethernet port built-in.	TJ1-MC16
Trajexia motion controller unit. Controls up to 4 axes, Ethernet port built-in.	TJ1-MC04
Trajexia motion controller unit. Controls up to 64 axes, Ethernet port built-in.	TJ2-MC64
Power supply for Trajexia controller 100-240 VAC	CJ1W-PA202
Power supply for Trajexia controller 24 VDC	CJ1W-PD022

Trajexia – axes control modules

Name	Order code
Trajexia MECHATROLINK-II master unit (up to 16 axes)	TJ1-ML16
Trajexia MECHATROLINK-II master unit (up to 4 axes)	TJ1-ML04
Trajexia flexible axes unit (for 2 axes)	TJ1-FL02

Note: The TJ1-ML04 and TJ1-ML16 supported by the TJ2-MC64 motion controller are V2 (Version 2) and lot number equal or above Lot No.091019 (YYMMDD).

Trajexia – communication modules

Name	Order code
Trajexia PROFIBUS-DP slave unit	TJ1-PRT
Trajexia DeviceNet slave unit	TJ1-DRT

MECHATROLINK-II - related devices

Name	Remarks	Order code
Distributed I/O modules	64-point input and 64-point output	JEPMC-IO2310
	Analogue input: -10 V to +10 V, 4 channels	JEPMC-AN2900
	Analogue output: -10 V to +10 V, 2 channels	JEPMC-AN2910
MECHATROLINK-II cables	0.5 meter	JEPMC-W6003-A5
	1 meter	JEPMC-W6003-01
	3 meters	JEPMC-W6003-03
	5 meters	JEPMC-W6003-05
	10 meters	JEPMC-W6003-10
	20 meters	JEPMC-W6003-20
	30 meters	JEPMC-W6003-30
MECHATROLINK-II terminator	Terminating resistor	JEPMC-W6022
MECHATROLINK-II interface unit	For Sigma-II series servo drives. (Firmware version 38 or later)	JUSP-NS115
	For Varispeed V7 inverter (For inverter's version supported contact your Omron sales office)	SI-T/V7
	For Varispeed F7, G7 inverter (For inverter's version supported contact your Omron sales office)	SI-T

I/O Cables

	Remarks	Length m	Order code
I/O cable for JEPMC-IO2310	With connector on the IO2310 side	0.5	JEPMC-W5410-05
		1.0	JEPMC-W5410-10
		3.0	JEPMC-W5410-30

Servo system

Note: Refer to servo systems section for detailed information.

Frequency inverters

Note: Refer to frequency inverters section for detailed information.

Computer software

Specifications	Order code
CX-Motion Pro V1.22 or higher	CX-One
Trajexia Studio[*1] V1.22 or higher	TJ1-Studio

[*1] When the Trajexia Studio software is included in CX-One, then it is called CX-Motion Pro.

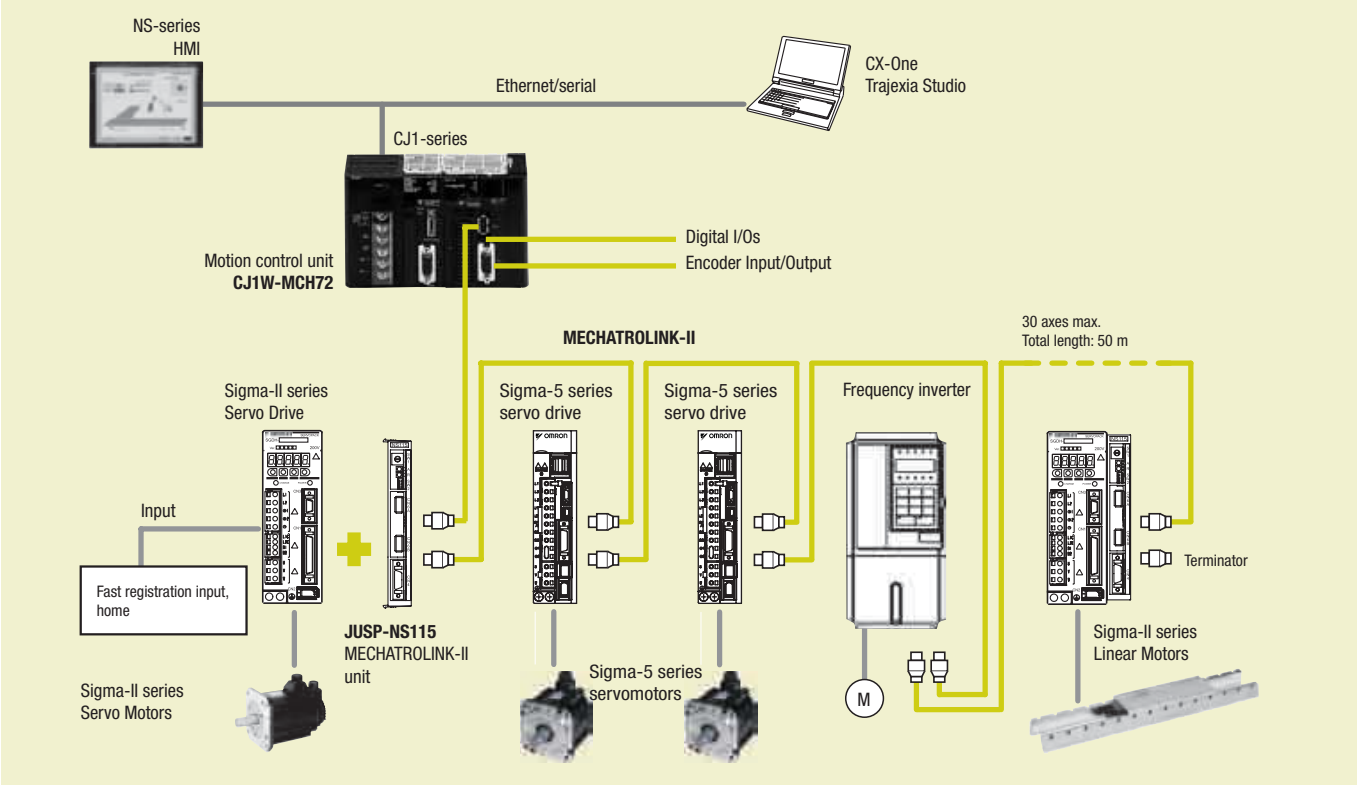
For full specifications please refer to chapter software on page 582.

Trajexia motion controller integrated with your PLC

Trajexia, the family of advanced motion controllers that put you in control, now has a compact and integrated version. Meet Trajexia-PLC, the motion controller that has all the flexibility and modularity of Omron PLCs, plus the outstanding motion-control features of the Trajexia platform.

- Control of up to 30 physical axes
- Control of servos and inverters over a single motion network
- Advanced motion control such as CAM control, registration control, interpolation and axes synchronization via simple motion commands
- Serial port for external encoder
- Embedded digital I/Os
- I/O data exchange with the PLC CPU

Ordering information



Motion controller

Name	Order code
MECHATROLINK-II Trajexia motion control unit	CJ1W-MCH72

MECHATROLINK-II - Related devices

Name	Remarks	Order code
MECHATROLINK-II cables	0.5 meter	JEPMC-W6003-A5
	1 meter	JEPMC-W6003-01
	3 meters	JEPMC-W6003-03
	5 meters	JEPMC-W6003-05
	10 meters	JEPMC-W6003-10
	20 meters	JEPMC-W6003-20
	30 meters	JEPMC-W6003-30
MECHATROLINK-II terminator	Terminating resistor	JEPMC-W6022
MECHATROLINK-II interface units	For Sigma-II series servo drives. (Firmware version 38 or later)	JUSP-NS115
	For Varispeed F7, G7 inverter (For inverter version support contact your Omron sales office)	SI-T
MECHATROLINK-II repeater	When 17 or more axes are connected to the MECHATROLINK-II the repeater is required	JEPMC-REP2000

Servo system

Note: Refer to servo systems section for detailed information

Frequency inverters

Note: Refer to frequency inverters section for detailed information

Computer software

Specifications	Order code
CX-Motion Pro V1.22 or higher	CX-One
Trajexia Studio*1 V1.22 or higher	TJ1-Studio

*1 When the Trajexia Studio software is included in CX-One, then it is called CX-Motion Pro.

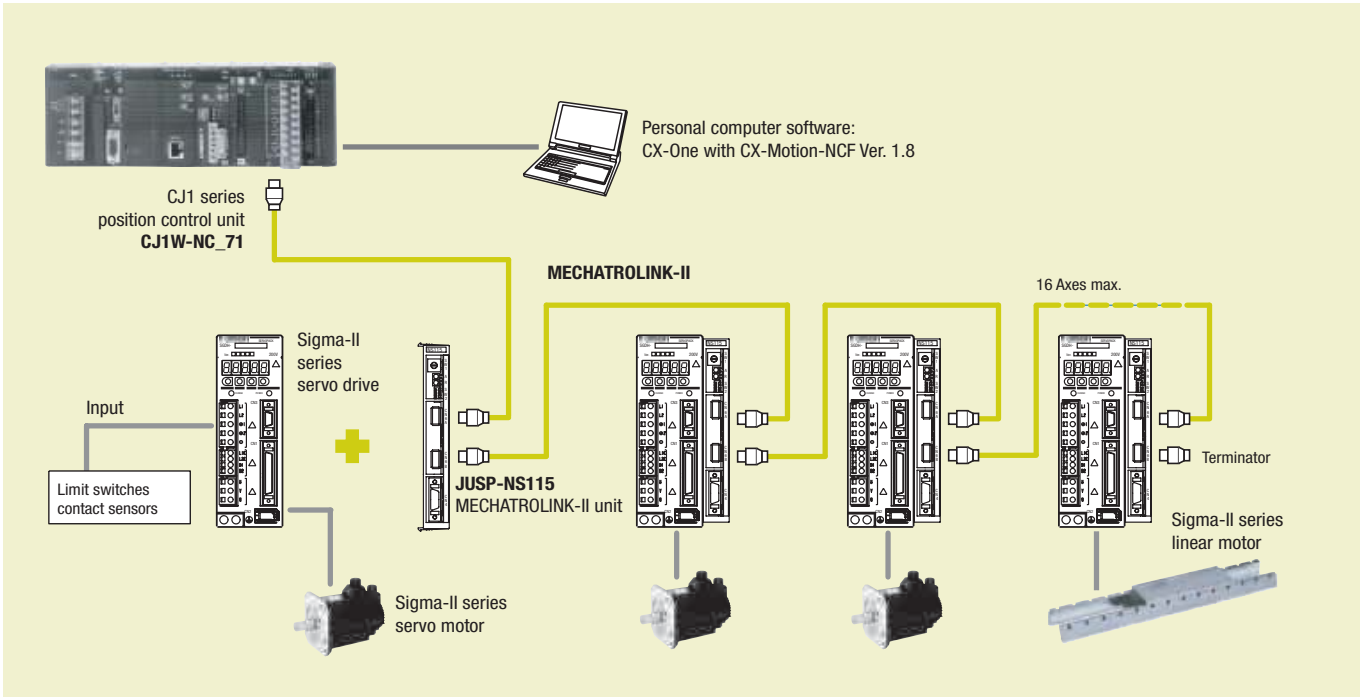
For full specifications please refer to chapter software on page 582.

2, 4 and 16-axis point-to-point positioning controller over MECHATROLINK-II

NC_71 is a powerful controller for point-to-point applications. It is based on MECHATROLINK-II motion bus, which reduces programming, development and maintenance costs. Supports PLC open function blocks.

- Simplified wiring. Data routing to all servo drives (MECHATROLINK)
- Integration into Omron Smart Platform: FBs, SAPs, CX-One
- Servo drives full control and parameter access via MECHATROLINK
- Easy, fast, reliable, optimised for positioning applications
- Advanced PTP: 8-axis (4 dim.+ 4 dim.) interpolator (16 axis version)

Ordering information



Position controller unit

Name	Order code
MECHATROLINK-II position controller unit 2-axis	CJ1W-NC271
MECHATROLINK-II position controller unit 4-axis	CJ1W-NC471
MECHATROLINK-II position controller unit 16-axis	CJ1W-NCF71

MECHATROLINK-II related devices

Name	Remarks	Order code
MECHATROLINK-II interface unit	For Sigma-II series servo drives. (Firmware version 38 or later)	JUSP-NS115
MECHATROLINK-II terminator	Terminating resistor	JEPMC-W6022
MECHATROLINK-II cables	0.5 meter	JEPMC-W6003-A5
	1 meter	JEPMC-W6003-01
	3 meters	JEPMC-W6003-03
	5 meters	JEPMC-W6003-05
	10 meters	JEPMC-W6003-10
	20 meters	JEPMC-W6003-20
	30 meters	JEPMC-W6003-30

Servo system

Note: Refer to servo systems section for more information

Computer software

Specifications	Order code
CX-One version 3 or higher	CX-ONE

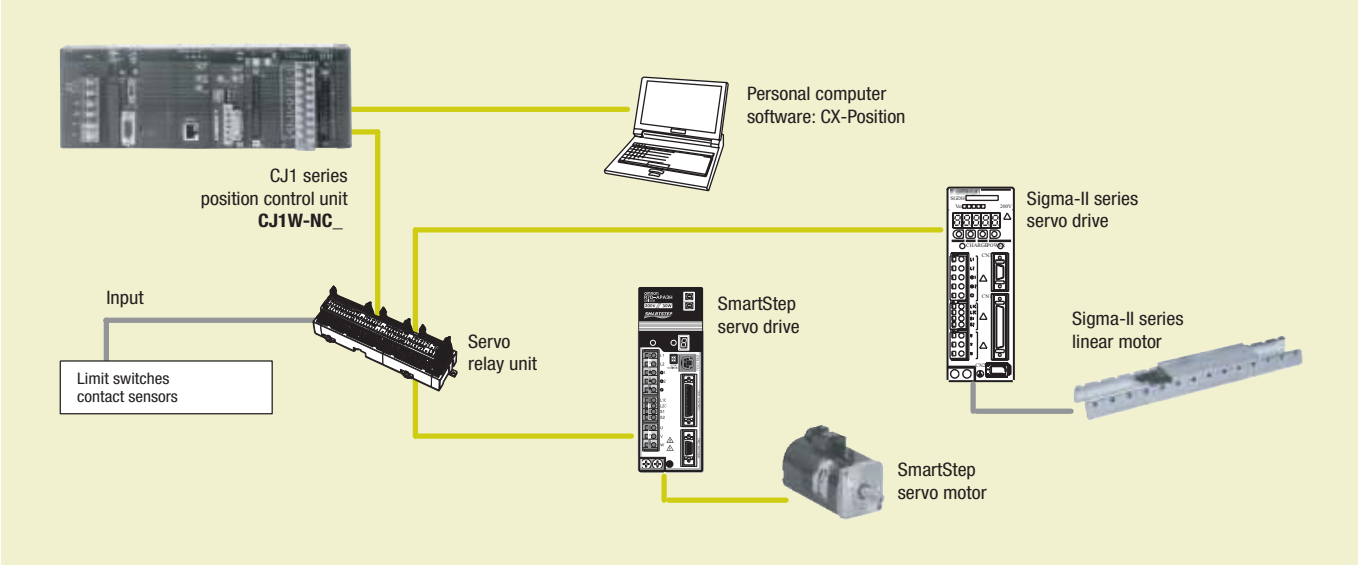
For full specifications please refer to chapter software on page 582.

4-axis point-to-point positioning controller with pulse train output

The NC motion controllers support positioning control via pulse-train outputs. Positioning is performed using trapezoidal or S-curve acceleration and deceleration. Ideal for controlling simple positioning in stepper motors and servos with pulse-train input.

- Positioning can be done by direct ladder commands
- Positioning using trapezoidal and S curve
- Interrupt feeding function
- Positioning points are saved in internal flash memory
- Origin search and backlash compensation functions

Ordering information



Position control unit

Name	Order code
1 axis position control unit. Open-collector output	CJ1W-NC113
2 axes position control unit. Open-collector output	CJ1W-NC213
4 axes position control unit. Open-collector output	CJ1W-NC413
1 axis position control unit. Line-driver output	CJ1W-NC133
2 axes position control unit. Line-driver output	CJ1W-NC233
4 axes position control unit. Line-driver output	CJ1W-NC433

Servo drive cables

Note: Refer the selected servo systems section for cable and servo relay units information.

Computer software

Specifications	Order code
CX-One version 1.1 or higher	CX-ONE

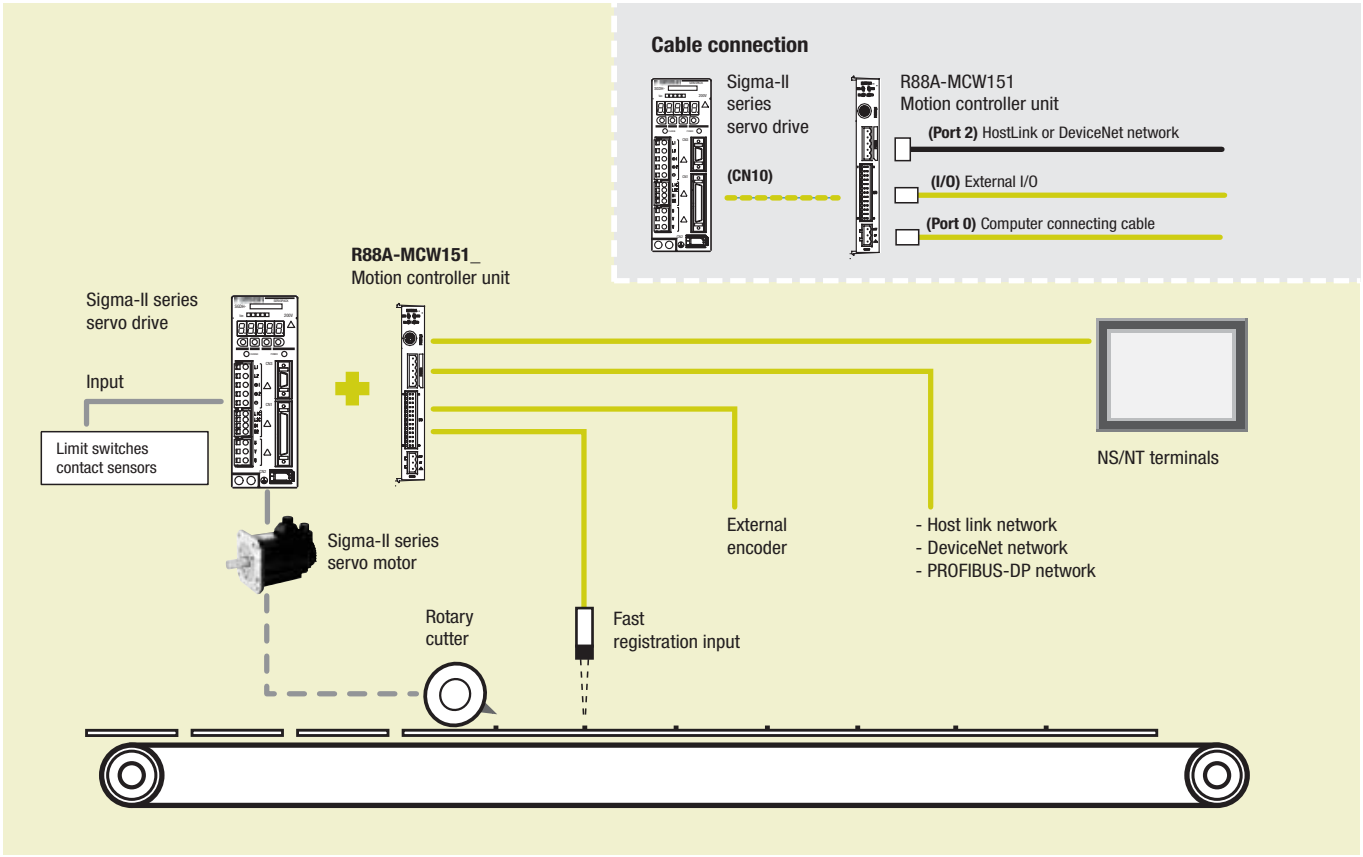
For full specifications please refer to chapter software on page 582.

Motion in a compact package

The MCW151 is a powerful servo-based controller. Complex motions such as cams, gears, linked axes and interpolation are made easy with a comprehensive BASIC command set.

- Controls 1 real axis, 1 virtual axis and a configurable third axis
- One pulse-train output to control an additional axis
- User-friendly and intuitive BASIC motion programming
- Multi-tasking programming
- 2 fast-registration inputs

Ordering information



Motion controller unit

Name	Order code
1.5 axis advanced motion controller with host link interface	R88A-MCW151-E
1.5 axis advanced motion controller with DeviceNet interface	R88A-MCW151-DRT-E

PROFIBUS connectivity

Name	Order code
PROFIBUS-DP module interface for R88A-MCW151-E motion controllers	PRT1-SCU11

Serial cables (for Port 0, 1)

Name	Order code
Programming cable, 2 m. (Port 0)	R88A-CCM002P4-E
Splitter cable, 1 m (Port 0 & 1). Combined with R88A-CCM002P4-E cable allows using motion perfect and a general purpose application.(e.g. terminal)	R88A-CCM001P5-E

Connectors

Specification	Order code
I/O connector (Included in package)	B2L 3.5/26 SN SW (Weidmüler)
Power connector (Included in package)	MSTB 2.5/3-ST-5.08 (Phoenix)
Port 2 connector (Included in package)	MSTB 2.5/5-ST-5.08 (Phoenix)

Note: For a complete view of DeviceNet network accessories, refer to Automation systems catalogue or contact your Omron representative.

Computer software

Specifications	Order code
Motion perfect	MOTION TOOLS CD
EDS file	

Servo System

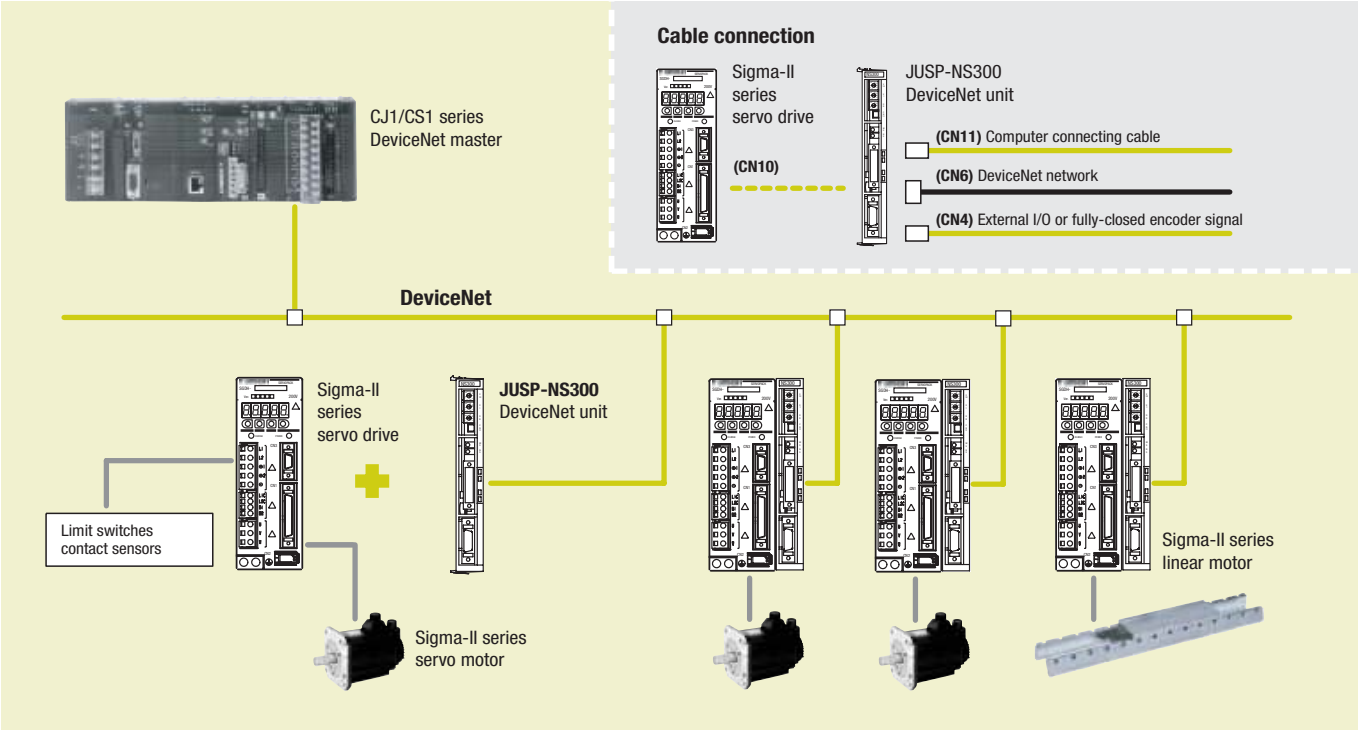
Note: Refer to the servo systems section for more information

Position controller over DeviceNet

The NS300 is the drive-based solution for simple and reliable positioning using DeviceNet.

- No programming language is necessary
- Up to 63 drives can be connected in a network
- Supports polling I/O and explicit messages
- Parameters are maintained by the PLC
- Various positioning modes (homing, multistep and speed positioning)

Ordering information



DeviceNet interface unit

Name	Order code
DeviceNet Interface unit with point to point positioning functionality	JUSP-NS300

Serial cable (for CN11)

Name		Order code
Computer connecting cable	2 m	R88A-CCW002P4

Connectors

Name	Order code
Connector for CN4. For connecting external I/O signals or fully-closed encoder signals	R88A-CNU01R or DE9406973
Connector for CN6. DeviceNet connector with retaining screws	XW4B-05C1-H1-D
Connector for CN6. DeviceNet multi-branching connector with retaining screws	XW4B-05C4-TF-D
Connector for CN6. DeviceNet multi-branching connector (without retaining screws)	XW4B-05C4-T-D

Note: For a complete view of DeviceNet network accessories, refer to networks section or contact your Omron representative.

Computer software

Name	Order code
NS tool	MOTION TOOLS CD
ESD file	

Servo system

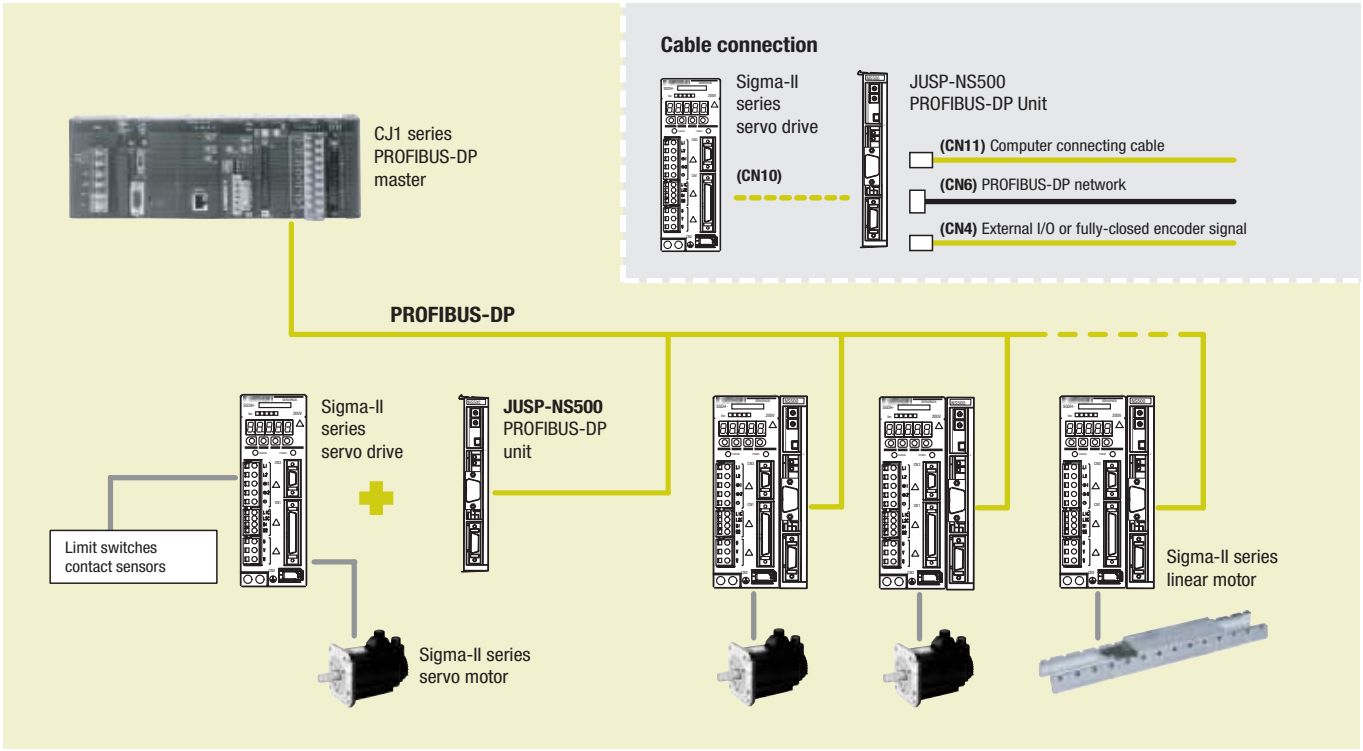
Note: Refer to the Servo systems section for more information.

Position controller over PROFIBUS-DP

The NS500 is a flexible and simple distributed control over PROFIBUS-DP.
It connects directly to the Sigma-II and has several positioning modes, making it simple to configure.

- No programming language is necessary
- Various positioning modes (homing, multistep and speed positioning)
- Connects directly to Sigma-II drives
- Up to 125 servos can be connected
- Fully closed control loop

Ordering information



PROFIBUS-DP interface unit

Name	Order code
PROFIBUS-DP interface unit with point to point positioning functionality	JUSP-NS500

Serial cable (for CN11)

Name		Order code
Computer connecting cable	2 m	R88A-CCW002P4

Connectors

Name	Order code
Connector for CN4. For connecting external I/O signals or fully-closed encoder signals	R88A-CNU01R or DE9406973

Computer software

Name	Order code
NS tool	MOTION TOOLS CD
GSD file	

Servo system

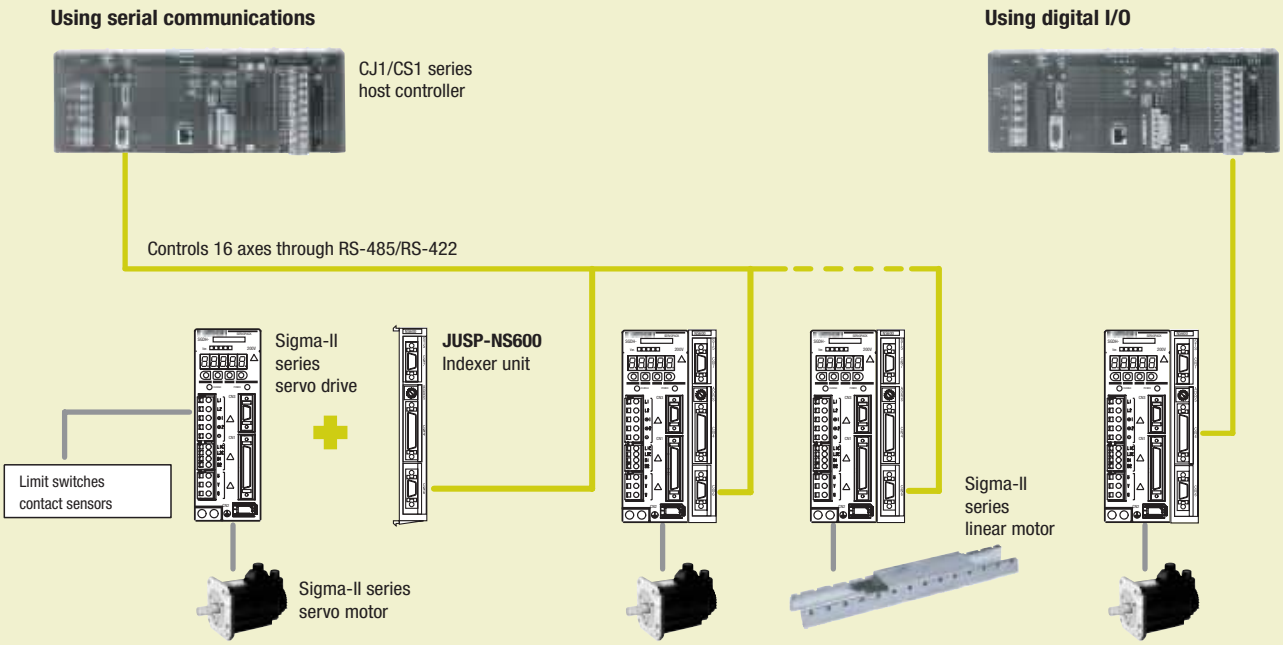
Note: Refer to the Servo systems section for more information.

Position controller over serial link

The NS600 provides flexible and simple distributed control. It connects directly to the Sigma-II and has several positioning modes, making it simple to configure. It supports a standard RS-485/-422 and discrete I/O control

- Direct connection to servo drive
- No programming language is necessary
- Discrete I/O positioning control
- Up to 16 servos can be connected via network
- Parameters are maintained by the PLC

Ordering information



Indexer option unit

Name	Order code
Indexer unit. Versatile point to point positioning	JUSP-NS600

Serial options (for CN7)

Name		Order code
Computer connecting cable	2 m	R88A-CCW002P2 or JZSP-CMS02
Parameter unit with 1m cable	2 m	JUSP-OP02A-2 or R88A-PR02W

Control cables (for CN4)

Name		Order code
Relay terminal block		XW2B-40F5-P
Relay terminal block cables	1 m	R88A-CTU001N
	2 m	R88A-CTU002N
General purpose I/O cable (with open end)	1 m	FND-CCX001S
	2 m	FND-CCX002S

Serial cables (for CN6)

Name		Order code
Computer connecting cable	2 m	R88A-CCW002P2 or JZSP-CMS02

Connectors

Specification	Order code
Connector for CN4	R88A-CNU01C
Connector for CN6 and CN7	R7A-CNA01R

Computer software

Specifications	Order code
SigmaWin+	MOTION TOOLS CD

Servo system

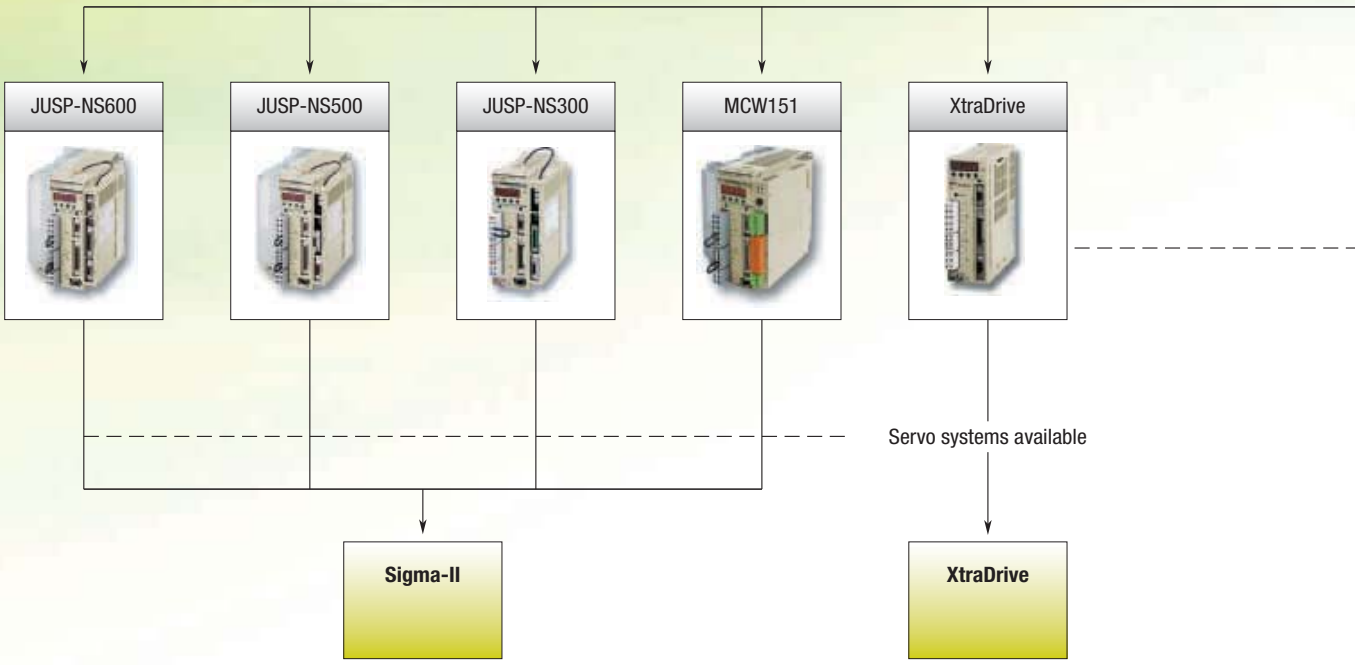
Note: Refer to the Servo systems section for more information.

SAVE SPACE, SAVE WIRING, SAVE TIME

A new concept in drive simplicity

The Junma ML-2 ultra-compact servo series draws on our world-leading servo-drive technology to open up new dimensions in drive simplicity. The Junma is probably the first servo drive that is fully tune-less and programless.

- Pocket-size servo with smallest footprint 15x4.5 cm
- Tuning-less technology built-in for immediate start-up
- Built-in MECHATROLINK-II motion bus reduces cabling and allows remote servo configuration and diagnosis



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Which motion controller is used?

Trajexia stand-alone	NCs or other controller with pulse train output	MCs or other controller with analog output	NC_71	Trajexia-PLC CJ1W-MCH72
Sigma-5 ML-II, Sigma-II, Junma ML-II	**Sigma-5 A/P, Sigma-II, Junma Pulse, SmartStep**	**Sigma-5 A/P, Sigma-II, XtraDrive**	**Sigma-II, Junma ML-II**	**Sigma-5 ML-II, Sigma-II, Junma ML-II**
Inverters*				
F7		F7		F7
				
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*See inverter chapter

Selection table

Servo drives						
						
	Sigma-5	**XtraDrive**	**Sigma-II**	**SmartStep**	**Junma ML-II**	**Junma Pulse**
	The 5-star servo drive	All in one! Servo drive and motion	Designed with ZERO compromise	Servo capability with stepper simplicity	No more parameter set up Save space, save time	No more parameter set up Save space, save time
Ratings 230 V single-phase	50 W to 1,500 W	30 W to 1,500 W	30 W to 1,500 W	30 W to 800 W	100 W to 750 W	100 W to 750 W
Ratings 400 V single-phase	500 W to 15 kW	0.5 kW to 5 kW	0.5 kW to 55 kW	–	–	–
Motors applicable	Sigma-5, Sigma-II, Sigma linear motors, Sigma Direct drives motors	Sigma linear motors, rotary Sigma-II and SmartStep motors	Rotary Sigma-II and Sigma linear motors	SmartStep motors	Junma motors	Junma motors
Positioning control	Pulse train input or MECHATROLINK-II	Internal program, pulse train input or via PROFIBUS-DP	Pulse train input or via option unit	Pulse train input	MECHATROLINK-II	Pulse train input
Speed control	Analog ±10 V or MECHATROLINK-II	Internal program, analogue ±10 V or via PROFIBUS-DP	Analogue ±10 V or via option unit	–	–	–
Torque control	Analog ±10 V or MECHATROLINK-II	Internal program, analogue ±10 V or via PROFIBUS-DP	Analogue ±10 V or via option unit	–	–	–
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Rotary servo motors			
			
	SGMAH	**SGMPH**	**SGMGH**
	Sigma-II rotary motors (6 different motor families to cover all application needs)		
	Low-inertia design for high dynamics	Medium inertia design with flat profile	High torque servo motors
Rated speed	3,000 rpm	3,000 rpm	1,500 rpm
Max speed	5,000 rpm	5,000 rpm	3,000 rpm
Rated torque	0.095 Nm to 2.39 Nm	0.318 Nm to 4.77 Nm	2.84 Nm to 95.4 Nm
Sizes	30 to 800 W	100 to 1500 W	0.45 to 15 kW
Drives applicable	Sigma-II, Sigma-5 and XtraDrive	Sigma-II, Sigma-5 and XtraDrive	Sigma-II, Sigma-5 and XtraDrive
Encoder resolution	13 bits-incremental/ 16 bits-absolute	13 bits-incremental/ 16 bits-absolute	17 bits-incremental and absolute
IP rating	IP55	IP55 (optional IP67)	IP67
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Rotary servo motors					
					
	SGMJV	**SGMAV**	**SGMEV**	**SGMGV**	**SGMSV**
	Sigma-5 rotary motors				
	Medium inertia for high dynamics	Low inertia for high dynamics	Medium inertia with flat profile	High torque servomotors	Low inertia for high dynamics
Rated speed	3,000 rpm	3,000 rpm	3,000 rpm	1,500 rpm	3,000 rpm
Max speed	6,000 rpm	6,000 rpm	5,000 rpm	2,000/3,000 rpm	5,000 rpm
Rated torque	0.159 Nm to 2.39 Nm	0.159 Nm to 3.18 Nm	0.318 Nm to 4.77 Nm	1.96 Nm to 95.4 Nm	3.18 Nm to 15.8 Nm
Sizes	50 to 750 W	50 to 1,000 W	100 to 1,500 W	0.3 to 15 kW	1 to 5 kW
Drives applicable	Sigma-5	Sigma-5	Sigma-5	Sigma-5	Sigma-5
Encoder resolution	20 bits - incremental and absolute	20 bits - incremental and absolute	20 bits - incremental and absolute	20 bits - incremental and absolute	20 bits - incremental and absolute
IP rating	IP65	IP65	IP55	IP67	IP67
Page	109				

Sigma linear servo motors			
			
	SGLGW	**SGLFW**	**SGLTW**
	Coreless GW linear motor construction results in zero attraction force	Iron-core Sigma linear motor, making the difference	Iron-core TW linear motor with magnetic attraction cancellation
Rated force range	13.5 N to 325 N	25 N to 2250 N	300 N to 2,000 N
Peak force range	40 N to 1300 N	86 N to 5400N	600 N to 7500 N
Maximum speed	5 m/sec	5 m/sec	5 m/sec
Design type	Coreless coil	Iron-core coil	Iron-core coil
Magnetic attraction	zero	314 N to 14600 N	zero
Drives applicable	Sigma-II and XtraDrive	Sigma-II and XtraDrive	Sigma-II and XtraDrive
Page	145		

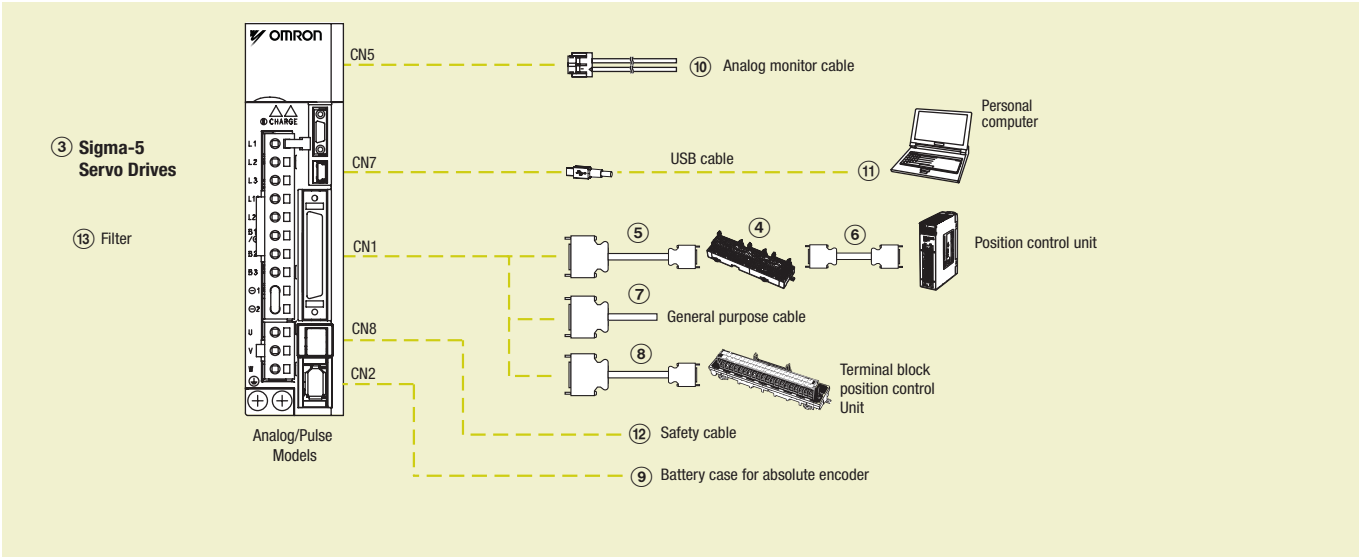
Rotary servo motors					
					
	SGMSH	**SGMUH**	**SGMBH**	**SmartStep motors**	**Junma Motors**
	Sigma-II rotary motors (6 different motor families to cover all application needs)			**SmartStep**	**Junma (SJDE)**
	Low-inertia motors for high dynamics	High speed servo motors	High power applications	Ultra compact motor	Medium inertia compact motor
Rated speed	3,000 rpm	6,000 rpm	1,500 rpm	3,000 rpm	3000 rpm
Max speed	5,000 rpm	6,000 rpm	2,000 rpm	4,500 rpm	4500 rpm
Rated torque	3.18 Nm to 15.8 Nm	1.59 Nm to 6.3 Nm	140 Nm to 350 Nm	0.095 Nm to 2.39 Nm	0.318 to 2.39 Nm
Sizes	1 to 5 kW	1 to 5 kW	22 kW to 55 kW	30 to 800 W	100 to 750 W
Drives applicable	Sigma-II, Sigma-5 and XtraDrive	Sigma-II, Sigma-5 and XtraDrive	Sigma-II	SmartStep and XtraDrive	Junma (MLII and Pulse)
Encoder resolution	17 bits-incremental and absolute	17 bits-incremental	17 bits-incremental and absolute	2000 pulses/revolution	13 bits - Analogue incremental
IP rating	IP67	IP67	IP44	IP55	IP55
Page	127			138	142

The 5-star servo drive. High performance and compact servo family with integrated ML-II.

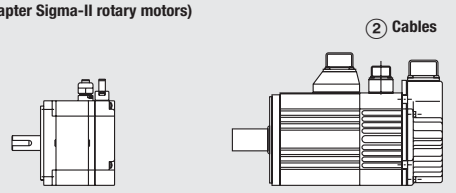
- Advance autotuning function
- Enhanced vibration supression function
- Standard support for analog voltage/pulse train reference series or MECHATROLINK-II communications reference series.
- Support for direct drive servomotors, linear servomotors and linear sliders
- Integrated safety stop function
- Frequency response of 1.6 kHz

Ordering information

Sigma-5 Analog/Pulse reference configuration



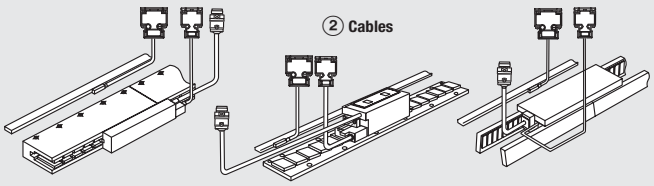
(Refer to chapter Sigma-II rotary motors)



① SGMAH, SGMPH Servo Motor

① SGMGH, SGMUH, SGMSH, SGMBH Servo Motor

(Refer to chapter Sigma linear motors)

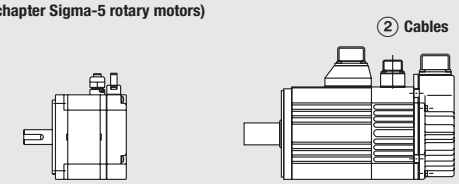


① SGLG_ linear Servo Motor

① SGLF_ linear Servo Motor

① SGLT_ linear Servo Motor

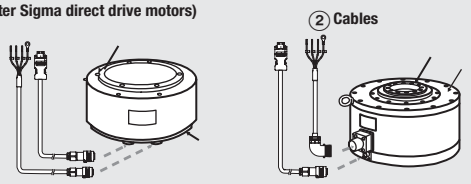
(Refer to chapter Sigma-5 rotary motors)



① SGMJV, SGMAV Servo Motor

① SGMGV, SGMSV Servo Motor

(Refer to chapter Sigma direct drive motors)



① Direct drive servo motor SGMCS-□-□B, C, D, E

① Direct drive servo motor SGMCS-□-□M, N

Note: The symbols ①②③④⑤... show the recommended sequence to select the components in a Sigma-5 servo system

Servo motors, power & encoder cables

Note: ①② Refer to the servo motors chapter for detailed motor specifications and selection

Servo drives

Symbol	Specifications		Compatible rotary servo motors ①	Compatible direct drive motors ①	Compatible linear motors ①	Order code
③	1 phase 230 VAC	50 W	SGMAH-A5D_, SGMJV-A5A_, SGMAV-A5A_	-	-	SGDV-R70A01A
			-	-	SGLGW-30A050_	SGDV-R70A05A
		100 W	SGMAH-01A_, SGMPH-01A_, SGMJV-01A_, SGMAV-01A_, SGMEV-01A_	-	-	SGDV-R90A01A
			-	-	SGLGW-30A080_, SGLGW-40A140_	SGDV-R90A05A
		200 W	SGMAH-02A_, SGMPH-02A_, SGMJV-02A_, SGMAV-02A_, SGMEV-02A_	SGMCS-07B_	-	SGDV-1R6A01A
			-	-	SGLGW-60A140_, SGLGW-40A253_, SGLFW-20A_, SGLFW-35A120_	SGDV-1R6A05A
		400 W	SGMAH-04A_, SGMPH-04A_, SGMJV-04A_, SGMAV-04A_, SGMEV-04A_	SGMCS-02B_, SGMCS-05B_, SGMCS-04C_, SGMCS-10C_, SGMCS-14C_, SGMCS-08D_, SGMCS-17D_, SGMCS-25D_	-	SGDV-2R8A01A
			-	-	SGLGW-40A365_, SGLGW-60A253A_	SGDV-2R8A05A
		750 W	SGMAH-08A_, SGMPH-08A_, SGMJV-08A_, SGMAV-08A_, SGMEV-08A_	SGMCS-16E_, SGMCS-35E_	-	SGDV-5R5A01A
			-	-	SGLGW-60A365A_, SGLFW-35A230_, SGLFW-50A200_	SGDV-5R5A05A
		1.5 kW	SGMPH-15A_, SGMAV-10A_, SGMEV-15A_	SGMCS-45M_, SGMCS-80M_, SGMCS-80N_	-	SGDV-120A01A008000
			-	-	SGLGW-90A200A_, SGLFW-50A380_, SGLFW-1ZA200_	SGDV-120A05A008000
	3 phase 400 VAC	0.5 kW	SGMAH-03D_, SGMPH-04D_, SGMGH-05D_, SGMEV-04D_, SGMGV-05D_	-	-	SGDV-1R9D01A
			-	-	SGLFW-35D_	SGDV-1R9D05A
		1.0 kW	SGMAH-07D_, SGMPH-08D_, SGMGH-09D_, SGMSH-10D_, SGMUH-10D_, SGMEV-08D_, SGMGV-09D_, SGMSV-10D_	-	-	SGDV-3R5D01A
			-	-	SGLFW-50D200_, SGLTW-35D170_, SGLTW-50D170_	SGDV-3R5D05A
		1.5 kW	SGMPH-15D_, SGMGH-13D_, SGMSH-15D_, SGMUH-15D_, SGMEV-15D_, SGMGV-13D_, SGMSV-15D_	-	-	SGDV-5R4D01A
			-	-	SGLFW-50D380_, SGLFW-1ZD200_	SGDV-5R4D05A
		2 kW	SGMGH-20D_, SGMSH-20D_, SGMGV-20D_, SGMSV-20D_	-	-	SGDV-8R4D01A
			-	-	SGLFW-1ED380_, SGLTW-35D320_, SGLTW-50D320_	SGDV-8R4D05A
		3 kW	SGMGH-30D_, SGMSH-30D_, SGMUH-30D_, SGMGV-30D_, SGMGV-30D_	-	-	SGDV-120D01A
			-	-	SGLFW-1ZD380_, SGLFW-1ED560_, SGLTW-40D400_	SGDV-120D05A
		5 kW	SGMGH-44D_, SGMSH-50D_, SGMUH-40D_, SGMGV-44D_, SGMSV-50D_	-	-	SGDV-170D01A
			-	-	SGLTW-40D60_, SGLTW-80D400_	SGDV-170D05A
		6 kW	SGMGH-55D_, SGMGV-55D_	-	-	SGDV-210D01A
		7.5 kW	SGMGH-75D_, SGMGV-75D_	-	-	SGDV-260D01A
		11 kW	SGMGH-1AD_, SGMGV-1AD_	-	-	SGDV-280D01A
		15 kW	SGMGH-1ED_, SGMGV-1ED_	-	-	SGDV-370D01A

Control cables (for CN1)

Symbol	Description	Connect to	Length	Order code
④	Servo relay unit	CJ1W-NC1_3		XW2B-20J6-1B (1 axis)
		CJ1W-NC2_3/4_3		XW2B-40J6-2B (2 axis)
		CJ1M-CPU22/23		XW2B-20J6-8A (1 axis)
				XW2B-40J6-9A (2 axis)
⑤	Cable to servo drive	Servo relay units XW2B-_0J6-_B	1 m	XW2Z-100J-B4
			2 m	XW2Z-200J-B4

Symbol	Description	Connect to	Length	Order code
⑥	Position control unit connecting cable	CJ1W-NC113	0.5 m	XW2Z-050J-A14
			1 m	XW2Z-100J-A14
		CJ1W-NC213/413	0.5 m	XW2Z-050J-A15
			1 m	XW2Z-100J-A15
		CJ1W-NC133	0.5 m	XW2Z-050J-A18
			1 m	XW2Z-100J-A18
		CJ1W-NC233/433	0.5 m	XW2Z-050J-A19
			1 m	XW2Z-100J-A19
		CJ1M-CPU22/23	0.5 m	XW2Z-050J-A27
			1 m	XW2Z-100J-A27
⑦	Control cable	For general purpose controllers	1 m	R88A-CPW001S
			2 m	R88A-CPW002S
⑧	Relay terminal block cable	General purpose controller	1 m	R88A-CTW001N
			2 m	R88A-CTW002N
	Relay terminal block		-	XW2B-50G5

Battery backup for absolute encoder (for CN2 encoder cable)

Symbol	Name	Order code
⑨	Battery	JZSP-BA01

Note: When the encoder cables with a battery case are used, no battery is required for CN1 (between pin 21 and 22). Battery for CN1 is ER6VCN3.

Cable (for CN5)

Symbol	Name	Order code
⑩	Analog monitor cable	R88A-CMW001S
		DE9404559

USB personal computer cable (for CN7)

Symbol	Name	Order code
⑪	USB Mini Connector cable	JZSP-CVS06-02-E

Note: Double shield USB cable recommended

Cable for Safety Functions (for CN8)

Symbol	Name	Order code
⑫	Safety connector with 3 m cable (with Loose Wires at one End)	JZSP-CVH03-03-E

Note: When using the safety function, connect this cable to the safety devices. Even when not using the safety function, use servo drive with the Safe Jumper Connector (JZSP-CVH05-E) connected.

Filters

Symbol	Applicable servo drive	Rated current	Rated voltage	Order code
⑬	SGDV-R70A__A, SGDV-R90A__A, SGDV-1R6A__A, SGDV-2R8A__A	5 A	250 VAC single-phase	R88A-FI5-1005-RE
	SGDV-5R5A__A	9 A		R88A-FI5-1009-RE
	SGDV-120A01A008000	16 A		R88A-FI5-1016-RE
	SGDV-1R9D__A, SGDV-3R5D__A, SGDV-5R4D__A	4.3 A	400 VAC three-phase	R88A-FI5-3004-RE
	SGDV-8R4D__A, SGDV-120D__A	8.6 A		R88A-FI5-3008-RE
	SGDV-170D__A	14.5 A		R88A-FI5-3012-RE

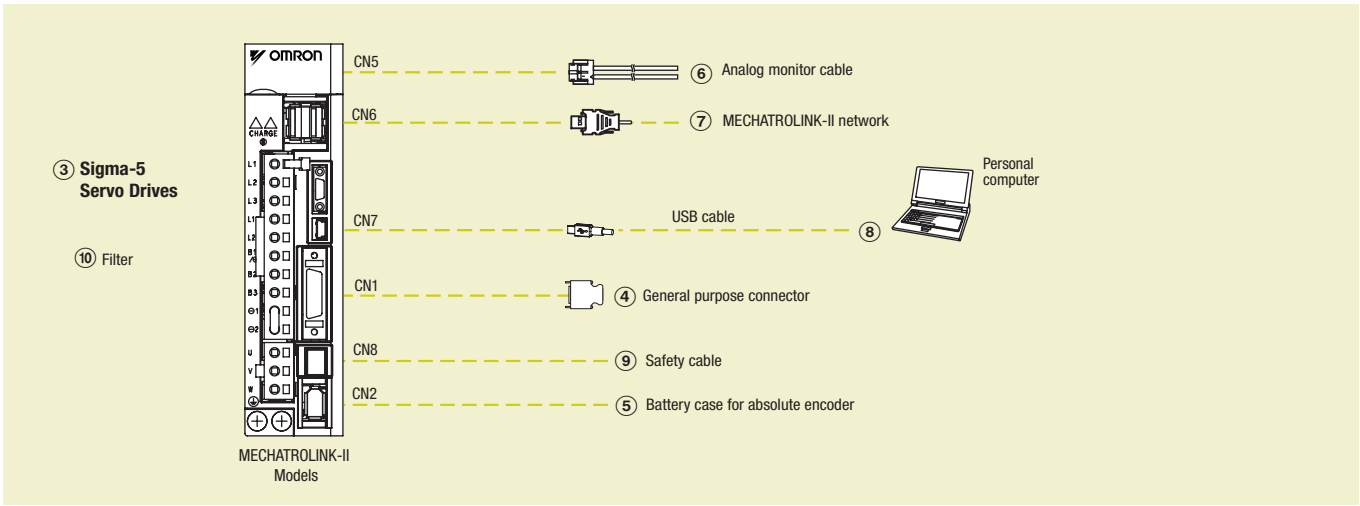
Connectors

Specifications	Order code
I/O connector kit (for CN1)	R88A-CNU11C
Sigma-5 drive encoder connector (for CN2)	JZSP-CMP9-1
Safe Jumper Connector	JZSP-CVH05-E

Computer software

Specifications	Order code
Configuration and monitoring software tool for servo drives and inverters. (CX-drive version 1.50 or higher)	CX-drive
Complete OMRON software package including CX-drive. (CX-One version 3.0.2 or higher)	CX-One

Sigma-5 MECHATROLINK servo drive configuration



Note: The symbols ①②③④⑤... show the recommended sequence to select the components in a Sigma-5 servo system

Servo motors, power & encoder cables

Note: ①② Refer to the servo motors chapter for detailed motor specifications and selection

Servo drives

Symbol	Specifications		Compatible rotary servo motors ①	Compatible direct drive motors ①	Compatible linear motors ①	Order code
③	1 phase 230 VAC	50 W	SGMAH-A5D_, SGMJV-A5A_, SGMAV-A5A_	-	-	SGDV-R70A11A
			-	-	SGLGW-30A050_	SGDV-R70A15A
		100 W	SGMAH-01A_, SGMPH-01A_, SGMJV-01A_, SGMAV-01A_, SGMEV-01A_	-	-	SGDV-R90A11A
			-	-	SGLGW-30A080_, SGLGW-40A140_	SGDV-R90A15A
		200 W	SGMAH-02A_, SGMPH-02A_, SGMJV-02A_, SGMAV-02A_, SGMEV-02A_	SGMCS-07B_	-	SGDV-1R6A11A
			-	-	SGLGW-60A140_, SGLGW-40A253_, SGLFW-20A_, SGLFW-35A120_	SGDV-1R6A15A
		400 W	SGMAH-04A_, SGMPH-04A_, SGMJV-04A_, SGMAV-04A_, SGMEV-04A_	SGMCS-02B_, SGMCS-05B_, SGMCS-04C_, SGMCS-10C_, SGMCS-14C_, SGMCS-08D_, SGMCS-17D_, SGMCS-25D_	-	SGDV-2R8A11A
			-	-	SGLGW-40A365_, SGLGW-60A253A_	SGDV-2R8A15A
		750 W	SGMAH-08A_, SGMPH-08A_, SGMJV-08A_, SGMAV-08A_, SGMEV-08A_	SGMCS-16E_, SGMCS-35E_	-	SGDV-5R5A11A
			-	-	SGLGW-60A365A_, SGLFW-35A230_, SGLFW-50A200_	SGDV-5R5A15A
		1.5 kW	SGMPH-15A_, SGMAV-10A_, SGMEV-15A_	SGMCS-45M_, SGMCS-80M_, SGMCS-80N_	-	SGDV-120A11A008000
			-	-	SGLGW-90A200A_, SGLFW-50A380_, SGLFW-1ZA200_	SGDV-120A15A008000

Symbol	Specifications		Compatible rotary servo motors ①	Compatible direct drive motors ①	Compatible linear motors ①	Order code
③	3 phase 400 VAC	0.5 kW	SGMAH-03D_, SGMPH-04D_, SGMGH-05D_, SGMEV-04D_, SGMGV-05D_	-	-	SGDV-1R9D11A
			-	-	SGLFW-35D_	SGDV-1R9D15A
		1.0 kW	SGMAH-07D_, SGMPH-08D_, SGMGH-09D_, SGMSH-10D_, SGMUH-10D_, SGMEV-08D_, SGMGV-09D_, SGMSV-10D_	-	-	SGDV-3R5D11A
			-	-	SGLFW-50D200_, SGLTW-35D170_, SGLTW-50D170_	SGDV-3R5D15A
		1.5 kW	SGMPH-15D_, SGMGH-13D_, SGMSH-15D_, SGMUH-15D_, SGMEV-15D_, SGMGV-13D_, SGMSV-15D_	-	-	SGDV-5R4D11A
			-	-	SGLFW-50D380_, SGLFW-1ZD200_	SGDV-5R4D15A
		2 kW	SGMGH-20D_, SGMSH-20D_, SGMGV-20D_, SGMSV-20D_	-	-	SGDV-8R4D11A
			-	-	SGLFW-1ED380_, SGLTW-35D320_, SGLTW-50D320_	SGDV-8R4D15A
		3 kW	SGMGH-30D_, SGMSH-30D_, SGMUH-30D_, SGMGV-30D_, SGMGV-30D_	-	-	SGDV-120D11A
			-	-	SGLFW-1ZD380_, SGLFW-1ED560_, SGLTW-40D400_	SGDV-120D15A
		5 kW	SGMGH-44D_, SGMSH-50D_, SGMUH-40D_, SGMGV-44D_, SGMSV-50D_	-	-	SGDV-170D11A
			-	-	SGLTW-40D60_, SGLTW-80D400_	SGDV-170D15A
		6 kW	SGMGH-55D_, SGMGV-55D_	-	-	SGDV-210D11A
		7.5 kW	SGMGH-75D_, SGMGV-75D_	-	-	SGDV-260D11A
		11 kW	SGMGH-1AD_, SGMGV-1AD_	-	-	SGDV-280D11A
		15 kW	SGMGH-1ED_, SGMGV-1ED_	-	-	SGDV-370D11A

Battery backup for absolute encoder (for CN2 encoder cable)

Symbol	Name	Order code
⑤	Battery	JZSP-BA01

Note: When the encoder cables with a battery case JUSP-BA01 are used, no battery is required for CN1 (between pin 21 and 22). Battery for CN1 is ER6VCN3.

Cable (for CN5)

Symbol	Name	Order code
⑥	Analog monitor cable	R88A-CMW001S
		DE9404559

USB personal computer cable (for CN7)

Symbol	Name	Order code
⑧	USB Mini Connector cable	JZSP-CVS06-02-E

Note: Double shield USB cable recommended

Cable for Safety Functions (for CN8)

Symbol	Name	Order code
⑨	Safety connector with 3 m cable (with Loose Wires at one End)	JZSP-CVH03-03-E

Note: When using the safety function, connect this cable to the safety devices. Even when not using the safety function, use servo drive with the Safe Jumper Connector (JZSP-CVH05-E) connected.

Mechatrolink-II cables (for CN6)

Symbol	Specifications	Length	Order code
⑦	Mechatrolink-II Terminator resistor		JEPMC-W6022
	Mechatrolink-II Cables	0.5 m	JEPMC-W6003-A5
		1 m	JEPMC-W6003-01
		3 m	JEPMC-W6003-03
		5 m	JEPMC-W6003-05
		10 m	JEPMC-W6003-10
		20 m	JEPMC-W6003-20
		30 m	JEPMC-W6003-30

Filters

Symbol	Applicable servo drive	Rated current	Rated voltage	Order code
⑩	SGDV-R70A__A, SGDV-R90A__A, SGDV-1R6A__A, SGDV-2R8A__A	5 A	250 VAC single-phase	R88A-FI5-1005-RE
	SGDV-5R5A__A	9 A		R88A-FI5-1009-RE
	SGDV-120A__A008000	16 A		R88A-FI5-1016-RE
	SGDV-1R9D__A, SGDV-3R5D__A, SGDV-5R4D__A	4.3 A	400 VAC three-phase	R88A-FI5-3004-RE
	SGDV-8R4D__A, SGDV-120D__A	8.6 A		R88A-FI5-3008-RE
	SGDV-170D__A	14.5 A		R88A-FI5-3012-RE

Connectors

Specification	Order code
I/O connector kit (for CN1)	R88A-CNW01C
Sigma-5 drive encoder connector (for CN2)	JZSP-CMP9-1
Safe Jumper Connector	JZSP-CVH05-E

Computer software

Specifications	Order code
Configuration and monitoring software tool for servo drives and inverters. (CX-drive version 1.50 or higher)	CX-drive
Complete OMRON software package including CX-drive. (CX-One version 3.0.2 or higher)	CX-One

Specifications

Single-phase, 230 V

Servo drive type			SGDV- _	R70A__A	R90A__A	1R6A__A	2R8A__A	5R5A__A	120A__A008000
Applicable servo motor			SGMAH-_	A3A_/A5A_	01A_	02A_	04A_	08A_	-
			SGMPH-_	-	01A_	02A_	04A_	08A_	15A_
			SGMJV-_	A5A_	01A_	02A_	04A_	08A_	-
			SGMAV-_	A5A_	01A_	C2A_/02A_	04A_	06A_/08A_	10A_
			SGMEV-_	-	01A_	02A_	04A_	08A_	15A_
Basic specifications	Max. applicable motor capacity (W)			50	100	200	400	750	1500
	Continuous output current (Arms)			0.66	0.91	1.6	2.8	5.5	11.6
	Max. output current (Arms)			2.1	2.9	6.5	9.3	16.9	28
	Input power supply		Main circuit	Single-phase, 200 to 230 VAC + 10 to -15% (50/60 Hz)					
			Control circuit	Single-phase, 200 to 230 VAC + 10 to -15% (50/60 Hz)					
	Control method			Single phase full-wave rectification / IGBT / PWM / sine-wave current drive method					
	Feedback			Serial encoder (incremental/absolute)					
	Conditions	Usage/storage temperature		0 to +55 °C / -20 to 85 °C					
		Usage/storage humidity		90%RH or less (non-condensing)					
		Altitude		1000m or less above sea level					
		Vibration/shock resistance		4.9 m/s^2 / 19.6 m/s^2					
	Configuration			Base mounted					
	Approx. weight (kg)			0.9			1.0	1.5	2.8

Three-phase, 400 V

Servo drive type			SGDV- _	1R9D__A	3R5D__A	5R4D__A	8R4D__A	120D__A	170D__A	210D__A	260D__A	280D__A	370D__A
Applicable servo motor			SGMAH-_	03D_	07D_	-	-	-	-	-	-	-	-
			SGMPH-_	02D_/04D_	08D_	15D_	-	-	-	-	-	-	-
			SGMGH-_	05D_	09D_	13D_	20D_	30D_	44D_	55D_	75D_	1AD_	1ED_
			SGMSH-_	-	10D_	15D_	20D_	30D_	40D_/50D_	-	-	-	-
			SGMUH-_	-	10D_	15D_	-	30D_	40D_	-	-	-	-
			SGMEV-_	02/03/04D_	07D_/08D_	15D_	-	-	-	-	-	-	-
			SGMGV-_	03D_/05D_	09D_	13D_	20D_	30D_	44D_	55D_	75D_	1AD_	1ED_
			SGMSV-_	-	10D_	15D_	20D_	25D_	40D_/50D_	-	-	-	-
Basic specifications	Max. applicable motor capacity (W)			0.5	1.0	1.5	2.0	3.0	5.0	6.0	7.5	11	15
	Continuous output current (Arms)			1.9	3.5	5.4	8.4	11.9	16.5	20.8	25.4	28.1	37.2
	Max. output current (Arms)			5.5	8.5	14	20	28	42	55	65	70	85
	Input power supply		Main circuit	Three-phase, 380 to 480 VAC + 10 to -15% (50/60Hz)									
			Control circuit	24 VDC +/-15%									
	Control method			Three phase full-wave rectification / IGBT / PWM / sine-wave current drive method									
	Feedback			Serial encoder (incremental/absolute)									
	Conditions	Usage/storage temperature		0 to +55 °C / -20 to +85 °C									
		Usage/storage humidity		90%RH or less (non-condensing)									
		Altitude		1000 m or less above sea level									
		Vibration/shock resistance		4.9 m/s^2 / 19.6 m/s^2									
	Configuration			Base mounted									
	Approx. weight (kg)			2.7			3.7		5.6	11.3		16.2	

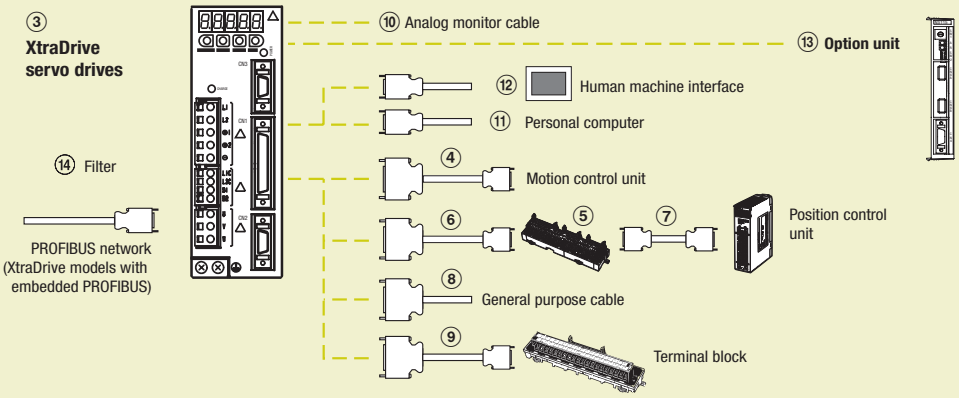
All-in-one servo drive and motion controller integrated

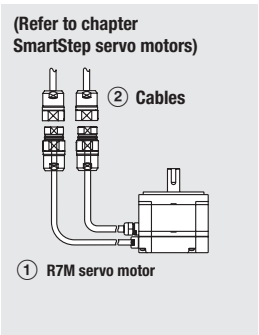
If your application demands the highest accuracy, the shortest cycle time in the most compact size and the ability to connect to PROFIBUS-DP or CAN, then look no further than XtraDrive. Complex motions such as cams, gears and linked axes are also available.

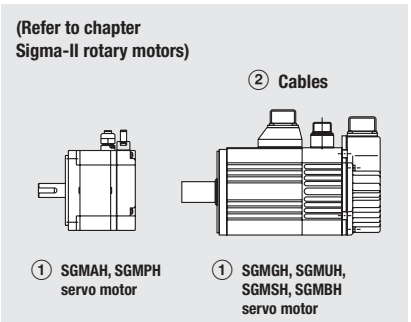
- Patented non-linear technique for tight control
- Very low tracking error with no overshoot and zero settling time
- The ideal drive for linear-motor control
- Supports various servo-motor encoder types
- PROFIBUS-DP embedded

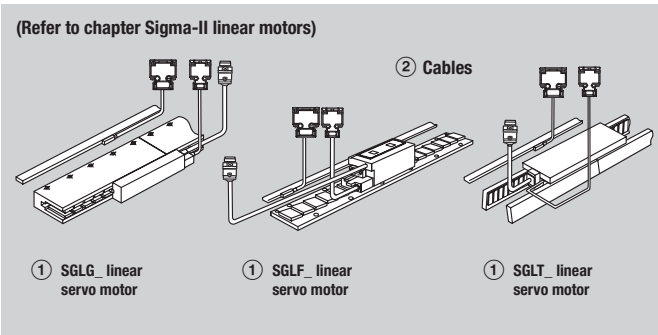
Ordering information

System configuration









Note: The symbols ①②③④⑤... show the recommended sequence to select the components for a servo system.

Servo motors, power & encoder cables

Note: ①② Refer to the Servo motors chapter for detailed motor specifications and selection.

Servo drives

Symbol	Specifications		Compatible servo motors ①			Order code			
			Sigma-II rotary	SmartStep	Sigma linear motors	XtraDrive	XtraDrive-E with electronic CAM	XtraDrive-DP with PROFIBUS	XtraDrive-DP-E with PROFIBUS and electronic CAM
③	1 phase 200 VAC	30 W	SGMAH-A3A_	R7M-A03030-_	–	XD-P3-MN01	XD-P3-MN01-E	–	–
		50 W	SGMAH-A5D_	R7M-A05030-_	SGLGW-30A050_	XD-P5-MN01	XD-P5-MN01-E	–	–
		100 W	SGMAH-01A_, SGMPH-01A_	R7M-A10030-_, R7M-AP10030-_	SGLGW-30A080_, SGLGW-40A140_	XD-01-MN01	XD-01-MN01-E	XD-01-MSD0	XD-01-MSD0-E
		200 W	SGMAH-02A_, SGMPH-02A_	R7M-A20030-_, R7M-AP20030-_	SGLFW-20A_, SGLFW-35A120_, SGLGW-40A253A_, SGLGW-60A140_	XD-02-MN01	XD-02-MN01-E	XD-02-MSD0	XD-02-MSD0-E
		400 W	SGMAH-04A_, SGMPH-04A_	R7M-A40030-_, R7M-AP40030-_	SGLGW-40A365A_, SGLGW-60A253A_	XD-04-MN01	XD-04-MN01-E	XD-04-MSD0	XD-04-MSD0-E
		750 W	SGMAH-08A_, SGMPH-08A_	R7M-A75030-_, R7M-AP75030-_	SGLFW-35A230_, SGLFW-50A200_, SGLGW-60A365A_	XD-08-MN	XD-08-MN01-E	XD-08-MSD0	XD-08-MSD0-E

Symbol	Specifications		Compatible servo motors ①			Order code			
			Sigma-II rotary	SmartStep	Sigma linear motors	XtraDrive	XtraDrive-E with electronic CAM	XtraDrive-DP with PROFIBUS	XtraDrive-DP-E with PROFIBUS and electronic CAM
③	1 phase 200 VAC	1.5 kW	SGMPH-15A_	–	SGLFW-50A380_, SGLFW-1ZA200_, SGLGW-90A200A_	XD-15-MN	XD-15-MN00-E	–	–
	3 phase 400 VAC	0.5 kW	SGMGH-05D_, SGMAH-03D_, SGMPH-02D_/04D_	–	SGLFW-35D_	XD-05-TN	XD-05-TN00-E	XD-05-TSD0	XD-05-TSD0-E
		1.0 kW	SGMGH-09D_, SGMSH/UH-10D_, SGMAH-07D_, SGMPH-08D_	–	SGLFW-50D200_, SGLTW-35D170_, SGLTW-50D170_	XD-10-TN	XD-10-TN00-E	XD-10-TSD0	XD-10-TSD0-E
		1.5 kW	SGMGH-13D_, SGMSH/UH-15D_, SGMPH-15D_	–	SGLFW-50D380_, SGLFW-1ZD200_	XD-15-TN	XD-15-TN00-E	XD-15-TSD0	XD-15-TSD0-E
		2.0 kW	SGMGH-20D_, SGMSH-20D_	–	SGLTW-35D320_, SGLTW-50D320_	XD-20-TN	XD-20-TN00-E	XD-20-TSD0	XD-20-TSD0-E
		3.0 kW	SGMGH-30D_, SGMSH/UH-30D_	–	SGLFW-1ZD380_, SGLTW-40D400_	XD-30-TN	XD-30-TN00-E	XD-30-TSD0	XD-30-TSD0-E
		5.0 kW	SGMGH-44D_, SGMSH/UH-40D_, SGMSH-50D_	–	SGLTW-40D600_, SGLTW-80D400_	XD-50-TN	XD-50-TN00-E	–	–

Note: SGLGW-_ linear motor combination is made considering the use of standard magnets. Refer to the linear motors chapter for details.

Control cables (for CN1)

Symbol	Description	Connect to	Length	Order code
④	Control cable (1 axis)	Motion control units CS1W-MC221 CS1W-MC421 C200H-MC221	1 m	R88A-CPW001M1
			2 m	R88A-CPW002M1
			3 m	R88A-CPW003M1
			5 m	R88A-CPW005M1
	Control cable (2 axis)	Motion control units CS1W-MC221 CS1W-MC421 C200H-MC221	1 m	R88A-CPW001M2
			2 m	R88A-CPW002M2
			3 m	R88A-CPW003M2
			5 m	R88A-CPW005M2
	Terminal block (4 axes)	Motion control unit C200HW-MC402-E	–	R88A-TC04-E
	Servo drive connecting cable (1 axis)		1 m	R88A-CMUK001J3-E2
	PLC unit control cables (4 axes)		1 m	R88A-CMX001S-E
			1 m	R88A-CMX001J1-E
⑤	Servo relay unit	CS1W-NC1_3, CJ1W-NC1_3, or C200HW-NC113 Position control unit	–	XW2B-20J6-1B (1 axis)
		CS1W-NC2_3/4_3, CJ1W-NC2_3/4_3, or C200HW-NC213/413 Position control unit	–	XW2B-40J6-2B (2 axes)
		CQM1H-PLB21 CQM1-CPU43	–	XW2B-20J6-3B (1 axis)
		CJ1M-CPU22/23	–	XW2B-20J6-8A (1 axis) XW2B-40J6-9A (2 axes)
⑥	Cable to servo drive	Servo relay units XW2B-_ 0J6-_ B	1 m	XW2Z-100J-B4
			2 m	XW2Z-200J-B4
⑦	Position control unit connecting cable	C200H-NC112	0.5 m	XW2Z-050J-A1
			1 m	XW2Z-100J-A1
		C200H-NC211	0.5 m	XW2Z-050J-A2
			1 m	XW2Z-100J-A2
		CQM1-CPU43-V1 and CQM1H-PLB21	0.5 m	XW2Z-050J-A3
			1 m	XW2Z-100J-A3
		CS1W-NC113 and C200HW-NC113	0.5 m	XW2Z-050J-A6
			1 m	XW2Z-100J-A6
		CS1W-NC213/413 and C200HW-NC213/413	0.5 m	XW2Z-050J-A7
			1 m	XW2Z-100J-A7
		CS1W-NC133	0.5 m	XW2Z-050J-A10
			1 m	XW2Z-100J-A10
		CS1W-NC233/433	0.5 m	XW2Z-050J-A11
			1 m	XW2Z-100J-A11

Symbol	Description	Connect to	Length	Order code
⑦	Position control unit connecting cable	CJ1W-NC113	0.5 m	XW2Z-050J-A14
			1 m	XW2Z-100J-A14
		CJ1W-NC213/413	0.5 m	XW2Z-050J-A15
			1 m	XW2Z-100J-A15
		CJ1W-NC133	0.5 m	XW2Z-050J-A18
			1 m	XW2Z-100J-A18
		CJ1W-NC233/433	0.5 m	XW2Z-050J-A19
			1 m	XW2Z-100J-A19
		CJ1M-CPU22/23	0.5 m	XW2Z-050J-A27
			1 m	XW2Z-100J-A27
⑧	Control cable	For general purpose controllers	1 m	R88A-CPW001S or JZSP-CKI01-1
			2 m	R88A-CPW002S or JZSP-CKI01-2
⑨	Relay terminal block cable	General-purpose controller	1 m	R88A-CTW001N
			2 m	R88A-CTW002N
	Relay terminal block		–	XW2B-50G5

Cable (for CN5)

Symbol	Name	Order code
⑩	Analogue monitor cable	R88A-CMW001S or DE9404559

Options (for CN3)

Symbol	Name	Order code
⑪	Computer connecting cable	R88A-CCW002P2 or JZSP-CMS02

Human machine interface

Symbol	Name	Order code
⑫	4.1" HMI monochrome	NT3S-ST126B-E

Option units (for CN10)

Symbol	Name	Order code
⑬	IO card, 8 inputs/8 outputs	XDIO-08

Filters

Symbol	Applicable servo drive	Rated current	Rated voltage	Order code
⑭	XD-P3-M_, XD-P5-M_, XD-01-M_, XD-02-M_	4 A	250 VAC single-phase	R88A-FIW104-SE
	XD-04-M_	7A		R88A-FIW107-SE
	XD-08-M_	15 A		R88A-FIW115-SE
	XD-15-M_	25 A		R88A-FIW125-SE
	XD-05-T_, XD-10-T_, XD-15-T_	6 A	400 VAC three-phase	R88A-FIW4006-SE
	XD-20-T_, XD-30-T_	10 A		R88A-FIW4010-SE
	XD-50-T_	20 A		R88A-FIW4020-SE

Battery backup for absolute encoder

Name	Order code
Battery (required for servo motors with absolute encoder)	JZSP-BA01 ER6VC3 (3.6V)

Connectors

Specification		Order code
Control I/O connector (For CN1)		R88A-CNU11C or JZSP-CKI9
XtraDrive 200V connector kit. (For 200V motors SGMAH/PH-__A___D-0Y and R7M-A_ -D)	Connectors included DE9406973 SPOC-17H-FRON169 SPOC-06K-FSDN169	XD-CN200K-DE
XtraDrive 400V connector kit. (For 400V motors SGMAH/PH-__D___D-0Y)	Connectors included DE9406973 SPOC-17H-FRON169 LPRA-06B-FRBN170	XD-CN400K-DE
Sigma-II Drive encoder connector (For CN2)		DE9406973 or R88A-CNU01R
Hypertac encoder connector IP67 (For motors SGMAH/PH-_____D-0Y and R7M-A_ -D)		SPOC-17H-FRON169
Hypertac power connector IP67, 200V. (For 200V motors SGMAH/PH-__A____D-0Y and R7M-A_ -D)		SPOC-06K-FSDN169

Specification	Order code
Hypertac power connector IP67, 400V. (For 400V motors SGMAH/PH-__D____D-0Y)	LPRA-06B-FRBN170
Military encoder connector IP67 (For motors SGMGH-_, SGMSH-_, SGMUH-_)	MS3108E20-29S
Military power connector IP67 (For 400V motors SGMGH-(05/10/13)D_, SGMSH-(10/15/20)D_, SGMUH-(10/15)D_)	MS3108E18-10S
Military power connector IP67 (For 400V motors SGMGH-(20/30/44)D_, SGMSH-(30/40/50)D_, SGMUH-(30/40)D_)	MS3108E22-22S
Military brake connector IP67 (For 400V servo motors SGMGH-_, SGMSH-_, SGMUH-_)	MS3108E10SL-3S

Computer software

Specifications	Order code
XtraWare	MOTION TOOLS

Specifications

Single-phase, 230 V

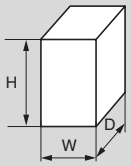
Servo drive type			XD-P3-M_	XD-P5-M_	XD-01-M_	XD-02-M_	XD-04-M_	XD-08-M_	XD-15-M_
Applicable servo motor		SGMAH-_	A3A_	A5A_	01A_	02A_	04A_	08A_	15A_
		SGMPH-_	–	–	01A_	02A_	04A_	08A_	–
		R7M-_	A03030-_	A05030-_	A10030-_	A20030-_	A40030-_	A75030-_	–
		R7M-_	–	–	AP10030-_	AP20030-_	AP40030-_	AP75030-_	–
Basic specifications	Max. applicable motor capacityW		30	50	100	200	400	750	1500
	Continuous output currentA(rms)		0.44	0.64	0.91	2.1	2.8	5.7	11.6
	Max. output currentA(rms)		1.3	2.0	2.8	6.5	8.5	13.9	28
	Input power	Main circuit	For single-phase, 200 to 230 VAC +10 to -15%						
	Supply	Control circuit	For single-phase, 200 to 230 VAC +10 to -15%						
	Control method		Single phase full-wave rectification/IGBT/PWM/sine-wave current drive method						
	Feedback		Serial encoder (incremental/absolute value)						
	Conditions: Usage/storage temperature		0 to +55°C/-20 to 85°C						
	Conditions: Usage/storage humidity		90% RH or less (non-condensing)						
	Conditions: Altitude		1000 m or less above sea level						
	Conditions: Vibration/shock resistance		4.9 m/s^2/19.6 m/s^2						
	Configuration		Base mounted						
	Approx. weight (kg)		0.8				1.1	1.7	3.8

Three-phase, 400 V

Servo drive type			XD-05-T_	XD-10-T_	XD-15-T_	XD-20-T_	XD-30-T_	XD-50-T_
Applicable servo motor		SGMAH-_	03D_	07D_	–	–	–	–
		SGMPH-_	02D_, 04D_	08D_	15D_	–	–	–
		SGMGH-_	05D_	09D_	13D_	20D_	30D_	44D_
		SGMSH-_	–	10D_	15D_	20D_	30D_	40D_/50D_
		SGMUH-_	–	10D_	15D_	–	30D_	40D_
Basic specifications	Max. applicable motor capacitykW		0.45	1.0	1.5	2.0	3.0	5.0
	Continuous output current A(rms)		1.9	3.5	5.4	8.4	11.9	16.5
	Max. output currentA(rms)		5.5	8.5	14	20	28	40.5
	Input power	Main circuit	For three-phase, 380 to 480 VAC + 10 to -15% (50/60Hz)					
	Supply	Control circuit	24VDC+ 15%					
	Control method		Three phase full-wave rectification/IGBT/PWM/sine-wave current drive method					
	Feedback		Serial encoder (incremental/absolute value)					
	Conditions: Usage/storage temperature		0 to +55°C/-20 to +85°C					
	Conditions: Usage/storage humidity		90% RH or less (non-condensing)					
	Conditions: Altitude		1000 m or less above sea level					
	Conditions: Vibration/shock resistance		4.9 m/s^2/19.6 m/s^2					
	Configuration		Base mounted					
	Approx. weight (kg)		2.8			3.8		5.5

Dimensions

Servo drives

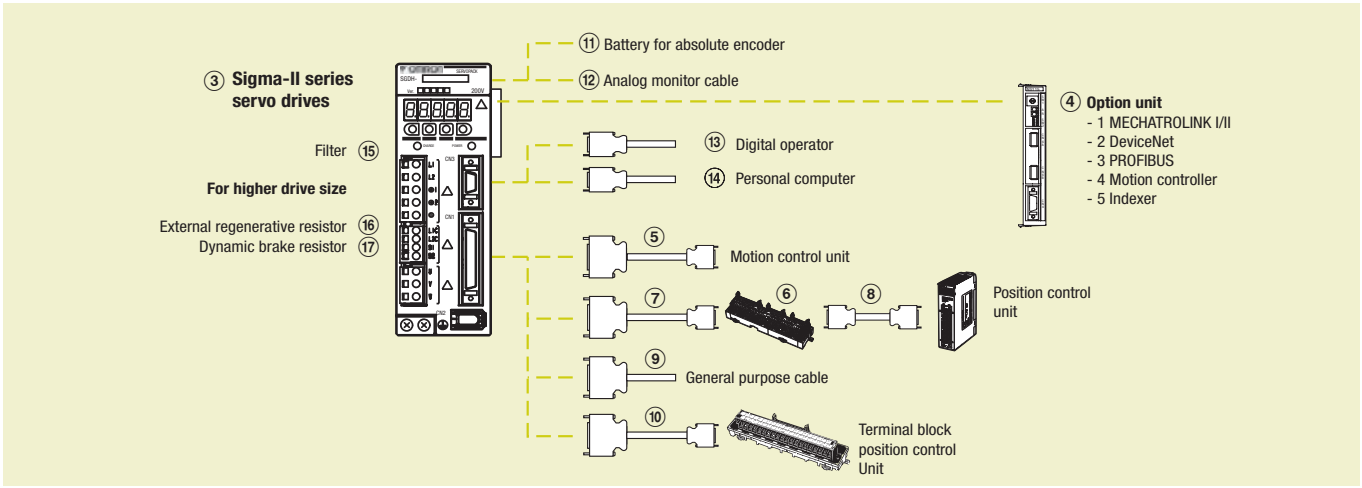
Specifications		Drive model	H	W	D	
1-phase 200 VAC	30 W	XD-P3-M_	160	55	130	
	50 W	XD-P5-M_				
	100 W	XD-01-M_				
	200 W	XD-02-M_				
	400 W	XD-04-M_	160	75	130	
	750 W	XD-08-M_	160	90	180	
	1.5 kW	XD-15-M_	250	110	180	
3-phase 400 VAC	0.5 kW	XD-05-T_	160	110	180	
	1.0 kW	XD-10-T_				
	1.5 kW	XD-15-T_				
	2.0 kW	XD-20-T_	250	110	180	
	3.0 kW	XD-30-T_				
	5.0 kW	XD-50-T_	250	125	230	

Designed with ZERO compromise

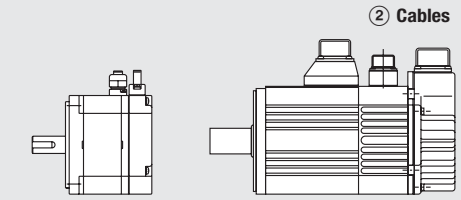
The Sigma-II servo series was designed with ZERO compromise on quality, reliability or performance. The servo amplifiers are ultra-compact with pulse and analogue inputs as standard, plus an auto-tuning function. Plug-in option cards offer enhanced functionality such as indexing and complex motion such as cams, gears and linked axes.

- 300% peak current for 3 seconds
- Automatic motor recognition with auto-tuning function
- Analogue and pulse inputs for speed, torque and position control
- Option units for Fieldbuses, MECHATROLINK-II, servos and motion controller and indexers
- Trace function allowing oscilloscope function

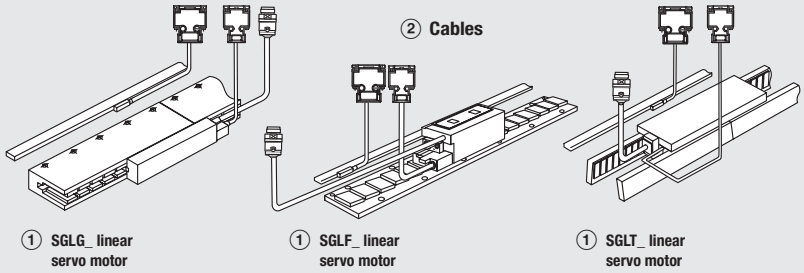
Ordering information



(Refer to chapter Sigma-II rotary motors)



(Refer to chapter Sigma-II linear motors)



Note: The symbols ①②③④⑤... show the recommended sequence to select the components in a Sigma-II servo system

Servo motors, power & encoder cables

Note: ①② Refer to the servo motors chapter for detailed motor specifications and selection

Servo drives

Symbol	Specifications		Compatible rotary servo motors ①	Compatible linear motors ①	Order code
③	1 Phase 200 VAC	30 W	SGMAH-A3A_	–	SGDH-A3AE-OY
		50 W	SGMAH-A5D_	SGLGW-30A050_	SGDH-A5AE-OY
		100 W	SGMAH-01A_, SGMPH-01A_	SGLGW-30A080_, SGLGW-40A140_	SGDH-01AE-OY
		200 W	SGMAH-02A_, SGMPH-02A_	SGLFW-20A_, SGLFW-35A120_, SGLGW-40A253A_,SGLGW-60A140_	SGDH-02AE-OY
		400 W	SGMAH-04A_, SGMPH-04A_	SGLGW-40A365A_, SGLGW-60A253A_	SGDH-04AE-OY
		750 W	SGMAH-08A_, SGMPH-08A_	SGLFW-35A230_, SGLFW-50A200_, SGLGW-60A365A_	SGDH-08AE-S-OY
		1500 W	SGMPH-15A_	SGLFW-50A380_, SGLFW-1ZA200_, SGLGW-90A200A_	SGDH-15AE-S-OY

Symbol	Specifications		Compatible rotary servo motors ①	Compatible linear motors ①	Order code
③	3 Phase 400 VAC	0.5 kW	SGMGH-05D_, SGMAH-03D_, SGMPH-02D_/04D_	SGLFW-35D_	SGDH-05DE-OY
		1.0 kW	SGMGH-09D_, SGMSH/UH-10D_, SGMAH-07D_, SGMPH-08D_	SGLFW-50D200_, SGLTW-35D170_, SGLTW-50D170_	SGDH-10DE-OY
		1.5 kW	SGMGH-13D_, SGMSH/UH-15D_, SGMPH-15D_	SGLFW-50D380_, SGLFW-1ZD200_	SGDH-15DE-OY
		2 kW	SGMGH-20D_, SGMSH-20D_	SGLTW-35D320_, SGLTW-50D320_	SGDH-20DE-OY
		3 kW	SGMGH-30D_, SGMSH/UH-30D_	SGLFW-1ZD380_, SGLTW-40D400_	SGDH-30DE-OY
		5 kW	SGMGH-44D_, SGMSH/UH-40D_, SGMSH-50D_	SGLTW-40D60_, SGLTW-80D400_	SGDH-50DE-OY
		6 kW	SGMGH-55D_	–	SGDH-60DE-OY
		7.5 kW	SGMGH-75D_	SGLTW-80D600_	SGDH-75DE-OY
		11 kW	SGMGH-1AD_	–	SGDH-1ADE-OY
		15 kW	SGMGH-1ED_	–	SGDH-1EDE-OY
		22 kW	SGMBH-2BD_	–	SGDH-2BDE
		30 kW	SGMBH-3ZD_	–	SGDH-3ZDE
		37 kW	SGMBH-3GD_	–	SGDH-3GDE
		45 kW	SGMBH-4ED_	–	SGDH-4EDE
		55 kW	SGMBH-5ED_	–	SGDH-5EDE

Option units (for CN10)

Symbol	Name	Order code
④	1.5 axis advanced motion controller with host link interface	R88A-MCW151-E
	1.5 axis advanced motion controller with DeviceNet interface	R88A-MCW151-DRT-E
	MECHATROLINK-I interface unit	JUSP-NS100
	MECHATROLINK-II interface unit	JUSP-NS115
	DeviceNet interface unit with positioning functionality	JUSP-NS300
	PROFIBUS-DP interface unit with positioning functionality	JUSP-NS500
	Indexer unit. versatile point to point positioning	JUSP-NS600

Note:④ Refer to the servo drive option unit chapter for detailed specifications and selection

Control cables (for CN1)

Symbol	Description	Connect to	Length	Order code
⑤	Control cable (1 axis)	Motion control units CS1W-MC221 CS1W-MC421 C200H-MC221	1 m	R88A-CPW001M1
			2 m	R88A-CPW002M1
			3 m	R88A-CPW003M1
			5 m	R88A-CPW005M1
	Control cable (2 axes)	Motion control units CS1W-MC221 CS1W-MC421 C200H-MC221	1 m	R88A-CPW001M2
			2 m	R88A-CPW002M2
			3 m	R88A-CPW003M2
			5 m	R88A-CPW005M2
	Terminal block (4 axes)	Motion control unit C200HW-MC402-E	–	R88A-TC04-E
	Servo drive connecting cable (1 axis)		1 m	R88A-CMUK001J3-E2
	PLC unit control cables (4 axes)		1 m	R88A-CMX001S-E
			1 m	R88A-CMX001J1-E
⑥	Servo relay unit	CS1W-NC1_3, CJ1W-NC1_3, or C200HW-NC113 position control unit	–	XW2B-20J6-1B (1 axis)
		CS1W-NC2_3/4_3, CJ1W-NC2_3/4_3, or C200HW-NC213/413 position control unit	–	XW2B-40J6-2B (2 axes)
		CQM1H-PLB21 CQM1-CPU43	–	XW2B-20J6-3B (1 axis)
		CJ1M-CPU22/23	–	XW2B-20J6-8A (1 axis) XW2B-40J6-9A (2 axes)
⑦	Cable to servo drive	Servo relay units XW2B-_0J6-_B	1 m	XW2Z-100J-B4
			2 m	XW2Z-200J-B4
⑧	Position control unit connecting cable	C200H-NC112	0.5 m	XW2Z-050J-A1
			1 m	XW2Z-100J-A1
		C200H-NC211	0.5 m	XW2Z-050J-A2
			1 m	XW2Z-100J-A2
		CQM1-CPU43-V1 and CQM1H-PLB21	0.5 m	XW2Z-050J-A3
			1 m	XW2Z-100J-A3
		CS1W-NC113 and C200HW-NC113	0.5 m	XW2Z-050J-A6
			1 m	XW2Z-100J-A6
		CS1W-NC213/413 and C200HW-NC213/413	0.5 m	XW2Z-050J-A7
			1 m	XW2Z-100J-A7
		CS1W-NC133	0.5 m	XW2Z-050J-A10
			1 m	XW2Z-100J-A10
		CS1W-NC233/433	0.5 m	XW2Z-050J-A11
			1 m	XW2Z-100J-A11

Symbol	Description	Connect to	Length	Order code
⑧	Position control unit connecting cable	CJ1W-NC113	0.5 m	XW2Z-050J-A14
			1 m	XW2Z-100J-A14
		CJ1W-NC213/413	0.5 m	XW2Z-050J-A15
			1 m	XW2Z-100J-A15
		CJ1W-NC133	0.5 m	XW2Z-050J-A18
			1 m	XW2Z-100J-A18
		CJ1W-NC233/433	0.5 m	XW2Z-050J-A19
			1 m	XW2Z-100J-A19
		CJ1M-CPU22/23	0.5 m	XW2Z-050J-A27
			1 m	XW2Z-100J-A27
⑨	Control cable	For general purpose controllers	1 m	R88A-CPW001S
				JZSP-CKI01-1
			2 m	R88A-CPW002S
				JZSP-CKI01-1
⑩	Relay terminal block cable	General purpose controller	1 m	R88A-CTW001N
			2 m	R88A-CTW002N
	Relay terminal block		–	XW2B-50G5

Battery backup for absolute encoder (for CN8)

Symbol	Name	Order code
⑪	Battery for 30 W to 5 kW drives	JZSP-BA01
	Battery for 6 kW to 15 kW drives	JZSP-BA01-1

Cable (for CN5)

Symbol	Name	Order code
⑫	Analogue monitor cable	R88A-CMW001S or DE9404559

Options (for CN3)

Symbol	Name	Order code
⑬	Parameter unit with cable	JUSP-OP02A-2 or R88A-PR02W
⑭	Computer connecting cable	R88A-CCW002P2 or JZSP-CMS02

Filters

Symbol	Applicable servo drive	Rated current	Rated voltage	Order code
⑮	SGDH-A3AE-OY,SGDH-A5AE-OY, SGDH-01AE-OY, SGDH-02AE-OY	4 A	250 VAC single-phase	R88A-FIW104-SE
	SGDH-04AE-OY	7A		R88A-FIW107-SE
	SGDH-08AE-S-OY	15 A		R88A-FIW115-SE
	SGDH-15AE-S-OY	25 A		R88A-FIW125-SE
	SGDH-05DE-OY, SGDH-10DE-OY,SGDH-15DE-OY	6 A	400 VAC three-phase	R88A-FIW4006-SE
	SGDH-20DE-OY, SGDH-30DE-OY	10 A		R88A-FIW4010-SE
	SGDH-50DE-OY	20 A		R88A-FIW4020-SE
	SGDH-60DE-OY, SGDH-75DE-OY	30 A		R88A-FIW4030-SE
	SGDH-1ADE-OY, SGDH-1EDE-OY	55 A		R88A-FIW4055-SE
	SGDH-2BDE, SGDH-3ZDE, SGDH-3GDE	180 A		FN258-180-07
	SGDH-4EDE, SGDH-5EDE	250 A		FN359-250-99

External regenerative resistor

Symbol	Applicable servo drive	Specifications	Order code
⑯	SGDH-60DE-OY to -75DE-OY	18 Ω , 880 W	JUSP-RA18
	SGDH-1ADE-OY to -1EDE-OY	14.25 Ω , 1760 W	JUSP-RA19
	SGDH-2BDE	9 Ω, 3600 W	JUSP-RA12
	SGDH-3ZDE	6.7 Ω, 3600 W	JUSP-RA13
	SGDH-3GDE	5 Ω, 4800 W	JUSP-RA14
	SGDH-4EDE	4 Ω, 6000 W	JUSP-RA15
	SGDH-5EDE	3.8 Ω, 7200 W	JUSP-RA16

DB resistor units

Symbol	Servo drive model	Specifications. star wiring	Order code
⑰	SGDH-2BDE, SGDH-3ZDE	180 W, 0.8 Ω	JUSP-DB03
	SGDH-3GDE	180 W, 0.8 Ω	JUSP-DB04
	SGDH-4EDE	180 W, 0.8 Ω	JUSP-DB05
	SGDH-5EDE	300 W, 0.8 Ω	JUSP-DB06

Connectors

Specification	Order code
Control I/O connector (For CN1)	R88A-CNU11C or JZSP-CKI9
Sigma-II drive encoder connector (For CN2)	JZSP-CMP9-1
Communications connector (For CN3)	R7A-CNA01R

Computer software

Specifications	Order code
Configuration and monitoring software tool for servo drives and inverters. (CX-Drive version 1.11 or higher)	CX-DRIVE
Complete Omron software package including CX-Drive (CX-One version 1.1 or higher)	CX-ONE

For full specifications please refer to chapter software on page 582.

Specifications

Single-phase, 230 V

Servo drive type		**SGDH-_**	**A3AE-OY**	**A5AE-OY**	**01AE-OY**	**02AE-OY**	**04AE-OY**	**08AE-S-OY**	**15AE-S-OY**
Applicable servo motor		**SGMAH-_**	**A3A_**	**A5A_**	**01A_**	**02A_**	**04A_**	**08A_**	**–**
		SGMPH-_	**–**	**–**	**01A_**	**02A_**	**04A_**	**08A_**	**15A_**
Basic specifications	Max. applicable motor capacity W		30	50	100	200	400	750	1500
	Continuous output current A(rms)		0.44	0.64	0.91	2.1	2.8	5.7	11.6
	Max. output current A(rms)		1.3	2.0	2.8	6.5	8.5	13.9	28
	Input power	Main circuit	For single-phase, 200 to 230 VAC + 10 to -15%					220 to 230 VAC +10 to -15% (50/60 Hz)	
	Supply	Control circuit	For single-phase, 200 to 230 VAC + 10 to -15%						
	Control method		Single phase full-wave rectification/IGBT/PWM/sine-wave current drive method						
	Feedback		Serial encoder (incremental/absolute value)						
	Conditions: Usage/storage temperature		0 to +55°C/-20 to 85°C						
	Conditions: Usage/storage humidity		90% RH or less (non-condensing)						
	Conditions: Altitude		1000 m or less above sea level						
	Conditions: Vibration/shock resistance		4.9 m/s^2/19.6 m/s^2						
	Configuration		Base mounted						
	Approx. weight kg		0.8				1.1	1.7	3.8

Three-phase, 400 V (up to 15 kW)

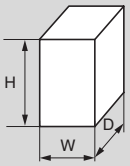
Servo drive type		**SGDH-_**	**05DE-OY**	**10DE-OY**	**15DE-OY**	**20DE-OY**	**30DE-OY**	**50DE-OY**	**60DE-OY**	**75DE-OY**	**1ADE-OY**	**1EDE-OY**
Applicable servo motor		**SGMGH-_**	**05D_**	**09D_**	**13D_**	**20D_**	**30D_**	**44D_**	**55D_**	**75D_**	**1AD_**	**1ED_**
		SGMSH-_	**–**	**10D_**	**15D_**	**20D_**	**30D_**	**40D_/50D_**	**–**	**–**	**–**	**–**
		SGMUH-_	**–**	**10D_**	**15D_**	**–**	**30D_**	**40D_**	**–**	**–**	**–**	**–**
Basic specifications	Max. applicable motor capacitykW		0.45	1.0	1.5	2.0	3.0	5.0	6.0	7.5	11	15
	Continuous output currentA(rms)		1.9	3.5	5.4	8.4	11.9	16.5	20.8	25.4	28.1	37.2
	Max. output currentA(rms)		5.5	8.5	14	20	28	40.5	55	65	70	85
	Input power	Main circuit	For three-phase, 380 to 480 VAC + 10 to -15% (50/60 Hz)									
	Supply	Control circuit	24 VDC + 15%									
	Control method		Three phase full-wave rectification/IGBT/PWM/sine-wave current drive method									
	Feedback		Serial encoder (incremental/absolute)									
	Conditions: Usage/storage temperature		0 to +55°C/-20 to +85°C									
	Conditions: Usage/storage humidity		90% RH or less (non-condensing)									
	Conditions: Altitude		1000 m or less above sea level									
	Conditions: Vibration/shock resistance		4.9 m/s^2/19.6 m/s^2									
	Configuration		Base mounted									
	Approx. weight kg		2.8			3.8		5.5	15		22	

Three-phase, 400 V (from 22 kW to 55 kW)

Servo drive type		**SGDH-_**	**2BDE**	**3ZDE**	**3GDE**	**4EDE**	**5EDE**
Applicable servo motor		**SGMBH-_**	**2BD_A**	**3ZD_A**	**3GD_A**	**4ED_A**	**5ED_A**
Basic specifications	Max. applicable motor capacitykW		22	30	37	45	55
	Continuous output currentA(rms)		58	80	100	127	150
	Max. output currentA(rms)		120	170	210	260	310
	Input power	Main circuit	For three-phase, 380 to 480 VAC + 10 to -15% (50/60 Hz)				
	Supply	Control circuit	24 VDC+ 15%				
	Control method		Three phase full-wave rectification/IGBT/PWM/sine-wave current drive method				
	Feedback		Serial encoder (incremental/absolute)				
	Conditions: Usage/storage temperature		0 to +55°C/-20 to +85°C				
	Conditions: Usage/storage humidity		90% RH or less (non-condensing)				
	Conditions: Altitude		1000 m or less above sea level				
	Conditions: Vibration/shock resistance		4.9 m/s^2/19.6 m/s^2				
	Configuration		Base mounted				
	Approx. weight kg		40		60	65	

Dimensions

Servo drives

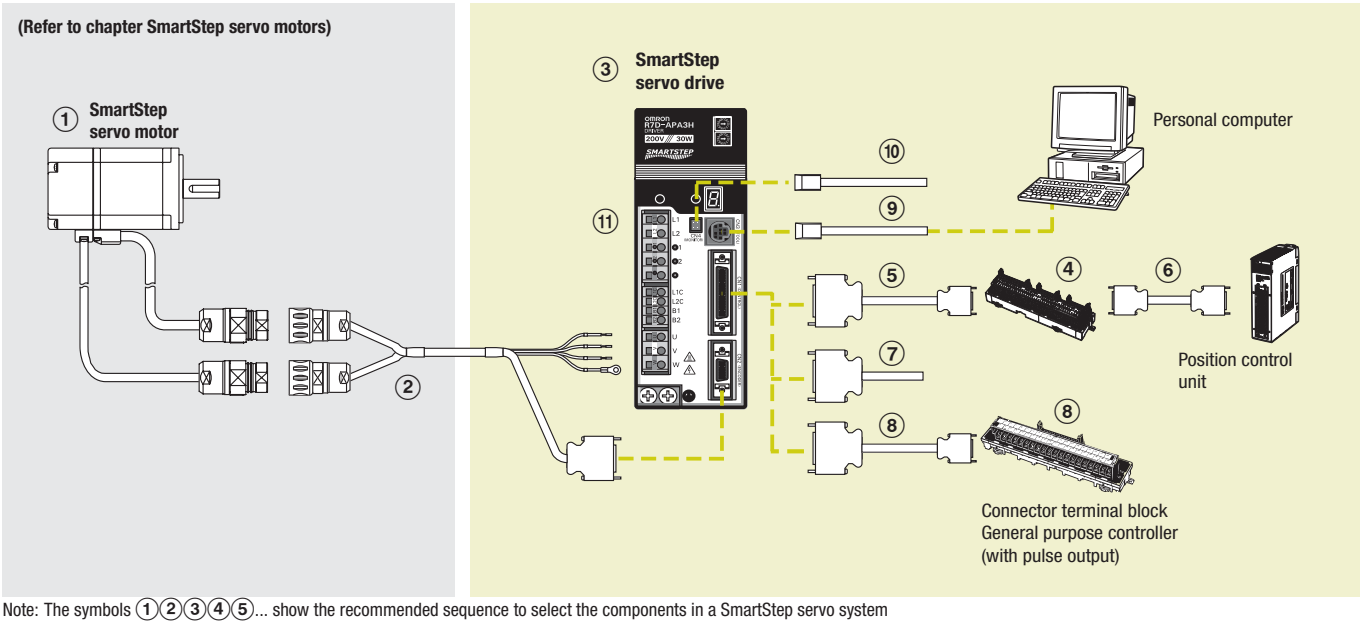
Specifications		Drive model	H	W	D	
1-phase 200 VAC	30 W	SGDH-A3AE-0Y	160	55	130	
	50 W	SGDH-A5AE-0Y				
	100 W	SGDH-01AE-0Y				
	200 W	SGDH-02AE-0Y				
	400 W	SGDH-04AE-0Y	160	75	130	
	750 W	SGDH-08AE-S-0Y	160	90	180	
	1.5 kW	SGDH-15AE-S-0Y	250	110	180	
3-phase 400 VAC	0.5 kW	SGDH-05DE-0Y	160	110	180	
	1.0 kW	SGDH-10-DE-0Y				
	1.5 kW	SGDH-15AE-0Y				
	2.0 kW	SGDH-20DE-0Y	250	110	180	
	3.0 kW	SGDH-30DE-0Y				
	5.0 kW	SGDH-50DE-0Y	250	125	230	
	6.0 kW	SGDH-60DE-0Y	350	230	235	
	7.5 kW	SGDH-75DE-0Y				
	11 kW	SGDH-1ADE-0Y	450	260	285	
	15 kW	SGDH-1EDE-0Y				
	22 kW	SGDH-2BDE	500	370	348	
	30 kW	SGDH-3ZDE				
	37 kW	SGDH-3GDE	475	500	348	
	45 kW	SGDH-4EDE	475	550	348	
	55 kW	SGDH-5EDE				

Servo capability with stepper simplicity

SmartStep is designed and engineered to provide you with an easy way to migrate from steppers to servos in minutes. It accepts pulse-train input, can be configured quickly via simple dip switches and has an online auto-tuning function. Thus, the SmartStep offers all the simplicity and cost-effectiveness of a stepper with the added advantages of the servo drive capability.

- Output range from 30 W to 750 W
- 300% peak current over nominal
- Control via pulse train (speed and position)
- Position resolution of 8,000 steps per revolution
- On-line auto-tuning with 10 levels of rigidity

Ordering information



Note: The symbols ①②③④⑤... show the recommended sequence to select the components in a SmartStep servo system

Servo motors, power & encoder cables

Note: ①② Refer to the SmartStep servo motor chapter for detailed motor specifications and selection

Servo drives

Symbol	Specifications		Order code		
			SmartStep drive model	Compatible servo motors ①	
				Cylindrical type	Flat type
③	200 VAC	30 W	R7D-APA3H	R7M-A03030-_	–
		50 W	R7D-APA5H	R7M-A05030-_	–
		100 W	R7D-AP01H	R7M-A10030-_	R7M-AP10030-_
		200 W	R7D-AP02H	R7M-A20030-_	R7M-AP20030-_
		400 W	R7D-AP04H	R7M-A40030-_	R7M-AP40030-_
		750 W	R7D-AP08H	R7M-A75030-_	R7M-AP75030-_

Control cables (For CN1)

Symbol	Name	Compatible units	Available lengths	Order code*1
④	Servo relay unit	Use with position control units (does not support communications functions.) Units: CS1W-NC113/133, CJ1W-NC113/133, C200HW-NC113, and C200H-NC112	–	XW2B-20J6-1B (1 axis)
		Use with position control units (does not support communications functions.) Units: CS1W-NC213/233/413/433, CJ1W-NC213/233/413/433, C200HW-NC213/413, C500-NC113/211, and C200H-NC211		XW2B-40J6-2B (2 axes)
		Use with position control units (does not support communications functions.) Units: CQM1H-PLB21, and CQM1-CPU43-V1		XW2B-20J6-3B (1 axis)
		Use with position control units (supports communications functions.) Units: CS1W-NC213/233/413/433, CJ1W-NC213/233/413/433		XW2B-40J6-4A (2 axes)
		Use with CJ1M-CPU22/23 (does not support communications functions.)		XW2B-20J6-8A (1 axis) XW2B-40J6-9A (2 axes)

Symbol	Name	Compatible units	Available lengths	Order code*1
⑤	Cable to servo drive	Does not support communications functions. (for the XW2B-__J6-_B)	1 m or 2 m	XW2Z-___J-B5
		Supports communications functions. (for the XW2B-__J6-4B)		XW2Z-___J-B7
⑥	Cable to position control unit	CQM1H-PLB21 and CQM1-CPU43-V1	0.5 m or 1 m	XW2Z-___J-A3
		C200H-NC112		XW2Z-___J-A4
		C200H-NC211 and C500-NC113/211		XW2Z-___J-A5
		CS1W-NC113 and C200HW-NC113		XW2Z-___J-A8
		CS1W-NC213/413 and C200HW-NC213/413		XW2Z-___J-A9
		CS1W-NC133		XW2Z-___J-A12
		CS1W-NC233/433		XW2Z-___J-A13
		CJ1W-NC113		XW2Z-___J-A16
		CJ1W-NC213/413		XW2Z-___J-A17
		CJ1W-NC133		XW2Z-___J-A20
		CS1W-NC233/433		XW2Z-___J-A21
		CJ1M-CPU22/23		XW2Z-___J-A26
⑦	Control cable	For general-purpose controllers	1 m or 2 m	R88A-CPU___S
⑧	Connector terminal block cable	For general-purpose controllers		R88A-CTU___N
	Connector terminal block		–	XW2B-40F5-P

*1 Replace the placeholder "_" by cable length from column "Available lengths".

Cable for CN3

Symbol	Name	Order code
⑨	Computer monitor cable	R7A-CCA002P2

Cable for CN4

Symbol	Name	Order code
⑩	Analogue monitor cable	R88A-CMW001S

Filters

Symbol	Applicable servo drive	Rated current	Rated voltage	Order code
⑪	R7D-APA3H, R7D-APA5H, R7D-AP01H, R7D-AP02H	4 A	250 VAC Single phase	R88A-FIW104-E
	R7D-AP04H	7 A		R88A-FIW107-E
	R7D-AP08H	15 A		R88A-FIW115-E

Connectors

Specifications		Order code
Control I/O connector (For CN1)		R88A-CNU01C
SmartStep connectors kit	Models included in kit	R7A-CNA00K-DE
SmartStep encoder connector (For CN2)	R7A-CNA01R	
Hypertac power connectors female	SPOC-06K-FSDN169	
Hypertac encoder connectors female	SPOC-17H-FRON169	

External regeneration resistor

Specification	Order code
220 W, 47 Ω	R88A-RR22047S

Parameter unit & computer software

Specifications	Order code
Parameter copy unit (with cable)	R7A-PR02A
Configuration and monitoring software tool for servo drives and inverters. (CX-Drive version 1.11 or higher)	CX-DRIVE
Complete Omron software package including CX-Drive (CX-One version 1.1 or higher)	CX-ONE

Specifications

General specifications

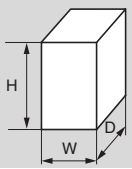
Item	Specification
Ambient operating temperature	0 to 55°C
Ambient operating humidity	90% max. (with no condensation)
Ambient storage temperature	-20 to 85°C
Ambient storage humidity	90% max. (with no condensation)
Storage/operating atmosphere	No corrosive gases.
Vibration resistance	10 to 55 Hz in X, Y, and Z directions with 0.1-mm double amplitude or acceleration of 4.9 m/s^2 max., whichever is smaller
Impact resistance	Acceleration 19.6 m/s^2 max., in X, Y, and Z directions, three times
Insulation resistance	Between power line terminals and case: 0.5 MΩ min. (at 500 VDC)
Dielectric strength	Between power line terminals and case: 1,500 VAC for 1 min at 50/60 Hz Between each control signal and case: 500 VAC for 1 min
Protective structure	Built into panel (IP10).
International standards	Approval obtained for UL, cUL, and EN (EMC directive and low-voltage directive)

Performance specifications

Item	200 VAC input type					
	30 W	50 W	100 W	200 W	400 W	750 W
	R7D-APA3H	R7D-APA5H	R7D-AP01H	R7D-AP02H	R7D-AP04H	R7D-AP08H
Continuous output current (rms)	0.42	0.6	0.89	2.0	2.6	4.4
Momentary maximum output current (rms)	1.3	1.9	2.8	6.0	8.0	13.9
Control power supply	Single-phase 200/230 VAC (170 to 253 V) 50/60 Hz					
Main-circuit power supply	Single-phase 200/230 VAC (170 to 253 V) 50/60 Hz (Three-phase 200/230 VAC can be used with the 750 W model.)					
Control method	All-digital servo					
Speed feedback	2,000 pulses/revolution incremental encoder					
Inverter method	PWM method based on IGBT					
PWM frequency	11.7 kHz					
Weight	0.8	0.8	0.8	0.8	1.1	1.7
Compatible motor voltage	200 V					
Compatible motor capacity	30 W	50 W	100 W	200 W	400 W	750 W
Command pulse response	250 kHz					
Applicable servo motor (R7M-)	A03030	A05030	A10030 AP10030	A20030 AP20030	A40030 AP40030	A75030 AP75030

Dimensions

Servo drives

Specifications		Drive model	H	W	D	
1-phase 200 VAC	30 W	R7D-APA3H	160	55	130	
	50 W	R7D-APA5H				
	100 W	R7D-AP01H				
	200 W	R7D-AP02H				
	400 W	R7D-AP04H	160	75	130	
	750 W	R7D-AP08H	160	90	180	

Junma ML-II servo drive

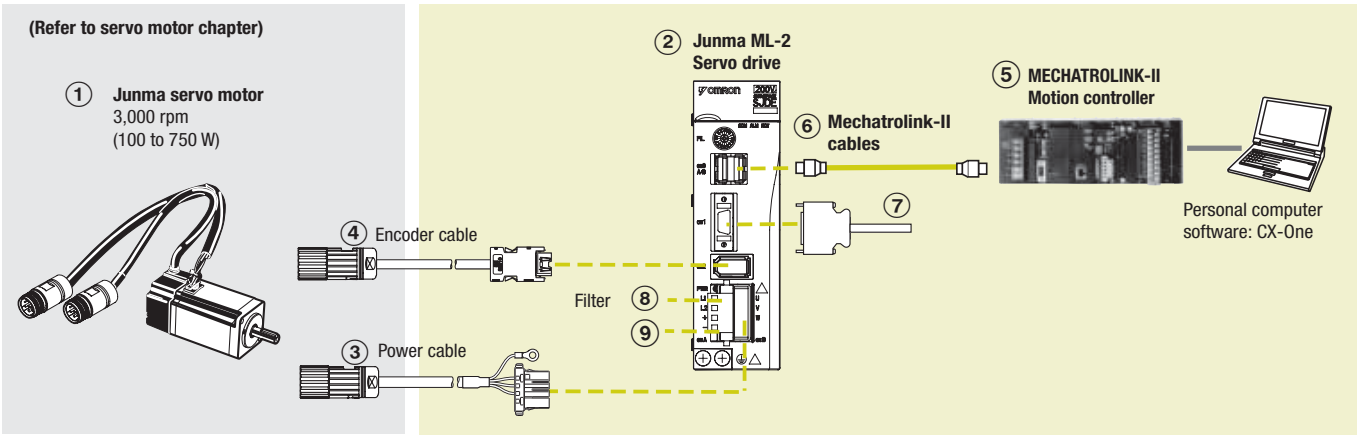
A new concept in drive simplicity – save space, save wiring, save time

Junma compact servo drive with built-in MECHATROLINK-II significantly reduces wiring and set-up time, while saving up to 30% of cabinet space. The Junma series is the first in the world to be fully tuning-free and programless.

- Output range from 100 W to 750 W
- Drive with built-in MECHATROLINK-II port
- Tuning-free technology, no gain parameters need to be set
- Peak torque 300% of nominal for 3 seconds
- Position resolution of 8,192 steps per revolution

Ordering information

Junma MECHATROLINK-II servo drive configuration



Servomotors and servo drives

Symbol	Specifications					Order code	
	Voltage	Encoder and design		Rated torque	Capacity	① Servomotor model	② Servo drive model
①②	1 Phase 200 VAC	Analogue incremental encoder Straight shaft with key	Without brake	0.318 Nm	100 W	SJME-01AMC41-0Y	SJDE-01ANA-0Y
				0.637 Nm	200 W	SJME-02AMC41-0Y	SJDE-02ANA-0Y
				1.27 Nm	400 W	SJME-04AMC41-0Y	SJDE-04ANA-0Y
				2.39 Nm	750 W	SJME-08AMC41-0Y	SJDE-08ANA-0Y
			With brake	0.318 Nm	100 W	SJME-01AMC4C-0Y	SJDE-01ANA-0Y
				0.637 Nm	200 W	SJME-02AMC4C-0Y	SJDE-02ANA-0Y
				1.27 Nm	400 W	SJME-04AMC4C-0Y	SJDE-04ANA-0Y
				2.39 Nm	750 W	SJME-08AMC4C-0Y	SJDE-08ANA-0Y

Power and encoder cables

Note: ③④ Refer to the Junma servo motor section for motor cables or connectors selection

MECHATROLINK-II motion controllers

Symbol	Name	Order code
⑤	Position controller unit for CJ1 PLC	CJ1W-NCF71
	Position controller unit for CS1 PLC	CS1W-NCF71
	Trajexia PLC motion controller, 30 axes	CJ1W-MCH72
	Trajexia stand-alone motion controller, 16 Axes	TJ1-MC16
	Trajexia stand-alone motion controller, 4 Axes	TJ1-MC04

MECHATROLINK-II cables

Symbol	Specifications		Order code
⑥	MECHATROLINK-II terminator resistor		JEPMC-W6022
	MECHATROLINK-II cables	0.5 m	JEPMC-W6003-A5
		1 m	JEPMC-W6003-01
		3 m	JEPMC-W6003-03
		5 m	JEPMC-W6003-05
		10 m	JEPMC-W6003-10
		20 m	JEPMC-W6003-20
		30 m	JEPMC-W6003-30

Cables for I/Os (for CN1)

Symbol	Name	Compatible units		Order code
⑦	Control cable	Cable for servo drive I/O signals	1 m	R7A-CPZ001S or JZSP-CHI003-01
			2 m	R7A-CPZ002S or JZSP-CHI003-02
			3 m	JZSP-CHI003-03

Filters

Symbol	Applicable servo drive	Rated current	Leakage current	Rated voltage	Order code
⑧	SJDE-01ANA-0Y SJDE-02ANA-0Y SJDE-04ANA-0Y	5A	1.7 mA	250 VAC 1-phase	R7A-FIZN105-BE
	SJDE-08ANA-0Y	9A	1.7 mA		R7A-FIZN109-BE

Regenerative unit Model (Option)

Symbol	Specifications	Order code (Omron)	Order code (Yaskawa)
⑨	External regenerative unit (optional)	R88A-RG08UA	JUSP-RG08D

Connectors

Specification	Order code (Omron)	Order code (Yaskawa)
Control I/O connector (for CN1)	R7A-CNA01R	JZSP-CHI9-1
Power input connector (for CNB). (Included in drive the box)	R7A-CNZ01P	JZSP-CHG9-1

Computer software

Specifications	Order code
Configuration and monitoring software tool via ML2 (CX-Drive version 1.3 or higher)	CX-DRIVE
Complete Omron software package including CX-Drive (CX-One 2.0 or higher)	CX-ONE

For full specifications please refer to chapter software on page 582.

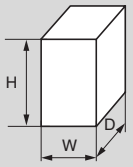
Servo drive specifications

Junma MECHATROLINK-II servo drive

	Servo drive type	SJDE-_	01ANA-OY	02ANA-OY	04ANA-OY	08ANA-OY
	Applicable servomotor	SJME-_	01A_	02A_	04A_	08A_
Basic specifications	Max. applicable motor capacity	W	100	200	400	750
	Continuous output current	Arms	0.84	1.1	2.0	3.7
	Max. output current	Arms	2.5	3.3	6.0	11.1
	Input power supply (Main circuit and control circuit)	Voltage	Single-phase, 200 to 230 VAC, +10 to -15% (50/60 Hz)			
		Capacity KVA	0.40	0.75	1.2	2.2
	Control method		PWM control, sine wave current drive system			
	Feedback		Analogue incremental encoder (13 bits incremental equivalent)			
	Allowable load inertia*1	$kg \cdot m^2$	0.6×10^{-4}	3.0×10^{-4}	5.0×10^{-4}	10.0×10^{-4}
	Usage/Storage temperature		0 to +55°C / -20 to 70°C			
	Usage/Storage humidity		90%RH or less (non-condensing)			
	Altitude		1000 m or less above sea level			
	Vibration/Shock resistance		4.9 m/s^2 (0.5G) / 19.6 m/s^2 (2G)			
	Configuration		Base mounted			
	Approx. mass	kg	1.0			1.4
Built-in functions	Dynamic brake (DB)		Operated at main power OFF, servo alarm, servo OFF.(OFF after motor stops; ON when motor power is off.)			
	Regenerative processing		Optional (If the regenerated energy is too large, install a regenerative unit JUSP-RG08D)			
	Over-travel (OT) prevention function		P_OT, N_OT			
	Emergency stop		Emergency stop (E-STP)			
	LED display		4 LEDs (PWR, RDY, COM, ALM)			
	MECHATROLINK-II monitor		MECHATROLINK-II under communication : COM LED (Light ON)			
	Servo ON/OFF monitor		At Servo OFF : RDY LED (Light OFF), at Servo ON : RDY LED (Light Blinks)			
	Power supply status monitor		Control/main-circuit power-supply OFF state: PWR LED (Light OFF) Control/main-circuit power-supply ON state: PWR LED (Light ON)			
	Electronic gearing		0,01< A/B<100			
	Protection		Overcurrent, overvoltage, undervoltage, overload, main circuit sensor error, board temperature error, excessive position error overflow, overspeed, encoder signal error, overrun protection, system error, parameter error			
	MECHATROLINK communication	Comm. protocol	MECHATROLINK-II			
		Transmission rate	10 Mbps			
		Transmission cycle	1 ms, 1.5 ms, 2 ms, 3 ms, 4 ms			
		Data length	17 byte and 32 byte			
	Command input	MECHATROLINK communication	MECHATROLINK-II commands (For sequence, motion, data setting/reference, monitor, adjustment, and other commands)			
	Sequence input signal	Fixed input	5 points (fixed layout: external latch signal, zero return reduced speed signal, forward drive inhibiting signal, reverse run inhibiting signal, emergency stop signal)			
	Sequence output signal	Fixed output	2 points (fixed layout: servo alarm, brake interlock)			

*1 Value without external regeneration unit.

Dimensions

Specifications		Drive model	H	W	D	
1-phase 200 VAC	100 W	SJDE-01ANA-OY	150	45	130	
	200 W	SJDE-02ANA-OY				
	400 W	SJDE-04ANA-OY				
	750 W	SJDE-08ANA-OY	150	70	180	

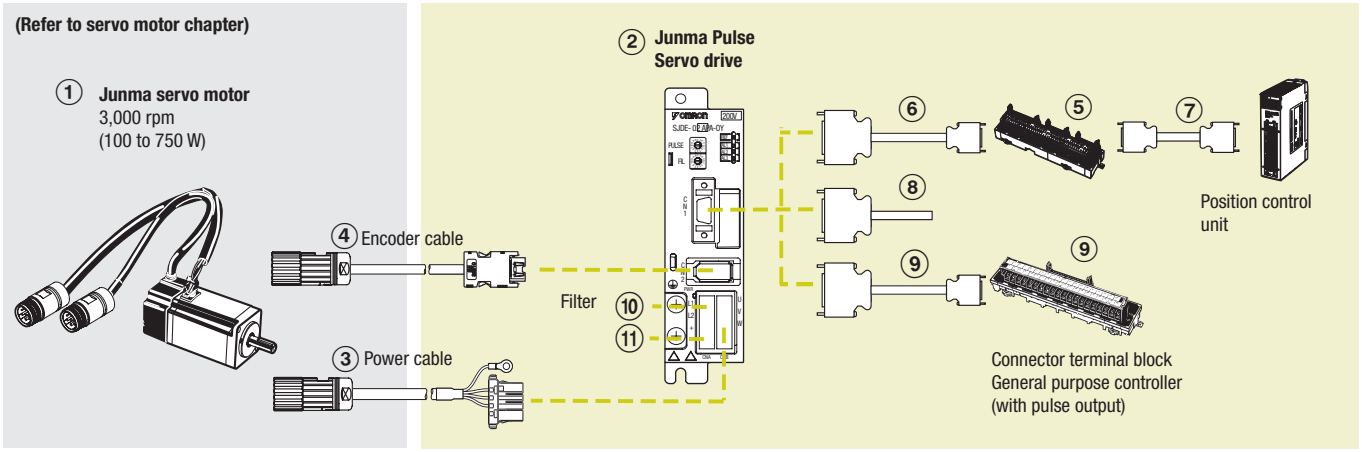
No more parameter set up – save space, save time

Junma series of ultra-compact, pulse-train-controlled servo drives, significantly reduces set-up time, while saving up to 44% of cabinet space. The series is the first in the world to be fully tuning-free and programless.

- Output range from 100 W to 750 W
- Fully "parameterless" drive, just plug and run
- Tuning-free technology, no gain parameters need to be set
- Peak torque 300% of nominal for 3 seconds
- Position resolution of 10,000 steps per revolution

Ordering information

Junma pulse servo drive configuration



Servomotors and servo drives

Symbol	Specifications					Order code	
						① Servomotor model	② Servo drive model
	Voltage	Encoder and design		Rated torque	Capacity		Pulse control
①②	1 Phase 200 VAC	Analogue incremental encoder Straight shaft with key	Without brake	0.318 Nm	100 W	SJME-01AMC41-0Y	SJDE-01APA-0Y
				0.637 Nm	200 W	SJME-02AMC41-0Y	SJDE-02APA-0Y
				1.27 Nm	400 W	SJME-04AMC41-0Y	SJDE-04APA-0Y
				2.39 Nm	750 W	SJME-08AMC41-0Y	SJDE-08APA-0Y
			With brake	0.318 Nm	100 W	SJME-01AMC4C-0Y	SJDE-01APA-0Y
				0.637 Nm	200 W	SJME-02AMC4C-0Y	SJDE-02APA-0Y
				1.27 Nm	400 W	SJME-04AMC4C-0Y	SJDE-04APA-0Y
				2.39 Nm	750 W	SJME-08AMC4C-0Y	SJDE-08APA-0Y

Power and encoder cables

Note: ③④ Refer to the Junma servo motor section for motor cables or connectors selection

Control cables (for CN1)

Symbol	Name	Compatible units		Order code
⑤	Servo relay unit	Units: CS1W-NC113/133, CJ1W-NC113/133, C200HW-NC113	–	XW2B-20J6-1B (1 axis)
		Units: CS1W-NC213/233/413/433, CJ1W-NC213/233/413/433, C200HW-NC213/413	–	XW2B-40J6-2B (2 axes)
		Units: CQM1H-PLB21 and CQM1-CPU43-V1	–	XW2B-20J6-3B (1 axis)
		Use with CJ1M-CPU21/22/23	–	XW2B-20J6-8A (1 axis)
			–	XW2B-40J6-9A (2 axes)
⑥	Cable to servo drive	For the servo relay unit XW2B-__J6-_B, XW2B-20J6-8A, XW2B-40J6-9A	1 m	XW2Z-100J-B17
			2 m	XW2Z-200J-B17
⑦	Cable to position control unit	CQM1H-PLB21 and CQM1-CPU43-V1	0.5 m	XW2Z-050J-A3
			1 m	XW2Z-100J-A3
		CS1W-NC113 and C200HW-NC113	0.5 m	XW2Z-050J-A8
			1 m	XW2Z-100J-A8
		CS1W-NC213/413 and C200HW-NC213/413	0.5 m	XW2Z-050J-A9
			1 m	XW2Z-100J-A9
		CS1W-NC133	0.5 m	XW2Z-050J-A12
			1 m	XW2Z-100J-A12
		CS1W-NC233/433	0.5 m	XW2Z-050J-A13
			1 m	XW2Z-100J-A13
		CJ1W-NC113	0.5 m	XW2Z-050J-A16
			1 m	XW2Z-100J-A16
		CJ1W-NC213/413	0.5 m	XW2Z-050J-A17
			1 m	XW2Z-100J-A17
		CJ1W-NC133	0.5 m	XW2Z-050J-A20
			1 m	XW2Z-100J-A20
		CS1W-NC233/433	0.5 m	XW2Z-050J-A21
			1 m	XW2Z-100J-A21
		CJ1M-CPU21/22/23	0.5 m	XW2Z-050J-A26
			1 m	XW2Z-100J-A26
⑧	Control cable	For general-purpose controllers	1 m	R7A-CPZ001S or JZSP-CHI003-01
			2 m	R7A-CPZ002S or JZSP-CHI003-02
			3 m	JZSP-CHI003-03
⑨	Connector terminal block cable	For general-purpose controllers	1 m	XW2Z-100J-B19
			2 m	XW2Z-200J-B19
	Connector terminal block		–	XW2B-20G5

Filters

Symbol	Applicable servo drive	Rated current	Leakage current	Rated voltage	Filter model
⑩	SJDE-01APA-OY SJDE-02APA-OY SJDE-04APA-OY	5A	1.7 mA	250 VAC 1-phase	R7A-FIZP105-BE
	SJDE-08APA-OY	9A	1.7 mA		R7A-FIZP109-BE

Regenerative unit model (option)

Symbol	Specifications	Order code (Omron)	Order code (Yaskawa)
⑪	External regenerative unit (Optional)	R88A-RG08UA	JUSP-RG08D

Connectors

Specification	Order code (Omron)	Order code (Yaskawa)
Control I/O connector (for CN1)	R7A-CNA01R	JZSP-CHI9-1
Power input connector (for CNB). (Included in drive the box)	R7A-CNZ01P	JZSP-CHG9-1

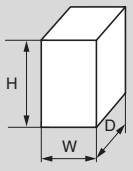
Specifications

Junma pulse servo drives

Servo drive type		**SJDE -_**	**01APA-OY**	**02APA-OY**	**04APA-OY**	**08APA-OY**
Applicable servomotor		**SJME-_**	**01A_**	**02A_**	**04A_**	**08A_**
Basic specifications	Max. applicable motor capacity	W	100	200	400	750
	Continuous output current	Arms	0.84	1.1	2.0	3.7
	Max. output current	Arms	2.5	3.3	6.0	11.1
	Input power supply (Main circuit and control circuit)	Voltage	Single-phase, 200 to 230 VAC, + 10 to -15% (50/60 Hz)			
		Capacity KVA	0.40	0.75	1.2	2.2
	Control method		PWM control, sine wave current drive system			
	Feedback		Analogue incremental encoder (10000 steps per revolution)			
	Allowable load inertia *1	$kg \cdot m^2$	0.6×10^{-4}	3.0×10^{-4}	5.0×10^{-4}	10.0×10^{-4}
	Usage/Storage temperature		0 to +55°C / -20 to 70°C			
	Usage/Storage humidity		90%RH or less (non-condensing)			
	Altitude		1000 m or less above sea level			
	Vibration/Shock resistance		4.9 m/s^2 (0.5G) / 19.6 m/s^2 (2G)			
	Configuration		Base mounted			
	Cooling method		Forced cooling (built-in fan)			
	Approx. mass	kg	0.5			1.0
Built-in functions	Dynamic brake (DB)		Operated at main power OFF, servo alarm, servo OFF.(OFF after motor stops; ON when motor power is off.)			
	Regenerative processing		Optional (If the regenerated energy is too large, install a regenerative unit JUSP-RG08D)			
	LED display		5 (PWE, REF, AL1, AL2, AL3)			
	Reference filter		Select one of eight levels with FIL switch			
	Protection		Speed errors, overload, encoder errors, voltage errors, overcurrents, disablement of the built-in cooling fan, system errors			
I/O Signals	Input signal for reference Designated pulse type and pulse resolution with PULSE switch.	Pulse type	Select one of the following signals: 1. CCW + CW 2. Sign + pulse train 3. CCW + CW (logic reversal) 4. Sign + pulse train (logic reversal)			
		Pulse resolution	Select one of the following signals: 1. 1000 pulses/rev (Open collector/line driver) 75 kpps max. 2. 2500 pulses/rev (Open collector/line driver) 187.5 kpps max. 3. 5000 pulses/rev (Line driver) 375 kpps max. 4. 10000 pulses/rev (Line driver) 750 kpps max.			
	Clear input signal		Clears the positioning error when turned ON			
	Servo ON input signal		Turns the servomotor ON or OFF			
	Alarm output signal		OFF if an alarm occurs. (Note: OFF for 2s when power is turned ON)			
	Brake output signal		External signal to control brakes. Turn ON to release the brake			
	Positioning completed output signal		ON if the current position is equal to the reference position ±10 pulses.External signal to control brakes.			
	Origin output signal		ON if the motor is at the origin. (Width: 1/500 rev) (Note: Use the pulse edge that changes the signal from OFF to ON)			

*1 Value without external regeneration unit

Dimensions

Specifications		Drive model	H	W	D	
1-phase 200 VAC	100 W	SJDE-01APA-OY	120	35	105	
	200 W	SJDE-02APA-OY				
	400 W	SJDE-04APA-OY	120	40	105	
	750 W	SJDE-08APA-OY	120	70	145	

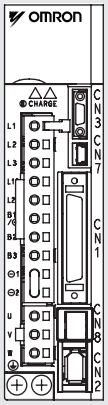
A wide servo family for high speed and high accuracy motion control.

- Sizes from 50 W to 15 kW, rated speeds of 1500 and 3000 rpm
- Peak torque 350% of nominal during 3 seconds
- Automatic motor recognition by servo drive
- IP67 and shaft oil seal available
- High resolution encoders
- Absolute multiturn encoder solution
- Compact design and robust construction

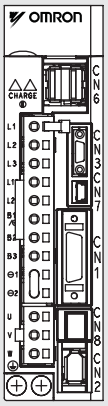
Ordering information

(Refer to servo drive chapter)

Drive options

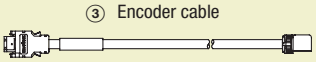


② Analog Pulse Models

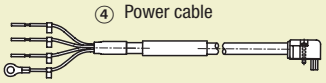


② MECHATROLINK-II Models

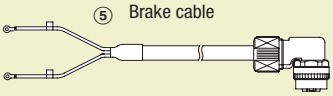
Power, encoder and brake cables



③ Encoder cable



④ Power cable



⑤ Brake cable

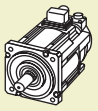
(a separate brake cable to use only for SGMGV and SGMSV servo motors from 850 W)

Servo motors

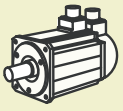
① **SGMJV Servo Motor 3000 rpm (50-750 W)**

① **SGMAV Servo Motor 3000 rpm (50 W-1 kW)**

① **SGMEV Servo Motor 3000 rpm (100 W-1.5 kW)**



① **SGMGV Servo Motor 1500 rpm (300 W-15 kW)**



① **SGMSV Servo Motor 3000 rpm (1-5 kW)**

Note: The symbols ①②③... show the recommended sequence to select the servo motor and cables

Servo motor

① Select motor from families SGMJV, SGMAV, SGMEV, SGMGV, SGMSV using motor tables in next pages.

Servo drive

② Refer to Sigma-5 servo drive chapter for detailed drive specifications and selection of drive accessories.

Servo motor

SGMJV - servo motors 3000 r/min (50 - 750 W)

Symbol	Specifications					Compatible servo drives ②	Order code
	Voltage	Encoder and design		Rated torque	Capacity	Sigma-5	
①	230 V	Incremental encoder (13 bit) Straight shaft with key and tap	Without brake	0.159 Nm	50 W	SGDV-R70A_1A	SGMJV-A5AAA61
				0.318 Nm	100 W	SGDV-R90A_1A	SGMJV-01AAA61
				0.637 Nm	200 W	SGDV-1R6A_1A	SGMJV-02AAA61
				1.27 Nm	400 W	SGDV-2R8A_1A	SGMJV-04AAA61
				2.39 Nm	750 W	SGDV-5R5A_1A	SGMJV-08AAA61
			With brake	0.159 Nm	50 W	SGDV-R70A_1A	SGMJV-A5AAA6C
				0.318 Nm	100 W	SGDV-R90A_1A	SGMJV-01AAA6C
				0.637 Nm	200 W	SGDV-1R6A_1A	SGMJV-02AAA6C
				1.27 Nm	400 W	SGDV-2R8A_1A	SGMJV-04AAA6C
				2.39 Nm	750 W	SGDV-5R5A_1A	SGMJV-08AAA6C
		Incremental encoder (20 bit) Straight shaft with key and tap	Without brake	0.159 Nm	50 W	SGDV-R70A_1A	SGMJV-A5ADA61
				0.318 Nm	100 W	SGDV-R90A_1A	SGMJV-01ADA61
				0.637 Nm	200 W	SGDV-1R6A_1A	SGMJV-02ADA61
				1.27 Nm	400 W	SGDV-2R8A_1A	SGMJV-04ADA61
				2.39 Nm	750 W	SGDV-5R5A_1A	SGMJV-08ADA61
			With brake	0.159 Nm	50 W	SGDV-R70A_1A	SGMJV-A5ADA6C
				0.318 Nm	100 W	SGDV-R90A_1A	SGMJV-01ADA6C
				0.637 Nm	200 W	SGDV-1R6A_1A	SGMJV-02ADA6C
				1.27 Nm	400 W	SGDV-2R8A_1A	SGMJV-04ADA6C
				2.39 Nm	750 W	SGDV-5R5A_1A	SGMJV-08ADA6C
		Absolute encoder (20 bit) Straight shaft with key and tap	Without brake	0.159 Nm	50 W	SGDV-R70A_1A	SGMJV-A5A3A61
				0.318 Nm	100 W	SGDV-R90A_1A	SGMJV-01A3A61
				0.637 Nm	200 W	SGDV-1R6A_1A	SGMJV-02A3A61
				1.27 Nm	400 W	SGDV-2R8A_1A	SGMJV-04A3A61
				2.39 Nm	750 W	SGDV-5R5A_1A	SGMJV-08A3A61
			With brake	0.159 Nm	50 W	SGDV-R70A_1A	SGMJV-A5A3A6C
				0.318 Nm	100 W	SGDV-R90A_1A	SGMJV-01A3A6C
				0.637 Nm	200 W	SGDV-1R6A_1A	SGMJV-02A3A6C
				1.27 Nm	400 W	SGDV-2R8A_1A	SGMJV-04A3A6C
				2.39 Nm	750 W	SGDV-5R5A_1A	SGMJV-08A3A6C

SGMAV - servo motors 3000 r/min (50 W - 1 kW)

Symbol	Specifications					Compatible servo drives ②	Order code
	Voltage	Encoder and design		Rated torque	Capacity	Sigma-5	
①	230 V	Incremental encoder (20 bit) Straight shaft with key and tap	Without brake	0.159 Nm	50 W	SGDV-R70A_1A	SGMAV-A5ADA61
				0.318 Nm	100 W	SGDV-R90A_1A	SGMAV-01ADA61
				0.477 Nm	150 W	SGDV-1R6A_1A	SGMAV-C2ADA61
				0.637 Nm	200 W	SGDV-1R6A_1A	SGMAV-02ADA61
				1.27 Nm	400 W	SGDV-2R8A_1A	SGMAV-04ADA61
				1.75 Nm	550 W	SGDV-5R5A_1A	SGMAV-06ADA61
				2.39 Nm	750 W	SGDV-5R5A_1A	SGMAV-08ADA61
				3.18 Nm	1 kW	SGDV-120A_1A008000	SGMAV-10ADA61
			With brake	0.159 Nm	50 W	SGDV-R70A_1A	SGMAV-A5ADA6C
				0.318 Nm	100 W	SGDV-R90A_1A	SGMAV-01ADA6C
				0.477 Nm	150 W	SGDV-1R6A_1A	SGMAV-C2ADA6C
				0.637 Nm	200 W	SGDV-1R6A_1A	SGMAV-02ADA6C
				1.27 Nm	400 W	SGDV-2R8A_1A	SGMAV-04ADA6C
				1.75 Nm	550 W	SGDV-5R5A_1A	SGMAV-06ADA6C
				2.39 Nm	750 W	SGDV-5R5A_1A	SGMAV-08ADA6C
				3.18 Nm	1 kW	SGDV-120A_1A008000	SGMAV-10ADA6C
		Absolute encoder (20 bit) Straight shaft with key and tap	Without brake	0.159 Nm	50 W	SGDV-R70A_1A	SGMAV-A5A3A61
				0.318 Nm	100 W	SGDV-R90A_1A	SGMAV-01A3A61
				0.477 Nm	150 W	SGDV-1R6A_1A	SGMAV-C2A3A61
				0.637 Nm	200 W	SGDV-1R6A_1A	SGMAV-02A3A61
				1.27 Nm	400 W	SGDV-2R8A_1A	SGMAV-04A3A61
				1.75 Nm	550 W	SGDV-5R5A_1A	SGMAV-06A3A61
				2.39 Nm	750 W	SGDV-5R5A_1A	SGMAV-08A3A61
				3.18 Nm	1 kW	SGDV-120A_1A008000	SGMAV-10A3A61
			With brake	0.159 Nm	50 W	SGDV-R70A_1A	SGMAV-A5A3A6C
				0.318 Nm	100 W	SGDV-R90A_1A	SGMAV-01A3A6C
				0.477 Nm	150 W	SGDV-1R6A_1A	SGMAV-C2A3A6C
				0.637 Nm	200 W	SGDV-1R6A_1A	SGMAV-02A3A6C
				1.27 Nm	400 W	SGDV-2R8A_1A	SGMAV-04A3A6C
				1.75 Nm	550 W	SGDV-5R5A_1A	SGMAV-06A3A6C
				2.39 Nm	750 W	SGDV-5R5A_1A	SGMAV-08A3A6C
				3.18 Nm	1 kW	SGDV-120A_1A008000	SGMAV-10A3A6C

Sigma-5 rotary servo motors

SGMEV - servo motors 3000 r/min (100 W - 1.5 kW)

Symbol	Specifications					Compatible servo drives ②	Order code
	Voltage	Encoder and design		Rated torque	Capacity	Sigma-5	
①	230 V	Incremental encoder (20 bit) Straight shaft with key and tap	Without brake	0.318 Nm	100 W	SGDV-R90A_1A	SGMEV-01ADA61
				0.637 Nm	200 W	SGDV-1R6A_1A	SGMEV-02ADA61
				1.27 Nm	400 W	SGDV-2R8A_1A	SGMEV-04ADA61
				2.39 Nm	750 W	SGDV-5R5A_1A	SGMEV-08ADA61
				4.77 Nm	1.5 kW	SGDV-120A_1A008000	SGMEV-15ADA61
			With brake	0.318 Nm	100 W	SGDV-R90A_1A	SGMEV-01ADA6C
				0.637 Nm	200 W	SGDV-1R6A_1A	SGMEV-02ADA6C
				1.27 Nm	400 W	SGDV-2R8A_1A	SGMEV-04ADA6C
				2.39 Nm	750 W	SGDV-5R5A_1A	SGMEV-08ADA6C
				4.77 Nm	1.5 kW	SGDV-120A_1A008000	SGMEV-15ADA6C
		Absolute encoder (20 bit) Straight shaft with key and tap	Without brake	0.318 Nm	100 W	SGDV-R90A_1A	SGMEV-01A3A61
				0.637 Nm	200 W	SGDV-1R6A_1A	SGMEV-02A3A61
				1.27 Nm	400 W	SGDV-2R8A_1A	SGMEV-04A3A61
				2.39 Nm	750 W	SGDV-5R5A_1A	SGMEV-08A3A61
				4.77 Nm	1.5 kW	SGDV-120A_1A008000	SGMEV-15A3A61
			With brake	0.318 Nm	100 W	SGDV-R90A_1A	SGMEV-01A3A6C
				0.637 Nm	200 W	SGDV-1R6A_1A	SGMEV-02A3A6C
				1.27 Nm	400 W	SGDV-2R8A_1A	SGMEV-04A3A6C
				2.39 Nm	750 W	SGDV-5R5A_1A	SGMEV-08A3A6C
				4.77 Nm	1.5 kW	SGDV-120A_1A008000	SGMEV-15A3A6C
	400 V	Incremental encoder (20 bit) Straight shaft with key and tap	Without brake	0.637 Nm	200 W	SGDV-1R9D_1A	SGMEV-02DDA61
				0.955 Nm	300 W	SGDV-1R9D_1A	SGMEV-03DDA61
				1.27 Nm	400 W	SGDV-1R9D_1A	SGMEV-04DDA61
				2.07 Nm	650 W	SGDV-3R5D_1A	SGMEV-07DDA61
				2.39 Nm	750 W	SGDV-3R5D_1A	SGMEV-08DDA61
				4.77 Nm	1.5 kW	SGDV-5R4D_1A	SGMEV-15DDA61
			With brake	0.637 Nm	200 W	SGDV-1R9D_1A	SGMEV-02DDA6C
				0.955 Nm	300 W	SGDV-1R9D_1A	SGMEV-03DDA6C
				1.27 Nm	400 W	SGDV-1R9D_1A	SGMEV-04DDA6C
				2.07 Nm	650 W	SGDV-3R5D_1A	SGMEV-07DDA2C
				2.39 Nm	750 W	SGDV-3R5D_1A	SGMEV-08DDA2C
				4.77 Nm	1.5 kW	SGDV-5R4D_1A	SGMEV-15DDA2C
		Absolute encoder (20 bit) Straight shaft with key and tap	Without brake	0.637 Nm	200 W	SGDV-1R9D_1A	SGMEV-02D3A61
				0.955 Nm	300 W	SGDV-1R9D_1A	SGMEV-03D3A61
				1.27 Nm	400 W	SGDV-1R9D_1A	SGMEV-04D3A61
				2.07 Nm	650 W	SGDV-3R5D_1A	SGMEV-07D3A61
				2.39 Nm	750 W	SGDV-3R5D_1A	SGMEV-08D3A61
				4.77 Nm	1.5 kW	SGDV-5R4D_1A	SGMEV-15D3A61
			With brake	0.637 Nm	200 W	SGDV-1R9D_1A	SGMEV-02D3A6C
				0.955 Nm	300 W	SGDV-1R9D_1A	SGMEV-03D3A6C
				1.27 Nm	400 W	SGDV-1R9D_1A	SGMEV-04D3A6C
				2.07 Nm	650 W	SGDV-3R5D_1A	SGMEV-07D3A6C
				2.39 Nm	750 W	SGDV-3R5D_1A	SGMEV-08D3A6C
				4.77 Nm	1.5 kW	SGDV-5R4D_1A	SGMEV-15D3A6C

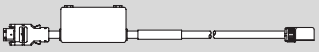
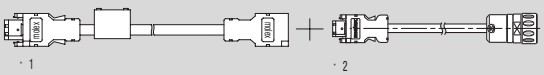
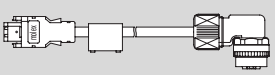
SGMGV - servo motors 1500 r/min (300 W - 15 kW)

Symbol	Specifications					Compatible servo drives ②	Order code
	Voltage	Encoder and design		Rated torque	Capacity	Sigma-5	
① 	400 V	Incremental encoder (20 bit) Straight shaft with key and tap	Without brake	1.96 Nm	300 W	SGDV-1R9D_1A	SGMGV-03DDA6F
				2.86 Nm	450 W	SGDV-1R9D_1A	SGMGV-05DDA6F
				5.39 Nm	850 W	SGDV-3R5D_1A	SGMGV-09DDA6F
				8.34 Nm	1.3 kW	SGDV-5R4D_1A	SGMGV-13DDA6F
				11.5 Nm	1.8 kW	SGDV-8R4D_1A	SGMGV-20DDA6F
				18.6 Nm	2.9 kW	SGDV-120D_1A	SGMGV-30DDA6F
				28.4 Nm	4.4 kW	SGDV-170D_1A	SGMGV-44DDA6F
				35.0 Nm	5.5 kW	SGDV-210D_1A	SGMGV-55DDA6F
				48.0 Nm	7.5 kW	SGDV-260D_1A	SGMGV-75DDA6F
				70.0 Nm	11 kW	SGDV-280D_1A	SGMGV-1ADDA6F
				95.4 Nm	15 kW	SGDV-370D_1A	SGMGV-1EDDA6F
			With brake	1.96 Nm	300 W	SGDV-1R9D_1A	SGMGV-03DDA6H
				2.86 Nm	450 W	SGDV-1R9D_1A	SGMGV-05DDA6H
				5.39 Nm	850 W	SGDV-3R5D_1A	SGMGV-09DDA6H
				8.34 Nm	1.3 kW	SGDV-5R4D_1A	SGMGV-13DDA6H
				11.5 Nm	1.8 kW	SGDV-8R4D_1A	SGMGV-20DDA6H
				18.6 Nm	2.9 kW	SGDV-120D_1A	SGMGV-30DDA6H
				28.4 Nm	4.4 kW	SGDV-170D_1A	SGMGV-44DDA6H
				35.0 Nm	5.5 kW	SGDV-210D_1A	SGMGV-55DDA6H
				48.0 Nm	7.5 kW	SGDV-260D_1A	SGMGV-75DDA6H
				70.0 Nm	11 kW	SGDV-280D_1A	SGMGV-1ADDA6H
				95.4 Nm	15 kW	SGDV-370D_1A	SGMGV-1EDDA6H
		Absolute encoder (20 bit) Straight shaft with key and tap	Without brake	1.96 Nm	300 W	SGDV-1R9D_1A	SGMGV-03D3A6F
				2.86 Nm	450 W	SGDV-1R9D_1A	SGMGV-05D3A6F
				5.39 Nm	850 W	SGDV-3R5D_1A	SGMGV-09D3A6F
				8.34 Nm	1.3 kW	SGDV-5R4D_1A	SGMGV-13D3A6F
				11.5 Nm	1.8 kW	SGDV-8R4D_1A	SGMGV-20D3A6F
				18.6 Nm	2.9 kW	SGDV-120D_1A	SGMGV-30D3A6F
				28.4 Nm	4.4 kW	SGDV-170D_1A	SGMGV-44D3A6F
				35.0 Nm	5.5 kW	SGDV-210D_1A	SGMGV-55D3A6F
				48.0 Nm	7.5 kW	SGDV-260D_1A	SGMGV-75D3A6F
				70.0 Nm	11 kW	SGDV-280D_1A	SGMGV-1AD3A6F
				95.4 Nm	15 kW	SGDV-370D_1A	SGMGV-1ED3A6F
			With brake	1.96 Nm	300 W	SGDV-1R9D_1A	SGMGV-03D3A6H
				2.86 Nm	450 W	SGDV-1R9D_1A	SGMGV-05D3A6H
				5.39 Nm	850 W	SGDV-3R5D_1A	SGMGV-09D3A6H
				8.34 Nm	1.3 kW	SGDV-5R4D_1A	SGMGV-13D3A6H
				11.5 Nm	1.8 kW	SGDV-8R4D_1A	SGMGV-20D3A6H
				18.6 Nm	2.9 kW	SGDV-120D_1A	SGMGV-30D3A6H
				28.4 Nm	4.4 kW	SGDV-170D_1A	SGMGV-44D3A6H
				35.0 Nm	5.5 kW	SGDV-210D_1A	SGMGV-55D3A6H
				48.0 Nm	7.5 kW	SGDV-260D_1A	SGMGV-75D3A6H
				70.0 Nm	11 kW	SGDV-280D_1A	SGMGV-1AD3A6H
				95.4 Nm	15 kW	SGDV-370D_1A	SGMGV-1ED3A6H

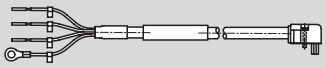
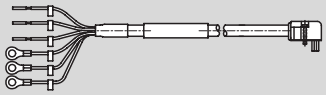
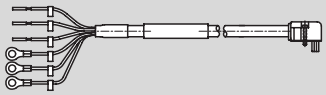
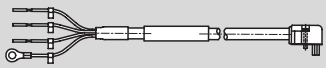
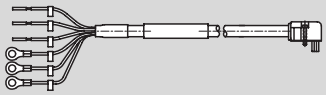
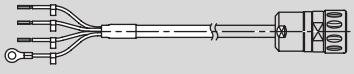
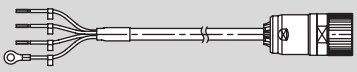
SGMSV - servo motors 3000 r/min (1 - 5 kW)

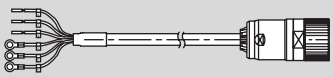
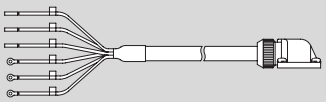
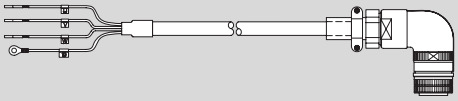
Symbol	Specifications					Compatible servo drives ②	Order code
	Voltage	Encoder and design		Rated torque	Capacity	Sigma-5	
① 	400 V	Incremental encoder (20 bit) Straight shaft with key and tap	Without brake	3.18 Nm	1 kW	SGDV-3R5D_1A	SGMSV-10DDA6F
				4.9 Nm	1.5 kW	SGDV-5R4D_1A	SGMSV-15DDA6F
				6.36 Nm	2 kW	SGDV-8R4D_1A	SGMSV-20DDA6F
				7.96 Nm	2.5 kW	SGDV-120D_1A	SGMSV-25DDA6F
				9.8 Nm	3 kW	SGDV-120D_1A	SGMSV-30DDA6F
				12.6 Nm	4 kW	SGDV-170D_1A	SGMSV-40DDA6F
				15.8 Nm	5 kW	SGDV-170D_1A	SGMSV-50DDA6F
			With brake	3.18 Nm	1 kW	SGDV-3R5D_1A	SGMSV-10DDA6H
				4.9 Nm	1.5 kW	SGDV-5R4D_1A	SGMSV-15DDA6H
				6.36 Nm	2 kW	SGDV-8R4D_1A	SGMSV-20DDA6H
				7.96 Nm	2.5 kW	SGDV-120D_1A	SGMSV-25DDA6H
				9.8 Nm	3 kW	SGDV-120D_1A	SGMSV-30DDA6H
				12.6 Nm	4 kW	SGDV-170D_1A	SGMSV-40DDA6H
				15.8 Nm	5 kW	SGDV-170D_1A	SGMSV-50DDA6H
		Absolute encoder (20 bit) Straight shaft with key and tap	Without brake	3.18 Nm	1 kW	SGDV-3R5D_1A	SGMSV-10D3A6F
				4.9 Nm	1.5 kW	SGDV-5R4D_1A	SGMSV-15D3A6F
				6.36 Nm	2 kW	SGDV-8R4D_1A	SGMSV-20D3A6F
				7.96 Nm	2.5 kW	SGDV-120D_1A	SGMSV-25D3A6F
				9.8 Nm	3 kW	SGDV-120D_1A	SGMSV-30D3A6F
				12.6 Nm	4 kW	SGDV-170D_1A	SGMSV-40D3A6F
				15.8 Nm	5 kW	SGDV-170D_1A	SGMSV-50D3A6F
			With brake	3.18 Nm	1 kW	SGDV-3R5D_1A	SGMSV-10D3A6H
				4.9 Nm	1.5 kW	SGDV-5R4D_1A	SGMSV-15D3A6H
				6.36 Nm	2 kW	SGDV-8R4D_1A	SGMSV-20D3A6H
				7.96 Nm	2.5 kW	SGDV-120D_1A	SGMSV-25D3A6H
				9.8 Nm	3 kW	SGDV-120D_1A	SGMSV-30D3A6H
				12.6 Nm	4 kW	SGDV-170D_1A	SGMSV-40D3A6H
				15.8 Nm	5 kW	SGDV-170D_1A	SGMSV-50D3A6H

Encoder Cables
for sigma-5 servo drive

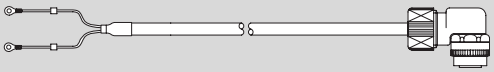
Symbol	Appearance	Specifications		Order code
③		Sigma-5 incremental encoder cable for SGMJV/AV Servo motors SGMJV-__ADA__, SGMJV-__AAA__, SGMAV-__ADA__	1.5 m	JZSP-CSP21-01-5E-E
			3 m	JZSP-CSP21-03-E-E
			5 m	JZSP-CSP21-05-E-E
			10 m	JZSP-CSP21-10-E-E
			15 m	JZSP-CSP21-15-E-E
			20 m	JZSP-CSP21-20-E-E
		Sigma-5 absolute encoder cable (with a battery case) for SGMJV/AV Servo motors SGMJV-__A3A__ SGMAV-__A3A__	3 m	JZSP-CSP25-03-G1
			5 m	JZSP-CSP25-05-G1
			10 m	JZSP-CSP25-10-G1
			15 m	JZSP-CSP25-15-G1
			20 m	JZSP-CSP25-20-G1
		Sigma-5 incremental encoder cable for SGMEV Servo motors	1.5 m	R88A-CRWA001-5C-DE
			3 m	R88A-CRWA003C-DE
			5 m	R88A-CRWA005C-DE
			10 m	R88A-CRWA010C-DE
			15 m	R88A-CRWA015C-DE
			20 m	R88A-CRWA020C-DE
		Sigma-5 absolute encoder cable extension with a battery case for SGMEV Servo motors Note: *1 This cable is only an extension and must be used in conjunction with incremental encoder cable *2 R88A-CRWA0__C-DE	0.3 m	JZSP-CSP12-E
		Sigma-5 incremental encoder cable for SGMGV/SV Servo motors SGMGV-__DD_ SGMSV-__DD_	1.5 m	JZSP-CVP12-01-5E-E
			3 m	JZSP-CVP12-03-E-E
			5 m	JZSP-CVP12-05-E-E
			10 m	JZSP-CVP12-10-E-E
			15 m	JZSP-CVP12-15-E-E
			20 m	JZSP-CVP12-20-E-E
		Sigma-5 absolute encoder cable (with a battery case) for SGMGV/SV Servo motors SGMGV-__D3_ SGMSV-__D3_	3 m	JZSP-CVP27-03-G1
			5 m	JZSP-CVP27-05-G1
			10 m	JZSP-CVP27-10-G1
			15 m	JZSP-CVP27-15-G1
			20 m	JZSP-CVP27-20-G1

Power cables

Symbol	Appearance	Specifications		Order code
④		For 200 V servo motors without brake SGMJV-(A5/01)A_A_1 SGMAV-(A5/01/C2)ADA_1	1.5 m	JZSP-CSM21-01-5E-E
			3 m	JZSP-CSM21-03-E-E
			5 m	JZSP-CSM21-05-E-E
			10 m	JZSP-CSM21-10-E-E
			15 m	JZSP-CSM21-15-E-E
			20 m	JZSP-CSM21-20-E-E
		For 200 V servo motors with brake SGMJV-(A5/01)A_A_C SGMAV-(A5/01/C2)A_A_C	1.5 m	JZSP-CSM31-01-5E-E
			3 m	JZSP-CSM31-03-E-E
			5 m	JZSP-CSM31-05-E-E
			10 m	JZSP-CSM31-10-E-E
			15 m	JZSP-CSM31-15-E-E
			20 m	JZSP-CSM31-20-E-E
		For 200 V servo motors without brake SGMJV-(02/04)A_A_1 SGMAV-(02/04/06)A_A_1	1.5 m	JZSP-CSM22-01-5E-E
			3 m	JZSP-CSM22-03-E-E
			5 m	JZSP-CSM22-05-E-E
			10 m	JZSP-CSM22-10-E-E
			15 m	JZSP-CSM22-15-E-E
			20 m	JZSP-CSM22-20-E-E
		For 200 V servo motors with brake SGMJV-(02/04)A_A_C SGMAV-(02/04/06)A_A_C	1.5 m	JZSP-CSM32-01-5E-E
			3 m	JZSP-CSM32-03-E-E
			5 m	JZSP-CSM32-05-E-E
			10 m	JZSP-CSM32-10-E-E
			15 m	JZSP-CSM32-15-E-E
			20 m	JZSP-CSM32-20-E-E
		For 200 V servo motors without brake SGMJV-08A_A_1 SGMAV-08A_A_1 SGMAV-10A_A_1	1.5 m	JZSP-CSM23-01-5E-E
			3 m	JZSP-CSM23-03-E-E
			5 m	JZSP-CSM23-05-E-E
			10 m	JZSP-CSM23-10-E-E
			15 m	JZSP-CSM23-15-E-E
			20 m	JZSP-CSM23-20-E-E
		For 200 V servo motors with brake SGMJV-08A_A_C SGMAV-08A_A_C SGMAV-10A_A_C	1.5 m	JZSP-CSM33-01-5E-E
			3 m	JZSP-CSM33-03-E-E
			5 m	JZSP-CSM33-05-E-E
			10 m	JZSP-CSM33-10-E-E
			15 m	JZSP-CSM33-15-E-E
			20 m	JZSP-CSM33-20-E-E
		For 200 V servo motors without brake SGMEV-(01/02/04/08)A_A_1	1.5 m	R88A-CAWA001-5S-DE
			3 m	R88A-CAWA003S-DE
			5 m	R88A-CAWA005S-DE
			10 m	R88A-CAWA010S-DE
			15 m	R88A-CAWA015S-DE
			20 m	R88A-CAWA020S-DE
		For 200 V servo motors with brake SGMEV-(01/02/04/08)A_A_C	1.5 m	R88A-CAWA001-5B-DE
			3 m	R88A-CAWA003B-DE
			5 m	R88A-CAWA005B-DE
			10 m	R88A-CAWA010B-DE
			15 m	R88A-CAWA015B-DE
			20 m	R88A-CAWA020B-DE
		For 200 V servo motors without brake SGMEV-15A_A_1	1.5 m	R88A-CAWB001-5S-DE
			3 m	R88A-CAWB003S-DE
			5 m	R88A-CAWB005S-DE
			10 m	R88A-CAWB010S-DE
			15 m	R88A-CAWB015S-DE
			20 m	R88A-CAWB020S-DE
		For 200 V servo motors with brake SGMEV-15A_A_C	1.5 m	R88A-CAWB001-5B-DE
			3 m	R88A-CAWB003B-DE
			5 m	R88A-CAWB005B-DE
			10 m	R88A-CAWB010B-DE
			15 m	R88A-CAWB015B-DE
			20 m	R88A-CAWB020B-DE
		For 400 V servo motors without brake SGMEV-(02/03/04/07/08/15)D_A_1	1.5 m	R88A-CAWK001-5S-DE
			3 m	R88A-CAWK003S-DE
			5 m	R88A-CAWK005S-DE
			10 m	R88A-CAWK010S-DE
			15 m	R88A-CAWK015S-DE
			20 m	R88A-CAWK020S-DE

Symbol	Appearance	Specifications		Order code
④		For 400 V servo motors without brake SGMEV-(02/03/04/07/08/15)D_A_C	1.5 m	R88A-CAWK001-5B-DE
			3 m	R88A-CAWK003B-DE
			5 m	R88A-CAWK005B-DE
			10 m	R88A-CAWK010B-DE
			15 m	R88A-CAWK015B-DE
			20 m	R88A-CAWK020B-DE
		For 400 V servo motors without brake SGMGV-(03/05)D_A_1	1.5 m	JZSP-VVM21-01-5E-E
			3 m	JZSP-VVM21-03-E-E
			5 m	JZSP-VVM21-05-E-E
			10 m	JZSP-VVM21-10-E-E
			15 m	JZSP-VVM21-15-E-E
			20 m	JZSP-VVM21-20-E-E
		For 400 V servo motors with brake SGMGV-(03/05)D_A_C	1.5 m	JZSP-VVM41-01-5E-E
			3 m	JZSP-VVM41-03-E-E
			5 m	JZSP-VVM41-05-E-E
			10 m	JZSP-VVM41-10-E-E
			15 m	JZSP-VVM41-15-E-E
			20 m	JZSP-VVM41-20-E-E
		For 400 V servo motors SGMGV-(09/13/20)D_ SGMSV-(10/15/20/25)D_ For servomotors with brake, a separate cable (JZSP-CVB12-__-E-E) is needed	1.5 m	R88A-CAWC001-5S-E
			3 m	R88A-CAWC003S-E
			5 m	R88A-CAWC005S-E
			10 m	R88A-CAWC010S-E
			15 m	R88A-CAWC015S-E
			20 m	R88A-CAWC020S-E
		For 400 V servo motors SGMGV-(30/44)D_ SGMSV-(30/40/50)D_ For servomortors with brake, a separate cable (JZSP-CVB12-__-E-E) is needed	1.5 m	R88A-CAWG001-5S-E
			3 m	R88A-CAWG003S-E
			5 m	R88A-CAWG005S-E
			10 m	R88A-CAWG010S-E
			15 m	R88A-CAWG015S-E
			20 m	R88A-CAWG020S-E
		For 400 V servo motors SGMGV-55D_ For servomortors with brake, a separate cable (JZSP-CVB12-__-E-E) is needed	1.5 m	R88A-CAWF001-5S-E
			3 m	R88A-CAWF003S-E
			5 m	R88A-CAWF005S-E
			10 m	R88A-CAWF010S-E
			15 m	R88A-CAWF015S-E
			20 m	R88A-CAWF020S-E
		For 400 V servo motors SGMGV-(75/1A)D_ For servomortors with brake, a separate cable (JZSP-CVB12-__-E-E) is needed	1.5 m	R88A-CAWH001-5S-E
			3 m	R88A-CAWH003S-E
			5 m	R88A-CAWH005S-E
			10 m	R88A-CAWH010S-E
			15 m	R88A-CAWH015S-E
			20 m	R88A-CAWH020S-E
		For 400 V servo motors SGMGV-1ED_ For servomortors with brake, a separate cable (JZSP-CVB12-__-E-E) is needed	1.5 m	R88A-CAWJ001-5S-E
			3 m	R88A-CAWJ003S-E
			5 m	R88A-CAWJ005S-E
			10 m	R88A-CAWJ010S-E
			15 m	R88A-CAWJ015S-E
			20 m	R88A-CAWJ020S-E

Brake cable (for SGMGV-09/13/20/30/44/55/75/1A/1E and SGMSV-10/15/20/25/30/40/50 Motors)

Symbol	Appearance	Specifications		Order code
⑤		Brake cable only. For 400 V servo motors with brake SGMGV-(09/13/20/30/44/55/75/1A/1E)D_A_C_ SGMSV-(10/15/20/25/30/40/50)D_A_C	1.5 m	JZSP-CVB12-01-5E-E
			3 m	JZSP-CVB12-03-E-E
			5 m	JZSP-CVB12-05-E-E
			10 m	JZSP-CVB12-10-E-E
			15 m	JZSP-CVB12-15-E-E
			20 m	JZSP-CVB12-20-E-E

Specifications

Type SGMJV, 230 V

Ratings and specifications

Applied voltage			230 V				
Servo motor model SGMJV- _			A5A_	01A_	02A_	04A_	08A_
Rated output*1		W	50	100	200	400	750
Rated torque*1,*2		N·m	0.159	0.318	0.637	1.27	2.39
Instantaneous peak torque*1		N·m	0.557	1.11	2.23	4.46	8.36
Rated current*1		A (rms)	0.61	0.84	1.6	2.7	4.7
Instantaneous max. current *1		A (rms)	2.1	2.9	5.8	9.3	16.9
Rated speed*1		min^{-1}	3000				
Max. speed*1		min^{-1}	6000				
Torque constant		N·m/A (rms)	0.285	0.413	0.435	0.512	0.544
Rotor moment of inertia (JM)		$kg·m^2x10^{-4}$ (without brake)	0.0414	0.0665	0.259	0.442	1.57
		$kg·m^2x10^{-4}$ (with brake)	0.0489	0.0740	0.323	0.506	1.74
Allowable load moment of inertia (JL)		Multiple of (JM)	15			10	
Rated power rate*1		kW/s	6.11	15.2	15.7	36.5	36.3
Rated angular acceleration*1		rad/s^2	38400	47800	24600	28800	15200
Encoder		Standard	Incremental encoder (20 bits)				
		Option	Incremental encoder (13 bits)/ Absolute encoder (20 bits)				
Allowable radial load		N	78		245		392
Allowable thrust load		N	54		74		147
Approx. mass		Kg (without brake)	0.3	0.4	0.9	1.3	2.7
		Kg (with brake)	0.6	0.7	1.5	1.9	3.6
Brake specifications	Rated voltage		24 VDC				
	Power consumption (at 20°C)	W	6		6.9		7.7
	Current consumption (at 20°C)	A	0.25		0.29		0.32
	Holding torque	N·m	0.159	0.318	0.637	1.27	2.39
	Rise time for holding torque	ms (max)	100				
	Release time	ms (max)	60				80
Basic specifications	Time rating		Continuous				
	Thermal class		Class B				
	Usage/ storage temperature		0 to +40 °C/ -20 to 60 °C without freezing				
	Usage/ storage humidity		20 to 80% RH (non-condensing)				
	Vibration class		15 µm or below				
	Insulation resistance		500 VDC, 10 MOhm min.				
	Withstand voltage		1500 VAC for one minute				
	Enclosure		Totally-enclosed, self-cooled, IP65 (excluding shaft opening)				
	Vibration resistance		Vibration acceleration 49 m/s^2				
	Altitude		1000 m or less above sea level				
	Mounting		Flange-mounted				

*1 These items and torque/speed characteristics quoted in combination with an SGDV servo drive are at an armature winding temperature of 100°C. Other values quoted are at 20°C.
*2 The rated torques listed here are the values for the continuous allowable torque at 40°C with an aluminium heatsink of the following dimensions attached: SGMJV-A5/01: 200 mm x 200 mm x 6 mm, SGMJV-02/04/08: 250 mm x 250 mm x 6 mm

Type SGMAV, 230 V

Ratings and specifications

Applied voltage			230 V							
Servo motor model SGMAV- _			A5A_	01A_	C2A_	02A_	04A_	06A_	08A_	10A_
Rated output*1		W	50	100	150	200	400	550	750	1000
Rated torque*1,*2		N·m	0.159	0.318	0.477	0.637	1.27	1.75	2.39	3.18
Instantaneous peak torque*1		N·m	0.477	0.955	1.43	1.91	3.82	5.25	7.16	9.55
Rated current*1		A (rms)	0.66	0.91	1.3	1.5	2.6	3.8	5.3	7.4
Instantaneous max. current*1		A (rms)	2.1	2.8	4.2	5.3	8.5	12.2	16.6	23.9
Rated speed*1		min^{-1}	3000							
Max. speed*1		min^{-1}	6000							
Torque constant		N·m/A (rms)	0.265	0.375	0.381	0.450	0.539	0.496	0.487	0.467
Rotor moment of inertia (JM)		$kg·m^2x10^{-4}$ (without brake)	0.0242	0.0380	0.0531	0.116	0.190	0.326	0.769	1.2
		$kg·m^2x10^{-4}$ (with brake)	0.0312	0.0450	0.0601	0.180	0.254	0.390	0.940	1.41
Allowable load moment of inertia (JL)		Multiple of (JM)	30				20			10
Rated power rate*1		kW/s	10.4	26.6	42.8	35.0	84.9	93.9	74.1	84.3
Rated angular acceleration*1		rad/s^2	65800	83800	89900	54900	67000	53700	31000	26500
Encoder		Standard	Incremental encoder (20 bits)							
		Option	Absolute encoder (20 bits)							
Allowable radial load		N	68	78		245			392	
Allowable thrust load		N		54		74			147	
Approx. mass		Kg (without brake)	0.3	0.4	0.5	0.9	1.2	1.7	2.3	3.6
		Kg (with brake)	0.6	0.7	0.8	1.5	1.8	2.4	3.2	4.6

Applied voltage			230 V							
Servo motor model SGMAV- _			A5A_	01A_	C2A_	02A_	04A_	06A_	08A_	10A_
Brake specifications	Rated voltage		24 VDC							
	Power consumption (at 20°C)	W	6			6.9		8.7	7.7	7
	Current consumption (at 20°C)	A	0.25			0.29		0.36	0.32	0.29
	Holding torque	N·m	0.159	0.318	0.477	0.637	1.27	1.75	2.39	3.18
	Rise time for holding torque	ms (max)	100							
	Release time	ms (max)	60							80
Basic specifications	Time rating		Continuous							
	Thermal class		Class B							
	Usage/ storage temperature		0 to +40 °C/ -20 to 60 °C without freezing							
	Usage/ storage humidity		20 to 80% RH (non-condensing)							
	Vibration class		15 µm or below							
	Insulation resistance		500 VDC, 10 MOhm min.							
	Withstand voltage		1500 VAC for one minute							
	Enclosure		Totally-enclosed, self-cooled, IP65 (excluding shaft opening)							
	Vibration resistance		Vibration acceleration 49 m/s²							
	Altitude		1000 m or less above sea level							
	Mounting		Flange-mounted							

*1 These items and torque/speed characteristics quoted in combination with an SGDV servo drive are at an armature winding temperature of 100°C. Other values quoted are at 20°C.
*2 The rated torques listed here are the values for the continuous allowable torque at 40ºC with an aluminium heatsink of the following dimensions attached (SGMJV-A5/01: 200 mm x 200 mm x 6 mm, SGMJV-02/04/08: 250 mm x 250 mm x 6 mm).

Type SGMEV, 230 V/400 V

Ratings and specifications

Applied voltage		230 V					400 V					
Servo motor model SGMEV- _		01A_	02A_	04A_	08A_	15A_	02D_	03D_	04D_	07D_	08D_	15D_
Rated output*1	W	100	200	400	750	1500	200	300	400	650	750	1500
Rated torque*1,*2	N·m	0.318	0.637	1.27	2.39	4.77	0.637	0.955	1.27	2.07	2.39	4.77
Instantaneous peak torque*1	N·m	0.955	1.91	3.82	7.16	14.3	0.191	3.82	3.82	7.16	7.16	14.3
Rated current*1	A (rms)	0.89	2.0	2.6	4.1	7.5	1.4	1.3	1.4	2.2	2.6	4.5
Instantaneous max. current*1	A (rms)	2.8	6.5	8.5	13.9	23.0	4.5	5.1	4.4	8.4	7.8	13.7
Rated speed*1	min^{-1}	3000										
Max. speed*1	min^{-1}	5000										
Torque constant	N·m/A (rms)	0.392	0.349	0.535	0.641	0.687	0.481	0.837	0.963	1.02	0.994	1.135
Rotor moment of inertia (JM)	$kg·m^2x10^{-4}$ (without brake)	0.049	0.193	0.331	2.1	4.02	0.193	0.173	0.331	0.672	2.1	4.02
	$kg·m^2x10^{-4}$ (with brake)	0.078	0.302	0.440	2.975	4.895	0.302	0.231	0.440	0.812	2.975	4.895
Allowable load moment of inertia (JL)	Multiple of (JM)	25	15	7	5		15	20	7	20	5	
Rated power rate*1	kW/s	20.6	21.0	49.0	27.1	56.7	21	52.9	49.0	63.8	27.1	56.7
Rated angular acceleration*1	rad/s^2	64800	33000	38500	11400	11900	33000	55300	38500	30800	11400	11900
Encoder	Standard	Incremental encoder (20 bits)										
	Option	Absolute encoder (20 bits)										
Allowable radial load	N	78	245		392	490	245	345	245	392		490
Allowable thrust load	N	49	68		147		68	74	68	147		
Approx. mass	Kg (without brake)	0.7	1.4	2.1	4.2	6.6	1.4	1.7	2.1	3.4	4.2	6.6
	Kg (with brake)	0.9	1.9	2.6	5.7	8.1	1.9	2.2	2.6	4.3	5.7	8.1
Holding brake moment of inertia J	$kg·m^2x10^{-4}$	0.029	0.109		0.875		0.109	0.058	0.109	0.140	0.875	
Basic specifications	Time rating	Continuous										
	Thermal class	Class B										
	Usage/ storage temperature	0 to +40 °C/ -20 to 60 °C without freezing										
	Usage/ storage humidity	20 to 80% RH (non-condensing)										
	Vibration class	15 µm or below										
	Insulation resistance	500 VDC, 10 MOhm min.										
	Withstand voltage	1500 VAC for one minute										
	Enclosure	Totally-enclosed, self-cooled, IP55*3										
	Altitude	1000 m or less above sea level										
	Mounting	Flange-mounted										

*1 These items and torque/speed characteristics quoted in combination with an SGDV servo drive are at an armature winding temperature of 100°C. Other values quoted are at 20°C.
*2 The rated torques listed here are the values for the continuous allowable torque at 40°C with an aluminium heatsink of the following dimensions attached (SGMEV-01A/02A/04A/02D/03D/04D/07D: 250 mm x 250 mm x 6 mm, SGMEV-08A/15A/08D/15D: 300 mm x 300 mm x 12 mm)
*3 IP55 in case of standard cable attaching. IP67 is possible unless SGMEV-03D/07D servomotors.

Type SGMGV, 400 V

Ratings and specifications

Applied voltage			400 V									
Servo motor model SGMGV- _			03D_	05D_	09D_	13D_	20D_	30D_	44D_	55D_	75D_	1AD_	1ED_
Rated output*1		kW	0.3	0.45	0.85	1.3	1.8	2.9	4.4	5.5	7.5	11	15
Rated torque*1		N·m	1.96	2.86	5.39	8.34	11.5	18.6	28.4	35.0	48.0	70.0	95.4
Instantaneous peak torque*1		N·m	5.88	8.92	13.8	23.3	28.7	45.1	71.1	87.6	119	175	224
Rated current*1		A (rms)	1.4	1.9	3.5	5.4	8.4	11.9	16.5	20.8	25.7	28.1	37.2
Instantaneous max. current*1		A (rms)	4	5.5	8.5	14	20	28	40.5	52	65	70	85
Rated speed*1		min^{-1}	1500										
Max. speed*1		min^{-1}	3000									2000	
Torque constant		N·m/A (rms)	1.55	1.71	1.72	1.78	1.50	1.70	1.93	1.80	1.92	2.64	2.74
Rotor moment of inertia (JM)		$kg·m^2x10^{-4}$ (without brake)	2.48	3.33	13.9	19.9	26	46	67.5	89.0	125	242	303
		$kg·m^2x10^{-4}$ (with brake)	2.69	3.54	16	22	28.1	54.5	76	97.5	134	261	322
Allowable load moment of inertia (JL)		Multiple of (JM)	5										
Rated power rate*1		kW/s (without brake)	15.5	24.6	20.9	35.0	50.9	75.2	119	138	184	202	300
		kW/s (with brake)	14.3	23.1	18.2	31.6	47.1	63.5	106	126	172	188	283
Rated angular acceleration*1		rad/s^2 (without brake)	7900	8590	3880	4190	4420	4040	4210	3930	3840	2890	3150
		rad/s^2 (with brake)	7290	8080	3370	3790	4090	3410	3740	3590	3580	2680	2960
Encoder		Standard	Incremental encoder (20 bits)										
		Option	Absolute encoder (20 bits)										
Allowable radial load		N			490	686	980	1470		1764			4998
Allowable thrust load		N			98	343	392	490		588			2156
Approx. mass		Kg (without brake)	2.6	3.2	5.5	7.1	8.6	13.4	17.5	21.5	29.5	57	67
		Kg (with brake)	4.5	5.0	7.5	9.0	11.0	19.5	23.5	27.5	35	65	85
Brake specifications	Rated voltage		24 /90 VDC										
	Power consumption (at 20°C)	W (24 VDC)	10		9.8			18.5		25		32	35
		W (90 VDC)	10		10.1			18.5		25		32	35
	Current consumption (at 20°C)	A (24 VDC)	0.42		0.41			0.77		1.05		1.33	1.46
		A (90 VDC)	0.11					0.21		0.28		0.36	0.39
	Holding torque	N·m	4.5		12.7	19.6		43.1		72.6		84.3	114.6
	Rise time for holding torque	ms (max)	80					100 (24 V), 80 (90 V)		80			
	Release time	ms (max)	100					170					
Basic specifications	Time rating		Continuous										
	Thermal class		Class F										
	Usage/ storage temperature		0 to +40 °C/ -20 to 60 °C without freezing										
	Usage/ storage humidity		20 to 80% RH (non-condensing)										
	Insulation resistance		500 VDC, 10 MOhm min.										
	Withstand voltage		1800 VAC for one minute										
	Vibration class		15 µm or below										
	Enclosure		Totally-enclosed, self-cooled, IP67 (excluding shaft opening)										
	Vibration resistance		Vibration acceleration 24.5 m/s²										
	Altitude		1000 m or less above sea level										
	Mounting		Flange-mounted										

*1 These items and torque/speed characteristics quoted in combination with an SGDV servo drive are at an armature winding temperature of 20°C.

Type SGMSV, 400 V

Ratings and specifications

Applied voltage		400 V						
Servo motor model SGMSV- _		10D_	15D_	20D_	25D_	30D_	40D_	50D_
Rated output*1	kW	1.0	1.5	2.0	2.5	3.0	4.0	5.0
Rated torque*1,*2	N·m	3.18	4.9	6.36	7.96	9.8	12.6	15.8
Instantaneous peak torque*1	N·m	9.54	14.7	19.1	23.9	29.4	37.8	47.6
Rated current*1	A (rms)	2.8	4.7	6.1	7.4	8.9	12.5	13.8
Instantaneous max. current*1	A (rms)	8.5	14	19.5	22.3	28	38	42
Rated speed*1	min^{-1}	3000						
Max. speed*1	min^{-1}	6000	5000					
Torque constant	N·m/A (rms)	1.27	1.15	1.12	1.15	1.16	1.06	1.21
Rotor moment of inertia (JM)	$kg·m^2x10^{-4}$ (without brake)	1.74	2.0	2.47	3.19	7.0	9.60	12.3
	$kg·m^2x10^{-4}$ (with brake)	1.99	2.25	2.72	3.44	9.2	11.8	14.5
Allowable load moment of inertia (JL)	Multiple of (JM)	5						
Rated power rate*1	kW/s	57.9	97.2	127	199	137	165	203
Rated angular acceleration*1	rad/s^2	18300	24500	25700	25000	14000	13100	12800
Encoder	Standard	Incremental encoder (20 bits)						
	Option	Absolute encoder (20 bits)						
Allowable radial load	N	686				980	1176	
Allowable thrust load	N	196				392		

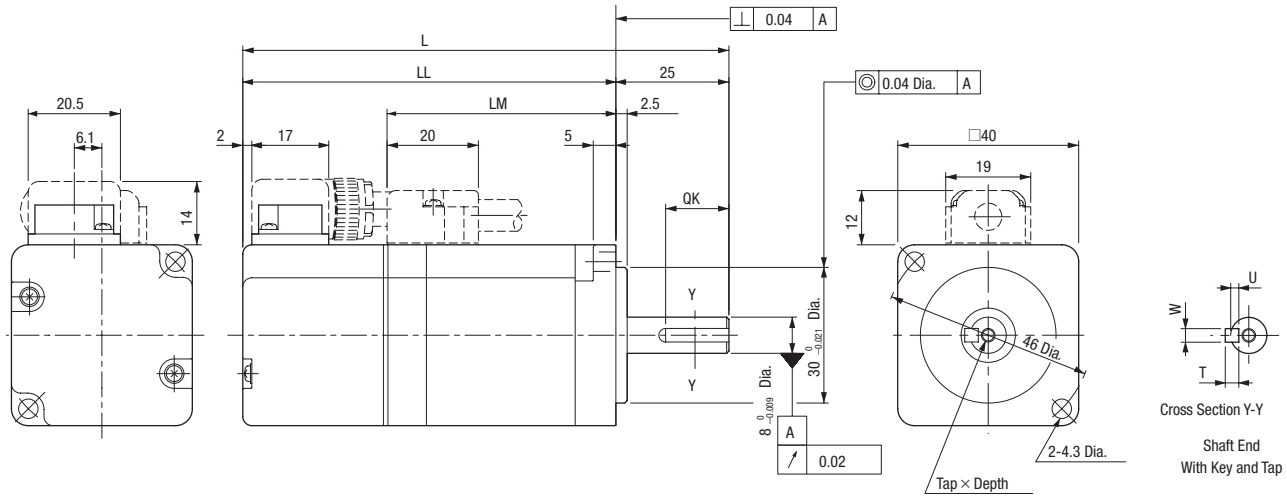
Applied voltage			400 V						
Servo motor model SGMSV- _			10D_	15D_	20D_	25D_	30D_	40D_	50D_
Approx. mass		Kg (without brake)	4.6	5.1	5.8	7.0	11	14	17
		Kg (with brake)	5.5	6	6.8	8.7	13	16	19
Basic specifications	Time rating		Continuous						
	Thermal class		Class F						
	Usage/ storage temperature		0 to +40 °C/ -20 to 60°C without freezing						
	Usage/ storage humidity		20 to 80% RH (non-condensing)						
	Vibration class		15 µm or below						
	Insulation resistance		500 VDC, 10 MOhm min.						
	Withstand voltage		1500 VAC for one minute						
	Enclosure		Totally-enclosed, self-cooled, IP67 (excluding shaft opening)						
	Altitude		1000 m or less above sea level						
	Mounting		Flange-mounted						

*1 These items and torque/speed characteristics quoted in combination with an SGDV servo drive are at an armature winding temperature of 20°C.
*2 The rated torques listed here are the values for the continuous allowable torque value with an aluminium heatsink of the following dimensions attached (SGMSV-10/15/20/25: 300 mm x 300 mm x 12 mm, SGMSV-30/40/50: 400 mm x 400 mm x 20 mm).

Dimensions

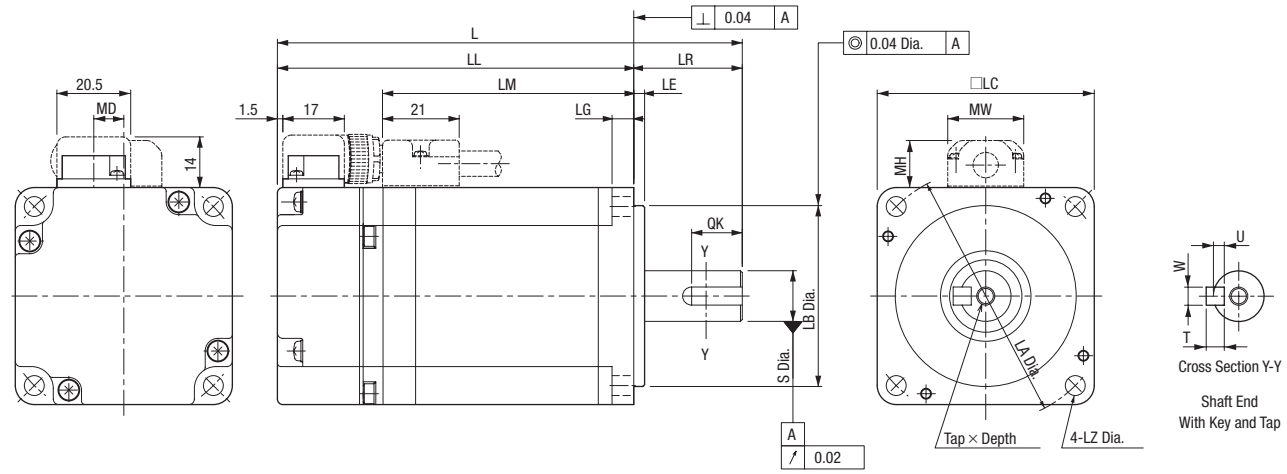
Type SGMJV (230 V, 50-100 W)

Dimensions (mm)	Without brake		With brake		LM	Shaft End Dimensions					Approx. Mass (Kg)	
Model	L	LL	L	LL		Tap × Depth	QK	U	W	T	Without brake	With brake
SGMJV-A5A_A6_	94	69	139	114	37	M3 x 6L	14	1.8	3	3	0.3	0.6
SGMJV-01A_A6_	107.5	82.5	152.5	127.5	50.5						0.4	0.7



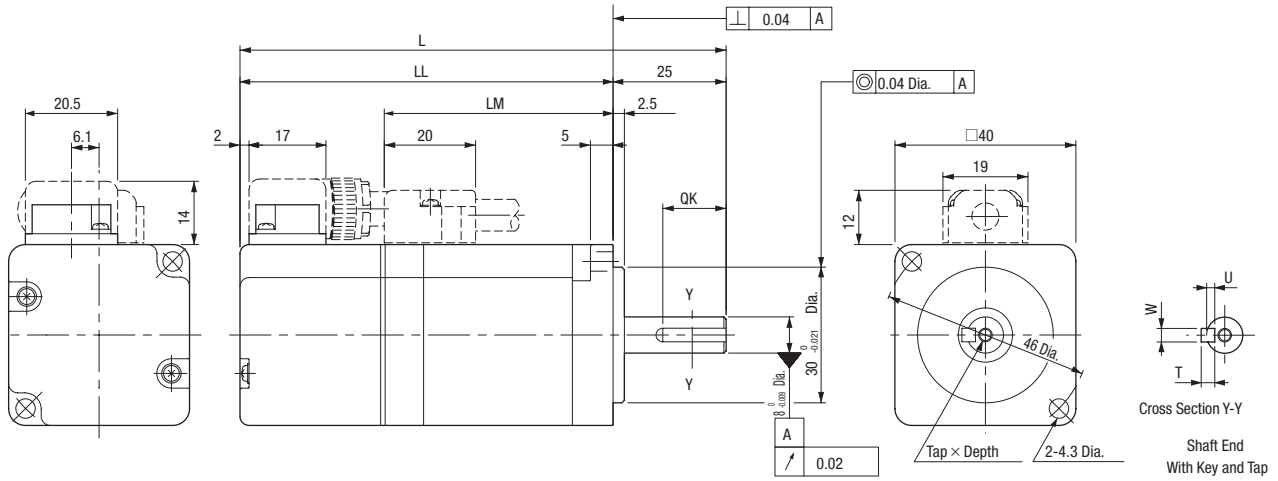
Type SGMJV (230 V, 200-750 W)

Dimensions (mm)	Without brake		With brake		LM	Flange Face Dimensions							Shaft End Dimensions					MD	MW	MH	Approx. Mass Kg	
Model	L	LL	L	LL		LR	LE	LG	LC	LA	LB	LZ	S	Tap × Depth	QK	U	W	T				Without brake	With brake
SGMJV-02A_A6_	110	80	150	120	51	30	3	6	60	70	$50^{0}_{-0.025}$	5.5	$14^{0}_{-0.011}$	M5x8L	14	3	5	5	8.3	21	13	0.9	1.5
SGMJV-04A_A6_	128.5	98.5	168.5	138.5	69.5																	1.3	1.9
SGMJV-08A_A6_	155	115	200	160	85	40		8	80	90	$70^{0}_{-0.030}$	7	$19^{0}_{-0.013}$	M6x10L	22	3.5	6	6	13.8	27	15	2.3	3.2



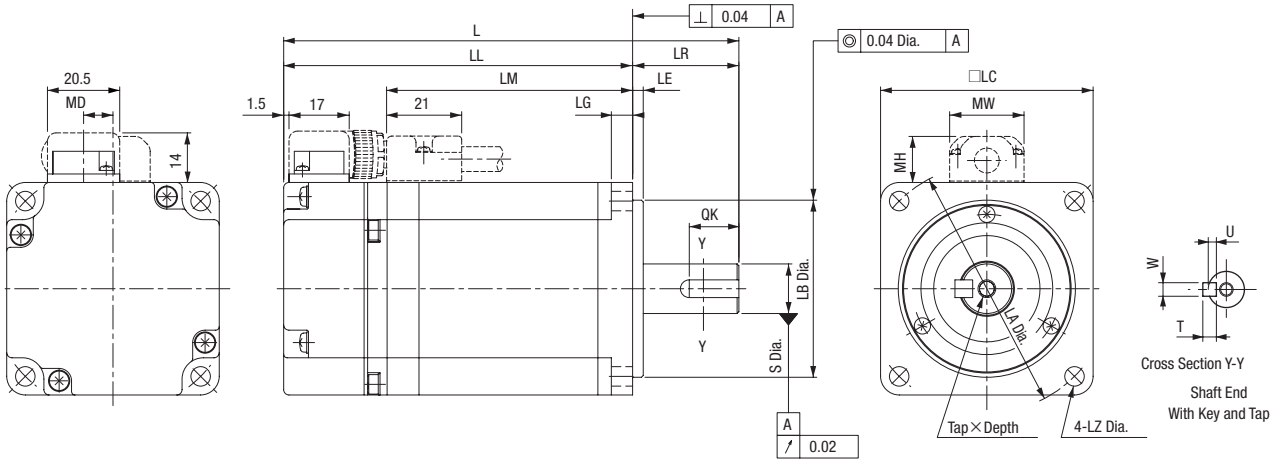
Type SGMAV (230 V, 50-150 W)

Dimensions (mm)	Without brake		With brake		LM	Shaft End Dimensions					Approx. Mass (Kg)	
Model	L	LL	L	LL		Tap x Depth	QK	U	W	T	Without brake	With brake
SGMAV-A5A_A6_	95.5	70.5	140.5	115.5	38.5	M3x6L	14	1.8	3	3	0.3	0.6
SGMAV-01A_A6_	107.5	82.5	152.5	127.5	50.5						0.4	0.7
SGMAV-C2A_A6_	119.5	94.5	164.5	139.5	62.5						0.5	0.8



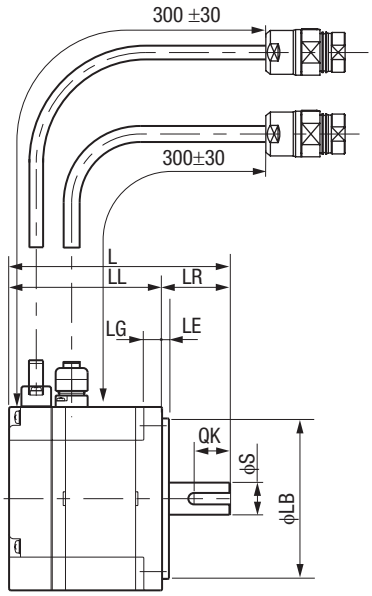
Type SGMAV (230 V, 200-750 W)

Dimensions (mm)	Without brake		With brake		LM	Flange Face Dimensions							Shaft End Dimensions						MD	MW	MH	Approx. Mass (Kg)	
Model	L	LL	L	LL		LR	LE	LG	LC	LA	LB	LZ	S	Tap x Depth	QK	U	W	T				Without brake	With brake
SGMAV-02A_A6_	110	80	150	120	51	30	3	6	60	70	$50^{0}_{-0.025}$	5.5	$14^{0}_{-0.011}$	M5x8L	20	3	5	5	8.5	21	13	0..9	1.5
SGMAV-04A_A6_	128.5	98.5	168.5	138.5	69.5										14							1.2	1.9
SGMAV-06A_A6_	154.5	124.5	200.5	170.5	95.5																	1.7	2.4
SGMAV-08A_A6_	155	115	200	160	85	40		8	80	90	$70^{0}_{-0.030}$	7	$19^{0}_{-0.013}$	M6x10L	22	3.5	6	6	13.8	27	15	2.3	3.2
SGMAV-10A_A6_	185	145	235	195	115																	3.6	4.6

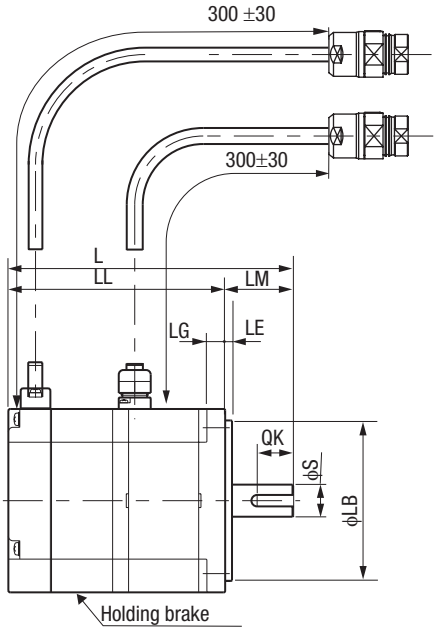


Type SGMEV (230/400 V, 100-1,500 W)

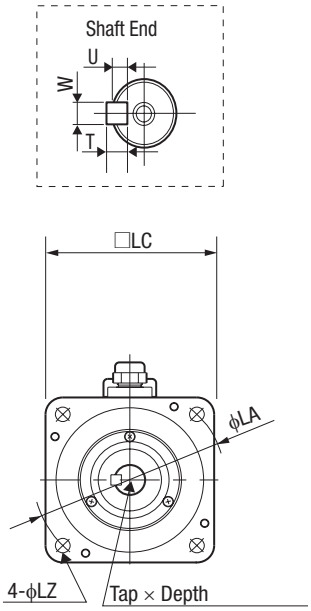
Dimensions (mm)	Without brake		With brake		LM	Flange Face Dimensions						Shaft End Dimensions						Approx. Mass (Kg)	
Model	L	LL	L	LL		LA	LB	LC	LE	LG	LZ	S	QK	W	T	U	Tap x Depth	Without brake	With brake
SGMEV-01A_A6_	87	62	116	91	25	70	$50^{0}_{-0.030}$	60	3	6	5.5	$8^{0}_{-0.011}$	14	3	3	1.8	M3 x 6L	0.7	0.9
SGMEV-02A_A6_	97	67	128.5	98.5	30	90	$70^{0}_{-0.030}$	80		8	7	$14^{0}_{-0.011}$	16	5	5	3	M5 x 8L	1.4	1.9
SGMEV-02D_A6_																			
SGMEV-04A_A6_	117	87	148.5	118.5														2.1	2.6
SGMEV-04D_A6_																			
SGMEV-08A_A6_	126.5	86.5	160	120	40	145	$110^{0}_{-0.035}$	120	3.5	10	10	$16^{0}_{-0.011}$	22					4.2	4.7
SGMEV-08D_A6_																			
SGMEV-15A_A6_	154.5	114.5	188	148								$19^{0}_{-0.013}$		6	6	3.5	M6 x 10L	6.6	8.1
SGMEV-15D_A6_																			



Models without Brake

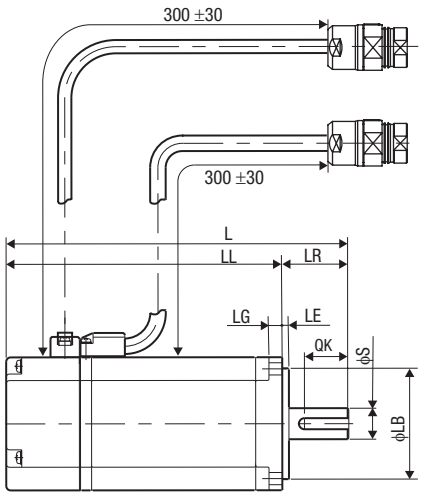


Models with Brake

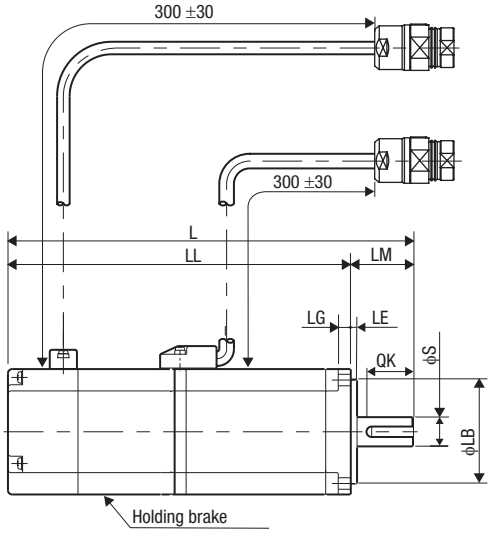


Type SGMEV (400 V, 300-650 W)

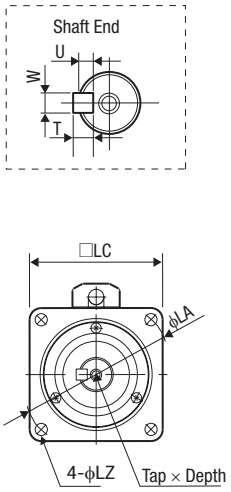
Dimensions (mm)	Without brake		With brake		LM	Flange Face Dimensions						Shaft End Dimensions						Approx. Mass (Kg)	
Model	L	LL	L	LL		LA	LB	LC	LE	LG	LZ	S	QK	W	T	U	Tap x Depth	Without brake	With brake
SGMEV-03D_A6_	154.5	124.5	194	164	30	70	$50^{0}_{-0.025}$	60	3	6	5.5	$14^{0}_{-0.011}$	20	5	5	3	M5 x 8L	1.7	2.2
SGMEV-07D_A6_	185	145	229.5	189.5	40	90	$70^{0}_{-0.030}$	80	3	8	70	$16^{0}_{-0.011}$	30					3.4	4.3



Models without Brake

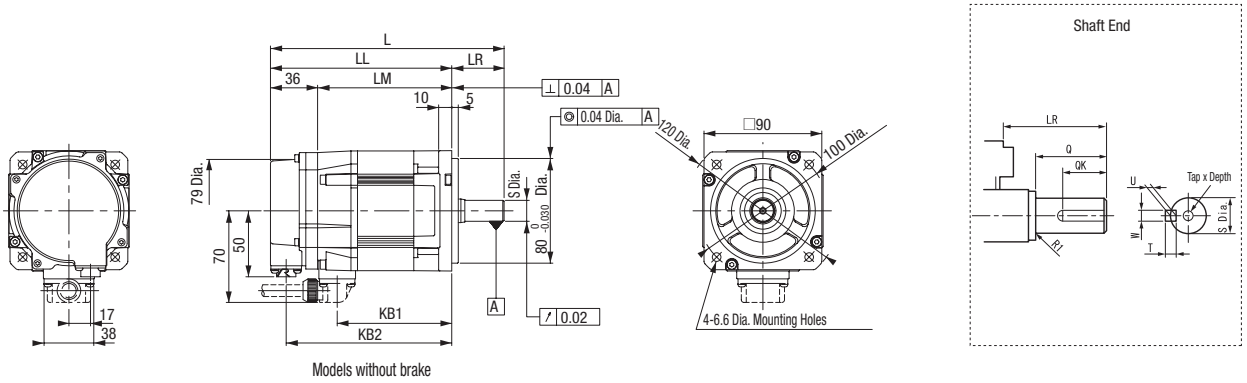


Models with Brake

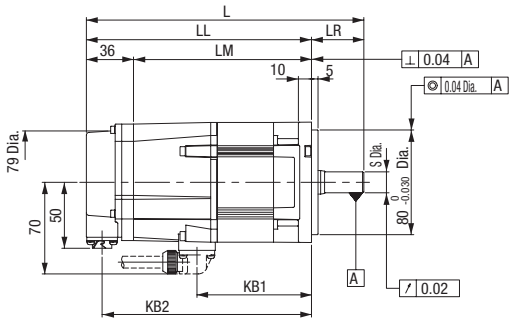


Type SGMGV (400 V, 300-450 W)

Dimensions (mm)	Without brake				With brake				LR	KB1	Shaft End Dimensions							Approx. Mass (Kg)	
Model	L	LL	LM	KB2	L	LL	LM	KB2			S	Q	QK	W	T	U	Tap x Depth	Without brake	With brake
SGMGV-03D_A6_	163	126	90	114	196	159	123	147	37	75	$14^{0}_{-0.011}$	25	15	5	5	3	M4 x 10L	2.6	3.6
SGMGV-05D_A6_	179	139	103	127	212	172	136	160	40	88	$16^{0}_{-0.011}$	30	20				M4 x 12L	3.2	4.2



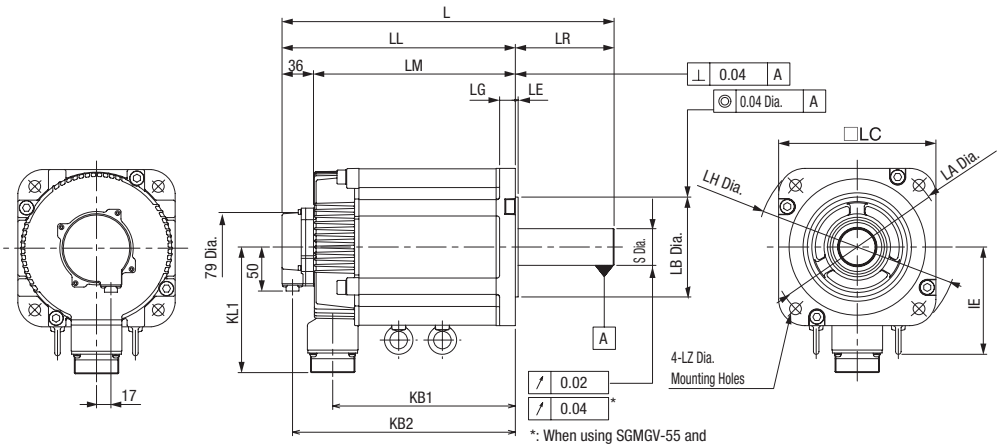
Models without brake



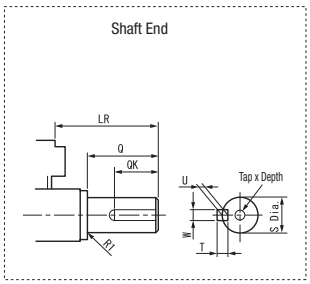
Models with brake

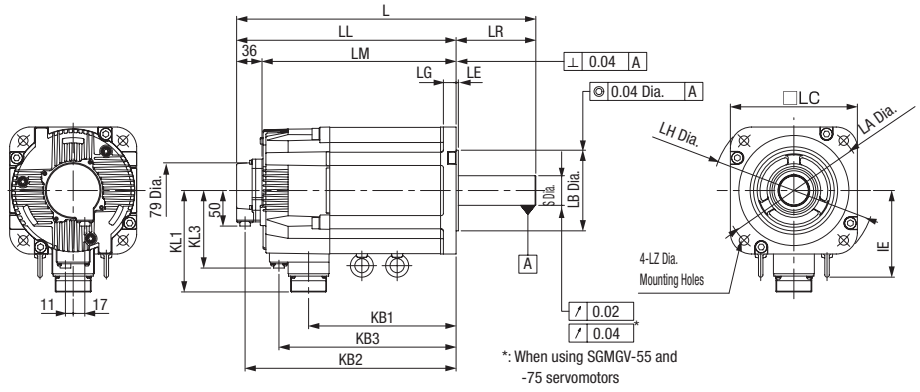
Type SGMGV (400 V, 850 W-7.5 kW)

Dimensions (mm)	Without brake				With brake						LR	KB1	IE	KL1	Flange Face Dimensions							Shaft End Dimensions							Approx. Mass (Kg)	
Model	L	LL	LM	KB2	L	LL	LM	KB2	KB3	KL3					LA	LB	LC	LE	LG	LH	LZ	S	Q	QK	W	T	U	Tap x Depth	Without brake	With brake
SGMGV-09D_A6_	195	137	101	125	231	173	137	161	115	80	58	83	-	104	145	$110^{0}_{-0.035}$	130	6	12	165	9	$19^{0}_{-0.013}$	40	25	5	5	3	M5 x 12L	5.5	7.5
SGMGV-13D_A6_	211	153	117	141	247	189	153	177	131			99	-									$22^{0}_{-0.013}$			6	6	3.5		7.1	9.0
SGMGV-20D_A6_	229	171	135	159	265	207	171	195	149			117	-									$24^{0}_{-0.013}$			8	7	4		8.6	11.0
SGMGV-30D_A6_	239	160	124	148	287	208	172	196	148	110	79	108	-	134	200	$114.3^{0}_{-0.025}$	180	3.2	18	230	13.5	$35^{+0.01}_{0}$	76	60	10	8	5	M12 x 25L	13.4	19.5
SGMGV-44D_A6_	263	184	148	172	311	232	196	220	172			132	-																17.5	23.5
SGMGV-55D_A6_	334	221	185	209	378	265	229	253	205		113	163	123	144								$42^{0}_{0.016}$	110	90	12			M16 x 32L	21.5	27.5
SGMGV-75D_A6_	380	267	231	255	424	311	275	299	251			209																	29.5	35



Models without brake

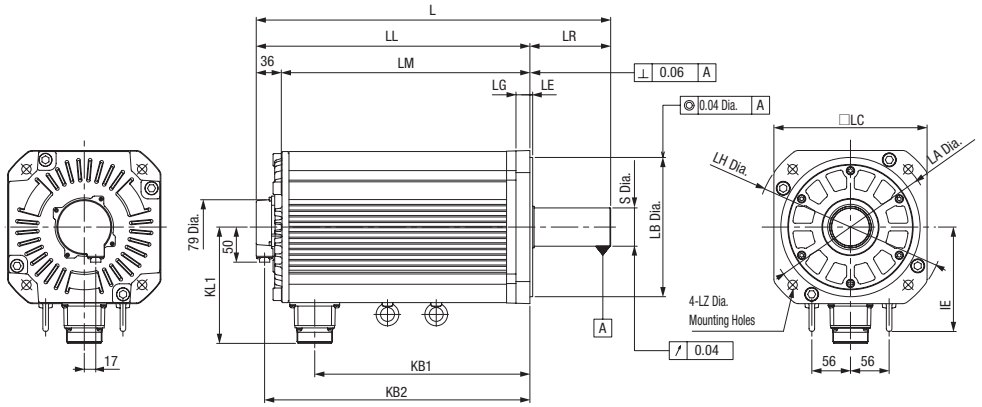




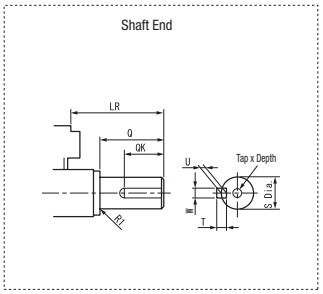
Models with brake

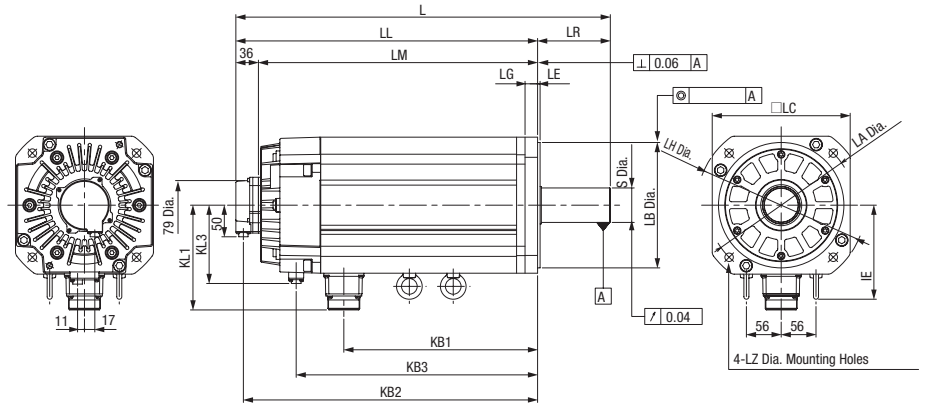
Type SGMGV (400 V, 11 - 15 kW)

Dimensions (mm)	Without brake				With brake						LR	KB1	IE	KL1	Flange Face Dimensions							Shaft End Dimensions							Approx. Mass (Kg)	
Model	L	LL	LM	KB2	L	LL	LM	KB2	KB3	KL3					LA	LB	LC	LE	LG	LH	LZ	S	Q	QK	W	T	U	Tap x Depth	Without brake	With brake
SGMGV-1AD_A6_	447	331	295	319	498	382	346	370	315	125	116	247	150	168	235	$200^{0}_{-0.046}$	220	4	20	270	13.5	$42^{0}_{-0..016}$	110	90	12	8	5	M16 x 32L	57	65
SGMGV-1ED_A6_	509	393	357	381	598	482	446	470	385			309										$55^{0.030}_{0.010}$			16	10	6	M20 x 40L	67	85



Models without brake

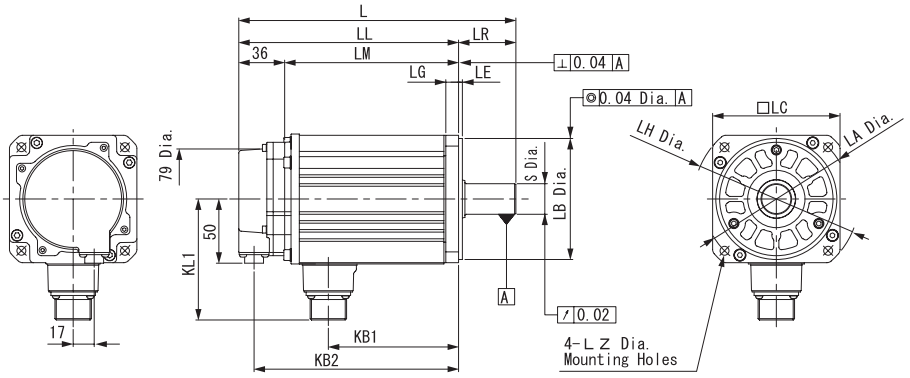




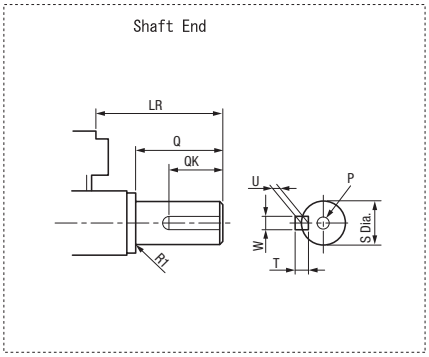
Models with brake

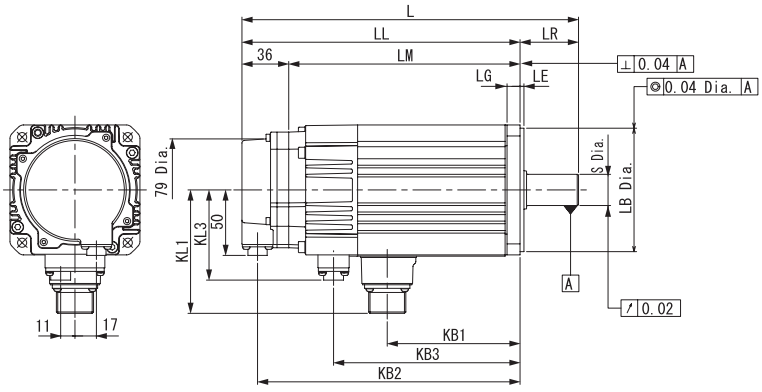
Type SGMSV (400 V, 1 - 5 kW)

Dimensions (mm)	Without brake					With brake							KB1	KL1	Flange Face Dimensions								Shaft End Dimensions						Approx. Mass (Kg)	
Model	L	LL	LM	LR	KB2	L	LL	LM	LR	KB2	KB3	KL2			LA	LB	LC	LE	LF	LG	LH	LZ	S	Q	QK	W	T	U	Tap x Depth	Without brake	With brake
SGMSV-10D_A2_	192	147	111	45	135	233	188	152	45	118	176	69	76	96	115	$95^{0}_{-0.035}$	100	3	3	10	130	7	$24^{0}_{-0.013}$	40	32	8	7	4	M8 x 16L	4.1	5.5
SGMSV-15D_A2_	211	153	117	58	141	243	198	162	45	128	186		99																	4.6	6
SGMSV-20D_A2_	229	171	135	58	159	259	214	178	45	144	202		117																	5.4	6.8
SGMSV-25D_A2_	239	160	124	79	148	292	247	211	45	177	225		108																	6.8	8.7
SGMSV-30D_A2_	259	196	160	63	184	295	232	196	63	176	220	81	124	114	145	$110^{0}_{-0.035}$	130	6	6	12	165	9	$28^{0}_{-0.013}$	55	50					10.5	13
SGMSV-40D_A2_	296	233	197	63	221	332	269	233	63	213	257		161																	13.5	16
SGMSV-50D_A2_	336	273	237	63	261	372	309	273	63	253	297		201																	16.5	19



Models without brake





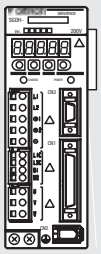
Models with brake

Fast response, high speed and high accuracy

- 6 different designs provide a complete range of servo motors to meet the power, speed and performance required for each application.
- Peak torque 300% of nominal during 3 seconds
- Automatic motor recognition by servo drive
- IP67 and shaft oil seal available
- High resolution encoders

Ordering information

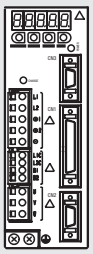
(Refer to servo drive chapter)



Servo drive with option boards for flexible system configuration

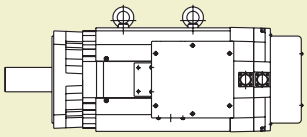
② **Sigma-II servo drive**

Drive options

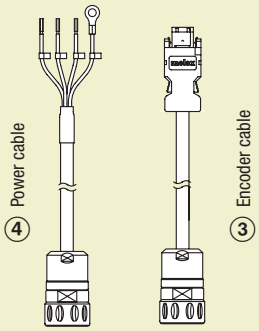


Intelligent servo drive

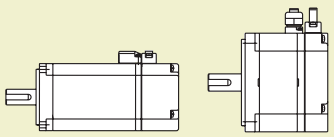
② **XtraDrive**



① **SGMBH servo motor 1500 rpm (22 kW-55 kW)**

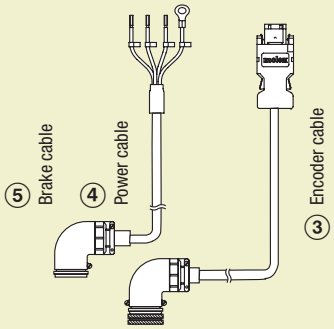


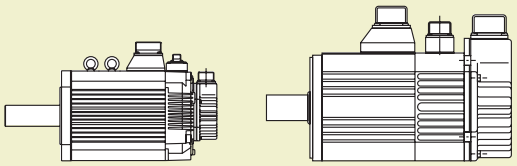
Power and encoder cables



① **SGMAH servo motor 3000 rpm (30-750 W)**

① **SGMPH servo motor 3000 rpm (100-1500 W)**





① **SGMGH servo motor 1500 rpm (450W-15 kW)**

① **SGMUH servo motor 3000 rpm (1-5 kW)**

① **SGMSH servo motor 6000 rpm (1-4 kW)**

Note: The symbols ①②③... show the recommended sequence to select the servo motor and cables

Servo motor

① A select motor from families SGMAH, SGMPH, SGMGH, SGMUH, SGMSH, SGMBH using motor tables in next pages

Servo drive

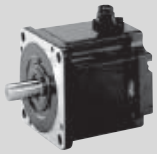
Note: Choosing Sigma-II drive or XtraDrive affects to the encoder cable needed

② Refer to Sigma-II servo drive or XtraDrive chapter for detailed drive specifications and selection of drive accessories

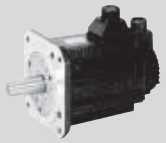
SGMAH - cylindrical servo motors 3000 r/min (30 to 750 W), 200 VAC

Symbol	Specifications					Compatible servo drives ②		Order code
	Voltage	Encoder and design		Rated torque	Capacity	Sigma-II	XtraDrive	Servo motor model
① 	230 V	Incremental encoder (13 bit) Straight shaft with key & tap	Without brake	0.096 Nm	30 W	SGDH-A3AE-OY	XD-P3-MN01	SGMAH-A3AAA61D-OY
				0.159 Nm	50 W	SGDH-A5AE-OY	XD-P5-MN01	SGMAH-A5AAA61D-OY
				0.318 Nm	100 W	SGDH-01AE-OY	XD-01-MN01	SGMAH-01AAA61D-OY
				0.637 Nm	200 W	SGDH-02AE-OY	XD-02-MN01	SGMAH-02AAA61D-OY
				1.27 Nm	400 W	SGDH-04AE-OY	XD-04-MN01	SGMAH-04AAA61D-OY
				2.39 Nm	750 W	SGDH-08AE-S-OY	XD-08-MN	SGMAH-08AAA61D-OY
			With brake	0.096 Nm	30 W	SGDH-A3AE-OY	XD-P3-MN01	SGMAH-A3AAA6CD-OY
				0.159 Nm	50 W	SGDH-A5AE-OY	XD-P5-MN01	SGMAH-A5AAA6CD-OY
				0.318 Nm	100 W	SGDH-01AE-OY	XD-01-MN01	SGMAH-01AAA6CD-OY
				0.637 Nm	200 W	SGDH-02AE-OY	XD-02-MN01	SGMAH-02AAA6CD-OY
				1.27 Nm	400 W	SGDH-04AE-OY	XD-04-MN01	SGMAH-04AAA6CD-OY
				2.39 Nm	750 W	SGDH-08AE-S-OY	XD-08-MN	SGMAH-08AAA6CD-OY
		Absolute encoder (16 bit) Straight shaft with key & tap	Without brake	0.096 Nm	30 W	SGDH-A3AE-OY	XD-P3-MN01	SGMAH-A3A1A61D-OY
				0.159 Nm	50 W	SGDH-A5AE-OY	XD-P5-MN01	SGMAH-A5A1A61D-OY
				0.318 Nm	100 W	SGDH-01AE-OY	XD-01-MN01	SGMAH-01A1A61D-OY
				0.637 Nm	200 W	SGDH-02AE-OY	XD-02-MN01	SGMAH-02A1A61D-OY
				1.27 Nm	400 W	SGDH-04AE-OY	XD-04-MN01	SGMAH-04A1A61D-OY
				2.39 Nm	750 W	SGDH-08AE-S-OY	XD-08-MN	SGMAH-08A1A61D-OY
			With brake	0.096 Nm	30 W	SGDH-A3AE-OY	XD-P3-MN01	SGMAH-A3A1A6CD-OY
				0.159 Nm	50 W	SGDH-A5AE-OY	XD-P5-MN01	SGMAH-A5A1A6CD-OY
				0.318 Nm	100 W	SGDH-01AE-OY	XD-01-MN01	SGMAH-01A1A6CD-OY
				0.637 Nm	200 W	SGDH-02AE-OY	XD-02-MN01	SGMAH-02A1A6CD-OY
				1.27 Nm	400 W	SGDH-04AE-OY	XD-04-MN01	SGMAH-04A1A6CD-OY
				2.39 Nm	750 W	SGDH-08AE-S-OY	XD-08-MN	SGMAH-08A1A6CD-OY
	400 V	Incremental encoder (13 bit) Straight shaft with key	Without brake	0.955 Nm	300 W	SGDH-05DE-OY	XD-05-TN	SGMAH-03DAA61D-OY
				2.07 Nm	650 W	SGDH-10DE-OY	XD-10-TN	SGMAH-07DAA61D-OY
			With brake	0.955 Nm	300 W	SGDH-05DE-OY	XD-05-TN	SGMAH-03DAA6CD-OY
				2.07 Nm	650 W	SGDH-10DE-OY	XD-10-TN	SGMAH-07DAA6CD-OY
		Absolute encoder (16 bit) Straight shaft with key	Without brake	0.955 Nm	300 W	SGDH-05DE-OY	XD-05-TN	SGMAH-03D1A61D-OY
				2.07 Nm	650 W	SGDH-10DE-OY	XD-10-TN	SGMAH-07D1A61D-OY
			With brake	0.955 Nm	300 W	SGDH-05DE-OY	XD-05-TN	SGMAH-03D1A6CD-OY
				2.07 Nm	650 W	SGDH-10DE-OY	XD-10-TN	SGMAH-07D1A6CD-OY

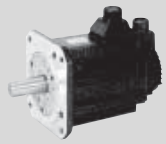
SGMPH - flat type servo motors 3000 r/min (100 to 1500 W), 200 VAC

Symbol	Specifications					Compatible servo drives ②		Order code
	Voltage	Encoder and design		Rated torque	Capacity	Sigma-II	XtraDrive	Servo motor model
① 	230 V	Incremental encoder (13 bit) Straight shaft with key & tap	Without brake	0.318 Nm	100 W	SGDH-01AE-OY	XD-01-MN01	SGMPH-01AAA61D-OY
				0.637 Nm	200 W	SGDH-02AE-OY	XD-02-MN01	SGMPH-02AAA61D-OY
				1.27 Nm	400 W	SGDH-04AE-OY	XD-04-MN01	SGMPH-04AAA61D-OY
				2.39 Nm	750 W	SGDH-08AE-S-OY	XD-08-MN	SGMPH-08AAA61D-OY
				4.77 Nm	1500 W	SGDH-15AE-S-OY	XD-15-MN	SGMPH-15AAA61D-OY
			With brake	0.318 Nm	100 W	SGDH-01AE-OY	XD-01-MN01	SGMPH-01AAA6CD-OY
				0.637 Nm	200 W	SGDH-02AE-OY	XD-02-MN01	SGMPH-02AAA6CD-OY
				1.27 Nm	400 W	SGDH-04AE-OY	XD-04-MN01	SGMPH-04AAA6CD-OY
				2.39 Nm	750 W	SGDH-08AE-S-OY	XD-08-MN	SGMPH-08AAA6CD-OY
				4.77 Nm	1500 W	SGDH-15AE-S-OY	XD-15-MN	SGMPH-15AAA6CD-OY
		Absolute encoder (16 bit) Straight shaft with key & tap	Without brake	0.318 Nm	100 W	SGDH-01AE-OY	XD-01-MN01	SGMPH-01A1A61D-OY
				0.637 Nm	200 W	SGDH-02AE-OY	XD-02-MN01	SGMPH-02A1A61D-OY
				1.27 Nm	400 W	SGDH-04AE-OY	XD-04-MN01	SGMPH-04A1A61D-OY
				2.39 Nm	750 W	SGDH-08AE-S-OY	XD-08-MN	SGMPH-08A1A61D-OY
				4.77 Nm	1500 W	SGDH-15AE-S-OY	XD-15-MN	SGMPH-15A1A61D-OY
			With brake	0.318 Nm	100 W	SGDH-01AE-OY	XD-01-MN01	SGMPH-01A1A6CD-OY
				0.637 Nm	200 W	SGDH-02AE-OY	XD-02-MN01	SGMPH-02A1A6CD-OY
				1.27 Nm	400 W	SGDH-04AE-OY	XD-04-MN01	SGMPH-04A1A6CD-OY
				2.39 Nm	750 W	SGDH-08AE-S-OY	XD-08-MN	SGMPH-08A1A6CD-OY
				4.77 Nm	1500 W	SGDH-15AE-S-OY	XD-15-MN	SGMPH-15A1A6CD-OY
	400 V	Incremental encoder (13 bit) Straight shaft with key	Without brake	0.637 Nm	200 W	SGDH-05DE-OY	XD-05-TN	SGMPH-02DAA61D-OY
				1.27 Nm	400 W	SGDH-05DE-OY	XD-05-TN	SGMPH-04DAA61D-OY
				2.39 Nm	750 W	SGDH-10DE-OY	XD-10-TN	SGMPH-08DAA61D-OY
				4.77 Nm	1500 W	SGDH-15DE-OY	XD-15-TN	SGMPH-15DAA61D-OY
			With brake	0.637 Nm	200 W	SGDH-05DE-OY	XD-05-TN	SGMPH-02DAA6CD-OY
				1.27 Nm	400 W	SGDH-05DE-OY	XD-05-TN	SGMPH-04DAA6CD-OY
				2.39 Nm	750 W	SGDH-10DE-OY	XD-10-TN	SGMPH-08DAA6CD-OY
				4.77 Nm	1500 W	SGDH-15DE-OY	XD-15-TN	SGMPH-15DAA6CD-OY
		Absolute Encoder (16 bit) Straight shaft with key	Without brake	0.637 Nm	200 W	SGDH-05DE-OY	XD-05-TN	SGMPH-02D1A61D-OY
				1.27 Nm	400 W	SGDH-05DE-OY	XD-05-TN	SGMPH-04D1A61D-OY
				2.39 Nm	750 W	SGDH-10DE-OY	XD-10-TN	SGMPH-08D1A61D-OY
				4.77 Nm	1500 W	SGDH-15DE-OY	XD-15-TN	SGMPH-15D1A61D-OY
			With brake	0.637 Nm	200 W	SGDH-05DE-OY	XD-05-TN	SGMPH-02D1A6CD-OY
				1.27 Nm	400 W	SGDH-05DE-OY	XD-05-TN	SGMPH-04D1A6CD-OY
				2.39 Nm	750 W	SGDH-10DE-OY	XD-10-TN	SGMPH-08D1A6CD-OY
				4.77 Nm	1500 W	SGDH-15DE-OY	XD-15-TN	SGMPH-15D1A6CD-OY

SGMGH - servo motors 1500 r/min (0.45 to 15 kW), 400 VAC

Symbol	Specifications					Compatible servo drives ②		Order code
	Voltage	Encoder and design		Rated torque	Capacity	Sigma-II	XtraDrive	Servo motor model
① 	400 V	Incremental encoder (17 bit) Straight shaft with key & tap	Without brake	2.84 Nm	0.45 kW	SGDH-05DE-0Y	XD-05-TN	SGMGH-05DCA6F-0Y
				5.39 Nm	0.85 kW	SGDH-10DE-0Y	XD-10-TN	SGMGH-09DCA6F-0Y
				8.34 Nm	1.3 kW	SGDH-15DE-0Y	XD-15-TN	SGMGH-13DCA6F-0Y
				11.5 Nm	1.8 kW	SGDH-20DE-0Y	XD-20-TN	SGMGH-20DCA6F-0Y
				18.6 Nm	2.9 kW	SGDH-30DE-0Y	XD-30-TN	SGMGH-30DCA6F-0Y
				28.4 Nm	4.4 kW	SGDH-50DE-0Y	XD-50-TN	SGMGH-44DCA6F-0Y
				35.0 Nm	5.5 kW	SGDH-60DE-0Y	–	SGMGH-55DCA6F-0Y
				48.0 Nm	7.5 kW	SGDH-75DE-0Y	–	SGMGH-75DCA6F-0Y
				70.0 Nm	11.5 kW	SGDH-1ADE-0Y	–	SGMGH-1ADCA6F-0Y
				95.4 Nm	15.0 kW	SGDH-1EDE-0Y	–	SGMGH-1EDCA6F-0Y
			With brake	2.84 Nm	0.45 kW	SGDH-05DE-0Y	XD-05-TN	SGMGH-05DCA6H-0Y
				5.39 Nm	0.85 kW	SGDH-10DE-0Y	XD-10-TN	SGMGH-09DCA6H-0Y
				8.34 Nm	1.3 kW	SGDH-15DE-0Y	XD-15-TN	SGMGH-13DCA6H-0Y
				11.5 Nm	1.8 kW	SGDH-20DE-0Y	XD-20-TN	SGMGH-20DCA6H-0Y
				18.6 Nm	2.9 kW	SGDH-30DE-0Y	XD-30-TN	SGMGH-30DCA6H-0Y
				28.4 Nm	4.4 kW	SGDH-50DE-0Y	XD-50-TN	SGMGH-44DCA6H-0Y
				35.0 Nm	5.5 kW	SGDH-60DE-0Y	–	SGMGH-55DCA6H-0Y
				48.0 Nm	7.5 kW	SGDH-75DE-0Y	–	SGMGH-75DCA6H-0Y
				70.0 Nm	11.5 kW	SGDH-1ADE-0Y	–	SGMGH-1ADCA6H-0Y
				95.4 Nm	15.0 kW	SGDH-1EDE-0Y	–	SGMGH-1EDCA6H-0Y
		Absolute encoder (17 bit) Straight shaft with key & tap	Without brake	2.84 Nm	0.45 kW	SGDH-05DE-0Y	XD-05-TN	SGMGH-05D2A6F-0Y
				5.39 Nm	0.85 kW	SGDH-10DE-0Y	XD-10-TN	SGMGH-09D2A6F-0Y
				8.34 Nm	1.3 kW	SGDH-15DE-0Y	XD-15-TN	SGMGH-13D2A6F-0Y
				11.5 Nm	1.8 kW	SGDH-20DE-0Y	XD-20-TN	SGMGH-20D2A6F-0Y
				18.6 Nm	2.9 kW	SGDH-30DE-0Y	XD-30-TN	SGMGH-30D2A6F-0Y
				28.4 Nm	4.4 kW	SGDH-50DE-0Y	XD-50-TN	SGMGH-44D2A6F-0Y
				35.0 Nm	5.5 kW	SGDH-60DE-0Y	–	SGMGH-55D2A6F-0Y
				48.0 Nm	7.5 kW	SGDH-75DE-0Y	–	SGMGH-75D2A6F-0Y
				70.0 Nm	11.5 kW	SGDH-1ADE-0Y	–	SGMGH-1AD2A6F-0Y
				95.4 Nm	15.0 kW	SGDH-1EDE-0Y	–	SGMGH-1ED2A6F-0Y
			With brake	2.84 Nm	0.45 kW	SGDH-05DE-0Y	XD-05-TN	SGMGH-05D2A6H-0Y
				5.39 Nm	0.85 kW	SGDH-10DE-0Y	XD-10-TN	SGMGH-09D2A6H-0Y
				8.34 Nm	1.3 kW	SGDH-15DE-0Y	XD-15-TN	SGMGH-13D2A6H-0Y
				11.5 Nm	1.8 kW	SGDH-20DE-0Y	XD-20-TN	SGMGH-20D2A6H-0Y
				18.6 Nm	2.9 kW	SGDH-30DE-0Y	XD-30-TN	SGMGH-30D2A6H-0Y
				28.4 Nm	4.4 kW	SGDH-50DE-0Y	XD-50-TN	SGMGH-44D2A6H-0Y
				35.0 Nm	5.5 kW	SGDH-60DE-0Y	–	SGMGH-55D2A6H-0Y
				48.0 Nm	7.5 kW	SGDH-75DE-0Y	–	SGMGH-75D2A6H-0Y
				70.0 Nm	11.5 kW	SGDH-1ADE-0Y	–	SGMGH-1AD2A6H-0Y
				95.4 Nm	15.0 kW	SGDH-1EDE-0Y	–	SGMGH-1ED2A6H-0Y

SGMSH - servo motors 3000 r/min (1 to 5 KW), 400 VAC

Symbol	Specifications					Compatible servo drives ②		Order code
	Voltage	Encoder and design		Rated torque	Capacity	Sigma-II	XtraDrive	Servo motor model
① 	400 V	Incremental encoder (17 bit) Straight shaft with key & tap	Without brake	3.18 Nm	1.0 kW	SGDH-10DE-0Y	XD-10-TN	SGMSH-10DCA6F-0Y
				4.9 Nm	1.5 kW	SGDH-15DE-0Y	XD-15-TN	SGMSH-15DCA6F-0Y
				6.36 Nm	2.0 kW	SGDH-20DE-0Y	XD-20-TN	SGMSH-20DCA6F-0Y
				9.8 Nm	3.0 kW	SGDH-30DE-0Y	XD-30-TN	SGMSH-30DCA6F-0Y
				12.6 Nm	4.0 kW	SGDH-50DE-0Y	XD-50-TN	SGMSH-40DCA6F-0Y
				15.8 Nm	5.0 kW	SGDH-50DE-0Y	XD-50-TN	SGMSH-50DCA6F-0Y
			With brake	3.18 Nm	1.0 kW	SGDH-10DE-0Y	XD-10-TN	SGMSH-10DCA6H-0Y
				4.9 Nm	1.5 kW	SGDH-15DE-0Y	XD-15-TN	SGMSH-15DCA6H-0Y
				6.36 Nm	2.0 kW	SGDH-20DE-0Y	XD-20-TN	SGMSH-20DCA6H-0Y
				9.8 Nm	3.0 kW	SGDH-30DE-0Y	XD-30-TN	SGMSH-30DCA6H-0Y
				12.6 Nm	4.0 kW	SGDH-50DE-0Y	XD-50-TN	SGMSH-40DCA6H-0Y
				15.8 Nm	5.0 kW	SGDH-50DE-0Y	XD-50-TN	SGMSH-50DCA6H-0Y
		Absolute encoder (17 bit) Straight shaft with key & tap	Without brake	3.18 Nm	1.0 kW	SGDH-10DE-0Y	XD-10-TN	SGMSH-10D2A6F-0Y
				4.9 Nm	1.5 kW	SGDH-15DE-0Y	XD-15-TN	SGMSH-15D2A6F-0Y
				6.36 Nm	2.0 kW	SGDH-20DE-0Y	XD-20-TN	SGMSH-20D2A6F-0Y
				9.8 Nm	3.0 kW	SGDH-30DE-0Y	XD-30-TN	SGMSH-30D2A6F-0Y
				12.6 Nm	4.0 kW	SGDH-50DE-0Y	XD-50-TN	SGMSH-40D2A6F-0Y
				15.8 Nm	5.0 kW	SGDH-50DE-0Y	XD-50-TN	SGMSH-50D2A6F-0Y
			With brake	3.18 Nm	1.0 kW	SGDH-10DE-0Y	XD-10-TN	SGMSH-10D2A6H-0Y
				4.9 Nm	1.5 kW	SGDH-15DE-0Y	XD-15-TN	SGMSH-15D2A6H-0Y
				6.36 Nm	2.0 kW	SGDH-20DE-0Y	XD-20-TN	SGMSH-20D2A6H-0Y
				9.8 Nm	3.0 kW	SGDH-30DE-0Y	XD-30-TN	SGMSH-30D2A6H-0Y
				12.6 Nm	4.0 kW	SGDH-50DE-0Y	XD-50-TN	SGMSH-40D2A6H-0Y
				15.8 Nm	5.0 kW	SGDH-50DE-0Y	XD-50-TN	SGMSH-50D2A6H-0Y

Sigma-II rotary servo motors

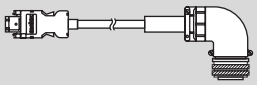
SGMUH - servo motors 6000 r/min (1 to 4 kW), 400 VAC

Symbol	Specifications					Servo motor model	Order code	
							Compatible servo drives ②	
	Voltage	Encoder and design		Rated torque	Capacity		Sigma-II	XtraDrive
① 	400 V	Incremental encoder (17 bit) Straight shaft with key	Without brake	1.59 Nm	1.0 kW	SGMUH-10DCA61-0Y	SGDH-10DE-0Y	XD-10-TN
				2.45 Nm	1.5 kW	SGMUH-15DCA61-0Y	SGDH-15DE-0Y	XD-15-TN
				4.9 Nm	3.0 kW	SGMUH-30DCA610Y	SGDH-30DE-0Y	XD-30-TN
				6.3 Nm	4.0 kW	SGMUH-40DCA61-0Y	SGDH-50DE-0Y	XD-50-TN
			With brake	1.59 Nm	1.0 kW	SGMUH-10DCA6C-0Y	SGDH-10DE-0Y	XD-10-TN
				2.45 Nm	1.5 kW	SGMUH-15DCA6C-0Y	SGDH-15DE-0Y	XD-15-TN
				4.9 Nm	3.0 kW	SGMUH-30DCA6C-0Y	SGDH-30DE-0Y	XD-30-TN
				6.3 Nm	4.0 kW	SGMUH-40DCA6C-0Y	SGDH-50DE-0Y	XD-50-TN

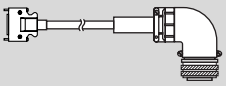
SGMBH - servo motors 1500 r/min (22 to 55 kW)

Symbol	Specifications					Servo motor model	Order code
							Compatible drives ②
	Voltage	Encoder and design		Rated torque	Capacity		Sigma-II
① 	400 V	Incremental encoder (17 bit) Straight shaft with key & tap	Without brake flange mount	140 Nm	22 kW	SGMBH-2BDCA61	SGDH-2BDE
				191 Nm	30 kW	SGMBH-3ZDCA61	SGDH-3ZDE
				236 Nm	37 kW	SGMBH-3GDCA61	SGDH-3GDE
				286 Nm	45 kW	SGMBH-4EDCA61	SGDH-4EDE
			Without brake foot mount	236 Nm	37 kW	SGMBH-3GDCAL1	SGDH-3GDE
				286 Nm	45 kW	SGMBH-4EDCAL1	SGDH-4EDE
				350 Nm	55 kW	SGMBH-5EDCAL1	SGDH-5EDE
			With brake flange mount	140 Nm	22 kW	SGMBH-2BDCA6C	SGDH-2BDE
				191 Nm	30 kW	SGMBH-3ZDCA6C	SGDH-3ZDE
			With brake foot mount	236 Nm	37 kW	SGMBH-3GDCALC	SGDH-3GDE
				286 Nm	45 kW	SGMBH-4EDCALC	SGDH-4EDE
		Absolute encoder (17 bit) Straight shaft with key & tap	Without brake flange mount	140 Nm	22 kW	SGMBH-2BD2A61	SGDH-2BDE
				191 Nm	30 kW	SGMBH-3ZD2A61	SGDH-3ZDE
				236 Nm	37 kW	SGMBH-3GD2A61	SGDH-3GDE
				286 Nm	45 kW	SGMBH-4ED2A61	SGDH-4EDE
			Without brake foot mount	236 Nm	37 kW	SGMBH-3GD2AL1	SGDH-3GDE
				286 Nm	45 kW	SGMBH-4ED2AL1	SGDH-4EDE
				350 Nm	55 kW	SGMBH-5ED2AL1	SGDH-5EDE
			With brake flange mount	140 Nm	22 kW	SGMBH-2BD2A6C	SGDH-2BDE
				191 Nm	30 kW	SGMBH-3ZD2A6C	SGDH-3ZDE
			With brake foot mount	236 Nm	37 kW	SGMBH-3GD2ALC	SGDH-3GDE
				286 Nm	45 kW	SGMBH-4ED2ALC	SGDH-4EDE

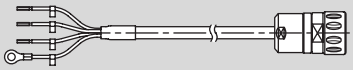
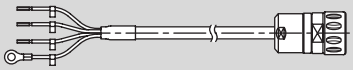
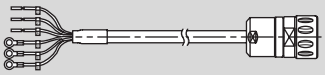
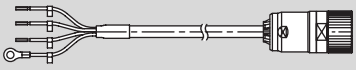
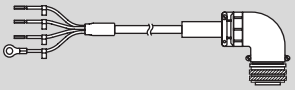
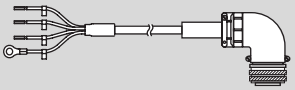
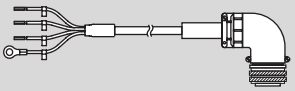
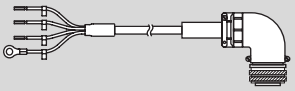
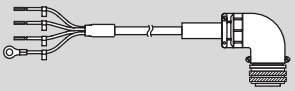
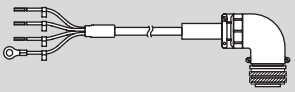
Encoder cables for Sigma-II servo drive

Symbol	Appearance	Specifications		Order code
③		Sigma-II encoder cable for SGMAH/PH servo motors SGMAH-_____D-0Y SGMPH-_____D-0Y	3 m	R88A-CRWA003C-DE
			5 m	R88A-CRWA005C-DE
			10 m	R88A-CRWA010C-DE
			15 m	R88A-CRWA015C-DE
			20 m	R88A-CRWA020C-DE
		Sigma-II encoder cable for SGMGH/SH/UH servo motors SGMGH-_ SGMSH-_ SGMUH-_, SGMBH-_	3 m	R88A-CRWB003N-E
			5 m	R88A-CRWB005N-E
			10 m	R88A-CRWB010N-E
			15 m	R88A-CRWB015N-E
			20 m	R88A-CRWB020N-E

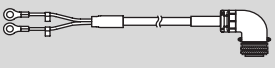
for XtraDrive servo drive

Symbol	Appearance	Specifications		Order code
③		XtraDrive encoder cable for Sigma-II (SGMAH/PH) servo motors SGMAH-_____D-0Y SGMPH-_____D-0Y	3 m	XD-CRWA003-DE
			5 m	XD-CRWA005-DE
			10 m	XD-CRWA010-DE
			15 m	XD-CRWA015-DE
			20 m	XD-CRWA020-DE
		XtraDrive encoder cable for Sigma-II (SGMGH/SH/UH/BH) servo motors SGMGH-_ SGMSH-_ SGMUH-_	3 m	XD-CRWB003N-E
			5 m	XD-CRWB005N-E
			10 m	XD-CRWB010N-E
			15 m	XD-CRWB015N-E
			20 m	XD-CRWB020N-E

Power cables

Symbol	Appearance	Specifications		Order code
④		For 200 V servo motors without brake SGMAH-__A___1D-OY SGMPH-(01/02/04/08)A__41D-OY	3 m	R88A-CAWA003S-DE
			5 m	R88A-CAWA005S-DE
			10 m	R88A-CAWA010S-DE
			15 m	R88A-CAWA015S-DE
			20 m	R88A-CAWA020S-DE
		For 200 V servo motors with brake SGMAH-__A___CD-OY SGMPH-(01/02/04/08)A__4CD-OY	3 m	R88A-CAWA003B-DE
			5 m	R88A-CAWA005B-DE
			10 m	R88A-CAWA010B-DE
			15 m	R88A-CAWA015B-DE
			20 m	R88A-CAWA020B-DE
		For 200 V servo motors without brake SGMPH-15A___1D-OY	3 m	R88A-CAWB003S-DE
			5 m	R88A-CAWB005S-DE
			10 m	R88A-CAWB010S-DE
			15 m	R88A-CAWB015S-DE
			20 m	R88A-CAWB020S-DE
		For 200 V servo motors with brake SGMPH-15A___CD-OY	3 m	R88A-CAWB003B-DE
			5 m	R88A-CAWB005B-DE
			10 m	R88A-CAWB010B-DE
			15 m	R88A-CAWB015B-DE
			20 m	R88A-CAWB020B-DE
		For 400 V servo motors without brake SGMAH-__D___1D-OY SGMPH-__D___1D-OY	3 m	R88A-CAWK003S-DE
			5 m	R88A-CAWK005S-DE
			10 m	R88A-CAWK010S-DE
			15 m	R88A-CAWK015S-DE
			20 m	R88A-CAWK020S-DE
		For 400 V servo motors with brake SGMAH-__D___CD-OY SGMPH-__D___CD-OY	3 m	R88A-CAWK003B-DE
			5 m	R88A-CAWK005B-DE
			10 m	R88A-CAWK010B-DE
			15 m	R88A-CAWK015B-DE
			20 m	R88A-CAWK020B-DE
		For 400 V servo motors SGMGH-(05/09/13)D_ SGMSH-(10/15/20)D_ SGMUH-(10/15)D_ For servo motors with brake a separate cable (R88A-CAWC0__B-E) is needed	3 m	R88A-CAWC003S-E
			5 m	R88A-CAWC005S-E
			10 m	R88A-CAWC010S-E
			15 m	R88A-CAWC015S-E
			20 m	R88A-CAWC020S-E
		For 400 V servo motors SGMGH-(20/30)D_ SGMSH-(30/40/50)D_ SGMUH-(30/40)D_ For servo motors with brake a separate cable (R88A-CAWC0__B-E) is needed	3 m	R88A-CAWD003S-E
			5 m	R88A-CAWD005S-E
			10 m	R88A-CAWD010S-E
			15 m	R88A-CAWD015S-E
			20 m	R88A-CAWD020S-E
		For 400 V servo motors SGMGH-44D_ For servo motors with brake a separate cable (R88A-CAWC0__B-E) is needed	3 m	R88A-CAWG003S-E
			5 m	R88A-CAWG005S-E
			10 m	R88A-CAWG010S-E
			15 m	R88A-CAWG015S-E
			20 m	R88A-CAWG020S-E
		For 400 V servo motors SGMGH-55D_ For servo motors with brake a separate cable (R88A-CAWC0__B-E) is needed	3 m	R88A-CAWF003S-E
			5 m	R88A-CAWF005S-E
			10 m	R88A-CAWF010S-E
			15 m	R88A-CAWF015S-E
			20 m	R88A-CAWF020S-E
		For 400 V servo motors SGMGH-(75/1A)D_ For servo motors with brake a separate cable (R88A-CAWC0__B-E) is needed	3 m	R88A-CAWH003S-E
			5 m	R88A-CAWH005S-E
			10 m	R88A-CAWH010S-E
			15 m	R88A-CAWH015S-E
			20 m	R88A-CAWH020S-E
		For 400 V servo motors SGMGH-1ED_ For servo motors with brake a separate cable (R88A-CAWC0__B-E) is needed	3 m	R88A-CAWJ003S-E
			5 m	R88A-CAWJ005S-E
			10 m	R88A-CAWJ010S-E
			15 m	R88A-CAWJ015S-E
			20 m	R88A-CAWJ020S-E

Brake cable (For SGMGH/SH/UH motors)

Symbol	Appearance	Specifications		Order code
⑤		Brake cable only. For 400 V servo motors with brake SGMGH-__D_ SGMSH-__D_ SGMUH-__D_	3 m	R88A-CAWC003B-E
			5 m	R88A-CAWC005B-E
			10 m	R88A-CAWC010B-E
			15 m	R88A-CAWC015B-E
			20 m	R88A-CAWC020B-E

Connectors

Specification	Order code
Hypertac power connector IP67 (for 200 V motors SGMAH/PH-__A____D-OY)	SPOC-06K-FSDN169
Hypertac power connector IP67 (for 400 V motors SGMAH/PH-__D____D-OY)	LPRA-06B-FRBN170
Hypertac encoder connector IP67 (for motors SGMAH/PH-_____D-OY)	SPOC-17H-FRON169
Military power connector IP67 (for 400 V motors SGMGH-(05/10/13)D_, SGMSH-(10/15/20)D_ , SGMUH-(10/15)D_)) (for SGMBH-_ fan)	MS3108E18-10S
Military power connector IP67 (for 400 V motors SGMGH-(20/30/44)D_, SGMSH-(30/40/50)D_, SGMUH-(30/40)D_)	MS3108E22-22S
Military power connector IP67 (for 400 V motors SGMGH-(55/75/1A/1E)D_)	MS3108E32-17S
Military brake connector IP67 (for 400 V servo motors SGMGH-_, SGMSH-_, SGMUH-_)	MS3108E10SL-3S
Military encoder connector IP67 (for motors SGMGH-_, SGMSH-_, SGMUH-_, SGMBH-_)	MS3108E20-29S

Specifications

Type SGMAH, 230V/400 V

Ratings and specifications

Applied voltage		230 V						400 V	
Servo motor model SGMAH-_		A3A_	A5A_	01A_	02A_	04A_	08A_	03D_	07D_
Rated output	W	30	50	100	200	400	750	300	650
Rated torque	Nm	0.096	0.159	0.318	0.637	1.27	2.39	0.955	2.07
Instantaneous peak torque	Nm	0.286	0.477	0.955	1.91	3.82	7.16	3.82	7.16
Rated current	A (rms)	0.44	0.64	0.91	2.1	2.8	4.4	1.3	2.2
Instantaneous max. current	A (rms)	1.3	2.0	2.8	6.5	8.5	13.4	5.1	7.7
Rated speed	min^{-1}	3000							
Max. speed	min^{-1}	5000							
Torque constant	Nm/A (rms)	0.238	0.268	0.378	0.327	0.498	0.590	0.837	1.02
Rotor moment of inertia (JM)	$kg{\cdot}m^2x10^{-4}$	0.017	0.022	0.036	0.106	0.173	0.672	0.173	0.672
Allowable load moment of inertia (JL)	Multiple of (JM)	30				20			
Rated power rate	kW/s	5.49	11.5	27.8	38.2	93.7	84.8	52.9	63.8
Rated angular acceleration	rad/s^2	57,500	72,300	87,400	60,100	73,600	35,500	55,300	30,800
Applicable encoder	Standard	Incremental encoder (13 bits: 2048P/R)							
	Option	Incremental/absolute encoder (16 bits: 16384P/R)							
Holding brake moment of inertia J	$kg{\cdot}m^2x10^{-4}$	0.0085			0.058		0.14	0.058	0.14
Basic specifications: Time rating		Continuous							
Basic specifications: Insulation class		Class B							
Basic specifications: Ambient temperature		0 to +40°C							
Basic specifications: Ambient humidity		20 to 80% (non-condensing)							
Basic specifications: Vibration class		15 µm or below							
Basic specifications: Enclosure		Totally-enclosed, self-cooled, IP55 (excluding shaft opening)							
Basic specifications: Vibration resistance		Vibration acceleration 49 m/s^2							
Basic specifications: Mounting		Flange-mounted							

Type SGMPH, 230V/400 V

Ratings and specifications

Applied voltage		230 V					400 V			
Servo motor model SGMPH-_		01A_	02A_	04A_	08A_	15A_	02D_	04D_	08D_	15D_
Rated output	W	100	200	400	750	1500	200	400	750	1500
Rated torque	Nm	0.318	0.637	1.27	2.39	4.77	0.637	1.27	2.39	4.77
Instantaneous peak torque	Nm	0.955	1.91	3.82	7.16	14.3	1.91	3.82	7.16	14.3
Rated current	A (rms)	0.89	2.0	2.6	4.1	7.5	1.4	1.4	2.6	4.5
Instantaneous max. current	A (rms)	2.8	6.0	8.0	13.9	23.0	4.6	4.4	7.8	13.7
Rated speed	min^{-1}	3000								
Max. speed	min^{-1}	5000								
Torque constant	Nm/A (rms)	0.392	0.349	0.535	0.641	0.687	0.481	0.963	0.994	1.14
Rotor moment of inertia (JM)	$kg{\cdot}m^2x10^{-4}$	0.0491	0.193	0.331	2.10	4.02	0.193	0.331	2.10	4.02
Allowable load moment of inertia (JL)	Multiple of (JM)	25	15	7	5		15	7	5	
Rated power rate	kW/s	20.6	21.0	49.0	27.1	56.7	21.0	49.0	27.1	56.7
Rated angular acceleration	rad/s^2	64,800	33,000	38,500	11,400	11,900	33,000	38,500	11,400	11,900
Applicable encoder	Standard	Incremental encoder (13 bits: 2048P/R)								
	Option	Incremental/absolute encoder (16 bits: 16384P/R)								
Holding brake moment of inertia J	$kg{\cdot}m^2x10^{-4}$	0.029	0.109		0.875		0.109		0.875	
Basic specifications: Time rating		Continuous								
Basic specifications: Insulation class		Class B								
Basic specifications: Ambient temperature		0 to +40°C								
Basic specifications: Ambient humidity		20 to 80% (non-condensing)								
Basic specifications: Vibration class		15 µm or below								
Basic specifications: Enclosure		Totally-enclosed, self-cooled, IP55 (excluding shaft opening)								
Basic specifications: Vibration resistance		Vibration acceleration 49 m/s^2								
Basic specifications: Mounting		Flange-mounted								

Type SGMGH, 400 V

Ratings and specifications

Applied voltage		400 V									
Servo motor model SGMGH-_		**05D_**	**09D_**	**13D_**	**20D_**	**30D_**	**44D_**	**55D_**	**75D_**	**1AD_**	**1ED_**
Rated output	kW	0.45	0.85	1.3	1.8	2.9	4.4	5.5	7.5	11	15
Rated torque	Nm	2.84	5.39	8.34	11.5	18.6	28.4	35.0	48.0	70.0	95.4
Instantaneous peak torque	Nm	8.92	13.8	23.3	28.7	45.1	71.1	90.7	123	175	221
Rated current	A (rms)	1.9	3.5	5.4	8.4	11.9	16.5	20.8	25.4	28.1	37.2
Instantaneous max. current	A (rms)	5.5	8.5	14	20	28	40.5	55	65	70	85
Rated speed	min^{-1}	1500									
Max. speed	min^{-1}	3000								2,000	
Torque constant	Nm/A (rms)	1.64	1.65	1.68	1.46	1.66	1.82	1.74	2.0	2.56	2.64
Rotor moment of inertia (JM)	$kg{\cdot}m^2x10^{-4}$	7.24	13.9	20.5	31.7	46.0	67.5	89.0	125	281	315
Allowable load moment of inertia (JL)	Multiple of (JM)	5									
Rated power rate	kW/s	11.2	20.9	33.8	41.5	75.3	120	137	184	174	289
Rated angular acceleration	rad/s^2	3,930	3,880	4,060	3,620	4,050	4,210	3,930	3,850	2,490	3,030
Applicable encoder	Standard	Incremental encoder (17 bits: 16384P/R)									
	Option	Absolute encoder (17 bits: 16384P/R)									
Holding brake moment of inertia J	$kg{\cdot}m^2x10^{-4}$	2.10			8.50					18.8	37.5
Basic specifications	Time rating	Continuous									
	Insulation class	Class F									
	Ambient temperature	0 to +40°C									
	Ambient humidity	20 to 80% (non-condensing)									
	Vibration class	15 µm or below									
	Enclosure	Totally-enclosed, self-cooled, IP67 (excluding shaft opening)									
	Vibration resistance	Vibration acceleration 24.5 m/s^2									
	Mounting	Flange-mounted									

Type SGMSH, 400 V

Ratings and specifications

Applied voltage		400 V					
Servo motor model SGMSH-_		**10D_**	**15D_**	**20D_**	**30D_**	**40D_**	**50D_**
Rated output	kW	1.0	1.5	2.0	3.0	4.0	5.0
Rated torque	Nm	3.18	4.9	6.36	9.8	12.6	15.8
Instantaneous peak torque	Nm	9.54	14.7	19.1	29.4	37.8	47.6
Rated current	A (rms)	2.8	4.7	6.2	8.9	12.5	13.8
Instantaneous max. current	A (rms)	8.5	14	19.5	28	38	42
Rated speed	min^{-1}	3,000					
Max. speed	min^{-1}	5,000					
Torque constant	Nm/A (rms)	1.27	1.15	1.12	1.19	1.07	1.24
Rotor moment of inertia (JM)	$kg{\cdot}m^2x10^{-4}$	1.74	2.47	3.19	7.0	9.60	12.3
Allowable load moment of inertia (JL)	Multiple of (JM)	5					
Rated power rate	kW/s	57.9	97.2	127	137	166	202
Rated angular acceleration	rad/s^2	18,250	19,840	19,970	14,000	13,160	12,780
Applicable encoder	Standard	Incremental encoder (17 bits: 16384P/R)					
	Option	Absolute encoder (17 bits: 16384P/R)					
Holding brake moment of inertia J	$kg{\cdot}m^2x10^{-4}$	0.325			2.10		
Basic specifications	Time rating	Continuous					
	Insulation class	Class F					
	Ambient temperature	0 to +40°C					
	Ambient humidity	20 to 80% (non-condensing)					
	Vibration class	15 µm or below					
	Enclosure	Totally-enclosed, self-cooled, IP67 (excluding shaft opening)					
	Vibration resistance	Vibration acceleration 24.5 m/s^2					
	Mounting	Flange-mounted					

Type SGMUH, 400 V

Ratings and specifications

Applied voltage			400 V			
Servo motor model SGMUH-_			10D_	15D_	30D_	40D_
Rated output		kW	1.0	1.5	3.0	4.0
Rated torque		Nm	1.59	2.45	4.9	6.3
Instantaneous peak torque		Nm	6.5	11	21.5	29
Rated current		A (rms)	2.7	4.1	8.1	9.6
Instantaneous max. current		A (rms)	8.5	14	28	38.5
Rated speed		min^{-1}	6000			
Max. speed		min^{-1}	6000			
Torque constant		Nm/A (rms)	0.81	0.83	0.81	0.80
Rotor moment of inertia (JM)		$kg·m^2x10^{-4}$	1.74	2.47	7.0	9.6
Allowable load moment of inertia (JL)		Multiple of (JM)	5			
Rated power rate		kW/s	14.5	24.3	34.3	41.3
Rated angular acceleration		rad/s^2	9130	9910	7000	6550
Applicable encoder		Standard	Incremental Encoder (17 bits: 16384P/R)			
		Option	–			
Holding brake moment of inertia J		$kg·m^2x10^{-4}$	0.25		2.10	
Basic specifications	Time rating		Continuous			
	Insulation class		Class F			
	Ambient temperature		0 to +40°C			
	Ambient humidity		20 to 80% (non-condensing)			
	Vibration class		15 µm or below			
	Enclosure		Totally-enclosed, self-cooled, IP67 (excluding shaft opening)			
	Vibration resistance		Vibration acceleration 24.5 m/s^2			
	Mounting		Flange-mounted			

Type SGMBH, 400 V

Ratings and specifications

Type	SGMBH-_		2BD_A	3ZD_A	3GD_A	4ED_A	5ED_A
Performance	Rated output	kW	22	30	37	45	55
	Rated torque	Nm	140	191	236	286	350
	Stalling torque	Nm	140	191	236	286	350
	Instantaneous peak torque	Nm	280	382	471	572	700
	Rated current	A(rms)	58	80	100	127	150
	Instantaneous max. current	A(rms)	120	170	210	260	310
	Rated/max. speed	min^{-1}	1500/2000				
	Rotor inertia	$kg·m^2$	0.0592	0.0773	0.139	0.151	0.197
Structure	Protective enclosure		IP44				
	Mounting method		Flange		Flange foot mount *1		Foot mount
Encoder		Standard	Incremental, absolute: 17 bits 16384P/R or equivalent *2				
		Option	Absolute: 20 bits 16384P/R or equivalent				
Usage temperature			0 to 40°C				
Usage humidity			20 to 80% (non-condensing)				

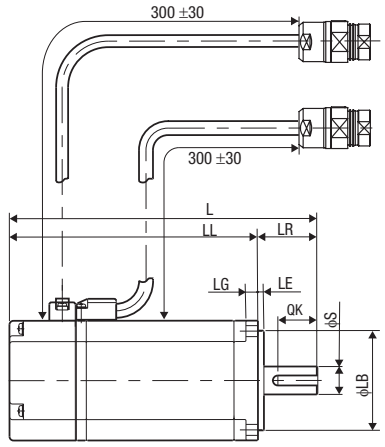
*1 37 kW and 45 kW motors with brakes are foot mount type
*2 The number of output pulses of servo drive is 16384P/R for both 17-bit and 20-bit encoders (no dividing).

Dimensions

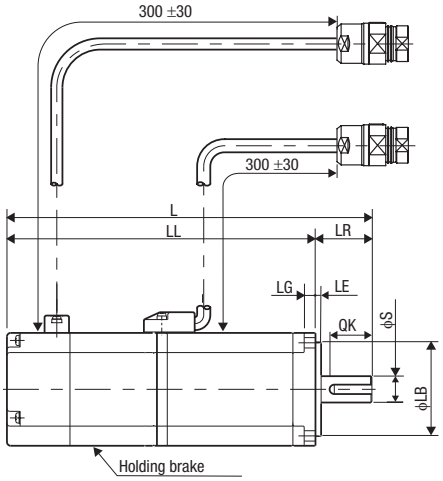
Servo motors

Type SGMAH (230/400 V)

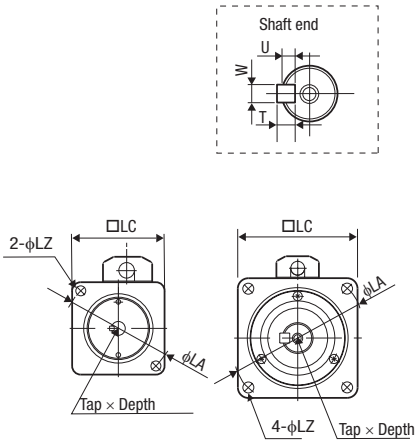
Dimensions (mm)	Without brake		With brake		LR	Flange surface						Shaft end					
Order code	L	LL	L	LL		LA	LB	LC	LE	LG	LZ	S	QK	W	T	U	Tap × Depth
SGMAH-A3A_A6_D-0Y	94.5	69.5	126	101	25	46	30^{h7}	40	2.5	5	4.3	6^{h6}	14	2	2	1.2	M2.5 x 5L
SGMAH-A5A_A6_D-0Y	102.0	77	133.5	108.5													
SGMAH-01A_A6_D-0Y	119.5	94.5	160	135								8^{h6}		3	3	1.8	M3 x 6L
SGMAH-02A_A6_D-0Y	126.5	96.5	166	136	30	70	50^{h7}	60	3	6	5.5	14^{h6}	20	5	5	3	M5 x8L
SGMAH-03D_A6_D-0Y	154.5	124.5	194	164													
SGMAH-04A_A6_D-0Y																	
SGMAH-07D_A6_D-0Y	185	145	229.5	189.5	40	90	70^{h7}	80	3	8	7	16^{h6}	30				
SGMAH-08A_A6_D-0Y																	



Models without brake



Models with brake

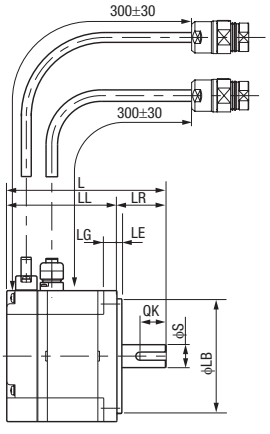


SGMAH-A3,-A5,-01

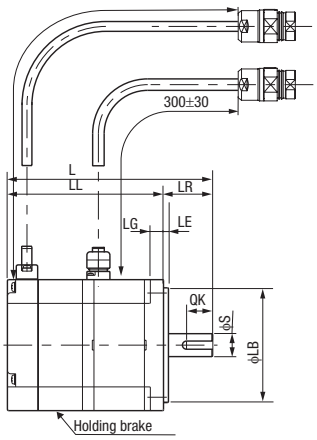
SGMAH-02 to -08

Type SGMPH (230/400 V)

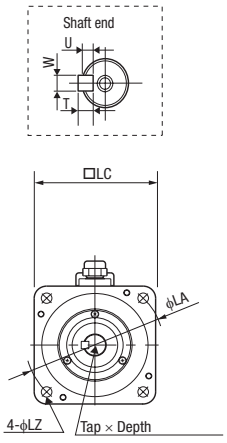
Dimensions (mm)	Without brake		With brake		LR	Flange surface						Shaft end					
Order code	L	LL	L	LL		LA	LB	LC	LE	LG	LZ	S	QK	W	T	U	Tap × Depth
SGMPH-01___6_D-0Y	87	62	116	91	25	70	50^{h7}	60	3	6	5.5	8^{h6}	14	3	3	1.8	M3x6L
SGMPH-02___6_D-0Y	97	67	128.5	98.5	30	90	70^{h7}	80	3	8	7	14^{h6}	16	5	5	3	M5x8L
SGMPH-04___6_D-0Y	117	87	148.5	118.5													
SGMPH-08___6_D-0Y	126.5	86.5	160	120	40	145	110^{h7}	120	3.5	10	10	16^{h6}	22				
SGMPH-15___6_D-0Y	154.5	114.5	188	148								19^{h6}		6	6	3.5	M6x10L



Models without brake



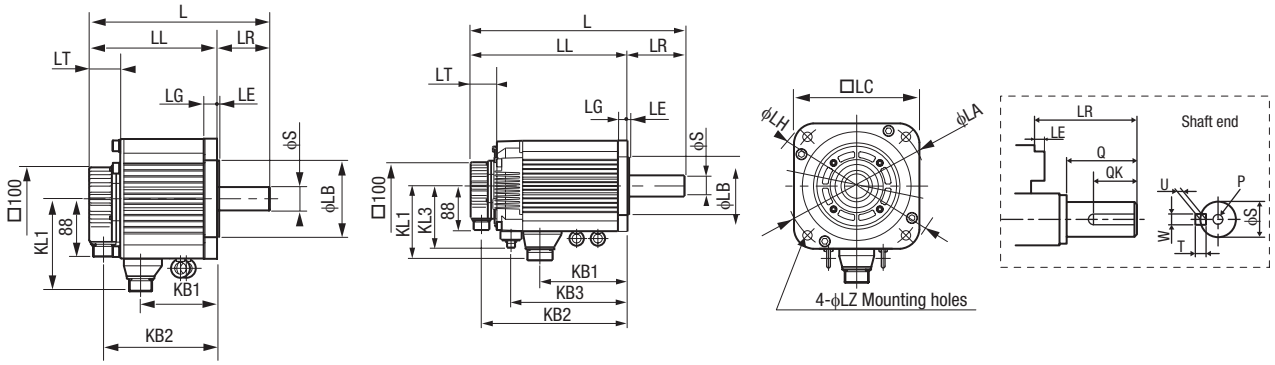
Models with brake



Type SGMGH (400 V)

Dimensions (mm)	Without brake			With brake					LR	LT	KB1	KL1	Flange surface							Shaft end						
Order code	L	LL	KB2	L	LL	KB2	KB3	KL3					LA	LB	LC	LE	LG	LH	LZ	S	Q	QK	W	T	U	P
SGMGH-05D_A6_-0Y	196	138	117	234	176	154	109	98	58	46	65	109	145	110	130	6	12	165	9	19	40	25	5	5	3	M5x12L
SGMGH-09D_A6_-0Y	219	161	140	257	199	177	132				88															
SGMGH-13D_A6_-0Y	243	185	164	281	223	201	156				112									22			6	6	3.5	

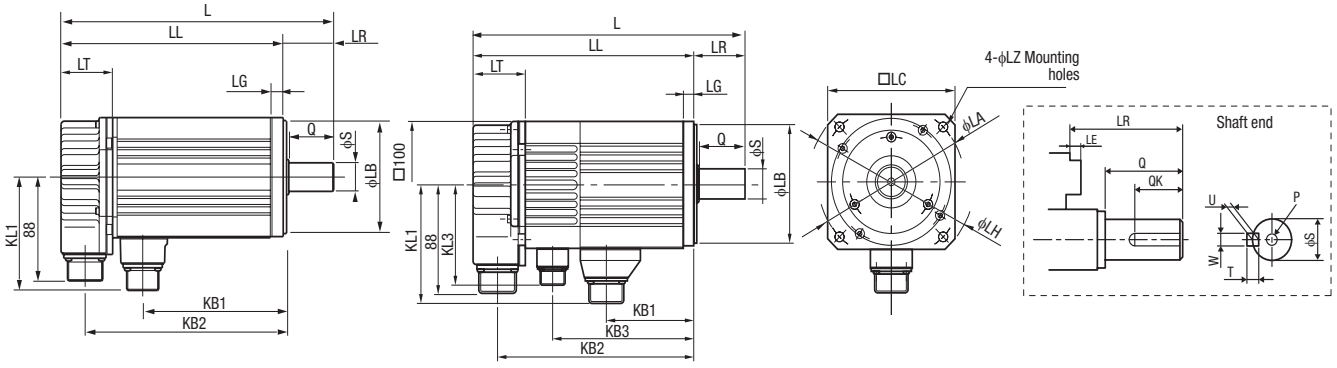
Dimensions (mm)	Without brake			With brake					LR	LT	KB1	KL1	Flange surface							Shaft end						
Order code	L	LL	KB2	L	LL	KB2	KB3	KL3					LA	LB	LC	LE	LG	LH	LZ	S	Q	QK	W	T	U	P
SGMGH-20D_A6_-0Y	245	166	144	296	217	195	137	123	79	47	89	140	200	114.3	180	3.2	18	230	13.5	35	76	60	10	8	5	M12x25L
SGMGH-30D_A6_-0Y	271	192	170	322	243	221	163				115															
SGMGH-44D_A6_-0Y	305	226	204	356	277	255	197				149															
SGMGH-55D_A6_-0Y	373	260	238	424	311	289	231		113		174	150								42	110	90	12			M16x32L
SGMGH-75D_A6_-0Y	447	334	312	498	385	363	305				248															
SGMGH-1AD_A6_-0Y	454	338	316	499	383	362	315	142	116	47	251	168	235	200	220	4	18	270	13.5	42	110	90	12	8	5	M16x32L
SGMGH-1ED_A6_-0Y	573	457	435	635	519	497	415			48	343						20			55			16	10	6	M20x40L



Models without brake Models with brake

Type SGMSH (400 V)

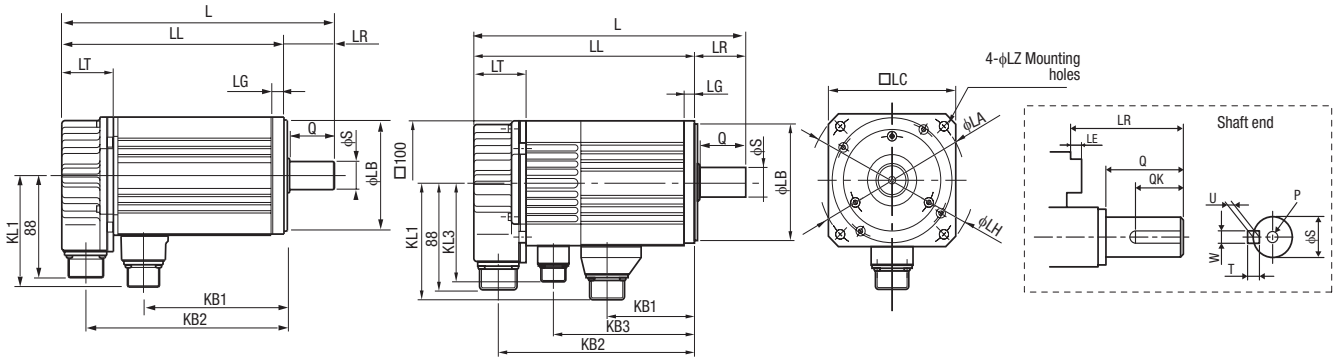
Dimensions (mm)	Without brake			With brake					LR	LT	KB1	KL1	Flange surface							Shaft end						
Order code	L	LL	KB2	L	LL	KB2	KB3	KL3					LA	LB	LC	LE	LG	LH	LZ	S	Q	QK	W	T	U	P
SGMSH-10D_A6_-0Y	194	149	128	238	193	171	120	85	45	46	76	96	115	95^{h7}	100	3	10	130	7	24^{h6}	40	32	8	7	4	M8x16L
SGMSH-15D_A6_-0Y	220	175	154	264	219	197	146				102															
SGMSH-20D_A6_-0Y	243	198	177	287	242	220	169				125															
SGMSH-30D_A6_-0Y	262	199	178	300	237	216	170	98	63		124	114	145	110^{h7}	130	6	12	165	9	28^{h6}	55	50				
SGMSH-40D_A6_-0Y	299	236	215	337	274	253	207				161															
SGMSH-50D_A_-0Y	339	276	255	377	314	293	247				201															



Models without brake Models with brake

Type SGMUH (400 V)

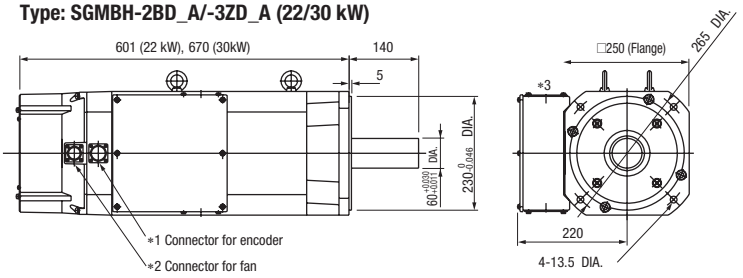
Dimensions (mm)	Without brake			With brake					LR	LT	KB1	KL1	Flange surface							Shaft end						
Order code	L	LL	KB2	L	LL	KB2	KB3	KL3					LA	LB	LC	LE	LG	LH	LZ	S	Q	QK	W	T	U	P
SGMUH-10D_A6_-0Y	194	149	128	238	193	171	120	85	45	46	76	96	130	110	116	3.5	10	150	9	24^{h6}	40	32	8	7	4	M8x16L
SGMUH-15D_A6_-0Y	220	175	154	264	219	197	146				102															
SGMUH-30D_A6_-0Y	262	202	181	300	237	219	173	98	60		127	114	165	130	155		12	190	11	28^{h6}	55	50				
SGMUH-40D_A6_0Y	327	269	245	362	302	281	210			71	164															



Models without brake Models with brake

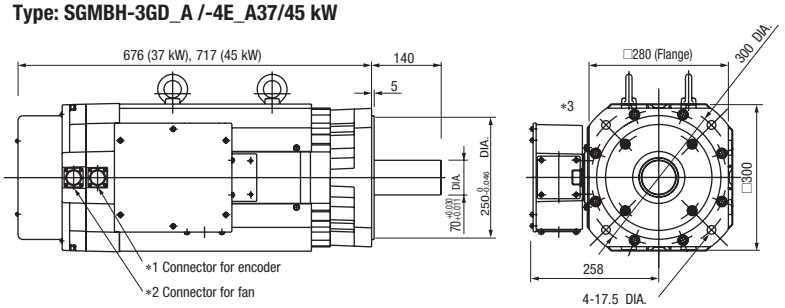
Type SGMBH (400 V)

Type: SGMBH-2BD_A/-3ZD_A (22/30 kW)



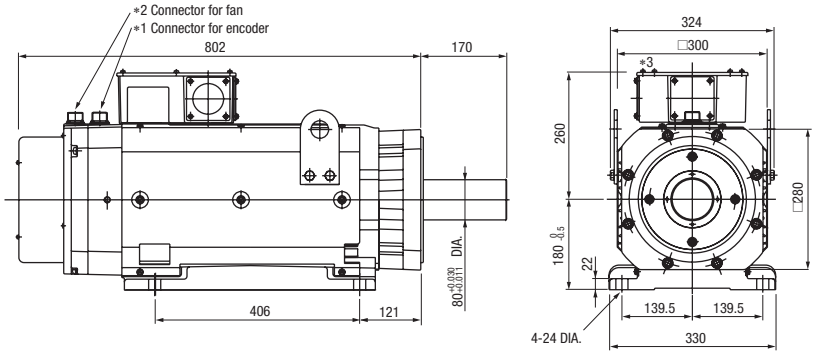
Approx. weight: 120 kg (22 kW)
140 kg (30 kW)

Type: SGMBH-3GD_A /-4E_A37/45 kW



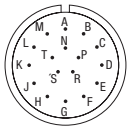
Approx. weight: 230 kg (37 kW)
250 kg (45 kW)

Type: SGMBH-5ED_A (55 kW)



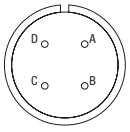
Approx. weight: 350 kg

∗1 Connector for encoder



Receptacle:	97F-3102E20-29P
Plug IP67 (L-shape):	MS3108E20-29S

∗2 Connector for fan



Receptacle:	CE05-2A18-10PD-B
Plug IP67 (L-shape):	MS3108E18-10S

Ultra-compact motor

The SmartStep motors offer the simplicity and cost-effectiveness of a stepper with the added advantages of a servo system.

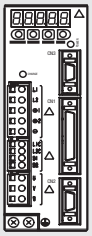
- Sizes 30 W to 750 W, rated speed 3,000 rpm
- Cylindrical and flat servo motor types are available
- Peak torque up to three times continuous torque during 3 seconds
- Easy to install with prebuilt cables
- Motors with brake are available

Ordering information

(Refer to servo drive chapter)

Servodrive controlled by pulses

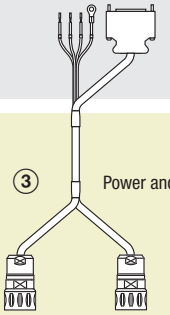
② **SmartStep servo drive**



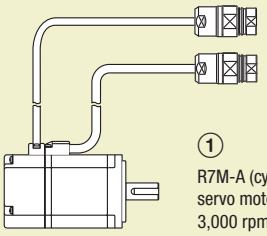
Intelligent servo drive

② **XtraDrive**

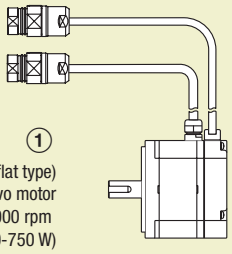
Drive options



③ Power and encoder cables



① R7M-A (cylindrical type) servo motor 3,000 rpm (30-750 W)



① R7M-AP (flat type) servo motor 3,000 rpm (100-750 W)

Note: The symbols ①②③... show the recommended sequence to select the servo motor and cables

Servo motor

Cylindrical servo motors (3,000-r/min)

Symbol	Specifications				Order code		
					Servo motor model	Compatible servo drives ②	
	Design		Rated torque	Capacity		SmartStep	XtraDrive
①	Cylindrical servo motors (3,000-r/min) Straight shaft with key	Without brake	0.095 Nm	30 W	R7M-A03030-S1-D	R7D-APA3H	XD-P3-MN01
			0.159 Nm	50 W	R7M-A05030-S1-D	R7D-APA5H	XD-P5-MN01
			0.318 Nm	100 W	R7M-A10030-S1-D	R7D-AP01H	XD-01-MN01
			0.637 Nm	200 W	R7M-A20030-S1-D	R7D-AP02H	XD-02-MN01
			1.27 Nm	400 W	R7M-A40030-S1-D	R7D-AP04H	XD-04-MN01
			2.39 Nm	750 W	R7M-A75030-S1-D	R7D-AP08H	XD-08-MN
		With brake	0.095 Nm	30 W	R7M-A03030-BS1-D	R7D-APA3H	XD-P3-MN01
			0.159 Nm	50 W	R7M-A05030-BS1-D	R7D-APA5H	XD-P5-MN01
			0.318 Nm	100 W	R7M-A10030-BS1-D	R7D-AP01H	XD-01-MN01
			0.637 Nm	200 W	R7M-A20030-BS1-D	R7D-AP02H	XD-02-MN01
			1.27 Nm	400 W	R7M-A40030-BS1-D	R7D-AP04H	XD-04-MN01
			2.39 Nm	750 W	R7M-A75030-BS1-D	R7D-AP08H	XD-08-MN

Flat servo motors (3,000-r/min)

Symbol	Specifications				Order code		
					Servo motor model	Compatible servo drives ②	
	Design		Rated torque	Capacity		SmartStep	XtraDrive
①	Flat servo motors (3,000-r/min) Straight shaft with key	Without brake	0.318 Nm	100 W	R7M-AP10030-S1-D	R7D-AP01H	XD-01-MN01
			0.637 Nm	200 W	R7M-AP20030-S1-D	R7D-AP02H	XD-02-MN01
			1.27 Nm	400 W	R7M-AP40030-S1-D	R7D-AP04H	XD-04-MN01
			2.39 Nm	750 W	R7M-AP75030-S1-D	R7D-AP08H	XD-08-MN
		With brake	0.318 Nm	100 W	R7M-AP10030-BS1-D	R7D-AP01H	XD-01-MN01
			0.637 Nm	200 W	R7M-AP20030-BS1-D	R7D-AP02H	XD-02-MN01
			1.27 Nm	400 W	R7M-AP40030-BS1-D	R7D-AP04H	XD-04-MN01
			2.39 Nm	750 W	R7M-AP75030-BS1-D	R7D-AP08H	XD-08-MN

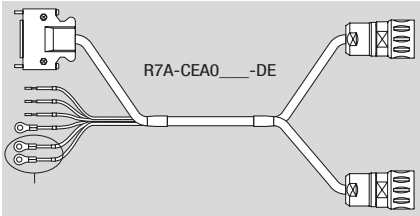
Servo drive

Note: Choosing SmartStep drive or XtraDrive affects to the encoder cable needed

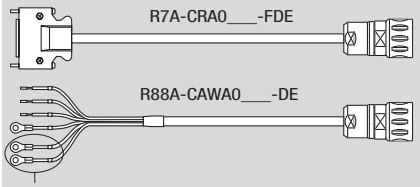
② Refer to SmartStep servo drive or XtraDrive chapter for detailed drive specifications and selection of drive accessories

Servo motor cables for SmartStep drive

Standard cable (power + encoder)

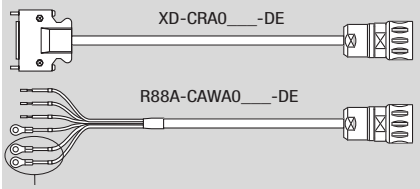
Symbol	Drive	Appearance	Specifications		Order code	
					Power cable model	Encoder cable model
③	SmartStep	 Only for brake models	For servo motors without brake R7M-A(P)___30-S1-D	3 m	R7A-CEA003S-DE	–
				5 m	R7A-CEA005S-DE	–
				10 m	R7A-CEA010S-DE	–
				15 m	R7A-CEA015S-DE	–
				20 m	R7A-CEA020S-DE	–
			For servo motors with brake R7M-A(P)___30-BS1-D	3 m	R7A-CEA003B-DE	–
				5 m	R7A-CEA005B-DE	–
				10 m	R7A-CEA010B-DE	–
				15 m	R7A-CEA015B-DE	–
				20 m	R7A-CEA020B-DE	–

Flexible cables (power + encoder)

Symbol	Drive	Appearance	Specifications		Order code	
					Power cable model	Encoder cable model
③	SmartStep	 Only for brake models	For servo motors without brake R7M-A(P)___30-S1-D	3 m	R88A-CAWA003S-DE	R7A-CRA003-FDE
				5 m	R88A-CAWA005S-DE	R7A-CRA005-FDE
				10 m	R88A-CAWA010S-DE	R7A-CRA010-FDE
				15 m	R88A-CAWA015S-DE	R7A-CRA015-FDE
				20 m	R88A-CAWA020S-DE	R7A-CRA020-FDE
			For servo motors with brake R7M-A(P)___30-BS1-D	3 m	R88A-CAWA003B-DE	R7A-CRA003-FDE
				5 m	R88A-CAWA005B-DE	R7A-CRA005-FDE
				10 m	R88A-CAWA010B-DE	R7A-CRA010-FDE
				15 m	R88A-CAWA015B-DE	R7A-CRA015-FDE
				20 m	R88A-CAWA020B-DE	R7A-CRA020-FDE

Servo motor cables for XtraDrive drive

Flexible cables (power + encoder)

Symbol	Drive	Appearance	Specifications		Power cable model	Encoder cable model
③	XtraDrive	 Only for brake models	For servo motors without brake R7M-A(P)___30-S1-D	3 m	R88A-CAWA003S-DE	XD-CRA003-DE
				5 m	R88A-CAWA005S-DE	XD-CRA005-DE
				10 m	R88A-CAWA010S-DE	XD-CRA010-DE
				15 m	R88A-CAWA015S-DE	XD-CRA015-DE
				20 m	R88A-CAWA020S-DE	XD-CRA020-DE
			For servo motors with brake R7M-A(P)___30-BS1-D	3 m	R88A-CAWA003B-DE	XD-CRA003-DE
				5 m	R88A-CAWA005B-DE	XD-CRA005-DE
				10 m	R88A-CAWA010B-DE	XD-CRA010-DE
				15 m	R88A-CAWA015B-DE	XD-CRA015-DE
				20 m	R88A-CAWA020B-DE	XD-CRA020-DE

Connectors

Specifications	Order code
SmartStep connectors kit (models included in kit)	R7A-CNA00K-DE
SmartStep encoder connector (for CN2)	R7A-CNA01R
Hypertac power connector female	SPOC-06K-FSDN169
Hypertac encoder connector female	SPOC-17H-FRON169

Specifications

General specifications

Item	Specification
Ambient operating temperature	0 to 40°C
Ambient operating humidity	20 to 80% (with no condensation)
Ambient storage temperature	-20 to 60°C
Ambient storage humidity	20 to 80% (with no condensation)
Storage/operating atmosphere	No corrosive gases.
Vibration resistance	10 to 2,500 Hz in X, Y, and Z directions with 0.2 mm double amplitude or acceleration of 24.5 m/s^2 max., whichever is smaller
Impact resistance	Acceleration 98 m/s^2 max., in a vertical direction, two times
Insulation resistance	Between power line terminals and FG: 10 MΩ min. (at 500 VDC)
Dielectric strength	Between power line terminals and FG: 1,500 VAC for 1 min at 50/60 Hz
Run position	Any direction
Insulation grade	Type B
Structure	Totally-enclosed self-cooling
Protective structure	IP55 for both the cylindrical and flat servo motors
Vibration grade	V-15
Mounting method	Flange-mounting
International standards	Approval obtained for UL, cUL, and EN (EMC directive and low-voltage directive)

Performance specifications

Flat servo motors

Item		R7M-AP10030-_	R7M-AP20030-_	R7M-AP40030-_	R7M-AP75030-_
Rated output		100 W	200 W	400 W	750 W
Rated torque		0.318 Nm	0.637 Nm	1.27 Nm	2.39 Nm
Rated rotation speed		3,000 r/min	3,000 r/min	3,000 r/min	3,000 r/min
Momentary maximum rotation speed		4,500 r/min	4,500 r/min	4,500 r/min	4,500 r/min
Momentary maximum torque		0.96 Nm	1.91 Nm	3.82 Nm	7.1 Nm
Rated current		0.89 A (rms)	2.0 A (rms)	2.6 A (rms)	4.1 A (rms)
Momentary maximum current		2.8 A (rms)	6.0 A (rms)	8.0 A (rms)	13.9 A (rms)
Rotor inertia		6.5×10^{-6} kg·m^2	2.09×10^{-5} kg·m^2	3.47×10^{-5} kg·m^2	2.11×10^{-4} kg·m^2
Power rate		15.7 kW/s	19.4 kW/s	46.8 kW/s	26.9 kW/s
Allowable radial load		78 N	245 N	245 N	392 N
Allowable thrust load		49 N	68 N	68 N	147 N
Weight	Without brake	0.7 kg	1.4 kg	2.1 kg	4.2 kg
	With brake	0.9 kg	1.9 kg	2.6 kg	5.7 kg
Encoder resolution		2,000 pulses/revolution for phase-A and phase-B, 1 pulse/revolution for phase-Z			
Radiation shield dimensions		t6 × 250 mm square			t12 × 300 mm square
Brake specifications	Brake inertia	3.1×10^{-6} kg·m^2	1.52×10^{-5} kg·m^2	1.52×10^{-5} kg·m^2	8.75×10^{-5} kg·m^2
	Excitation voltage	24 VDC ±10%			
	Power consumption (at 20°C)	7.5 W	7.6 W	8.2 W	7.5 W
	Current consumption (at 20°C)	0.31 A	0.32 A	0.34 A	0.31 A
	Static friction torque	0.4 Nm min.	0.9 Nm min.	1.9 Nm min.	3.5 Nm min.
	Attraction time	60 ms max.	40 ms max.	60 ms max.	20 ms max.
	Release time	20 ms max.	20 ms max.	20 ms max.	40 ms max.
	Backlash	1°	1°	1°	1°
	Rating	Continuous	Continuous	Continuous	Continuous
	Insulation grade	Type F	Type F	Type F	Type F
Applicable servo driver (R7D-)		AP01H	AP02H	AP04H	AP08H

Cylindrical servo motors

Item		R7M-A03030-_	R7M-A05030-_	R7M-A10030-_	R7M-A20030-_	R7M-A40030-_	R7M-A75030-_
Rated output		30 W	50 W	100 W	200 W	400 W	750 W
Rated torque		0.095 Nm	0.159 Nm	0.318 Nm	0.637 NmNm	1.27 Nm	2.39 Nm
Rated rotation speed		3,000 r/min	3,000 r/min	3,000 r/min	3,000 r/min	3,000 r/min	3,000 r/min
Momentary maximum rotation speed		4,500 r/min	4,500 r/min	4,500 r/min	4,500 r/min	4,500 r/min	4,500 r/min
Momentary maximum torque		0.29 Nm	0.48 Nm	0.96 Nm	1.91 Nm	3.82 Nm	7.1 Nm
Rated current		0.42 A (rms)	0.6 A (rms)	0.87 A (rms)	2.0 A (rms)	2.6 A (rms)	4.4 A (rms)
Momentary maximum current		1.3 A (rms)	1.9 A (rms)	2.8 A (rms)	6.0 A (rms)	8.0 A (rms)	13.9 A (rms)
Rotor inertia		1.7×10^{-6} kg·m^2	2.2×10^{-6} kg·m^2	3.6×10^{-6} kg·m^2	1.19×10^{-5} kg·m^2	1.87×10^{-5} kg·m^2	6.67×10^{-5} kg·m^2
Power rate		5.31 kW/s	11.5 kW/s	28.1 kW/s	34.1 kW/s	86.3 kW/s	85.6 kW/s
Allowable radial load		68 N	68 N	78 N	245 N	245 N	392 N
Allowable thrust load		54 N	54 N	54 N	74 N	74 N	147 N
Weight	Without brake	0.3 kg	0.4 kg	0.5 kg	1.1 kg	1.7 kg	3.4 kg
	With brake	0.6 kg	0.7 kg	0.8 kg	1.6 kg	2.2 kg	4.3 kg
Encoder resolution		2,000 pulses/revolution for phase-A and phase-B, 1 pulse/revolution for phase-Z					
Radiation shield dimensions		t6×250 mm square					

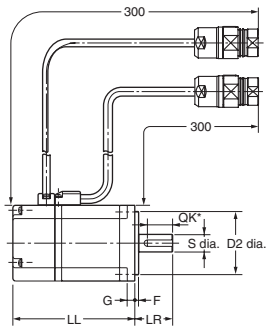
Item		R7M-A03030-_	R7M-A05030-_	R7M-A10030-_	R7M-A20030-_	R7M-A40030-_	R7M-A75030-_
Brake specifications	Brake inertia	0.85×10^{-6} kg·m^2	0.85×10^{-6} kg·m^2	0.85×10^{-6} kg·m^2	6.4×10^{-6} kg·m^2	6.4×10^{-6} kg·m^2	1.7×10^{-5} kg·m^2
	Excitation voltage	24 VDC ±10% V					
	Power consumption (at 20°C)	6 W	6 W	6 W	7 W	7 W	7.7 W
	Current consumption (at 20°C)	0.25 A	0.25 A	0.25 A	0.29 A	0.29 A	0.32 A
	Static friction torque	0.2 Nm min.	0.2 Nm min.	0.34 Nm min.	1.47 Nm min.	1.47 Nm min.	2.45 Nm min.
	Attraction time	30 ms max.	30 ms max.	30 ms max.	60 ms max.	60 ms max.	60 ms max.
	Release time	60 ms max.	60 ms max.	60 ms max.	20 ms max.	20 ms max.	20 ms max.
	Backlash	1°	1°	1°	1°	1°	1°
	Rating	Continuous	Continuous	Continuous	Continuous	Continuous	Continuous
	Insulation grade	Type F	Type F	Type F	Type F	Type F	Type F
Applicable servo driver (R7D-)		APA3H	APA5H	AP01H	AP02H	AP04H	AP08H

Dimensions

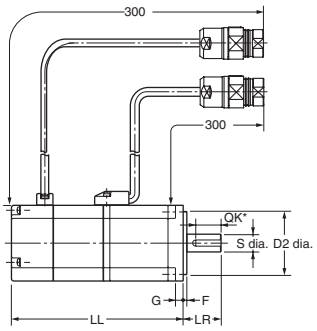
Cylindrical servo motors (3,000 r/min)
200 VAC: 30 W/50 W/100 W/200 W/400 W/750 W
Without brake: R7M-A03030-S1-D/A05030-S1-D/A10030-S1-D/A20030-S1-D/A40030-S1-D/A75030-S1-D
With brake: R7M-A03030-BS1-D/A05030-BS1-D/A10030-BS1-D/A20030-BS1-D/A40030-BS1-D/A75030-BS1-D

Order code	Dimensions (mm)													
	LL		LR	Flange surface						Axis end				
	Without brake	With brake		C	D1	D2	F	G	Z	S	QK	b	h	t1
R7M-A03030_	69.5	101	25	40	46	30h7	2.5	5	Two, 4.3 dia.	6h6	14	2	2	1.2
R7M-A05030_	77	108.5												
R7M-A10030_	94.5	135								8h6		3	3	1.8
R7M-A20030_	96.5	136	30	60	70	50h7	3	6	Four, 5.5 dia.	14h6	20	5	5	3
R7M-A40030_	124.5	164												
R7M-A75030_	145	189.5	40	80	90	70h7	3	8	Four, 7 dia.	16h6	30			

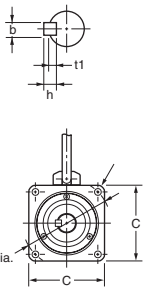
R7M-A___30-S1-D (without brake)



R7M-A___30-BS1-D (with brake)



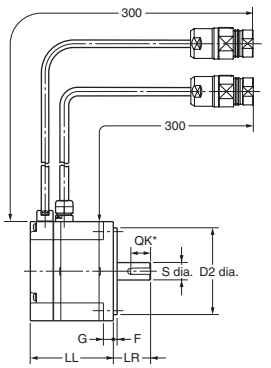
Axis end dimensions



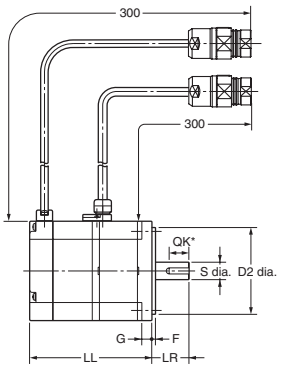
Flat servo motors (3,000 r/min)
200 VAC: 100 W/200 W/400 W/750 W
Without brake: R7M-AP10030-S1-D/AP20030-S1-D/AP40030-S1-D/AP75030-S1-D
With brake: R7M-AP10030-BS1-D/AP20030-BS1-D/AP40030-BS1-D/AP75030-BS1-D

Order code	Dimensions (mm)													
	LL		LR	Flange surface						Axis end				
	Without brake	With brake		C	D1	D2	F	G	Z	S	QK	b	h	t1
R7M-AP10030_	62	91	25	60	70	50h7	3	6	5.5	8h6	14	3	3	1.8
R7M-AP20030_	67	98.5	30	80	90	70h7	3	8	7	14h6	16	5	5	3
R7M-AP40030_	87	118.5												
R7M-AP75030_	86.5	120	40	120	145	110h7	3.5	10	10	16h6	22			

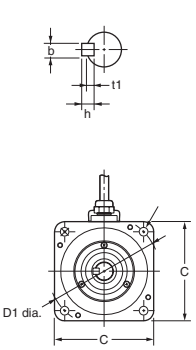
R7M-AP___30-S1-D (without brake)



R7M-AP___30-BS1-D (with brake)



Axis end dimensions



Junma compact motor

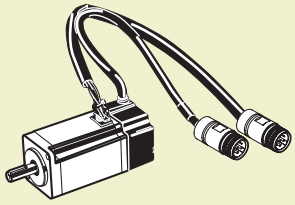
The Junma motors offer the simplicity and cost-effectiveness of a stepper motor with the added advantages of a servo system.

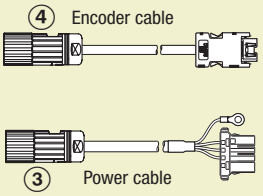
- Sizes 100 W to 750 W, rated speed 3,000 rpm
- Peak torque up to three times continuous torque for 3 seconds
- Easy to install with prebuilt cables
- Motors with brakes are available
- No motor settings required, just plug and run

Ordering information

Junma servo motor configuration

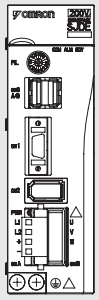
① **Junma servo motor**
3,000 rpm
(100 to 750 W)



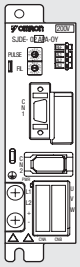


(Refer to servo drive chapter)

② **Junma MECHATROLINK-II Servo drive**



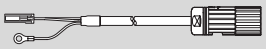
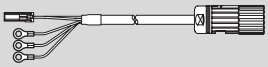
② **Junma pulse Servo drive**



Servomotors and servo drives

Symbol	Specifications					Order code		
						① Servomotor model	② Servo drive model	
	Voltage	Encoder and design		Rated torque	Capacity		MECHATROLINK-II	Pulse control
①②	1 Phase 200 VAC	Analogue incremental encoder Straight shaft with key	Without brake	0.318 Nm	100 W	SJME-01AMC41-0Y	SJDE-01ANA-0Y	SJDE-01APA-0Y
				0.637 Nm	200 W	SJME-02AMC41-0Y	SJDE-02ANA-0Y	SJDE-02APA-0Y
				1.27 Nm	400 W	SJME-04AMC41-0Y	SJDE-04ANA-0Y	SJDE-04APA-0Y
				2.39 Nm	750 W	SJME-08AMC41-0Y	SJDE-08ANA-0Y	SJDE-08APA-0Y
			With brake	0.318 Nm	100 W	SJME-01AMC4C-0Y	SJDE-01ANA-0Y	SJDE-01APA-0Y
				0.637 Nm	200 W	SJME-02AMC4C-0Y	SJDE-02ANA-0Y	SJDE-02APA-0Y
				1.27 Nm	400 W	SJME-04AMC4C-0Y	SJDE-04ANA-0Y	SJDE-04APA-0Y
				2.39 Nm	750 W	SJME-08AMC4C-0Y	SJDE-08ANA-0Y	SJDE-08APA-0Y

Power cables

Symbol	Appearance	Specifications			Order code
③		Power cable for Junma servomotors without brake SJME-0_AMB41-0Y	Flexible cables (standard) Shielded cable Bending radius (dynamic) > 10x diameter Bending cycles > 5 Million	1.5 m	JZSP-CHM000-01-5ME
				3 m	JZSP-CHM000-03-ME
				5 m	JZSP-CHM000-05-ME
				10 m	JZSP-CHM000-10-ME
				15 m	JZSP-CHM000-15-ME
				20 m	JZSP-CHM000-20-ME
			Non flexible cables	3 m	R7A-CAZ003S
				5 m	R7A-CAZ005S
				10 m	R7A-CAZ010S
		Power cable for Junma servomotors with brake SJME-0_AMB4C-0Y	Flexible cables (standard) Shielded cable Bending radius (dynamic) > 10x diameter Bending cycles > 5 Million	1.5 m	JZSP-CHM030-01-5ME
				3 m	JZSP-CHM030-03-ME
				5 m	JZSP-CHM030-05-ME
				10 m	JZSP-CHM030-10-ME
				15 m	JZSP-CHM030-15-ME
				20 m	JZSP-CHM030-20-ME
			Non flexible cables	3 m	R7A-CAZ003B
				5 m	R7A-CAZ005B
				10 m	R7A-CAZ010B

Encoder cables

Symbol	Appearance	Specifications			Order code
④		Encoder cable for Junma servomotors SJME-0_AMB4_-0Y	Flexible cables (standard) Shielded cable Bending radius (dynamic) > 10x diameter Bending cycles > 5 Million	1.5 m	JZSP-CHP800-01-5ME
				3 m	JZSP-CHP800-03-ME
				5 m	JZSP-CHP800-05-ME
				10 m	JZSP-CHP800-10-ME
				15 m	JZSP-CHP800-15-ME
				20 m	JZSP-CHP800-20-ME
			Non flexible cables	3 m	R7A-CRZ003C
				5 m	R7A-CRZ005C
				10 m	R7A-CRZ010C

Connectors for power and encoder cables

Specifications			Order code
Connectors for making power cables	Drive side (CNB)	Manufacturer: Intercontec	R7A-CNZ01AFE
	Motor side	Manufacturer: Intercontec	R7A-CNZ02AFE
Connectors for making encoder cables	Drive side (CN2)	Manufacturer: Intercontec	R7A-CNZ01RFE
	Motor side	Manufacturer: Intercontec	R7A-CNZ02RFE

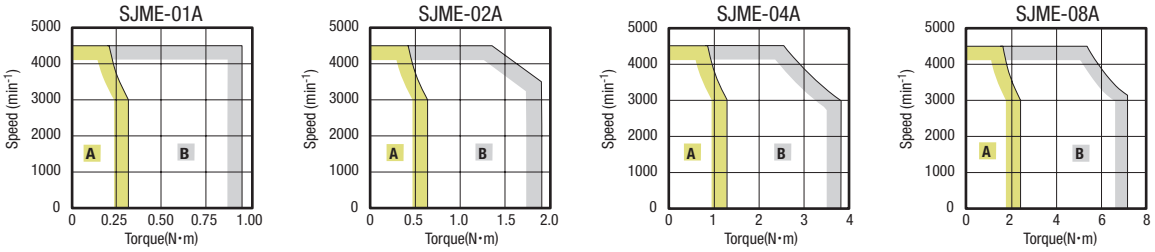
Servomotor specifications

Voltage			230 V			
Servomotor model SJME-_			01A_	02A_	04A_	08A_
Rated output *1		W	100	200	400	750
Rated torque *1 *2		N·m	0.318	0.637	1.27	2.39
Instantaneous peak torque *1		N·m	0.955	1.91	3.82	7.16
Rated current *1		Arms	0.84	1.1	2.0	3.7
Instantaneous max. current *1		Arms	2.5	3.3	6.0	11.1
Rated speed *1		min^{-1}	3000			
Max. speed *1		min^{-1}	4500			
Torque constant		N·m/Arms	0.413	0.645	0.682	0.699
Rotor moment of inertia (JM)		$kg·m^2x10^{-4}$	0.0634	0.330	0.603	1.50
Allowable load inertia *3		$kg·m^2x10^{-4}$	0.6	3.0	5.0	10.0
Rated power rate		kW/s	16.0	12.3	26.7	38.1
Rated angular acceleration		rad/s^2	50,200	19,300	21,100	15,900
Encoder		Standard	Analogue output encoder			
Allowable radial load			78	245	245	392
Allowable thrust load			54	74	74	147
Approx. mass		kg (without brake)	0.5	0.9	1.3	2.6
		kg (with brake)	0.8	1.5	1.9	3.5
Brake specifications	Rated voltage		24 VDC ±10%			
	Holding brake moment of inertia	$kg·m^2x10^{-4}$	0.0075	0.064		0.171
	Power consumption (at 20°C)	W	6	6.9		7.7
	Current consumption (at 20°C)	A	0.25	0.29		0.32
	Static friction torque	N·m (minimum)	0.318	1.27		2.39
	Rise time for holding torque	ms (max)	100			
	Release time	ms (max)	80			
Basic specifications	Time rating		Continuous			
	Thermal class		Class B			
	Vibration class		15 µm or below			
	Withstand voltage		1500 VAC for one minute			
	Insulation resistance		500 VDC, 10 MΩ min.			
	Enclosure		Totally-enclosed, self-cooled, IP55 (excluding shaft opening and connectors)			
	Vibration resistance		Vibration acceleration 49 m/s^2			
	Usage/Storage temperature		0 to +40°C / -20 to 60°C without freezing			
	Usage/Storage humidity		20 to 80% RH (non-condensing)			
	Altitude		1000 m or less above sea level			
	Mounting		Flange-mounted			

*1 These items and speed/torque characteristics quoted in combination with an SJDE servo drive are at an armature winding temperature of 100°C. Other values quoted at 20°C.
*2 The rated torques listed here are the values for the continuous allowable torque at 40°C with an aluminium heatsink (250x250x6 mm) attached.
*3 Value using the appropriate SJDE drive without of external regeneration unit.

Torque-Speed Characteristics

(A : Continuous duty zone B : Intermittent duty zone)

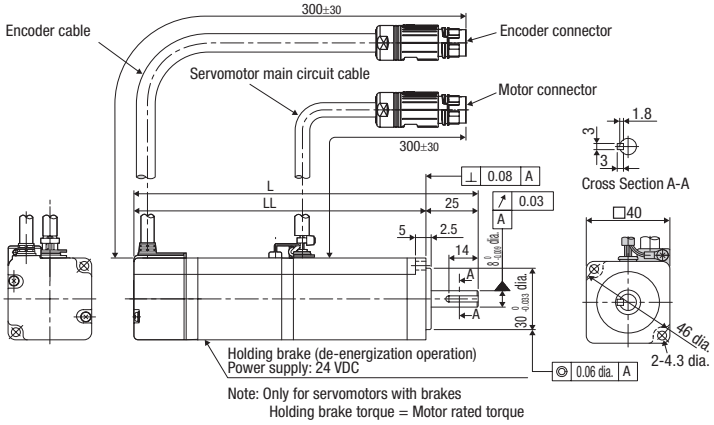


Dimensions

Junma servomotors

SJME-01 (200 V, 200 to 750 W)

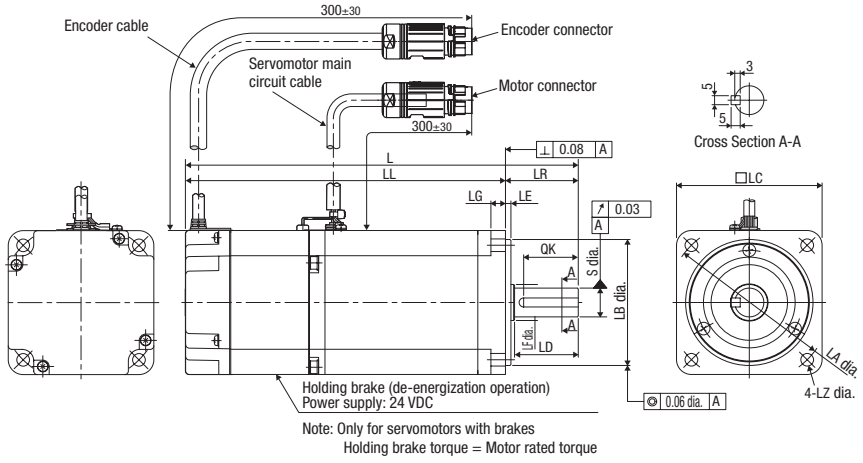
Order code	L	LL	Approx. mass (kg)
SJME-01AMB41-OY	119	94	0.5
SJME-01AMB4C-OY	164	139	0.8



Units: mm

SJME-02, 04, 08 (200V, 200 to 750W)

Order code	L	LL	LR	LG	LE	S	LB	LC	LD	LF	LA	LZ	QK	Approx. mass (kg)
SJME-02AMB41-OY	125.5	95.5	30	6	3	$14^{0}_{-0.011}$	$50^{0}_{-0.039}$	60	–	–	70	5.5	20	0.9
SJME-02AMB4C-OY	165.5	135.5												1.5
SJME-04AMB41-OY	148.5	118.5							–	–				1.3
SJME-04AMB4C-OY	188.5	158.5												1.9
SJME-08AMB41-OY	173	133	40	8	3	$16^{0}_{-0.011}$	$70^{0}_{-0.046}$	80	35	20	90	7	30	2.6
SJME-08AMB4C-OY	216	176												3.5



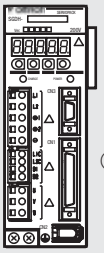
Units: mm

Direct drive linear servo motors for faster machine cycles

- Direct control of the motors using XtraDrive and Sigma-II drives
- Improved machine performance
- Easy of operation & high reliability
- Designed for high force density in compact packages
- Exhibits exceptional force linearity even at near the peak force regions
- Extremely energy efficient, due to its optimised magnetic circuitry design and high-density windings

Ordering information

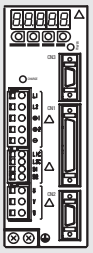
(Refer to servo drive chapter)



Servo drive with option boards for flexible system configuration

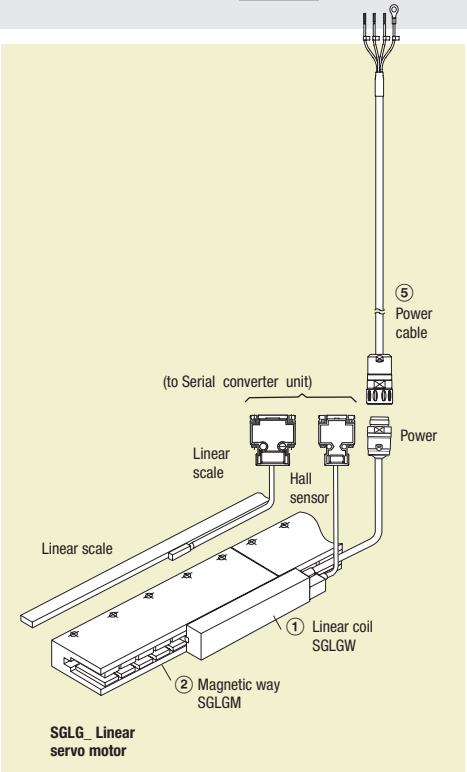
④ **Sigma-II servo drive**

Drive options

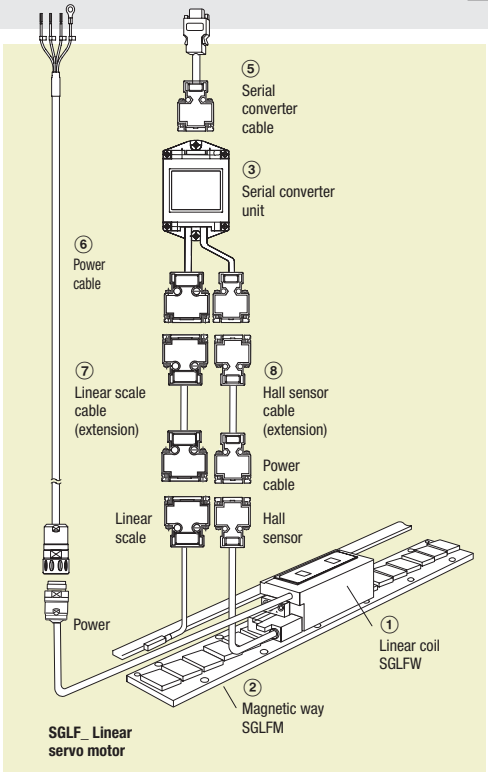


Intelligent servo drive

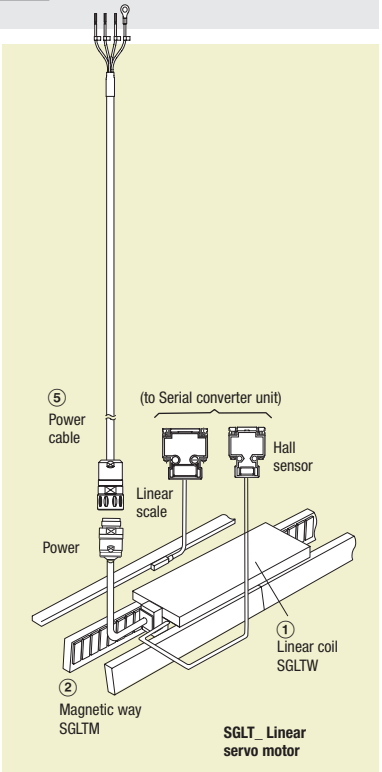
④ **XtraDrive**



SGLG_ Linear servo motor



SGLF_ Linear servo motor



SGLT_ Linear servo motor

Note: The symbols ①②③ .. show the recommended sequence to select the servo motor, cables and serial converter for a linear motor system

Servo motor

GLGW/SGLGM coreless type (200 V)

With standard-force magnetic ways - 230VAC single phase

Symbol	Specifications		Order code				
	Rated force	Peak force	① Linear coil	② Magnetic way	③ Serial converter	④ Servo drive	
						Sigma-II series	XtraDrive
ABCD 	13.5 N	40 N	SGLGW-30A050CPD	SGLGM-30108A SGLGM-30216A SGLGM-30432A	JZDP-D008-250	SGDH-A5AE-OY	XD-P5-MN01
	27 N	80 N	SGLGW-30A080CPD		JZDP-D008-251	SGDH-01AE-OY	XD-01-MN01
	47 N	140 N	SGLGW-40A140CPD	SGLGM-40090CT SGLGM-40225CT SGLGM-40360CT SGLGM-40405CT SGLGM-40450CT	JZDP-D008-252	SGDH-01AE-OY	XD-01-MN01
	93 N	280 N	SGLGW-40A253CPD		JZDP-D008-253	SGDH-02AE-OY	XD-02-MN01
	140 N	420 N	SGLGW-40A365CPD		JZDP-D008-254	SGDH-04AE-OY	XD-04-MN01
	73 N	220 N	SGLGW-60A140CPD	SGLGM-60090CT SGLGM-60225CT SGLGM-60360CT SGLGM-60405CT SGLGM-60450CT	JZDP-D008-258	SGDH-02AE-OY	XD-02-MN01
	147 N	440 N	SGLGW-60A253CPD		JZDP-D008-259	SGDH-04AE-OY	XD-04-MN01
	220 N	660 N	SGLGW-60A365CPD		JZDP-D008-260	SGDH-08AE-S-OY	XD-08-MN
	325 N	1300 N	SGLGW-90A200CPD	SGLGM-90252A SGLGM-90504A	JZDP-D008-260	SGDH-15AE-S-OY	XD-15-MN

Note: - Linear coils with design revision C are equivalent to previous versions. The serial converter required for revision C coil has changed from previous version, select it according to the table above.

- Magnetic ways with design revision C and revision B can be combined.

With high-force magnetic ways - 230VAC single phase

Symbol	Specifications		Order code				
	Rated force	Peak force	① Linear coil	② Magnetic way	③ Serial converter	④ Servo drive	
						Sigma-II series	XtraDrive
ABCD 	57 N	230 N	SGLGW-40A140CPD	SGLGM-40090CT-M SGLGM-40225CT-M SGLGM-40360CT-M SGLGM-40405CT-M SGLGM-40450CT-M	JZDP-D008-255	SGDH-02AE-OY	XD-02-MN01
	114 N	460 N	SGLGW-40A253CPD		JZDP-D008-256	SGDH-04AE-OY	XD-04-MN01
	171 N	690 N	SGLGW-40A365CPD		JZDP-D008-257	SGDH-08AE-S-OY	XD-08-MN
	89 N	360 N	SGLGW-60A140CPD	SGLGM-60090CT-M SGLGM-60225CT-M SGLGM-60360CT-M SGLGM-60405CT-M SGLGM-60450CT-M	JZDP-D008-261	SGDH-02AE-OY	XD-02-MN01
	178 N	720 N	SGLGW-60A253CPD		JZDP-D008-262	SGDH-08AE-S-OY	XD-08-MN
	267 N	1080 N	SGLGW-60A365CPD		JZDP-D008-263	SGDH-15AE-S-OY	XD-15-MN

Note: - Linear coils with design revision C are equivalent to previous versions. The serial converter required for revision C coil has changed from previous version, select it according to the table above.

- Magnetic ways with design revision C and revision B can be combined.

SGLFW/SGLFM iron-core type

230 VAC single phase

Symbol	Specifications		Order code				
	Rated force	Peak force	① Linear coil	② Magnetic way	③ Serial converter	④ Servo drive	
						Sigma-II series	XtraDrive
①②③④ 	25 N	86 N	SGLFW-20A090APD	SGLFM-20324AC SGLFM-20540AC SGLFM-20756AC	JZDP-A008-017	SGDH-02AE-OY	XD-02-MN01
	40 N	125 N	SGLFW-20A120APD		JZDP-A008-018	SGDH-02AE-OY	XD-02-MN01
	80 N	220 N	SGLFW-35A120APD	SGLFM-35324AC SGLFM-35540AC SGLFM-35756AC	JZDP-A008-019	SGDH-02AE-OY	XD-02-MN01
	160 N	440 N	SGLFW-35A230APD		JZDP-A008-020	SGDH-08AE-S-OY	XD-08-MN01
	280 N	600 N	SGLFW-50A200BPD	SGLFM-50405AC SGLFM-50675AC SGLFM-50945AC	JZDP-A008-181	SGDH-08AE-S-OY	XD-08-MN
	560 N	1200 N	SGLFW-50A380BPD		JZDP-A008-182	SGDH-15AE-S-OY	XD-15-MN
	560 N	1200 N	SGLFW-1ZA200BPD	SGLFM-1Z405AC SGLFM-1Z675AC SGLFM-1Z945AC	JZDP-A008-183	SGDH-15AE-S-OY	XD-15-MN

Note: Serial converters with design revision A (JZDP-A008-xxx) will be replaced by revision D (JZDP-D008-xxx), both models are fully compatible.

400 VAC three phase

Symbol	Specifications		Order code				
	Rated force	Peak force	① Linear coil	② Magnetic way	③ Serial converter	④ Servo drive	
						Sigma-II series	XtraDrive
①②③④ 	80 N	220 N	SGLFW-35D120APD	SGLFM-35324AC SGLFM-35540AC SGLFM-35756AC	JZDP-A008-211	SGDH-05DE-OY	XD-05-TN
	160 N	440 N	SGLFW-35D230APD		JZDP-A008-212	SGDH-05DE-OY	XD-05-TN
	280 N	600 N	SGLFW-50D200BPD	SGLFM-50405AC SGLFM-50675AC SGLFM-50945AC	JZDP-A008-189	SGDH-10DE-OY	XD-10-TN
	560 N	1200 N	SGLFW-50D380BPD		JZDP-A008-190	SGDH-15DE-OY	XD-15-TN
	560 N	1200 N	SGLFW-1ZD200BPD	SGLFM-1Z405AC SGLFM-1Z675AC SGLFM-1Z945AC	JZDP-A008-191	SGDH-15DE-OY	XD-15-TN
	1120 N	2400 N	SGLFW-1ZD380BPD		JZDP-A008-192	SGDH-30DE-OY	XD-30-TN
	1500 N	3600 N	SGLFW-1ED380BP	SGLFM-1E135AC	JZDP-D008-333	SGDH-20DE-OY	XD-20-TN
	2250 N	5400 N	SGLFW-1ED560BP		JZDP-D008-334	SGDH-30DE-OY	XD-30-TN

Note: Serial converters with design revision A (JZDP-A008-xxx) will be replaced by revision D (JZDP-D008-xxx), both models are fully compatible.

SGLTW/SGLTM iron-core type

400 VAC three phase

Symbol	Specifications		Order code				
	Rated force	Peak force	① Linear coil	② Magnetic way	③ Serial converter	④ Servo drive	
						Sigma-II series	XtraDrive
①②③④ 	300 N	600 N	SGLTW-35D170HPD	SGLTM-35324HC	JZDP-A008-193	SGDH-10DE-0Y	XD-10-TN
	600 N	1200 N	SGLTW-35D320HPD	SGLTM-35540HC SGLTM-35756HC	JZDP-A008-194	SGDH-20DE-0Y	XD-20-TN
	450 N	900 N	SGLTW-50D170HPD	SGLTM-50324HC	JZDP-A008-195	SGDH-10DE-0Y	XD-10-TN
	900 N	1800 N	SGLTW-50D320HPD	SGLTM-50540HC SGLTM-50756HC	JZDP-A008-196	SGDH-20DE-0Y	XD-20-TN
	670 N	2600 N	SGLTW-40D400BP	SGLTM-40405AC	JZDP-A008-197	SGDH-30DE-0Y	XD-30-TN
	1000 N	4000 N	SGLTW-40D600BP	SGLTM-40675AC SGLTM-40945AC	JZDP-A008-198	SGDH-50DE-0Y	XD-50-TN
	1300 N	5000 N	SGLTW-80D400BP	SGLTM-80405AC	JZDP-A008-199	SGDH-50DE-0Y	XD-50-TN
	2000 N	7500 N	SGLTW-80D600BP	SGLTM-80675AC SGLTM-80945AC	JZDP-A008-200	SGDH-75DE-0Y	–

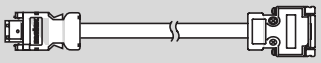
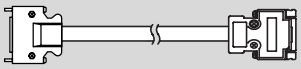
Note: Serial converters with design revision A (JZDP-A008-xxx) will be replaced by revision D (JZDP-D008-xxx), both models are fully compatible.

Servo drive

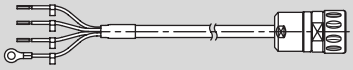
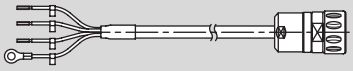
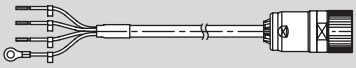
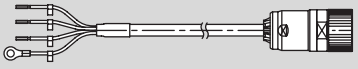
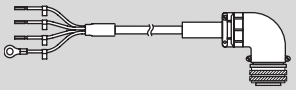
Note: Choosing Sigma-II drive or XtraDrive affects to the serial converter cable needed.

④ Refer to Sigma-II servo drive or XtraDrive chapter for detailed drive specifications and selection of drive accessories.

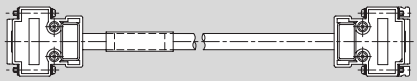
Serial converter cable to servo drive

Symbol	Appearance	Specifications		Order code
⑤		Sigma-II drive to serial converter cable	3 m	JZSP-CLP70-03-E
			5 m	JZSP-CLP70-05-E
			10 m	JZSP-CLP70-10-E
			15 m	JZSP-CLP70-15-E
			20 m	JZSP-CLP70-20-E
		XtraDrive drive to serial converter cable	3 m	XD-CLP70-03-E
			5 m	XD-CLP70-05-E
			10 m	XD-CLP70-10-E
			15 m	XD-CLP70-15-E
			20 m	XD-CLP70-20-E

Power cables

Symbol	Appearance	Specifications		Order code
⑥		For 200 V servo motors SGLGW-30A_____D SGLGW-40A_____D SGLGW-60A_____D SGLFW-20A___A_D SGLFW-35A___A_D	3 m	R88A-CAWA003S-DE
			5 m	R88A-CAWA005S-DE
			10 m	R88A-CAWA010S-DE
			15 m	R88A-CAWA015S-DE
			20 m	R88A-CAWA020S-DE
		For 200 V servo motors SGLGW-90A200__D SGLFW-50A___B_D SGLFW-1ZA200B_D	3 m	R88A-CAWB003S-DE
			5 m	R88A-CAWB005S-DE
			10 m	R88A-CAWB010S-DE
			15 m	R88A-CAWB015S-DE
			20 m	R88A-CAWB020S-DE
		For 400 V servo motors SGLFW-35D___A_D SGLFW-50D200_D SGLTW-35D170H_D SGLTW-50D170H_D	3 m	R88A-CAWK003S-DE
			5 m	R88A-CAWK005S-DE
			10 m	R88A-CAWK010S-DE
			15 m	R88A-CAWK015S-DE
			20 m	R88A-CAWK020S-DE
		For 400 V servo motors SGLFW-50D380_D SGLFW-1ZD___B_D SGLTW-35D320H_D SGLTW-50D320H_D	3 m	R88A-CAWL003S-DE
			5 m	R88A-CAWL005S-DE
			10 m	R88A-CAWL010S-DE
			15 m	R88A-CAWL015S-DE
			20 m	R88A-CAWL020S-DE
		For 400 V servo motors SGLFW-1ED___B_ SGLTW-40D___B_ SGLTW-80D___B_	3 m	R88A-CAWD003S-E
			5 m	R88A-CAWD005S-E
			10 m	R88A-CAWD010S-E
			15 m	R88A-CAWD015S-E
			20 m	R88A-CAWD020S-E

Linear scale cable to serial converter

Symbol	Appearance	Specifications		Order code
⑦		Extension cable for Renishaw linear scale to serial converter. (connector DB-15) (the extension cable is optional)	1 m	JZSP-CLL00-01-E
			3 m	JZSP-CLL00-03-E
			5 m	JZSP-CLL00-05-E
			10 m	JZSP-CLL00-10-E
			15 m	JZSP-CLL00-15-E
		Extension cable for Heidenhain linear scale to serial converter (connector DB-15) (when a Heidenhain scale is used the extension cable is required)	1 m	JZSP-CLL20-01-E
			3 m	JZSP-CLL20-03-E
			5 m	JZSP-CLL20-05-E
			10 m	JZSP-CLL20-10-E
			15 m	JZSP-CLL20-15-E

Hall sensor cable to serial converter

Symbol	Appearance	Specifications		Order code
⑧		Extension cable for linear scale to serial converter (the extension cable is optional)	1 m	JZSP-CLL10-01-E
			3 m	JZSP-CLL10-03-E
			5 m	JZSP-CLL10-05-E
			10 m	JZSP-CLL10-10-E
			15 m	JZSP-CLL10-15-E

Connectors

Specification	Order code
Hypertac power connector IP67 (for 200V motor coils SGL_W-__A_____D)	SPOC-06K-FSDN169
Hypertac power connector IP67 (for 400V motor coils SGL_W-__D_____D)	LPRA-06B-FRBN170
Military power connector IP67 (for motor coils SGLTW-40_/80_ and SGLFW-1ED_)	MS3108E22-22S

Dimensioning software

Specifications	Order code
SigmaSize	MOTION TOOLS CD

Servo motor specifications

Coreless SGLGW/SGLGM - (with standard-force magnetic ways)

Voltage		230 V								
Linear servo motor model SGLGW-		30A		40A			60A			90A
		050C	080C	140C	253C	365C	140C	253C	365C	200C
Rated force*	N	12.5	25	47	93	140	70	140	210	325
Rated current*	A(rms)	0,51	0,79	0.8	1.6	2.4	1,16	2,2	3,3	4.4
Instantaneous peak force*	N	40	80	140	280	420	220	440	660	1300
Instantaneous peak current*	A(rms)	1.62	2.53	2.4	4.9	7.3	3.5	7.0	10.5	17.6
Coil assembly mass	kg	0.10	0.15	0.34	0.60	0.87	0.42	0.76	1.10	2.15
Force constant	N/A(rms)	26.4	33.9	61.5	61.5	61.5	66.6	66.6	66.6	78
BEMF constant	V/(m/s)	8.8	11.3	20.5	20.5	20.5	22.2	22.2	22.2	26.0
Motor constant	$N/\sqrt{W}$	3.7	5.6	7.8	11.0	13.5	11.1	15.7	19.2	26.0
Electrical time constant	ms	0.2	0.4	0.4	0.4	0.4	0.5	0.5	0.5	1.4
Mechanical time constant	ms	7.30	4.78	5.59	4.96	4.77	3.41	3.08	2.98	3.18
Thermal resistance (with heat sink)	K/W	5,19	3,11	1,67	0,87	0,58	1,56	0,77	0,51	0,39
Thermal resistance (without heat sink)	K/W	–	–	3,02	1,80	1,23	2,59	1,48	1,15	–
Magnetic attraction	N	0	0	0	0	0	0	0	0	0
Heat sink size (HxWxD)	mm			200x300x12	300x400x12	400x500x12	200x300x12	300x400x12	400x500x12	800x900x12
Basic specifications	Time rating	Continuous								
	Insulation class	Class B								
	Ambient temperature	0 to +40°C								
	Ambient humidity	20 to 80% (non-condensing)								
	Insulation resistance	500 VDC, 10 MΩ min.								
	Excitation	Permanent magnet								
	Dielectric strength	1500 VAC for 1 minute								
	Protection methods	Self-cooled, air-cooling								
	Allowable winding temperature	130°C								

Note: - The items marked with an * and "force and speed characteristics" are the values at a motor winding temperature of 100 °C during operation in combination with a servo drive. The others are at 20 °C (68 °F).

- The above specifications show the values under the cooling condition when a heat sink (aluminium board) listed in the following table is mounted on the coil assembly.

Coreless SGLGW/SGLGM - (with high-force magnetic ways)

Voltage		230 V					
Linear servo motor model SGLGW-		40A			60A		
		140C	253C	365C	140C	253C	365C
Rated force*	N	57	114	171	85	170	255
Rated current*	A(rms)	0.8	1.6	2.4	1.2	2.2	3.3
Instantaneous peak force*	N	230	460	690	360	720	1080
Instantaneous peak current*	A(rms)	3.2	6.5	9.7	5.0	10.0	14.9
Coil assembly mass	kg	0.34	0.60	0.87	0.42	0.76	1.10
Force constant	N/A(rms)	76.0	76.0	76.0	77.4	77.4	77.4
BEMF constant	V/(m/s)	25.3	25.3	25.3	25.8	25.8	25.8
Motor constant	$N/\sqrt{W}$	9.6	13.6	16.7	12.9	18.2	22.3
Electrical time constant	ms	0.4	0.4	0.4	0.5	0.5	0.5
Mechanical time constant	ms	3.69	3.24	3.12	2.52	2.29	2.21
Thermal resistance (with heat sink)	K/W	1.67	0.87	0.58	1.56	0.77	0.51
Thermal resistance (without heat sink)	K/W	3.02	1.80	1.23	2.59	1.48	1.15
Magnetic attraction	N	0	0	0	0	0	0
Heat sink size (HxWxD)	mm	200x300x12	300x400x12	400x500x12	200x300x12	300x400x12	400x500x12
Basic specifications	Time rating	Continuous					
	Insulation class	Class B					
	Ambient temperature	0 to +40°C					
	Ambienthumidity	20 to 80% (non-condensing)					
	Insulation resistance	500 VDC, 10 MΩ min.					
	Excitation	Permanent magnet					
	Dielectric strength	1500 VAC for 1 minute					
	Protection methods	Self-cooled, air-cooling					
	Allowable winding temperature	130°C					

Note: - The item servo drive. The others are at 20 °C (68 °F).

- The above specifications show the values under the cooling condition when a heat sink (aluminium board) listed in the following table is mounted on the coil assembly.

Iron-core SGLFW/SGLFM (200V)

Voltage		230 V						
Linear servo motor model SGLFW-		20A		35A		50A		1ZA
		090A	120A	120A	230A	200B	380B	200B
Rated force*	N	25	40	80	160	280	560	560
Rated current*	A(rms)	0.7	0.8	1.4	2.8	5.0	10.0	8.7
Instantaneous peak force*	N	86	125	220	440	600	1200	1200
Instantaneous peak current*	A(rms)	3.0	2.9	4.4	8.8	12.4	25.0	21.6
Coil assembly mass	kg	0.7	0.9	1.3	2.3	3.5	6.9	6.4
Force constant	N/A(rms)	36.0	54.0	62.4	62.4	60.2	60.2	69.0
BEMF constant	V/(m/s)	12.0	18.0	20.8	20.8	20.1	20.1	23.0
Motor constant	$N/\sqrt{W}$	7.9	9.8	14.4	20.4	34.3	48.5	52.4
Electrical time constant	ms	3.2	3.3	3.6	3.6	15.9	15.8	18.3
Mechanical time constant	ms	11.0	9.3	6.2	5.5	3.0	2.9	2.3
Thermal resistance (with heat sink)	K/W	4.35	3.19	1.57	0.96	0.82	0.32	0.6
Thermal resistance (without heat sink)	K/W	7.69	5.02	4.10	1.94	1.48	0.74	0.92
Magnetic attraction	N	314	462	809	1586	1650	3260	3300
Heat sink size (HxWxD)	mm	125x125x13				254x254x25	400x500x40	254x254x25
Basic specifications	Time rating	Continuous						
	Insulation class	Class B						
	Ambient temperature	0 to +40°C						
	Ambient humidity	20 to 80% (non-condensing)						
	Insulation resistance	500 VDC, 10 MΩ min.						
	Excitation	Permanent magnet						
	Dielectric strength	1500 VAC for 1 minute						
	Protection methods	Self-cooled						
	Allowable winding temperature	130°C						

Note: - The items marked with an * and "Force and speed characteristics" are the values at a motor winding temperature of 100 °C during operation in combination with a servo drive. The others are at 20 °C (68 °F).

- The above specifications show the values under the cooling condition when a heat sink (aluminium board) listed in the following table is mounted on the coil assembly.

Iron-core SGLFW/SGLFM (400V)

Voltage		400 V							
Linear servo motor model SGLFW-		35D		50D		1ZD		1ED	
		120A	230A	200B	380B	200B	380B	380B	560B
Rated force*	N	80	160	280	560	560	1,120	1,500	2,250
Rated current*	A(rms)	0.7	1.4	2.3	4.5	4.9	9.8	6.4	9.6
Instantaneous peak force*	N	220	440	600	1,200	1,200	2,400	3,600	5,400
Instantaneous peak current*	A(rms)	2.3	4.6	5.6	11.0	12.3	24.6	18.1	27.2
Coil assembly mass	kg	1.3	2.3	3.5	6.9	6.4	11.5	22.0	33.0
Force constant	N/A(rms)	120.2	120.2	134.7	134.7	122.6	122.6	250	250
BEMF constant	V/(m/s)	40.1	40.1	44.9	44.9	40.9	40.9	83.2	83.2
Motor constant	N /$\sqrt{w}$	13.8	19.5	33.4	47.2	51.0	72.1	95.4	117
Electrical time constant	ms	3.5	3.5	15.0	15.0	17.4	17.2	19.7	19.6
Mechanical time constant	ms	5.5	5.5	3.2	3.2	2.5	2.2	1.8	1.8
Thermal resistance (with heat sink)	K/W	1.57	0.96	0.82	0.32	0.6	0.28	0.21	0.13
Thermal resistance (without heat sink)	K/W	4.1	1.94	1.48	0.74	0.92	0.55	0.50	0.35
Magnetic attraction	N	810	1,590	1,650	3,260	3,300	6,520	9,780	14,600
Heat sink size (HxWxD)	mm			254x254x25	400x500x40	254x254x25	400x500x40	609x762x50	762x1270x64
Basic specifications	Time rating	Continuous							
	Insulation class	Class B							
	Ambient temperature	0 to +40°C							
	Ambient humidity	20 to 80% (non-condensing)							
	Insulation resistance	500 VDC, 10 MΩ min.							
	Excitation	Permanent magnet							
	Dielectric strength	1500 VAC for 1 minute							
	Protection methods	Self-cooled							
	Allowable winding temperature	130°C							

Note: - The items marked with an * and "force and speed characteristics" are the values at a motor winding temperature of 100 °C during operation in combination with a servo drive. The others are at 20 °C (68 °F).

- The above specifications show the values under the cooling condition when a heat sink (aluminium board) listed in the following table is mounted on the coil assembly.

Iron-core SGLTW/SGLTM (400 V)

Voltage		400 V							
Linear servo motor model SGLTW-		35D		50D		40D		80D	
		170H	320H	170H	320H	400B	600B	400B	600B
Rated force*	N	300	600	450	900	670	1,000	1,300	2,000
Rated current*	A(rms)	3.2	6.5	3.2	6.3	3.7	5.5	7.2	11.1
Instantaneous peak force*	N	600	1,200	900	1,800	2,600	4,000	5,000	7,500
Instantaneous peak current*	A(rms)	7.5	15.1	7.3	14.6	20.7	30.6	37.6	56.4
Coil assembly mass	kg	4.7	8.8	6	11	15	23	25	36
Force constant	N/A(rms)	99.6	99.6	153.3	153.3	196.1	196.1	194.4	194.4
BEMF constant	V/(m/s)	33.2	33.2	51.1	51.1	65.4	65.4	64.8	64.8
Motor constant	N /$\sqrt{w}$	36.3	51.4	48.9	69.1	59.6	73	85.9	105.2
Electrical time constant	ms	14.3	14.3	15.6	15.6	14.4	14.4	15.4	15.4
Mechanical time constant	ms	3.5	3.5	2.5	2.5	4.2	4.2	3.2	3.2
Thermal resistance (with heat sink)	K/W	0.76	0.4	0.61	0.3	0.24	0.2	0.22	0.18
Thermal resistance (without heat sink)	K/W	1.26	0.83	0.97	0.8	0.57	0.4	0.47	0.33
Magnetic attraction*1	N	0	0	0	0	0	0	0	0
Magnetic attraction*2	N	1,400	2,780	2,000	3,980	3,950	5,890	7,650	11,400
Heat sink size (HxWxD)	mm			400x500x40					609x762x50
Basic specifications	Time rating	Continuous							
	Insulation class	Class B							
	Ambient temperature	0 to +40°C							
	Ambient humidity	20 to 80% (non-condensing)							
	Insulation resistance	500 VDC, 10 MW min.							
	Excitation	Permanent magnet							
	Dielectric strength	1500 VAC for 1 minute							
	Protection methods	Self-cooled							
	Allowable winding temperature	130°C							

*1. The unbalanced magnetic gap resulting from the coil assembly installation condition causes a magnetic attraction of the coil assembly.

*2. The value indicates the magnetic attraction generated on one side of the magnetic way.

Note: - The items marked with an * and "force and speed characteristics" are the values at a motor winding temperature of 100°C during operation in combination with a servo drive. The others are at 20°C (68°F).

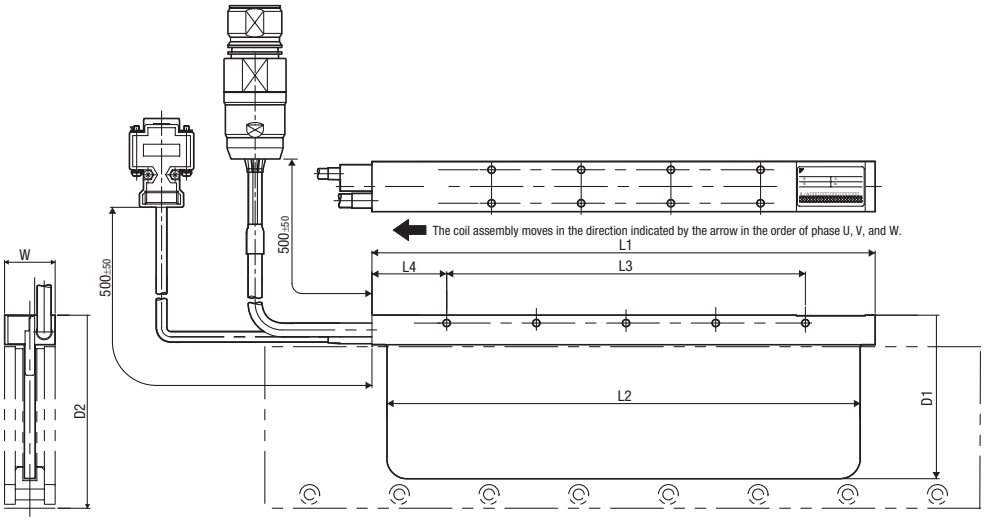
- The above specifications show the values under the cooling condition when a heat sink (aluminium board) listed in the following table is mounted on the coil assembly.

Dimensions

Coreless SGLG_-_

Coil assembly: SGLGW-_

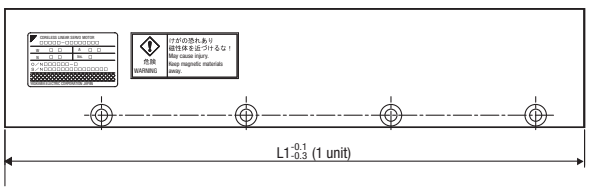
Coil assembly model SGLGW-	L1	L2	L3	L4	D1	D2	W	Approx. weight kg
30A050__D	50	48	30	15	48.5	57	22	0.14
30A080__D	80	72	50	15	48.5	57	22	0.19
40A140__D	140	125	90	30	63	78	25.4	0.40
40A253__D	252.5	237.5	180	37.5	63	78	25.4	0.66
40A365__D	365	350	315	30	63	78	25.4	0.93
60A140__D	140	125	90	30	83	98	25.4	0.48
60A253__D	252.5	237.5	180	37.5	83	98	25.4	0.82
60A365__D	365	350	315	30	83	98	25.4	1.16
90A200__D	199	189	130	40	121	138	49	2.2

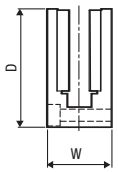


Units: mm

Magnetic way: SGLGM-_

Magnetic way model SGLGM-	L1	D	Standard-force magnetic way		High-force magnetic way	
			W	Approx. weight kg	W	Approx. weight kg
30108A	108	44	24	0.6	–	–
30216A	216	44	24	1.1	–	–
30432A	432	44	24	2.3	–	–
40090C_	90	62	25.4	0.8	31.8	1.0
40225C_	225	62	25.4	2.0	31.8	2.6
40360C_	360	62	25.4	3.1	31.8	4.1
40405C_	405	62	25.4	3.5	31.8	4.6
40450C_	450	62	25.4	3.9	31.8	5.1
60090C_	90	82	25.4	1.1	31.8	1.3
60225C_	225	82	25.4	2.6	31.8	3.3
60360C_	360	82	25.4	4.1	31.8	5.2
60405C_	405	82	25.4	4.6	31.8	5.9
60450C_	450	82	25.4	5.1	31.8	6.6
90252A	252	110	50.8	7.3	–	–
90504A	504	110	50.8	14.7	–	–



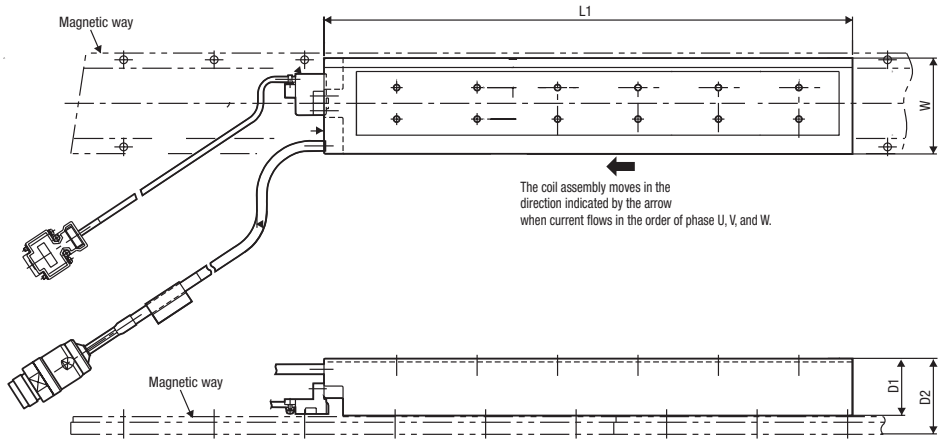


Units: mm

Iron-core SGLF_-_

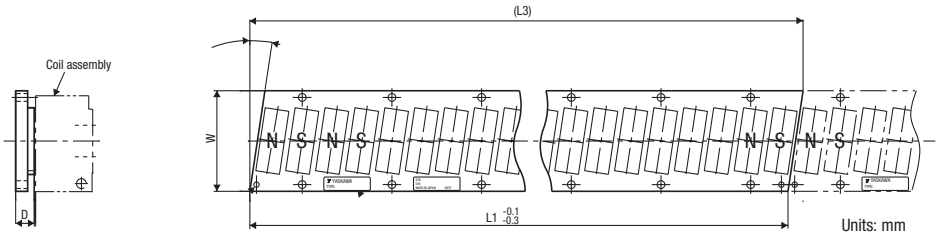
Coil assembly: SGLFW-_

Coil assembly model SGLFW-	L1	D1	D2	W	Approx. weight kg
20A090A_	91	34	45	40	0.7
20A120A_	127	34	45	40	0.9
35_120A_D	127	34	45	55	1.3
35_230A_D	235	34	45	55	2.3
50_200B_D	215	43	58	71.5	3.5
50_380B_D	395	43	58	71.5	6.9
1Z_200B_D	215	43	58	119	6.4
1ZD380B_D	395	43	58	119	11.5
1ED380B_	395	61	76	175	22
1ED560B_	605	61	76	175	33



Magnetic way: SGLFM-_

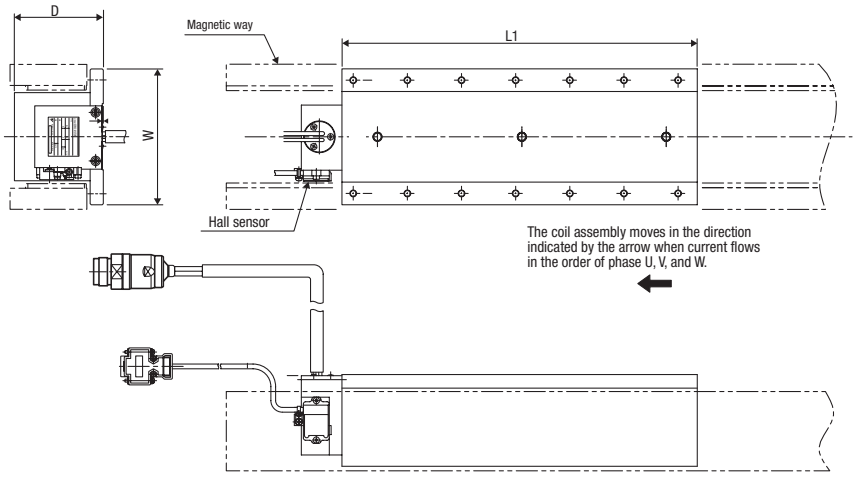
Magnetic way model SGLFM-	L1 $^{-0.1}_{-0.3}$	(L3)	D	W	Approx. weight kg
20324A	324	(331.6)	10	44	0.9
20540A	540	(547.6)	10	44	1.4
20756A	756	(763.6)	10	44	2
35324A	324	(334.4)	10	60	1.2
35540A	540	(550.4)	10	60	2
35756A	756	(766.4)	10	60	2.9
50405A	405	(416.3)	14	75	2.8
50675A	675	(686.3)	14	75	4.6
50945A	945	(956.3)	14	75	6.5
1Z405A	405	(423.9)	14	125	7.3
1Z675A	675	(693.9)	14	125	12
1Z945A	945	(963.9)	14	125	17
1E135A	135	(145.5)	14.2	200	2.4



Iron-core SGLT_-_

Coil assembly: SGLTW-_

Coil assembly model SGLTW-	L1	D	W	Approx. weight kg
35D320H_D	315	66	120	8.8
50D170H_D	170	81	120	6
50D320H_D	315	81	120	11
40D400B_	395	78	150	15
40D600B_	585	78	150	23
80D400B_	395	115	150	25
80D600B_	585	115	150	36

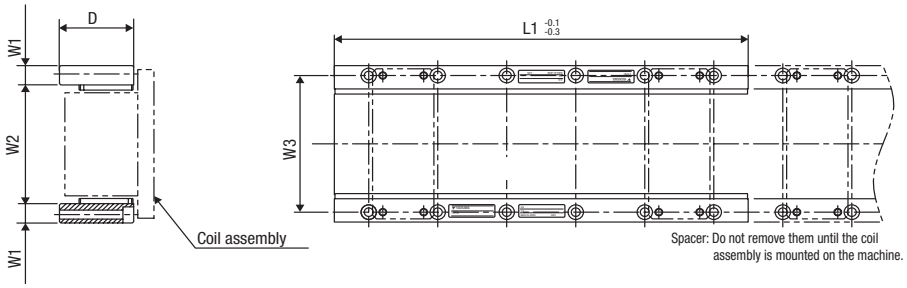


Units: mm

Magnetic way: SGLTM-_

Magnetic way model SGLTM-	L1 $^{-0.1}_{-0.3}$	D	W1	W2	W3	Approx. weight kg
35324H	324	55	15	90	107	4.8
35540H	540	55	15	90	107	8
35756H	756	55	15	90	107	11
50324H	324	70	19.1	90	112	8
50540H	540	70	19.1	90	112	13
50756H	756	70	19.1	90	112	18
40405A	405	63	19.1	111.8	131	9
40675A	675	63	19.1	111.8	131	15
40945A	945	63	19.1	111.8	131	21
80405A	405	100	19.1	111.8	131	14
80675A	675	100	19.1	111.8	131	24
80945A	945	100	19.1	111.8	131	34

Note: - Two magnetic ways for both ends of coil assembly make one set. Spacers are mounted on magnetic ways for safety during transportation. Do not remove the spacers until the coil assembly is mounted on a machine.
- The magnetic way may affect pacemakers. Keep a minimum distance of 200 mm from the magnetic way.
- Two magnetic ways in a set can be connected to each other.
- The dimensions marked with an * are the dimensions between the magnetic ways. Be sure to follow exactly the dimensions specified in the figure above. Mount magnetic ways as shown in assembly dimensions. The values with an * are the dimensions at pre-shipment.
- Use socket headed screws of strength class 10.9 minimum for magnetic way mounting screws. Do not use stainless steel screws



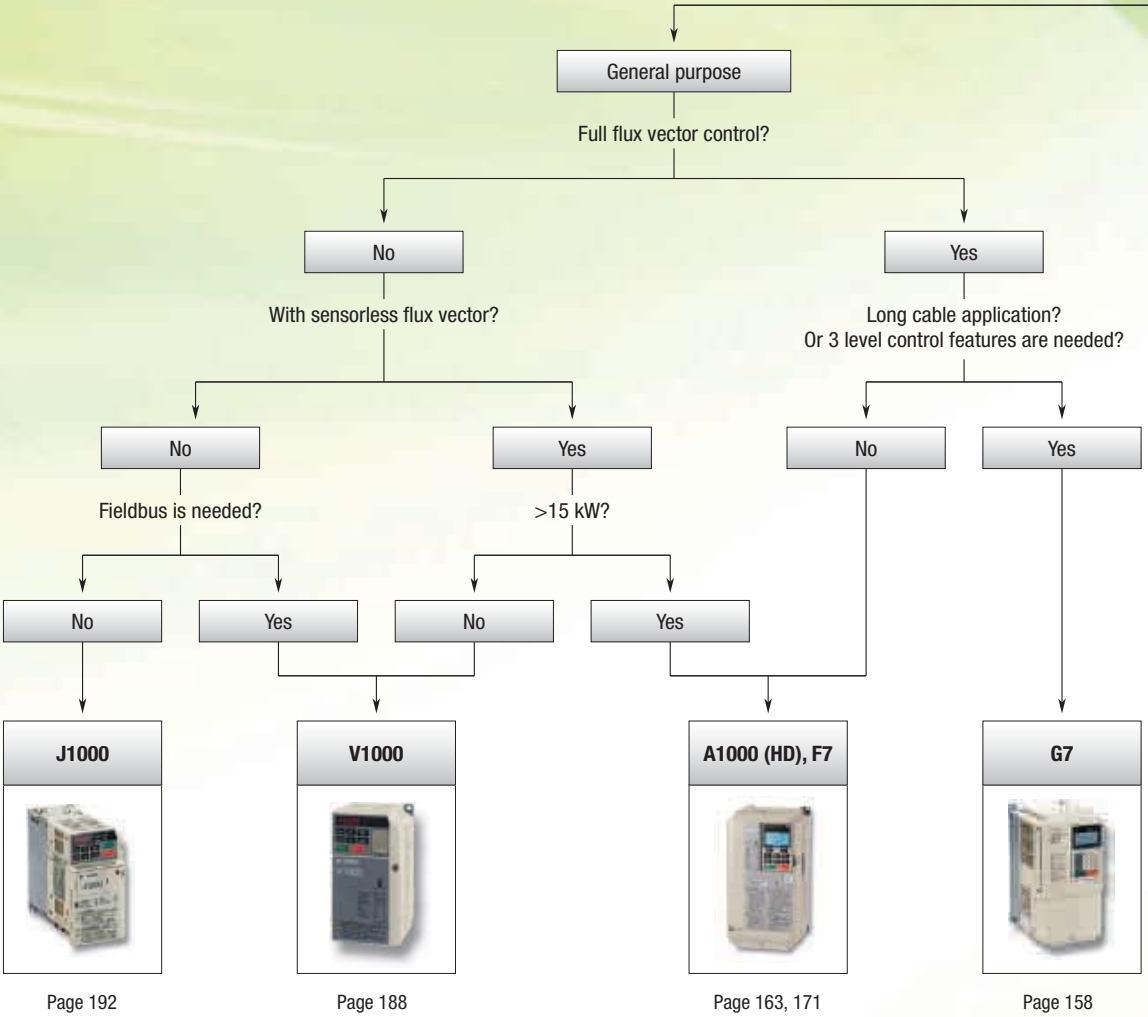
10 X 100 = 1

Quality has a new formula

Thanks to patented design of the V1000 series and modern manufacturing we can promise at least **10** years trouble-free operation. These new features guarantee a **100**% expectation match. And with a field failure rate of less than **1** in 10.000, the new V1000 series inverter will outperform all other inverters long after it has been implemented.

- 54% less mechanical elements – reduced size, improved reliability
- On-line tuning technology – optimal motor performance, no matter the circumstance variations
- Function Block Diagram – saves up to 70% programming time

How on-line tuning and built-in safety works in our inverters, check:
www.1000drives.com



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What is your application?

- Pumps & fans
  - **A1000 (ND), E7**

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- Lift application
  - **L1000A, L7**

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Selection table

Model	G7	A1000	F7	E7
				
Type	**World´s first three level inverter architecture**	**High performance motor control**	**The industrial workhorse**	**Drive your energy cost down**
400 V Three-phase **200 V Three-phase** **200 V Single-phase**	0.4 kW to 300 kW 0.4 kW to 110 kW –	0.4 kW to 315 kW 0.4 kW to 110 kW –	0.4 kW to 300 kW 0.4 kW to 110 kW –	0.4 kW to 300 kW 0.4 kW to 110 kW –
Application	High performance, long cable lines	High performance, current vector control	General and high-end applications	Pumps and fans (variable torque)
Control method	Open and close loop for vector and V/F control.	Open and closed loop for vector and V/F control. Open and closed loop control of PM motors.	Open and close loop for vector and V/F control.	V/F control
Torque features	150% at 0.0 Hz (CLV) 150% at 0.3 Hz (OLV)	200% at 0.0 Hz (CLV) 200% at 0.3 Hz (OLV)	150% at zero speed (CLV) 150% at 0.5 Hz (OLV)	120% at 0.5 Hz
Connectivity	Memobus DeviceNet PROFIBUS-DP CANopen LONWorks Ethernet	Modbus Profibus CANopen DeviceNet MECHATROLINK-II	Memobus DeviceNet PROFIBUS-DP CANopen LONWorks Ethernet MECHATROLINK-II	Memobus Metasys N2 L&S Apogee LONWorks DeviceNet PROFIBUS-DP CANopen Ethernet
Customisation options	- PLC option board - Inverter application software	–	- PLC option board - Inverter application software	- PLC option board - Inverter application software - IP54 enclosure
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Model	L1000A	L7	V1000	J1000
				
Type	**High performance Vector Control**	**Made to drive lifts**	**Quality has a new formula**	**The basic inverter**
400V Three-Phase **200V Three-Phase** **200V Single-Phase**	4.0 kW to 75 kW 4.0 kW to 55 kW –	4.0 kW to 55 kW 3.7 kW to 55 kW –	0.2 kW to 15 kW 0.1 kW to 15 kW 0.1 kW to 4.0 kW	0.2 kW to 4.0 kW 0.1 kW to 4.0 kW 0.1 kW to 1.5 kW
Application	Lift control with asynchronous or synchronous motors	Lift control with asynchronous or synchronous motors	High speed accuracy and high starting torque for compact general purpose	Simple speed control
Control method	Open and closed loop for vector and V/F control. Open and closed loop	Open and close loop for vector and V/F control.	Open loop for vector and open and close loop for V/F control.	V/F control
Torque features	200% at 0.0 Hz (CLV) 200% at 0.3 Hz (OLV)	150% at zero speed (CLV) 150% at 0.5 Hz (OLV)	150% at 0.6 Hz	150% at 3 Hz
Connectivity	CANopen	Memobus DeviceNet PROFIBUS-DP CANopen LONWorks Ethernet	Memobus DeviceNet PROFIBUS-DP CANopen CompoNet	Memobus
Customisation options	–	- PLC option board - Inverter application software	- Customised Application Software	–
Page	180	184	188	192

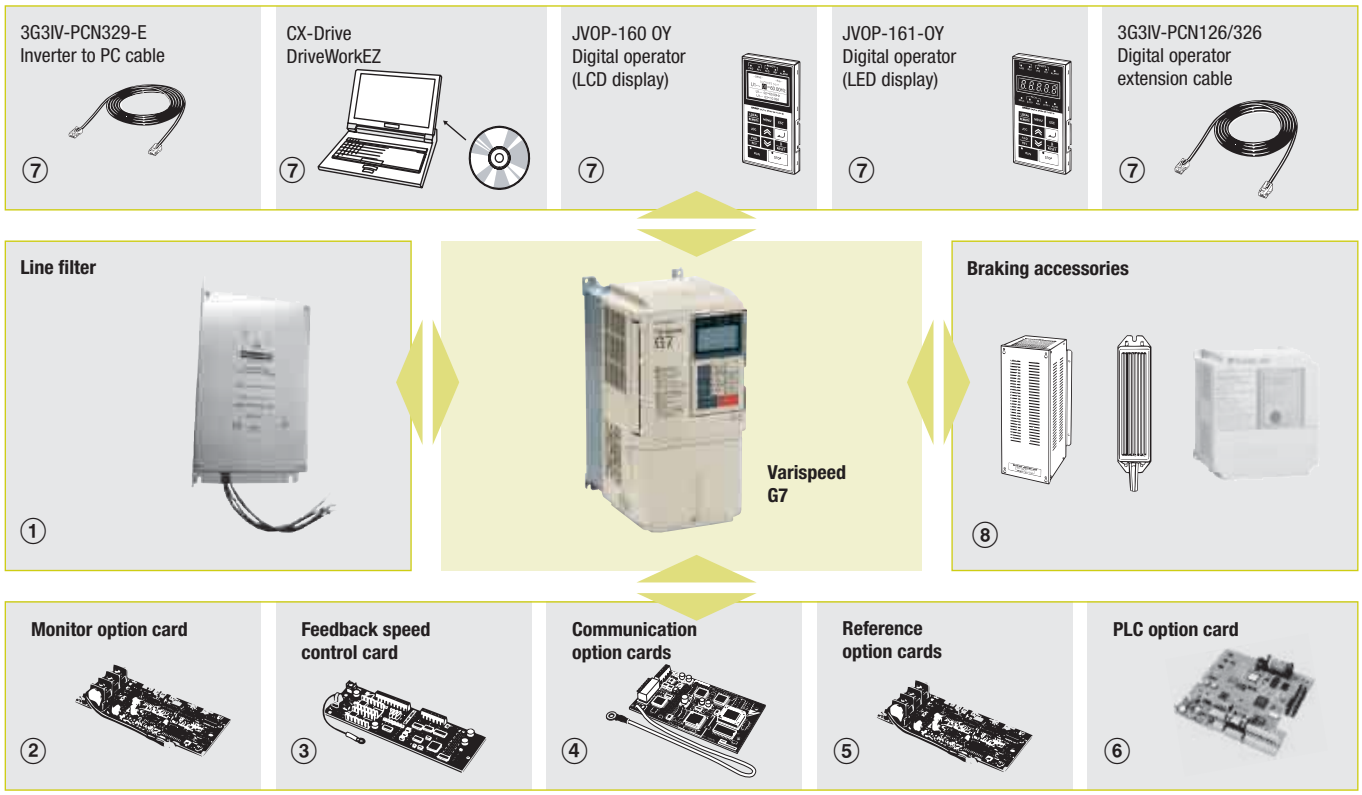
Model	G7/F7/L7/E7 inverter PLC		
			
Type	The Omron PLC embedded into the Omron-Yaskawa inverter family		
Supported inverter	Varispeed G7/F7/L7/E7		
I/O's	6 DI, 4DO in PLC board. 256 I/O's by Comopbus/S distributed network.		
Calendar/clock	Yes		
Encoder interface	Yes		
Connectivity	Peripheral port RS-232C RS-422/485 CompoBus/S master DeviceNet slave		
Software	CX-Programmer CX-One		
Page	196		

World first three level inverter architecture

The G7 has the world's first 400V 3-level inverter architecture that eliminates or minimises the installation problems associated with IGBT switching (very long cable lengths, bearing currents and common-mode currents) and protects the entire motor-drive system. The G7 can be programmed using DriveWorksEZ™. This is a PC-based, object-orientated, user-friendly, graphical icon programming tool.

- 3-level control reduces voltage peaks on motor windings by up to 50%. There is no need for an AC reactor on long motor cables.
- Flux-vector control. Excellent performance in open-loop mode with 150% torque at 0.3 Hz.
- Silent operation. No current de-rating in silent mode (high carrier frequency)
- Wide selection of option cards: fieldbus, PLC unit, MECHATROLINK, analogue and digital I/Os, etc.
- Programming software: CX-Drive for parameter configuration. DriveWorkEZ™ for object-orientated programming.

Ordering information



Varispeed G7

200 V

Specifications			Order code
IP20	0.4 kW	3.2 A	CIMR-G7C20P41
	0.75 kW	6.0 A	CIMR-G7C20P71
	1.5 kW	8.0 A	CIMR-G7C21P51
	2.2 kW	12 A	CIMR-G7C22P21
	3.7 kW	18 A	CIMR-G7C23P71
	5.5 kW	27 A	CIMR-G7C25P51
	7.5 kW	34 A	CIMR-G7C27P51
	11 kW	49 A	CIMR-G7C20111
	15 kW	66 A	CIMR-G7C20151
	18.5 kW	80 A	CIMR-G7C20181
IP00	22 kW	96 A	CIMR-G7C20220
	30 kW	130 A	CIMR-G7C20300
	37 kW	160 A	CIMR-G7C20370
	45 kW	183 A	CIMR-G7C20450
	55 kW	224 A	CIMR-G7C20550
	75 kW	300 A	CIMR-G7C20750
	90 kW	358 A	CIMR-G7C20900
	110 kW	415 A	CIMR-G7C21100

400 V

Specifications			Order code
IP20	0.4 kW	1.8 A	CIMR-G7C40P41
	0.75 kW	3.4 A	CIMR-G7C40P71
	1.5 kW	4.8 A	CIMR-G7C41P51
	2.2 kW	6.2 A	CIMR-G7C42P21
	3.7 kW	9 A	CIMR-G7C43P71
	5.5 kW	15 A	CIMR-G7C45P51
	7.5 kW	21 A	CIMR-G7C47P51
	11 kW	27 A	CIMR-G7C40111
	15 kW	34 A	CIMR-G7C40151
	18.5 kW	42 A	CIMR-G7C40181
IP00	22 kW	52 A	CIMR-G7C40220
	30 kW	65 A	CIMR-G7C40300
	37 kW	80 A	CIMR-G7C40370
	45 kW	97 A	CIMR-G7C40450
	55 kW	128 A	CIMR-G7C40550
	75 kW	165 A	CIMR-G7C40750
	90 kW	195 A	CIMR-G7C40900
	110 kW	240 A	CIMR-G7C41100
	132 kW	270 A	CIMR-G7C41320
	160 kW	235 A	CIMR-G7C41600
	185 kW	370 A	CIMR-G7C41850
	220 kW	450 A	CIMR-G7C42200
	300 kW	605 A	CIMR-G7C43000

① Line filters

200 V

Inverters	Line filters			
	EN55011 class	Current (A)	Weight (kg)	Order code
CIMR-G7C20P4	B, 25 m A, 100 m	10	1.2	3G3RV-PFI3010-SE
CIMR-G7C20P7				
CIMR-G7C21P5	B, 25 m A, 100 m	18	1.3	3G3RV-PFI3018-SE
CIMR-G7C22P2	B, 25 m A, 100 m	35	1.4	3G3RV-PFI2035-SE
CIMR-G7C23P7				
CIMR-G7C25P5	B, 25 m A, 100 m	60	3	3G3RV-PFI2060-SE
CIMR-G7C27P5				
CIMR-G7C2011	B, 25 m A, 100 m	100	4.9	3G3RV-PFI2100-SE
CIMR-G7C2015				
CIMR-G7C2018				
CIMR-G7C2022	A, 100 m	130	4.3	3G3RV-PFI2130-SE
CIMR-G7C2030	A, 100 m	160	6.0	3G3RV-PFI2160-SE
CIMR-G7C2037	A, 100 m	200	11.0	3G3RV-PFI2200-SE
CIMR-G7C2045				
CIMR-G7C2055	A, 100 m	400	8.6	3G3RV-PFI3410-SE
CIMR-G7C2075				
CIMR-G7C2090				
CIMR-G7C2110	A, 100 m	600	11.0	3G3RV-PFI3600-SE

400 V

Inverters	Line filters			
	EN 55011 class	Current (A)	Weight (kg)	Order code
CIMR-G7C40P4	B, 25 m A, 100 m	10	1.1	3G3RV-PFI3010-SE
CIMR-G7C40P7				
CIMR-G7C41P5				
CIMR-G7C42P2	B, 25 m A, 100 m	18	1.3	3G3RV-PFI3018-SE
CIMR-G7C43P7				
CIMR-G7C44P0				
CIMR-G7C45P5	B, 25 m A, 100 m	21	1.8	3G3RV-PFI3021-SE
CIMR-G7C47P5	B, 25 m	35	2.2	3G3RV-PFI3035-SE
CIMR-G7C4011	B, 25 m A, 100 m	60	4.0	3G3RV-PFI3060-SE
CIMR-G7C4015				
CIMR-G7C4018	B, 25 m A, 100 m	70	3.4	3G3RV-PFI3070-SE
CIMR-G7C4022				
CIMR-G7C4030	A, 100 m	100	4.5	3G3RV-PFI3100-SE
CIMR-G7C4037				
CIMR-G7C4045	A, 100 m	130	4.7	3G3RV-PFI3130-SE
CIMR-G7C4055	A, 100 m	170	6.0	3G3RV-PFI3170-SE
CIMR-G7C4075	A, 100 m	250	11	3G3RV-PFI3200-SE
CIMR-G7C4090	A, 100 m	400	8.6	3G3RV-PFI3410-SE
CIMR-G7C4110				
CIMR-G7C4132				
CIMR-G7C4160				
CIMR-G7C4185	A, 100 m	600	11,0	3G3RV-PFI3600-SE
CIMR-G7C4220	A, 100 m	800	31.0	3G3RV-PFI3800-SE
CIMR-G7C4300				

② Monitor option cards

Type	Description	Function	Order code
Monitor option card	Analogue monitor card	Outputs analogue signal for monitoring inverter output state (output freq., output current etc.) after absolute value conversion. Output resolution: 8 bits (1/256) Output voltage: 0 to 10 V (non isolated) Output channel: 2 channels	AO-08
		Outputs analogue signal for monitoring inverter output state (output freq., output current etc.) Output resolution: 11 bits (1/2048) + code Output voltage: 0 to 10 V (non isolated) Output channel: 2 channels	AO-12
	Digital output card	Outputs isolated type digital signal for monitoring inverter run state (alarm signal, zero speed detection etc.). Output channel: Photo coupler 6 channels (48 V, 50 mA or less) Relay contact output 2 channels (250 VAC, 1 A or less 30 VDC, 1 A or less)	DO-08
	2C-relay output card	Two multi-function contact outputs (2C-relay) can be used other than those of the inverter proper unit.	DO-02C

③ Feedback speed control cards

Type	Description	Function	Order code
Feedback speed control card	PG speed controller card (used for V/f control with PG or flux vector)	Phase A pulse (single pulse) inputs (voltage, complementary, open collector input) PG frequency range: Approx. 30 kHz max. [Power supply output for PG: +12 V, max. current 200 mA] Pulse monitor output: +12 V, 20 mA	PG-A2
		Phase A and B pulse inputs (exclusively for complementary input) PG frequency range: Approx. 30 kHz max. [Power supply output for PG: +12 V, Max. current 200 mA] Pulse monitor output: Open collector, +24 V, Max. current 30 mA	PG-B2
		Phase A pulse (differential pulse) input for V/f control (RS-422 input) PG frequency range: Approx. 300 kHz max. [Power supply output for PG: +5 V or +12 V, Max. current 200 mA] Pulse monitor output: RS-422	PG-D2
		Phase A, B and Z pulse (differential pulse) inputs (RS-422 input) PG frequency range: Approx. 300 kHz max. [Power supply output for PG: +5 V or +12 V, Max. current 200 mA] Pulse monitor output: RS-422	PG-X2

④ Communication option cards

Type	Description	Function	Order code
Communication option card	DeviceNet option card	Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through DeviceNet communication with the host controller.	SI-N1
	PROFIBUS-DP option card	Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through PROFIBUS-DP communication with the host controller.	SI-P1
	CANopen option card	Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through CANopen communication with the host controller.	SI-S1
	LONWORKS option card	Used for HVAC control, running or stopping the inverter, setting or referencing parameters, and monitoring output current, watt-hours, or similar items through LONWORKS communications with peripheral devices.	SI-J
	Ethernet option card	Modbus TCP/IP Ethernet interface unit	CM090
	MECHATROLINK-II option board	High speed motion bus. Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through MECHATROLINK-II communication with the host controller. Host controller : Trajexia, MCH or MP Series *1	SI-T

*1 Please refer to Trajexia, MCH or MP Series section for host controllers detailed information.

⑤ Reference option Cards

Type	Description	Function	Order code
Reference option card	Analogue input card	2 channel high resolution analogue input card Channel 1: 0 to 10 V (20 KΩ) Channel 2: 4 to 20 mA (250 Ω) Resolution 14 bit	AI-14U
		3 Channel high resolution analogue input card Signal level: -10 to +10V (20 KΩ) 4 to 20 mA (250 Ω) Resolution: 13 bit + sign	AI-14B
	Digital reference card	8 bit digital speed reference input card	DI-08
		16 bit digital speed reference input card	DI-16H2

⑥ PLC option boards

Type	Description	Function	Order code
PLC option	PLC option	Full PLC features, wireless installation and seamless access to the inverter parameters and analogue/digital inputs and outputs. Embedded CompuBus/S fieldbus Standard Omron tools can be used for programming	3G3RV-P10ST8-E
	PLC option with DeviceNet	Same features than standard models with DeviceNet support.	3G3RV-P10ST8-DRT-E

⑦ Accessories

Type	Description	Function	Order code
Digital operator	5 lines LCD digital operator 7 language support	Configuration and monitoring device.	JVOP-160-OY
	7 segment LED digital operator		JVOP-161-OY
Accessories	Digital operator extension cable 1 meter 3 meters	Cable to connect the inverter and the digital operator when it's not plugged into the inverter.	3G3IV-PCN126 3G3IV-PCN326
	PC configuration cable	Cable to connect inverter and PC	3G3IV-PCN329-E

⑦ Software

Description	Function	Order code
Computer software	Configuration and monitoring software tool for drives. (Version 1.1 or higher)	CX-DRIVE
Computer software	Complete automation software including CX-Drive	CX-ONE

For full specifications please refer to chapter software on page 582.

⑧ Braking unit, braking resistor unit

Note: For braking units specifications and models refer to the G7 datasheet Cat-No: I37E-EN-02

Specifications

200 V

Order code CIMR-G7C_			20P4	20P7	21P5	22P2	23P7	25P5	27P5	2011	2015	2018	2022	2030	2037	2045	2055	2075	2090	2110
Max. applicable motor output *1		kW	0.4	0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110
Output characteristics	Inverter	kVA	1.2	2.3	3.0	4.6	6.9	10	13	19	25	30	37	50	61	70	85	110	140	160
	Rated current	A	3.2	6	8	12	18	27	34	49	66	80	96	130	160	183	224	300	358	415
	Max. voltage		3-phase, 200/208/220/230/240 V (proportional to input voltage)																	
	Max. output frequency		400 Hz (programmable)																	
Power supply	Rated input voltage and frequency		3-phase 200/208/220/230/240 V, 50/60 Hz *2																	
	Allowable voltage fluctuation		+10%, -15%																	
	Allowable frequency fluctuation		±5%																	
Harmonic wave prevention	DC reactor		Option									Provided								
	12-Pulse input		Not available									Available *3								

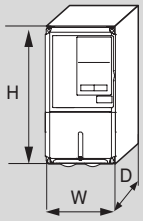
*1 Standard 4-pole motors are used for max. applicable motor output. Choose the inverter model whose rated current is allowable within the motor rated current range.
*2 When using the inverter of 200 V class 30 kW or more with a cooling fan of three-phase 230 V 50 Hz or 240 V 50/60 Hz power supply, a transformer for the cooling fan is required.
*3 A 3-wired transformer is required at 12-pulse input.

400 V

Order code CIMR-G7C_			40P4	40P7	41P5	42P2	43P7	45P5	47P5	4011	4015	4018	4022	4030	4037	4045	4055	4075	4090	4110	4132	4160	4185	4220	4300
Max. applicable motor output *1		kW	0.4	0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110	132	160	185	220	300
Output characteristics	Inverter	kVA	1.4	2.6	3.7	4.7	6.9	11	16	21	26	32	40	50	61	74	98	130	150	180	210	250	280	340	460
	Rated current	A	1.8	3.4	4.8	6.2	9	15	21	27	34	42	52	65	80	97	128	165	195	240	270	325	370	450	605
	Max. voltage		3-phase, 380/400/415/440/460/480 V (proportional to input voltage)																						
	Max. output frequency		400 Hz (programmable)																						
Power supply	Rated input voltage and frequency		3-phase 380/400/415/440/460/480 V, 50/60 Hz																						
	Allowable voltage fluctuation		+10%, -15%																						
	Allowable frequency fluctuation		±5%																						
Harmonic wave prevention	DC reactor		Option									Provided													
	12-Pulse input		Not available									Available *2													

*1 Standard 4-pole motors are used for max. applicable motor output. Choose the inverter model whose rated current is allowable within the motor rated current range.
*2 A 3-wired transformer is required at 12-pulse input.

Dimensions

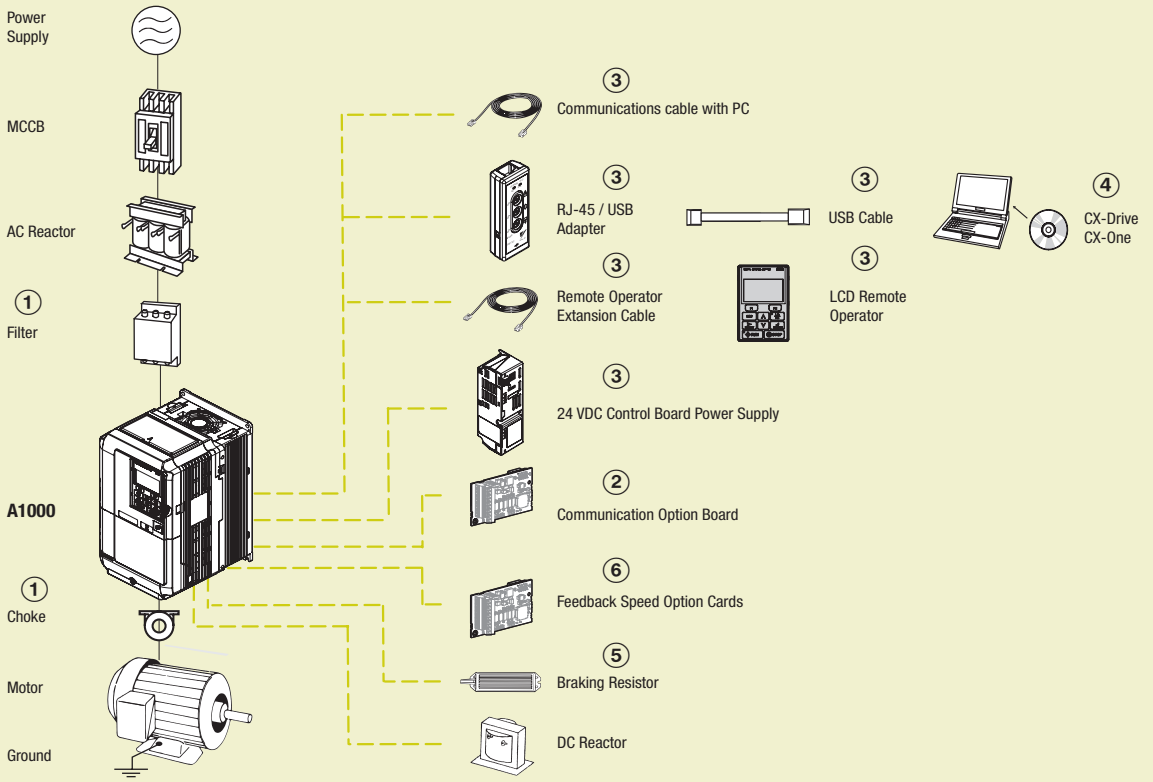
Specifications		Drive model	H	W	D	
3 phase 200 VAC	0.4 kW	CIMR-G7C20P41	280	140	157	
	0.75 kW	CIMR-G7C20P71				
	1.5 kW	CIMR-G7C21P51				
	2.2 kW	CIMR-G7C22P21			177	
	3.7 kW	CIMR-G7C23P71				
	5.5 kW	CIMR-G7C25P51	300	200	197	
	7.5 kW	CIMR-G7C27P51				
	11 kW	CIMR-G7C20111	350	240	207	
	15 kW	CIMR-G7C20151				
	18.5 kW	CIMR-G7C20181	400	250	258	
	22 kW	CIMR-G7C20220	450	275	258	
	30 kW	CIMR-G7C20300	600	375	298	
	37 kW	CIMR-G7C20370			328	
	45 kW	CIMR-G7C20450	725	450	348	
	55 kW	CIMR-G7C20550				
	75 kW	CIMR-G7C20750	850	500	358	
	90 kW	CIMR-G7C20900	885	575	378	
	110 kW	CIMR-G7C21100				
3 phase 400 VAC	0.4 kW	CIMR-G7C40P41	280	140	157	
	0.75 kW	CIMR-G7C40P71				
	1.5 kW	CIMR-G7C41P51			177	
	2.2 kW	CIMR-G7C42P21				
	3.7 kW	CIMR-G7C43P71				
	5.5 kW	CIMR-G7C45P51	300	200	197	
	7.5 kW	CIMR-G7C47P51				
	11 kW	CIMR-G7C40111	350	240	207	
	15 kW	CIMR-G7C40151				
	18.5 kW	CIMR-G7C40181	450	275	258	
	22 kW	CIMR-G7C40220				
	30 kW	CIMR-G7C40300	550	325	283	
	37 kW	CIMR-G7C40370				
	45 kW	CIMR-G7C40450				
	55 kW	CIMR-G7C40550	725	450	348	
	75 kW	CIMR-G7C40750				
	90 kW	CIMR-G7C40900	850	500	358	
	110 kW	CIMR-G7C41100				
	132 kW	CIMR-G7C41320	916	575	378	
	160 kW	CIMR-G7C41600				
	185 kW	CIMR-G7C41850	1305	710	415	
	220 kW	CIMR-G7C42200				
	300 kW	CIMR-G7C43000	1475	916		

High performance Vector Control

The A1000 provides remarkable advantatges through excellent motor drive performance, enviromental benefits and energy savings, as well as many user oriented operational features. Moreover, the A1000 offers advanced characteristics that are included as standard.

- Current vector control, with or without PG
- High starting torque (200% at 0.3 Hz spd range 1:200 OLV), (200% at 0 r/min, spd range 1:1500 CLV)
- Double rating ND 120%/1 min and HD 150%/1 min
- IM&PM motor control. Open Loop control of PM motors.
- Low-noise Low carrier technology
- 24 VDC control board power supply option
- Fieldbus communications: Modbus, PROFIBUS, CANopen, DeviceNet, ML-II
- Safety built-in: EN954-1 Cat3, IEC61508 SIL2 and EN61800-5-1 with EDM

Ordering information



A1000

Specifications					Order code
	Heavy Duty		Normal Duty		Standard
200 V	0.4 kW	3.2 A	0.75 kW	3.5 A	CIMR-AC2A0004FAA
	0.75 kW	5.0 A	1.1 kW	6.0 A	CIMR-AC2A0006FAA
	1.5 kW	8.0 A	2.2 kW	9.6 A	CIMR-AC2A0010FAA
	2.2 kW	11.0 A	3.0 kW	12.0 A	CIMR-AC2A0012FAA
	4.0 kW	17.5 A	5.5 kW	21.0 A	CIMR-AC2A0021FAA
	5.5 kW	25.0 A	7.5 kW	30.0 A	CIMR-AC2A0030FAA
	7.5 kW	33.0 A	11.0 kW	40.0 A	CIMR-AC2A0040FAA
	11 kW	47.0 A	15.0 kW	56.0 A	CIMR-AC2A0056FAA
	15 kW	60.0 A	18.5 kW	69.0 A	CIMR-AC2A0069FAA
	18.5 kW	75 A	22 kW	81 A	CIMR-AC2A0081FAA
	22 kW	85 A	30 kW	110 A	CIMR-AC2A0110AAA
	30 kW	115 A	37 kW	138 A	CIMR-AC2A0138AAA
	37 kW	145 A	45 kW	169 A	CIMR-AC2A0169AAA
	45 kW	180 A	55 kW	211 A	CIMR-AC2A0211AAA
	55 kW	215 A	75 kW	250 A	CIMR-AC2A0250AAA
	75 kW	283 A	90 kW	312 A	CIMR-AC2A0312AAA
	90 kW	346 A	110 kW	360 A	CIMR-AC2A0360AAA
	110 kW	415	110 kW	415 A	CIMR-AC2A0415AAA
400 V	0.4 kW	1.8 A	0.75 kW	2.1 A	CIMR-AC4A0002FAA
	0.75 kW	3.4 A	1.5 kW	4.1 A	CIMR-AC4A0004FAA
	1.5 kW	4.8 A	2.2 kW	5.4 A	CIMR-AC4A0005FAA
	2.2 kW	5.5 A	3.0 kW	6.9 A	CIMR-AC4A0007FAA
	3.0 kW	7.2 A	4.0 kW	8.8 A	CIMR-AC4A0009FAA
	4.0 kW	9.2 A	5.5 kW	11.1 A	CIMR-AC4A0011FAA
	5.5 kW	14.8 A	7.5 kW	17.5 A	CIMR-AC4A0018FAA
	7.5 kW	18.0 A	11.0 kW	23.0 A	CIMR-AC4A0023FAA
	11 kW	24.0 A	15.0 kW	31.0 A	CIMR-AC4A0031FAA
	15 kW	31.0 A	18.5 kW	38.0 A	CIMR-AC4A0038FAA
	18.5 kW	39 A	22 kW	44 A	CIMR-AC4A0044FAA
	22 kW	45 A	30 kW	58 A	CIMR-AC4A0058AAA
	30 kW	60 A	37 kW	72 A	CIMR-AC4A0072AAA
	37 kW	75 A	45 kW	88 A	CIMR-AC4A0088AAA
	45 kW	91 A	55 kW	103 A	CIMR-AC4A0103AAA
	55 kW	112 A	75 kW	139 A	CIMR-AC4A0139AAA
	75 kW	150 A	90 kW	165 A	CIMR-AC4A0165AAA
	90 kW	180 A	110 kW	208 A	CIMR-AC4A0208AAA
	110 kW	216 A	132 kW	250 A	CIMR-AC4A0250AAA
	132 kW	260 A	160 kW	296 A	CIMR-AC4A0296AAA
	160 kW	304 A	185 kW	362 A	CIMR-AC4A0362AAA
	185 kW	370 A	220 kW	414 A	CIMR-AC4A0414AAA
	220 kW	450 A	250 kW	515 A	CIMR-AC4A0515AAA
	315 kW	605 A	355 kW	675 A	CIMR-AC4A0675AAA

① Line filters

Inverter		Line filter			
Voltage	**Model CIMR-AC_ (Normal duty)**	**Rated current (A)**	**Weight (kg)**	**Order code**	
3-Phase 200 VAC	2A0004 / 2A0006 / 2A0010 / 2A0012 / 2A0021	24	2.0	A1000-FIA3024-RE	Rasmi (footprint)
	2A0030 / 2A0040	52	2.4	A1000-FIA2052-RE	Rasmi (footprint)
	2A0056	68	4.2	A1000-FIA2068-RE	Rasmi (footprint)
	2A0069 / 2A0081	96	4.4	A1000-FIA2096-RE	Rasmi (footprint)
	2A0110 / 2A0138 / 2A0169	170	9.0	A1000-FIA3170-RE	Rasmi
	2A0211 / 2A0250	300	13.2	A1000-FIA3300-RE	Rasmi
	2A0312 / 2A0360 / 2A0415	480	13.6	A1000-FIA3480-RE	Rasmi
3-Phase 400 VAC	4A0002 / 4A0004 / 4A0005 / 4A0007 / 4A0009 / 4A0011 / 4A0018 / 4A0023	24	2.0	A1000-FIA3024-RE	Rasmi (footprint)
	4A0031 / 4A0038	44	2.8	A1000-FIA3044-RE	Rasmi (footprint)
	4A0044	52	–	A1000-FIA3052-RE	Rasmi (footprint)
	4A0058 / 4A0072	71	5.3	A1000-FIA3071-RE	Rasmi
	4A0088 / 4A0103	105	6.5	A1000-FIA3105-RE	Rasmi
	4A0139 / 4A0165	170	9.0	A1000-FIA3170-RE	Rasmi
	4A0208 / 4A0250 / 4A0296	300	13.2	A1000-FIA3300-RE	Rasmi
	4A0362 / 4A0414 / 4A0515	480	13.6	A1000-FIA3480-RE	Rasmi
	4A0675	660	23.7	A1000-FIA3660-RE	Rasmi

Inverter		Line filter			
Voltage	**Model CIMR-AC_ (Normal duty)**	**Rated current (A)**	**Weight (kg)**	**Order code**	
3-Phase 200 VAC	2A0004 / 2A0006 / 2A0008	10	1.2	3G3RV-PFI3010-SE	Schaffner
	2A0010 / 2A0012 / 2A0018 / 2A0021	18	1.3	3G3RV-PFI3018-SE	Schaffner
	2A0030 / 2A0040 / 2A0056	35	1.4	3G3RV-PFI2035-SE	Schaffner
	2A0069 / 2A0081	60	3	3G3RV-PFI2060-SE	Schaffner
	2A00110 / 2A0138	100	4.9	3G3RV-PFI2100-SE	Schaffner
	2A0169 / 2A0211	170	6.0	3G3RV-PFI3170-SE	Schaffner
3-Phase 400 VAC	4A0002 / 4A0004 / 4A0005 / 4A0007	10	1.2	3G3RV-PFI3010-SE	Schaffner
	4A0009 / 4A0011	18	1.3	3G3RV-PFI3018-SE	Schaffner
	4A0018 / 4A0023 / 4A0031	35	2.2	3G3RV-PFI3035-SE	Schaffner
	4A0038 / 4A0044 / 4A0058	60	4.0	3G3RV-PFI3060-SE	Schaffner
	4A0072 / 4A0088	100	4.5	3G3RV-PFI3100-SE	Schaffner
	4A0103 / 4A0139 / 4A0165	170	6.0	3G3RV-PFI3170-SE	Schaffner
	4A0208 / 4A0250	250	11	3G3RV-PFI3200-SE	Schaffner
	4A0296 / 4A0362	400	8.5	3G3RV-PFI3400-SE	Schaffner
	4A0414 / 4A0515	600	11.0	3G3RV-PFI3600-SE	Schaffner
	4A0675	800	31.0	3G3RV-PFI3800-SE	Schaffner

Chokes

Diameter	Description	Order code
21	Recommended for motors below 2.2 KW	A1000-FEV2102-RE
25	Recommended for motors below 15 KW	A1000-FEV2515-RE
50	Recommended for motors below 45 KW	A1000-FEV5045-RE
60	Recommended for motors above 45 KW	A1000-FEV6045-RE

② Communication cards

Type	Description	Function	Order code
Communication option board	DeviceNet option card	Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through DeviceNet communication with the host controller.	SI-N3
	PROFIBUS-DP option card	Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through PROFIBUS-DP communication with the host controller.	SI-P3
	Can open option card	Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through CANopen communication with the host controller.	SI-S3
	Mechatrolink II option card	Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through Mechatrolink II communication with the host controller.	SI-T3

③ Accessories

Types	Description	Functions	Order code
Digital operator	LCD remote operator	LCD Display operator with language support	JVOP-180
	Remote operator cable	3 meters cable for connecting remote operator	3G3AX-CAJOP300-EE
Accessories	USB converter / USB cable	USB converter unit with copy and backup function	JVOP-181
	24 VDC option board	24 VDC control board power supply VZA-B/2/4 from 0.1 to 4 KW	PS-V10S
		24 VDC control board power supply VZA-2/4 from 5.5 to 15 KW	PS-V10M
	PC connection cable	RS232 PC tool connection cable	A1000-CAVPC232-EE

④ Computer software

Types	Description	Installation	Order code
Software	Computer software	Configuration and monitoring software tool	CX-drive
	Computer software	Configuration and monitoring software tool	CX-One

⑤ Braking unit, braking resistor unit

Inverter			Braking unit		Braking Resistor*1											
					Type											
Max. Applicable Motor kW		Model CIMR-A_2A_	Order code CDBR_	No. of used	Order code A1000-RE_	Specifications of Resistor		Qty	Braking torque % (3% ED)	Order code LKEB-	Specifications of Resistor		Qty	Braking torque % (10% ED)	Min Resist Value Ω
200 V Class	0.4	0004 HD	Built-in		J0K15200-IE	190W	200 Ω	1	220	-	-		-	-	48
	0.75	0004 ND							125	-	-		-	-	48
		0006 HD								-	-		-	-	
	1.1	0006 ND							85	-	-		-	-	48
		0008 HD			J0K15100-IE	190 W	100 Ω	1	150	21P5	260W	100 Ω	1	150	
	1.5	0008 ND							125	21P5	260W	100 Ω	1	125	48
		0010 HD											1		
	2.2	0010 ND			J0K15070-IE	190 W	70 Ω	1	120	22P2	260W	70 Ω	1	120	48
		0012 HD											1		16
	3	0012 ND			J0K15062-IE	190 W	62 Ω	1	100	23P7	390W	40 Ω	1	150	16
		0018 HD											1		
	3.7	0018 ND							80	23P7	390W	40 Ω	1	125	16
		0021 HD											1		
	5.5	0021 ND						2	110	25P5	520W	30 Ω	1	115	16
		0030 HD			-	-	-	-	-				1		
	7.5	0030 ND			-					27P5	780W	20 Ω	1	125	16
		0040 HD			-								1		9.6
	11	0040 ND			-					2011	2400W	13.6 Ω	1	125	9.6
		0056 HD			-								1		
	15	0056 ND			-					2015	3000W	10 Ω	1	125	9.6
		0069 HD			-								1		
	18.5	0069 ND			-					2015	3000W	10 Ω	1	100	9.6
		0081 HD			-								1		
	22	0081 ND			-					2015	3000W	10 Ω	1	85	9.6
		0110 HD			-					2022	4800W	6.8 Ω	1	125	6.4
	30	0110 ND			-					2022	4800W	6.8 Ω	1	90	6.4
		0138 HD			-								1		
	37	0138 ND			-					2022	4800W	6.8 Ω	1	70	6.4
		0169 HD	2015B	2	-					2015	3000W	10 Ω	2	100	9.6
	45	0169 ND	2022B	2	-					2015	3000W	10 Ω	2	80	6.4
		0211 HD			-					2022	4800W	6.8 Ω	2	120	
	55	0211 ND	2022B	2	-					2022	4800W	6.8 Ω	2	100	6.4
		0250 HD			-										6.4
200 V Class	75	0250 ND	2110B	1	-	-	-	-	-	2022	4800W	6.8 Ω	3	110	1.6
		0312 HD			-										
	90	0312 ND	2110B	1	-					2022	4800W	6.8 Ω	4	120	1.6
		0360 HD			-										
	110	0360 ND	2110B	1	-					2018	4800W	8 Ω	5	100	1.6
		0415 HD			-										

Inverter			Braking unit		Braking Resistor*1										
					Type										
Max. Applicable Motor kW		Model CIMR-A_2A_	Order code CDBR_	No. of used	Order code A1000-RE_	Specifications of Resistor		Qty	Braking torque % (3% ED)	Order code LKEB-	Specifications of Resistor		Qty	Braking torque % (10% ED)	Min Resist Value Ω
400 V Class	0.4	0002 HD	Built in		J0K10750-IE	60 W	750 Ω	1	230	-	-	-	-	-	96
	0.75	0002 ND			J0K10750-IE	60 W	750 Ω	1	130	-	-	-	-	-	96
		0004 HD								-	-	-	-	-	
	1.5	0004 ND			J0k15400-IE	190 W	400 Ω	1	125	41P5	260W	400 Ω	1	125	96
		0005 HD													64
	2.2	0005 ND			J0k15300-IE	190 W	300 Ω	1	115	42P2	260W	250 Ω	1	135	64
		0007 HD													
	3	0007 ND			J0k15200-IE	190 W	200 Ω	1	125	42P2	260W	250 Ω	1	100	64
		0009 HD								43P7	390W	150 Ω	1	150	32
	3.7	0009 ND			J0k15200-IE	190 W	200 Ω	1	105	43P7	390W	150 Ω	1	135	32
		0011 HD													
	5.5	0011 ND			J0k15200-IE	190 W	100 Ω	2	135	45P5	520W	100 Ω	1	135	32
		0018 HD			-	-	-	-	-						
	7.5	0018 ND			-					47P5	780W	75 Ω	1	130	32
		0023 HD			-										
	11	0023 ND			-					4011	1040W	50 Ω	1	135	32
		0031 HD			-										20
	15	0031 ND			-					4015	1560W	40 Ω	1	125	20
		0038 HD			-										
	18.5	0038 ND			-					4018	4800W	32 Ω	1	125	20
		0044 HD			-										19.2
	22	0044 ND			-					4022	4800W	27.2 Ω	1	125	19.2
		0058 HD			-										
	30	0058 ND			-					4030	6000W	20 Ω	1	125	19.2
		0072 HD			-										
	37	0072 ND			-					4030	6000W	20 Ω	1	100	19.8
		0088 HD	4045B	1	-					4037	9600W	16 Ω	1	125	12.8
	45	0088 ND	4045B	1	-					4045	9600W	13.6 Ω	1	125	12.8
		0103 HD			-										
	55	0103 ND	4045B	2	-					4045	9600W	13.6 Ω	1	100	12.8
		0139 HD	4030B	2	-					4030	6000W	20 Ω	2	135	19.2
	75	0139 ND	4030B	2	-					4030	6000W	20 Ω	2	100	19.2
		0165 HD	4045B	2	-					4045	9600W	13.6 Ω	2	145	12.8
	90	0165 ND	4045B	2	-					4045	9600W	13.6 Ω	2	120	12.8
		0208 HD			-										
	110	0208 ND	4220B	1	-					4030	6000W	20 Ω	3	100	3.2
		0250 HD			-										
	132	0250 ND	4220B	1	-	-	-	-	-	4045	9600W	13.6 Ω	4	140	3.2
		0296 HD			-										
	160	0296 ND	4220B	1	-					4045	9600W	13.6 Ω	4	120	3.2
		0362 HD			-										
	185	0362 ND	4220B	1	-					4045	9600W	13.6 Ω	4	100	3.2
		0414 HD			-										
	220	0414 ND	4220B	1	-					4037	9600W	16 Ω	5	110	3.2
		0515 HD			-										
	250	0515 ND	4220B	1	-									95	3.2
	315	0675 HD	4220B	2	-					4045	9600W	13.6 Ω	6	105	3.2
	355	0675 ND	4220B	2	-									90	

*1 When connecting a mounting type resistor or braking resistor unit, set system constant L3-04 to 0 (Stall prevention disabled during deceleration). Motor will not stop at set deceleration time if this constant is not changed. Additionally the Internal braking transistor protection (L8-55) should be set to "0" when a external braking unit (CDBR-) is used.

⑥ Feedback speed option card

Type	Description	Function	Order code
PG option card	Complementary PG	• For speed feedback input by connecting a motor encoder Input: 3 track (one or two tracks), for HTL encoder connection, 50 KHz max Output: 3 track open collector Encoder power supply: 12 V, 200 mA max	PG-B3
	Line Driver PG	• For speed feedback input by connecting a motor encoder Input: 3 track, line driver, 300 kHz max Output: 3 track, line driver Encoder power supply: 5 V or 12 V, 200 mA max	PG-X3

Specifications

200 V class

Three-phase: CIMR-A_2A		0004	0006	0010	0012	0021	0030	0040	0056	0069	0081	0110	0138	0169	0211	0250	0312	0360	0415
Motor kW*1	For HD setting	0.40	0.75	1.5	2.2	4.0	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110
	For ND setting	0.75	1.1	2.2	3.0	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110	110
Output characteristics	Inverter capacity kVA at HD*2	1.2	1.9	3	4.2	6.7	9.5	12.6	17.9	23	29	32	44	55	69	82	108	132	158
	Inverter capacity kVA at ND*2	1.3	2.3	3.7	4.6	8	11.4	15.2	21	26	31	42	53	64	80	95	119	137	158
	Rated output current (A) at HD	3.2*3	5*3	8*3	11*3	17.5*3	25*3	33*3	47*3	60*3	75*3	85*3	115*3	145*4	180*4	215*4	283*4	346*4	415*5
	Rated output current (A) at ND*5	3.5	6	9.6	12	21	30	40	56	69	81	110	138	169	211	250	312	360	415
	Max. output voltage	Proportional to input voltage: 0..240 V																	
	Max. output frequency	400 Hz																	
Power supply	Rated input voltage and frequency	3-phase 200..240 V 50/60 Hz																	
	Allowable voltage fluctuation	-15%..+10%																	
	Allowable frequency fluctuation	+5%																	
	Input Current (A) at HD*6	2.9	5.8	7.5	11	18.9	28	37	52	68	80	82	111	136	164	200	271	324	394
	Input Current (A) at ND*6	3.9	7.3	10.8	13.9	24	37	52	68	80	96	111	136	164	200	271	324	394	471

*1 Based on a standard 4-pole motor for maximum applicable motor output.
*2 Rated Motor Capacity is calculated with a rated output voltage of 220 V.
*3 Carrier frequency can be increased up to 8 kHz while keeping this current rating. Higher carrier frequency settings require derating.
*4 Carrier frequency can be increased up to 5 kHz while keeping this current rating. Higher carrier frequency settings require derating.
*5 Carrier frequency is set to 2 kHz. Current derating is required in order to raise the carrier frequency.
*6 Assumes operation at rated output current. Input current rating varies depending on the power supply transformer, input reactor, Wiring conditions, and power supply impedance.

400 V class

Three-phase: CIMR-A_4A		0002	0004	0005	0007	0009	0011	0018	0023	0031	0038	0044	0058
Motor kW*1	For HD setting	0.4	0.75	1.5	2.2	3.0	4.0	5.5	7.5	11	15	18.5	22
	For ND setting	0.75	1.5	2.2	3.0	4.0	5.5	7.5	11	15	18.5	22	30
Output characteristics	Inverter capacity kVA at HD*2	1.4	2.6	3.7	4.2	5.5	7	11.3	13.7	18.3	24	30	34
	Inverter capacity kVA at ND*2	1.6	3.1	4.1	5.3	6.7	8.5	13.3	17.5	24	29	34	44
	Rated output current (A) at HD	1.8*3	3.4*3	4.8*3	5.5*3	7.2*3	9.2*3	14.8*3	18*3	24*3	31*3	39*3	45*3
	Rated output current (A) at ND*5	2.1	4.1	5.4	6.9	8.8	11.1	17.5	23	31	38	44	58
	Max. output voltage	380..480V (proportional to input voltage)											
	Max. output frequency	400 Hz											
Power supply	Rated input voltage and frequency	3-phase 380..480 VAC, 50/60 Hz											
	Allowable voltage fluctuation	-15%..+10%											
	Allowable frequency fluctuation	+5%											
	Input Current (A) at HD*6	1.8	3.2	4.4	6	8.2	10.4	15	20	29	39	44	49
	Input Current (A) at ND*6	2.1	4.3	5.9	8.1	9.4	14	20	24	38	44	52	58

Three-phase: CIMR-A_4A		0072	0088	0103	0139	0165	0208	0250	0296	0362	0414	0515	0675
Motor kW*1	For HD setting	30	37	45	55	75	90	110	132	160	185	220	315
	For ND setting	37	45	55	75	90	110	132	160	185	220	250	355
Output characteristics	Inverter capacity kVA at HD*2	48	57	69	85	114	137	165	198	232	282	343	461
	Inverter capacity kVA at ND*2	55	67	78	106	126	159	191	226	276	316	392	514
	Rated output current (A) at HD	60*3	75*3	91*3	112*4	150*4	180*4	216*4	260*4	304*5	370	450	605
	Rated output current (A) at ND*5	72	88	103	139	165	208	250	296	362	414	515	675
	Max. output voltage	380..480V (proportional to input voltage)											
	Max. output frequency	400 Hz											
Power supply	Rated input voltage and frequency	3-phase 380..480 VAC, 50/60 Hz											
	Allowable voltage fluctuation	-15%..+10%											
	Allowable frequency fluctuation	+5%											
	Input Current (A) at HD*6	58	71	86	105	142	170	207	248	300	346	410	584
	Input Current (A) at ND*6	71	86	105	142	170	207	248	300	346	410	465	657

*1 Based on a standard 4-pole motor for maximum applicable motor output.
*2 Rated Motor Capacity is calculated with a rated output voltage of 440 V.
*3 Carrier frequency can be increased up to 8 kHz while keeping this current rating. Higher carrier frequency settings require derating.
*4 Carrier frequency can be increased up to 5 kHz while keeping this current rating. Higher carrier frequency settings require derating.
*5 Carrier frequency is set to 2 kHz. Current derating is required in order to raise the carrier frequency.
*6 Assumes operation at rated output current. Input current rating varies depending on the power supply transformer, input reactor, wiring conditions, and power supply impedance.

Dimensions

Open-Chassis [IP00]

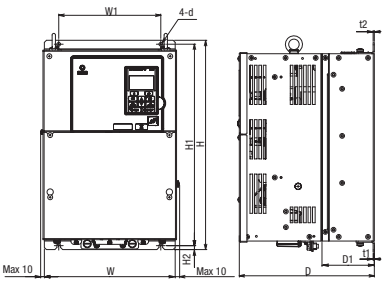


Figure 1

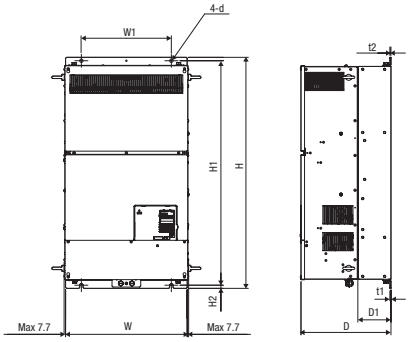


Figure 2

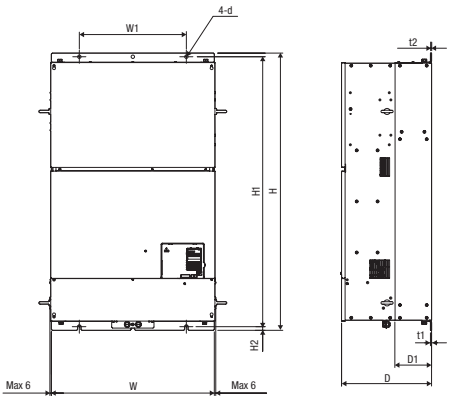


Figure 3

Voltage class	Max. applicable motor output kW		Inverter model CIMR-A_	Figure	Dimensions in mm										
	ND	HD			W	H	D	W1	H1	H2	D1	t1	t2	d	Weight (kg)
Three-phase 200 V	30	22	0110	1	250	400	258	195	385	7.5	100	2.3	2.3	M6	21
	37	30	0138		275	450		220	435						25
	45	37	0169		325	550	283	260	535		110				37
	55	45	0211												38
	75	55	0250		450	705	330	325	680	12.5	130	3.2	3.2	M10	76
	90	75	0312												80
	110	90	0360		500	800	350	370	773	13		4.5	4.5	M12	98
	110	110	0415												99
Three-phase 400 V	30	22	0058	1	250	400	258	195	385	7.5	100	2.3	2.3	M6	21
	37	30	0072		275	450		220	435						25
	45	37	0088		325	510		260	495		105		3.2		36
	55	45	0103												36
	75	55	0139			550	283		535		110		2.3		41
	90	75	0165												42
	110	90	0208		450	705	330	325	680	12.5	130	3.2	3.2	M10	79
	132	110	0250		500	800	350	370	773	13		4.5	4.5	M12	96
	160	132	0296												102
	185	160	0362												107
	220	185	0414	2		950	370		923		135				125
	250	220	0515	3	670	1140		440	1110	15	150				216
	355	315	0675												221

Enclosed Panel [NEMA Type1]

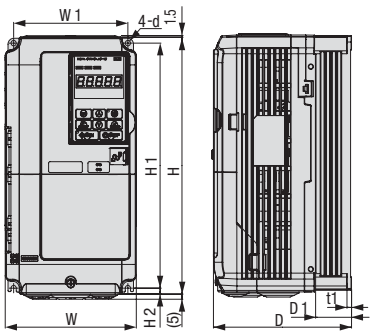


Figure 1

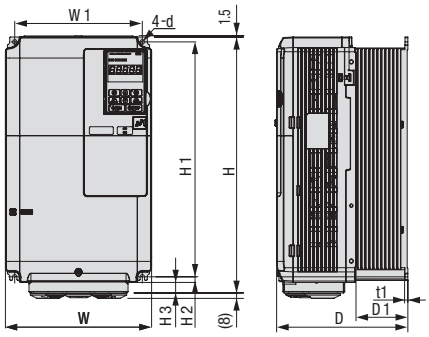


Figure 2

Voltage class	Max. applicable motor output kW		Inverter model CIMR-A_	Figure	Dimensions in mm										
	ND	HD			W	H	D	W1	H1	H2	D1	t1	t2	d	Weight (kg)
Three-phase 200 V	0.75	0.4	0004	1	140	260	147	122	248	6	38	5	-	M5	3.1
	1.1	0.75	0006												3.1
	2.2	1.5	0010												3.2
	3	2.2	0012												3.2
	5.5	4.0	0021				164				55				3.5
	7.5	5.5	0030				167								4.0
	11	7.5	0040												4.0
	15	11	0056		180	300	187	160	284	8	75				5.6
	18.5	15	0069		220	350	197	192	335		78			M6	8.7
	22	18.5	0081	2		365									9.7
Three-phase 400 V	0.75	0.4	0002	1	140	260	147	122	248	6	38	5	-	M5	3.2
	1.5	0.75	0004												3.2
	2.2	1.5	0005												3.2
	3	2.2	0007				164				55				3.4
	4.0	3	0009												3.5
	5.5	4.0	0011												3.5
	7.5	5.5	0018				167								3.9
	11	7.5	0023												3.9
	15	11	0031		180	300		160	284	8					5.4
	18.5	15	0038				187				75				5.7
	22	18.5	0044		220	350	197	192	335		78			M6	8.3

The industrial workhorse

The F7 drive is the industrial workhorse of adjustable frequency drives. It is intended to handle every conventional drive application found in a typical industrial manufacturing plant from simple variable torque pumping to sophisticated networked material handling. With excellent performance and a wide array of configurations and options, the F7 can be the single drive platform for an entire facility. Network communications, plug-in I/O cards, custom software and power/packaging options are among the many choices. For new installations or retrofits, the F7 is truly the industrial workhorse, perfect for every conventional application… and even some unconventional ones.

- Flux vector control. Excellent performance in open-loop mode with 150% torque at 0.5 Hz
- Silent operation. No current de-rating in silent mode (high carrier frequency)
- Wide selection of option cards: fieldbus, PLC unit, MECHATROLINK, analogue and digital I/Os, etc.
- CASE (inverter application software) and PLC option board

Ordering information

3G3IV-PCN329-E
Inverter to PC cable

⑥

CX-Drive

⑥

JVOP-160 OY
Digital operator
(LCD display)

⑥

JVOP-161-OY
Digital operator
(LED display)

⑥

3G3IV-PCN126/326
Digital operator
extension cable

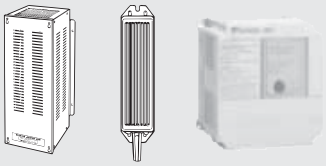
⑥

Line filter

①

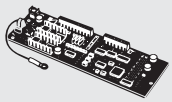
Varispeed
F7

Braking accessories



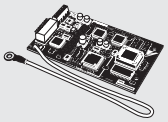
⑦

Feedback speed option card



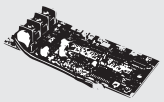
②

Communication option cards



③

Reference option card



④

PLC option card

⑤

Varispeed F7

200 V

Specifications			Order code
IP20	0.55 kW	3.2 A	CIMR-F7Z20P41
	0.75 kW	4.1 A	CIMR-F7Z20P71
	1.5 kW	7.0 A	CIMR-F7Z21P51
	2.2 kW	9.6 A	CIMR-F7Z22P21
	3.7 kW	15 A	CIMR-F7Z23P71
	5.5 kW	23 A	CIMR-F7Z25P51
	7.5 kW	31 A	CIMR-F7Z27P51
	11 kW	45 A	CIMR-F7Z20111
	15 kW	58 A	CIMR-F7Z20151
	18.5 kW	71 A	CIMR-F7Z20181
IP00	22 kW	85 A	CIMR-F7Z20220
	30 kW	115 A	CIMR-F7Z20300
	37 kW	145 A	CIMR-F7Z20370
	45 kW	180 A	CIMR-F7Z20450
	55 kW	215 A	CIMR-F7Z20550
	75 kW	283 A	CIMR-F7Z20750
	90 kW	346 A	CIMR-F7Z20900
	110 kW	415 A	CIMR-F7Z21100

400 V

Specifications			Order code
IP20	0.55 kW	1.8 A	CIMR-F7Z40P41
	0.75 kW	2.1 A	CIMR-F7Z40P71
	1.5 kW	3.7 A	CIMR-F7Z41P51
	2.2 kW	5.3 A	CIMR-F7Z42P21
	3.7 kW	7.6 A	CIMR-F7Z43P71
	4.0 kW	8.7 A	CIMR-F7Z44P01
	5.5 kW	12.5 A	CIMR-F7Z45P51
	7.5 kW	17 A	CIMR-F7Z47P51
	11 kW	24 A	CIMR-F7Z40111
	15 kW	31 A	CIMR-F7Z40151
	18.5 kW	39 A	CIMR-F7Z40181
IP00	22 kW	45 A	CIMR-F7Z40220
	30 kW	60 A	CIMR-F7Z40300
	37 kW	75 A	CIMR-F7Z40370
	45 kW	91 A	CIMR-F7Z40450
	55 kW	112 A	CIMR-F7Z40550
	75 kW	150 A	CIMR-F7Z40750
	90 kW	180 A	CIMR-F7Z40900
	110 kW	216 A	CIMR-F7Z41100
	132 kW	260 A	CIMR-F7Z41320
	160 kW	304 A	CIMR-F7Z41600
	185 kW	370 A	CIMR-F7Z41850
	220 kW	506 A	CIMR-F7Z42200
	300 kW	675 A	CIMR-F7Z43000

① Line filters

200 V

Inverters	Line filters			
	EN55011 class	Current (A)	Weight (kg)	Order code
CIMR-F7Z20P4	B, 25 m A, 100 m	10	1.2	3G3RV-PFI3010-SE
CIMR-F7Z20P7				
CIMR-F7Z21P5				
CIMR-F7Z22P2	B, 25 m A, 100 m	18	1.3	3G3RV-PFI3018-SE
CIMR-F7Z23P7	B, 25 m A, 100 m	35	1.4	3G3RV-PFI2035-SE
CIMR-F7Z25P5				
CIMR-F7Z27P5	B, 25 m A, 100 m	60	3	3G3RV-PFI2060-SE
CIMR-F7Z2011				
CIMR-F7Z2015	B, 25 m A, 100 m	100	4.9	3G3RV-PFI2100-SE
CIMR-F7Z2018				
CIMR-F7Z2022	A, 100 m	130	4.3	3G3RV-PFI2130-SE
CIMR-F7Z2030				
CIMR-F7Z2037	A, 100 m	160	6.0	3G3RV-PFI2160-SE
CIMR-F7Z2045	A, 100 m	200	11.0	3G3RV-PFI2200-SE
CIMR-F7Z2055				
CIMR-F7Z2075	A, 100 m	400	8.6	3G3RV-PFI3410-SE
CIMR-F7Z2090				
CIMR-F7Z2110	A, 100 m	600	11.0	3G3RV-PFI3600-SE

400 V

Inverters	Line filters			
	EN 55011 class*	Current (A)	Weight (kg)	Order code
CIMR-F7Z40P4	B, 25 m A, 100 m	10	1.2	3G3RV-PFI3010-SE
CIMR-F7Z40P7				
CIMR-F7Z41P5				
CIMR-F7Z42P2				
CIMR-F7Z43P7	B, 25 m A, 100 m	18	1.3	3G3RV-PFI3018-SE
CIMR-F7Z44P0				
CIMR-F7Z45P5				
CIMR-F7Z47P5	B, 25 m A, 100 m	21	1.8	3G3RV-PFI3021-SE
CIMR-F7Z4011	B, 25 m A, 100 m	35	2.2	3G3RV-PFI3035-SE
CIMR-F7Z4015	B, 25 m A, 100 m	60	4.0	3G3RV-PFI3060-SE
CIMR-F7Z4018				
CIMR-F7Z4022	A, 100 m	70	3.4	3G3RV-PFI3070-SE
CIMR-F7Z4030				
CIMR-F7Z4037	A, 100 m	100	4.5	3G3RV-PFI3100-SE
CIMR-F7Z4045				
CIMR-F7Z4055	A, 100 m	130	4.7	3G3RV-PFI3130-SE
CIMR-F7Z4075	A, 100 m	170	6.0	3G3RV-PFI3170-SE
CIMR-F7Z4090	A, 100 m	250	11.0	3G3RV-PFI3200-SE
CIMR-F7Z4110				
CIMR-F7Z4132	A, 100 m	400	8.6	3G3RV-PFI3410-SE
CIMR-F7Z4160				
CIMR-F7Z4185	A, 100 m	600	11.0	3G3RV-PFI3600-SE
CIMR-F7Z4220				
CIMR-F7Z4300	A, 100 m	800	31.0	3G3RV-PFI3800-SE

② Feedback speed control cards

Type	Description	Function	Order code
Feedback speed control card	PG speed controller card (Used for V/f control with PG or flux vector)	Phase A pulse (single pulse) inputs (voltage, complementary, open collector input) PG frequency range: Approx. 30 kHz max. [Power supply output for PG: +12 V, max. current 200 mA] Pulse monitor output: +12 V, 20 mA	PG-A2
		Phase A and B pulse inputs (exclusively for complementary input) PG frequency range: Approx. 30 kHz max. [Power supply output for PG: +12 V, Max. current 200 mA] Pulse monitor output: Open collector, +24 V, Max. current 30 mA	PG-B2
		Phase A pulse (differential pulse) input for V/f control (RS-422 input) PG frequency range: Approx. 300 kHz max. [Power supply output for PG: +5 V or +12 V, Max. current 200 mA] Pulse monitor output: RS-422	PG-D2
		Phase A, B and Z pulse (differential pulse) inputs (RS-422 input) PG frequency range: Approx. 300 kHz max. [Power supply output for PG: +5 V or +12 V, Max. current 200 mA] Pulse monitor output: RS-422	PG-X2
		Phase A, B and Z pulse (differential pulse) inputs (RS-422 input) PG frequency range: Approx. 300 kHz max. [Power supply output for PG: +5 V or +12 V, Max. current 200 mA] Pulse monitor output: RS-422 Dual channel encoder: 1st channel A, B, Z/2nd channel A, B, Z or open collector	PG-Z2

③ Communication option cards

Type	Description	Function	Order code
Communication option card	DeviceNet option card	Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through DeviceNet communication with the host controller.	3G3RV-PDRT2
	PROFIBUS-DP option card	Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through PROFIBUS-DP communication with the host controller.	SI-P1
	CANopen option card	Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through CANopen communication with the host controller.	SI-S1
	LONWORKS option card	Used for HVAC control, running or stopping the inverter, setting or referencing parameters, and monitoring output current, watt-hours, or similar items through LONWORKS communications with peripheral devices.	SI-J
	Ethernet option card	MODBUS TCP/IP Ethernet interface unit.	CM090
	MECHATROLINK-II option board	High speed motion bus. Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through MECHATROLINK-II communication with the host controller. Host controller : Trajexia, MCH or MP Series *1	SI-T

*1 Please refer to Trajexia, MCH or MP Series section for host controllers detailed information.

④ Reference option cards

Type	Description	Function	Order code
Reference option card	Analogue input card	2 channel high resolution analogue input card Channel 1: 0 to 10 V (20 KΩ) Channel 2: 4 to 20 mA (250 Ω) Resolution 14 bit	AI-14U
		3 Channel high resolution analogue input card Signal level: -10 to +10V (20 KΩ) 4 to 20 mA (250 Ω) Resolution: 13 bit + sign	AI-14B
	Digital reference card	8 bit digital speed reference input card	DI-08
		16 bit digital speed reference input card	DI-16H2

⑤ PLC option cards

Type	Description	Function	Order code
PLC option card	PLC option	Full PLC features, wireless installation and seamless access to the inverter parameters and analogue/digital inputs and outputs. Embedded CompuBus/S fieldbus Standard Omron tools can be used for programming	3G3RV-P10ST8-E
	PLC option with DeviceNet	Same features than standard model with DeviceNet support.	3G3RV-P10ST8-DRT-E

⑥ Accessories

Type	Description	Function	Order code
Digital operator	5 lines LCD digital operator 7 Language support	Configuration and monitoring device	JVOP-160-OY
	7 segment LED digital operator		JVOP-161-OY
Accessories	Digital operator extension cable 1 meters 3 meters	Cable to connect the inverter and the digital operator when it's not plugged into the inverter	 3G3IV-PCN126 3G3IV-PCN326
	PC configuration cable	Cable to connect inverter and PC	3G3IV-PCN329-E

⑥ Computer Software

Type	Description	Function	Order code
Software	Computer software	Configuration and monitoring software tool for drives	CX-DRIVE
	Computer software	Complete Omron automation software including CX-Drive	CX-ONE

For full specifications please refer to chapter software on page 582.

⑦ Braking unit, braking resistor unit

Note: For braking units specifications and models refer to the F7 datasheet Cat-No: I23E-EN-02

Specifications

200 V Class

Order code CIMR-F7Z_			20P4	20P7	21P5	22P2	23P7	25P5	27P5	2011	2015	2018	2022	2030	2037	2045	2055	2075	2090	2110
Max. applicable motor output[*1]		kW	0.55	0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110
Output characteristics	Inverter capacity	kVA	1.2	1.6	2.7	3.7	5.7	8.8	12	17	22	27	32	44	55	69	82	110	130	160
	Rated current	A	3.2	4.1	7.0	9.6	15	23	31	45	58	71	85	115	145	180	215	283	346	415[*2]
	Max. voltage		3-phase, 200/208/220/230/240 V (proportional to input voltage)																	
	Max. output frequency		Heavy duty (low carrier, constant torque applications): 150 Hz max Normal duty 1 or 2 (high/reduced carrier, variable torque applications): 400 Hz max																	
Power supply	Rated input voltage and frequency		3-phase 200/208/220/230/240 V, 50/60 Hz [*3]																	
	Allowable voltage fluctuation		+10%, -15%																	
	Allowable frequency fluctuation		±5%																	
Harmonic wave prevention	DC reactor		Option										Provided							
	12-pulse input		Not available										Available [*4]							

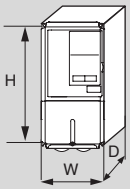
[*1] Our standard 4-pole motors are used for max. applicable motor output. Choose the inverter model whose rated current is allowable within the motor rated current range.
[*2] 322 A in case of heavy duty mode
[*3] When using the inverter of 200 V class 37 kW or more with a cooling fan of three-phase 230 V 50 Hz or 240 V 50/60 Hz power supply, a transformer for the cooling fan is required.
[*4] A 3-wired transformer is required at 12-pulse input.

400 V Class

Order code CIMR-F7Z_			40P4	40P7	41P5	42P2	43P7	44P0	45P5	47P5	4011	4015	4018	4022	4030	4037	4045	4055	4075	4090	4110	4132	4160	4185	4220	4300
Max. applicable motor output[*1]		kW	0.55	0.75	1.5	2.2	3.7	4.0	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110	132	160	185	220	300
Output characteristics	Inverter capacity	kVA	1.4	1.6	2.8	4.0	5.8	6.6	9.5	13	18	24	30	34	46	57	69	85	110	140	160	200	230	280	390	510
	Rated current	A	1.8	2.1	3.7	5.3	7.6	8.7	12.5	17	24	31	39	45	60	75	91	112	150	180	216	260	304	370	506[*2]	675[*3]
	Max. voltage		3-phase, 380/400/415/440/460/480 V (proportional to input voltage)																							
	Max. output frequency		Heavy duty (low carrier, constant torque applications): 150 Hz max Normal duty 1 or 2 (high/reduced carrier, variable torque applications): 400 Hz max																							
Power supply	Rated input voltage and frequency		3-phase 380/400/415/440/460/480 V, 50/60 Hz																							
	Allowable voltage fluctuation		+10%, -15%																							
	Allowable frequency fluctuation		±5%																							
Harmonic wave prevention	DC reactor		Option											Provided												
	12-pulse input		Not available											Available [*4]												

[*1] Our standard 4-pole motors are used for max. applicable motor output. Choose the inverter model whose rated current is allowable within the motor rated current range.
[*2] 405 A in case of heavy duty mode
[*3] 540 A in case of heavy duty mode
[*4] A 3-wired transformer is required at 12-pulse input.

Dimensions

Specifications		Drive model	H	W	D	
3 phase 200 VAC	0.55 kW	CIMR-F7Z20P41	280	140	157	
	0.75 kW	CIMR-F7Z20P71				
	1.5 kW	CIMR-F7Z21P51				
	2.2 kW	CIMR-F7Z22P21				
	3.7 kW	CIMR-F7Z23P71			177	
	5.5 kW	CIMR-F7Z25P51				
	7.5 kW	CIMR-F7Z27P51	300	200	197	
	11 kW	CIMR-F7Z20111	310			
	15 kW	CIMR-F7Z20151	350	240	207	
	18.5 kW	CIMR-F7Z20181	380			
	22 kW	CIMR-F7Z20220	400	250	258	
	30 kW	CIMR-F7Z20300	450	275		
	37 kW	CIMR-F7Z20370	600	375	298	
	45 kW	CIMR-F7Z20450			328	
	55 kW	CIMR-F7Z20550	725	450	348	
	75 kW	CIMR-F7Z20750				
	90 kW	CIMR-F7Z20900	850	500	358	
	110 kW	CIMR-F7Z21100	885	575	378	
3 phase 400 VAC	0.55 kW	CIMR-F7Z40P41	280	140	157	
	0.75 kW	CIMR-F7Z40P71				
	1.5 kW	CIMR-F7Z41P51				
	2.2 kW	CIMR-F7Z42P21			177	
	3.7 kW	CIMR-F7Z43P71				
	4.0 kW	CIMR-F7Z44P71				
	5.5 kW	CIMR-F7Z45P51				
	7.5 kW	CIMR-F7Z47P51	300	200	197	
	11 kW	CIMR-F7Z40111				
	15 kW	CIMR-F7Z40151	350	240	207	
	18.5 kW	CIMR-F7Z40181				
	22 kW	CIMR-F7Z40220	450	275	258	
	30 kW	CIMR-F7Z40330				
	37 kW	CIMR-F7Z40370	550	325	283	
	45 kW	CIMR-F7Z40450				
	55 kW	CIMR-F7Z40550				
	75 kW	CIMR-F7Z40750	725	450	348	
	90 kW	CIMR-F7Z40900				
	110 kW	CIMR-F7Z41100	850	500	358	
	132 kW	CIMR-F7Z41320				
	160 kW	CIMR-F7Z41600	916	575	378	
	185 kW	CIMR-F7Z41850	1305	710	413	
	220 kW	CIMR-F7Z42200				
	300 kW	CIMR-F7Z43000	1475	916	413	

Drive your energy costs down

The E7 is designed for variable torque applications such as fans and centrifugal pumps. It is supplied with V/f control and normal duty overload rating of 110% for one minute. A unique feature of the E7 is the energy-saving algorithm, which allows an extra saving of up to 20%. With an optional phase-shifting input transformer, the E7 dual-diode bridge can be operated in 12-pulse rectification mode, reducing input current harmonic distortion.

- E7 IP54 solution with robust metal chassis and built-in RFI filter
- Adaptive energy-saving algorithm
- Silent operation
- 12-pulse configuration for low-harmonic distortion
- Programming software: CX-Drive for parameter configuration

Ordering information

3G3IV-PCN329-E
Inverter to PC cable

④

CX-Drive

④

JVOP-160 OY
Digital operator
(LCD display)

④

JVOP-161-OY
Digital operator
(LED display)

④

3G3IV-PCN126/326
Digital operator
extension cable

④

Line Filter

3G3RV-PFI_
Input noise filter

* see note

①

Varispeed E7

Braking accessories

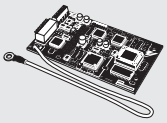
LKEB_ braking
resistor unit

CDBR_B
braking unit

⑤

* E7 IP54 types are built-in filter inverters.

Communication card



②

PLC option card

③

Varispeed E7

200 V

Specifications			Order code
IP20	0.55 kW	3.2 A	CIMR-E7Z20P41
	0.75 kW	4.1 A	CIMR-E7Z20P71
	1.5 kW	7.0 A	CIMR-E7Z21P51
	2.2 kW	9.6 A	CIMR-E7Z22P21
	3.7 kW	15 A	CIMR-E7Z23P71
	5.5 kW	23 A	CIMR-E7Z25P51
	7.5 kW	31 A	CIMR-E7Z27P51
	11 kW	45 A	CIMR-E7Z20111
	15 kW	58 A	CIMR-E7Z20151
	18.5 kW	71 A	CIMR-E7Z20181
IP00	22 kW	85 A	CIMR-E7Z20220
	30 kW	115 A	CIMR-E7Z20300
	37 kW	145 A	CIMR-E7Z20370
	45 kW	180 A	CIMR-E7Z20450
	55 kW	215 A	CIMR-E7Z20550
	75 kW	283 A	CIMR-E7Z20750
	90 kW	345 A	CIMR-E7Z20900
	110 kW	415 A	CIMR-E7Z21100

400 V

Specifications			Order code
IP20	0.55 kW	1.8 A	CIMR-E7Z40P41
	0.75 kW	2.1 A	CIMR-E7Z40P71
	1.5 kW	3.7 A	CIMR-E7Z41P51
	2.2 kW	5.3 A	CIMR-E7Z42P21
	3.7 kW	7.6 A	CIMR-E7Z43P71
	4.0 kW	8.7 A	CIMR-E7Z44P01
	5.5 kW	12.5 A	CIMR-E7Z45P51
	7.5 kW	17 A	CIMR-E7Z47P51
	11 kW	24 A	CIMR-E7Z40111
	15 kW	31 A	CIMR-E7Z40151
	18.5 kW	39 A	CIMR-E7Z40181

400 V

Specifications			Order code
IP00	22 kW	45 A	CIMR-E7Z40220
	30 kW	60 A	CIMR-E7Z40300
	37 kW	75 A	CIMR-E7Z40370
	45 kW	91 A	CIMR-E7Z40450
	55 kW	112 A	CIMR-E7Z40550
	75 kW	150 A	CIMR-E7Z40750
	90 kW	180 A	CIMR-E7Z40900
	110 kW	216 A	CIMR-E7Z41100
	132 kW	260 A	CIMR-E7Z41320
	160 kW	304 A	CIMR-E7Z41600
	185 kW	370 A	CIMR-E7Z41850
	220 kW	506 A	CIMR-E7Z42200
	300 kW	675 A	CIMR-E7Z43000

Varispeed E7 IP54

400 V

Specifications			Order code
IP54	7.5 kW	17 A	CIMR-E7Z47P52
	11 kW	24 A	CIMR-E7Z40112
	15 kW	31 A	CIMR-E7Z40152
	18.5 kW	39 A	CIMR-E7Z40182
	22 kW	45 A	CIMR-E7Z40222
	30 kW	60 A	CIMR-E7Z40302
	37 kW	75 A	CIMR-E7Z40372
	45 kW	91 A	CIMR-E7Z40452
	55 kW	112 A	CIMR-E7Z40552

① Line filters *1

200 V

Inverters	Line filters			
	EN55011 Class	Current (A)	Weight (kg)	Order code
CIMR-E7Z20P4	B, 25 m A, 100 m	10	1.2	3G3RV-PFI3010-SE
CIMR-E7Z20P7				
CIMR-E7Z21P5				
CIMR-E7Z22P2	B, 25 m A, 100 m	18	1.3	3G3RV-PFI3018-SE
CIMR-E7Z23P7	B, 25 m A, 100 m	35	1.4	3G3RV-PFI2035-SE
CIMR-E7Z25P5				
CIMR-E7Z27P5	B, 25 m A, 100 m	60	3	3G3RV-PFI2060E-SE
CIMR-E7Z2011				
CIMR-E7Z2015	B, 25 m A, 100 m	100	4.9	3G3RV-PFI2100-SE
CIMR-E7Z2018				
CIMR-E7Z2022	A, 100 m	130	4.3	3G3RV-PFI2130-SE
CIMR-E7Z2030				
CIMR-E7Z2037	A, 100 m	160	6.0	3G3RV-PFI2160-SE
CIMR-E7Z2045	A, 100 m	200	11.0	3G3RV-PFI2200-SE
CIMR-E7Z2055				
CIMR-E7Z2075	A, 100 m	400	8.6	3G3RV-PFI3410-SE
CIMR-E7Z2090				
CIMR-E7Z2110	A, 100 m	600	11.0	3G3RV-PFI3600-SE

*1. E7 IP54 types are built-in filter inverters.

400 V

Inverters	Line filters			
	EN 55011 class	Current (A)	Weight (kg)	Order code
CIMR-E7Z40P4	B, 25 m A, 100 m	10	1.2	3G3RV-PFI3010-SE
CIMR-E7Z40P7				
CIMR-E7Z41P5				
CIMR-E7Z42P2				
CIMR-E7Z43P7	B, 25 m A, 100 m	18	1.3	3G3RV-PFI3018-SE
CIMR-E7Z44P0				
CIMR-E7Z45P5				
CIMR-E7Z47P5	B, 25 m A, 100 m	21	1.8	3G3RV-PFI3021-SE
CIMR-E7Z4011	B, 25 m A, 100 m	35	2.2	3G3RV-PFI3035-SE
CIMR-E7Z4015	B, 25 m A, 100 m	60	4.0	3G3RV-PFI3060-SE
CIMR-E7Z4018				
CIMR-E7Z4022	B, 25 m A, 100 m	70	3.4	3G3RV-PFI3070-SE
CIMR-E7Z4030				
CIMR-E7Z4037	A, 100 m	100	4.5	3G3RV-PFI3100-SE
CIMR-E7Z4045				
CIMR-E7Z4055	A, 100 m	130	4.7	3G3RV-PFI3130-SE
CIMR-E7Z4075	A, 100 m	170	6.0	3G3RV-PFI3170-SE
CIMR-E7Z4090	A, 100 m	250	11	3G3RV-PFI3200-SE
CIMR-E7Z4110				
CIMR-E7Z4132	A, 100 m	400	8.6	3G3RV-PFI3410-SE
CIMR-E7Z4160				
CIMR-E7Z4185	A, 100 m	600	11.0	3G3RV-PFI3600-SE
CIMR-E7Z4220				
CIMR-E7Z4300	A, 100 m	800	31.0	3G3RV-PFI3800-SE

② Communication cards

Type	Description	Function	Order code
Communication option cards	DeviceNet option card	Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through DeviceNet communication with the host controller.	3G3RV-PDRT2
	PROFIBUS-DP option card	Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through PROFIBUS-DP communication with the host controller.	SI-P1
	CANopen option card	Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through CANopen communication with the host controller.	SI-S1
	Ethernet option card	MODBUS TCP/IP Ethernet interface unit.	CM090
	LONWORKS option card	Used for HVAC control, running or stopping the inverter, setting or referencing parameters, and monitoring output current, watt-hours, or similar items through LONWORKS communications with peripheral devices.	SI-J1

③ PLC Option card

Type	Description	Function	Order code
PLC option cards	PLC option	Full features, wireless installation and seamless access to the inverter parameters and analogue/digital inputs and outputs Embedded CompoBus/S fieldbus Standard Omron tools can be used for programming	3G3RV-P10CDT-E
	PLC option with DeviceNet	Same features than standard models with DeviceNet support	3G3-P10CDT-E-DRT

④ Accessories

Type	Description	Function	Order code
Digital operators	5 lines LCD digital operator *1	Configuration and monitoring device.	JVOP-160-OY
	7 segment LED digital operator		JVOP-161-OY
	Hand-Off auto operator		JVOP-162
Accessories	Digital operator extension cable 1 meter 3 meters	Cable to connect the inverter and the digital operator when it's not plugged into the inverter.	 3G3IV-PCN126 3G3IV-PCN326
	PC configuration cable	Cable to connect inverter and PC	3G3IV-PCN329-E

*1 LCD digital operator is the standard in IP54 types

④ Computer software

Type	Description	Function	Order code
Software	Computer software	Configuration and monitoring software tool for drives	CX-DRIVE
	Computer software	Complete Omron automation software including CX-Drive	CX-ONE

For full specifications please refer to chapter software on page 582.

⑤ Braking unit, braking resistor unit

Note: For braking units specifications and models refer to the E7 datasheet Cat-No: I21E-EN-02

Specifications

200 V class

Order code CIMR-E7Z_			20P4	20P7	21P5	22P2	23P7	25P5	27P5	2011	2015	2018	2022	2030	2037	2045	2055	2075	2090	2110
Max. applicable motor output *1		kW	0.55	0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110
Output characteristics	Inverter Capacity	kVA	1.2	1.6	2.7	3.7	5.7	8.8	12	17	22	27	32	44	55	69	82	110	130	160
	Rated current	A	3.2	4.1	7.0	9.6	15	23	31	45	58	71	85	115	145	180	215	283	346	415
	Max. voltage		3-phase; 200, 220, 230, or 240 VAC (Proportional to input voltage.)																	
	Max. output frequency		200.0																	
Power supply	Rated input voltage and frequency		3-phase, 200/208/220/230/240 VAC, 50/60 Hz																	
	Allowable voltage fluctuation		+10%, -15%																	
	Allowable frequency fluctuation		±5%																	
Harmonic wave prevention	DC reactor		Optional										Built in							
	12-pulse input		Not possible										Possible *2							

*1 Standard 4-pole motors are used for max. applicable motor output. Choose the inverter model whose rated current is allowable within the motor rated current range.
*2 A 3-wire transformer is required on the power supply for 12-phase rectification

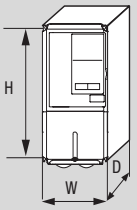
400 V class

Order code CIMR-E7ZZ4_			0P4	0P7	1P5	2P2	3P7	4P0	5P5	7P5	011	015	018	022	030	037	045	055	075	090	110	132	160	185	220	300
IP54 model: CIMR-E7Z4_			–	–	–	–	–	–	–	7P52	0112	0152	0182	0222	0302	0372	0452	0552	–	–	–	–	–	–	–	–
Max. applicable motor output *1		kW	0.55	0.75	1.5	2.2	3.7	4.0	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110	132	160	185	220	300
Output characteristics	Inverter Capacity	kVA	1.4	1.6	2.8	4.0	5.8	6.6	9.5	13	18	24	30	34	46	57	69	85	110	140	160	200	230	280	390	510
	Rated current	A	1.8	2.1	3.7	5.3	7.6	8.7	12.5	17	24	31	39	45	60	75	91	112	150	180	216	260	304	370	506	675
	Max. voltage		3-phase; 380, 400, 415, 440, 460, or 480 VAC (Proportional to input voltage.)																							
	Max. output frequency		200.0																							
Power supply	Rated input voltage and frequency		3-phase, 380, 400, 415, 440, 460 or 480 VAC, 50/60 Hz																							
	Allowable voltage fluctuation		+10%, -15%																							
	Allowable frequency fluctuation		±5%																							
Harmonic wave prevention	DC reactor		Optional											Built in												
	12-pulse input		Not possible											Possible *2												

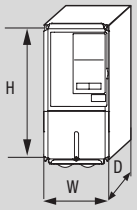
*1 Standard 4-pole motors are used for max. applicable motor output. Choose the inverter model whose rated current is allowable within the motor rated current range.
*2 A 3-wire transformer is required on the power supply for 12-phase rectification
To agg 400 V class

Dimensions

Varispeed E7

Specifications		Drive model	H	W	D	
3 phase 200 VAC	0.55 kW	CIMR-E7Z20P41	280	140	157	
	0.75 kW	CIMR-E7Z20P71				
	1.5 kW	CIMR-E7Z21P51				
	2.2 kW	CIMR-E7Z22P21				
	3.7 kW	CIMR-E7Z23P71			177	
	5.5 kW	CIMR-E7Z25P51				
	7.5 kW	CIMR-E7Z27P51	300	200	197	
	11 kW	CIMR-E7Z20111	310			
	15 kW	CIMR-E7Z20151	350	240	207	
	18.5 kW	CIMR-E7Z20181	380			
	22 kW	CIMR-E7Z20220	400	250	258	
	30 kW	CIMR-E7Z20300	450	275		
	37 kW	CIMR-E7Z20370	600	375	298	
	45 kW	CIMR-E7Z20450			328	
	55 kW	CIMR-E7Z20550	725	450	348	
	75 kW	CIMR-E7Z20750				
	90 kW	CIMR-E7Z20900	850	500	358	
	110 kW	CIMR-E7Z21100	885	575	378	
3 phase 400 VAC	0.55 kW	CIMR-E7Z40P41	280	140	157	
	0.75 kW	CIMR-E7Z40P71				
	1.5 kW	CIMR-E7Z41P51				
	2.2 kW	CIMR-E7Z42P21			177	
	3.7 kW	CIMR-E7Z43P71				
	4.0 kW	CIMR-E7Z44P71				
	5.5 kW	CIMR-E7Z45P51				
	7.5 kW	CIMR-E7Z47P51	300	200	197	
	11 kW	CIMR-E7Z40111				
	15 kW	CIMR-E7Z40151	350	240	207	
	18.5 kW	CIMR-E7Z40181				
	22 kW	CIMR-E7Z40220	450	275	258	
	30 kW	CIMR-E7Z40300				
	37 kW	CIMR-E7Z40370	550	325	283	
	45 kW	CIMR-E7Z40450				
	55 kW	CIMR-E7Z40550				
	75 kW	CIMR-E7Z40750	725	450	348	
	90 kW	CIMR-E7Z40900				
	110 kW	CIMR-E7Z41100	850	500	358	
	132 kW	CIMR-E7Z41320				
	160 kW	CIMR-E7Z41600	916	575	378	
	185 kW	CIMR-E7Z41850	1305	710	413	
	220 kW	CIMR-E7Z42200				
	300 kW	CIMR-E7Z43000	1475	916	413	

Varispeed E7 IP54

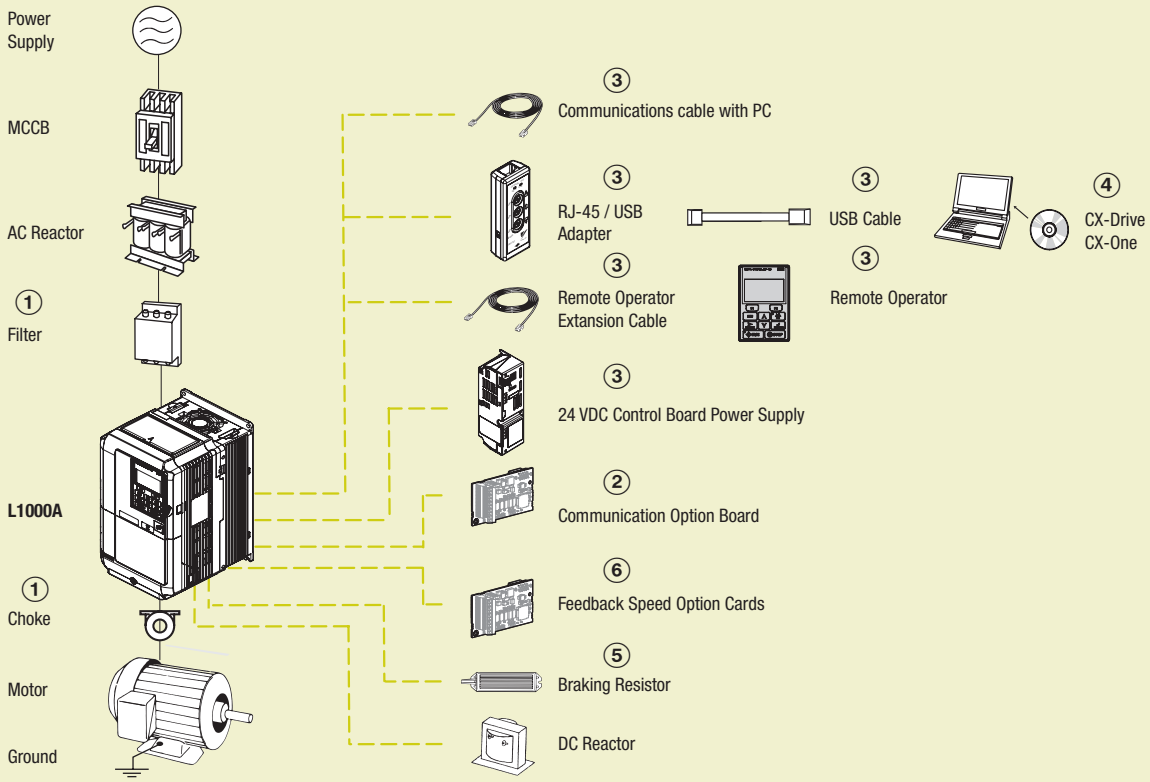
Specifications		Drive model	H	W	D	
3 phase 400 VAC	7.5 kW	CIMR-E7Z47P52	600	350	240	
	11 kW	CIMR-E7Z40112				
	15 kW	CIMR-E7Z40152			260	
	18.5 kW	CIMR-E7Z40182				
	22 kW	CIMR-E7Z40222	650	410	300	
	30 kW	CIMR-E7Z40302				
	37 kW	CIMR-E7Z40372	750	580	330	
	45 kW	CIMR-E7Z40452				
	55 kW	CIMR-E7Z40552				

High performance Vector Control

The L1000A inverter provides advanced control functions for IM & PM motor control in lift applications. In addition, the L1000A is quickly installed and is capable of driving almost any lift.

- High starting torque (200% / 0.3Hz OLV, 200% / 0Hz CLV)
- Advanced Auto-Tuning for IM & PM Motors
- Lift language (Hz, m/s, rpm, levelling speed...)
- Rescue operation function
- Overshoot and anti-vibration control
- Fieldbus communications: CANopen
- Safety embedded: EN954-1 safety cat. 3, stop cat 0, ISO EN13849-1 PLd, IEC 61508 SIL 2 and EN81-1

Ordering information



L1000A

Specifications			Order code
	Heavy Duty		Standard
200 V	4.0 kW	17.5 A	CIMR-LC2A0018BAA
	5.5 kW	25 A	CIMR-LC2A0025BAA
	7.5 kW	33 A	CIMR-LC2A0033BAA
	11 kW	47 A	CIMR-LC2A0047BAA
	15 kW	60 A	CIMR-LC2A0060BAA
	18.5 kW	75 A	CIMR-LC2A0075BAA
	22 kW	85 A	CIMR-LC2A0085BAA
	30 kW	115 A	CIMR-LC2A0115BAA
	37 kW	145 A	CIMR-LC2A0145BAA
	45 kW	180 A	CIMR-LC2A0180BAA

Specifications			Order code
	Heavy Duty		Standard
400 V	4.0 kW	9.2 A	CIMR-LC4A0009BAA
	5.5 kW	14.8 A	CIMR-LC4A0015BAA
	7.5 kW	18 A	CIMR-LC4A0018BAA
	11 kW	24 A	CIMR-LC4A0024BAA
	15 kW	31 A	CIMR-LC4A0031BAA
	18.5 kW	39 A	CIMR-LC4A0039BAA
	22 kW	45 A	CIMR-LC4A0045BAA
	30 kW	60 A	CIMR-LC4A0060BAA
	37 kW	75 A	CIMR-LC4A0075BAA
	45 kW	91 A	CIMR-LC4A0091BAA
	55 kW	112 A	CIMR-LC4A0112BAA
	75 kW	150 A	CIMR-LC4A0150BAA

① Line filters

Inverter		Line filter Rasmi			Line filter Schaffner		
Voltage	Model CIMR-LC_	Rated current (A)	Weight (kg)	Order code	Rated current (A)	Weight (kg)	Order code
3-Phase 200 VAC	2A0018	24	2.0	A1000-FIA3024-RE	18	1.3	3G3RV-PFI3018-SE
	2A0025 / 2A0033	52	2.4	A1000-FIA2025-RE	35	1.4	3G3RV-PFI2035-SE
	2A0047	68	4.2	A1000-FIA2068-RE	35	1.4	3G3RV-PFI2035-SE
	2A0060 / 2A0075	96	4.4	A1000-FIA2096-RE	60	3	3G3RV-PFI2060-SE
	2A0085	105	6.5	A1000-FIA3105-RE	100	4.9	3G3RV-PFI2100-SE
	2A0115 / 2A0145 / 2A0180	170	9	A1000-FIA3170-RE	170	6.0	3G3RV-PFI3170-SE
3-Phase 400 VAC	4A0009 / 4A0015 / 4A0018	24	2.0	A1000-FIA3024-RE	18	1.3	3G3RV-PFI3018-SE
	4A0024 / 4A0031	44	2.8	A1000-FIA3044-RE	35	2.2	3G3RV-PFI3035-SE
	4A0039	52	-	A1000-FIA3052-RE	60	4.0	3G3RV-PFI3060-SE
	4A0045 / 4A0060	71	5.3	A1000-FIA3071-RE			
	4A0075				100	4.5	3G3RV-PFI3100-SE
	4A0091 / 4A0112	105	6.5	A1000-FIA3105-RE	170	6.0	3G3RV-FPI3170-SE
	4A0150	170	9	A1000-FIA3170-RE			

Chokes

Diameter	Description	Order code
21	Recommended for motors below 2.2 KW	A1000-FEV2102-RE
25	Recommended for motors below 15 KW	A1000-FEV2515-RE
50	Recommended for motors below 45 KW	A1000-FEV5045-RE
60	Recommended for motors above 45 KW	A1000-FEV6045-RE

② Communication cards

Type	Description	Function	Order code
Communication option board	CANopen option card	• Used for controlling the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through CANopen communication with the host controller.	SI-S3

③ Accessories

Types	Description	Functions	Order code
Digital operator	LCD remote operator	LCD Display operator with language support	JVOP-180
	LED remote operator	LED Display operator	JVOP-182
	Remote operator cable	3 meters cable for connecting remote operator	3G3AX-CAJOP300-EE
Accessories	USB converter / USB cable	USB converter unit with copy and backup function	JVOP-181
	24 VDC option board	24V DC control board power supply 200V type	PS-A10L
		24V DC control board power supply 400V type	PS-A10H
	PC connection cable	RS232 PC tool connection cable	A1000-CAVPC232-EE

④ Computer software

Types	Description	Installation	Order code
Software	Computer software	Configuration and monitoring software tool	CX-drive
	Computer software	Configuration and monitoring software tool	CX-One

⑥ Feedback speed option card

Type	Description	Function	Order code
PG option card	Complementary PG	• For speed feedback input by connecting a motor encoder Input: 3 track (one or two tracks), for HTL encoder connection, 50 KHz max Output: 3 track open collector Encoder power supply: 12 V, 200 mA max	PG-B3
	Line Driver PG	• For speed feedback input by connecting a motor encoder Input: 3 track, line driver, 300 kHz max Output: 3 track, line driver Encoder power supply: 5 V or 12 V, 200 mA max	PG-X3
	Endat encoder PG	• For speed feedback input by connection a motor encoder Encoder type: EnDat 2.1/01, EnDat 2.2/01 (HEIDENHAIN) Maximum input frequency: 50KHz Pulse monitor: Matches RS-422 level Output voltage: 5 V +/-5%, 8 V +/-10% Maximum output current: 200mA Wiring lenght: 20m max. for the encoder, 30m max for the pulse monitor	PG-F3
	ERN1387 encoder PG	• For speed feedback input by connection a motor encoder Encoder type: ERN1387 (HEIDENHAIN) Maximum input frequency: 50KHz Pulse monitor: Matches RS-422 level Output voltage: 5 V +/-5% Maximum output current: 200mA Wiring lenght: 20m max. for the encoder, 30m max for the pulse monitor	PG-E3

Specifications

200 V class

Three-phase: CIMR-LC2A_		0018	0025	0033	0047	0060	0075	0085	0115	0145	0180
Motor kW*1	For HD setting	4.0	5.5	7.5	11	15	18.5	22	30	37	45
Output characteristics	Inverter capacity kVA*2	6.7	9.5	12.6	17.9	23	29	32	44	55	69
	Rated output current (A)	17.5*3	25*3	33*3	47*3	60*3	75*3	85*3	115*3	145*4	180*4
	Max. output voltage	Proportional to input voltage: 0..240 V									
	Max. output frequency	120 Hz									
Power supply	Rated input voltage and frequency	3-phase 200..240 V 50/60 Hz									
	Allowable voltage fluctuation	-15%..+10%									
	Allowable frequency fluctuation	+5%									
	Input Current (A)*5	18.9	28	37	52	68	80	82	111	136	164

*1 Based on a standard 4-pole motor for maximum applicable motor output.
*2 Rated Motor Capacity is calculated with a rated output voltage of 220 V.
*3 Carrier frequency can be increased up to 8 kHz while keeping this current rating. Higher carrier frequency settings require derating.
*4 Carrier frequency can be increased up to 5 kHz while keeping this current rating. Higher carrier frequency settings require derating.
*5 Assumes operation at rated output current. Input current rating varies depending on the power supply transformer, input reactor, Wiring conditions, and power supply impedance.

400 V class

Three-phase: CIMR-LC4A_		0009	0015	0018	0024	0031	0039	0045	0060	0075	0091	0112	0150
Motor kW*1	For HD setting	4.0	5.5	7.5	11	15	18.5	22	30	37	45	55	75
Output characteristics	Inverter capacity kVA*2	7	11.3	13.7	18.3	24	30	34	48	57	69	85	114
	Rated output current (A)	9.2*3	14.8*3	18*3	24*3	31*3	39*3	45*3	60*3	75*3	91*3	112*4	150*4
	Max. output voltage	380..480V (proportional to input voltage)											
	Max. output frequency	120 Hz											
Power supply	Rated input voltage and frequency	3-phase 380..480 VAC, 50/60 Hz											
	Allowable voltage fluctuation	-15%..+10%											
	Allowable frequency fluctuation	+5%											
	Input Current (A)*5	10.4	15	20	29	39	44	49	58	71	86	105	142

*1 Based on a standard 4-pole motor for maximum applicable motor output.
*2 Rated Motor Capacity is calculated with a rated output voltage of 220 V.
*3 Carrier frequency can be increased up to 8 kHz while keeping this current rating. Higher carrier frequency settings require derating.
*4 Carrier frequency can be increased up to 5 kHz while keeping this current rating. Higher carrier frequency settings require derating.
*5 Assumes operation at rated output current. Input current rating varies depending on the power supply transformer, input reactor, Wiring conditions, and power supply impedance.

Dimensions

Enclosed Panel [IP20]

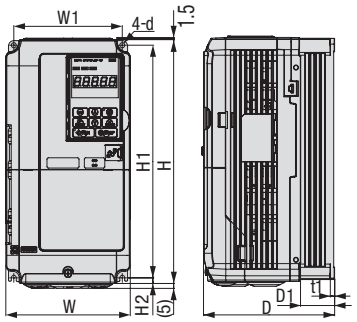


Figure 1

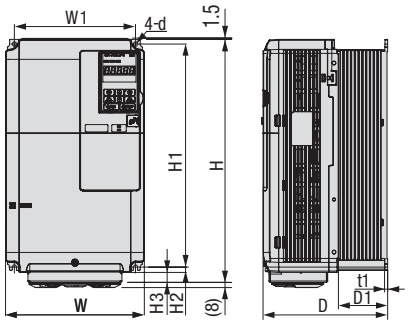


Figure 2

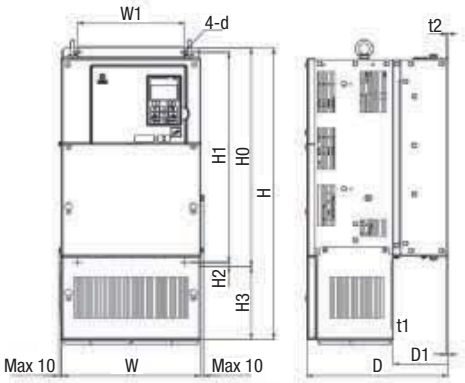


Figure 3

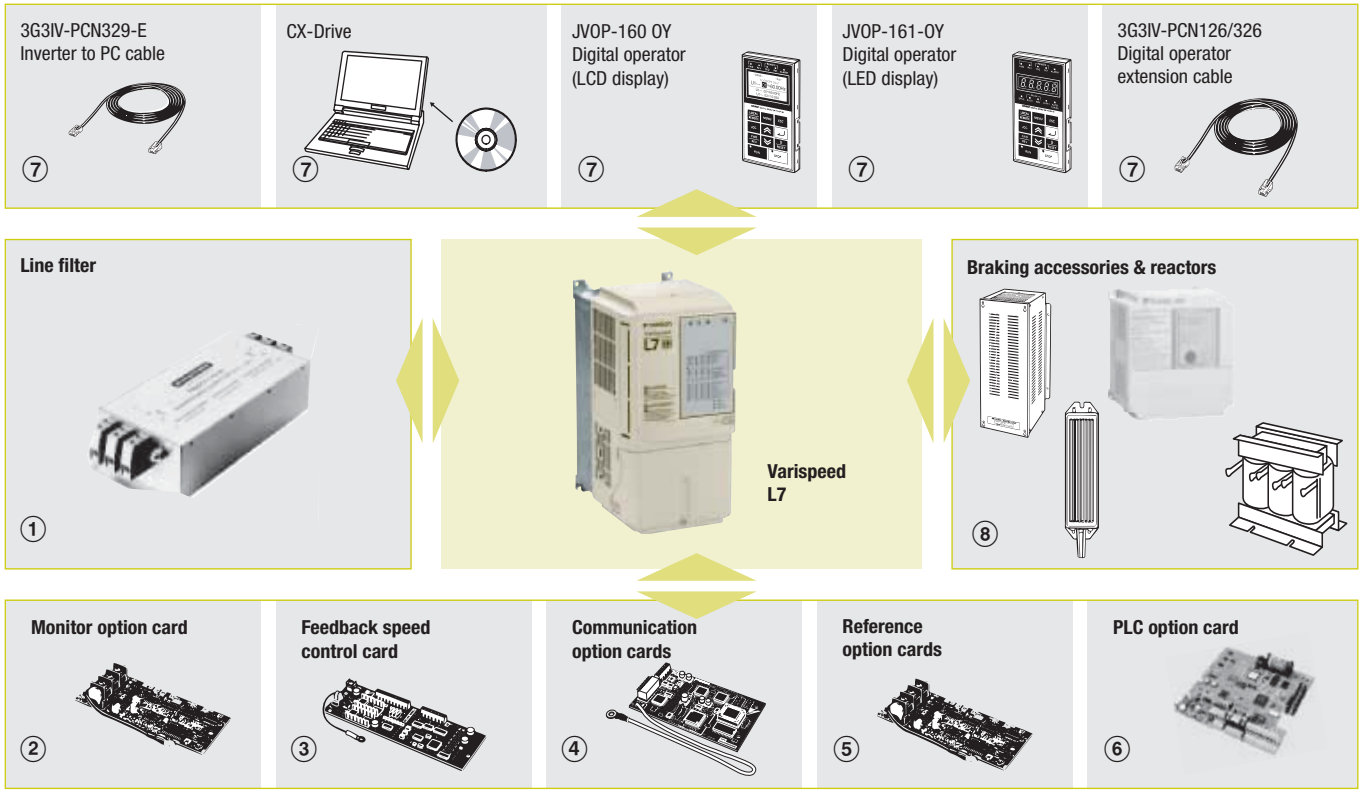
Voltage class	Max. applicable motor output kW	Inverter model CIMR-LC_	Figure	Dimensions in mm												
				W	H	D	W1	H0	H1	H2	H3	D1	t1	t2	d	Weight (kg)
Three-phase 200 V	4.0	2A0018	1	140	260	164	122	-	248	6	-	55	5	-	M5	3.5
	5.5	2A0025				167										4.0
	7.5	2A0033														4.0
	11	2A0047		180	300	187	160		284	8		75				5.6
	15	2A0060		220	350	197	192		335			78			M6	8.7
	18.5	2A0075	2		365			350			15					9.7
	22	2A0085	3	254	534	258	195	400	385	7.5	134	100	2.3	2.3		23
	30	2A0115		279	614		220	450	435		164					28
	37	2A0145		329	630	283	260	550	535		80	110				40
	45	2A0180														40
Three-phase 400 V	4.0	4A0009	1	140	260	164	122	-	248	6	-	55	5	-	M5	3.5
	5.5	4A0015				167										3.9
	7.5	4A0018														3.9
	11	4A0024		180	300		160		284	8						5.4
	15	4A0031				187						75				5.7
	18.5	4A0039		220	350	197	192		335			78			M6	8.3
	22	4A0045	3	254	465	258	195	400	385	7.5	65	100	2.3	2.3		23
	30	4A0060		279	515		220	450	435							27
	37	4A0075		329	630		260	510	495		120	105				39
	45	4A0091														39
	55	4A0112				283		550	535		80	110				43
	75	4A0150														45

Made to drive lifts

The L7 is the ultimate drive for lift applications up to 3 m/s. High starting torque, silent operation, lift-specific operator interface and operation with both AC and PM motors are standard features of the L7 inverter.

- One model to control AC and PM motors
- Silent operation with no current de-rating
- Safety Cat 3 stop. Cat.0 embedded as standard.
- UPS or battery operation for emergency rescue.
- Motor auto-tuning at standstill and at RUN
- Meets Harmonic distortion normative EN12015 using AC Reactor accessory

Ordering information



Varispeed L7

200 V

Specifications			Order code
3 x 200 V	3.7 kW	17.5 A	CIMR-L7Z23P7
	5.5 kW	25 A	CIMR-L7Z25P5
	7.5 kW	33 A	CIMR-L7Z27P5
	11 kW	49 A	CIMR-L7Z2011
	15 kW	64 A	CIMR-L7Z2015
	18.5 kW	80 A	CIMR-L7Z2018
	22 kW	96 A	CIMR-L7Z2022
	30 kW	130 A	CIMR-L7Z2030
	37 kW	160 A	CIMR-L7Z2037
	45 kW	183 A	CIMR-L7Z2045
	55 kW	224 A	CIMR-L7Z2055

400 V

Specifications			Order code
3 x 400 V	4.0 kW	11 A	CIMR-L7Z44P0
	5.5 kW	14 A	CIMR-L7Z45P5
	7.5 kW	18 A	CIMR-L7Z47P5
	11 kW	27 A	CIMR-L7Z4011
	15 kW	34 A	CIMR-L7Z4015
	18.5 kW	41 A	CIMR-L7Z4018
	22 kW	48 A	CIMR-L7Z4022
	30 kW	65 A	CIMR-L7Z4030
	37 kW	80 A	CIMR-L7Z4037
	45 kW	96 A	CIMR-L7Z4045
	55 kW	128 A	CIMR-L7Z4055

① Line filters

200 V

Inverters	Line filters			
	EN55011 class	Current (A)	Weight (kg)	Order code
CIMR-L7Z23P7	B, 25 m A 100 m	35	1.4	3G3RV-PFI2035-SE
CIMR-L7Z25P5				
CIMR-L7Z27P5	B, 25 m A 100 m	60	3	3G3RV-PFI2060-SE
CIMR-L7Z2011				
CIMR-L7Z2015	B, 25 m A 100 m	100	4.9	3G3RV-PFI2100-SE
CIMR-L7Z2018				
CIMR-L7Z2022	A, 100 m	130	4.3	3G3RV-PFI2130-SE
CIMR-L7Z2030				
CIMR-L7Z2037	A, 100 m	160	6.0	3G3RV-PFI2160-SE
CIMR-L7Z2045	A, 100 m	200	11.0	3G3RV-PFI2200-SE
CIMR-L7Z2055				

400 V

Inverters	Line filters			
	EN55011 class	Current (A)	Weight (kg)	Order code
CIMR-L7Z44P0	B, 25 m A 100 m	18	1.3	3G3RV-PFI3018-SE
CIMR-L7Z45P5				
CIMR-L7Z47P5	B, 25 m A 100 m	21	1.8	3G3RV-PFI3021-SE
CIMR-L7Z4011	B, 25 m A 100 m	35	2.2	3G3RV-PFI3035-SE
CIMR-L7Z4015	B, 25 m A 100 m	60	4.0	3G3RV-PFI3060-SE
CIMR-L7Z4018				
CIMR-L7Z4022	A, 100 m	70	3.4	3G3RV-PFI3070-SE
CIMR-L7Z4030				
CIMR-L7Z4037	A, 100 m	100	4.5	3G3RV-PFI3100-SE
CIMR-L7Z4045				
CIMR-L7Z4055	A, 100 m	130	4.7	3G3RV-PFI3130-SE

① Line filters

Inverters	Line filters			
	EN55011 class	Current (A)	Weight (kg)	Order code
CIMR-L7Z44P0	B, 25 m A 100 m	18	1,0	3G3RV-PFI3018B-SE
CIMR-L7Z45P5				
CIMR-L7Z47P5	B, 25 m A 100 m	35	1,5	3G3RV-PFI3035B-SE
CIMR-L7Z4011				
CIMR-L7Z4015	B, 25 m A 100 m	60	2,2	3G3RV-PFI3060B-SE
CIMR-L7Z4018				

② Monitor option cards

Type	Description	Function	Order code
Monitor option card	Digital output card	Outputs isolated type digital signal for monitoring inverter run state (alarm signal, zero speed detection etc.) . Output channel: Photo coupler 6 channels (48 V, 50 mA or less) Relay contact output 2 channels (250 VAC, 1 A or less, 30 VDC, 1 A or less)	DO-08
	2C-relay output card	Two multi-function contact outputs (2C-relay) can be used other than those of the inverter proper unit.	DO-02C

③ Feedback speed control cards

Type	Description	Function	Order code
Feedback speed control card	PG speed controller card (Used for V/f control with PG or Flux Vector)	Phase A pulse (single pulse) inputs (voltage, complementary, open collector input) PG frequency range: Approx. 30 kHz max. [Power supply output for PG: +12 V, max. current 200 mA] Pulse monitor output: +12 V, 20 mA	PG-A2
		Phase A and B pulse inputs (exclusively for complementary input) PG frequency range: Approx. 30 kHz max. [Power supply output for PG: +12 V, Max. current 200 mA] Pulse monitor output: Open collector, +24 V, Max. current 30 mA	PG-B2
		Phase A pulse (differential pulse) input for V/f control (RS-422 input) PG frequency range: Approx. 300 kHz max. [Power supply output for PG: +5 V or +12 V, Max. current 200 mA] Pulse monitor output: RS-422	PG-D2
		Phase A, B and Z pulse (differential pulse) inputs (RS-422 input) PG frequency range: Approx. 300 kHz max. [Power supply output for PG: +5 V or +12 V, Max. current 200 mA] Pulse monitor output: RS-422	PG-X2
		Hyperface and endat encoder option.	PG-F2

④ Communication option cards

Type	Description	Function	Order code
Communication option card	DeviceNet option card	Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through DeviceNet communication with the host controller.	SI-N1
	PROFIBUS-DP option card	Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through PROFIBUS-DP communication with the host controller.	SI-P1
	CANopen option card	Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through CANopen communication with the host controller. It supports DSP402 CANOpen standard protocol for drives control in speed control.	SI-S1
	LONWORKS option card	Used for HVAC control, running or stopping the inverter, setting or referencing parameters, and monitoring output current, watt-hours, or similar items through LONWORKS communications with peripheral devices.	SI-J

⑤ Reference option cards

Description	Function	Order code
Analogue input card	2 channel high resolution analogue input card Channel 1: 0 to 10 V (20 kΩ) Channel 2: 4 to 20 mA (250 Ω) Resolution 14 bit	AI-14U
	3 channel high resolution analogue input card Signal level: -10 to +10 V (20 kΩ) 4 to 20 mA (250 Ω) Resolution: 13 bit + sign	AI-14B
Digital reference card	8 bit digital speed reference input card	DI-08
	16 bit digital speed reference input card	DI-16H2

⑥ PLC option boards

Description	Function	Order code
PLC option	Full PLC features, wireless installation and seamless access to the inverter parameters and analogue/digital inputs and outputs. Embedded CompuBus/S fieldbus Standard Omron tools can be used for programming	3G3RV-P10ST8-E
PLC option with DeviceNet	Same features than standard models with DeviceNet support.	3G3RV-P10ST8-DRT-E

⑦ Accessories

Type	Description	Function	Order code
Digital operator	5 lines LCD digital operator 7 language support	Configuration and monitoring device.	JVOP-160-OY
	7 segment LED digital operator		JVOP-161-OY
Accessories	Digital operator extension cable 1 meter 3 meters	Cable to conncect the inverter and the digital operator when it's not plugged into the inverter.	3G3IV-PCN126 3G3IV-PCN326
	PC configuration cable	Cable to connect inverter and PC.	3G3IV-PCN329-E

⑦ Software

Description	Installation	Order code
Computer software	Configuration and monitoring software tool for Drives	CX-DRIVE
Computer software	Complete Omron automation software including CX-Drive	CX-ONE

For full specifications please refer to chapter software on page 582.

⑧ Braking unit, braking resistor unit & reactors

Note: For braking units specifications and models refer to the L7 datasheet Cat-No: I22E-EN-02

AC reactors

200 V

Inverter	Function	Description	Weight (kg)	Order Code
CIMR-L7Z23P7	AC reactor is needed to be according EN12015 harmonic distortion normative	Reactor III 3.7 kW (2.28 mH-21 A)	4.8	L7Z-PUZ23P7-CE
CIMR-L7Z25P5		Reactor III 5.5 kW (5.10 mH-17 A)	6.2	L7Z-PUZ25P5-CE
CIMR-L7Z27P5		Reactor III 7.5 kW (1.20 mH-40 A)	9	L7Z-PUZ27P5-CE
CIMR-L7Z2011		Reactor III 11 kW (0.92 mH-52 A)	14.5	L7Z-PUZ2011-CE
CIMR-L7Z2015		Reactor III 15 kW (0.70 mH-68 A)	17	L7Z-PUZ2015-CE
CIMR-L7Z2018		Reactor III 18.5 kW (0.50 mH-96 A)	22	L7Z-PUZ2018-CE
CIMR-L7Z2022		Reactor III 22 kW (0.31 mH-156 A)	28	L7Z-PUZ2022-CE
CIMR-L7Z2030		Reactor III 30 kW (1.23 mH-78 A)	38	L7Z-PUZ2030-CE
CIMR-L7Z2037		Reactor III 37 kW (0.27 mH-176 A)	47	L7Z-PUZ2037-CE
CIMR-L7Z2045		Reactor III 45 kW (0.22 mH-220 A)	58	L7Z-PUZ2045-CE
CIMR-L7Z2055		Reactor III 55 kW (0.18 mH-269 A)	72	L7Z-PUZ2055-CE

400 V

Inverter	Function	Description	Weight (kg)	Order Code
CIMR-L7Z44P0	AC reactor is needed to be according EN12015 harmonic distortion normative	Reactor III 3.7 kW (7 mH-13 A)	5	L7Z-PUZ44P0-CE
CIMR-L7Z45P5		Reactor III 5.5 kW (5.10 mH-17 A)	6.4	L7Z-PUZ45P5-CE
CIMR-L7Z47P5		Reactor III 7.5 kW (4.35 mH-22 A)	9.5	L7Z-PUZ47P5-CE
CIMR-L7Z4011		Reactor III 11 kW (3 mH-32 A)	15	L7Z-PUZ4011-CE
CIMR-L7Z4015		Reactor III 15 kW (2.34 mH-41 A)	17.5	L7Z-PUZ4015-CE
CIMR-L7Z4018		Reactor III 18.5 kW (1.95 mH-49 A)	22.5	L7Z-PUZ4018-CE
CIMR-L7Z4022		Reactor III 22 kW (1.65 mH-58 A)	28	L7Z-PUZ4022-CE
CIMR-L7Z4030		Reactor III 30 kW (1.23 mH-78 A)	38	L7Z-PUZ4030-CE
CIMR-L7Z4037		Reactor III 37 kW (1 mH-96 A)	47	L7Z-PUZ4037-CE
CIMR-L7Z4045		Reactor III 45 kW (0.83 mH-115 A)	58	L7Z-PUZ4045-CE
CIMR-L7Z4055		Reactor III 55 kW (0.62 mH-154 A)	72	L7Z-PUZ4055-CE

Specifications

200 V class

Order code CIMR-L7ZZ_			23P7	25P5	27P5	2011	2015	2018	2022	2030	2037	2045	2055
Max. applicable motor output*1		kW	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55
Output characteristics	Inverter capacity	kVA	7	10	14	20	27	33	40	54	67	76	93
	Rated current	A	17.5	25	33	49	64	80	96	130	160	183	224
	Max. voltage		3-phase; 200, 208, 220, 230, or 240 VAC (proportional to input voltage.)										
	Max. output frequency		Up to 120Hz available by programming.										
Power supply	Rated input voltage and frequency		3-phase, 200/208/220/230/240 VAC, 50/60 Hz										
	Rated input current A		21	25	40	52	68	96	115	156	176	220	269
	Allowable voltage fluctuation		+10%, -15%										
	Allowable frequency fluctuation		±5%										
Harmonic wave prevention	DC reactor		Optional						Built in				
	12-pulse input		Not possible						Possible				

*1 The maximum applicable motor output is given for a standard 4-pole Yaskawa motor. When selecting the actual motor and Inverter, be sure that the inverter rated current is applicable for the motor's rated current.

Note: A transformer with dual star-delta secondary is required on the power supply for 12-pulse rectification.

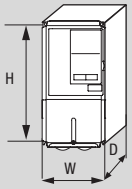
400 V class

Order code CIMR-L7ZZ_			44P0	45P5	47P5	4011	4015	4018	4022	4030	4037	4045	4055
Max. applicable motor output*1		kW	4.0	5.5	7.5	11	15	18.5	22	30	37	45	55
Output characteristics	Inverter capacity	kVA	9	12	15	22	28	34	40	54	67	80	106
	Rated current	A	11	14	18	27	34	41	48	65	80	96	128
	Max. voltage		3-phase; 380, 400, 415, 440, 460, or 480 VAC (proportional to input voltage.)										
	Max. output frequency		120 Hz max.										
Power supply	Rated input voltage and frequency		3-phase, 380, 400, 415, 440, 460 or 480 VAC, 50/60 Hz										
	Rated input current A		13.2	17	22	32	41	49	58	78	96	115	154
	Allowable voltage fluctuation		+10%, -15%										
	Allowable frequency fluctuation		±5%										
Harmonic wave prevention	DC reactor		Optional						Built in				
	12-pulse input		Not possible						Possible				

*1 The maximum applicable motor output is given for a standard 4-pole Yaskawa motor. When selecting the actual motor and inverter, be sure that the inverter's rated current is applicable for the motor's rated current.

Note: A transformer with dual star-delta secondary is required on the power supply for 12-pulse rectification.

Dimensions

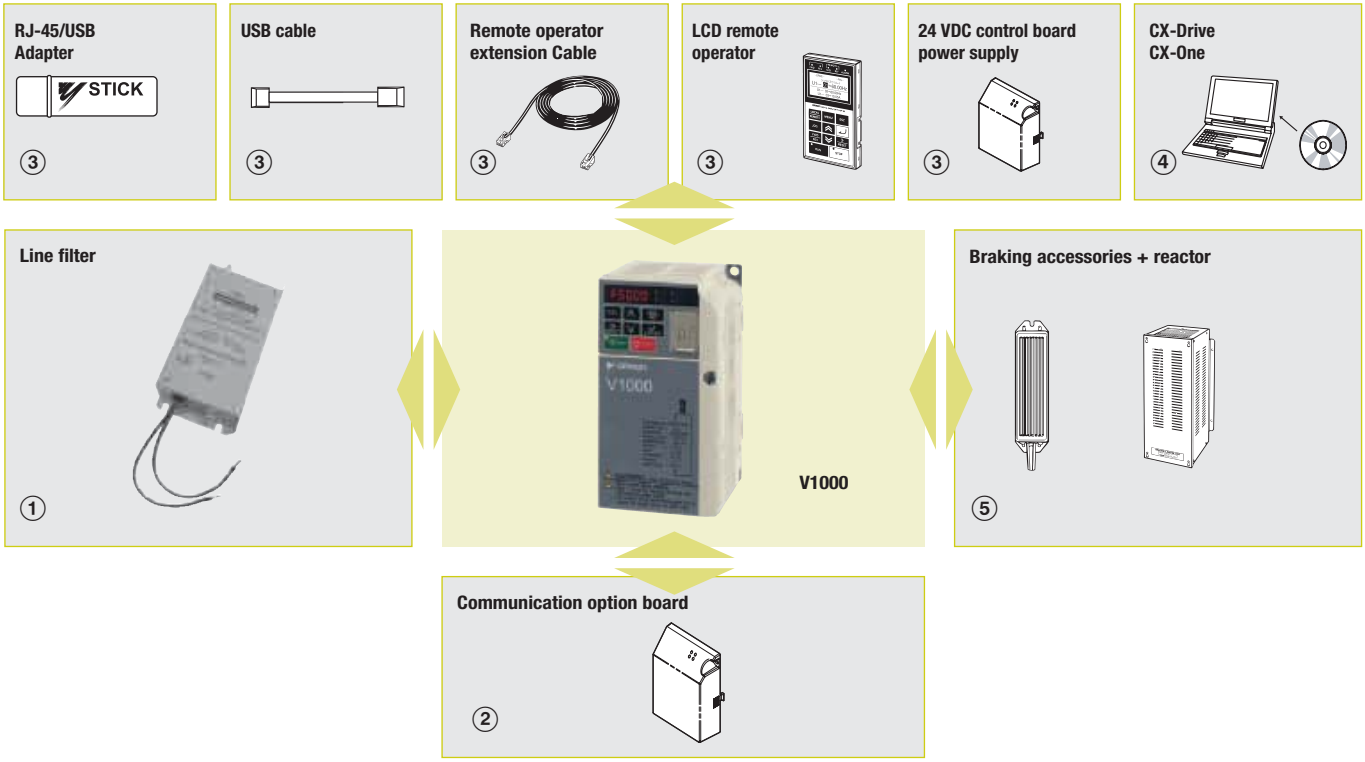
Specifications		Drive model	H	W	D	
3-phase 200 VAC	3.7 kW	CIMR-L7Z23P77	280	140	177	
	5.5 kW	CIMR-L7Z25P57				
	7.5 kW	CIMR-L7Z27P57	300	200	197	
	11 kW	CIMR-L7Z20117	310			
	15 kW	CIMR-L7Z20157	350	240	207	
	18.5 kW	CIMR-L7Z20187	380			
	22 kW	CIMR-L7Z20227	464	254	258	
	30 kW	CIMR-L7Z20300	450	275	258	
	37 kW	CIMR-L7Z20370	600	375	298	
	45 kW	CIMR-L7Z20450			328	
	55 kW	CIMR-L7Z20550	725	450	348	
3-phase 400 VAC	4.0 kW	CIMR-L7Z44P77	280	140	177	
	5.5 kW	CIMR-L7Z45P57				
	7.5 kW	CIMR-L7Z47P57	300	200	197	
	11 kW	CIMR-L7Z40117				
	15 kW	CIMR-L7Z40157	350	240	207	
	18.5 kW	CIMR-L7Z40187				
	22 kW	CIMR-L7Z40227	535	275	258	
	30 kW	CIMR-L7Z40307				
	37 kW	CIMR-L7Z40377	715	325	283	
	45 kW	CIMR-L7Z40457				
	55 kW	CIMR-L7Z40557				

10 x 100 = 1 – Quality has a new formula

Thanks to the patented design of the V1000 series and modern manufacturing, it is built for a 10 year life-time without maintenance. The new features guarantee a 100% expectation match. And with a field failure rate of less than 1 in 10.000, the V1000 series inverter will outperform all other inverters long after it has been implemented.

- Up to 15 kW / 18.5 kW
- Built-in filter version
- Current vector control
- IM and PM motor control
- Embedded safety stop function Category 3 (EN954-1)

Ordering information



V1000

Specifications					Order code	
Voltage	Heavy Duty		Normal Duty		Standard	Built-in filter
1x200 V	0.12 kW	0.8 A	0.18 kW	0.8 A	VZAB0P1BAA	VZAB0P1HAA
	0.25 kW	1.6 A	0.37 kW	1.6 A	VZAB0P2BAA	VZAB0P2HAA
	0.55 kW	3.0 A	0.75 kW	3.5 A	VZAB0P4BAA	VZAB0P4HAA
	1.1 kW	5.0 A	1.1 kW	6.0 A	VZAB0P7BAA	VZAB0P7HAA
	1.5 kW	8.0 A	2.2 kW	9.6 A	VZAB1P5BAA	VZAB1P5HAA
	2.2 kW	11.0 A	3.0 kW	12.0 A	VZAB2P2BAA	VZAB2P2HAA
	4.0 kW	17.5 A	5.5 kW	21.0 A	VZAB4P0BAA	VZAB4P0HAA
3x200 V	0.12 kW	0.8 A	0.18 kW	0.8 A	VZA20P1BAA	VZA20P1HAA
	0.25 kW	1.6 A	0.37 kW	1.6 A	VZA20P2BAA	VZA20P2HAA
	0.55 kW	3.0 A	0.75 kW	3.5 A	VZA20P4BAA	VZA20P4HAA
	1.1 kW	5.0 A	1.1 kW	6.0 A	VZA20P7BAA	VZA20P7HAA
	1.5 kW	8.0 A	2.2 kW	9.6 A	VZA21P5BAA	VZA21P5HAA
	2.2 kW	11.0 A	3.0 kW	12.0 A	VZA22P2BAA	VZA22P2HAA
	4.0 kW	17.5 A	5.5 kW	21.0 A	VZA24P0BAA	VZA24P0HAA
	5.5 kW	25.0 A	7.5 kW	30.0 A	VZA25P5FAA	VZA25P5HAA
	7.5 kW	33.0 A	11.0 kW	40.0 A	VZA27P5FAA	VZA27P5HAA
	11 kW	47.0 A	15.0 kW	56.0 A	VZA2011FAA	VZA2011HAA
	15 kW	60.0 A	18.5 kW	69.0 A	VZA2015FAA	VZA2015HAA

Specifications					Order code	
Voltage	Heavy Duty		Normal Duty		Standard	Built-in filter
3x400 V	0.37 kW	1.2 A	0.18 kW	1.2 A	VZA40P2BAA	VZA40P2HAA
	0.55 kW	1.8 A	0.37 kW	2.1 A	VZA40P4BAA	VZA40P4HAA
	1.1 kW	3.4 A	0.75 kW	4.1 A	VZA40P7BAA	VZA40P7HAA
	1.5 kW	4.8 A	1.1 kW	5.4 A	VZA41P5BAA	VZA41P5HAA
	2.2 kW	5.5 A	2.2 kW	6.9 A	VZA42P2BAA	VZA42P2HAA
	3.0 kW	7.2 A	3.0 kW	8.8 A	VZA43P0BAA	VZA43P0HAA
	4.0 kW	9.2 A	5.5 kW	11.1 A	VZA44P0BAA	VZA44P0HAA
	5.5 kW	14.8 A	7.5 kW	17.5 A	VZA45P5FAA	VZA45P5HAA
	7.5 kW	18.0 A	11.0 kW	23.0 A	VZA47P5FAA	VZA47P5HAA
	11 kW	24.0 A	15.0 kW	31.0 A	VZA4011FAA	VZA4011HAA
	15 kW	31.0 A	18.5 kW	38.0 A	VZA4015FAA	VZA4015HAA

① Line filters

Specifications				Order code	
Power supply	Inverter V1000	Rated current (A)	Weight (kg)	Filter Rasmi	Filter Schaffner
1x200 V	VZAB0P1BAA	10	0,6	A1000-FIV1010-RE	A1000-FIV1010-SE
	VZAB0P2BAA				
	VZAB0P4BAA				
	VZAB0P7BAA	20	1	A1000-FIV1020-RE	A1000-FIV1020-SE
	VZAB1P5BAA				
	VZAB2P2BAA	30	1,1	A1000-FIV1030-RE	A1000-FIV1030-SE
	VZAB4P0BAA	40	1,2	A1000-FIV1040-RE	A1000-FIV1040-SE
3x400 V	VZA40P2BAA	5	1,1	A1000-FIV3005-RE	A1000-FIV3005-SE
	VZA40P4BAA				
	VZA40P7BAA	10	1,1	A1000-FIV3010-RE	A1000-FIV3010-SE
	VZA41P5BAA				
	VZA42P2BAA				
	VZA43P0BAA			A1000-FIV3020-RE	A1000-FIV3020-SE
	VZA44P0BAA	20	1,3		
	VZA45P5FAA	30	2,1	A1000-FIV3030-RE	A1000-FIV3030-SE
	VZA47P5FAA				
	VZAB011FAA	50	2,9	A1000-FIV1050-RE	Under Development
	VZAB015FAA			A1000-FIV10xx-RE	A1000-FIV10xx-RE
3x200 V	VZA20P1BAA	10	0,8	A1000-FIV2010-RE	A1000-FIV2010-SE
	VZA20P2BAA				
	VZA20P4BAA				
	VZA20P7BAA				
	VZA21P5BAA	20	1,1	A1000-FIV2020-RE	A1000-FIV2020-SE
	VZA22P2BAA				
	VZA24P0BAA	30	1,3	A1000-FIV2030-RE	A1000-FIV2030-SE
	VZA25P5FAA	50	2,4	A1000-FIV2060-RE	Under Development
	VZA27P5FAA				
	VZAB011FAA	100	4,2	A1000-FIV2100-RE	Under Development
	VZAB015FAA				

② Communication cards

Type	Description	Function	Order code
Communication option board	DeviceNet option card	Used for running or stopping the inverter, setting or referencing parameters, and ,monitoring output frequency, output current, or similar items through DeviceNet communication with the host controller.	SI-N3
	PROFIBUS-DP option card	Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through PROFIBUS-DP communication with the host controller.	SI-P3
	Can open option card	Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through CANopen communication with the host controller.	SI-S3
	CompoNet option card	Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through CompoNet communication with the host controller.	A1000-CRT1

③ Accessories

Types	Description	Functions	Order code
Digital operator	LCD remote operator	LCD Display operator with language support	JVOP-180
Accessories	USB converter	USB converter unit with copy and backup function	JVOP-181
	Remote operator cable (1m)	Cable for connecting remote operator	72606-WV001
	Remote operator cable (3m)		72606-WV003
	24 VDC option board	24 VDC control board power supply	PS-UDC24

④ Computer software

Types	Description	Installation	Order code
Software	Computer software	Configuration and monitoring software tool	CX-drive
	Computer software	Configuration and monitoring software tool	CX-One

For full specifications please refer to chapter software on page 582.

⑤ Braking unit, braking resistor unit.

Specifications

200 V class

Single-phase: VZ-_		B0P1	B0P2	B0P4	B0P7	B1P5	B2P2	B4P0	–	–	–	–
Three-phase: VZ-_		20P1	20P2	20P4	20P7	21P5	22P2	24P0	25P5	27P5	2011	2015
Motor kW *1	For HD setting	0.12	0.25	0.4	0.75	1.5	2.2	4.0	5.5	7.5	11	15
	For ND setting	0.18	0.37	0.75	1.1	2.2	3.0	5.5	7.5	11	15	18.5
Output characteristics	Inverter capacity kVA	0.3	0.6	1.1	1.9	3.0	4.2	6.7	9.5	13	18	23
	Rated output current (A) at HD	0.8	1.6	3.0	5.0	8.0	11.0	17.5	25.0	33.0	47.0	60.0
	Rated output current (A) at ND	1.2	1.9	3.5	6.0	9.6	12.0	21.0	30.0	40.0	56.0	69.0
	Max. output voltage	Proportional to input voltage: 0 to 240 V										
	Max. output frequency	400 Hz										
Power supply	Rated input voltage and frequency	Single-phase 200 to 240 V 50/60 Hz 3-phase 200 to 240 V 50/60 Hz										
	Allowable voltage fluctuation	-15% to +10%										
	Allowable frequency fluctuation	+5%										

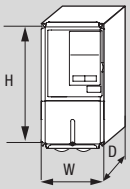
*1 Based on a standard 4-pole motor for maximum applicable motor output:
Constant Torque (CT) mode with a 150% overload capacity
Variable Torque (VT) mode with a 120% overload capacity

400 V class

Three-phase: VZ-_		40P2	40P4	40P7	41P5	42P2	43P0	44P0	45P5	47P5	4011	4015
Motor kW*1	For HD setting	0.2	0.4	0.75	1.5	2.2	3.0	4.0	5.5	7.5	11	15
	For ND setting	0.37	0.75	1.5	2.2	3.0	3.7	5.5	7.5	11	15	18.5
Output characteristics	Inverter capacity kVA	0.9	1.4	2.6	3.7	4.2	5.5	7.2	9.2	14.8	18	24
	Rated output current (A) at HD	1.2	1.8	3.4	4.8	5.5	7.2	9.2	14.8	18.0	24	31
	Rated output current (A) at ND	1.2	2.1	4.1	5.4	6.9	8.8	11.1	17.5	23	31	38
	Max. output voltage	0 to 480 V (proportional to input voltage)										
	Max. output frequency	400 Hz										
Power supply	Rated input voltage and frequency	3-phase 380 to 480 VAC, 50/60 Hz										
	Allowable voltage fluctuation	-15% to +10%										
	Allowable frequency fluctuation	+5%										

*1 Based on a standard 4-pole motor for maximum applicable motor output:
Constant Torque (CT) mode with a 150% overload capacity
Variable Torque (VT) mode with a 120% overload capacity

Dimensions

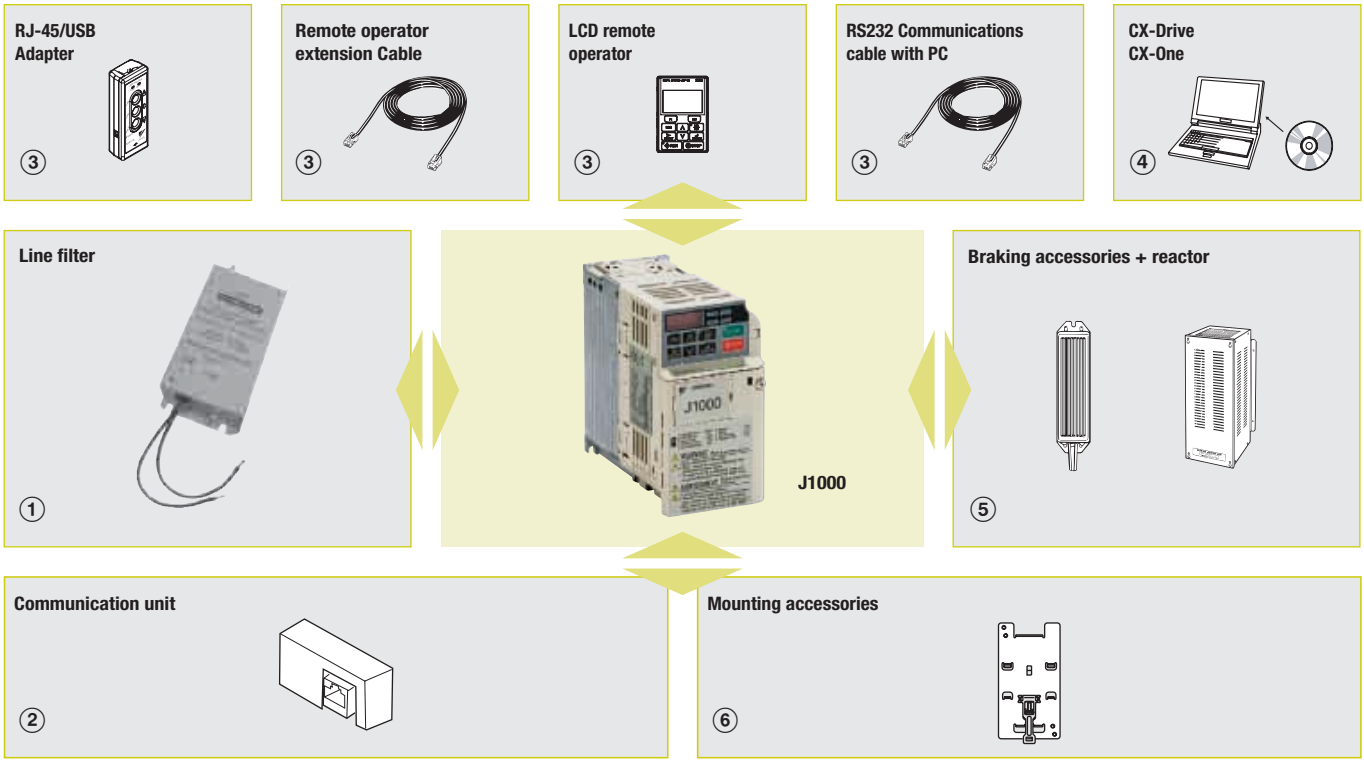
Specifications		Drive model	H	W	D	
1-phase 200 VAC	0,12 kW	VZAB0P1BAA	128	68	76	
	0,25 kW	VZAB0P2BAA				
	0,55 kW	VZAB0P4BAA			118	
	1,1 kW	VZAB0P7BAA		108	137.5	
	1,5 kW	VZAB1P5BAA			154	
	2,2 kW	VZAB2P2BAA		140	163	
	4,0 kW	VZAB4P0BAA	Under development			
3-phase 200 VAC	0,12 kW	VZA20P1BAA	128	68	76	
	0,25 kW	VZA20P2BAA				
	0,55 kW	VZA20P4BAA			108	
	1,1 kW	VZA20P7BAA			128	
	1,5 kW	VZA21P5BAA		108	129	
	2,2 kW	VZA22P2BAA			137.5	
	4,0 kW	VZA24P0BAA		140	143	
	5,5 kW	VZA25P5FAA	254		140	
	7,5 kW	VZA27P5FAA				
	11 kW	VZA2011FAA	290	180	163	
	15 kW	VZA2015FAA	358	220	187	
3-phase 400 VAC	0,37 kW	VZA40P2BAA	108	128	81	
	0,55 kW	VZA40P4BAA			99	
	1,1 kW	VZA40P7BAA			137.5	
	1,5 kW	VZA41P5BAA			154	
	2,2 kW	VZA42P2BAA				
	3,0 kW	VZA43P0BAA				
	4,0 kW	VZA44P0BAA	128	140	143	
	5,5 kW	VZA45P5FAA	254		140	
	7,5 kW	VZA47P5FAA				
	11 kW	VZA4011FAA	290	180	143	
	15 kW	VZA4015FAA			163	

A compact and easy to use inverter series

The new J1000 inverter has been designed to become the basic inverter in applications like conveyors, fans and pumps with small power ratings. It's so easy to install, set-up, operate run but at same time covering all the needs for such a kinds of applications.

- V/f controlled inverter
- Torque performance (150% / 3 Hz)
- Double rating ND 120%/1 min and HD 150%/1 min
- Overload detection function (150% during 60 s)
- Motor thermal function
- Freely configurable V/f curve
- Optional RS-232C/485 communication - Modbus,

Ordering information



J1000

Specifications					Order code
Voltage	Heavy Duty		Normal Duty		
1x200 V	0.12 kW	0.8 A	0.18 kW	0.8 A	JZAB0P1BAA
	0.25 kW	1.6 A	0.37 kW	1.6 A	JZAB0P2BAA
	0.4 kW	3.0 A	0.75 kW	3.5 A	JZAB0P4BAA
	1.1 kW	5.0 A	1.1 kW	6.0 A	JZAB0P7BAA
	1.5 kW	8.0 A	2.2 kW	9.6 A	JZAB1P5BAA
3x200 V	0.12 kW	0.8 A	0.18 kW	0.8 A	JZA20P1BAA
	0.25 kW	1.6 A	0.37 kW	1.6 A	JZA20P2BAA
	0.4 kW	3.0 A	0.75 kW	3.5 A	JZA20P4BAA
	1.1 kW	5.0 A	1.1 kW	6.0 A	JZA20P7BAA
	1.5 kW	8.0 A	2.2 kW	9.6 A	JZA21P5BAA
	2.2 kW	11.0 A	3.0 kW	12.0 A	JZA22P2BAA
	4.0 kW	17.5 A	5.5 kW	21.0 A	JZA24P0BAA
3x400 V	0.2 kW	1.2 A	0.37 kW	1.2 A	JZA40P2BAA
	0.55 kW	1.8 A	0.75 kW	2.1 A	JZA40P4BAA
	1.1 kW	3.4 A	1.5 kW	4.1 A	JZA40P7BAA
	1.5 kW	4.8 A	2.2 kW	5.4 A	JZA41P5BAA
	2.2 kW	5.5 A	3.0 kW	6.9 A	JZA42P2BAA
	3.0 kW	7.2 A	4.0 kW	8.8 A	JZA43P0BAA
	4.0 kW	9.2 A	5.5 kW	11.1 A	JZA44P0BAA

① Line filters

Specifications		Line filter Schaffner			Line filter Rasmi		
Voltage	Inverter J1000	Rated current (A)	Weight (kg)	Order code	Rated current (A)	Weight (kg)	Order code
3-Phase 200 VAC	JZA20P1BAA	10	0.7	A1000-FIV2010-SE	10	0.8	A1000-FIV2010-RE
	JZA20P2BAA						
	JZA20P4BAA						
	JZA20P7BAA						
	JZA21P5BAA	20	0.9	A1000-FIV2020-SE	20	1.1	A1000-FIV2020-RE
	JZA22P2BAA						
	JZA24P0BAA	30	1.0	A1000-FIV2030-SE	30	1.3	A1000-FIV2030-RE
Single-Phase 200 VAC	JZAB0P1BAA	10	0.5	A1000-FIV1010-SE	10	0.6	A1000-FIV1010-RE
	JZAB0P2BAA						
	JZAB0P4BAA						
	JZAB0P7BAA	20	0.7	A1000-FIV1020-SE	20	1.0	A1000-FIV1020-RE
	JZAB1P5BAA						
3-Phase 400 VAC	JZA40P2BAA	5	0.5	A1000-FIV3005-SE	5	1.1	A1000-FIV3005-RE
	JZA40P4BAA						
	JZA40P7BAA	10	0.75	A1000-FIV3010-SE	10	1.1	A1000-FIV3010-RE
	JZA41P5BAA						
	JZA42P2BAA						
	JZA43P0BAA						
	JZA44P0BAA	15	1.0	A1000-FIV3020-SE	20	1.3	A1000-FIV3020-RE

① Chokes

Diameter	Description	Order code
21	Recommended for motors below 2.2 KW	A1000-FEV2102-RE
25	Recommended for motors below 15 KW	A1000-FEV2515-RE

② Communication units

Type	Description	Function	Order code
Option units	RS-232C serial communication interface	RS232C communications interface to connect the drive to a PC or the optional copy unit	SI-232/JC
	Remote operator interface	RS232C communication interface for usage with the external LED operator JVOP-182	SI-232/J
	RS-422/485 Serial communications interface	Interface for RS-422/485 communications using the MEMOBUS/Modbus RTU protocol	SI-485/J
	Potentiometer Option	Potentiometer option for setting the frequency reference directly at the drive	AI-V3/J

③ Accessories

Types	Description	Functions	Model
Digital operator	LED remote operator	Remote operator with LED display and copy function, cable length max. 3m.	JVOP-182
	Remote operator cable	3 meters cable for connecting remote operator	A1000-CAVOP300-EE
Accessories	USB converter / USB cable	Allows the user to copy and verify parameter settings between drives. Can also be used as adapter to connect the drive to a PC USB port. SI-232/JC option is required	JVOP-181
	PC connection cable	RS232 PC tool connection cable	A1000-CAVPC232-EE

④ Computer software

Types	Description	Installation	Order code
Software	Computer software	Configuration and monitoring software tool	CX-drive
	Computer software	Configuration and monitoring software tool	CX-One

For full specifications please refer to chapter software on page 582.

⑤ Braking unit, braking resistor unit

Inverter					Braking resistor unit			
Voltage	Max. applicable motor output kW	Inverter model JZA_		Connectable min. resistance Ω	Inverter-mounted type (3%ED, 10 sec max)			
		3-phase	1-phase		Resistance W	No. of used	Braking torque %	Order code
200 V (single-/three-phase)	0.12	20P1	B0P1	300	400	1	220	A1000-REJ0K15400-IE
	0.25	20P2	B0P2	300			220	
	0.55	20P4	B0P4	200	200	1	220	A1000-REJ0K15200-IE
	1.1	20P7	B0P7	120			125	
	1.5	21P5	B1P5	60	100	1	125	A1000-REJ0K15100-IE
	2.2	22P2	–	60	70	1	120	A1000-REJ0K15070-IE
	4.0	24P0	–	32	62	1	100	A1000-REJ0K15062-IE
400 V (three-phase)	0.37	40P2	–	750	750	1	230	A1000-REJ0K10750-IE
	0.55	40P4	–	750			230	
	1.1	40P7	–	510			130	
	1.5	41P5	–	240	400	1	125	A1000-REJ0K15400-IE
	2.2	42P2	–	200	300	1	115	A1000-REJ0K15300-IE
	3.0	43P0	–	100	400	2	105	A1000-REJ0K15400-IE
	4.0	44P0	–					

⑥ Mounting accessories

Types	Description	Applicable models JZA_	Order code
DIN Rail	Necessary to mount the inverter on a DIN rail	20P1/20P2/20P4/20P7 B0P1/B0P2/B0P4	EZZ08122A
		21P5/22P2 B0P7/B1P5 40P2/40P4/40P7/41P5/42P2	EZZ08122B
		24P0 B2P2 44P0	EZZ08122C
Heatsink external mounting attachment	Additional items to mount the inverter with the heatsink out of the panel.	20P1/20P2 B0P1/B0P2	100-034-075
		20P4 B0P4	100-034-076
		20P7	100-034-077
		40P2	100-034-078
		21P5/22P2 B1P5 41P5/42P2/43P0	100-034-79
		24P0 B2P2 44P0	100-034-80
		B4P0	100-036-357
		B0P7 40P4/40P7	100-036-418

Specifications

200 V class

Single-phase: JZA_		B0P1	B0P2	B0P4	B0P7	B1P5	-	-
Three-phase: JZA_		20P1	20P2	20P4	20P7	21P5	22P2	24P0
Motor kW*1	For HD setting	0.12	0.25	0.4	1.1	1.5	2.2	4.0
	For ND setting	0.18	0.37	0.75	1.1	2.2	3.0	5.5
Output characteristics	Inverter capacity kVA	0.3	0.6	1.1	1.9	3.0	4.2	6.7
	Rated output current (A) at HD	0.8	1.6	3.0	5.0	8.0	11.0	17.5
	Rated output current (A) at ND	1.2	1.9	3.5	6.0	9.6	12.0	21.0
	Max. output voltage	Proportional to input voltage: 0 to 240 V						
	Max. output frequency	400 Hz						
Power supply	Rated input voltage and frequency	Single-phase 200 to 240 V 50/60 Hz 3-phase 200 to 240 V 50/60 Hz						
	Allowable voltage fluctuation	-15% to +10%						
	Allowable frequency fluctuation	+5%						

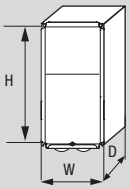
*1 Based on a standard 4-pole motor for maximum applicable motor output:
Heavy Duty (HD) mode with a 150% overload capacity
Normal Duty (ND) mode with a 120% overload capacity

400 V class

Three-phase: JZA_		40P2	40P4	40P7	41P5	42P2	43P0	44P0
Motor kW*1	For HD setting	0.2	0.4	1.1	1.5	2.2	3.0	4.0
	For ND setting	0.37	0.75	1.5	2.2	3.0	3.7	5.5
Output characteristics	Inverter capacity kVA	0.9	1.4	2.6	3.7	4.2	5.5	7.2
	Rated output current (A) at HD	1.2	1.8	3.4	4.8	5.5	7.2	9.2
	Rated output current (A) at ND	1.2	2.1	4.1	5.4	6.9	8.8	11.1
	Max. output voltage	0 to 480 V (proportional to input voltage)						
	Max. output frequency	400 Hz						
Power supply	Rated input voltage and frequency	3-phase 380 to 480 VAC, 50/60 Hz						
	Allowable voltage fluctuation	-15% to +10%						
	Allowable frequency fluctuation	+5%						

*1 Based on a standard 4-pole motor for maximum applicable motor output:
Heavy Duty (HD) mode with a 150% overload capacity
Normal Duty (ND) mode with a 120% overload capacity

Dimensions

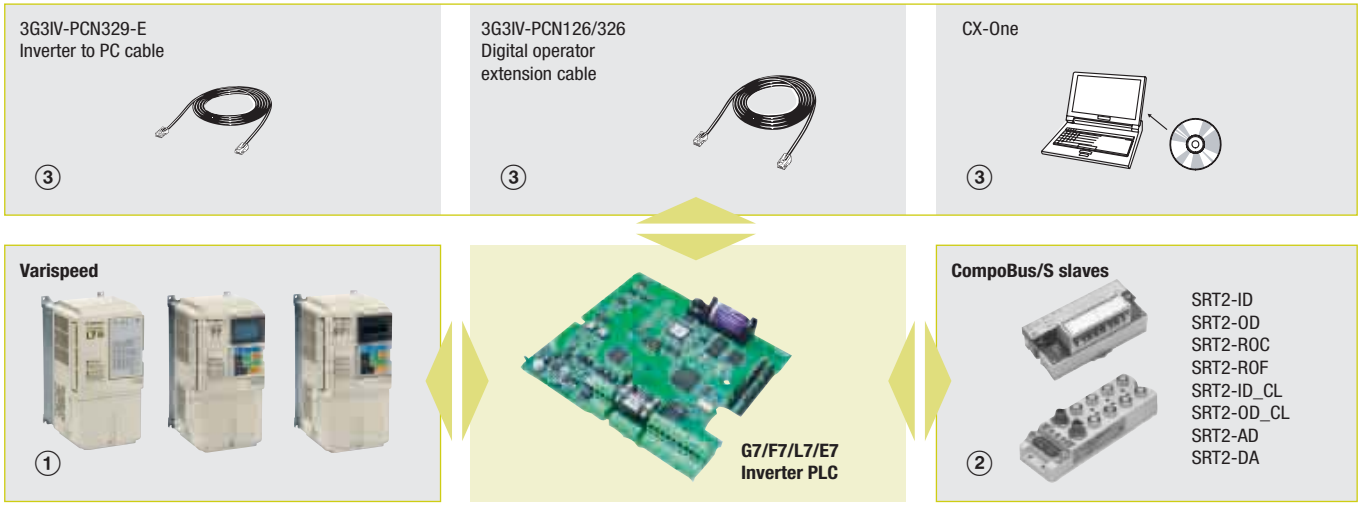
Specifications		Drive model	H	W	D	
1 Phase 200 VAC	0,12 kW	JZAB0P1BAA	128	68	76	
	0,25 kW	JZAB0P2BAA				
	0,55 kW	JZAB0P4BAA			118	
	1,1 kW	JZAB0P7BAA		108	137,5	
	1,5 kW	JZAB1P5BAA			154	
3 Phase 200 VAC	0,12 kW	JZA20P1BAA	128	68	76	
	0,25 kW	JZA20P2BAA				
	0,55 kW	JZA20P4BAA			108	
	1,1 kW	JZA20P7BAA			128	
	1,5 kW	JZA21P5BAA		108	129	
	2,2 kW	JZA22P2BAA			137,5	
	4,0 kW	JZA24P0BAA		140	143	
3 Phase 400 VAC	0,37Kw	JZA40P2BAA	108	128	81	
	0,55 kW	JZA40P4BAA			99	
	1,1 kW	JZA40P7BAA			137,5	
	1,5 kW	JZA41P5BAA			154	
	2,2 kW	JZA42P2BAA				
	3,0 kW	JZA43P0BAA				
	4,0 kW	JZA44P0BAA	140		143	

The Omron PLC embedded into the Omron-Yaskawa inverter family

Bringing PLC functionality to the drive. You will be able to access the inverter parameters, analogue/digital I/Os, control up to 256 I/Os and DeviceNet connectivity. Ideal for applications such as winding/unwinding, HVAC installations, smart lifts and water treatment.

- Fully featured Omron PLC embedded into the inverter
- Interrupt inputs, counter inputs, encoder inputs and pulse outputs
- Mechatronics functions (PWM, pulse and sync.)
- Memory backup
- Programmed using standard Omron PLC software

Ordering information



Inverter PLC

Specifications						Order code
Inputs	Outputs	RTC	CompoBus/S master	RS422 port	DeviceNet slave	
6	4	Yes	Yes	Yes	No	3G3RV-P10ST8-E
6	4	Yes	Yes	NO	Yes	3G3RV-P10ST8-DRT-E

① Inverters

Specifications	Order code
3 level control method inverter	Varispeed G7
Flux vector control inverter	Varispeed F7
Lift inverter	Varispeed L7
Pumps & fans inverter	Varispeed E7

Note: For detailed information please refer to inverter section.

② CompoBus/S slave

Specifications	Order code
CompoBus/S slaves	SRT2-XX*1

*1 For detailed information please refers to network I/O section

③ Cables

Specifications	Order code
Computer connecting cable	3G3IV-PCN329-E
Programmable console cable	3G3IV-PCN126/326

③ Computer software

Specifications	Order code
PLC programming software: CX-Programmer	CX-ONE
Inverter configurator software: CX-Drive	

For full specifications please refer to chapter software on page 582.

Specifications

Specifications by product

Item	3G3RV-P10ST8-E	3G3RV-P10ST8-DRT-E
PLC core	CPM2C-S	CPM2C-S
Inputs	6 24 VDC inputs	6 24 VDC inputs
Outputs	4 sourcing/PNP transistor outputs	4 sourcing/PNP transistor outputs
Peripheral port	Yes	Yes
RS-232C port	Yes	Yes
RS-422 port	No	Yes
Calendar/clock	Yes	Yes
Memory backup	Flash memory and battery	Flash memory and battery
CompoBus/S master interface	Yes	Yes
Encoder interface	Yes	Yes
DeviceNet slave interface	No	Yes

General specifications

Item		Specifications	
		3G3RV-P10ST8-E	3G3RV-P10ST8-DRT-E
Rated power supply voltage		24 VDC $^{+10\%}/_{-15\%}$ (external power supply for I/O)	
Communications power supply voltage		–	11 to 25 VDC (supplied by communications connector)
Vibration resistance		10 to 20 Hz, 9.8 m/s2 max. 20 to 50 Hz, 2 m/s2 max	
Ambient operating temperature		-10 to 45°C	
Ambient operating relative humidity		10 to 90% (no condensation)	
Ambient storage temperature		-20 to 70°C	
Atmosphere		Must be free from corrosive gas	
I/O control method		Cyclic scan method	
Programming language		Ladder chart method	
Processing speed	Basic instructions	0.64 µs (LD)	
	Special instructions	7.8 µs (MOV)	
Program capacity		4,096 words	
Inverter interface		Direct interface with inverter through IR-memory, DM-memory, Transfer command	
CompoBus/S master functions		Remote I/O devices can be allocated up to 256 I/O points (128 inputs and 128 outputs)	
DeviceNet slave functions		Up to 64 words (32 input words and 32 output words) can be allocated to the DeviceNet Master's I/O.	
Interrupts		Interrupt inputs: 2 inputs Response time: 50 µs	
		Interval timer interrupts: 1 input Set value: 0.5 to 319,968 ms Precision: 0.1 ms	Scheduled interrupts One-shot interrupt
High-speed counters	High-speed counter 1 input	No interrupt	
	Differential phase mode (5 kHz) Pulse plus direction input mode (20 kHz) Up/down input mode (20 kHz) Increment mode (20 kHz)	Count-check interrupt (an interrupt can be generated when the count equals the set value or the count lies within a preset range.)	
	Interrupt inputs (counter mode) 2 inputs Incrementing counter (2 kHz) Decrementing counter (2 kHz)	No interrupt	
		Count-up interrupt	
Encoder interface		3 input modes: Differential-phase (up/down) Pulse plus direction Up/down pulse Maximum input frequency 50 kHz Maximum counter range 4,294,967,295 (232-1) Two capture registers, 3 selectable registration inputs One comparison value Counter reset through software or Z-phase Interrupt function	
Pulse outputs		2 outputs: Single-phase pulse output without acceleration/deceleration 10 Hz to 10 kHz 2 outputs: Variable duty ratio pulse output 0.1 to 999.9 Hz, duty ratio 0 to 100% 1 output: Pulse output with trapezoidal acceleration/deceleration Pulse plus direction output, up/down pulse output, 10 Hz to 10 kHz	
Synchronized pulse control		1 point Input frequency range: 10 to 500 Hz, 20 Hz to 1 kHz, or 300 Hz to 20 kHz Output frequency range: 10 Hz to 10 kHz	
Pulse catch inputs		2 bits Minimum pulse input: 50 µs max. Used in common by input interrupts and input interrupt counter mode.	
Clock/calendar function		Shows the current year, month, day of the week, day of the month, hour, minute, and second.	
Communication function		Port 1 = Peripheral and RS-422: Host link, peripheral bus, no-protocol, programming console Port 2 = RS-232C port: Host link, no-protocol, 1:1 PLC link, 1:1 NT link	
Power-interruption hold function		Holds the contents of HR, AR, CNT, and DM Areas.	
Memory backup		Flash memory: Program, read-only DM area, and PC setup Memory backup: The read/write DM area, HR area, AR area, and counter values are backed up. (The battery has a 5-year lifetime at 25°C and it is replaceable.)	
Self-diagnostic function		CPU errors, memory errors, communications errors, setting errors, battery errors	

TURNING IDEAS INTO MACHINES THAT WORK...

This section will enable you to select the ideal motion controller, servo drive and inverter solution for your application. Especially created towards customer needs, our products are developed to help you build machines faster, with more flexibility and with total reliability. Because when we say it works, IT WORKS!

For more information on Omron automation solutions, please visit the Scalable Machine Automation mini-site at

www.scalablemachine.info

Motion & Drives – Table of contents

trajexia TOTAL FREEDOM IN MOTION CONTROL

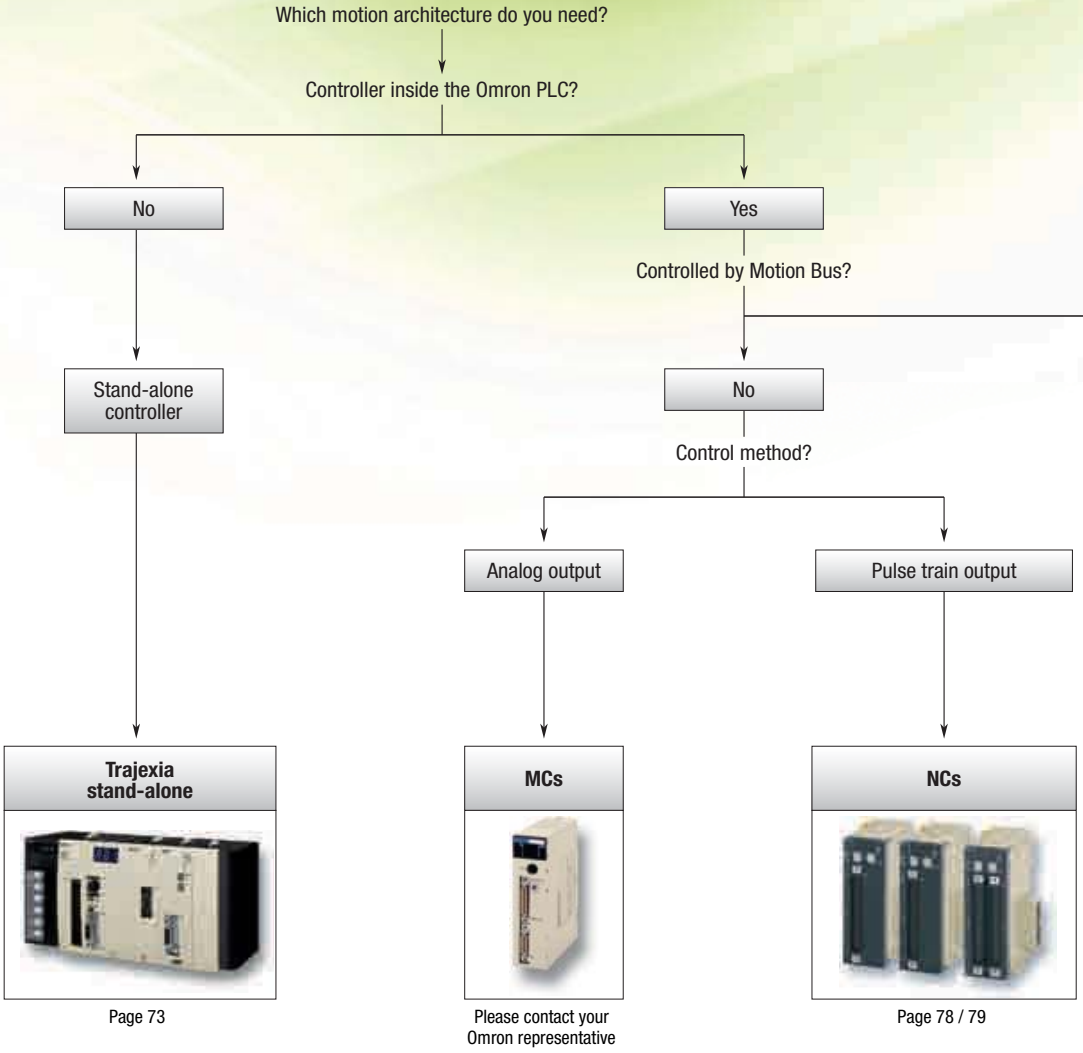
The advanced motion controller that puts you in control!

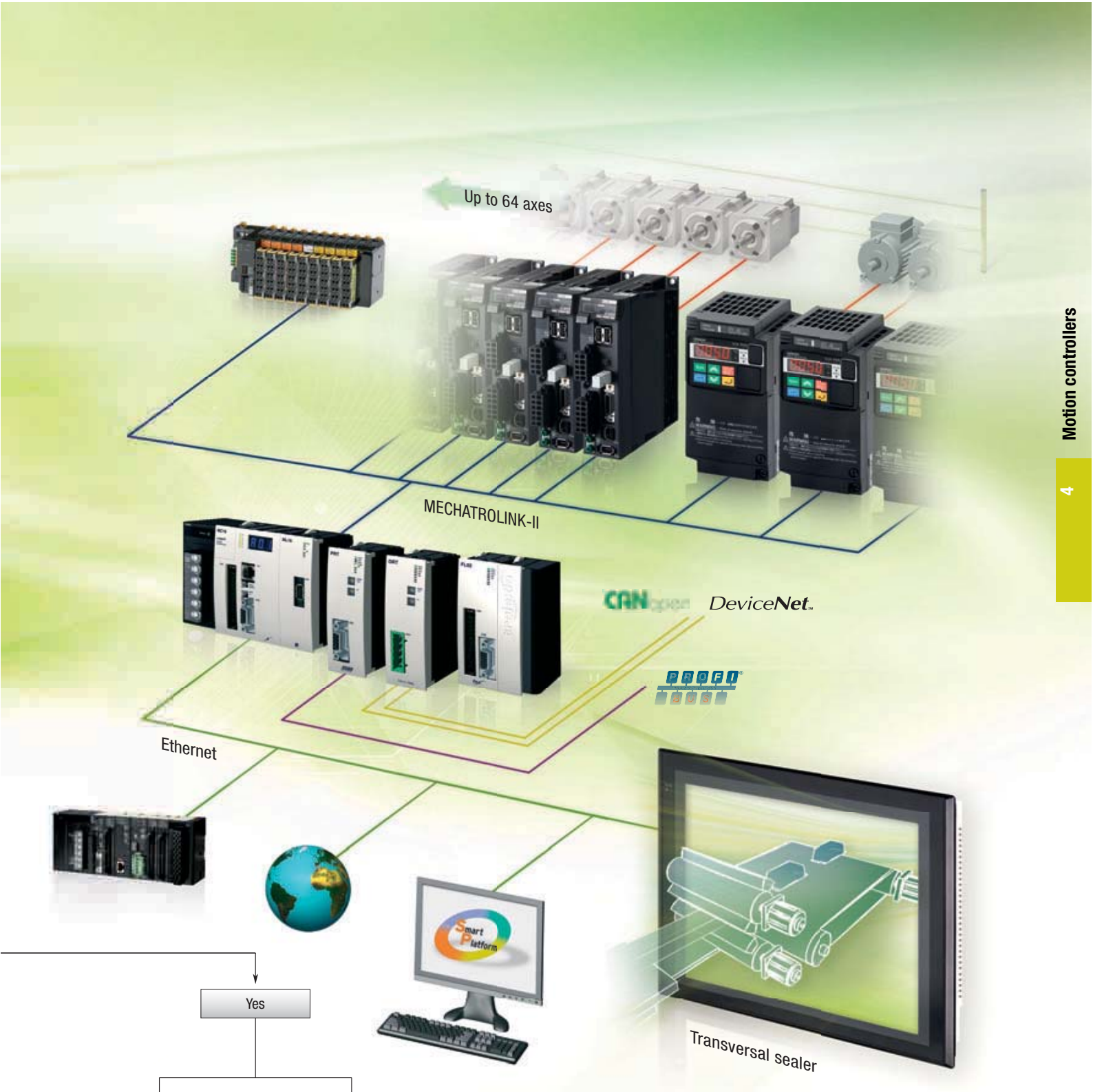
Trajexia motion platform puts you in control to create the best machines today and… tomorrow.

Trajexia stand-alone is a modular and dedicated motion controller over a motion bus and open communication.

The Trajexia-PLC motion controller unit has all the flexibility and modularity of Omron PLCs, plus the outstanding motion-control features of the Trajexia platform.

- Control of up to 64 axes over a robust and fast motion bus
- Advanced motion control such as CAM control, registration control, interpolation and axes synchronization
- Control of servos, inverters and I/Os over a single motion network
- Multi-tasking controller capable of running up to 22 tasks simultaneously





Yes

Single to multi-axes PTP applications

NC_71

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Advanced motion, e-cam, multi-axis synchronization

Trajexia MCH72

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Motion controllers			
			
Model	**Trajexia stand-alone**	**Trajexia-PLC CJ1W-MCH72**	**CJ1W-NC_71**
	The advanced motion controller that puts you in control	Advanced multi-axes motion controller	16-axis point-to-point positioning controller
Axes control method	MECHATROLINK-II motion bus, analogue output and pulse-train output	MECHATROLINK-II motion bus	MECHATROLINK-II motion bus
Number of axes	4, 16, 64	30	2, 4, 16
Applicable servo drive	Accurax G5 and G-Series	Accurax G5 and G-Series	Accurax G5 and G-Series
Application	Advanced motion, e-cam, ELS, Phase shift, Registration	Advanced motion, e-cam, ELS, Phase shift, Registration	From simple PTP to multi axis PTP coordinated systems.
Servo control mode	Position, speed and torque	Position, speed and torque	Position, speed and torque
PLC series	Stand-alone motion controller: Serial, Ethernet, PROFIBUS, DeviceNet, CANopen, MECHATROLINK-II and HostLink connectivity	CJ	CJ
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Motion controllers		
		
Model	**NC_4**	**NC_3**
	4-axis point-to-point positioning controller with synchronization	4-axis point-to-point positioning controller
Axes control method	Pulse train output	Pulse train output
Number of axes	2, 4	1, 2, 4
Applicable servo drive	SmartStep 2 and Accurax G5	SmartStep 2 and Accurax G5
Application	Point-to-point with complex interpolations	Point to point applications
Servo control mode	Open loop position with linear and circular interpolation	Open loop position with linear interpolation
PLC series	CJ	CJ
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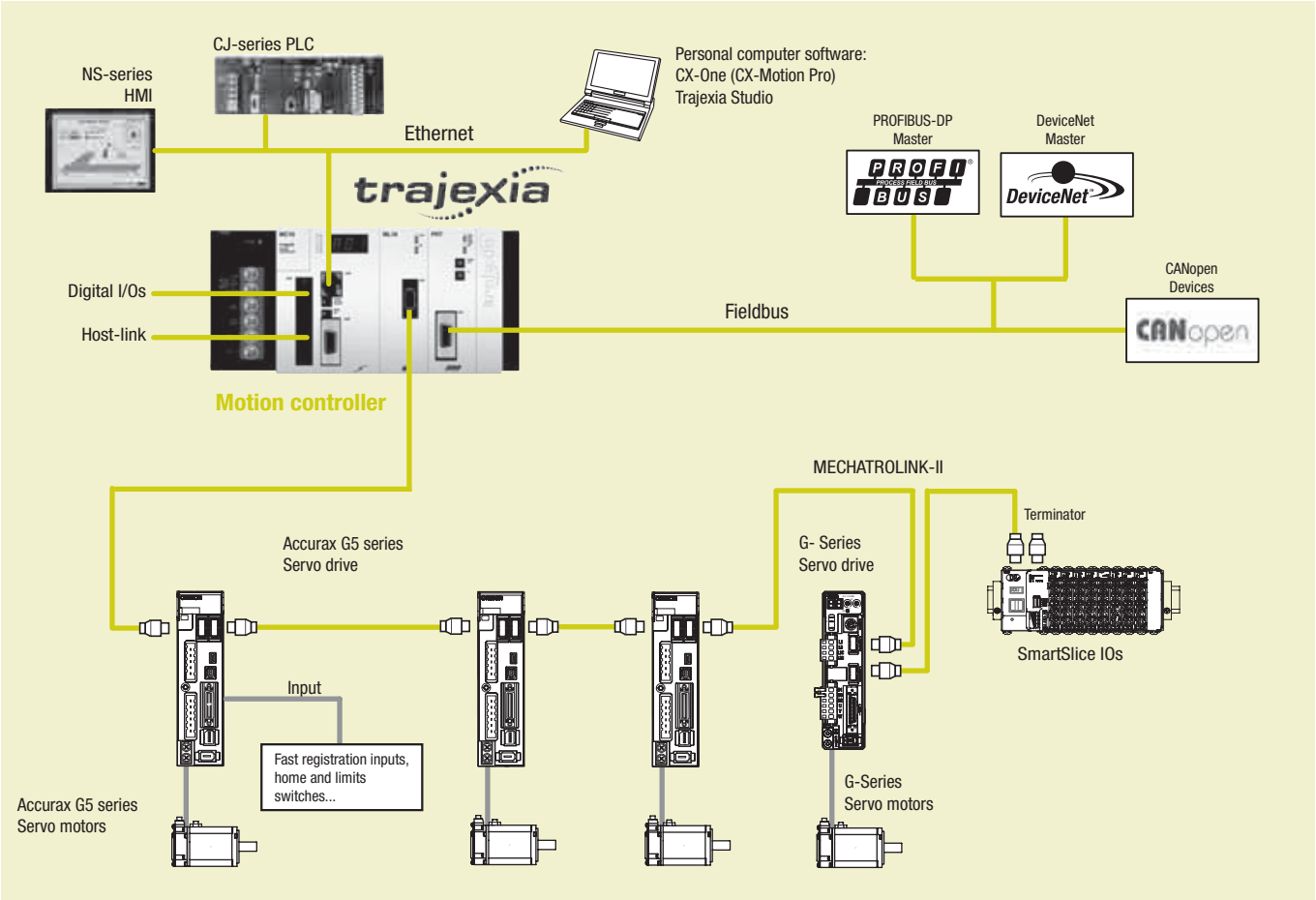
The advanced motion controller that puts you in control

Trajexia is Omron's new motion platform that offers you the performance of a dedicated motion system, the ease of use you get from an automation specialist and the peace of mind you have from a global player. Trajexia puts you in full control to create the best machines today and… tomorrow.

- Control of up to 64 axes over a robust and fast motion bus
- Advanced motion control such as CAM control, registration control, interpolation and axes synchronization via simple motion commands
- Control of servos, inverters and I/Os over a single motion network
- Multi-tasking controller capable of running up to 22 tasks simultaneously
- Open communication: serial, Ethernet built-in, PROFIBUS-DP, DeviceNet and CANopen

Ordering information



Trajexia motion controller

Name	Model
Trajexia motion controller unit, up to 4 axes. (Trajexia end cover unit TJ1-TER is included)	TJ1-MC04
Trajexia motion controller unit, up to 16 axes. (Trajexia end cover unit TJ1-TER is included)	TJ1-MC16
Trajexia motion controller unit, up to 64 axes. (Trajexia end cover unit TJ1-TER is included)	TJ2-MC64
Power supply for Trajexia system, 100-240 VAC	CJ1W-PA202
Power supply for Trajexia system, 24 VDC	CJ1W-PD022

Trajexia - axes control modules

Name	Model
Trajexia MECHATROLINK-II master unit (up to 4 stations)	TJ1-ML04
Trajexia MECHATROLINK-II master unit (up to 16 stations)	TJ1-ML16
Trajexia flexible axis unit (for 2 axes)	TJ1-FL02

Note: The TJ1-ML04 and TJ1-ML16 supported by the TJ2-MC64 motion controller are V2 (Version 2) and lot number equal or above Lot No.091019 (YYMMDD).

Trajexia - communication modules

Name	Model
Trajexia DeviceNet slave unit	TJ1-DRT
Trajexia PROFIBUS-DP slave unit	TJ1-PRT
Trajexia CANopen unit	TJ1-CORT

MECHATROLINK-II - related devices

Servo system

Name	Model
Accurax G5 servo drive ML-II built-in	R88D-KN___-ML2
G-Series servo drive ML-II built-in	R88D-GN__H-ML2

Note: Refer to servo systems section for detailed specs and ordering information

SmartSlice IOs system

Function	Specification	Model
SmartSlice Interface unit	SmartSlice MECHATROLINK-II interface unit	GRT1-ML2
End plate, one unit required per bus interface		GRT1-END
4 NPN inputs	24 VDC, 6 mA, 3-wire connection	GRT1-ID4
4 PNP inputs	24 VDC, 6 mA, 3-wire connection	GRT1-ID4-1
8 NPN inputs	24 VDC, 4 mA, 1-wire connection + 4xG	GRT1-ID8
8 PNP inputs	24 VDC, 4 mA, 1-wire connection + 4xV	GRT1-ID8-1
4 NPN outputs	24 VDC, 500 mA, 2-wire connection	GRT1-OD4
4 PNP outputs	24 VDC, 500 mA, 2-wire connection	GRT1-OD4-1
4 PNP outputs with short-circuit protection	24 VDC, 500 mA, 3-wire connection	GRT1-OD4G-1
8 NPN outputs	24 VDC, 500 mA, 1-wire connection + 4xV	GRT1-OD8
8 PNP outputs	24 VDC, 500 mA, 1-wire connection + 4xG	GRT1-OD8-1
8 PNP outputs with short-circuit protection	24 VDC, 500 mA, 1-wire connection + 4xG	GRT1-OD8G-1
2 relay outputs	240 VAC, 2 A, normally-open contacts	GRT1-ROS2
2 analogue inputs, current/voltage	±10 V, 0-10 V, 0-5 V, 1-5 V, 0-20 mA, 4-20 mA	GRT1-AD2
2 analogue outputs, voltage	± 10 V, 0-10 V, 0-5 V, 1-5 V	GRT1-DA2V
2 analogue outputs, current	0-20 mA, 4-20 mA	GRT1-DA2C

Note: Refer to Remote I/O section for detailed specs and ordering information

MECHATROLINK-II cables

Name	Remarks	Model
MECHATROLINK-II cables	0.5 meter	JEPMC-W6003-A5
	1 meter	JEPMC-W6003-01
	3 meters	JEPMC-W6003-03
	5 meters	JEPMC-W6003-05
	10 meters	JEPMC-W6003-10
	20 meters	JEPMC-W6003-20
	30 meters	JEPMC-W6003-30
MECHATROLINK-II terminator	Terminating resistor	JEPMC-W6022
MECHATROLINK-II repeater	Network repeater	JEPMC-REP2000

Computer software

Specifications	Model
CX-Motion Pro V1.22 or higher	CX-One
Trajexia Studio[*1] V1.22 or higher	TJ1-Studio

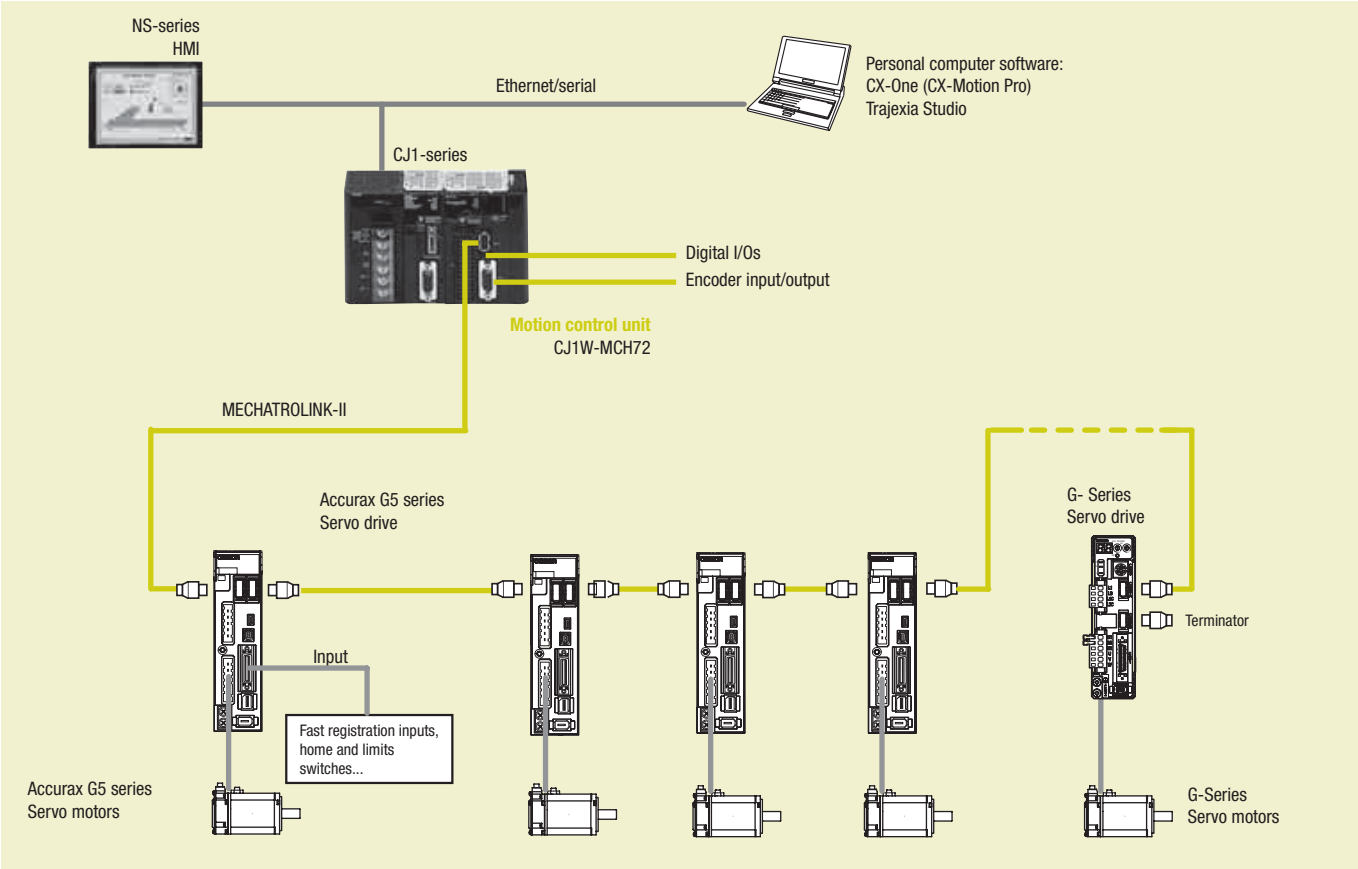
[*1] When the Trajexia Studio software is included in CX-One, then it is called CX-Motion Pro.

Trajexia motion controller integrated with your PLC

Trajexia, the family of advanced motion controllers that put you in control, now has a compact and integrated version. Meet Trajexia-PLC, the motion controller that has all the flexibility and modularity of Omron PLCs, plus the outstanding motion-control features of the Trajexia platform.

- Control of up to 30 physical axes
- Control of servos and inverters over a single motion network
- Advanced motion control such as CAM control, registration control, interpolation and axes synchronization via simple motion commands
- Serial port for external encoder
- Embedded digital I/Os
- I/O data exchange with the PLC CPU

Ordering information



Motion controller

Name	Model
Trajexia motion control unit - MECHATROLINK-II	CJ1W-MCH72

MECHATROLINK-II - related devices

Servo system

Name	Model
Accurax G5 servo drive ML-II built-in	R88D-KN___-ML2
G-Series servo drive ML-II built-in	R88D-GN__H-ML2

Note: Refer to servo systems section for detailed specs and ordering information

MECHATROLINK-II cables

Name	Remarks	Model
MECHATROLINK-II cables	0.5 meter	JEPMC-W6003-A5
	1 meter	JEPMC-W6003-01
	3 meters	JEPMC-W6003-03
	5 meters	JEPMC-W6003-05
	10 meters	JEPMC-W6003-10
	20 meters	JEPMC-W6003-20
	30 meters	JEPMC-W6003-30

Name	Remarks	Model
MECHATROLINK-II terminator	Terminating resistor	JEPMC-W6022
MECHATROLINK-II repeater	Network repeater	JEPMC-REP2000

Computer software

Specifications	Model
CX-Motion Pro V1.2 or higher	CX-One
Trajexia Studio*1 V1.2 or higher	TJ1-Studio

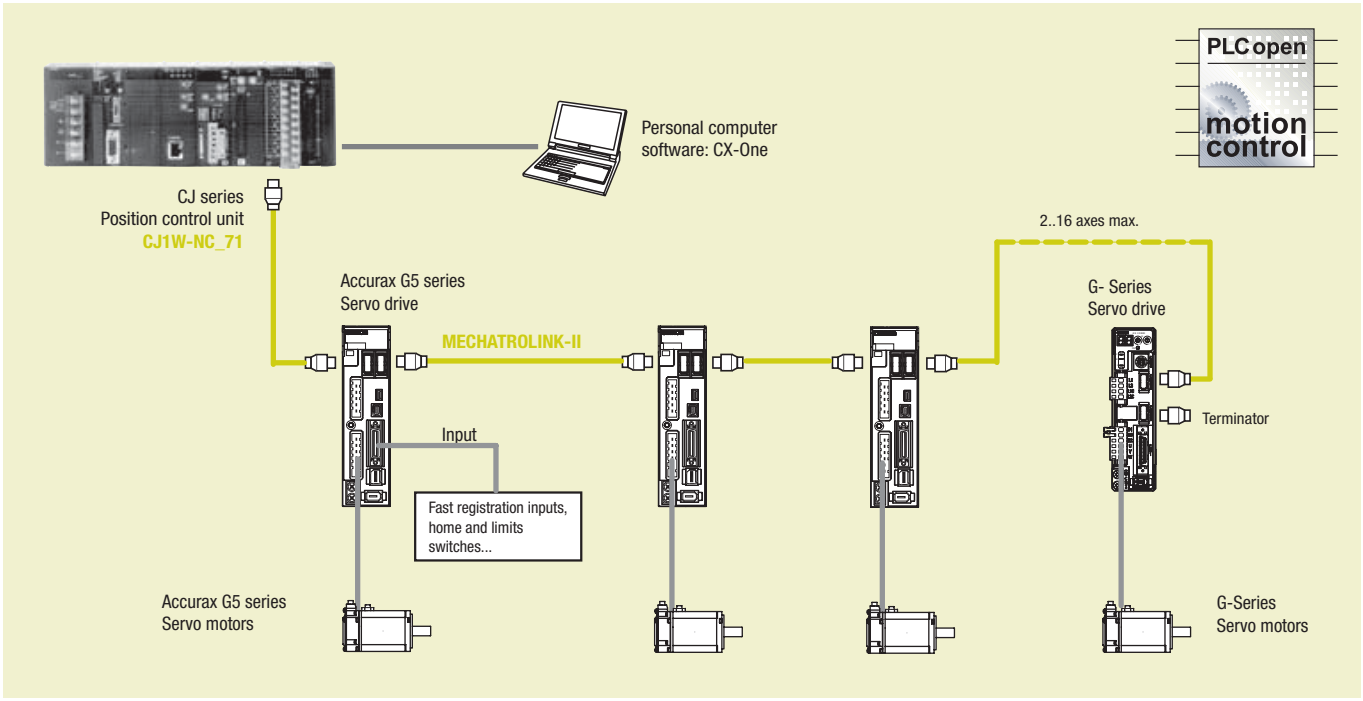
*1 When the Trajexia Studio software is included in CX-One, then it is called CX-Motion Pro.

2, 4 and 16-axis point-to-point positioning controller over MECHATROLINK-II

NC_71 is a powerful controller for point-to-point applications. It is based on MECHATROLINK-II motion bus, which reduces programming and development and maintenance costs. Supports PLC open function blocks.

- Supports position, speed and torque control.
- Programming languages: ladder, function blocks. Supports PLC Open Function Blocks.
- Smart active parts for Omron HMIs terminals reduce engineering time.
- Access to the complete system from one point. Network setup, servo drives configuring and monitoring, and PLC programming.

Ordering information



Position controller unit

Name	Model
MECHATROLINK-II position controller unit - 16 axes	CJ1W-NCF71
MECHATROLINK-II position controller unit - 4 axes	CJ1W-NC471
MECHATROLINK-II position controller unit - 2 axes	CJ1W-NC271

Computer software

Specifications	Model
CX-One version 2.0 (CX-Motion NCF 1.70 or higher) CX-One version 3.0 (CX-Motion NCF 1.90 or higher) CX-One version 4.0 or higher	CX-One

MECHATROLINK-II related devices

Servo system

Name	Model
Accurax G5 servo drive ML-II built-in	R88D-KN___-ML2
G-Series servo drive ML-II built-in	R88D-GN__H-ML2

Note: Refer to servo systems section for detailed specs and ordering information

MECHATROLINK-II cables

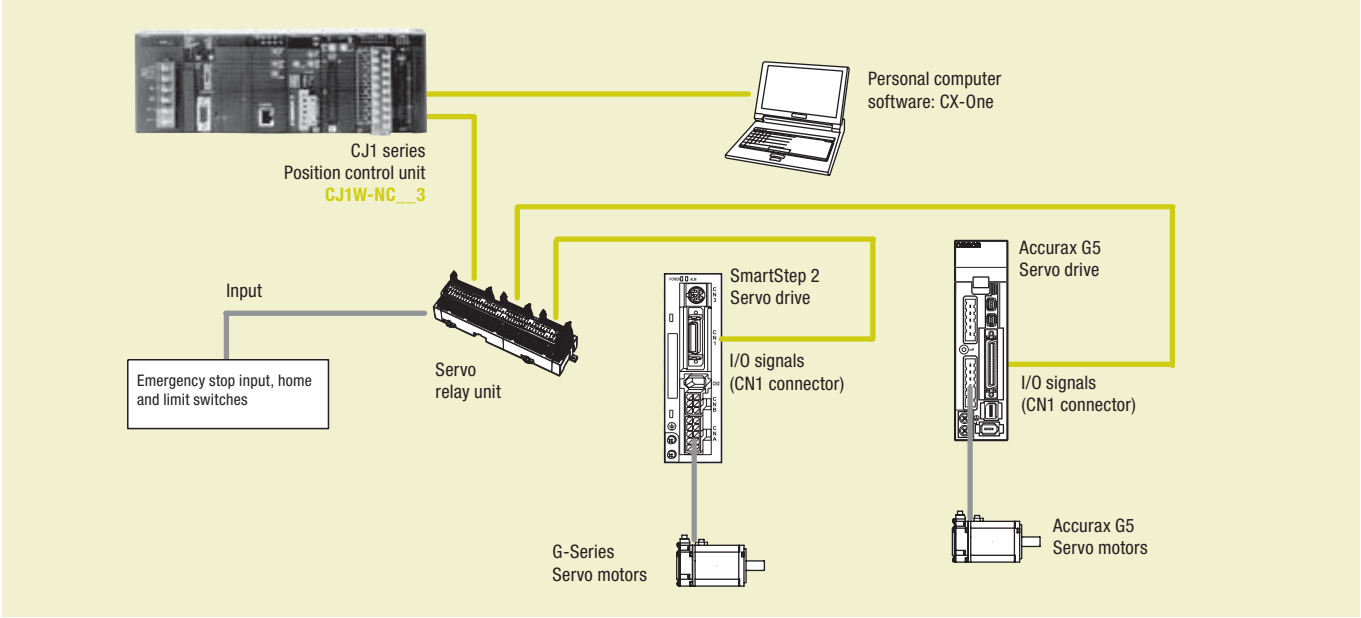
Name	Remarks	Model
MECHATROLINK-II terminator	Terminating resistor	JEPMC-W6022
MECHATROLINK-II cables	0.5 meter	JEPMC-W6003-A5
	1 meter	JEPMC-W6003-01
	3 meters	JEPMC-W6003-03
	5 meters	JEPMC-W6003-05
	10 meters	JEPMC-W6003-10
	20 meters	JEPMC-W6003-20
	30 meters	JEPMC-W6003-30

1, 2 or 4-axis point-to-point positioning controller with pulse train output

The NC motion controllers support positioning control via pulse-train outputs. Positioning is performed using trapezoidal or S-curve acceleration and deceleration. Ideal for controlling simple positioning in stepper motors and servos with pulse-train input.

- Positioning can be done by direct ladder commands
- Position and speed control
- Linear interpolation
- Interrupt feeding function
- Positioning of 100 points done from memory
- Positioning data is saved in internal flash memory, eliminating the need to maintain a backup battery.

Ordering information



Position control unit

Name	Model
1 axis position control unit. Open-collector output.	CJ1W-NC113
2 axes position control unit. Open-collector output.	CJ1W-NC213
4 axes position control unit. Open-collector output.	CJ1W-NC413
1 axis position control unit. Line-driver output.	CJ1W-NC133
2 axes position control unit. Line-driver output.	CJ1W-NC233
4 axes position control unit. Line-driver output.	CJ1W-NC433

Servo drive cables

Note: Refer the selected servo systems section for cable and servo relay units information.

Computer software

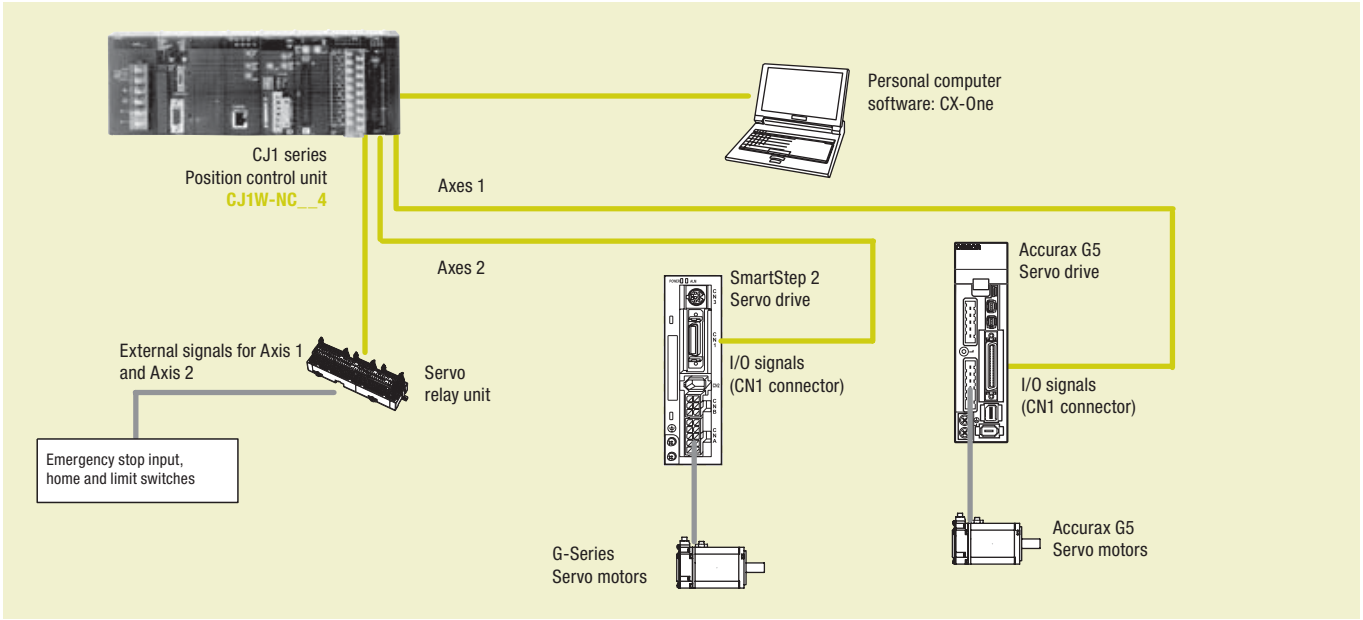
Specifications	Model
CX-One	CX-One

2 or 4-axis point-to-point positioning controller with pulse train output and motion control unit functionality

The NC motion controllers support positioning control via pulse-train outputs. Positioning is performed using trapezoidal or S-curve acceleration and deceleration. Ideal for controlling simple positioning in stepper motors and servos with pulse-train input. When the CJ1W-NC__4 unit is used in a CJ2 CPU, it can perform also synchronous operation by use of electronic CAMs and other function blocks.

- Position and speed control
- Linear interpolation and feeder control function
- Electronic CAM profiles and axes synchronization
- Positioning of 500 points done from memory
- Programming languages: ladder, function blocks.

Ordering information



Position control unit

Name	Model
2 axes position control unit. Open-collector output.	CJ1W-NC214
4 axes position control unit. Open-collector output.	CJ1W-NC414
2 axes position control unit. Line-driver output.	CJ1W-NC234
4 axes position control unit. Line-driver output.	CJ1W-NC434

Servo drive cables

Note: Refer to selected servo systems section for cable and servo relay units information.

Computer software

Specifications	Model
CX-One	CX-One

EXTREME MECHATRONICS MEETS X-STREAM AUTOMATION

At the heart of every great machine

Great machines are born from a perfect match between control and mechanics. Accurax G5 gives you the extra edge to build more accurate, faster, smaller and safer machines. You will benefit from an almost 25% reduction in motor weight, and gain 50% cabinet space. You will achieve sub micron precision and ms settling time. Some might call it perfection, we just call it tireless innovation to help you build great machines.

- Motion bus built-in and analogue/pulse models
- High response frequency of 2 kHz
- Safety built-in conforming ISO13849-1 PL-d
- High accuracy provided by 20 bit encoder

Which motion controller is used?

Trajexia stand-alone

Trajexia MCH72

NC_71

Accurax G5

G-Series

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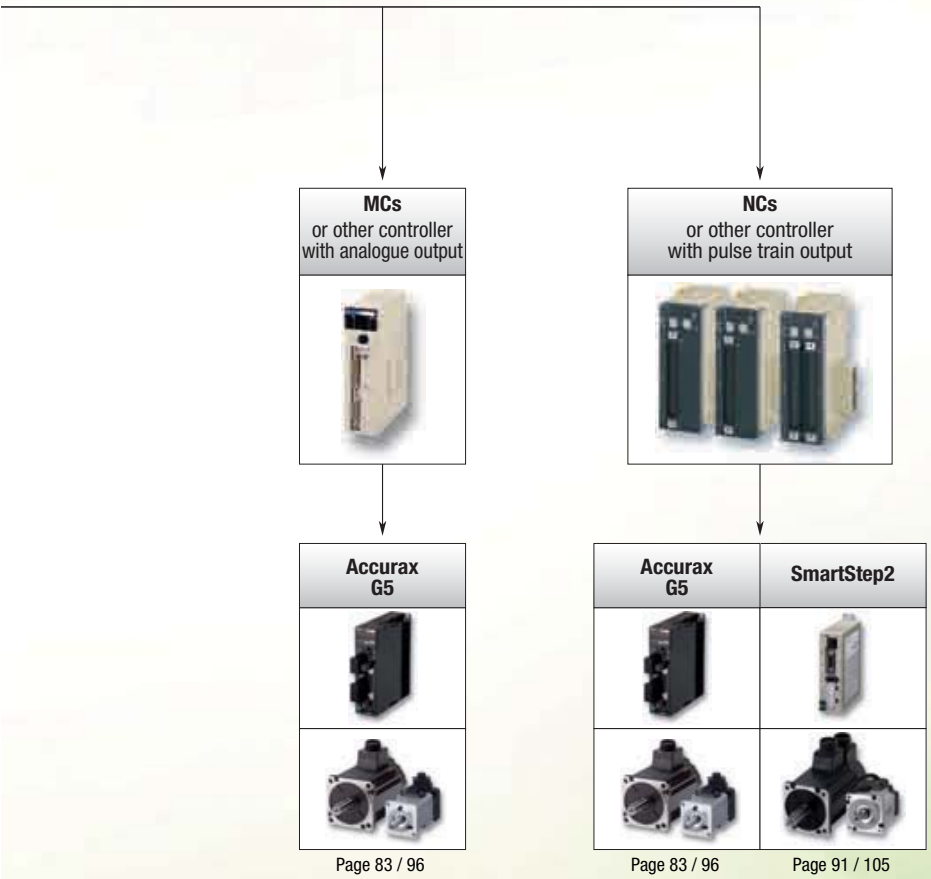
MCs
or other controller
with analogue output
NCs
or other controller
with pulse train output
Accurax
G5
Accurax
G5
SmartStep2
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Selection table

	Servo drives		
			
	Accurax G5	**G-Series**	**SmartStep 2**
	Extreme mechatronics meets X-Stream Automation	Compact in size big in features	The right step forward
Ratings 230 V single-phase	100 W to 1,500 W	100 W to 1,500 W	100 W to 750 W
Ratings 400 V three-phase	600 W to 5 kW	N/A	N/A
Applicable servomotor	Accurax G5 and G-Series motors	G-Series motors	G-Series motors
Position control	Pulse train input or via MECHATROLINK-II	MECHATROLINK-II	Pulse train input
Speed control	Analogue ±10 V or via MECHATROLINK-II	MECHATROLINK-II	N/A
Torque control	Analogue ±10 V or via MECHATROLINK-II	MECHATROLINK-II	N/A
Safety approvals	ISO13849-1:2008 (PL d), EN 954-1:1996 (Cat-3)	N/A	N/A
Full closed loop	Built-in	N/A	N/A
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	Accurax G5 servo motors		
			
	3000 r/min motor	**2000 r/min motor**	**1000 r/min motor**
Rated speed	3,000 rpm	2,000 rpm	1,000 rpm
Maximum speed	4,500 to 6,000 rpm	3,000 rpm	2,000 rpm
Rated torque	0.16 Nm to 15.9 Nm	1.91 Nm to 23.9 Nm	8.59 Nm to 28.7 Nm
Sizes	50 W to 5 kW	400 W to 5 kW	900 W to 3 kW
Applicable servo drive	Accurax G5 servo drive	Accurax G5 servo drive	Accurax G5 servo drive
Encoder resolution	20-bit incremental/ 17-bit absolute	20-bit incremental/ 17-bit absolute	20-bit incremental/ 17-bit absolute
IP rating	IP67	IP67	IP67
Page	96		

	G-Series servo motors -Cylindrical type-			G-Series servo motors -Flat type-
				
	3000 r/min motor	**2000 r/min motor**	**1000 r/min motor**	**3000 r/min motor**
Rated speed	3,000 rpm	2,000 rpm	1,000 rpm	3,000 rpm
Maximum speed	4,500 to 5,000 rpm	3,000 rpm	2,000 rpm	5,000 rpm
Rated torque	0.16 Nm to 4.77 Nm	4.8 Nm to 7.15 Nm	8.62 Nm	0.32 Nm to 1.3 Nm
Sizes	50 to 1,500 W	1 to 1.5 kW	900 W	100 to 400 W
Applicable servo drive	SmartStep 2 , G-Series and Accurax G5 servo drives	SmartStep 2 , G-Series and Accurax G5 servo drives	SmartStep 2 , G-Series and Accurax G5 servo drives	SmartStep 2 , G-Series and Accurax G5 servo drives
Encoder resolution	10,000 pulses/revolution or 17-bit absolute/incremental	10,000 pulses/revolution or 17-bit absolute/incremental	10,000 pulses/revolution or 17-bit absolute/incremental	10,000 pulses/revolution or 17-bit absolute/incremental
IP rating	IP65	IP65	IP65	IP65
Page	105			

Accurax G5 servo drive

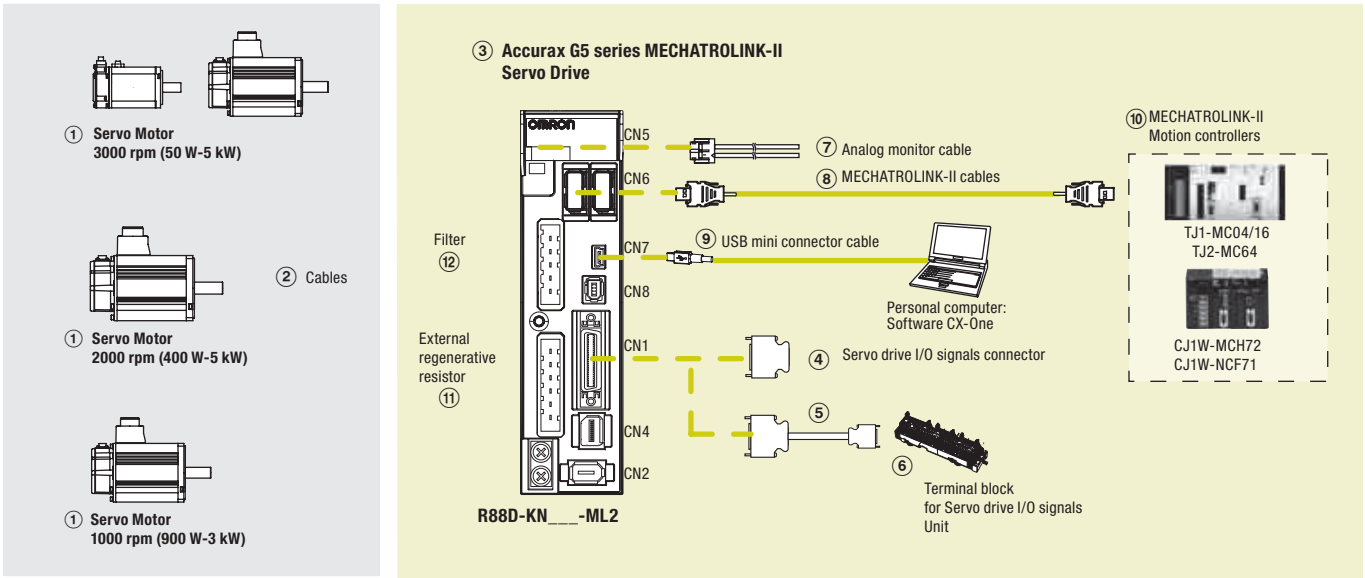
Accurate, fast and safe motion control in compact size

Accurax G5 gives you the extra edge to build accurate, faster, smaller and safer machines. You will benefit from an almost 25% reduction in motor weight, and gain 50% cabinet space. You will achieve sub micron precision and ms settling time.

- MECHATROLINK-II and Analogue/Pulse servo drive models
- Safety conforming ISO13849-1 Performance Level D
- High response frequency of 2 kHz
- High resolution serial encoder for greater accuracy provided by 20 bits encoder
- External encoder input for full close loop
- Real time auto-tuning
- Advanced tuning algorithms

Ordering information

Accurax G5 series MECHATROLINK-II reference configuration



Servo motors, power & encoder cables

Note: ①② Refer to the Accurax G5 servo motor section for servomotor, motor cables or connectors selection

Servo drives

Symbol	Specifications		Servo drive model	① Compatible G5 series rotary servo motors
③	1 phase 230 VAC	100 W	R88D-KN01H-ML2	R88M-K05030(H/T)-_
				R88M-K10030(H/T)-_
		200 W	R88D-KN02H-ML2	R88M-K20030(H/T)-_
		400 W	R88D-KN04H-ML2	R88M-K40030(H/T)-_
		750 W	R88D-KN08H-ML2	R88M-K75030(H/T)-_
		1.0 kW	R88D-KN10H-ML2	R88M-K1K020(H/T)-_
		1.5 kW	R88D-KN15H-ML2	R88M-K1K030(H/T)-_
				R88M-K1K530(H/T)-_
				R88M-K1K520(H/T)-_
				R88M-K90010(H/T)-_

Symbol	Specifications		Servo drive model	① Compatible G5 series rotary servo motors
③	3 phase 400 VAC	600 W	R88D-KN06F-ML2	R88M-K40020(F/C)-_
				R88M-K60020(F/C)-_
		1.0 kW	R88D-KN10F-ML2	R88M-K75030(F/C)-_
				R88M-K1K020(F/C)-_
		1.5 kW	R88D-KN15F-ML2	R88M-K1K030(F/C)-_
				R88M-K1K530(F/C)-_
				R88M-K1K520(F/C)-_
				R88M-K90010(F/C)-_
		2.0 kW	R88D-KN20F-ML2	R88M-K2K030(F/C)-_
				R88M-K2K020(F/C)-_
		3.0 kW	R88D-KN30F-ML2	R88M-K3K030(F/C)-_
				R88M-K3K020(F/C)-_
				R88M-K2K010(F/C)-_
		5.0 kW	R88D-KN50F-ML2	R88M-K4K030(F/C)-_
				R88M-K5K030(F/C)-_
				R88M-K4K020(F/C)-_
				R88M-K5K020(F/C)-_
				R88M-K3K010(F/C)-_

Control cables (for CN1)

Symbol	Description	Connect to	Length	Model
④	I/O connector kit (26 pins)	For I/O general purpose	-	R88A-CNW01C
⑤	Terminal block cable		1 m	XW2Z-100J-B34
			2 m	XW2Z-200J-B34
⑥	Terminal block (M3 screw and for pin terminals)		-	XW2B-20G4
	Terminal block (M3.5 screw and for fork/round terminals)		-	XW2B-20G5
	Terminal block (M3 screw and for fork/round terminals)		-	XW2D-20G6

Analogue monitor (for CN5)

Symbol	Name	Length	Model
⑦	Analogue monitor cable	1m	R88A-CMK001S

MECHATROLINK-II cables (for CN6)

Symbol	Specifications	Length	Model
⑧	MECHATROLINK-II Terminator resistor	-	JEPMC-W6022-E
	MECHATROLINK-II cables	0.5 m	JEPMC-W6003-A5-E
		1 m	JEPMC-W6003-01-E
		3 m	JEPMC-W6003-03-E
		5 m	JEPMC-W6003-05-E
		10 m	JEPMC-W6003-10-E
		20 m	JEPMC-W6003-20-E
		30 m	JEPMC-W6003-30-E

USB personal computer cable (for CN7)

Symbol	Name	Length	Model
⑨	USB mini-connector cable	2m	AX-CUSBM002-E

MECHATROLINK-II Motion controllers

Symbol	Name	Model
⑩	Trajexia stand-alone motion controller	TJ1-MC04 (4 axes)
		TJ1-MC16 (16 axes)
		TJ2-MC64 (64 axes)
	Trajexia-PLC motion controller	CJ1W-MCH72
	Position Controller Unit for CJ1 PLC	CJ1W-NCF71 (16 axes)
		CJ1W-NC471 (4 axes)
		CJ1W-NC271 (2 axes)
	Position Controller Unit for CS1 PLC	CS1W-NCF71 (16 axes)
		CS1W-NC471 (4 axes)
		CS1W-NC271 (2 axes)

External regenerative resistor

Symbol	Specifications	Model
⑪	50 Ω, 80 W	R88A-RR08050S
	100 Ω, 80 W	R88A-RR080100S
	47 Ω, 220 W	R88A-RR22047S
	20 Ω, 500 W	R88A-RR50020S

Filters

Symbol	Applicable servodrive	Rated current	Leakage current	Rated voltage	Model
⑫	R88D-KN01H-ML2, R88D-KN02H-ML2	2.4 A	3.5 mA	250 VAC single-phase	R88A-FIK102-RE
	R88D-KN04H-ML2	4.1 A	3.5 mA		R88A-FIK104-RE
	R88D-KN08H-ML2	6.6 A	3.5 mA		R88A-FIK107-RE
	R88D-KN10H-ML2, R88D-KN15H-ML2	14.2 A	3.5 mA		R88A-FIK114-RE
	R88D-KN06F-ML2, R88D-KN10F-ML2, R88D-KN15F-ML2	4 A	0.3 mA / 32 mA[*1]	400 VAC three-phase	R88A-FIK304-RE
	R88D-KN20F-ML2	6 A	0.3 mA / 32 mA[1]		R88A-FIK306-RE
	R88D-KN30F-ML2, R88D-KN50F-ML2	12.1 A	0.3 mA / 32 mA[1]		R88A-FIK312-RE

*1 Momentary peak leakage current for the filter at switch-on/off.

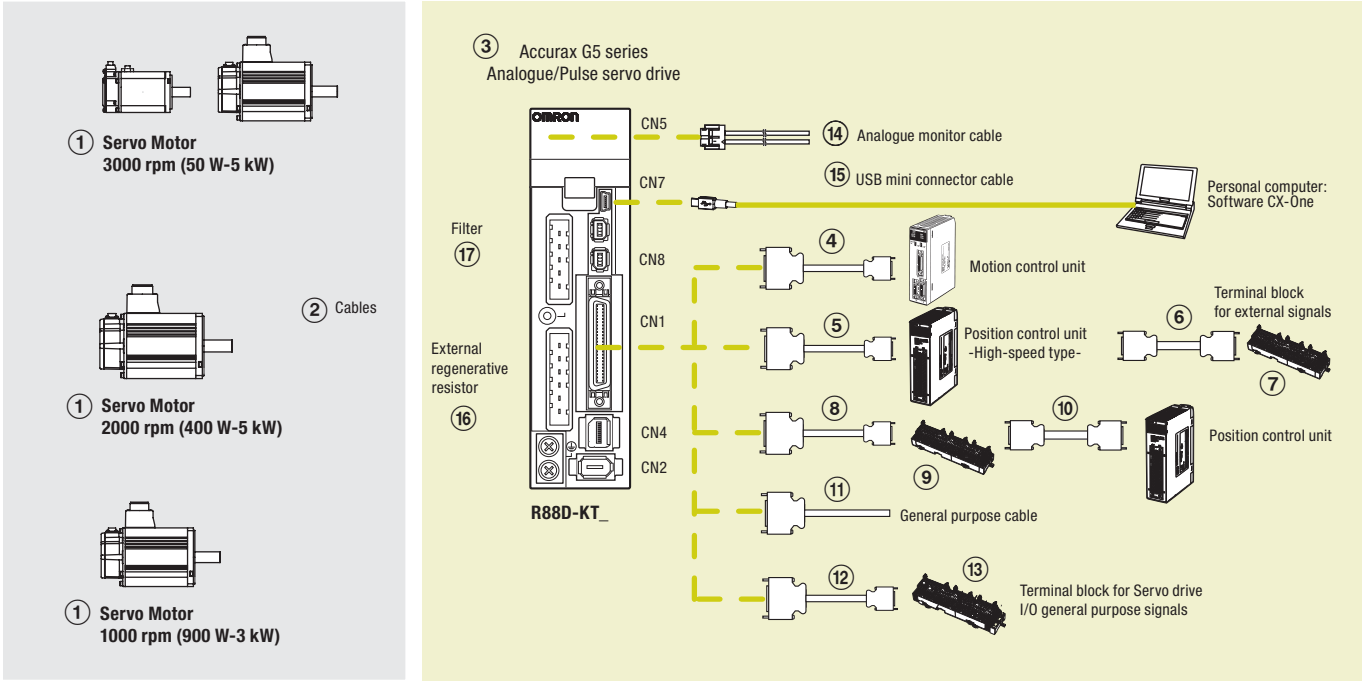
Connectors

Specifications	Model
External encoder connector (for CN4)	R88A-CNK41L
Safety I/O signal connector (for CN8)	R88A-CNK81S

Computer software

Specifications	Model
Configuration and monitoring software tool for servo drives and inverters. (CX-drive version 1.91 or higher)	CX-drive

Accurax G5 series Analogue/pulse Reference configuration



Servo motors, power & encoder cables

Note: ①② Refer to the Accurax G5 servo motor section for servomotor, motor cables or connectors selection

Servo drives

Symbol	Specifications		Servo drive model	① Compatible Accurax G5 series rotary servo motors
③	1 phase 230 VAC	100 W	R88D-KT01H	R88M-K05030(H/T)-_
				R88M-K10030(H/T)-_
		200 W	R88D-KT02H	R88M-K20030(H/T)-_
		400 W	R88D-KT04H	R88M-K40030(H/T)-_
		750 W	R88D-KT08H	R88M-K75030(H/T)-_
		1.0 kW	R88D-KT10H	R88M-K1K020(H/T)-_
		1.5 kW	R88D-KT15H	R88M-K1K030(H/T)-_
				R88M-K1K530(H/T)-_
				R88M-K1K520(H/T)-_
				R88M-K90010(H/T)-_
	3 phase 400 VAC	600 W	R88D-KT06F	R88M-K40020(F/C)-_
				R88M-K60020(F/C)-_
		1.0 kW	R88D-KT10F	R88M-K75030(F/C)-_
				R88M-K1K020(F/C)-_
		1.5 kW	R88D-KT15F	R88M-K1K030(F/C)-_
				R88M-K1K530(F/C)-_
				R88M-K1K520(F/C)-_
				R88M-K90010(F/C)-_
		2.0 kW	R88D-KT20F	R88M-K2K030(F/C)-_
				R88M-K2K020(F/C)-_
		3.0 kW	R88D-KT30F	R88M-K3K030(F/C)-_
				R88M-K3K020(F/C)-_
				R88M-K2K010(F/C)-_
		5.0 kW	R88D-KT50F	R88M-K4K030(F/C)-_
				R88M-K5K030(F/C)-_
				R88M-K4K020(F/C)-_
				R88M-K5K020(F/C)-_
				R88M-K3K010(F/C)-_

Control cables (for CN1)

Symbol	Description	Connect to	Length	Model
④	Control cable (1 axis)	Motion control units CS1W-MC221 CS1W-MC421	1 m	R88A-CPG001M1
			2 m	R88A-CPG002M1
			3 m	R88A-CPG003M1
			5 m	R88A-CPG005M1
	Control cable (2 axis)	Motion control units CS1W-MC221 CS1W-MC421	1 m	R88A-CPG001M2
			2 m	R88A-CPG002M2
			3 m	R88A-CPG003M2
			5 m	R88A-CPG005M2

Symbol	Description	Connect to	Length	Model
⑤	Control cable (line-driver output for 1 axis)	Position control units CJ1W-NC234 CJ1W-NC434	1 m	XW2Z-100J-G9
			5 m	XW2Z-500J-G9
			10 m	XW2Z-10MJ-G9
	Control cable (open-collector output for 1 axis)	Position control units CJ1W-NC214 CJ1W-NC414	1 m	XW2Z-100J-G13
			3 m	XW2Z-300J-G13
	Control cable (line-driver output for 2 axis)	Position control units CJ1W-NC234 CJ1W-NC434	1 m	XW2Z-100J-G1
			5 m	XW2Z-500J-G1
			10 m	XW2Z-10MJ-G1
	Control cable (open-collector output for 2 axis)	Position control units CJ1W-NC214 CJ1W-NC414	1 m	XW2Z-100J-G5
			3 m	XW2Z-300J-G5
⑥	Terminal block cable for external signals (for input common, forward/reverse run prohibited inputs, emergency stop input, origin proximity input and interrupt input)	Position control units CJ1W-NC234 CJ1W-NC434 CJ1W-NC214 CJ1W-NC414	0.5 m	XW2Z-C50X
			1 m	XW2Z-100X
			2 m	XW2Z-200X
			3 m	XW2Z-300X
			5 m	XW2Z-500X
			10 m	XW2Z-010X
⑦	Terminal block for external signals (M3 screw, pin terminals)		-	XW2B-20G4
	Terminal block for ext. signals (M3.5 screw, fork/round terminals)		-	XW2B-20G5
	Terminal block for ext. signals (M3 screw, fork/round terminals)		-	XW2D-20G6
⑧	Cable from servo relay unit to servo drive	CS1W-NC1_3, CJ1W-NC1_3, C200HW-NC113, CS1W-NC2_3/4_3, CJ1W-NC2_3/4_3, C200HW-NC213/413, CQM1H-PLB21 or CQM1-CPU43	1 m	XW2Z-100J-B25
			2 m	XW2Z-200J-B25
		CJ1M-CPU21/22/23	1 m	XW2Z-100J-B31
			2 m	XW2Z-200J-B31
⑨	Servo relay unit	Position control units CS1W-NC1_3, CJ1W-NC1_3 or C200HW-NC113	-	XW2B-20J6-1B (1 axis)
		Position control units CS1W-NC2_3/4_3, CJ1W-NC2_3/4_3 or C200HW-NC213/413	-	XW2B-40J6-2B (2 axes)
		CQM1H-PLB21 or CQM1-CPU43	-	XW2B-20J6-3B (1 axis)
		CJ1M-CPU21/22/23	-	XW2B-20J6-8A (1 axis) XW2B-40J6-9A (2 axes)
⑩	Position control unit connecting cable	CQM1H-PLB21	0.5 m	XW2Z-050J-A3
			1 m	XW2Z-100J-A3
		CS1W-NC113 or C200HW-NC113	0.5 m	XW2Z-050J-A6
			1 m	XW2Z-100J-A6
		CS1W-NC213/413 or C200HW-NC213/413	0.5 m	XW2Z-050J-A7
			1 m	XW2Z-100J-A7
		CS1W-NC133	0.5 m	XW2Z-050J-A10
			1 m	XW2Z-100J-A10
		CS1W-NC233/433	0.5 m	XW2Z-050J-A11
			1 m	XW2Z-100J-A11
		CJ1W-NC113	0.5 m	XW2Z-050J-A14
			1 m	XW2Z-100J-A14
		CJ1W-NC213/413	0.5 m	XW2Z-050J-A15
			1 m	XW2Z-100J-A15
		CJ1W-NC133	0.5 m	XW2Z-050J-A18
			1 m	XW2Z-100J-A18
		CJ1W-NC233/433	0.5 m	XW2Z-050J-A19
			1 m	XW2Z-100J-A19
		CJ1M-CPU21/22/23	0.5 m	XW2Z-050J-A33
			1 m	XW2Z-100J-A33
⑪	General purpose cable	For general purpose controllers	1 m	R88A-CPG001S
			2 m	R88A-CPG002S
⑫	Terminal block cable	For general purpose controllers	1 m	XW2Z-100J-B24
			2 m	XW2Z-200J-B24
⑬	Terminal block (M3 screw and for pin terminals)		-	XW2B-50G4
	Terminal block (M3.5 screw and for fork/round terminals)		-	XW2B-50G5
	Terminal block (M3 screw and for fork/round terminals)		-	XW2D-50G6

Analogue monitor (for CN5)

Symbol	Name	Length	Model
⑭	Analogue monitor cable	1 m	R88A-CMK001S

USB personal computer cable (for CN7)

Symbol	Name	Length	Model
⑮	USB mini-connector cable	2 m	AX-CUSBM002-E

External regenerative resistor

Symbol	Specifications	Model
⑯	50 Ω, 80 W	R88A-RR08050S
	100 Ω, 80 W	R88A-RR080100S
	47 Ω, 220 W	R88A-RR22047S
	20 Ω, 500 W	R88A-RR50020S

Filters

Symbol	Applicable servodrive	Rated current	Leakage current	Rated voltage	Filter model
⑰	R88D-KT01H, R88D-KT02H	2.4 A	3.5 mA	250 VAC single-phase	R88A-FIK102-RE
	R88D-KT04H	4.1 A	3.5 mA		R88A-FIK104-RE
	R88D-KT08H	6.6 A	3.5 mA		R88A-FIK107-RE
	R88D-KT10H, R88D-KT15H	14.2 A	3.5 mA		R88A-FIK114-RE
	R88D-KT06F, R88D-KT10F, R88D-KT15F	4 A	0.3 mA / 32 mA*1	400 VAC three-phase	R88A-FIK304-RE
	R88D-KT20F	6 A	0.3 mA / 32 mA[1]		R88A-FIK306-RE
	R88D-KT30F, R88D-KT50F	12.1 A	0.3 mA / 32 mA[1]		R88A-FIK312-RE

*1 Momentary peak leakage current for the filter at switch-on/off.

Connectors

Specifications	Model
I/O connector kit -50 pins-(for CN1)	R88A-CNU11C
External encoder connector (for CN4)	R88A-CNK41L
Safety I/O signal connector (for CN8)	R88A-CNK81S

Computer software

Specifications	Model
Configuration and monitoring software tool for servo drives and inverters. (CX-drive version 1.90 or higher)	CX-drive

Specifications

Single-phase, 230 V

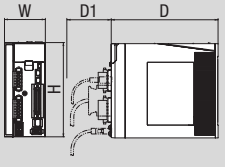
Servo drive type		R88D-K_	01H_	02H_	04H_	08H_	10H_	15H_
Applicable servo motor		R88M-K_	05030(H/T)_	20030(H/T)_	40030(H/T)_	75030(H/T)_	1K020(H/T)_	1K030(H/T)_
			10030(H/T)_	-	-	-	-	1K530(H/T)_
			-	-	-	-	-	1K520(H/T)_
			-	-	-	-	-	90010(H/T)_
Basic specifications	Max. applicable motor capacity	W	100	200	400	750	1000	1500
	Continuous output current	Arms	1.2	1.6	2.6	4.1	5.9	9.4
	Input power	Main circuit	Single-phase/3-phase, 200 to 240 VAC + 10 to -15% (50/60 Hz)					
	Supply	Control circuit	Single-phase, 200 to 240 VAC + 10 to -15% (50/60 Hz)					
	Control method		IGBT-driven PWM method, sinusoidal drive					
	Feedback		Serial encoder (incremental/absolute value)					
	Conditions: Usage/storage temperature		0 to +55°C / -20 to 65°C					
	Conditions: Usage/storage humidity		90% RH or less (non-condensing)					
	Conditions: Altitude		1000m or less above sea level					
	Conditions: Vibration/shock resistance	(max.)	5.88 m/s^2 10-60 Hz (Continuous operation at resonance point is not allowed) / 19.6 m/s^2					
	Configuration		Base mounted					
	Approx. weight	Kg	0.8		1.1	1.6	1.8	

Three-phase, 400 V

Servo drive type		R88D-K_	06F-_	10F-_	15F-_	20F-_	30F-_	50F-_
Applicable servo motor		R88M-K_	40020(F/C)-_	75030(F/C)-_	1K030(F/C)-_	2K030(F/C)-_	3K030(F/C)-_	4K030(F/C)-_
			60020(F/C)-_	1K020(F/C)-_	1K530(F/C)-_	2K020(F/C)-_	3K020(F/C)-_	5K030(F/C)-_
			-	-	1K520(F/C)-_	-	2K010(F/C)-_	4K020(F/C)-_
			-	-	90010(F/C)-_	-	-	5K020(F/C)-_
			-	-	-	-	-	3K010(F/C)-_
Basic specifications	Max. applicable motor capacity	W	0.6	1.0	1.5	2.0	3.0	5.0
	Continuous output current	Arms	2.9		4.7	6.7	9.4	16.5
	Input power	Main circuit	3-phase, 380 to 480 VAC + 10 to -15% (50/60Hz)					
	Supply	Control circuit	24 VDC ±15%					
	Control method		IGBT-driven PWM method, sinusoidal drive					
	Feedback		Serial encoder (incremental/absolute value)					
	Conditions: Usage/storage temperature		0 to +55°C / -20 to +65°C					
	Conditions: Usage/storage humidity		90% RH or less (non-condensing)					
	Conditions: Altitude		1000 m or less above sea level					
	Conditions: Vibration/shock resistance		5.88 m/s^2 10-60 Hz (Continuous operation at resonance point is not allowed) / 19.6 m/s^2					
	Configuration		Base mounted					
	Approx. weight	kg	1.9			2.7	4.7	

Dimensions

Drive model	Specification		Analogue/pulse model				ML2 model			
			H	W	D	D1	H	W	D	D1
R88D-KT01/02H, R88D-KN01/02H-ML2	230 V	100-200 W	150	40	130	70	150	40	132	70
R88D-KT04H, R88D-KN04H-ML2		400 W	150	55	130	70	150	55	132	70
R88D-KT08H, R88D-KN08H-ML2		750 W	150	65	170	70	150	65	172	70
R88D-KT10/15H, R88D-KN10/15H-ML2		1-1.5 kW	150	85	170	70	150	86	172	70
R88D-KT06/10/15F, R88D-KN06/10/15F-ML2	400 V	600 W-1.5 kW	150	91	170	70	150	92	172	70
R88D-KT20F, R88D-KN20F-ML2		2 kW	198	94	193.5	70	198	94	195	70
R88D-KT30/50F, R88D-KN30/50F-ML2		3-5 kW	250	130	212	70	250	130	213	70



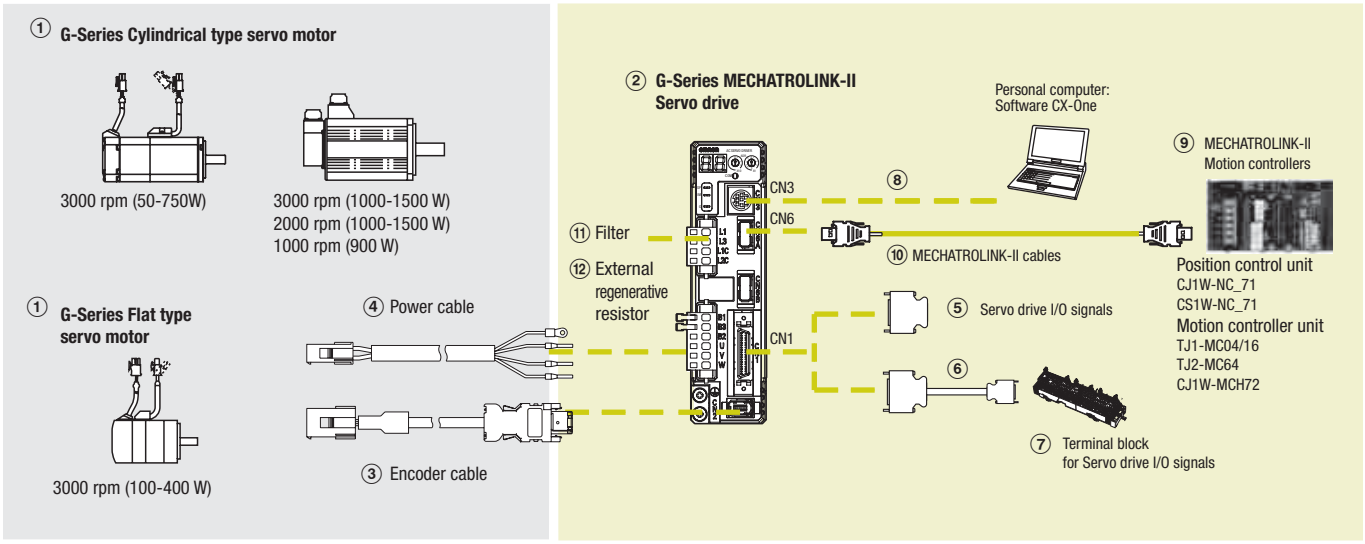
G-Series servo drive

Compact in size, big in features. Save space, save wiring, save time

The G-series servo drive with built-in MECHATROLINK-II significantly reduces wiring and set-up time, while saving up to 30% of cabinet space. So you not only save on space, wiring and installation time, but also significantly reduce the chance of connection errors.

- High response frequency of 1 kHZ
- Auto-tuning for easy and quick start-up
- Vibration suppression and adaptive resonance suppression filter
- Positioning, speed and torque control modes
- Fast and accurate positioning
- Separated supply for main power and control power
- Incremental and absolute encoder available

Ordering information



Servo motors, power & encoder cables

Note: ①③④ Refer to the G-Series servo motor section for servomotor, motor cables or connectors selection

Servo drives

Symbol	Specifications		① Compatible rotary servo motors		Order code
			Cylindrical type	Flat type	Servo drive model
②	1 phase 200 VAC	100 W	R88M-G05030_	R88M-GP10030_	R88D-GN01H-ML2
			R88M-G10030_		
		200 W	R88M-G20030_	R88M-GP20030_	R88D-GN02H-ML2
		400 W	R88M-G40030_	R88M-GP40030_	R88D-GN04H-ML2
		750 W	R88M-G75030_	-	R88D-GN08H-ML2
		1.0 kW	R88M-G1K020T_	-	R88D-GN10H-ML2
		1.5 kW	R88M-G90010T_	-	R88D-GN15H-ML2
			R88M-G1K030T_	-	
			R88M-G1K520T_	-	
			R88M-G1K530T_	-	

Control cables (for CN1)

Symbol	Name	Connect to	Length	Model
⑤	I/O connector kit	Servo drive I/O signals	-	R88A-CNU01C
⑥	Terminal block cable		1 m	XW2Z-100J-B33
			2 m	XW2Z-200J-B33
⑦	Terminal block		-	XW2B-20G4
				XW2B-20G5
				XW2D-20G6

Computer cable (for CN3)

Symbol	Name	Length	Model
⑧	Computer cable RS232	2 m	R88A-CCG002P2

MECHATROLINK-II Motion controllers

Symbol	Name	Model
⑨	Trajexia stand-alone motion controller	TJ1-MC04 (4 axes)
		TJ1-MC16 (16 axes)
		TJ2-MC64 (64 axes)
	Trajexia-PLC motion controller	CJ1W-MCH72
	Position Controller Unit for CJ1 PLC	CJ1W-NCF71 (16 axes)
		CJ1W-NC471 (4 axes)
		CJ1W-NC271 (2 axes)
	Position Controller Unit for CS1 PLC	CS1W-NCF71 (16 axes)
		CS1W-NC471 (4 axes)
		CS1W-NC271 (2 axes)

Computer software

Specifications	Order code
Configuration and monitoring software tool for servo drives and inverters. (CX-drive version 1.70 or higher)	CX-drive
Complete Omron software package including CX-drive. (CX-One version 3.10 or higher)	CX-One

MECHATROLINK-II cables (for CN6)

Symbol	Specifications	Length	Order code
⑩	MECHATROLINK-II Terminator resistor	-	JEPMC-W6022-E
	MECHATROLINK-II cables	0.5 m	JEPMC-W6003-A5-E
		1 m	JEPMC-W6003-01-E
		3 m	JEPMC-W6003-03-E
		5 m	JEPMC-W6003-05-E
		10 m	JEPMC-W6003-10-E
		20 m	JEPMC-W6003-20-E
		30 m	JEPMC-W6003-30-E

Filters

Symbol	Applicable servodrive	Rated current	Leakage current	Rated voltage	Order code
⑪	R88D-GN01H_ R88D-GN02H_	2.4 A	3.5 mA	250 VAC single-phase	R88A-FIK102-RE
	R88D-GN04H_	4.1 A	3.5 mA		R88A-FIK104-RE
	R88D-GN08H_	6.6 A	3.5 mA		R88A-FIK107-RE
	R88D-GN10H_ R88D-GN15H_	14.2 A	3.5 mA		R88A-FIK114-RE

External regenerative resistor

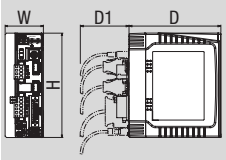
Symbol	Specifications	Order code
⑫	50 Ω, 80 W	R88A-RR08050S
	100 Ω, 80 W	R88A-RR080100S
	47 Ω, 220 W	R88A-RR22047S
	20 Ω, 500 W	R88A-RR50020S

Specifications

Servo drive type			R88D-GN_	01H-ML2	02H-ML2	04H-ML2	08H-ML2	10H-ML2	15H-ML2
Applicable servomotor			R88M-G_	05030_/10030_	20030_	40030_	75030_	G1K020T_	90010T_ /1K030T_ / 1K5_0T_
			R88M-GP_	10030_	20030_	40030_	-	-	-
Basic specifications	Max. applicable motor capacity		W	100	200	400	750	1000	1500
	Continuous output current		Arms	1.16	1.6	2.7	4.0	5.9	9.8
	Max. output current		Arms	3.5	5.3	7.1	14.1	21.2	28.3
	Input power	Main circuit		For single-phase, 200 to 240 VAC +10 to -15% (50/60 Hz)			For single-phase/ three-phase, 200 to 240 VAC +10 to -15% (50/60 Hz)		
	Supply	Control circuit		For single-phase, 200 to 240 VAC + 10 to -15% (50/60 Hz)					
	Control method			IGBT-driven PWM method					
	Feedback			Serial encoder (incremental/absolute)					
	Conditions	Usage/storage temperature		0 to +55 °C / -20 to 65 °C					
		Usage/storage humidity		90% RH or less (non-condensing)					
		Altitude		1000m or less above sea level					
		Vibration/shock resistance		5.88 m/s^2 / 19.6 m/s^2					
	Configuration			Base mounted					
	Approx. weightkg			0.8		1.1	1.5	1.7	
Position/Speed/torque control mode	Performance	Speed control range		1:5000					
		Speed variance	Load variance	During 0 to 100% load ±0.01 max. (at rated speed)					
			Voltage variance	0% at ±10% of rated voltage (at rated speed)					
			Temperature variance	0 to 50ºC ±0.1% max. (at rated speed)					
		Frequency characteristics		1 kHz					
		Torque control accuracy (reproducibility)		±3% (at 20% to 100% of rated torque)					
		Soft start time setting		0 to 10 s (acceleration time and deceleration time can be set)					
	Command Input	MECHATROLINK Communication		MECHATROLINK-II commands (for sequence, motion, data setting/reference, monitor, adjustment and other commands)					
I/O signal	Sequence input signal			Emergency stop, 3 external latch signals, forward/reverse torque limit, forward/reverse run prohibit, origin proximity, 3 general-purpose inputs					
	Sequence output signal			It is possible to output three types of signals: positioning completed, speed coincidence, rotation speed detection, servo ready, current limit, speed limit, brake release and warning signal					

Servo drive type			R88D-GN_	01H-ML2	02H-ML2	04H-ML2	08H-ML2	10H-ML2	15H-ML2
Applicable servomotor			R88M-G_	05030_/10030_	20030_	40030_	75030_	G1K020T_	90010T_ /1K030T_ / 1K5_0T_
			R88M-GP_	10030_	20030_	40030_	-	-	-
Integrated functions	Communications	RS-232 communications	Interface	Personal computer					
			Transmission rate	From 2400 to 57600 bps					
			Functions	Parameter setting, status display, alarm display (monitor, clear, history), servo drive data tracing function, test run/auto-tuning operations, real time trace, absolute encoder setting, default values function					
		MECHATROLINK communications	Communications protocol	MECHATROLINK-II					
			Transmission rate	10 Mbps					
			Functions	Parameter setting, status display, alarm display (monitor, clear, history), default values function					
	Automatic load inertia detection			Horizontal and vertical axis mode. One parameter rigidity setting.					
	Dynamic brake (DB)			Operates when main power OFF, servo alarm, overtravel or servo OFF					
	Regenerative processing			Built-in regeneration resistor in models from 750 W to 1.5 kW. External regeneration resistor optionally.					
	Overtravel (OT) prevention function			Dynamic brake, disables torque or emergency stop torque during POT and NOT operation					
	Emergency stop (STOP)			Emergency stop input					
	Encoder divider function			Optional division pulses possible					
	Electronic gearing			0,01<Numerator/Denominator<100					
	Internal speed setting function			8 internal speeds					
	Protective functions			Overvoltage, undervoltage, overcurrent, overload, regeneration overload, servo drive overheat					
	Analogue monitor Output			The actual servomotor speed, command speed, torque and number of accumulated pulses can be measured using an oscilloscope or other device.					
	Panel operator		Display functions	A 2-digit 7-segment LED display shows the servo drive status, alarm codes, parameters, etc.					
				MECHATROLINK-II communications status LED indicator (COM)					
			Switches	Rotary switch for setting the MECHATROLINK-II node address					

Dimensions

Drive model	Specification		H	W	D	D1	
R88D-GN01H-ML2	200 V	100-200 W	150 mm	40 mm	132 mm	70 mm	
R88D-GN02H-ML2							
R88D-GN04H-ML2		400 W	150 mm	55 mm	132 mm	70 mm	
R88D-GN08H-ML2		750 W	150 mm	65 mm	172 mm	70 mm	
R88D-GN10H-ML2		1 kW-1.5 kW	150 mm	85 mm	172 mm	70 mm	
R88D-GN15H-ML2							

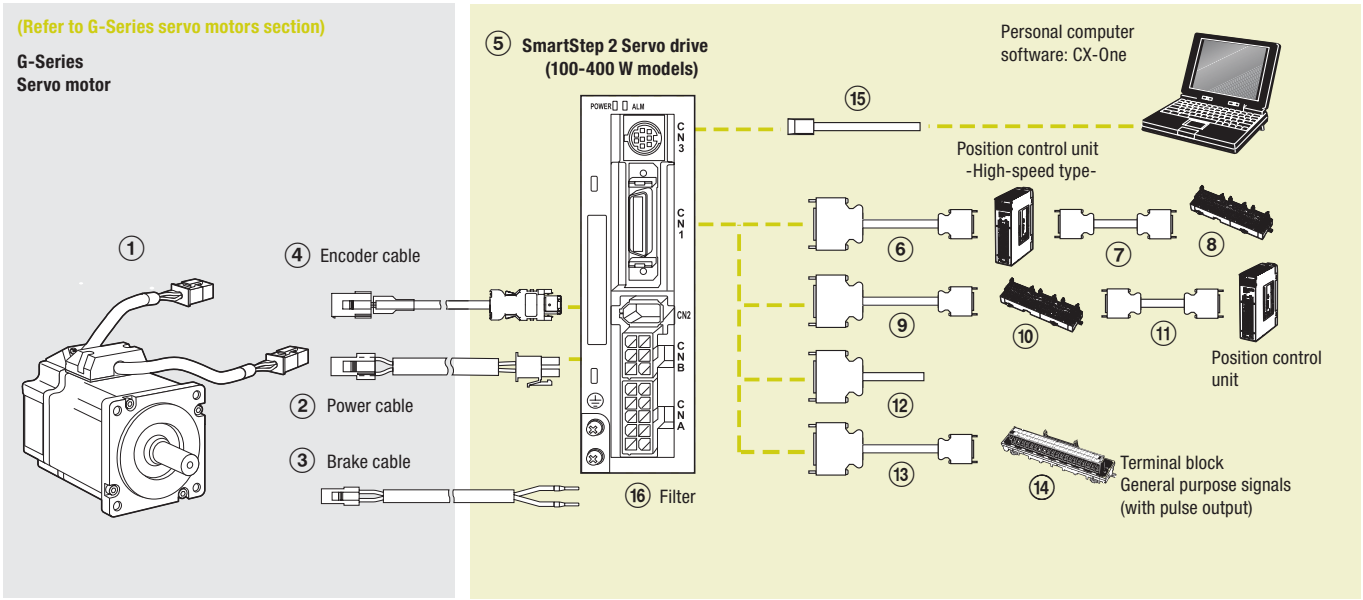
Another step forward in drive simplicity

The new SmartStep offers an ideal solution for point-to-point motion applications where simplicity is essential. SmartStep 2 keeps things simple whilst combining high performance and advanced features in a cost effective solution.

- On-line Auto-tuning and Easy set up
- Ultra-compact size. The footprint is only 48% compared to the previous SmartStep
- Two torque limits
- Electronic gear, four internal speed settings and wide range of pulse settings
- Adaptive resonance suppression filter
- Position control via pulse input 500 kpps
- Configuration and commissioning using CX Drive-software

Ordering information

SmartStep2 Servo Drive Configuration (100-400 W)



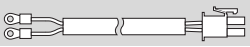
Servo motor

Note: ①②③④ refer to G-Series motor section for detailed motor specifications and selection.

Servo drives

Symbol	Specifications		Compatible servo motors ①		Order code
			Cylindrical type	Flat type	SmartStep 2 drive model
⑤	200 VAC	100 W	R88M-G05030H-_	-	R7D-BP01H
			R88M-G10030H-_	R88M-GP10030H-_	
		200 W	R88M-G20030H-_	R88M-GP20030H-_	R7D-BP02HH
		400 W	R88M-G40030H-_	R88M-GP40030H-_	R7D-BP04H

Power Supply cables (for CNA)

Symbol	Specifications	Appearance	Order code
⑤	Power Supply Input Cable for Single-Phase Power (connectors attached)		R7A-CLB002S2

Control cables (for CN1)

Symbol	Description	Connect to	Length	Order code
⑥	Control cable (line-driver output for 1 axis)	Position control unit CJ1W-NC234 CJ1W-NC434	1 m	XW2Z-100J-G12
			5 m	XW2Z-500J-G12
			10 m	XW2Z-10MJ-G12
	Control cable (open-collector output for 1 axis)	Position control unit CJ1W-NC214 CJ1W-NC414	1 m	XW2Z-100J-G16
			3 m	XW2Z-300J-G16
	Control cable (line-driver output for 2 axis)	Position control unit CJ1W-NC234 CJ1W-NC434	1 m	XW2Z-100J-G4
			5 m	XW2Z-500J-G4
			10 m	XW2Z-10MJ-G4
	Control cable (open-collector output for 2 axis)	Position control unit CJ1W-NC214 CJ1W-NC414	1 m	XW2Z-100J-G8
			3 m	XW2Z-300J-G8

Symbol	Description	Connect to	Length	Order code
⑦	Terminal block cable for external signals (for input common, forward/reverse run prohibited inputs, emergency stop input, origin proximity input and interrupt input)	Position control units CJ1W-NC234 CJ1W-NC434 CJ1W-NC214 CJ1W-NC414	0.5 m	XW2Z-C50X
			1 m	XW2Z-100X
			2 m	XW2Z-200X
			3 m	XW2Z-300X
			5 m	XW2Z-500X
			10 m	XW2Z-010X
⑧	Terminal block for external signals (with M3 screw and for pin terminals)		-	XW2B-20G4
	Terminal block ext. signals (with M3.5 screw and for fork/round terminals)		-	XW2B-20G5
	Terminal block ext. signals (with M3 screw and fork/round pin terminals)		-	XW2D-20G6
⑨	Cable from servo relay unit to servo drive	CS1W-NC1_3, CJ1W-NC1_3, C200HW-NC113, CS1W-NC2_3/4_3, CJ1W-NC2_3/4_3, C200HW-NC213/413, CQM1H-PLB21 or CQM1-CPU43-V1	1 m	XW2Z-100J-B29
			2 m	XW2Z-200J-B29
		CJ1M-CPU21/22/23	1 m	XW2Z-100J-B32
			2 m	XW2Z-200J-B32
⑩	Servo relay unit	CS1W-NC1_3, CJ1W-NC1_3 or C200HW-NC113 position control unit	-	XW2B-20J6-1B (1 axis)
		CS1W-NC2_3/4_3, CJ1W-NC2_3/4_3 or C200HW-NC213/413 position control unit	-	XW2B-40J6-2B (2 axes)
		CQM1H-PLB21 or CQM1-CPU43-V1	-	XW2B-20J6-3B (1 axis)
		CJ1M-CPU21/22/23	-	XW2B-20J6-8A (1 axis)
				XW2B-40J6-9A (2 axes)
⑪	Position control unit connecting cable	CJ1W-NC133	0.5 m	XW2Z-050J-A18
			1 m	XW2Z-100J-A18
		CJ1W-NC233/433	0.5 m	XW2Z-050J-A19
			1 m	XW2Z-100J-A19
		CS1W-NC133	0.5 m	XW2Z-050J-A10
			1 m	XW2Z-100J-A10
		CS1W-NC233/433	0.5 m	XW2Z-050J-A11
			1 m	XW2Z-100J-A11
		CJ1W-NC113	0.5 m	XW2Z-050J-A14
			1 m	XW2Z-100J-A14
		CJ1W-NC213/413	0.5 m	XW2Z-050J-A15
			1 m	XW2Z-100J-A15
		CS1W-NC113 C200HW-NC113	0.5 m	XW2Z-050J-A6
			1 m	XW2Z-100J-A6
		CS1W-NC213/413 C200HW-NC213/413	0.5 m	XW2Z-050J-A7
			1 m	XW2Z-100J-A7
		CJ1M-CPU21/22/23	0.5 m	XW2Z-050J-A33
			1 m	XW2Z-100J-A33
		CQM1H-PLB21 CQM1-CPU43-V1	0.5 m	XW2Z-050J-A3
			1 m	XW2Z-100J-A3
⑫	General purpose cable	For general purpose controllers	1 m	R7A-CPB001S
			2 m	R7A-CPB002S
⑬	Terminal block cable	For general purpose controllers	1 m	XW2Z-100J-B28
			2 m	XW2Z-200J-B28
⑭	Terminal block (with M3 screw and for pin terminals)		-	XW2B-34G4
	Terminal block (with M3.5 screw and for fork/round terminals)		-	XW2B-34G5
	Terminal block (with M3 screw and fork/round pin terminals)		-	XW2D-34G6

Cable for CN3

Symbol	Name	Length	Order code
⑮	Personal Computer Monitor Cable	2 m	R88A-CCG002P2

Filters

Symbol	Applicable servo drive	Rated current	Rated voltage	Order code
⑯	R7D-BP01H/ 02HH/ 04H	4 A	1 pH, 230 V	R7A-FIB104-RE

Connectors

Specifications	Order code
Main Circuit Connector (CNA)	R7A-CNB01P
Servomotor Connector (CNB)	R7A-CNB01A
Control I/O Connector (CN1)	R88A-CNW01C
Encoder Input Connector (CN2)	R88A-CNW01R
Servomotor Connector for Encoder Cable	R88A-CNG02R
Servomotor Connector for Servomotor Power Cable	R88A-CNG01A
Brake Cable Connector	R88A-CNG01B

External regeneration resistor

Specification	Order code
80 W, 50 Ω	R88A-RR08050S
80 W, 100 Ω	R88A-RR080100S
220 W, 47 Ω	R88A-RR22047S

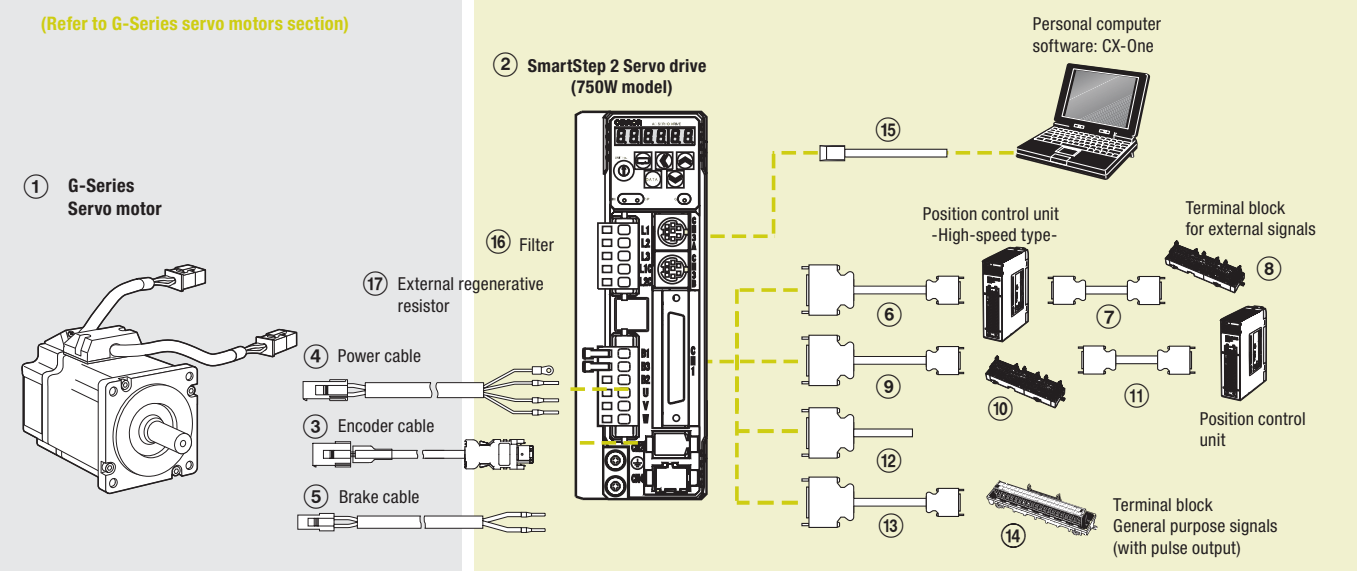
External regeneration resistor cable

Specifications	Order code
External Regenerative Resistor Connection Cable, 2 meters	R7A-CLB002RG

Parameter unit & computer software

Specifications	Order code
Parameter copy unit (with cable)	R88A-PR02G
Configuration and monitoring software tool for servo drives and inverters. (CX-drive version 1.8 or higher)	CX-drive

SmartStep2 Servo Drive Configuration (750 W)



Servo motor

Note: ①③④⑤ refer to G-Series motor section for detailed motor specifications and selection.

Servo drives

Symbol	Specifications		① Compatible rotary servo motors	Order code
			Cylindrical type	Servo drive model
②	1 phase 200 VAC	750 W	R88M-G75030H-_	R88D-GP08H

Control cables (for CN1)

Symbol	Description	Connect to	Length	Order code
⑥	Control cable (line-driver output for 1 axis	Position control units (high-speed type) CJ1W-NC234 CJ1W-NC434	1 m	XW2Z-100J-G9
			5 m	XW2Z-500J-G9
			10 m	XW2Z-10MJ-G9
	Control cable (open-collector output for 1 axis	Position control units (high-speed type) CJ1W-NC214 CJ1W-NC414	1 m	XW2Z-100J-G13
			3 m	XW2Z-300J-G13
	Control cable (line-driver output for 2 axis	Position control units (high-speed type) CJ1W-NC234 CJ1W-NC434	1 m	XW2Z-100J-G1
			5 m	XW2Z-500J-G1
			10 m	XW2Z-10MJ-G1
	Control cable (open-collector output for 2 axis	Position control units (high-speed type) CJ1W-NC214 CJ1W-NC414	1 m	XW2Z-100J-G5
			3 m	XW2Z-300J-G5
⑦	Terminal block cable for external signals (for input common, forward/reverse run prohibited inputs, emergency stop input, origin proximity input and interrupt input)	Position control units (high-speed type) CJ1W-NC234 CJ1W-NC434 CJ1W-NC214 CJ1W-NC414	0.5 m	XW2Z-C50X
			1 m	XW2Z-100X
			2 m	XW2Z-200X
			3 m	XW2Z-300X
			5 m	XW2Z-500X
			10 m	XW2Z-010X
⑧	Terminal block for external signals (M3 screw, pin terminals)		-	XW2B-20G4
	Terminal block ext. signals (M3.5 screw, fork/round terminals)		-	XW2B-20G5
	Terminal block ext. signals (M3 screw, fork/round terminals)		-	XW2D-20G6
⑨	Cable from servo relay unit to servo drive	CS1W-NC1_3, CJ1W-NC1_3, C200HW-NC113/213/413, CS1W-NC2_3/4_3, CJ1W-NC2_3/4_3 or CQM1H-PLB21	1 m	XW2Z-100J-B25
			2 m	XW2Z-200J-B25
		CJ1M-CPU21/22/23	1 m	XW2Z-100J-B31
			2 m	XW2Z-200J-B31
⑩	Servo relay unit	CS1W-NC1_3, CJ1W-NC1_3 or C200HW-NC113 position control unit	-	XW2B-20J6-1B (1 axis)
		CS1W-NC2_3/4_3, CJ1W-NC2_3/4_3 or C200HW-NC213/413 position control unit	-	XW2B-40J6-2B (2 axes)
		CQM1H-PLB21	-	XW2B-20J6-3B (1 axis)
		CJ1M-CPU21/22/23	-	XW2B-20J6-8A (1 axis)
				XW2B-40J6-9A (2 axes)

Symbol	Description	Connect to	Length	Order code
⑪	Position control unit connecting cable	CQM1H-PLB21	0.5 m	XW2Z-050J-A3
			1 m	XW2Z-100J-A3
		CS1W-NC113 or C200HW-NC113	0.5 m	XW2Z-050J-A6
			1 m	XW2Z-100J-A6
		CS1W-NC213/413 or C200HW-NC213/413	0.5 m	XW2Z-050J-A7
			1 m	XW2Z-100J-A7
		CS1W-NC133	0.5 m	XW2Z-050J-A10
			1 m	XW2Z-100J-A10
		CS1W-NC233/433	0.5 m	XW2Z-050J-A11
			1 m	XW2Z-100J-A11
		CJ1W-NC113	0.5 m	XW2Z-050J-A14
			1 m	XW2Z-100J-A14
		CJ1W-NC213/413	0.5 m	XW2Z-050J-A15
			1 m	XW2Z-100J-A15
		CJ1W-NC133	0.5 m	XW2Z-050J-A18
			1 m	XW2Z-100J-A18
		CJ1W-NC233/433	0.5 m	XW2Z-050J-A19
			1 m	XW2Z-100J-A19
		CJ1M-CPU21/22/23	0.5 m	XW2Z-050J-A33
			1 m	XW2Z-100J-A33
⑫	General purpose cable	For general purpose controllers	1 m	R88A-CPG001S
			2 m	R88A-CPG002S
⑬	Terminal block cable	For general purpose controllers	1 m	XW2Z-100J-B24
			2 m	XW2Z-200J-B24
⑭	Terminal block (M3 screw and for pin terminals)		-	XW2B-50G4
	Terminal block (M3.5 screw and for fork/round terminals)		-	XW2B-50G5
	Terminal block (M3 screw and for fork/found terminals)		-	XW2D-50G6

Computer cable (for CN3)

Symbol	Name	Length	Order code
⑮	Computer cable RS232	2 m	R88A-CCG002P2

Filter

Symbol	Rated current	Leakage current	Rated voltage	Applicable servodrive	Order code
⑯	6.6 A	3.5 mA	250 VAC single-phase	R88D-GP08H	R88A-FIK107-RE

External regenerative resistor

Symbol	Specifications	Order code
⑰	50 Ω, 80 W	R88A-RR08050S
	100 Ω, 80 W	R88A-RR080100S
	47 Ω, 220 W	R88A-RR22047S
	20 Ω, 500 W	R88A-RR50020S

Connectors

Specifications	Order code
I/O connector kit -50 pins- (for CN1)	R88A-CNU11C
Power cable connector (motor side)	R88A-CNG01A
Encoder connector (Servo drive side CN2)	R88A-CNW01R
Incremental encoder cable connector (motor side)	R88A-CNG02R

Computer software

Specifications	Order code
Configuration and monitoring software tool for servo drives and inverters (CX-drive version 1.91 or higher).	CX-Drive

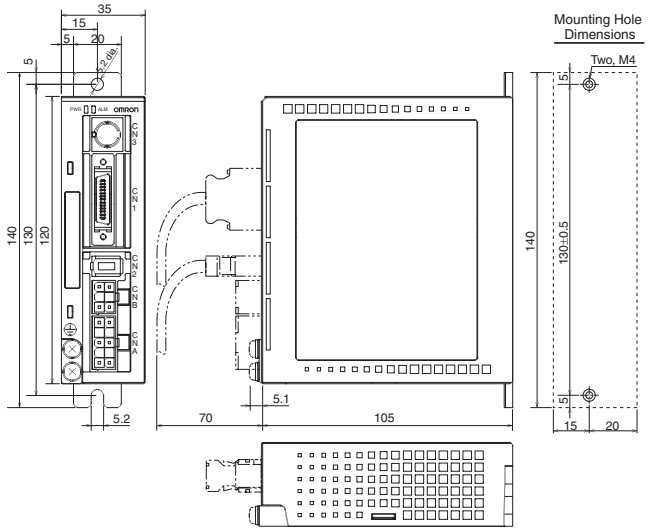
Specifications

Performance specifications

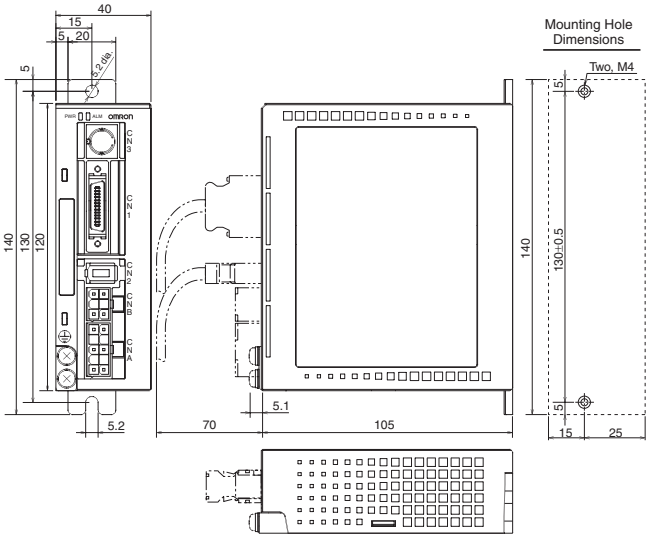
Item	200 VAC input type			
	100 W	200 W	400 W	750 W
	R7D-BP01H	R7D-BP02HH	R7D-BP04H	R88D-GP08H
Continuous output current (rms)	1.0 A	1.6 A	2.5 A	4 A
Momentary maximum output current (rms)	3.3 A	4.9 A	7.8 A	14.1 A
Main-circuit power supply	Single-phase 200 to 240 VAC (170 to 264 V), 50/60 Hz			Single-phase/three-phase 200 to 240 VAC (170 to 264 V), 50/60 Hz
Control circuit input power	-			Single-phase 200 to 240 VAC (170 to 264 V)
Control method	All-digital method			
Feedback	10,000 pulses/revolution incremental encoder			
Inverter method	PWM method based on IGBT			
PWM frequency	12 kHz		6 kHz	
Weight	0.35 kg	0.42 kg	0.42 kg	1.5 kg
Compatible motor voltage	200 V			
Command pulse response	Line drive: 500 kpps			
Compatible motor capacity	50 W 100 W	200 W	400 W	750 W
Applicable servo motor (R88M-)	G05030H G10030H GP10030H	G020030H GP20030H	G40030H GP40030H	G75030H

Dimensions

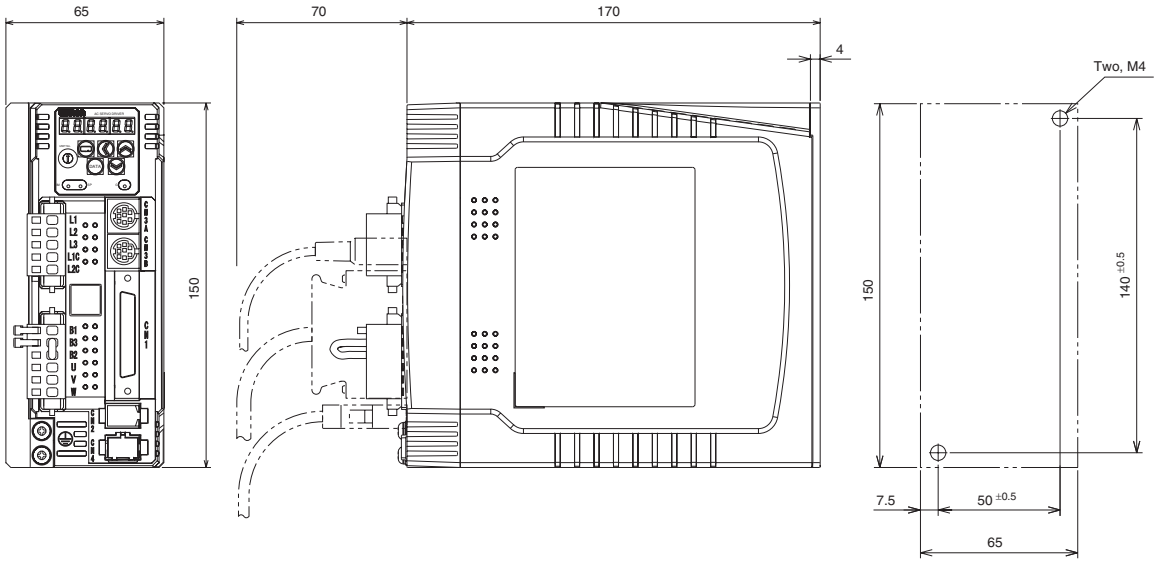
R7D-BP01H (230 V, 100 W)



R7D-BP02HH/04H (230 V, 200-400 W)



R88D-GP08H (230 V, 750 W)

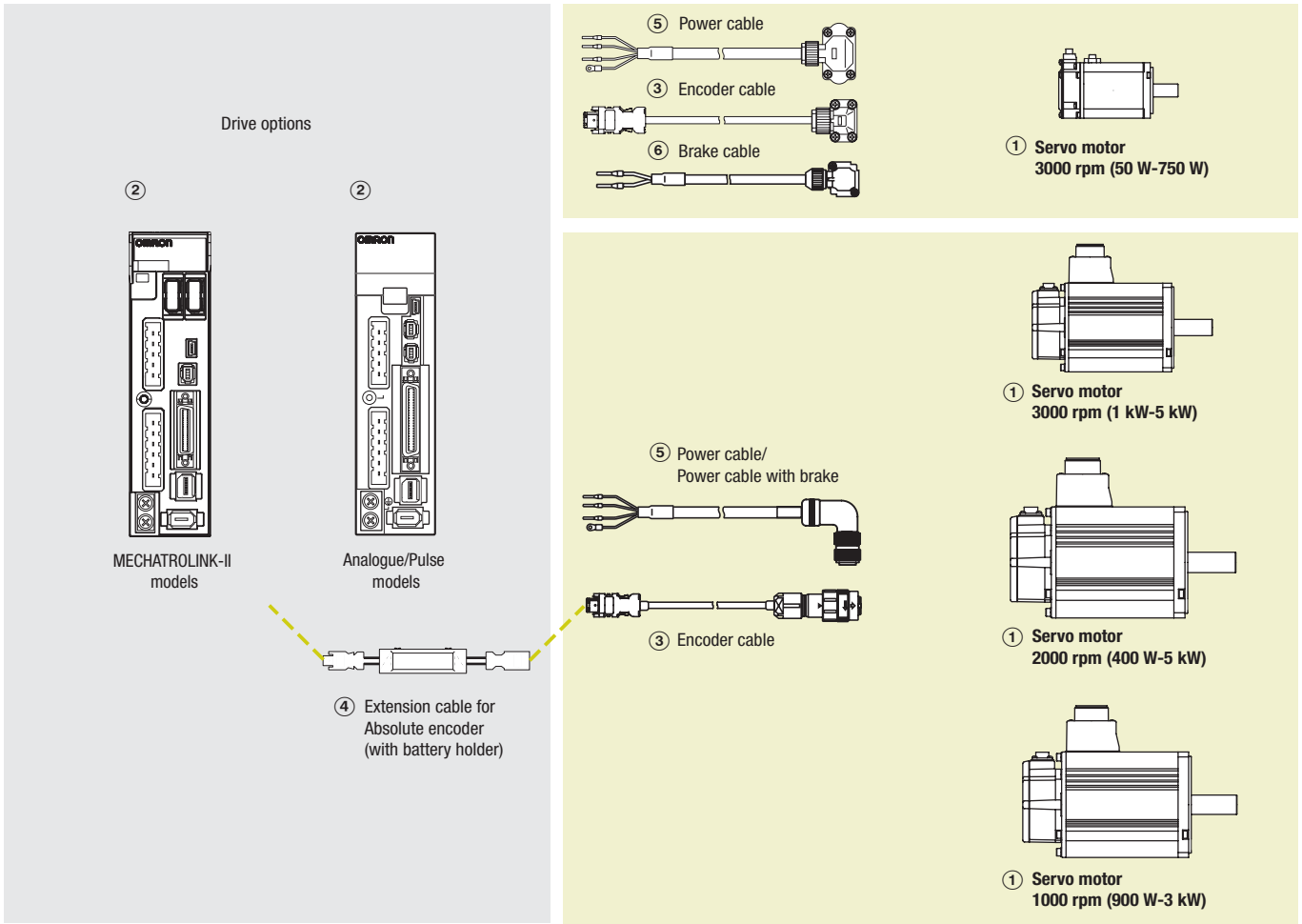


Servo motor family for accurate motion control.

Accurax G5 servo motors include IP67 protection and connectors on the motor body. Use of 10 pole motors and 20 bit encoder results in 40% reduction in motor cogging. The servomotors are 25% lighter and 15% smaller due to patented new stator design PACK&CLAMP technology, 40% iron loss reduction and 15% smaller encoder.

- Peak torque 300% of rated torque during 3 seconds or more depending on model
- High accuracy provided by a 20 bit resolution encoder, ABS encoder as an option
- IP67 protection in all models
- Ultra-light and compact size motor
- Low speed ripple and low torque ripple due to low torque cogging
- Various shaft, brake and seal options

Ordering information



Servo drive

② Refer to Accurax G5 servo drive section for detailed drive specifications and selection of drive accessories.

Servo motors 3000 r/min (50 - 5000 W)

Symbol	Specifications					Compatible servo drives ②		Order code
	Voltage	Encoder and design		Rated torque	Capacity	G5 MECHATROLINK-II	G5 Analogue/Pulse	
①  230 V (50 - 750 W)  230 V (1000 - 1500 W) 400 V (750 - 5000 W)	230 V	Incremental encoder (20 bit) Straight shaft with key and tap	Without brake	0.16 Nm	50 W	R88D-KN01H-ML2	R88D-KT01H	R88M-K05030H-S2
				0.32 Nm	100 W	R88D-KN01H-ML2	R88D-KT01H	R88M-K10030H-S2
				0.64 Nm	200 W	R88D-KN02H-ML2	R88D-KT02H	R88M-K20030H-S2
				1.3 Nm	400 W	R88D-KN04H-ML2	R88D-KT04H	R88M-K40030H-S2
				2.4 Nm	750 W	R88D-KN08H-ML2	R88D-KT08H	R88M-K75030H-S2
				3.18 Nm	1000 W	R88D-KN15H-ML2	R88D-KT15H	R88M-K1K030H-S2
				4.77 Nm	1500 W	R88D-KN15H-ML2	R88D-KT15H	R88M-K1K530H-S2
			With brake	0.16 Nm	50 W	R88D-KN01H-ML2	R88D-KT01H	R88M-K05030H-BS2
				0.32 Nm	100 W	R88D-KN01H-ML2	R88D-KT01H	R88M-K10030H-BS2
				0.64 Nm	200 W	R88D-KN02H-ML2	R88D-KT02H	R88M-K20030H-BS2
				1.3 Nm	400 W	R88D-KN04H-ML2	R88D-KT04H	R88M-K40030H-BS2
				2.4 Nm	750 W	R88D-KN08H-ML2	R88D-KT08H	R88M-K75030H-BS2
				3.18 Nm	1000 W	R88D-KN15H-ML2	R88D-KT15H	R88M-K1K030H-BS2
				4.77 Nm	1500 W	R88D-KN15H-ML2	R88D-KT15H	R88M-K1K530H-BS2
		Absolute encoder (17 bit) Straight shaft with key and tap	Without brake	0.16 Nm	50 W	R88D-KN01H-ML2	R88D-KT01H	R88M-K05030T-S2
				0.32 Nm	100 W	R88D-KN01H-ML2	R88D-KT01H	R88M-K10030T-S2
				0.64 Nm	200 W	R88D-KN02H-ML2	R88D-KT02H	R88M-K20030T-S2
				1.3 Nm	400 W	R88D-KN04H-ML2	R88D-KT04H	R88M-K40030T-S2
				2.4 Nm	750 W	R88D-KN08H-ML2	R88D-KT08H	R88M-K75030T-S2
				3.18 Nm	1000 W	R88D-KN15H-ML2	R88D-KT15H	R88M-K1K030T-S2
				4.77 Nm	1500 W	R88D-KN15H-ML2	R88D-KT15H	R88M-K1K530T-S2
			With brake	0.16 Nm	50 W	R88D-KN01H-ML2	R88D-KT01H	R88M-K05030T-BS2
				0.32 Nm	100 W	R88D-KN01H-ML2	R88D-KT01H	R88M-K10030T-BS2
				0.64 Nm	200 W	R88D-KN02H-ML2	R88D-KT02H	R88M-K20030T-BS2
				1.3 Nm	400 W	R88D-KN04H-ML2	R88D-KT04H	R88M-K40030T-BS2
				2.4 Nm	750 W	R88D-KN08H-ML2	R88D-KT08H	R88M-K75030T-BS2
				3.18 Nm	1000 W	R88D-KN15H-ML2	R88D-KT15H	R88M-K1K030T-BS2
				4.77 Nm	1500 W	R88D-KN15H-ML2	R88D-KT15H	R88M-K1K530T-BS2
	400 V	Incremental encoder (20 bit) Straight shaft with key and tap	Without brake	2.39 Nm	750 W	R88D-KN10F-ML2	R88D-KT10F	R88M-K75030F-S2
				3.18 Nm	1000 W	R88D-KN15F-ML2	R88D-KT15F	R88M-K1K030F-S2
				4.77 Nm	1500 W	R88D-KN15F-ML2	R88D-KT15F	R88M-K1K530F-S2
				6.37 Nm	2000 W	R88D-KN20F-ML2	R88D-KT20F	R88M-K2K030F-S2
				9.55 Nm	3000 W	R88D-KN30F-ML2	R88D-KT30F	R88M-K3K030F-S2
				12.7 Nm	4000 W	R88D-KN50F-ML2	R88D-KT50F	R88M-K4K030F-S2
				15.9 Nm	5000 W	R88D-KN50F-ML2	R88D-KT50F	R88M-K5K030F-S2
			With brake	2.39 Nm	750 W	R88D-KN10F-ML2	R88D-KT10F	R88M-K75030F-BS2
				3.18 Nm	1000 W	R88D-KN15F-ML2	R88D-KT15F	R88M-K1K030F-BS2
				4.77 Nm	1500 W	R88D-KN15F-ML2	R88D-KT15F	R88M-K1K530F-BS2
				6.37 Nm	2000 W	R88D-KN20F-ML2	R88D-KT20F	R88M-K2K030F-BS2
				9.55 Nm	3000 W	R88D-KN30F-ML2	R88D-KT30F	R88M-K3K030F-BS2
				12.7 Nm	4000 W	R88D-KN50F-ML2	R88D-KT50F	R88M-K4K030F-BS2
				15.9 Nm	5000 W	R88D-KN50F-ML2	R88D-KT50F	R88M-K5K030F-BS2
		Absolute encoder (17 bit) Straight shaft with key and tap	Without brake	2.39 Nm	750 W	R88D-KN10F-ML2	R88D-KT10F	R88M-K75030C-S2
				3.18 Nm	1000 W	R88D-KN15F-ML2	R88D-KT15F	R88M-K1K030C-S2
				4.77 Nm	1500 W	R88D-KN15F-ML2	R88D-KT15F	R88M-K1K530C-S2
				6.37 Nm	2000 W	R88D-KN20F-ML2	R88D-KT20F	R88M-K2K030C-S2
				9.55 Nm	3000 W	R88D-KN30F-ML2	R88D-KT30F	R88M-K3K030C-S2
				12.7 Nm	4000 W	R88D-KN50F-ML2	R88D-KT50F	R88M-K4K030C-S2
				15.9 Nm	5000 W	R88D-KN50F-ML2	R88D-KT50F	R88M-K5K030C-S2
			With brake	2.39 Nm	750 W	R88D-KN10F-ML2	R88D-KT10F	R88M-K75030C-BS2
				3.18 Nm	1000 W	R88D-KN15F-ML2	R88D-KT15F	R88M-K1K030C-BS2
				4.77 Nm	1500 W	R88D-KN15F-ML2	R88D-KT15F	R88M-K1K530C-BS2
				6.37 Nm	2000 W	R88D-KN20F-ML2	R88D-KT20F	R88M-K2K030C-BS2
				9.55 Nm	3000 W	R88D-KN30F-ML2	R88D-KT30F	R88M-K3K030C-BS2
				12.7 Nm	4000 W	R88D-KN50F-ML2	R88D-KT50F	R88M-K4K030C-BS2
				15.9 Nm	5000 W	R88D-KN50F-ML2	R88D-KT50F	R88M-K5K030C-BS2

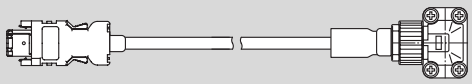
Servo motors 2000 r/min (1 - 5 kW)

Symbol	Specifications					Compatible servo drives ②		Order code
	Voltage	Encoder and design		Rated torque	Capacity	G5 MECHATROLINK-II	G5 Analogue/Pulse	
① 	230 V	Incremental encoder (20 bit) Straight shaft with key and tap	Without brake	4.77 Nm	1000 W	R88D-KN10H-ML2	R88D-KT10H	R88M-K1K020H-S2
				7.16 Nm	1500 W	R88D-KN15H-ML2	R88D-KT15H	R88M-K1K520H-S2
			With brake	4.77 Nm	1000 W	R88D-KN10H-ML2	R88D-KT10H	R88M-K1K020H-BS2
				7.16 Nm	1500 W	R88D-KN15H-ML2	R88D-KT15H	R88M-K1K520H-BS2
		Absolute encoder (17 bit) Straight shaft with key and tap	Without brake	4.77 Nm	1000 W	R88D-KN10H-ML2	R88D-KT10H	R88M-K1K020T-S2
				7.16 Nm	1500 W	R88D-KN15H-ML2	R88D-KT15H	R88M-K1K520T-S2
			With brake	4.77 Nm	1000 W	R88D-KN10H-ML2	R88D-KT10H	R88M-K1K020T-BS2
				7.16 Nm	1500 W	R88D-KN15H-ML2	R88D-KT15H	R88M-K1K520T-BS2
	400 V	Incremental encoder (20 bit) Straight shaft with key and tap	Without brake	1.91 Nm	400 W	R88D-KN06F-ML2	R88D-KT06F	R88M-K40020F-S2
				2.86 Nm	600 W	R88D-KN06F-ML2	R88D-KT06F	R88M-K60020F-S2
				4.77 Nm	1000 W	R88D-KN10F-ML2	R88D-KT10F	R88M-K1K020F-S2
				7.16 Nm	1500 W	R88D-KN15F-ML2	R88D-KT15F	R88M-K1K520F-S2
				9.55 Nm	2000 W	R88D-KN20F-ML2	R88D-KT20F	R88M-K2K020F-S2
				14.3 Nm	3000 W	R88D-KN30F-ML2	R88D-KT30F	R88M-K3K020F-S2
				19.1 Nm	4000 W	R88D-KN50F-ML2	R88D-KT50F	R88M-K4K020F-S2
				23.9 Nm	5000 W	R88D-KN50F-ML2	R88D-KT50F	R88M-K5K020F-S2
			With brake	1.91 Nm	400 W	R88D-KN06F-ML2	R88D-KT06F	R88M-K40020F-BS2
				2.86 Nm	600 W	R88D-KN06F-ML2	R88D-KT06F	R88M-K60020F-BS2
				4.77 Nm	1000 W	R88D-KN10F-ML2	R88D-KT10F	R88M-K1K020F-BS2
				7.16 Nm	1500 W	R88D-KN15F-ML2	R88D-KT15F	R88M-K1K520F-BS2
				9.55 Nm	2000 W	R88D-KN20F-ML2	R88D-KT20F	R88M-K2K020F-BS2
				14.3 Nm	3000 W	R88D-KN30F-ML2	R88D-KT30F	R88M-K3K020F-BS2
				19.1 Nm	4000 W	R88D-KN50F-ML2	R88D-KT50F	R88M-K4K020F-BS2
				23.9 Nm	5000 W	R88D-KN50F-ML2	R88D-KT50F	R88M-K5K020F-BS2
		Absolute encoder (17 bit) Straight shaft with key and tap	Without brake	1.91 Nm	400 W	R88D-KN06F-ML2	R88D-KT06F	R88M-K40020C-S2
				2.86 Nm	600 W	R88D-KN06F-ML2	R88D-KT06F	R88M-K60020C-S2
				4.77 Nm	1000 W	R88D-KN10F-ML2	R88D-KT10F	R88M-K1K020C-S2
				7.16 Nm	1500 W	R88D-KN15F-ML2	R88D-KT15F	R88M-K1K520C-S2
				9.55 Nm	2000 W	R88D-KN20F-ML2	R88D-KT20F	R88M-K2K020C-S2
				14.3 Nm	3000 W	R88D-KN30F-ML2	R88D-KT30F	R88M-K3K020C-S2
				19.1 Nm	4000 W	R88D-KN50F-ML2	R88D-KT50F	R88M-K4K020C-S2
				23.9 Nm	5000 W	R88D-KN50F-ML2	R88D-KT50F	R88M-K5K020C-S2
			With brake	1.91 Nm	400 W	R88D-KN06F-ML2	R88D-KT06F	R88M-K40020C-BS2
				2.86 Nm	600 W	R88D-KN06F-ML2	R88D-KT06F	R88M-K60020C-BS2
				4.77 Nm	1000 W	R88D-KN10F-ML2	R88D-KT10F	R88M-K1K020C-BS2
				7.16 Nm	1500 W	R88D-KN15F-ML2	R88D-KT15F	R88M-K1K520C-BS2
				9.55 Nm	2000 W	R88D-KN20F-ML2	R88D-KT20F	R88M-K2K020C-BS2
				14.3 Nm	3000 W	R88D-KN30F-ML2	R88D-KT30F	R88M-K3K020C-BS2
				19.1 Nm	4000 W	R88D-KN50F-ML2	R88D-KT50F	R88M-K4K020C-BS2
				23.9 Nm	5000 W	R88D-KN50F-ML2	R88D-KT50F	R88M-K5K020C-BS2

Servo motors 1000 r/min (900 - 3000 W)

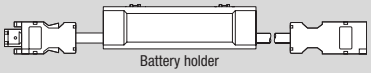
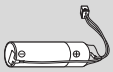
Symbol	Specifications					Compatible servo drives ②		Order code
	Voltage	Encoder and design		Rated torque	Capacity	G5 MECHATROLINK-II	G5 Analogue/Pulse	
① 	230 V	Incremental encoder (20 bit) Straight shaft with key and tap	Without brake	8.59 Nm	900 W	R88D-KN15H-ML2	R88D-KT15H	R88M-K90010H-S2
			With brake	8.59 Nm	900 W	R88D-KN15H-ML2	R88D-KT15H	R88M-K90010H-BS2
		Absolute encoder (17 bit) Straight shaft with key and tap	Without brake	8.59 Nm	900 W	R88D-KN15H-ML2	R88D-KT15H	R88M-K90010T-S2
			With brake	8.59 Nm	900 W	R88D-KN15H-ML2	R88D-KT15H	R88M-K90010T-BS2
	400 V	Incremental encoder (20 bit) Straight shaft with key and tap	Without brake	8.59 Nm	900 W	R88D-KN15F-ML2	R88D-KT15F	R88M-K90010F-S2
				19.1 Nm	2000 W	R88D-KN30F-ML2	R88D-KT30F	R88M-K2K010F-S2
				28.7 Nm	3000 W	R88D-KN50F-ML2	R88D-KT50F	R88M-K3K010F-S2
			With brake	8.59 Nm	900 W	R88D-KN15F-ML2	R88D-KT15F	R88M-K90010F-BS2
				19.1 Nm	2000 W	R88D-KN30F-ML2	R88D-KT30F	R88M-K2K010F-BS2
				28.7 Nm	3000 W	R88D-KN50F-ML2	R88D-KT50F	R88M-K3K010F-BS2
		Absolute encoder (17 bit) Straight shaft with key and tap	Without brake	8.59 Nm	900 W	R88D-KN15F-ML2	R88D-KT15F	R88M-K90010C-S2
				19.1 Nm	2000 W	R88D-KN30F-ML2	R88D-KT30F	R88M-K2K010C-S2
				28.7 Nm	3000 W	R88D-KN50F-ML2	R88D-KT50F	R88M-K3K010C-S2
			With brake	8.59 Nm	900 W	R88D-KN15F-ML2	R88D-KT15F	R88M-K90010C-BS2
				19.1 Nm	2000 W	R88D-KN30F-ML2	R88D-KT30F	R88M-K2K010C-S2
				28.7 Nm	3000 W	R88D-KN50F-ML2	R88D-KT50F	R88M-K3K010C-S2

Encoder cables for absolute and incremental encoders

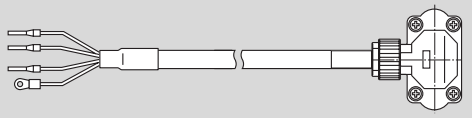
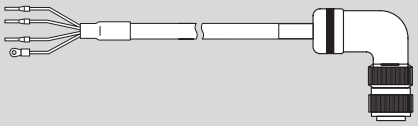
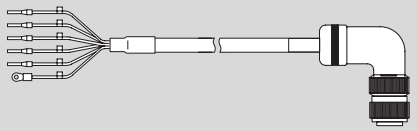
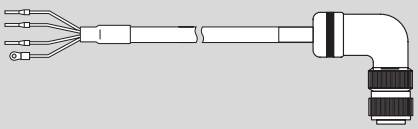
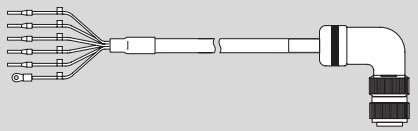
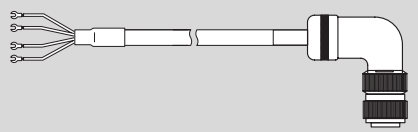
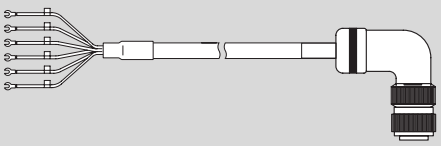
Symbol	Appearance	Specifications		Order code
③		Encoder cable for servomotors R88M-K(050/100/200/400/750)30(H/T)_	1.5 m	R88A-CRKA001-5CR-E
			3 m	R88A-CRKA003CR-E
			5 m	R88A-CRKA005CR-E
			10 m	R88A-CRKA010CR-E
			15 m	R88A-CRKA015CR-E
			20 m	R88A-CRKA020CR-E
		Encoder cable for servomotors R88M-K(1K0/1K5)30(H/T)_ R88M-K(750/1K0/1K5/2K0/3K0/4K0/5K0)30(F/C)_ R88M-K(400/600/1K0/1K5/2K0/3K0/4K0/5K0)20_ R88M-K(900/2K0/3K0)10_	1.5 m	R88A-CRKC001-5NR-E
			3 m	R88A-CRKC003NR-E
			5 m	R88A-CRKC005NR-E
			10 m	R88A-CRKC010NR-E
			15 m	R88A-CRKC015NR-E
			20 m	R88A-CRKC020NR-E

Note: For servomotors fitted with an absolute encoder you have to add the extension battery cable R88A-CRGD0R3C_ (see below) or connect a backup battery in the CN1 I/O connector.

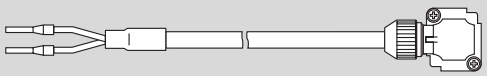
Absolute encoder battery cable (encoder extension cable only)

Symbol	Appearance	Specifications			Order code
④	 Battery holder	Absolute encoder battery cable	Battery not included	0.3 m	R88A-CRGD0R3C
			Battery included (R88A-BAT01G)	0.3 m	R88A-CRGD0R3C-BS
		Absolute encoder backup battery	2,000 mA.h 3.6V	-	R88A-BAT01G

Power cables

Symbol	Appearance	Specifications			Order code
⑤		For 200 V servomotors R88M-K(050/100/200/400/750)30(H/T)_ Note: for servomotors with brake R88M-K(050/100/200/400/750)30(H/T)-BS2, the separate brake cable R88A-CAKA___BR-E is needed	Power cable only (without brake)	1.5 m	R88A-CAKA001-5SR-E
				3 m	R88A-CAKA003SR-E
				5 m	R88A-CAKA005SR-E
				10 m	R88A-CAKA010SR-E
				15 m	R88A-CAKA015SR-E
				20 m	R88A-CAKA020SR-E
		For 200 V servomotors R88M-K(1K0/1K5)30(H/T)_ R88M-K(1K0/1K5)20(H/T)_ R88M-K90010(H/T)_	without brake _-S2	1.5 m	R88A-CAGB001-5SR-E
				3 m	R88A-CAGB003SR-E
				5 m	R88A-CAGB005SR-E
				10 m	R88A-CAGB010SR-E
				15 m	R88A-CAGB015SR-E
				20 m	R88A-CAGB020SR-E
			with brake _-BS2	1.5 m	R88A-CAGB001-5BR-E
				3 m	R88A-CAGB003BR-E
				5 m	R88A-CAGB005BR-E
				10 m	R88A-CAGB010BR-E
				15 m	R88A-CAGB015BR-E
				20 m	R88A-CAGB020BR-E
		For 400 V servomotors R88M-K(750/1K0/1K5/2K)30(F/C)_ R88M-K(400/600/1K0/1K5/2K0)20(F/C)_ R88M-K90010(F/C)_	without brake _-S2	1.5 m	R88A-CAGB001-5SR-E
				3 m	R88A-CAGB003SR-E
				5 m	R88A-CAGB005SR-E
				10 m	R88A-CAGB010SR-E
				15 m	R88A-CAGB015SR-E
				20 m	R88A-CAGB020SR-E
			with brake _-BS2	1.5 m	R88A-CAKF001-5BR-E
				3 m	R88A-CAKF003BR-E
				5 m	R88A-CAKF005BR-E
				10 m	R88A-CAKF010BR-E
				15 m	R88A-CAKF015BR-E
				20 m	R88A-CAKF020BR-E
		For 400 V servomotors R88M-K(3K0/4K0/5K0)30(F/C)_ R88M-K(3K0/4K0/5K0)20(F/C)_ R88M-K(2K0/3K0)10(F/C)_	without brake _-S2	1.5 m	R88A-CAGD001-5SR-E
				3 m	R88A-CAGD003SR-E
				5 m	R88A-CAGD005SR-E
				10 m	R88A-CAGD010SR-E
				15 m	R88A-CAGD015SR-E
				20 m	R88A-CAGD020SR-E
			with brake _-BS2	1.5 m	R88A-CAGD001-5BR-E
				3 m	R88A-CAGD003BR-E
				5 m	R88A-CAGD005BR-E
				10 m	R88A-CAGD010BR-E
				15 m	R88A-CAGD015BR-E
				20 m	R88A-CAGD020BR-E

Brake cable (for 3000 r/min 50-750 W Motors)

Symbol	Appearance	Specifications		Order code
⑥		Brake cable only. For 200 V servo motors with brake R88M-K(050/100/200/400/750)30(H/T)-BS2	1.5 m	R88A-CAKA001-5BR-E
			3 m	R88A-CAKA003BR-E
			5 m	R88A-CAKA005BR-E
			10 m	R88A-CAKA010BR-E
			15 m	R88A-CAKA015BR-E
			20 m	R88A-CAKA020BR-E

Connectors for encoder, power and brake cables

Specifications		Applicable Servomotor	Order code
Connectors for making encoder cables	Drive side (CN2)	All models	R88A-CNW01R
	Motor side	R88M-K(050/100/200/400/750)30(H/T)_	R88A-CNK02R
	Motor side	R88M-K(1K0/1K5)30(H/T)_ R88M-K(750/1K0/1K5/2K0/3K0/4K0/5K0)30(F/C)_ R88M-K(400/600/1K0/1K5/2K0/3K0/4K0/5K0)20_ R88M-K(900/2K0/3K0)10_	R88A-CNK04R
Connectors for making power cables	Motor side	R88M-K(050/100/200/400/750)30(H/T)_	R88A-CNK11A
	Motor side	R88M-K(1K0/1K5)30(H/T)-S2 R88M-K(1K0/1K5)20(H/T)-S2 R88M-K90010(H/T)-S2 R88M-K(750/1K0/1K5/2K0)30(F/C)-S2, R88M-K(400/600/1K0/1K5/2K0)20(F/C)-S2 R88M-K90010(F/C)-S2	MS3108E20-4S
	Motor side	R88M-K(1K0/1K5)30(H/T)-BS2 R88M-K(1K0/1K5)20(H/T)-BS2 R88M-K90010(H/T)-BS2	MS3108E20-18S
	Motor side	R88M-K(750/1K0/1K5/2K0/3K0/4K0/5K0)30(F/C)-BS2 R88M-K(400/600/1K0/1K5/2K0/3K0/4K0/5K0)20(F/C)-BS2 R88M-K(900/2K0/3K0)10(F/C)-BS2	MS3108E24-11S
	Motor side	R88M-K(3K0/4K0/5K0)30(F/C)-S2 R88M-K(3K0/4K0/5K0)20(F/C)-S2 R88M-K(2K0/3K0)10(F/C)-S2	MS3108E22-22S
Connector for brake cable	Motor side	R88M-K(050/100/200/400/750)30(H/T)-BS2	R88A-CNK11B

Note: 1. All cables listed are flexible and shielded (except the R88A-CAKA___-BR-E which is only a flexible cable).
2. All connectors and cables listed have IP67 class (except R88A-CNW01R connector and R88A-CRGD0R3C cable).

Specifications

Servo motors 3000 r/min, 230 V

Voltage			230 V						
Servo motor model R88M-K_		20-bit incremental encoder	05030H-_	10030H-_	20030H-_	40030H-_	75030H-_	1K030H-_	1K530H-_
		17-bit absolute encoder	05030T-_	10030T-_	20030T-_	40030T-_	75030T-_	1K030T-_	1K530T-_
Rated output		W	50	100	200	400	750	1000	1500
Rated torque		N·m	0.16	0.32	0.64	1.3	2.4	3.18	4.77
Instantaneous peak torque		N·m	0.48	0.95	1.91	3.8	7.1	9.55	14.3
Rated current		A (rms)	1.2	1.1	1.5	2.4	4.1	6.6	8.2
Instantaneous max. current		A (rms)	5.1	4.7	6.5	10.2	17.4	28	35
Rated speed		min^{-1}	3000						
Max. speed		min^{-1}	6000					5000	
Torque constant		N·m/A (rms)	0.11±10%	0.21±10%	0.31±10%	0.39±10%	0.42±10%	0.37	0.45
Rotor moment of inertia (JM)		$kg·m^2x10^{-4}$ (without brake)	0.025	0.051	0.14	0.26	0.87	2.03	2.84
		$kg·m^2x10^{-4}$ (with brake)	0.027	0.054	0.16	0.28	0.97	2.35	3.17
Allowable load moment of inertia (JL)		Multiple of (JM)	30				20	15	
Rated power rate		kW/s (without brake)	10.1	19.9	29.0	62.4	65.6	49.8	80.1
		kW/s (with brake)	9.4	18.8	25.4	58	58.8	43	71.8
Allowable radial load		N	68		245		490		
Allowable thrust load		N	58		98		196		
Approx. mass		Kg (without brake)	0.32	0.47	0.82	1.2	2.3	3.5	4.4
		Kg (with brake)	0.53	0.68	1.3	1.7	3.1	4.5	5.4
Brake specifications	Rated voltage		24VDC ±10%						
	Holding brake moment of inertia J	$kg·m^2x10^{-4}$	0.002		0.0018		0.33		
	Power consumption (at 20°C)	W	7		9		17	19	
	Current consumption (at 20°C)	A	0.3		0.36		0.70±10%	0.81±10%	
	Static friction torque	N.m (minimum)	0.29		1.27		2.5	7.8	
	Rise time for holding torque	ms (max.)	35		50				
	Release time	ms (max)	20		15				

Voltage			230 V						
Servo motor model R88M-K_		20-bit incremental encoder	05030H-_	10030H-_	20030H-_	40030H-_	75030H-_	1K030H-_	1K530H-_
		17-bit absolute encoder	05030T-_	10030T-_	20030T-_	40030T-_	75030T-_	1K030T-_	1K530T-_
Basic specifications	Time Rating		Continuous						
	Insulation class		Type B					Type F	
	Ambient operating/ storage temperature		0 to +40°C/ -20 to 65°C						
	Ambient operating/ storage humidity		20 to 80% (non-condensing)					20 to 85% (non-condensing)	
	Vibration class		V-15						
	Insulation resistance		20 MΩ min. at 500 VDC between the power terminals and FG terminal						
	Enclosure		Totally-enclosed, self-cooling, IP67 (excluding shaft opening)						
	Vibration resistance		Vibration acceleration 49 m/s2						
	Mounting		Flange-mounted						

Servo motors 3000 r/min, 400 V

Voltage			400 V						
Servo motor model R88M-K_		20-bit incremental encoder	75030F-_	1K030F-_	1K530F-_	2K030F-_	3K030F-_	4K030F-_	5K030F-_
		17-bit absolute encoder	75030C-_	1K030C-_	1K530C-_	2K030C-_	3K030C-_	4K030C-_	5K030C-_
Rated output		W	750	1000	1500	2000	3000	4000	5000
Rated torque		N·m	2.39	3.18	4.77	6.37	9.55	12.7	15.9
Instantaneous peak torque		N·m	7.16	9.55	14.3	19.1	28.6	38.2	47.7
Rated current		A (rms)	2.4	3.3	4.2	5.7	9.2	9.9	12
Instantaneous max. current		A (rms)	10	14	18	24	39	42	51
Rated speed		min^{-1}	3000						
Max. speed		min^{-1}	5000					4500	
Torque constant		N·m/A (rms)	0.78	0.75	0.89	0.87	0.81	0.98	
Rotor moment of inertia (JM)		$kg·m^2x10^{-4}$ (without brake)	1.61	2.03	2.84	3.68	6.5	12.9	17.4
		$kg·m^2x10^{-4}$ (with brake)	1.93	2.35	3.17	4.01	7.85	14.2	18.6
Allowable load moment of inertia (JL)		Multiple of (JM)	30						
Rated power rate		kW/s (without brake)	35.5	49.8	80.1	110	140	126	146
		kW/s (with brake)	29.6	43	71.8	101	116	114	136
Allowable radial load		N	490					784	
Allowable thrust load		N	196					343	
Approx. mass		Kg (without brake)	3.1	3.5	4.4	5.3	8.3	11	14
		Kg (with brake)	4.1	4.5	5.4	6.3	9.4	12.6	16
Brake specifications	Rated voltage		24VDC±10%						
	Holding brake moment of inertia J	$kg·m^2x10^{-4}$	0.33						1.35
	Power consumption (at 20°C)	W	17	19				22	
	Current consumption (at 20°C)	A	0.70±10%	0.81±10%				0.90±10%	
	Static friction torque	N.m (minimum)	2.5	7.8			11.8	16.1	
	Rise time for holding torque	ms (max.)	50					110	
	Release time	ms (max)	15					50	
Basic specifications	Time Rating		Continuous						
	Insulation class		Type F						
	Ambient operating/ storage temperature		0 to +40°C/ -20 to 65°C						
	Ambient operating/ storage humidity		20% to 85% (non-condensing)						
	Vibration class		V-15						
	Insulation resistance		20 MΩ min. at 500 VDC between the power terminals and FG terminal						
	Enclosure		Totally-enclosed, self-cooling, IP67(excluding shaft opening)						
	Vibration resistance		Vibration acceleration 49 m/s²						
	Mounting		Flange-mounted						

Servo motors 2000 r/min, 230V/ 400 V

Voltage		230 V		400 V							
Servo motor model R88M-K_	20-bit incremental encoder	1K020H-_	1K520H-_	40020F-_	60020F-_	1K020F-_	1K520F-_	2K020F-_	3K020F-_	4K020F-_	5K020F-_
	17-bit absolute encoder	1K020T-_	1K520T-_	40020C-_	60020C-_	1K020C-_	1K520C-_	2K020C-_	3K020C-_	4K020C-_	5K020C-_
Rated output	W	1000	1500	400	600	1000	1500	2000	3000	4000	5000
Rated torque	N·m	4.77	7.16	1.91	2.86	4.77	7.16	9.55	14.3	19.1	23.9
Instantaneous peak torque	N·m	14.3	21.5	5.73	8.59	14.3	21.5	28.7	43	57.3	71.6
Rated current	A (rms)	5.7	9.4	1.2	1.5	2.8	4.7	5.9	8.7	10.6	13
Instantaneous max. current	A (rms)	24	40	4.9	6.5	12	20	25	37	45	55
Rated speed	min^{-1}	2000									
Max. speed	min^{-1}	3000									
Torque constant	N·m/A (rms)	0.63	0.58	1.27	1.38	1.27	1.16	1.27	1.18	1.40	1.46
Rotor moment of inertia (JM)	$kg·m^2x10^{-4}$ (without brake)	4.60	6.70	1.61	2.03	4.60	6.70	8.72	12.9	37.6	48
	$kg·m^2x10^{-4}$ (with brake)	5.90	7.99	1.90	2.35	5.90	7.99	10	14.2	38.6	48.8
Max. load moment of inertia (JL)	Multiple of (JM)	10									
Rated power rate	kW/s (without brake)	49.5	76.5	22.7	40.3	49.5	76.5	105	159	97.1	119
	kW/s (with brake)	38.6	64.2	19.2	34.8	38.6	64.2	91.2	144	94.5	117
Allowable radial load	N	490							784		
Allowable thrust load	N	196							343		

Voltage			230 V		400 V							
Servo motor model R88M-K_		20-bit incremental encoder	1K020H-_	1K520H-_	40020F-_	60020F-_	1K020F-_	1K520F-_	2K020F-_	3K020F-_	4K020F-_	5K020F-_
		17-bit absolute encoder	1K020T-_	1K520T-_	40020C-_	60020C-_	1K020C-_	1K520C-_	2K020C-_	3K020C-_	4K020C-_	5K020C-_
Approx. mass		kg (without brake)	5.2	6.7	3.1	3.5	5.2	6.7	8	11	15.5	18.6
		kg (with brake)	6.7	8.2	4.1	4.5	6.7	8.2	9.5	12.6	18.7	21.8
Brake specifications	Rated voltage		24VDC ±10%									
	Holding brake moment inertia	(J) kg·m^{2}x10^{-4}	1.35								4.7	
	Power consumption (20°C)	W	14	19	17		14	19		22	31	
	Current consumption (20°C)	A	0.59±10%	0.79±10%	0.70 ±10%		0.59±10%	0.79 ±10%		0.90±10%	1.3±10%	1.3 ±-10%
	Static friction torque	N.m (minimum)	4.9	13.7	2.5		4.9	13.7		16.2	24.5	
	Rise time for holding torque	ms (max.)	80	100	50		80	100		110	80	
	Release time	ms (max)	70	50	15		70	50			25	
Basic specifications	Time Rating		Continuous									
	Insulation class		TypeF									
	Ambient operating/ storage temperature		0 to +40 °C/ -20 to 85°C									
	Ambient operating/ storage humidity		20% to 85% (non-condensing)									
	Vibration class		V-15									
	Insulation resistance		20 MΩ min. at 500 VDC between the power terminals and FG terminal									
	Enclosure		Totally-enclosed, self-cooling, IP67 (excluding shaft opening)									
	Vibration resistance		Vibration acceleration 49 m/s²									
	Mounting		Flange-mounted									

Servo motors 1000 r/min, 230 V/400 V

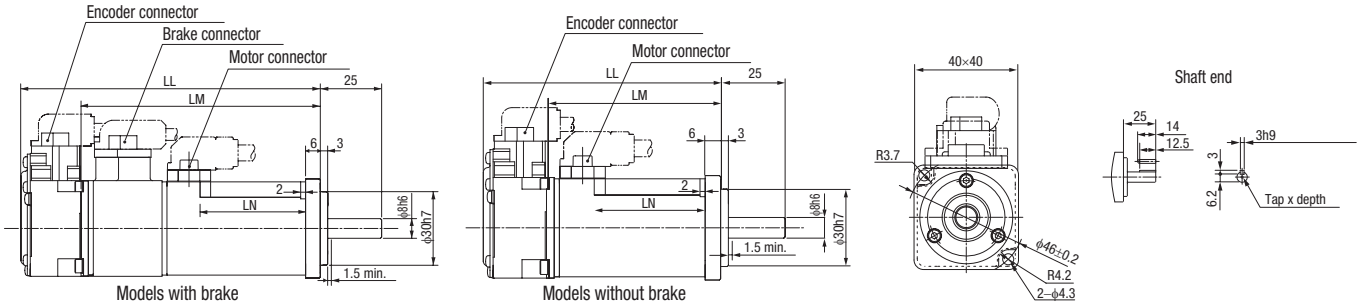
Applied voltage			230 V	400 V		
Servo motor model R88M-K_		20-bit incremental encoder	90010H-_	90010F-_	2K010F-_	3K010F-_
		17-bit absolute encoder	90010T-_	90010C-_	2K010C-_	3K010C-_
Rated output		W	900	900	2000	3000
Rated torque		N·m	8.59		19.1	28.7
Instantaneous peak torque		N·m	19.3		47.7	71.7
Rated current		A (rms)	7.6	3.8	8.5	11.3
Instantaneous max. current		A (rms)	24	12	30	40
Rated speed		min^{-1}	1000			
Max. speed		min^{-1}	2000			
Torque constant		N·m/A (rms)	0.86	1.72	1.76	1.92
Rotor moment of inertia (JM)		kg·m^{2}x10^{-4} (without brake)	6.70		30.3	48.4
		kg·m^{2}x10^{-4} (with brake)	7.99		31.4	49.2
Allowable load moment of inertia (JL)		Multiple of (JM)	10			
Rated power rate		kW/s (without brake)	110		120	170
		kW/s (with brake)	92.4		116	167
Allowable radial load		N	686		1176	1470
Allowable thrust load		N	196		490	
Approx. mass		kg (without brake)	6.7		14	20
		kg (with brake)	8.2		17.5	23.5
Brake specifications	Rated voltage		24VDC ±10%			
	Holding brake moment of inertia J	kg·m^{2}x10^{-4}	1.35		4.7	
	Power consumption (at 20°C)	W	19		31	34
	Current consumption (at 20°C)	A	0.79±10%		1.3±10%	1.4±10%
	Static friction torque	N.m (minimum)	13.7		24.5	58.8
	Rise time for holding torque	ms (max.)	100		80	150
	Release time	ms (max)	50		25	50
Basic specifications	Time Rating		Continuous			
	Insulation class		Type F			
	Ambient operating/ storage temperature		0 to +40 °C/ -20 to 65°C			
	Ambient operating/ storage humidity		20% to 85% RH (non-condensing)			
	Vibration class		V-15			
	Insulation resistance		20 MΩ min. at 500 VDC between the power terminals and FG terminal			
	Enclosure		Totally-enclosed, self-cooling, IP67 (excluding shaft opening)			
	Vibration resistance		Vibration acceleration 49 m/s2			
	Mounting		Flange-mounted			

Dimensions

Servo motors

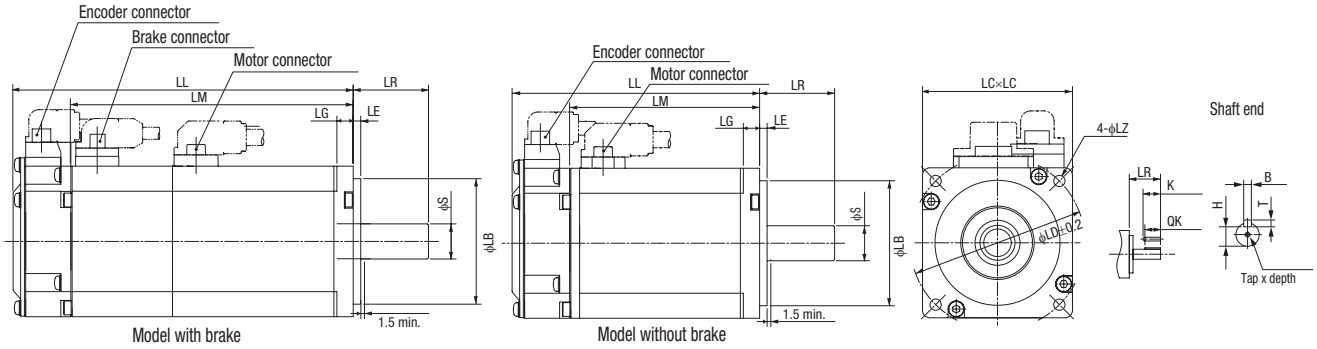
Type 3000 r/min motors (230 V, 50 - 100 W)

Dimensions (mm)	Without brake		With brake		LN	Shaft End Dimensions	Approx. Mass (Kg)	
Model	LL	LM	LL	LM		Tap × Depth	Without brake	With brake
R88M-K05030(H/T)-_S2	72	48	102	78	23	M3 x 6L	0.32	0.53
R88M-K10030(H/T)-_S2	92	68	122	98	43		0.47	0.68



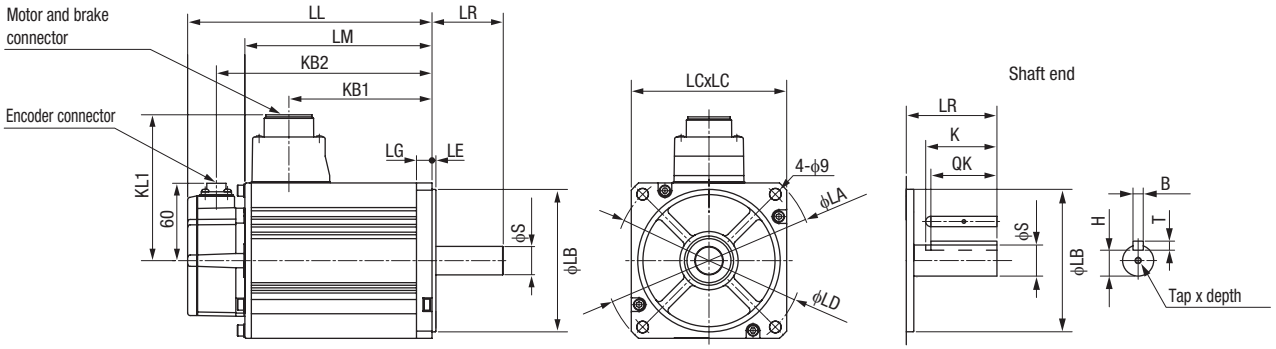
Type 3000 r/min motors (230 V, 200 - 750 W)

Dimensions (mm)	Without brake		With brake		LR	Flange surface						Shaft End Dimensions							Approx. Mass Kg	
Model	LL	LM	LL	LM		LB	LC	LD	LE	LG	LZ	S	K	QK	H	B	T	Tap × Depth	Without brake	With brake
R88M-K20030(H/T)-_S2	79.5	56.5	116	93	30	50^{h7}	60	70	3	6.5	4.5	11^{h6}	20	18	8.5	4^{h9}	4	M4x8L	0.82	1.3
R88M-K40030(H/T)-_S2	99	76	135.5	112.5								14^{h6}	25	22.5	11	5^{h9}	5	M5x10L	1.2	1.7
R88M-K75030(H/T)-_S2	112.2	86.2	148.2	122.2	35	70^{h7}	80	90		8	6	19^{h6}		22	15.5	6^{h9}	6		2.3	3.1



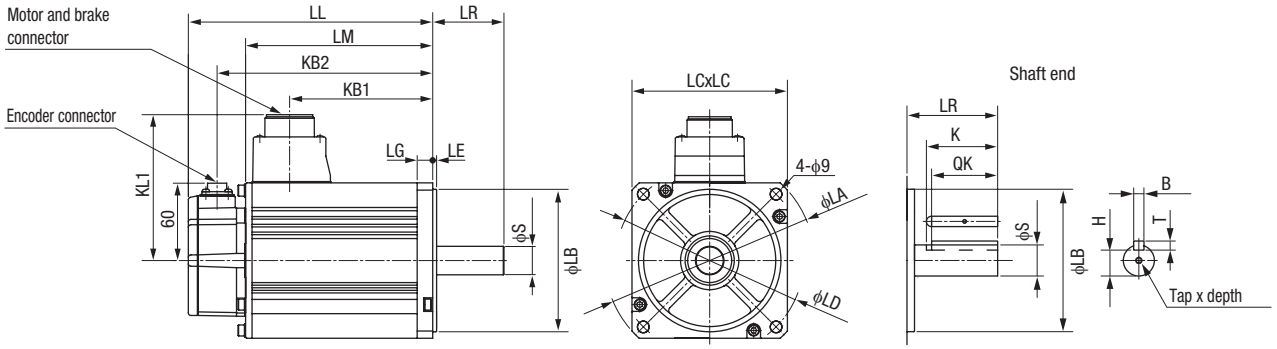
Type 3000 r/min motors (230 V, 1 - 1.5 kW/ 400V, 750 W - 5 kW)

Dimensions (mm)		Without brake					With brake					LR	Flange surface						Shaft End Dimensions							Approx. Mass (Kg)	
Voltage	Model R88M-K_	LL	LM	KB1	KB2	KL1	LL	LM	KB1	KB2	KL1		LA	LB	LC	LD	LE	LG	S	Tap × Depth	K	QK	H	B	T	Without brake	With brake
230	1K030(H/T)-_S2	141	97	66	119	101	168	124	66	146	101	55	135	95^{h7}	100	115	3	10	19^{h6}	M5x 12L	45	42	15.5	6^{h9}	6	3.5	4.5
	1K530(H/T)-_S2	159.5	115.5	84.5	137.5		186.5	142.5	84.5	164.5																4.4	5.4
400	75030(F/C)-_S2	131.5	87.5	56.5	109.5		158.5	114.5	53.5	136.5	103															3.1	4.1
	1K030(F/C)-_S2	141	97	66	119		168	124	63	146																3.5	4.5
	1K530(F/C)-_S2	159.5	115.5	84.5	137.5		186.5	142.5	81.5	164.5																4.4	5.4
	2K030(F/C)-_S2	178.5	134.5	103.5	156.5		205.5	161.5	100.5	183.5																5.3	6.3
	3K030(F/C)-_S2	190	146	112	168	113	215	171	112	193	113		162	110^{h7}	120	145		12	22^{h6}			41	18	8^{h9}	7	8.3	9.4
	4K030(F/C)-_S2	208	164	127	186	118	233	189	127	211	118	65	165		130		6		24^{h6}	M8x 20L	55	51	20			11	12.6
	5K030(F/C)-_S2	243	199	162	221		268	224	162	246																14	16



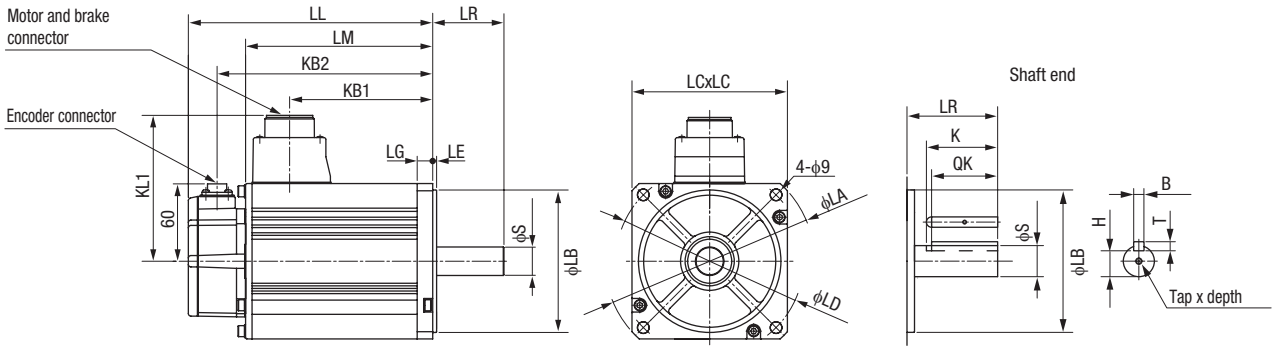
Type 2000 r/min motors (230 V, 1-1.5 kW/400 V, 400 W-5 kW)

Dimensions (mm)		Without brake					With brake					LR	Flange surface							Shaft End Dimensions							Approx. Mass (Kg)	
Voltage	Model R88M-K_	LL	LM	KB1	KB2	KL1	LL	LM	KB1	KB2	KL1		LA	LB	LC	LD	LE	LG	LZ	S	Tap × Depth	K	QK	H	B	T	Without brake	With brake
230	1K020(H/T)-_S2	138	94	60	116	116	163	119	60	141	116	55	165	110^{h7}	130	145	6	12	9	22^{h6}	M5x 12L	45	41	18	8^{h9}	7	5.2	6.7
	1K520(H/T)-_S2	155.5	111.5	77.5	133.5		180.5	136.5	77.5	158.5																	6.7	8.2
400	40020(F/C)-_S2	131.5	87.5	56.5	109.5	101	158.5	114.5	53.5	136.5	103		135	95^{h7}	100	115	3	10		19^{h6}			42	15.5	6^{h9}	6	3.1	4.1
	60020(F/C)-_S2	141	97	66	119		168	124	63	146																	3.5	4.5
	1K020(F/C)-_S2	138	94	60	116	116	163	119	57	141	118		165	110^{h7}	130	145	6	12		22^{h6}			41	18	8^{h9}	7	5.2	6.7
	1K520(F/C)-_S2	155.5	111.5	77.5	133.5		180.5	136.5	74.5	158.5																	6.7	8.2
	2K020(F/C)-_S2	173	129	95	151		198	154	92	176																	8	9.5
	3K020(F/C)-_S2	208	164	127	186	118	233	189	127	211		65								24^{h6}	M8x 20L	55	51	20			11	12.6
	4K020(F/C)-_S2	177	133	96	155	140	202	158	96	180	140	70	233	114.3^{h7}	176	200	3.2	18	13.5	35^{h6}	M12x 25L		50	30	10^{h9}	8	15.5	18.7
	5K020(F/C)-_S2	196	152	115	174		221	177	115	199																	18.6	21.8



Type 1000 r/min motors (230 V, 900W / 400 V, 900W - 3 kW)

Dimensions (mm)		Without brake					With brake					LR	Flange surface							Shaft End Dimensions							Approx. Mass (Kg)	
Voltage	Model R88M-K_	LL	LM	KB1	KB2	KL1	LL	LM	KB1	KB2	KL1		LA	LB	LC	LD	LE	LG	LZ	S	Tap × Depth	K	QK	H	B	T	Without brake	With brake
230	90010(H/T)-_S2	155.5	111.5	77.5	133.5	116	180.5	136.5	77.5	158.5	116	70	165	110^{h7}	130	145	6	12	9	22^{h6}	M5x12L	45	41	18	8^{h9}	7	6.7	8.2
400	90010(F/C)-_S2								74.5		118										M5x10L							
	2K010(F/C)-_S2	163.5	119.5	82.5	141.5	140	188.5	144.5	82.5	166.5	140	80	233	114.3^{h7}	176	200	3.2	18	13.5	35^{h6}	M12x 25L	55	50	30	10^{h9}	8	14	17.5
	3K010(F/C)-_S2	209.5	165.5	128.5	187.5		234.5	190.5	128.5	212.5																	20	23.5



G-Series servo motors

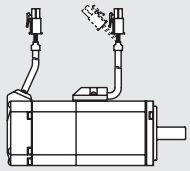
Compact in size, big in features

A wide range of compact servo motors to meet all application needs. When used with a SmartStep 2 drive, the G-series servo motors offer the simplicity and cost-effectiveness of a stepper with the added advantages of a servo system.

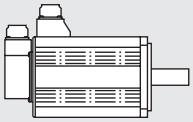
- Peak torque 300% of continuous torque during 3 seconds or more depending on model
- Servo motors supported by SmartStep2, G-Series and Accurax G5 servo drives
- Cylindrical and Flat servo motors types are available
- Encoder accuracy of 10,000 step/rev as standard and 17-bit INC/ABS encoder as optional
- IP65 as standard and shaft oil seal available
- Motors with brake as option

Ordering information

① **G-Series Cylindrical type Servo motor**

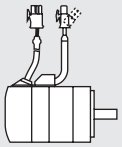


3000 rpm (50-750W)



3000 rpm (1000-1500 W)
2000 rpm (1000-1500 W)
1000 rpm (900 W)

① **G-Series Flat type Servo motor**



3000 rpm (100-400 W)

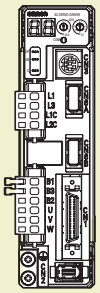
③ Encoder cable

④ Absolute Encoder Battery cable

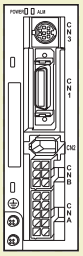
⑤ Power cable

⑥ Brake cable

② **G-Series Servo drive**



② **SmartStep 2 Servo drive**
Servo Drive controlled by pulses



Servo drive

② Refer to G-Series and SmartStep2 servo drive section for detailed drive specifications and selection of drive accessories.

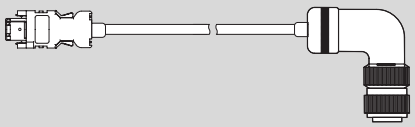
Cylindrical servo motors 3000/2000/1000 r/min (50 - 1.5 kW)

Symbol	Specifications						Compatible servo drives ②		Order code
	Voltage	Encoder and design	Speed	Design	Rated torque	Capacity	SmartStep2	G-Series	
①  (50-750 W)	230 V	Incremental encoder (10000 pulses) Straight shaft with key & tap	3000 min^{-1}	Without brake	0.16 Nm	50 W	R7D-BP01H	R88D-GN01H-ML2	R88M-G05030H-S2
					0.32 Nm	100 W	R7D-BP01H	R88D-GN01H-ML2	R88M-G10030H-S2
					0.64 Nm	200 W	R7D-BP02HH	R88D-GN02H-ML2	R88M-G20030H-S2
					1.3 Nm	400 W	R7D-BP04H	R88D-GN04H-ML2	R88M-G40030H-S2
					2.4 Nm	750 W	R88D-GP08H	R88D-GN08H-ML2	R88M-G75030H-S2
				With brake	0.16 Nm	50 W	R7D-BP01H	R88D-GN01H-ML2	R88M-G05030H-BS2
					0.32 Nm	100 W	R7D-BP01H	R88D-GN01H-ML2	R88M-G10030H-BS2
					0.64 Nm	200 W	R7D-BP02HH	R88D-GN02H-ML2	R88M-G20030H-BS2
					1.3 Nm	400 W	R7D-BP04H	R88D-GN04H-ML2	R88M-G40030H-BS2
					2.4 Nm	750 W	R88D-GP08H	R88D-GN08H-ML2	R88M-G75030H-BS2
 (900-1500 W)		Absolute/ incremental encoder (17 bits) Straight shaft with key & tap		Without brake	0.16 Nm	50 W	-	R88D-GN01H-ML2	R88M-G05030T-S2
					0.32 Nm	100 W	-	R88D-GN01H-ML2	R88M-G10030T-S2
					0.64 Nm	200 W	-	R88D-GN02H-ML2	R88M-G20030T-S2
					1.3 Nm	400 W	-	R88D-GN04H-ML2	R88M-G40030T-S2
					2.4 Nm	750 W	-	R88D-GN08H-ML2	R88M-G75030T-S2
					3.18 Nm	1 kW	-	R88D-GN15H-ML2	R88M-G1K030T-S2
					4.77 Nm	1.5 kW	-	R88D-GN15H-ML2	R88M-G1K530T-S2
				With brake	0.16 Nm	50 W	-	R88D-GN01H-ML2	R88M-G05030T-BS2
					0.32 Nm	100 W	-	R88D-GN01H-ML2	R88M-G10030T-BS2
					0.64 Nm	200 W	-	R88D-GN02H-ML2	R88M-G20030T-BS2
					1.3 Nm	400 W	-	R88D-GN04H-ML2	R88M-G40030T-BS2
					2.4 Nm	750 W	-	R88D-GN08H-ML2	R88M-G75030T-BS2
					3.18 Nm	1 kW	-	R88D-GN15H-ML2	R88M-G1K030T-BS2
					4.77 Nm	1.5 kW	-	R88D-GN15H-ML2	R88M-G1K530T-BS2
			2000 min^{-1}	Without brake	4.8 Nm	1 kW	-	R88D-GN10H-ML2	R88M-G1K020T-S2
					7.15 Nm	1.5 kW	-	R88D-GN15H-ML2	R88M-G1K520T-S2
				With brake	4.8 N m	1 kW	-	R88D-GN10H-ML2	R88M-G1K020T-BS2
					7.15 Nm	1.5 kW	-	R88D-GN15H-ML2	R88M-G1K520T-BS2
			1000 min^{-1}	Without brake	8.62 Nm	900 W	-	R88D-GN15H-ML2	R88M-G90010T-S2
				With brake			-	R88D-GN15H-ML2	R88M-G90010T-BS2

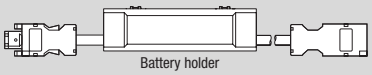
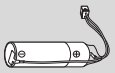
Flat type servo motors 3000 r/min (100 - 400 W)

Symbol	Specifications					Compatible servo drives ②		Order code
	Voltage	Encoder and design		Rated torque	Capacity	SmartStep2	G-Series	
① 	230 V	Incremental encoder (10000 pulses) Straight shaft with key & tap	Without brake	0.32 Nm	100 W	R7D-BP01H	R88D-GN01H-ML2	R88M-GP10030H-S2
				0.64 Nm	200 W	R7D-BP02HH	R88D-GN02H-ML2	R88M-GP20030H-S2
				1.3 Nm	400 W	R7D-BP04H	R88D-GN04H-ML2	R88M-GP40030H-S2
			With brake	0.32 Nm	100 W	R7D-BP01H	R88D-GN01H-ML2	R88M-GP10030H-BS2
				0.64 Nm	200 W	R7D-BP02HH	R88D-GN02H-ML2	R88M-GP20030H-BS2
				1.3 Nm	400 W	R7D-BP04H	R88D-GN04H-ML2	R88M-GP40030H-BS2
		Absolute/ incremental encoder (17 bits) Straight shaft with key & tap	Without brake	0.32 Nm	100 W	-	R88D-GN01H-ML2	R88M-GP10030T-S2
				0.64 Nm	200 W	-	R88D-GN02H-ML2	R88M-GP20030T-S2
				1.3 Nm	400 W	-	R88D-GN04H-ML2	R88M-GP40030T-S2
			With brake	0.32 Nm	100 W	-	R88D-GN01H-ML2	R88M-GP10030T-BS2
				0.64 Nm	200 W	-	R88D-GN02H-ML2	R88M-GP20030T-BS2
				1.3 Nm	400 W	-	R88D-GN04H-ML2	R88M-GP40030T-BS2

Encoder cables

Symbol	Appearance	Specifications		Order code
③		Encoder cable for absolute encoder (50-750 W) R88M-G(50/100/200/400/750)30T-_ R88M-GP(100/200/400)30T-_	1.5 m	R88A-CRGA001-5CR-E
			3 m	R88A-CRGA003CR-E
			5 m	R88A-CRGA005CR-E
			10 m	R88A-CRGA010CR-E
			15 m	R88A-CRGA015CR-E
			20 m	R88A-CRGA020CR-E
		Encoder cable for Incremental encoder (50-750 W) R88M-G(50/100/200/400/750)30H-_ R88M-GP(100/200/400)30H-_	1.5 m	R88A-CRGB001-5CR-E
			3 m	R88A-CRGB003CR-E
			5 m	R88A-CRGB005CR-E
			10 m	R88A-CRGB010CR-E
			15 m	R88A-CRGB015CR-E
			20 m	R88A-CRGB020CR-E
		Encoder cable for Absolute encoder (900-1500 W) R88M-G(1K0/1K5)30T-_ R88M-G(1K0/1K5)20T-_ R88M-G90010T-_	1.5 m	R88A-CRGC001-5NR-E
			3 m	R88A-CRGC003NR-E
			5 m	R88A-CRGC005NR-E
			10 m	R88A-CRGC010NR-E
			15 m	R88A-CRGC015NR-E
			20 m	R88A-CRGC020NR-E

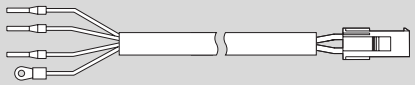
Absolute encoder battery cable

Symbol	Appearance	Specifications			Order code
④		Absolute Encoder battery cable	Battery not included	0.3 m	R88A-CRGD0R3C
			One R88A-BAT01G Battery included	0.3 m	R88A-CRGD0R3C-BS
		Absolute Encoder backup battery 2,000 mA.h 3.6 V		-	R88A-BAT01G

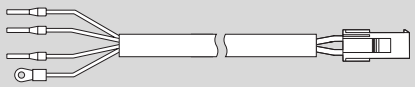
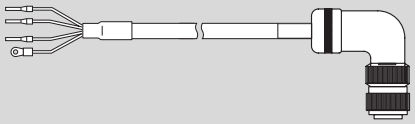
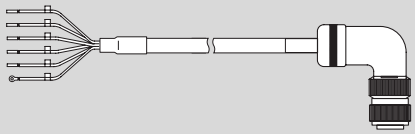
Note: The absolute encoder battery cable is only an extension and must be used with an absolute encoder cable.

Power cables

for SmartStep2 servo drive

Symbol	Appearance	Specifications		Order code
⑤		For servomotors from 50 to 400 W R88M-G(50/100/200/400)30_ R88M-GP(100/200/400)30_ For servomotors with brake, a separate cable (R88A-CAGA_BR-E) is needed	1.5 m	R7A-CAB001-5SR-E
			3 m	R7A-CAB003SR-E
			5 m	R7A-CAB005SR-E
			10 m	R7A-CAB010SR-E
			15 m	R7A-CAB015SR-E
			20 m	R7A-CAB020SR-E
		For servomotors 750W R88M-G75030_ For servomotors with brake, a separate cable (R88A-CAGA_BR-E) is needed	1.5 m	R88A-CAGA001-5SR-E
			3 m	R88A-CAGA003SR-E
			5 m	R88A-CAGA005SR-E
			10 m	R88A-CAGA010SR-E
			15 m	R88A-CAGA015SR-E
			20 m	R88A-CAGA020SR-E

for G-Series servo drive

Symbol	Appearance	Specifications		Order code
⑤		For servomotors from 50 to 750W R88M-G(50/100/200/400/750)30_ R88M-GP(100/200/400)30_ For servomotors with brake, a separate cable (R88A-CAGA_BR-E) is needed	1.5 m	R88A-CAGA001-5SR-E
			3 m	R88A-CAGA003SR-E
			5 m	R88A-CAGA005SR-E
			10 m	R88A-CAGA010SR-E
			15 m	R88A-CAGA015SR-E
			20 m	R88A-CAGA020SR-E
		For servomotors from 900 to 1.5 kW without brake R88M-G(1K0/1K5)30T-S2 R88M-G(1K0/1K5)20T-S2 R88M-G90010T-S2	1.5 m	R88A-CAGB001-5SR-E
			3 m	R88A-CAGB003SR-E
			5 m	R88A-CAGB005SR-E
			10 m	R88A-CAGB010SR-E
			15 m	R88A-CAGB015SR-E
			20 m	R88A-CAGB020SR-E
		For servomotors from 900 to 1.5 kW with brake R88M-G(1K0/1K5)30T-BS2 R88M-G(1K0/1K5)20T-BS2 R88M-G90010T-BS2	1.5 m	R88A-CAGB001-5BR-E
			3 m	R88A-CAGB003BR-E
			5 m	R88A-CAGB005BR-E
			10 m	R88A-CAGB010BR-E
			15 m	R88A-CAGB015BR-E
			20 m	R88A-CAGB020BR-E

Brake cable (for 50-750 W servo motors)

Symbol	Appearance	Specifications		Order code
⑥		Brake cable only. For servomotors from 50 to 750W with brake R88M-G(050/100/200/400/750)30_-BS2, R88M-GP(100/200/400)30_-BS2	1.5 m	R88A-CAGA001-5BR-E
			3 m	R88A-CAGA003BR-E
			5 m	R88A-CAGA005BR-E
			10 m	R88A-CAGA010BR-E
			15 m	R88A-CAGA015BR-E
			20 m	R88A-CAGA020BR-E

Connectors for power, encoder and brake cables

Specifications		Applicable Servomotor	Order code
Connectors for power cables	Drive side (CNB)	R88M-G(050/100/200/400)30H_, R88M-GP(100/200/400)30H_ (SmartStep2 Servo drives only)	R7A-CNB01A
	Motor side	R88M-G(050/100/200/400/750)30_, R88M-GP(100/200/400)30_	R88A-CNG01A
	Motor side	R88M-G(1K0/1K5)30_-S2, R88M-G(1K0/1K5)20_-S2, R88M-G90010_-S2 (without brake)	MS3108E20-4S
	Motor side	R88M-G(1K0/1K5)30_-BS2, R88M-G(1K0/1K5)20_-BS2, R88M-G90010_-BS2 (with brake)	MS3108E20-18S
Connectors for encoder cables	Drive side (CN2)	-	R88A-CNW01R
	Motor side	R88M-G(050/100/200/400/750)30T-_, R88M-GP(100/200/400)30T-_ (Absolute encoder)	R88A-CNG01R
	Motor side	R88M-G(050/100/200/400/750)30H-_, R88M-GP(100/200/400)30H-_ (Incremental encoder)	R88A-CNG02R
	Motor side	R88M-G(1K0/1K5)30T-_, R88M-G(1K0/1K5)20T-_, R88M-G90010T-_	MS3108E20-29S
Connector for brake cable	Motor side	R88M-G(050/100/200/400/750)30_-BS2, R88M-GP(100/200/400)30_-BS2	R88A-CNG01B

Note: 1. All cables listed are flexible and shielded (except the R88A-CAGA___BR-E which is only a flexible cable)
2. The R88A-CRGC___NR-E, R88A-CAGB___SR-E and R88A-CAGB___BR-E cables have IP67 class (including connector)

Specifications

Cylindrical servo motors 3000/2000/1000 r/min

Applied voltage			230 V									
Servo motor model R88M-_			G05030_	G10030_	G20030_	G40030_	G75030_	G1K030T	G1K530T	G1K020T	G1K520T	G90010T
Rated output		W	50	100	200	400	750	1000	1500	1000	1500	900
Rated torque		N·m	0.16	0.32	0.64	1.3	2.4	3.18	4.77	4.8	7.15	8.62
Instantaneous peak torque		N·m	0.45	0.90	1.78	3.67	7.05	9.1	12.8	13.5	19.6	18.4
Rated current		A (rms)	1.1		1.6	2.6	4	7.2	9.4	5.6	9.4	7.6
Instantaneous max. current		A (rms)	3.4		4.9	7.9	12.1	21.4	28.5	17.1	28.5	17.1
Rated speed		min^{-1}	3000							2000		1000
Max. speed		min^{-1}	5000				4500	5000		3000		2000
Torque constant		N·m/A (rms)	0.14	0.19	0.41	0.51	0.64	0.44	0.51	0.88	0.76	1.13
Rotor moment of inertia (JM)		$kg·m^2x10^{-4}$	0.025	0.051	0.14	0.26	0.87	1.69	2.59	6.17	11.2	
Allowable load moment of inertia (JL)		Multiple of (JM)	30				20	15		10		
Rated power rate		kW/s	10.4	20.1	30.3	62.5	66	60	88	37.3	45.8	66.3
Applicable Encoder			Incremental encoder (10000 pulses)					-				
			Incremental /Absolute encoder(17 bits)									
Allowable radial load		N	68		245		392		490			686
Allowable thrust load		N	58		98		147		196			
Approx. mass		kg (without brake)	0.3	0.5	0.8	1.2	2.3	4.5	5.1	6.8	8.5	
		kg (with brake)	0.5	0.7	1.3	1.7	3.1	5.1	6.5	8.7	10.1	10
Brake specifications	Rated voltage		24 VDC +/-5%					24 VDC +/-10%				
	Holding brake moment of inertia J	$kg·m^2x10^{-4}$	0.002		0.018		0.075	0.25	0.33	1.35		
	Power consumption (at 20°C)	W	7		9		10	18	19	14	19	
	Current consumption (at 20°C)	A	0.3		0.36		0.42	0.74	0.81	0.59	0.79	
	Static friction torque	N.m (minimum)	0.29		1.27		2.45	4.9	7.8	4.9	13.7	
	Rise time for holding torque	ms (max.)	35		50		70	50		80	100	
	Release time	ms (max)	20		15		20	15		70	50	
Basic specifications	Rating		Continuous									
	Insulation grade		Type B					Type F				
	Ambient operating/ storage temperature		0 to +40°C/ -20 to 65°C					0 to +40°C/ -20 to 80°C				
	Ambient operating/ storage humidity		85% RH max. (non-condensing)									
	Vibration class		V-15									
	Insulation resistance		20 MΩ min. at 500 VDC between the power terminals and FG terminal									
	Enclosure		Totally-enclosed, self-cooling, IP65 (excluding shaft opening and lead wire ends)									
	Vibration resistance		Vibration acceleration 49 m/s^2					Vibration acceleration 24.5 m/s^2				
	Mounting		Flange-mounted									

Flat servo motors 3000 r/min

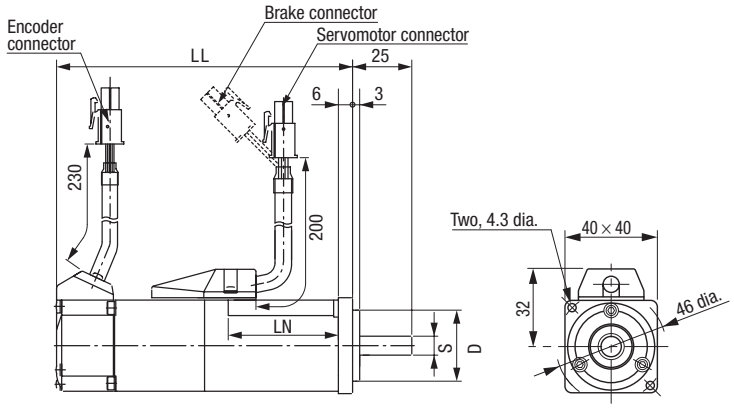
Applied voltage		230 V		
Servo motor model R88M-_		GP10030_	GP20030_	GP40030_
Rated output	W	100	200	400
Rated torque	N·m	0.32	0.64	1.3
Instantaneous peak torque	N·m	0.86	1.8	3.65
Rated current	A (rms)	1	1.6	2.5
Instantaneous max. current	A (rms)	3.1	4.9	7.5
Rated speed	min^{-1}	3000		

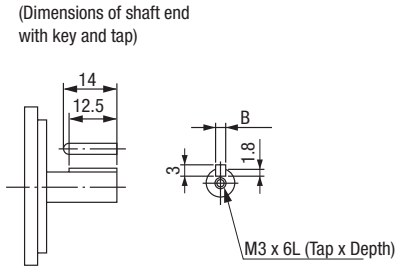
Applied voltage			**230 V**		
Servo motor model R88M-_			**GP10030_**	**GP20030_**	**GP40030_**
Max. speed		min^{-1}	5000		
Torque constant		N·m/A (rms)	0.34	0.42	0.54
Rotor moment of inertia (JM)		$kg·m^2x10^{-4}$	0.1	0.35	0.64
Allowable load moment of inertia (JL)		Multiple of (JM)	20		
Rated power rate		kW/s	10.2	11.5	25.5
Applicable encoder			Incremental (10000 pulses)		
			Incremental /Absolute encoder(17 bits)		
Allowable radial load		N	68	245	
Allowable thrust load		N	58	98	
Approx. mass		kg (without brake)	0.7	1.3	1.8
		kg (with brake)	0.9	2	2.5
Brake specifications	**Rated voltage**		24VDC +/-10%		
	Holding brake moment of inertia J	$kg·m^2x10^{-4}$	0.03	0.09	
	Power consumption (at 20°C)	W	7	10	
	Current consumption (at 20°C)	A	0.29	0.41	
	Static friction torque	N.m (minimum)	0.29	1.27	
	Rise time for holding torque	ms (max.)	50	60	
	Release time	ms (max)	15		
Basic specifications	**Rating**		Continuous		
	Insulation grade		Type B		
	Ambient operating/ storage temperature		0 to +40 °C/ -20 to 80°C		
	Ambient operating/ storage humidity		85% RH max. (non-condensing)		
	Vibration class		V-15		
	Insulation resistance		20 MΩ min. at 500 VDC between the power terminals and FG terminal		
	Enclosure		Totally-enclosed, self-cooling, IP65 (excluding shaft opening and lead wire ends)		
	Vibration resistance		Vibration acceleration 49 m/s2		
	Mounting		Flange-mounted		

Dimensions

Cylindrical type 3000 r/min (230 V, 50-100 W)

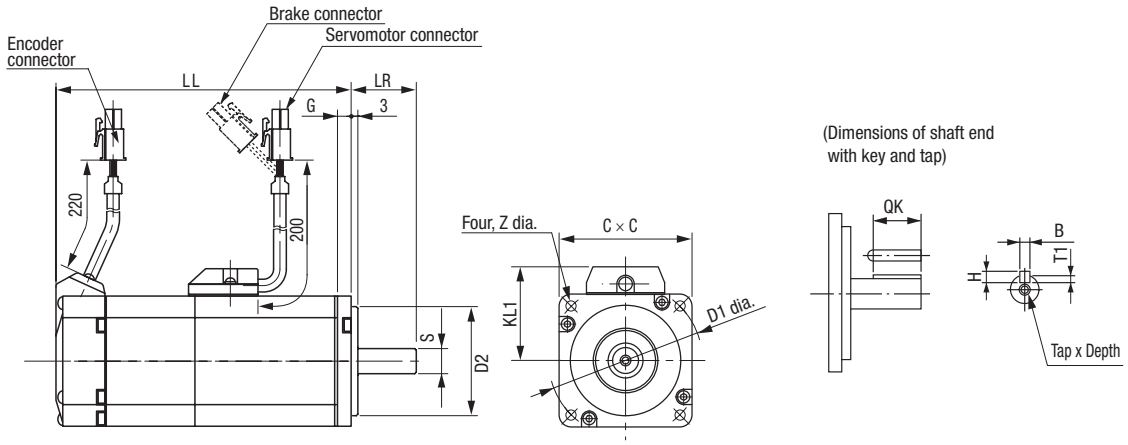
Dimensions (mm)	**Without brake**	**With brake**	**LN**	**Flange surface**	**Shaft end**		**Approx. mass (kg)**	
Model	**LL**	**LL**		**D**	**S**	**B**	**Without brake**	**With brake**
R88M-G05030_-_S2	72	102	26.5	30^{h7}	8^{h6}	3^{h9}	0.3	0.5
R88M-G10030_-_S2	92	122	46.5				0.5	0.7





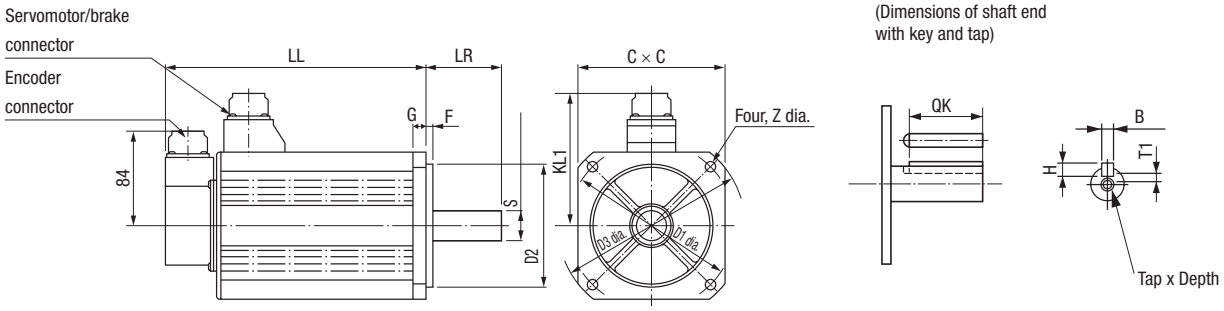
Cylindrical type 3000 r/min (230 V, 200-750 W)

Dimensions (mm)	Without brake	With brake	LR	KL1	Flange surface					Shaft end						Approx. mass (kg)	
Model	LL	LL			D1	D2	C	G	Z	S	QK	B	H	T1	Tap x depth	Without brake	With brake
R88M-G20030_-_S2	79.5	116	30	43	70	50^{h7}	60	6.5	4.5	11^{h6}	18	4^{h9}	4	2.5	M4x8L	0.8	1.3
R88M-G40030_-_S2	99	135.5								14^{h6}	22.5	5^{h9}	5	3	M5x10L	1.2	1.7
R88M-G75030_-_S2	112.2	149.2	35	53	90	70^{h7}	80	8	6	19^{h6}	22	6^{h9}	6	3.5		2.3	3.1



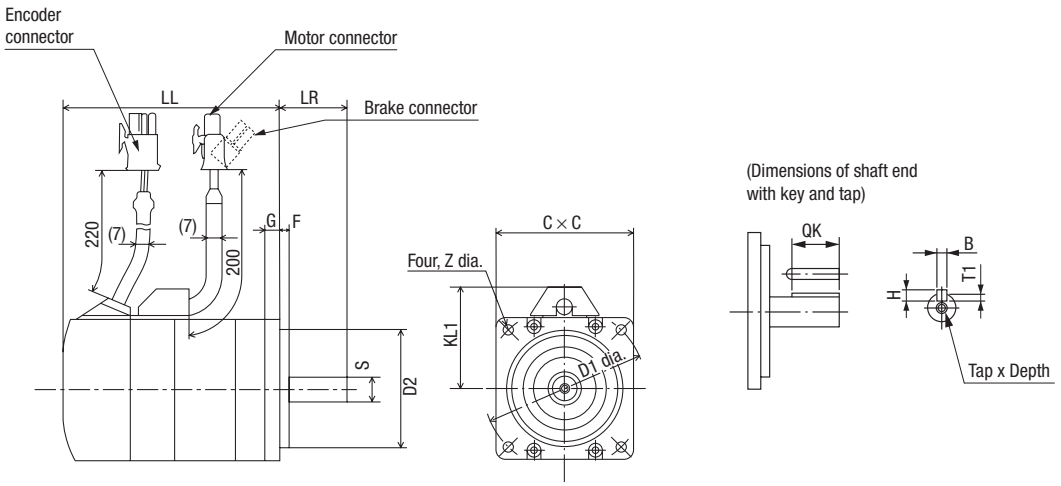
Cylindrical type 3000, 2000 and 1000 r/min (230 V, 900 kW - 1.5 kW)

Dimensions (mm)	Without brake	With brake	LR	KL1	Flange surface							Shaft end						Approx. mass (kg)	
Model	LL	LL			D1	D2	D3	C	G	F	Z	S	QK	B	H	T1	Tap x depth	Without brake	With brake
R88M-G1K030T-_S2	175	200	55	98	100	80^{h7}	120	90	7	3	6.6	19^{h6}	42	6^{h9}	6	3.5	M5x12L	4.5	5.1
R88M-G1K530T-_S2	180	205		103	115	95^{h7}	135	100	10		9							5.1	6.5
R88M-G1K020T-_S2	150	175		118	145	110^{h7}	165	130	12	6		22^{h6}	41	8^{h9}	7	4		6.8	8.7
R88M-G1K520T-_S2	175	200																8.5	10.1
R88M-G90010T-_S2	175	200	70																10



Flat type 3000 r/min (230 V, 100 W - 400 W)

Dimensions (mm)	Without brake	With brake	LR	KL1	Flange surface						Shaft end						Approx. mass (kg)	
Model	LL	LL			D1	D2	C	F	G	Z	S	QK	B	H	T1	Tap x depth	Without brake	With brake
R88M-GP10030H-_S2	60.5	84.5	25	43	70	50^{h7}	60	3	7	4.5	8^{h6}	12.5	3^{h9}	3	1.8	M3x6L	0.7	0.9
R88M-GP10030T-_S2	87.5	111.5																
R88M-GP20030H-_S2	67.5	100	30	53	90	70^{h7}	80	5	8	5.5	11^{h6}	18	4^{h9}	4	2.5	M4x8L	1.3	2
R88M-GP20030T-_S2	94.5	127																
R88M-GP40030H-_S2	82.5	115									14^{h6}	22.5	5^{h9}	5	3.0	M5x10L	1.8	2.5
R88M-GP40030T-_S2	109.5	142																



BORN TO DRIVE MACHINES

200% starting torque

Torque control in open loop

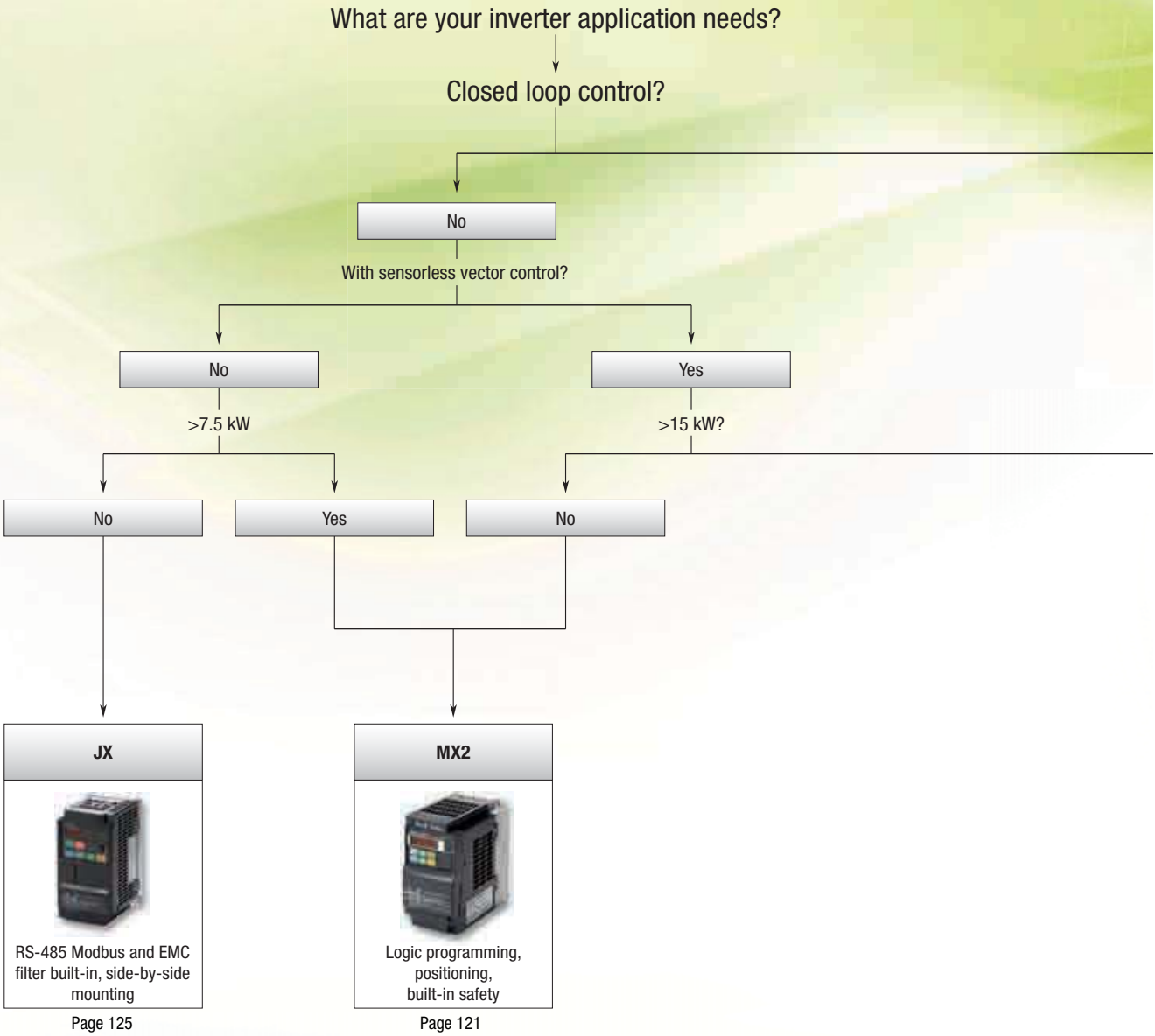
Special motors

One parameter auto-tuning

Harmonised motor and machine control

Specifically created for your application, the MX2 was developed to harmonise advanced motor and machine control. Thanks to its advanced design and algorithms the MX2 provides smooth control down to zero speed, plus precise operation for fast cyclic operations and torque control capability in open loop.

The MX2 also gives you comprehensive functionality for machine control such as positioning, speed synchronisation and logic programming. The MX2 is fully integrated within the Omron smart automation platform.
The MX2 is the child of a true leader in machine automation.



MOTOR CONTROL

- Near stand-still operation (0.5 Hz)
- Smooth control of high inertia loads
- Control of fast cyclic loads

- Ideal for low to medium torque applications
- Can replace a flux vector or servo drive in suitable systems

- Permanent magnet motors
- High speed motors up to 1000 Hz

- Just by entering the kW rating of the motor the MX2 gives you smooth and safe operation

MACHINE CONTROL

Safety inside	• Conforms to safety norm ISO-13849 CAT3 performance level PLD • 2 Safety inputs • External device monitoring (EDM)
Logic programming	• Flow chart programming • Intuitive – up to 5 tasks in parallel
Positioning	• Up to 8 pre-set positions with "Homing" • Speed synchronisation
Integrated in the Omron Smart Automation	• CX-Drive programming tool connected via integrated USB port on MX2. • Modbus RS485 built-in • Option units for EtherCAT, Profibus, DeviceNet, ML-II and more…

NO MAINTENANCE 10 YEARS

RoHS Compliant

WARRANTY 3 YEARS

Yes

Yes

690 V power supply?

No

Yes

RX

Logic programming, positioning, application oriented

Page 116

SX

Logic programming, Application oriented, hardware customization

Page 129

Model	RX	MX2	JX
			
	Customised to your machine	**Born to drive machines**	**Compact and complete**
400 V three-phase	**0.4 kW to 132 kW**	**0.4 kW to 15 kW**	**0.4 kW to 7.5 kW**
200 V three-phase	**0.4 kW to 55 kW**	**0.1 kW to 15 kW**	**0.2 kW to 7.5 kW**
200 V single-phase	**N/A**	**0.1 kW to 2.2 kW**	**0.2 kW to 2.2 kW**
Application	High Performance, built-in know-how functionality	Harmonized motor and machine control	General purpose built-in communications
Control method	Open and Closed loop for Vector and V/F control	Open loop speed and torque control for vector and speed for V/F control	V/F control
Torque features	200% at 0.0 Hz (CLV) 150% at 0.3 Hz (OLV)	200% at 0.5 Hz	150% at 3 Hz
Connectivity	Modbus, DeviceNet, PROFIBUS	Modbus, DeviceNet, PROFIBUS, MECHATROLINK-II EtherCAT, CompoNet	Modbus
Logic Programming	Standard Firmware	Standard Firmware	N/A
Page	116	121	125

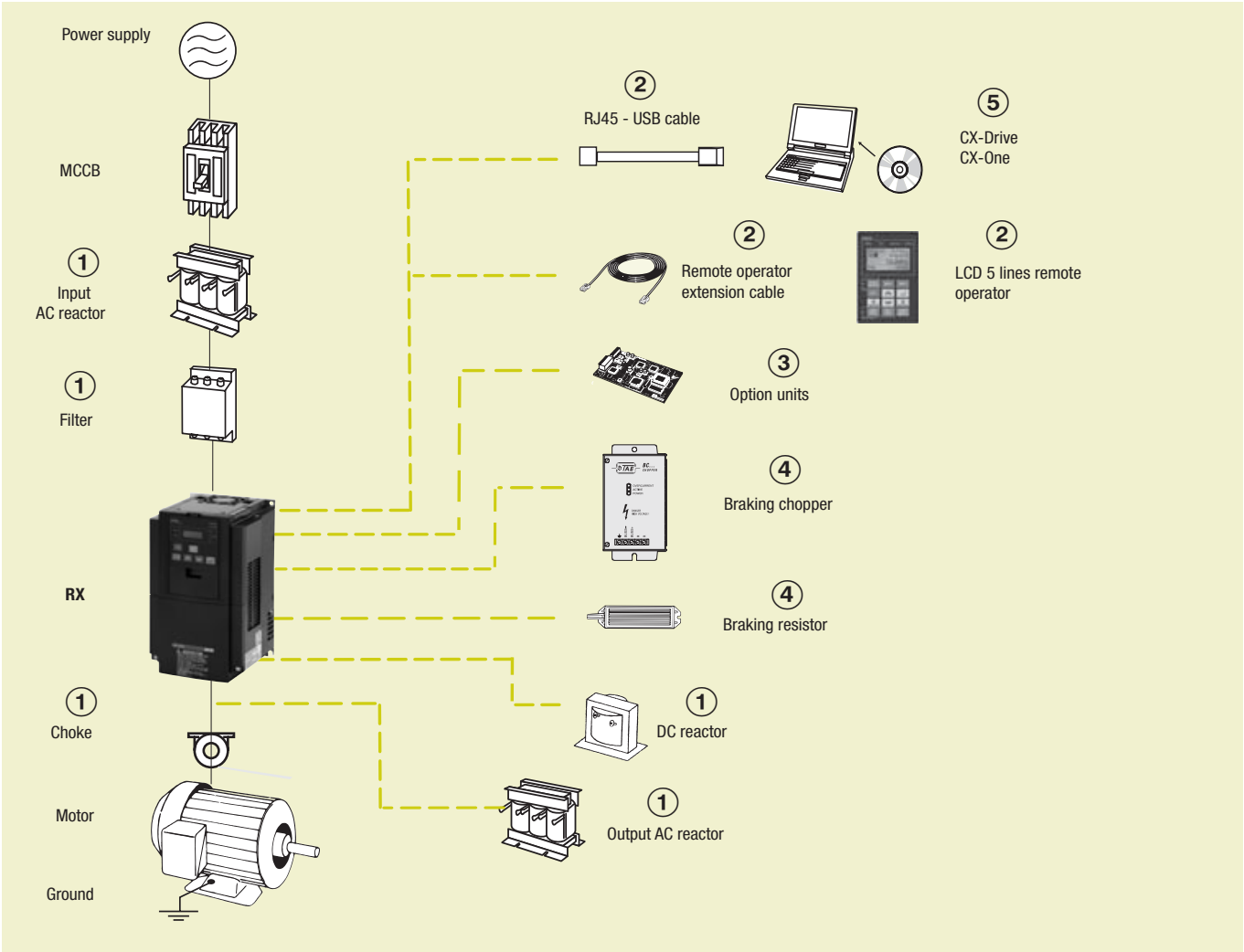
Model	SX
	
	High Performance Vector Control
400 V three-phase	**90 kW to 800 kW**
690 V three-phase	**90 kW to 1,000 kW**
Application	High Power Flux vector and variable torque applications
Control method	Flux vector and V/F control
Torque features	120% at 0,0 Hz (CLV) 120% at 0,5 Hz (OLV)
Connectivity	Modbus, DeviceNet, PROFIBUS
Logic Programming	Standard Firmware
Customisation options	Hardware customisation (Main switch, Liquid cooling, 12-pulse rectifier, …)
Page	129

Customised to your machine

Omron realises that you need quality and reliability, plus the ability to easily and quickly customise your inverter to the application in hand. And with the RX, you have the perfect tool for the job. Naturally it combines the same high level of quality and performance for which Omron is renowned. It also has abundant application functionality on board and you can customise it yourself to match your precise requirements.

- Ratings up to 132 kW
- Sensor-less vector control at 0 Hz domain
- Sensor-less and vector closed-loop control
- Built-in EMC filter
- Built-in logic programmability
- Built-in application oriented functionality
- Positioning functionality
- Fieldbus communications: Modbus, DeviceNet and PROFIBUS

Ordering information



RX

Specifications			Order code	Specifications			Order code
Voltage class	Max motor kW	Rated current A	Standard	Voltage class	Max motor kW	Rated current A	Standard
Three-phase 200 V	0.4	3.0	RX-A2004-EF	Three-phase 400 V	0.4	1.5	RX-A4004-EF
	0.75	5.0	RX-A2007-EF		0.75	2.5	RX-A4007-EF
	1.5	7.5	RX-A2015-EF		1.5	3.8	RX-A4015-EF
	2.2	10.5	RX-A2022-EF		2.2	5.3	RX-A4022-EF
	4.0	16.5	RX-A2037-EF		4.0	9.0	RX-A4040-EF
	5.5	24	RX-A2055-EF		5.5	14	RX-A4055-EF
	7.5	32	RX-A2075-EF		7.5	19	RX-A4075-EF
	11	46	RX-A2110-EF		11	25	RX-A4110-EF
	15	64	RX-A2150-EF		15	32	RX-A4150-EF
	18.5	76	RX-A2185-EF		18.5	38	RX-A4185-EF
	22	95	RX-A2220-EF		22	48	RX-A4220-EF
	30	121	RX-A2300-EF		30	58	RX-A4300-EF
	37	145	RX-A2370-EF		37	75	RX-A4370-EF
	45	182	RX-A2450-EF		45	91	RX-A4450-EF
	55	220	RX-A2550-EF		55	112	RX-A4550-EF
	-	-	-		75	149	RX-B4750-EF
	-	-	-		90	176	RX-B4900-EF
	-	-	-		110	217	RX-B411K-EF
	-	-	-		132	260	RX-B413K-EF

① Rasmi line filters

200 V					400 V				
Model RX-_	Rated current (A)	Leakage Nom / Max	Kg	Order code	Model RX-_	Rated current (A)	Leakage Nom / Max	Kg	Order code
A2004 / A2007/ A2015/ A2022 / A2037	18	0.7/40 mA	2.0	AX-FIR2018-RE	A4004/ A4007/ A4015/ A4022/ A4040	10	0.3/40 mA	1.9	AX-FIR3010-RE
A2055 / A2075 / A2110	53	0.7/40 mA	2.5	AX-FIR2053-RE	A4055 / A4075 / A4110	30	0.3/40 mA	2.2	AX-FIR3030-RE
A2150/ A2185/ A2220	110	1.2/70 mA	8.0	AX-FIR2110-RE	A4150/ A4185/ A4220	53	0.8/70 mA	4.5	AX-FIR3053-RE
A2300	145	1.2/70 mA	8.6	AX-FIR2145-RE	A4300	64	3/160 mA	7.0	AX-FIR3064-RE
A2370/ A2450	250	6/300 mA	13.0	AX-FIR3250-RE	A4370	100	2/130 mA	8.0	AX-FIR3100-RE
A2550	320	6/300 mA	13.2	AX-FIR3320-RE	A4450 / A4550	130	2/130 mA	8.6	AX-FIR3130-RE
-					A4750 / A4900	250	10/500 mA	13.0	AX-FIR3250-RE
					A411K / A413K	320	10/500 mA	13.2	AX-FIR3320-RE

① Input AC Reactors

3-Phase 200 VAC		3-Phase 400 VAC	
Inverter Model RX-_	Order code	Inverter Model RX-_	Order code
A2004 / A2007 / A2015	AX-RAI02800100-DE	A4004 / A4007 / A4015	AX-RAI07700050-DE
A2022 / A2037	AX-RAI00880200-DE	A4022 / A4040	AX-RAI03500100-DE
A2055 / A2075	AX-RAI00350335-DE	A4055 / A4075	AX-RAI01300170-DE
A2110 / A2150	AX-RAI00180670-DE	A4110 / A4150	AX-RAI00740335-DE
A2185 / A2220	AX-RAI00091000-DE	A4185 / A4220	AX-RAI00360500-DE
A2300 / A2370	AX-RAI00071550-DE	A4300 / A4370	AX-RAI00290780-DE
A2450 / A2550	AX-RAI00042300-DE	A4450 / A4550	AX-RAI00191150-DE

① DC Reactors

3-Phase 200 VAC		3-Phase 400 VAC	
Inverter Model RX-_	Order code	Inverter Model RX-_	Order code
A2004	AX-RC10700032-DE	A4004	AX-RC43000020-DE
A2007	AX-RC06750061-DE	A4007	AX-RC27000030-DE
A2015	AX-RC03510093-DE	A4015	AX-RC14000047-DE
A2022	AX-RC02510138-DE	A4022	AX-RC10100069-DE
A2037	AX-RC01600223-DE	A4040	AX-RC06400116-DE
A2055	AX-RC01110309-DE	A4055	AX-RC04410167-DE
A2075	AX-RC00840437-DE	A4075	AX-RC03350219-DE
A2110	AX-RC00590614-DE	A4110	AX-RC02330307-DE
A2150	AX-RC00440859-DE	A4150	AX-RC01750430-DE
A2185 / A2220	AX-RC00301275-DE	A4185 / A4220	AX-RC01200644-DE
A2300	AX-RC00231662-DE	A4300	AX-RC00920797-DE
A2370	AX-RC00192015-DE	A4370	AX-RC00741042-DE
A2450	AX-RC00162500-DE	A4450	AX-RC00611236-DE
A2550	AX-RC00133057-DE	A4550	AX-RC00501529-DE

① Chokes

Diameter	Description	Order code
21	For 2.2 kW motors or below	AX-FER2102-RE
25	For 15 kW motors or below	AX-FER2515-RE
50	For 45 kW motors or below	AX-FER5045-RE
60	For 55 kW motors or above	AX-FER6055-RE

① Output AC Reactor

200 V		400 V	
Model RX-_	**Order code**	**Model RX-_**	**Order code**
A2004	AX-RA011500026-DE	A4004 / A4007 / A4015	AX-RA016300038-DE
A2007	AX-RA007600042-DE		
A2015	AX-RA004100075-DE		
A2022	AX-RA003000105-DE	A4022	AX-RA011800053-DE
A2037	AX-RA001830160-DE	A4040	AX-RA007300080-DE
A2055	AX-RA001150220-DE	A4055	AX-RA004600110-DE
A2075	AX-RA000950320-DE	A4075	AX-RA003600160-DE
A2110	AX-RA000630430-DE	A4110	AX-RA002500220-DE
A2150	AX-RA000490640-DE	A4150	AX-RA002000320-DE

② Accessories

Types	Description	Functions	Order code
Digital operator	LCD remote operator	5 Line LCD remote operator with copy function, cable length max. 3 m*1	AX-OP05-E
	Remote operator cable	3 meters cable for connecting remote operator	3G3AX-CAJOP300-EE
	LED remote operator	LED remote operator, cable length max. 3 m	3G3AX-OP01
	Mounting kit for LED operator	Mounting kit for LED operator on panel	4X-KITMINI
Accessories	USB converter / USB cable	RJ45 to USB connection cable	3G3AX-PCACN2

*1 Please note, models with firmware 4287 and 4288, the operator will only display 2 lines of text.

③ Option boards

Types	Description	Functions	Order code
Encoder feedback	PG speed controller option card	Phase A,B and Z pulse (differential pulse) inputs (RS-422) Pulse train position command input (RS-422) Pulse monitor output (RS-422) PG frequency range: 100 kHz max	3G3AX-PG
Communication option board	DeviceNet option card	Used for running or stopping the inverter or give frequency reference through DeviceNet	SJ-DN
	PROFIBUS option card	Used for running or stopping the inverter or give frequency reference through PROFIBUS	SJ-PB
Digital input	Digital input option card	Allows to set frequency reference from a digital selection	SJ-DG

④ Braking unit, braking resistor unit

Inverter					Braking resistor unit					
Voltage	**Max. motor kW**	**Inverter RX-_**	**Braking Unit AX-BCR_**	**Connectable min. resistance Ω**	**Inverter mounted type (3%ED, 10 sec max)**		**Braking torque %**	**External resistor 10%ED 10 sec max for built-in 5 sec max for Braking Unit**		**Braking torque %**
		3-phase			**Order code**	**Resist Ω**		**Order code**	**Resist Ω**	
200 V (single-/ three-phase)	0.55	2004	Built-in	50	AX-REM00K1200-IE	200	180	AX-REM00K1200-IE	200	180
	1.1	2007					100	AX-REM00K2070-IE	70	200
	1.5	2015		35	AX-REM00K2070-IE	70	140	AX-REM00K4075-IE	75	130
	2.2	2022					90	AX-REM00K4035-IE	35	180
	4.0	2037			AX-REM00K4075-IE	75	50	AX-REM00K6035-IE	35	100
	5.5	2055		16	AX-REM00K4035-IE	35	75	AX-REM00K9020-IE	20	150
	7.5	2075		10			55	AX-REM01K9017-IE	17	110
	11.0	2110			AX-REM00K6035-IE	35	40	AX-REM02K1017-IE	17	75
	15.0	2150		7.5	AX-REM00K9017-IE	17	55	AX-REM03K5010-IE	10	95
	18.5	2185			AX-REM03K5010-IE	10	75	AX-REM19K0008-IE	8	95
	22.0	2220		5			65			80
	30.0	2300	2035090-TE	4				AX-REM19K0006-IE	6	80
	37.0	2370							6	60
	45.0	2450	2070130-TE	2.8				2 x AX-REM19K0006-IE	3	105
	55.0	2550							3	85
400 V (three-phase)	0.55	4004	Built-in	100	AX-REM00K1400-IE	400	200	AX-REM00K1400-IE	400	200
	1.1	4007					200			200
	1.5	4015			AX-REM00K1200-IE	200	190	AX-REM00K2200-IE	200	190
	2.2	4022			AX-REM00K2200-IE	200	130	AX-REM00K5120-IE	120	200
	4.0	4040		70	AX-REM00K2120-IE	120	120	AX-REM00K6100-IE	100	140
	5.5	4055			AX-REM00K4075-IE	75	140	AX-REM00K9070-IE	70	150
	7.5	4075		35			100	AX-REM01K9070-IE	70	110
	11.0	4110			AX-REM00K6100-IE	100	50	AX-REM02K1070-IE	70	75
	15.0	4150		24	AX-REM00K9070-IE	70	55	AX-REM03K5035-IE	35	110
	18.5	4185			AX-REM03K5035-IE	35	90	AX-REM19K0030-IE	30	100
	22.0	4220		20			75			85
	30.0	4300	4015045-TE	16				AX-REM19K0020-IE	20	95
	37.0	4370	4017068-TE	11				AX-REM38K0012-IE	15	125
	45.0	4450								100
	55.0	4550	4035090-TE	8.5				2 x AX-REM19K0020-IE	10	100
	75.0	4750						3 x AX-REM19K0030-IE	10	75
	90.0	4900	4070130-TE	5.5				2 x AX-REM38K0012-IE	6	105
	110.0	411K	4090240-TE	3.2				3 x AX-REM38K0012-IE	4	125
	132.0	413K								105

⑤ Computer software

Description	Installation	Order code
Computer software	Configuration and monitoring software tool	CX-drive
Computer software	Configuration and monitoring software tool	CX-One

Specifications

200 V class

Three-phase: RX-_			A2004	A2007	A2015	A2022	A2037	A2055	A2075	A2110	A2150	A2185	A2220	A2300	A2370	A2450	A2550
Motor kW*1			0.4	0.75	1.5	2.2	4.0	5.5	7.5	11	15	18.5	22	30	37	45	55
Output characteristics	Inverter capacity kVA	200 V	1.0	1.7	2.5	3.6	5.7	8.3	11.0	15.9	22.1	26.3	32.9	41.9	50.2	63.0	76.2
		240 V	1.2	2.0	3.1	4.3	6.8	9.9	13.3	19.1	26.6	31.5	39.4	50.2	60.2	75.6	91.4
	Rated output current (A)		3.0	5.0	7.5	10.5	16.5	24	32	46	64	76	95	121	145	182	220
	Max. output voltage		Proportional to input voltage: 0..240 V														
	Max. output frequency		400 Hz														
Power supply	Rated input voltage and frequency		3-phase 200..240 V 50/60 Hz														
	Allowable voltage fluctuation		-15%..+10%														
	Allowable frequency fluctuation		5%														
Braking	Regenerative braking		Internal BRD circuit (external discharge resistor)											External regenerative braking unit			
	Minimum connectable resistance		50	50	35	35	35	16	10	10	7.5	7.5	5				
Protective structure			IP20														
Cooling method			Forced air cooling														

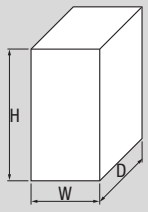
*1 Based on a standard 3-Phase standard motor.

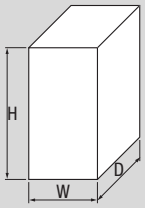
400 V class

Three-phase: RX-_			A4004	A4007	A4015	A4022	A4040	A4055	A4075	A4110	A4150	A4185	A4220	A4300	A4370	A4450	A4550	B4750	B4900	B411K	B413K
Motor kW*1			0.4	0.75	1.5	2.2	4.0	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110	132
Output characteristics	Inverter capacity kVA	400 V	1.0	1.7	2.5	3.6	6.2	9.7	13.1	17.3	22.1	26.3	33.2	40.1	51.9	63.0	77.6	103.2	121.9	150.3	180.1
		480 V	1.2	2.0	3.1	4.3	7.4	11.6	15.8	20.7	26.6	31.5	39.9	48.2	62.3	75.6	93.1	123.8	146.3	180.4	216.1
	Rated output current (A)		1.5	2.5	3.8	5.3	9.0	14	19	25	32	38	48	58	75	91	112	149	176	217	260
	Max. output voltage		Proportional to input voltage: 0..480 V																		
	Max. output frequency		400 Hz																		
Power supply	Rated input voltage and frequency		3-phase 380..480 V 50/60 Hz																		
	Allowable voltage fluctuation		-15%..+10%																		
	Allowable frequency fluctuation		5%																		
Braking	Regenerative braking		Internal BRD circuit (external discharge resistor)											External regenerative braking unit							
	Minimum connectable resistance		100	100	100	100	70	70	35	35	24	24	20								
Protective structure			IP20															IP00			
Cooling method			Forced air cooling																		

*1 Based on a standard 3-Phase standard motor.

Dimensions

Voltage class	Inverter model	Dimensions in mm				
		H	W	D	Weight (KG)	
Three-phase 200 V	RX-A2004	255	150	140	3.5	
	RX-A2007					
	RX-A2015					
	RX-A2022					
	RX-A2037					
	RX-A2055	260	210	170	6	
	RX-A2075					
	RX-A2110					
	RX-A2150	390	250	190	14	
	RX-A2185					
	RX-A2220					
	RX-A2300	540	310	195	20	
	RX-A2370	550	390	250	30	
	RX-A2450					
	RX-A2550	700	480	250	43	

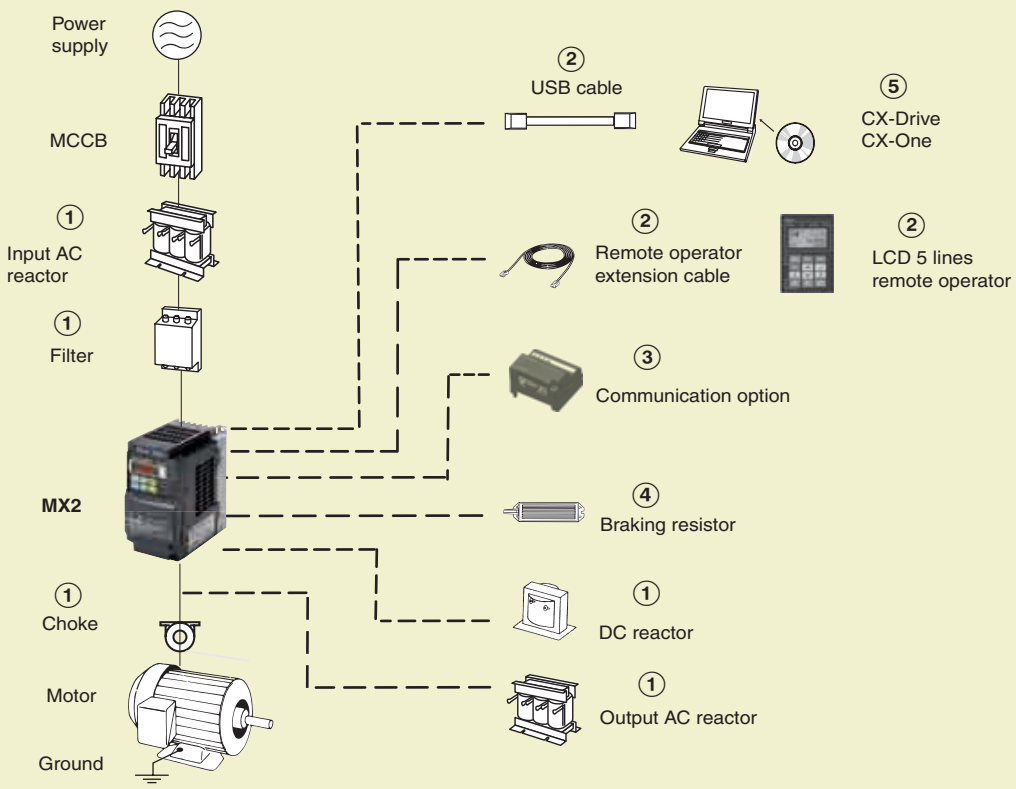
Voltage class	Inverter model	Dimensions in mm				
		H	W	D	Weight (KG)	
Three-phase 400 V	RX-A4004	255	150	140	3.5	
	RX-A4007					
	RX-A4015					
	RX-A4022					
	RX-A4040					
	RX-A4055	260	210	170	6	
	RX-A4075					
	RX-A4110					
	RX-A4150	390	250	190	14	
	RX-A4185					
	RX-A4220					
	RX-A4300	540	310	195	22	
	RX-A4370	550	390	250	30	
	RX-A4450					
	RX-A4550					
	RX-B4750	700	390	268	60	
	RX-B4900					
	RX-B411K	740	480	270	80	
	RX-B413K					

Born to drive machines

MX2 has been developed to harmonise advanced motor and machine control. Thanks to its advanced design algorithms the MX2 provides smooth control down to zero speed, plus precise operation for fast cyclic operations and torque control capability in open loop. The MX2 also gives you comprehensive functionality for machine control such as positioning, speed synchronisation and logic programming.

- Current vector control
- Double rating VT 120%/1 min and CT 150%/1 min
- High speed motors up to 1000 Hz and IM & PM motor control
- Torque control in open loop vector
- Positioning functionality
- Built-in application functionality (i.e. Brake control)
- Fieldbus comms: Modbus, DeviceNet, PROFIBUS, MECHATROLINK-II, EtherCAT, CompoNet

Ordering information



MX2

Voltage class	Constant torque		Variable torque		Order code
	Max motor kW	Rated current A	Max motor kW	Rated current A	Standard
Single-phase 200 V	0.1	1.0	0.2	1.2	MX2-AB001-E
	0.2	1.6	0.4	1.9	MX2-AB002-E
	0.4	3.0	0.55	3.5	MX2-AB004-E
	0.75	5.0	1.1	6.0	MX2-AB007-E
	1.5	8.0	2.2	9.6	MX2-AB015-E
	2.2	11.0	3.0	12.0	MX2-AB022-E
Three-phase 200 V	0.1	1.0	0.2	1.2	MX2-A2001-E
	0.2	1.6	0.4	1.9	MX2-A2002-E
	0.4	3.0	0.55	3.5	MX2-A2004-E
	0.75	5.0	1.1	6.0	MX2-A2007-E
	1.5	8.0	2.2	9.6	MX2-A2015-E
	2.2	11.0	3.0	12.0	MX2-A2022-E
	3.7	17.5	5.5	19.6	MX2-A2037-E
	5.5	25.0	7.5	30.0	MX2-A2055-E
	7.5	33.0	11	40.0	MX2-A2075-E
	11	47.0	15	56.0	MX2-A2110-E
	15	60.0	18.5	69.0	MX2-A2150-E

Voltage class	Constant torque		Variable torque		Order code
	Max motor kW	Rated current A	Max motor kW	Rated current A	Standard
Three-phase 400 V	0.4	1.8	0.75	2.1	MX2-A4004-E
	0.75	3.4	1.5	4.1	MX2-A4007-E
	1.5	4.8	2.2	5.4	MX2-A4015-E
	2.2	5.5	3.0	6.9	MX2-A4022-E
	3.0	7.2	4.0	8.8	MX2-A4030-E
	4.0	9.2	5.5	11.1	MX2-A4040-E
	5.5	14.8	7.5	17.5	MX2-A4055-E
	7.5	18.0	11	23.0	MX2-A4075-E
	11	24.0	15	31.0	MX2-A4110-E
	15	31.0	18.5	38.0	MX2-A4150-E

① Line filters

Inverter		Line filter Rasmi	
Voltage	Model MX2-_	Rated current (A)	Reference
1-Phase 200 VAC	AB001/AB002/AB004	10	AX-FIM1010-RE
	AB007	14	AX-FIM1014-RE
	AB015/AB022	24	AX-FIM1024-RE
3-Phase 200 VAC	A2001/A2002/ A2004/A2007	10	AX-FIM2010-RE
	A2015/A2022	20	AX-FIM2020-RE
	A2037	30	AX-FIM2030-RE
	A2055/A2075	60	AX-FIM2060-RE
	A2110	80	AX-FIM2080-RE
	A2150	100	AX-FIM2100-RE
3-Phase 400 VAC	A4004/A4007	5	AX-FIM3005-RE
	A4015/A4022/A4030	10	AX-FIM3010-RE
	A4040	14	AX-FIM3014-RE
	A4055/A4075	23	AX-FIM3030-RE
	A4110/A4150	50	AX-FIM3050-RE

① Input AC reactors

Inverter		AC Reactor
Voltage	Model MX2-_	Order code
3-Phase 200 VAC	A2002/A2004/A2007	AX-RAI02800080-DE
	A2015/A2022/A2037	AX-RAI00880200-DE
	A2055/A2075	AX-RAI00350335-DE
	A2110/A2150	AX-RAI00180670-DE
1-Phase 200 VAC	AB002/AB004	Under development
	AB007	
	AB015/AB022	
3-Phase 400 VAC	A4004/A4007/A4015	AX-RAI07700050-DE
	A4022/A4030/A4040	AX-RAI03500100-DE
	A4055/A4075	AX-RAI01300170-DE
	A4110/A4150	AX-RAI00740335-DE

① DC reactors

200V single phase		200V 3-phase		400V 3-phase	
Inverter	Order code	Inverter	Order code	Inverter	Order code
MX2-AB001	AX-RC10700032-DE	MX2-A2001	AX-RC21400016-DE	MX2-A4004	AX-RC43000020-DE
MX2-AB002		MX2-A2002		MX2-A4007	AX-RC27000030-DE
MX2-AB004	AX-RC06750061-DE	MX2-A2004	AX-RC10700032-DE	MX2-A4015	AX-RC14000047-DE
MX2-AB007	AX-RC03510093-DE	MX2-A2007	AX-RC06750061-DE	MX2-A4022	AX-RC10100069-DE
MX2-AB015	AX-RC02510138-DE	MX2-A2015	AX-RC03510093-DE	MX2-A4030	AX-RC08250093-DE
MX2-AB022	AX-RC01600223-DE	MX2-A2022	AX-RC02510138-DE	MX2-A4040	AX-RC06400116-DE
-		MX2-A2037	AX-RC01600223-DE	MX2-A4055	AX-RC04410167-DE
		MX2-A2055	AX-RC01110309-DE	MX2-A4075	AX-RC03350219-DE
		MX2-A2075	AX-RC00840437-DE	MX2-A4011	AX-RC02330307-DE
		MX2-A2011	AX-RC00590614-DE	MX2-A4015	AX-RC01750430-DE
		MX2-A2015	AX-RC00440859-DE	-	

① Chokes

Diameter	Description	Model
21	For 2.2 KW motors or below	AX-FER2102-RE
25	For 15 KW motors or below	AX-FER2515-RE
50	For 45 KW motors or below	AX-FER5045-RE

① Output AC reactor

Inverter		AC Reactor
Voltage	Model MX2-_	Order code
200 VAC	A2001/A2002/A2004/ AB001/AB002/AB004	AX-RA011500026-DE
	A2007/AB007	AX-RA007600042-DE
	A2015/AB015	AX-RA004100075-DE
	A2022/AB022	AX-RA003000105-DE
	A2037	AX-RA001830160-DE
	A2055	AX-RA001150220-DE
	A2075	AX-RA000950320-DE
400 VAC	A4004/A4007/A4015	AX-RA016300038-DE
	A4022	AX-RA011800053-DE
	A4030/A4040	AX-RA007300080-DE
	A4055	AX-RA004600110-DE
	A4075	AX-RA003600160-DE

② Accessories

Types	Description	Functions	Order code
Digital operator	LCD remote operator	5 Line LCD remote operator with copy function, cable length max. 3 m	AX-OP05-E
	Remote operator cable	3 meters cable for connecting remote operator	3G3AX-CAJOP300-EE
	LED remote operator	LED remote operator, cable length max. 3 m	3G3AX-OP01
	Mounting kit for LED operator	Mounting kit for LED operator on panel	4X-KITMINI
Accessories	PC configuration cable	Mini USB to USB connector cable	AX-CUSBM002-E

③ Communication option boards

Description	Functions	Model
PROFIBUS option card	Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through PROFIBUS communications with the host controller.	3G3AX-MX2-PRT
DeviceNet option card	Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through DeviceNet communications with the host controller.	3G3AX-MX2-DRT
Ethercat option card	Under development	3G3AX-MX2-ERT
CompoNet option card	Used for running or stopping the inverter, setting or referencing parameters, and monitoring output frequency, output current, or similar items through CompoNet communications with the host controller.	3G3AX-MX2-CRT
Mechatrolink II option card	Under development	3G3AX-MX2-ML2
CanOpen option card		3G3AX-MX2-CORT

④ Braking unit, braking resistor unit

Inverter					Braking resistor unit					
Voltage	Max. motor kW	Inverter MX2-_		Connectable min. resistance Ω	Inverter mounted type (3 %ED, 10 sec max)		Braking torque %	Inverter mounted type (10%ED, 10 sec max)		Braking torque %
		3-phase	1-phase		Type AX-	Resist Ω		Type AX-	Resist Ω	
200 V (single-/three-phase)	0.12	2001	B001	100	AX-REM00K1400-IE	400	200	AX-REM00K1400-IE	400	200
	0.25	2002	B002				180			180
	0.55	2004	B004		AX-REM00K1200-IE	200	180	AX-REM00K1200-IE	200	180
	1.1	2007	B007	50			100	AX-REM00K2070-IE	70	200
	1.5	2015	B015		AX-REM00K2070-IE	70	140	AX-REM00K4075-IE	75	130
	2.2	2022	B022	35			90	AX-REM00K4035-IE	35	180
	4.0	2040	-		AX-REM00K4075-IE	75	50	AX-REM00K6035-IE	35	100
	5.5	2055	–	20	AX-REM00K4035-IE	35	75	AX-REM00K9020-IE	20	150
	7.5	2075	–	17			55	AX-REM01K9017-IE	17	110
	11	2110	-		AX-REM00K6035-IE	35	40	AX-REM02K1017-IE	17	75
	15	2150	-	10	AX-REM00K9017-IE	17	55	AX-REM03K5010-IE	10	95
400 V (three-phase)	0.55	4004	–	180	AX-REM00K1400-IE	400	200	AX-REM00K1400-IE	400	200
	1.1	4007	–				200			200
	1.5	4015	–		AX-REM00K1200-IE	200	190	AX-REM00K2200-IE	200	190
	2.2	4022	–	100	AX-REM00K2200-IE	200	130	AX-REM00K5120-IE	120	200
	3.0	4030	–		AX-REM00K2120-IE	120	160			160
	4.0	4040	–				120	AX-REM00K6100-IE	100	140
	5.5	4055	–	70	AX-REM00K4075-IE	75	140	AX-REM00K9070-IE	70	150
	7.5	4075	–				100	AX-REM01K9070-IE	70	110
	11	4110	-		AX-REM00K6100-IE	100	50	AX-REM02K1070-IE	70	75
	15	4150	-	35	AX-REM00K9070-IE	70	55	AX-REM03K5035-IE	35	110

⑤ Computer software

Description	Installation	Model
Computer software	Configuration and monitoring software tool	CX-drive
Computer software	Configuration and monitoring software tool	CX-One

Specifications

200 V class

Single-phase: MX2-_			AB001	AB002	AB004	AB007*1	AB015	AB022	-	-	-	-	-
Three-phase: MX2-_			A2001	A2002	A2004	A2007	A2015	A2022	A2037	A2055	A2075	A2110	A2150
Motor kW*2	For VT setting		0.2	0.4	0.55	1.1	2.2	3.0	5.5	7.5	11	15	18.5
	For CT setting		0.1	0.2	0.4	0.75	1.5	2.2	3.7	5.5	7.5	11	15
Output characteristics	Inverter capacity kVA	200 VT	0.4	0.6	1.2	2.0	3.3	4.1	6.7	10.3	13.8	19.3	23.9
		200 CT	0.2	0.5	1.0	1.7	2.7	3.8	6.0	8.6	11.4	16.2	20.7
		240 VT	0.4	0.7	1.4	2.4	3.9	4.9	8.1	12.4	16.6	23.2	28.6
		240 CT	0.3	0.6	1.2	2.0	3.3	4.5	7.2	10.3	13.7	19.5	24.9
	Rated output current (A) at VT		1.2	1.9	3.5	6.0	9.6	12.0	19.6	30.0	40.0	56.0	69.0
	Rated output current (A) at CT		1.0	1.6	3.0	5.0	8.0	11.0	17.5	25.0	33.0	47.0	60.0
	Max. output voltage		Proportional to input voltage: 0-240 V										
	Max. output frequency		1000 Hz*3										
Power supply	Rated input voltage and frequency		Single-phase 200..240 V 50/60 Hz 3-phase 200..240 V 50/60 Hz										
	Allowable voltage fluctuation		-15%..+10%										
	Allowable frequency fluctuation		5%										
Braking torque	At short-time deceleration		100%: <50 Hz				70%: <50 Hz	Approx 20%	-				
	At capacitor feedback		50%: <60 Hz				50%: <60 Hz						
Cooling method			Self cooling				Forced-air-cooling						

*1 Three phase model use forced-air-cooling but single phase model is self cooling.
*2 Based on a standard 3-Phase standard motor.
*3 Above 400 Hz with some function limitation.

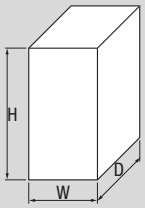
400 V class

Three-phase: MX2-_			A4004	A4007	A4015	A4022	A4030	A4040	A4055	A4075	A4110	A4150
Motor kW*1	For VT setting		0.75	1.5	2.2	3.0	4.0	5.5	7.5	11	15	18.5
	For CT setting		0.4	0.75	1.5	2.2	3.0	4.0	5.5	7.5	11	15
Output characteristics	Inverter capacity kVA	380 VT	1.3	2.6	3.5	4.5	5.7	7.3	11.5	15.1	20.4	25.0
		380 CT	1.1	2.2	3.1	3.6	4.7	6.0	9.7	11.8	15.7	20.4
		480 VT	1.7	3.4	4.4	5.7	7.3	9.2	14.5	19.1	25.7	31.5
		480 CT	1.4	2.8	3.9	4.5	5.9	7.6	12.3	14.9	19.9	25.7
	Rated output current (A) at VT		2.1	4.1	5.4	6.9	8.8	11.1	17.5	23.0	31.0	38.0
	Rated output current (A) at CT		1.8	3.4	4.8	5.5	7.2	9.2	14.8	18.0	24.0	31.0
	Max. output voltage		Proportional to input voltage: 0-480 V									
	Max. output frequency		1000 Hz*2									
Power supply	Rated input voltage and frequency		3-phase 380-480 V 50/60 Hz									
	Allowable voltage fluctuation		-15%..+10%									
	Allowable frequency fluctuation		5%									
Braking torque	At short-time deceleration At capacitor feedback		100%: <50Hz 50%: <60Hz				70%: <50Hz 50%: <60Hz	-				
Cooling method			Self cooling		Forced-air-cooling							

*1 Based on a standard 3-Phase standard motor.

*2 Above 400 Hz with some function limitation.

Dimensions

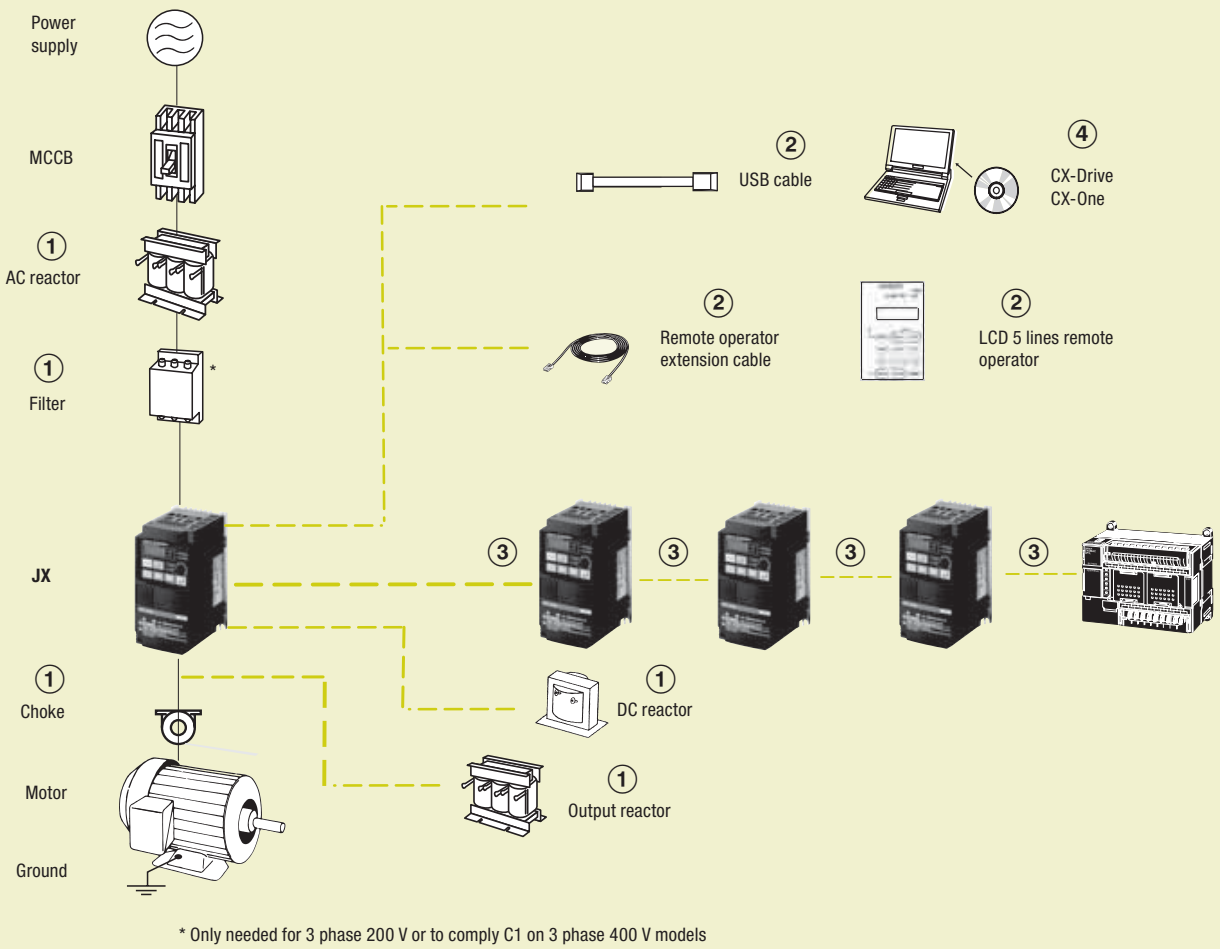
Voltage class	Inverter model	Dimensions in mm				
		H	W	D	Weight (KG)	
Single-phase 200 V	MX2-AB001	128	68	109	1.0	
	MX2-AB002				1.0	
	MX2-AB004			123	1.1	
	MX2-AB007	128	108	170.5	1.4	
	MX2-AB015				1.8	
	MX2-AB022				1.8	
Three-phase 200 V	MX2-A2001	128	68	109	1.0	
	MX2-A2002				1.0	
	MX2-A2004			113	1.1	
	MX2-A2007			146	1.2	
	MX2-A2015	128	108	170.5	1.6	
	MX2-A2022				1.8	
	MX2-A2037	128	140	170.5	2.0	
	MX2-A2055	260	140	155	3.0	
	MX2-A2075				3.4	
	MX2-A2110	296	180	175	5.1	
	MX2-A2150	350	220	175	7.4	
Three-phase 400 V	MX2-A4004	128	108	144	1.5	
	MX2-A4007			171	1.6	
	MX2-A4015				1.8	
	MX2-A4022				1.9	
	MX2-A4030				1.9	
	MX2-A4040	128	140	171	2.1	
	MX2-A4055	260		155	3.5	
	MX2-A4075				3.5	
	MX2-A4110	296	180	175	4.7	
	MX2-A4150				5.2	

Compact and complete

With the RFI filter built-in, and the communications integrated as standard, the JX provides a compact and complete solution to a whole range of simple applications, such as conveyor control. The RS485 Modbus is built into the RJ45 port of the inverter front, making it very easy to add inverters into the network without any extra option boards. Therefore, saving costs and space.

- V/f controlled inverter
- Side by side mounting
- EMC filter built-in
- RS485 Modbus built-in
- Overload detection function (150% during 60 s)
- PID
- Micro-surge voltage suppression
- Automatic energy saving

Ordering information



* Only needed for 3 phase 200 V or to comply C1 on 3 phase 400 V models

JX

Specifications			Order code
Voltage class	Max. applicable motor output kW	Rated output current (A)	Standard
Single-phase 200 V	0.2	1.4	JX-AB002-EF
	0.4	2.6	JX-AB004-EF
	0.75	4	JX-AB007-EF
	1.5	7.1	JX-AB015-EF
	2.2	10	JX-AB022-EF
Three-phase 200 V	0.2	1.4	JX-A2002-E
	0.4	2.6	JX-A2004-E
	0.75	4	JX-A2007-E
	1.5	7.1	JX-A2015-E
	2.2	10	JX-A2022-E
	3.7	15.9	JX-A2037-E
	5.5	24	JX-A2055-E
	7.5	32	JX-A2075-E
Three-phase 400 V	0.4	1.5	JX-A4004-EF
	0.75	2.5	JX-A4007-EF
	1.5	3.8	JX-A4015-EF
	2.2	5.5	JX-A4022-EF
	4.0	8.6	JX-A4040-EF
	5.5	13	JX-A4055-EF
	7.5	16	JX-A4075-EF

① Line filters

Inverter		Line filter Rasmi		
Voltage	Model JX-_	Rated current (A)	Weight (kg)	Order code
1-Phase 200 VAC	AB002/AB004	6	0.5	AX-FIJ1006-RE
	AB007	10	0.6	AX-FIJ1010-RE
	AB015/AB022	26	0.8	AX-FIJ1026-RE
3-Phase 200 VAC	A2002/A2004/A2007	6	1.0	AX-FIJ2006-RE
	A2015/A2022/A2037	20	1.3	AX-FIJ2020-RE
	A2055/A2075	40	2.3	AX-FIJ2040-RE
3-Phase 400 VAC	A4004/A4007/A4015	5	0.9	AX-FIJ3005-RE
	A4022/A4040	11	1.1	AX-FIJ3011-RE
	A4055/A4075	20	1.7	AX-FIJ3020-RE

① Input AC Reactors

Inverter		AC Reactor
Voltage	Model JX-_	Order code
3-Phase 200 VAC	A2002/A2004/A2007	AX-RAI02800080-DE
	A2015/A2022/A2037	AX-RAI00880175-DE
	A2055/A2075	AX-RAI00350335-DE
1-Phase 200 VAC	AB002/AB004	Under development
	AB007	
	AB015/AB022	
3-Phase 400 VAC	A4004/A4007/A4015	AX-RAI07700042-DE
	A4022/A4040	AX-RAI03500090-DE
	A4055/A4075	AX-RAI01300170-DE

① DC Reactors

200 V single phase		200 V 3-phase		400 V 3-phase	
Inverter	Order code	Inverter	Order code	Inverter	Order code
JX-AB002	AX-RC10700032-DE	JX-A2002	AX-RC21400016-DE	-	
JX-AB004	AX-RC06750061-DE	JX-A2004	AX-RC10700032-DE	JX-A4004	AX-RC43000020-DE
JX-AB007	AX-RC03510093-DE	JX-A2007	AX-RC06750061-DE	JX-A4007	AX-RC27000030-DE
JX-AB015	AX-RC02510138-DE	JX-A2015	AX-RC03510093-DE	JX-A4015	AX-RC14000047-DE
JX-AB022	AX-RC01600223-DE	JX-A2022	AX-RC02510138-DE	JX-A4022	AX-RC10100069-DE
-		JX-A2037	AX-RC01600223-DE	JX-A4040	AX-RC06400116-DE
		JX-A2055	AX-RC01110309-DE	JX-A4055	AX-RC04410167-DE
		JX-A2075	AX-RC00840437-DE	JX-A4075	AX-RC03350219-DE

① Chokes

Diameter	Description	Order code
21	For 2.2 KW motors or below	AX-FER2102-RE
25	For 7.5 KW motors or below	AX-FER2515-RE

① Output AC Reactors

Inverter		AC Reactor
Voltage	Model JX-_	Order code
200 VAC	A2001/A2002/A2004/ AB001/AB002/AB004	AX-RA011500026-DE
	A2007/AB007	AX-RA007600042-DE
	A2015/AB015	AX-RA004100075-DE
	A2022/AB022	AX-RA003000105-DE
	A2037	AX-RA001830160-DE
	A2055	AX-RA001150220-DE
	A2075	AX-RA000950320-DE
400 VAC	A4004/A4007/A4015	AX-RA016300038-DE
	A4022	AX-RA011800053-DE
	A4040	AX-RA007300080-DE
	A4055	AX-RA004600110-DE
	A4075	AX-RA003600160-DE

② Accessories

Types	Description	Functions	Order code
Digital operator	LCD remote operator	5 Line LCD*1 remote operator with copy function, cable length max. 3 m	AX-OP05-E
	Remote operator cable	3 meters cable for connecting remote operator	3G3AX-CAJOP300-EE
	LED remote operator	LED remote operator, cable length max. 3 m	3G3AX-OP01
	Mounting kit for LED operator	Mounting kit for LED operator on panel	4X-KITMINI
Accessories	USB converter/ USB cable	RJ45 to USB connection cable	3G3AX-PCACN2
	RJ45 T-Branch cable	T cable for RS-422 connection	3G3AX-CTB020-EE
	RJ45 Terminator resistor	Terminator resistor for RS-422 connection	3G3AX-CTR150-EE

*1 Please note, for JX inverters models, the operator will only display 2 lines of text.

④ Computer software

Description	Installation	Order code
Computer software	Configuration and monitoring software tool	CX-drive
Computer software	Configuration and monitoring software tool	CX-One

Specifications

200 V class

Single-phase: JX_			AB002	AB004	AB007	AB015	AB022	–	–	–
Three-phase: JX_			A2002	A2004	A2007	A2015	A2022	A2037	A2055	A2075
Motor kW*1	Applicable motor capacity		0.2	0.4	0.75	1.5	2.2	3.7	5.5	7.5
Output characteristics	Inverter capacity kVA	200 V	0.4	0.9	1.3	2.4	3.4	5.5	8.3	11.0
		240 V	0.5	1.0	1.6	2.9	4.1	6.6	9.9	13.3
	Rated output current (A)		1.4	2.6	4.0	7.1	10.0	15.9	24.0	32.0
	Max. output voltage		Proportional to input voltage: 0…240 V							
	Max. output frequency		400 Hz							
Power supply	Rated input voltage and frequency		Single-phase 200…240 V 50/60 Hz 3-phase 200…240 V 50/60 Hz							
	Rated input current (A)	Single-phase 200 V	3.1	5.8	9.0	16.0	22.5	–	–	–
		Three-phase 200 V	1.8	3.4	5.2	9.3	13.0	20.0	30.0	40.0
	Allowable voltage fluctuation		-15%…+10%							
	Allowable frequency fluctuation		+5%							
Built-in filter			EMC filter (C1 single phase)							
Braking torque	At short-time deceleration At capacitor feedback		Approx. 50%			50% for 3-phase 20 to 40% for 1-phase	Approx 20% to 40%		Approx 20%	
Cooling method			Self cooling			Forced-air-cooling				

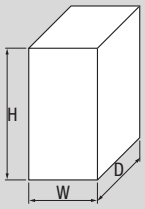
*1 Based on a standard 3-Phase standard motor.

400 V class

Three-phase: JX_			A4004	A4007	A4015	A4022	A4040	A4055	A4075
Motor kW*1	Applicable motor capacity		0.4	0.75	1.5	2.2	4.0	5.5	7.5
Output characteristics	Inverter capacity kVA	380 V	0.9	1.6	2.5	3.6	5.6	8.5	10.5
		480 V	1.2	2.0	3.1	4.5	7.1	10.8	13.3
	Rated output current (A)		1.5	2.5	3.8	5.5	8.6	13.0	16.0
	Max. output voltage		Proportional to input voltage: 0…480 V						
	Max. output frequency		400 Hz						
Power supply	Rated input voltage and frequency		3-phase 380…480 V 50/60 Hz						
	Rated input current (A)		2.0	3.3	5.0	7.0	11.0	16.5	20.0
	Allowable voltage fluctuation		-15%…+10%						
	Allowable frequency fluctuation		+5%						
Built-in filter			EMC filter C2 class						
Braking torque	At short-time deceleration At capacitor feedback		Approx. 50%		Approx. 20% to 40%			Approx. 20%	
Cooling method			Self cooling		Forced-air-cooling				

*1 Based on a standard 3-Phase standard motor.

Dimensions

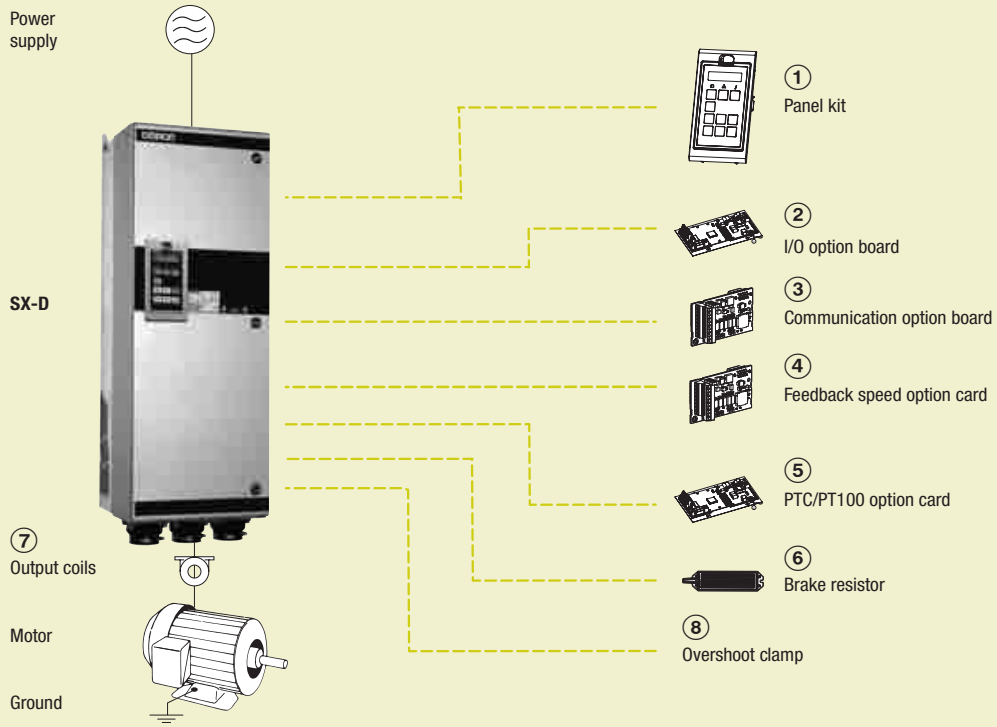
Voltage class	Max. applicable motor output kW	Inverter model JX_	Dimensions in mm				
			H	W	D	Weight	
Single-phase 200 V	0.2	AB002	155	80	95.5	0.8	
	0.4	AB004			109.5	0.9	
	0.75	AB007	189	110	130.5	1.5	
	1.5	AB015			157.5	2.3	
	2.2	AB022				2.4	
Three-phase 200 V	0.2	A2002	155	80	95.5	0.8	
	0.4	A2004			109.5	0.9	
	0.75	A2007			132.5	1.1	
	1.5	A2015	189	110	157.5	2.2	
	2.2	A2022				2.4	
	3.7	A2037					
	5.5	A2055	250	180	167.5	4.2	
	7.5	A2075					
Three-phase 400 V	0.4	A4004	189	110	130.5	1.5	
	0.75	A4007			157.5	2.3	
	1.5	A4015				2.4	
	2.2	A4022					
	4.0	A4040					
	5.5	A4055	250	180	167.5	4.2	
	7.5	A4075					

Force & flow in harmony

Designed to drive any high power application from 90 kW up to 1 MW, the new SX series of compact inverters features embedded application dedicated functionality plus logic programming and customizable LCD information to give you all the control flexibility required for applications ranging from high torque to smooth flow and pressure control.

- 500 V-690 V power supply from 90 kW up to 1 MW
- IP54 full range.
- Compact design & Robustness
- Built-in EMC filter for complete family and fuses from 200 kW
- Safety according EN13849-1 and EN62061 standards
- Logic programmability
- Hardware customization
- Fieldbus communications: Modbus, DeviceNet and PROFIBUS

Ordering information



SX-D

Specifications					Order code	
Voltage	Heavy Duty		Normal Duty		Direct torque control	V/F
400 V	75 kW	140 A	90 kW	175 A	SX-D4090-EF	SX-D4090-EV
	90 kW	168 A	110 kW	210 A	SX-D4110-EF	SX-D4110-EV
	110 kW	200 A	132 kW	250 A	SX-D4132-EF	SX-D4132-EV
	132 kW	240 A	160 kW	300 A	SX-D4160-EF	SX-D4160-EV
	160 kW	300 A	200 kW	375 A	SX-D4200-EF	SX-D4200-EV
	200 kW	344 A	220 kW	430 A	SX-D4220-EF	SX-D4220-EV
	220 kW	400 A	250 kW	500 A	SX-D4250-EF	SX-D4250-EV
	250 kW	480 A	315 kW	600 A	SX-D4315-EF	SX-D4315-EV
	315 kW	520 A	355 kW	650 A	SX-D4355-EF	SX-D4355-EV
	355 kW	600 A	400 kW	750 A	SX-D4400-EF	SX-D4400-EV
	400 kW	688 A	450 kW	680 A	SX-D4450-EF	SX-D4450-EV
	450 kW	800 A	500 kW	1000 A	SX-D4500-EF	SX-D4500-EV
	500 kW	960 A	630 kW	1200 A	SX-D4630-EF	SX-D4630-EV
	630 kW	1200 A	800 kW	1500 A	SX-D4800-EF	SX-D4800-EV

Specifications					Order code	
Voltage	Heavy Duty		Normal Duty		Direct torque control	V/F
690 V	75 kW	72 A	90 kW	90 A	SX-D6090-EF	SX-D6090-EV
	90 kW	87 A	110 kW	109 A	SX-D6110-EF	SX-D6110-EV
	110 kW	117 A	132 kW	146 A	SX-D6132-EF	SX-D6132-EV
	132 kW	140 A	160 kW	175 A	SX-D6160-EF	SX-D6160-EV
	160 kW	168 A	200 kW	210 A	SX-D6200-EF	SX-D6200-EV
	200 kW	200 A	250 kW	250 A	SX-D6250-EF	SX-D6250-EV
	250 kW	240 A	315 kW	300 A	SX-D6315-EF	SX-D6315-EV
	315 kW	300 A	355 kW	375 A	SX-D6355-EF	SX-D6355-EV
	315 kW	344 A	450 kW	430 A	SX-D6450-EF	SX-D6450-EV
	355 kW	400 A	500 kW	500 A	SX-D6500-EF	SX-D6500-EV
	450 kW	480 A	600 kW	600 A	SX-D6600-EF	SX-D6600-EV
	500 kW	520 A	630 kW	650 A	SX-D6630-EF	SX-D6630-EV
	600 kW	600 A	710 kW	750 A	SX-D6710-EF	SX-D6710-EV
	650 kW	688 A	800 kW	860 A	SX-D6800-EF	SX-D6800-EV
	710 kW	720 A	900 kW	900 A	SX-D6900-EF	SX-D6900-EV
	800 kW	800 A	1000 kW	1000 A	SX-D61K0-EF	SX-D61K0-EV

① Panel Kit

Description	Function	Order code
Panel kit	Panel kit complete including panel	01-3957-00
Blank panel kit	Panel kit complete including blank panel	01-3957-01

② I/O option board

Description	Function	Order code
Additional I/O option	Provides 3 extra relay outputs and 3 additional digital inputs	01-3876-01
Crane option	Dedicated option board for crane application, including additional I/O and functions	01-3876-07

③ Communication option board

Description	Function	Order code
RS232/485	MODBUS RTU serial communication by RS232 or RS485 interface with galvanic isolation	01-3876-04
PROFIBUS-DP option card	Used for operating the inverter through PROFIBUS-DP communication with the host controller.	01-3876-05
DeviceNet option card	Used for operating the inverter through DeviceNet communication with the host controller.	01-3876-06
Modbus/TCP, Ethernet	Used for operating the inverter through Modbus/TCP communication with the host controller.	01-3876-09

④ Encoder feedback option card

Description	Function	Order code
Encoder option	Used for connection of the actual motor speed via encoder. Up to 100 kHz with TTL and HTL incremental encoders with 5/24 V power supply	01-3876-03

⑤ PTC/PT100 option card

Description	Function	Order code
Thermal protection	Allows to connect a motor thermistor to the inverter	01-3876-08

⑥ Braking chopper and braking resistor

All inverter sizes could be fitted with an optional built-in brake chopper from factory but is not possible to install it later. The choice of the resistor depends on the application switch-on duration and duty-cycle Following tables describes the activation level of the built-in braking chopper and the minimum resistor that could be used depending on the input voltage.

400 V				600 V			
R for different input voltage (Ω)			Order code	R for different input voltage (Ω)			Order code
220-240 VAC	380-415 VAC	440-480 VAC		500-525 VAC	550-600 VAC	660-690 VAC	
3.8	3.8	4.4	SX-D4090-EF	4.9	5.7	6.5	SX-D6090-EF
2.7	2.7	3.1	SX-D4110-EF	4.9	5.7	6.5	SX-D6110-EF
2.7	2.7	3.1	SX-D4132-EF	4.9	5.7	6.5	SX-D6132-EF
2 x 3.8	2 x 3.8	2 x 4.4	SX-D4160-EF	4.9	5.7	6.5	SX-D6160-EF
2 x 3.8	2 x 3.8	2 x 4.4	SX-D4200-EF	2 x 4.9	2 x 5.7	2 x 6.5	SX-D6200-EF
2 x 2.7	2 x 2.7	2 x 3.1	SX-D4220-EF	2 x 4.9	2 x 5.7	2 x 6.5	SX-D6250-EF
2 x 2.7	2 x 2.7	2 x 3.1	SX-D4250-EF	2 x 4.9	2 x 5.7	2 x 6.5	SX-D6315-EF
3 x 2.7	3 x 2.7	3 x 3.1	SX-D4315-EF	2 x 4.9	2 x 5.7	2 x 6.5	SX-D6355-EF
3 x 2.7	3 x 2.7	3 x 3.1	SX-D4355-EF	3 x 4.9	3 x 5.7	3 x 5.7	SX-D6450-EF
3 x 2.7	3 x 2.7	3 x 3.1	SX-D4400-EF	3 x 4.9	3 x 5.7	3 x 5.7	SX-D6500-EF
4 x 2.7	4 x 2.7	4 x 3.1	SX-D4450-EF	4 x 4.9	4 x 5.7	4 x 5.7	SX-D6600-EF
4 x 2.7	4 x 2.7	4 x 3.1	SX-D4500-EF	4 x 4.9	4 x 5.7	4 x 5.7	SX-D6630-EF
6 x 2.7	6 x 2.7	6 x 3.1	SX-D4630-EF	6 x 4.9	6 x 5.7	6 x 5.7	SX-D6710-EF
6 x 2.7	6 x 2.7	6 x 3.1	SX-D4800-EF	6 x 4.9	6 x 5.7	6 x 5.7	SX-D6800-EF
				6 x 4.9	6 x 5.7	6 x 5.7	SX-D6900-EF
				6 x 4.9	6 x 5.7	6 x 5.7	SX-D61K0-EF

Supply voltage (VAC)I	Built-in brake chopper trigger level (VDC)
220-240	380
380-415	660
440-480	780

Supply voltage (VAC)I	Built-in brake chopper trigger level (VDC)
500-525	860
550-600	1000
660-690	1150

⑦ Output coils

Output coils above SX-D4132-EF for the 400V and SX-D6160-EF should be order from factory as they should be installed inside of the cabinet

Voltage	Inverter model	Rated current	Inductance	Rated Voltage	Max carrier	Max output frequency	Max temp	Order code
400V	SX-D4090-EF	175A	0.05 mH	800V	6 KHz	200 Hz	40ºC	473171 00
	SX-D4110-EF	275A	0.032 mH		1.5 kHz	100 Hz		473172 00
	SX-D4132-EF							
690V	SX-D6090-EF	90A	0.1 mH		6 kHz	200 Hz		473169 00
	SX-D6110-EF	146A	0.05 mH		6 kHz	200 Hz		473170 00
	SX-D6132-EF							
	SX-D6160-EF	175A	0.05 mH		6 kHz	200 Hz		473171 00

⑧ Overshoot clamp

Note: Only two types of overshoot clamps could be order for after mounting

Inverter	Function	Order code
SX-D4090 to SX-D4132 SX-D6090 to SX-D6160	Together with the output coils, the overshoot clamp restricts the voltage and the dV/dt on the motor winding. Inverters must be ordered including the option DC+/DC- connectors.	52163
SX-D4160 to SX-D4800 SX-D6200 to SX-D61K0	Together with the output coils, the overshoot clamp restricts the voltage and the dV/dt on the motor winding. Doesn´t require the "DC+/DC-" option.	52220

Specifications

400 V class

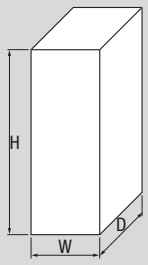
Three-phase: SX-D4___-EF		090	110	132	160	200	220	250	315	355	400	450	500	630	800
Motor kW*1	For HD setting	75	90	110	132	160	200	220	250	315	355	400	450	500	630
	For ND setting	90	110	132	160	200	220	250	315	355	400	450	500	630	800
Output characteristics	Max output current (A)	210	252	300	360	450	516	600	720	780	900	1032	1200	1440	1800
	Rated output current (A) at HD	140	168	200	240	300	344	400	480	520	600	688	800	960	1200
	Rated output current (A) at ND	175	210	250	300	375	430	500	600	650	750	860	1000	1200	1500
	Output voltage	0 to Mains supply voltage													
	Max. output frequency	400 Hz													
Power supply	Rated input voltage and frequency	3-phase 230..480 V 50/60 Hz													
	Allowable voltage fluctuation	+10%..-15% (-10% at 230V)													
	Allowable frequency fluctuation	45 to 65 Hz													

*1 Based on a standard 4-pole motor for maximum applicable motor output

600 V class

Three-phase: SX-D6___-EF		090	110	132	160	200	250	315	355	450	500	600	630	710	800	900	1K0
Motor kW	For HD setting	75	90	110	132	160	200	250	315	315	355	450	500	600	650	710	800
	For ND setting	90	110	132	160	200	250	315	355	450	500	600	630	710	800	900	1000
Output characteristics	Max output current (A)	108	131	175	210	252	300	360	450	516	600	720	780	900	1032	1080	1200
	Rated output current (A) at HD	72	87	117	140	168	200	240	300	344	400	480	520	600	688	720	800
	Rated output current (A) at ND	90	109	146	175	210	250	300	375	430	500	600	650	750	860	900	1000
	Output voltage	0 to Mains supply voltage															
	Max. output frequency	400 Hz															
Power supply	Rated input voltage and frequency	3-phase 500..690V, 50/60 Hz															
	Allowable voltage fluctuation	+10%..-15%															
	Allowable frequency fluctuation	45 to 65 Hz															

Dimensions (IP54)

Voltage	Drive model	H	W	D	
400 V	SX-D4090-EF	952.50	285	314	
	SX-D4110-EF to SX-D4132-EF	952.50	345	314	
	SX-D4160-EF to SX-D4250-EF	2330	600	600	
	SX-D4315-EF to SX-D4400-EF	2330	1000	600	
	SX-D4450-EF to SX-D4500-EF	2330	1200	600	
	SX-D4630-EF to SX-D4800-EF	2330	2000	600	
600 V	SX-D6090-EF to SX-D6160-EF	952.50	344.50	314	
	SX-D6200-EF to SX-D6355-EF	2330	600	600	
	SX-D6450-EF to SX-D6500-EF	2330	1000	600	
	SX-D6600-EF to SX-D6630-EF	2330	1200	600	
	SX-D6710-EF to SX-D61K0-EF	2330	2000	600	