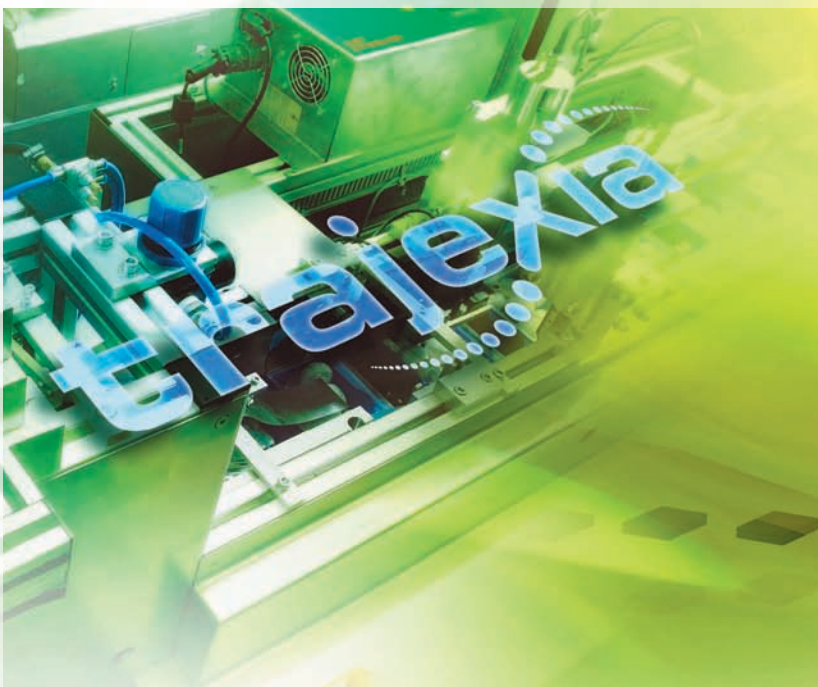
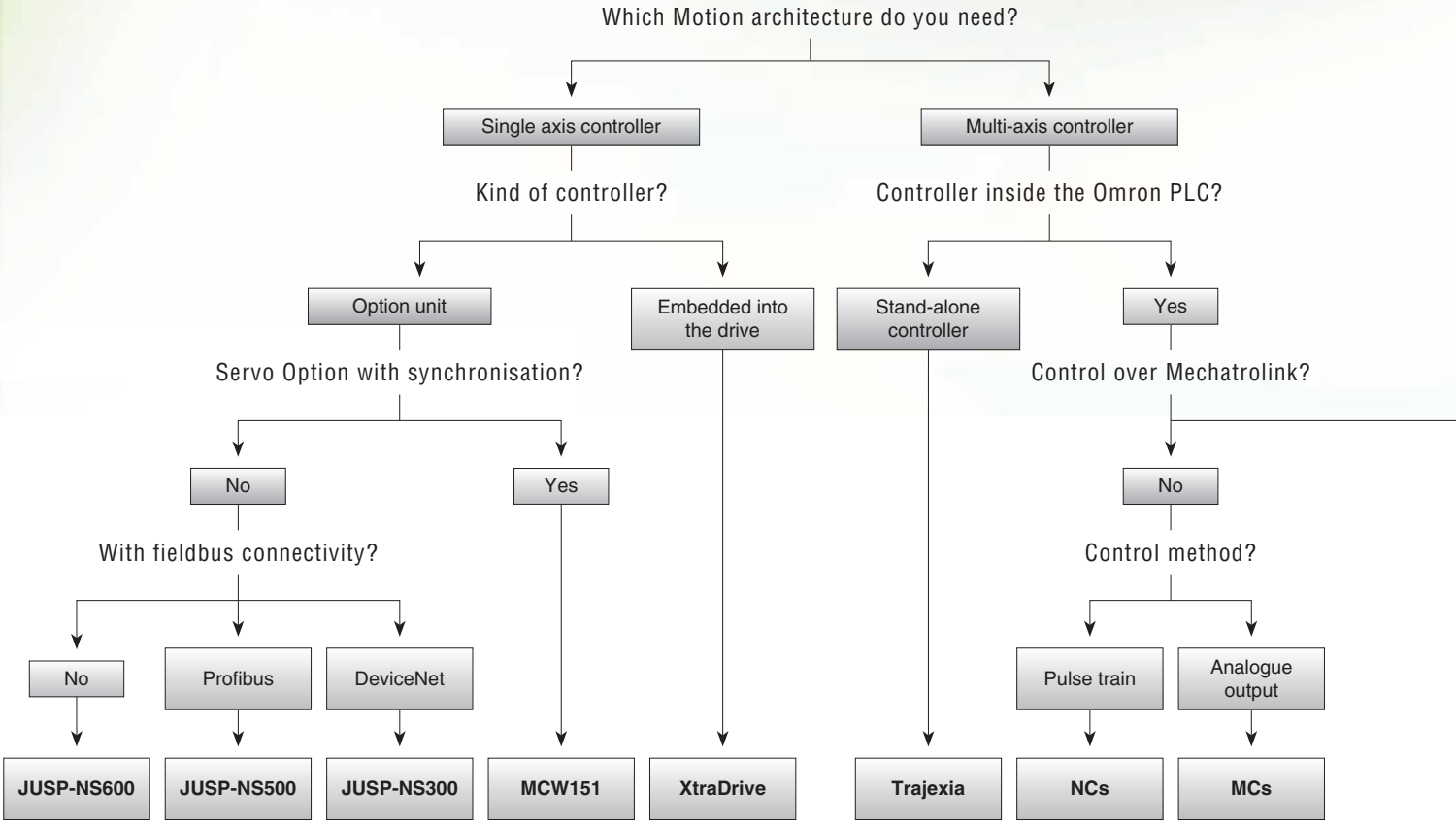
Trajexia – the advanced motion controller that puts you in control

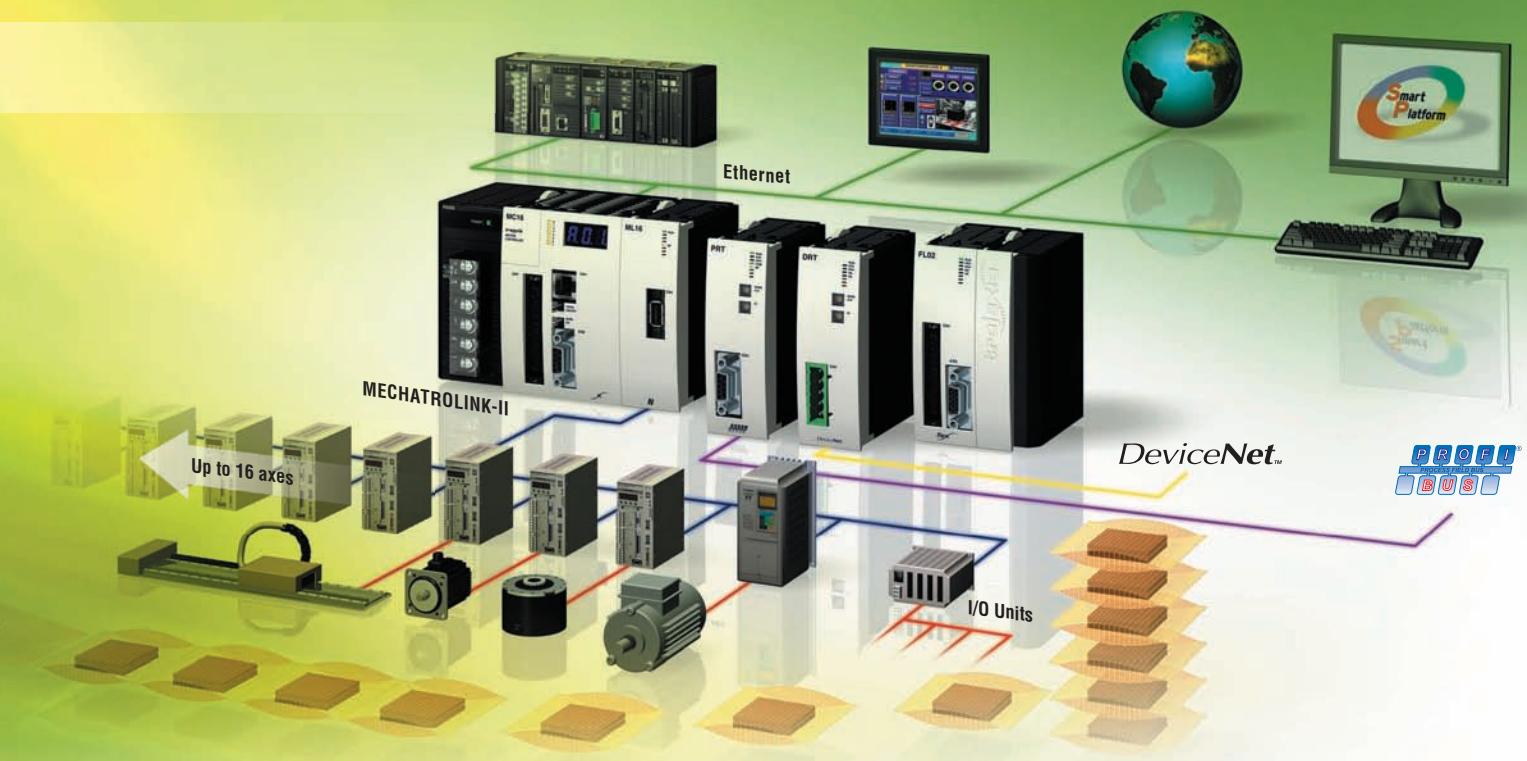
TrajeXia is the new motion platform that offers you the performance of a dedicated motion system, the ease of use you get from an automation specialist and the peace of mind you have from a global player.

TrajeXia puts you in full control to create the best machines today and tomorrow.



- 16 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
- Multi-tasking controller capable of running up to 14 tasks simultaneously
- Open – Ethernet built-in, PROFIBUS-DP and DeviceNet as options





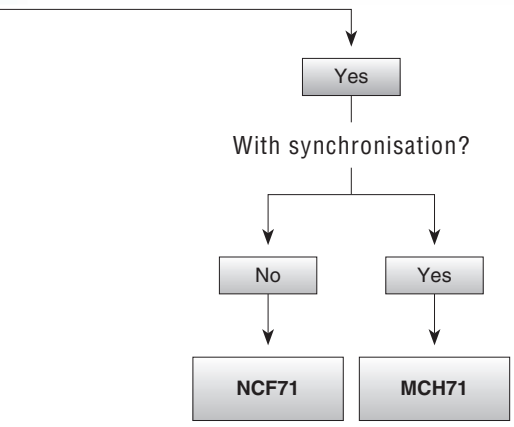


Table of contents

Multi-axes motion controllers				
				
Model	**Trajexia**	**CJ1W-MCH71**	**CJ1W-NCF71**	**CJ1W-NC□**
	Flexible concept of advanced motion control over MECHATROLINK-II motion bus and traditional interfaces	Advanced motion controller over MECHATROLINK-II motion bus	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	MECHATROLINK-II motion bus	MECHATROLINK-II motion bus	Pulse train output
Number of axes	16 servos + 8 inverters	30 real and 2 virtual axes	16	1, 2, 4
Applicable servo drive	Sigma II	Sigma II	Sigma II	SmartStep, Sigma II
Application	Advanced motion, e-cam, e-gearbox, phase shift, registration	Advanced motion, e-cam, ELS, 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. Ethernet, PROFIBUS-DP and DeviceNet connectivity	CJ1 and CS1 PLCs	CJ1 and CS1 PLCs	CJ1 and CS1 PLCs
Page	317	319	320	321

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	322	330	323	324	325

The advanced motion controller that puts you in control

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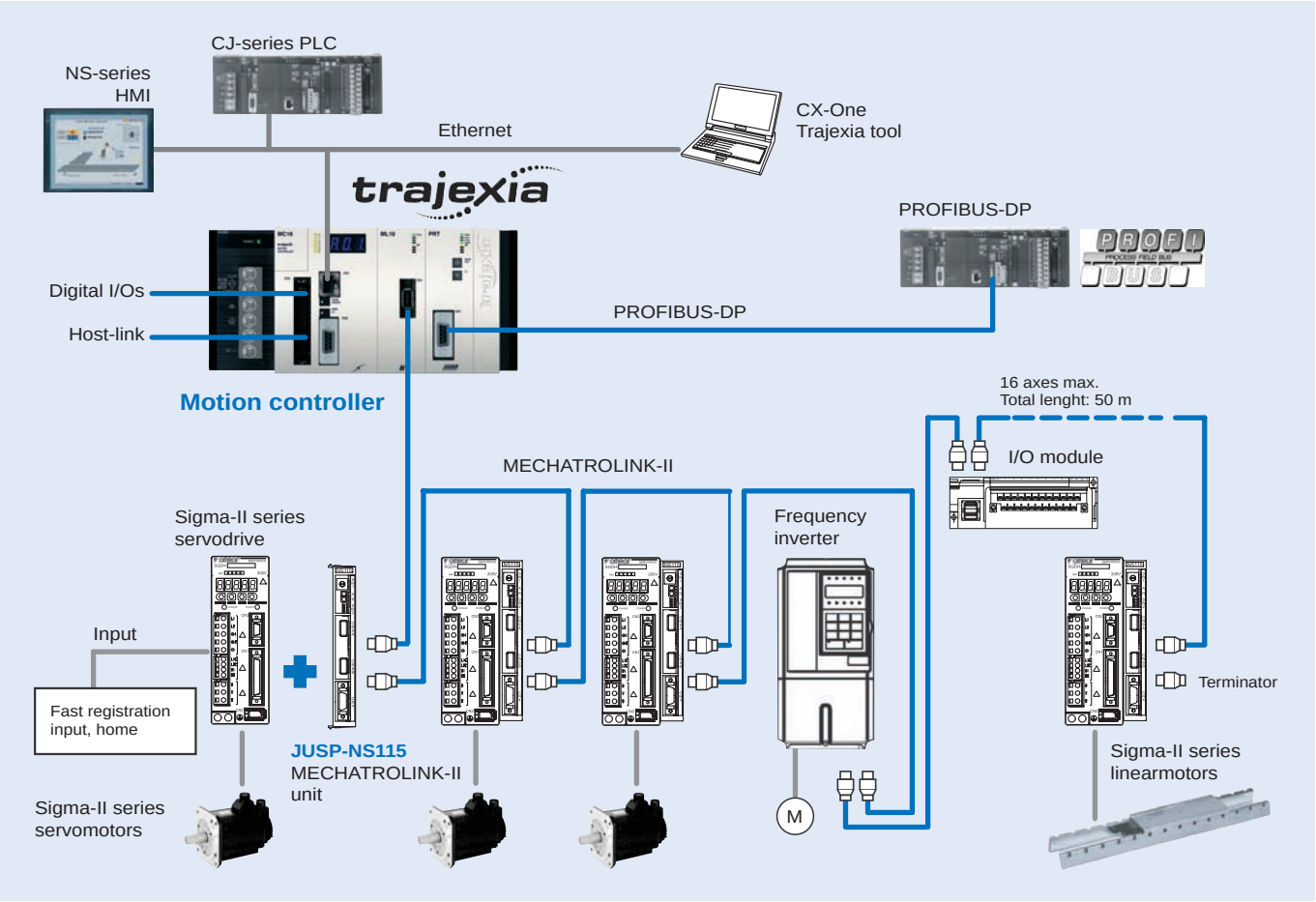
- 16 axes advanced motion coordination over a robust motion link
- Each axis can run complex interpolation moves, eCAMs and eGEAR
- Advanced debugging tools including trace and oscilloscope
- Multi-tasking - capable of running up to 14 tasks simultaneously
- Open - Ethernet built-in, PROFIBUS-DP and DeviceNet as options

System configuration



Ordering information

Trajexia motion controller

Name	Model
Trajexia motion controller unit. Controls up to16 servos and 8 inverters, Ethernet port build-in.	TJ1-MC16
Power supply for Trajexia controller 100-240 VAC	CJ1W-PA202
Power supply for Trajexia controller 24 VDC	CJ1W-PD022

Trajexia - axes control modules

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

Trajexia - communication modules

Name	Model
Trajexia PROFIBUS-DP slave unit	TJ1-PRT

MECHATROLINK-II - related devices

Name	Remarks	Model
Distributed I/O modules	64-point input and 64-point output	JEPMC-IO2310
	Analog input: -10 V to +10 V, 4 channels	JEPMC-AN2900
	Analog 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	Model
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

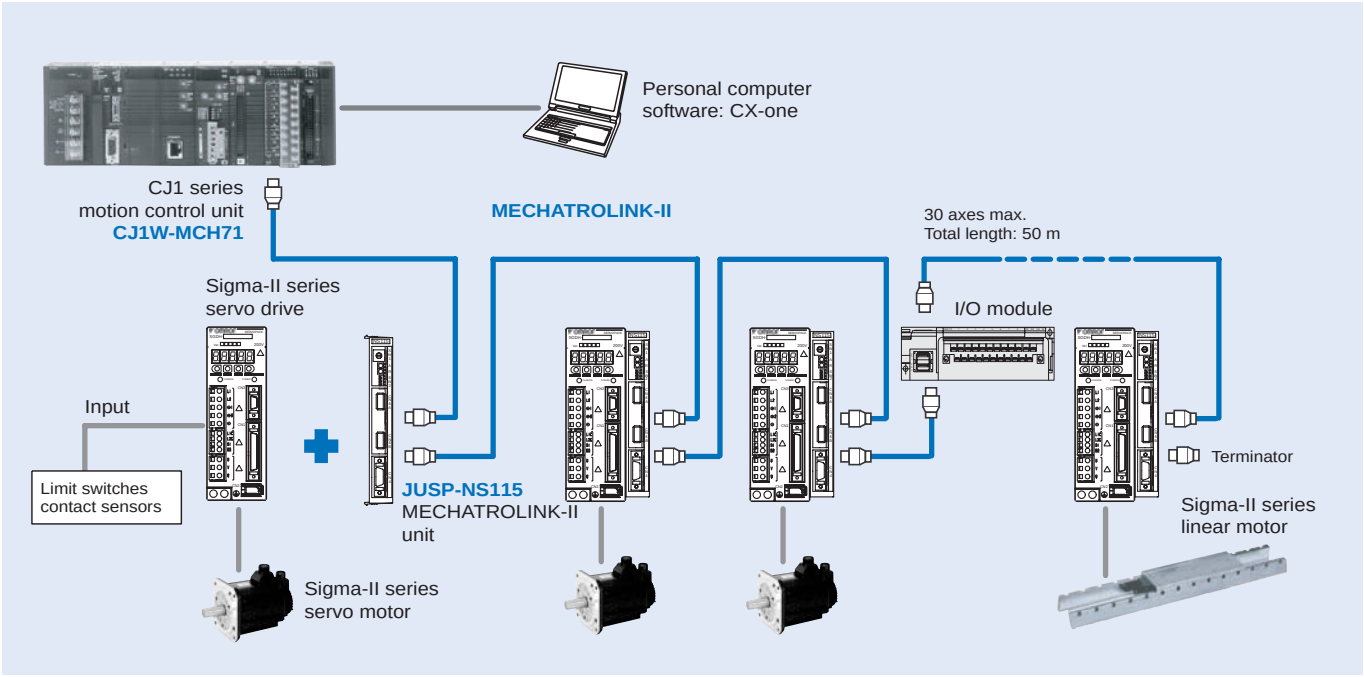
Specifications	Model
Trajexia motion perfect and CX-Drive V1.2 or higher	TJ1-Tools

30-axes advanced motion controller over MECHATROLINK-II motion bus

The MCH is a compact module that enables the development of advanced applications. It supports 30 real axes and 2 virtual axes. Its advanced motion includes e-cam, ELS and registration.

- Simplified wiring
- Simple basic programming
- One hardware registration per axis
- Real multi-tasking
- Access to complete system from 1 point

Ordering information



Motion controller

Name	Model
MECHATROLINK-II motion control unit	CJ1W-MCH71

MECHATROLINK-II - Related devices

Name	Remarks	Model
Distributed I/O Modules	64-point input and 64-point output	JEPMC-IO2310
	Reversible counter: 2 channels	JEPMC-PL2900
	Pulse output: 2 channels	JEPMC-PL2910
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
MECHATROLINK cables	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 V7 inverter (For inverter version support contact your OMRON sales office)	SI-T/V7
	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

I/O Cables

	Remarks	Length m	Model
I/O Cable for 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

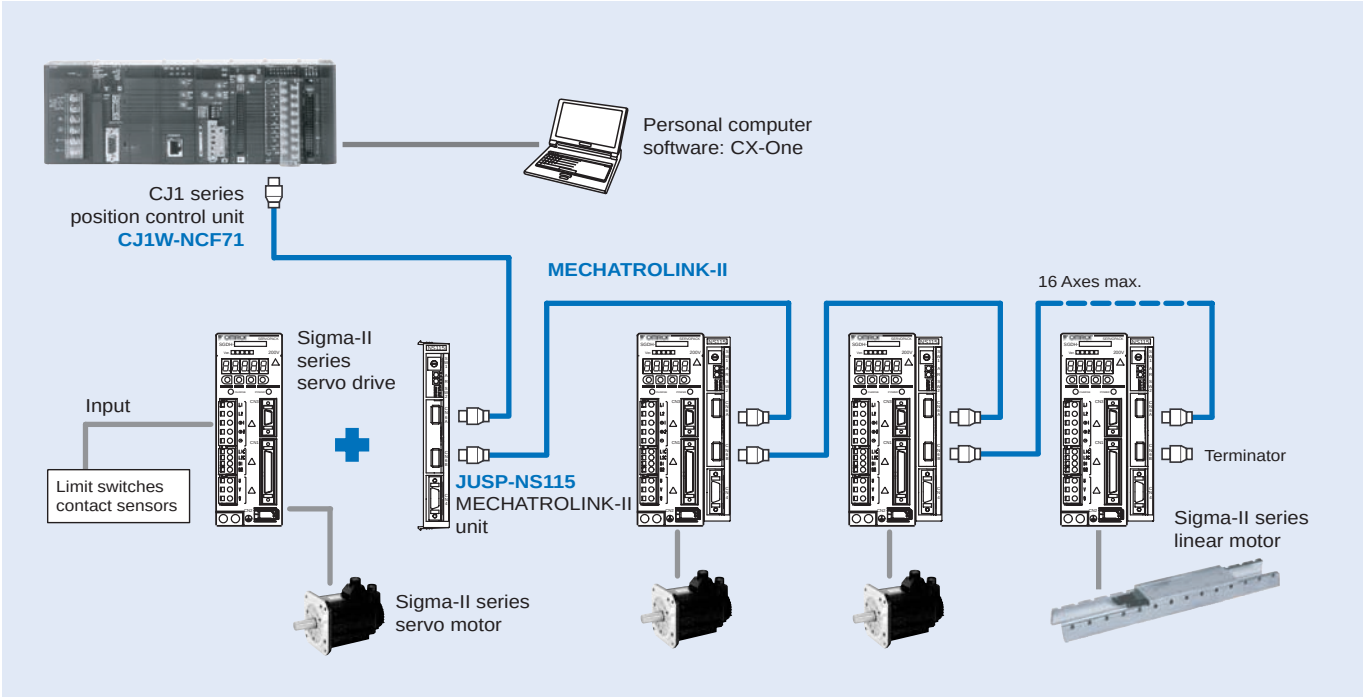
Specifications	Model
CX-One version 1.1 or higher	CX-ONE

16-axis point-to-point positioning controller over MECHATROLINK-II

NCF 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.

- 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

Ordering information



Position controller unit

Name	Model
MECHATROLINK-II position controller unit	CJ1W-NCF71

MECHATROLINK-II related devices

Name	Remarks	Model
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

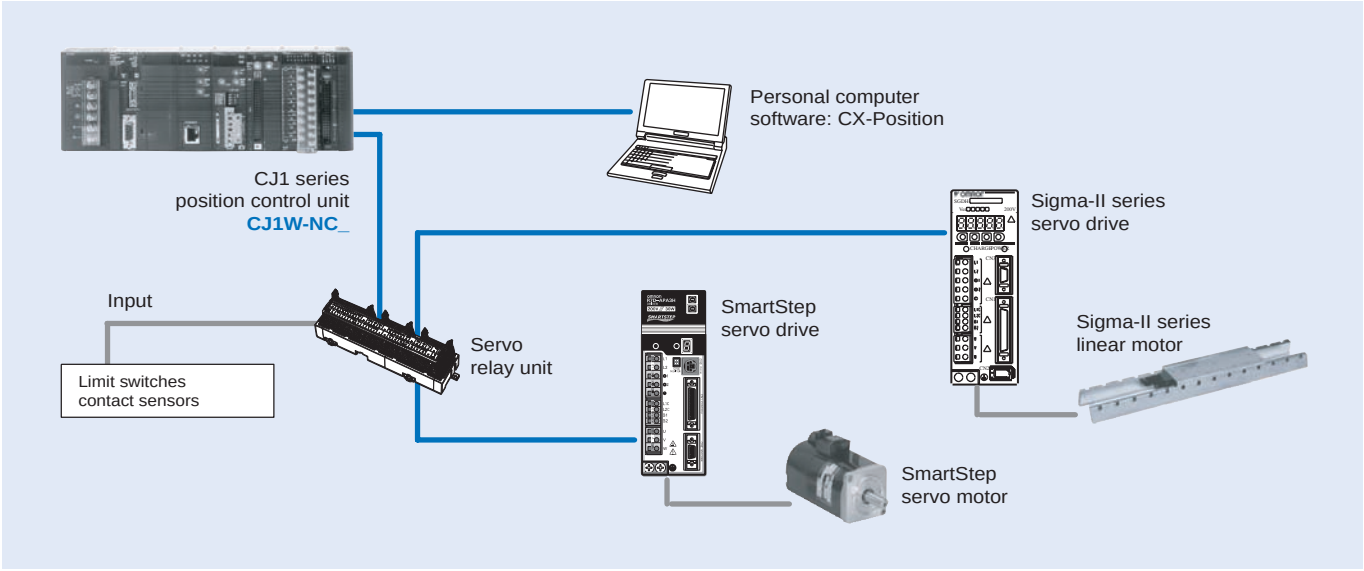
Specifications	Model
CX-One version 1.1 or higher	CX-ONE

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 carried out 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	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

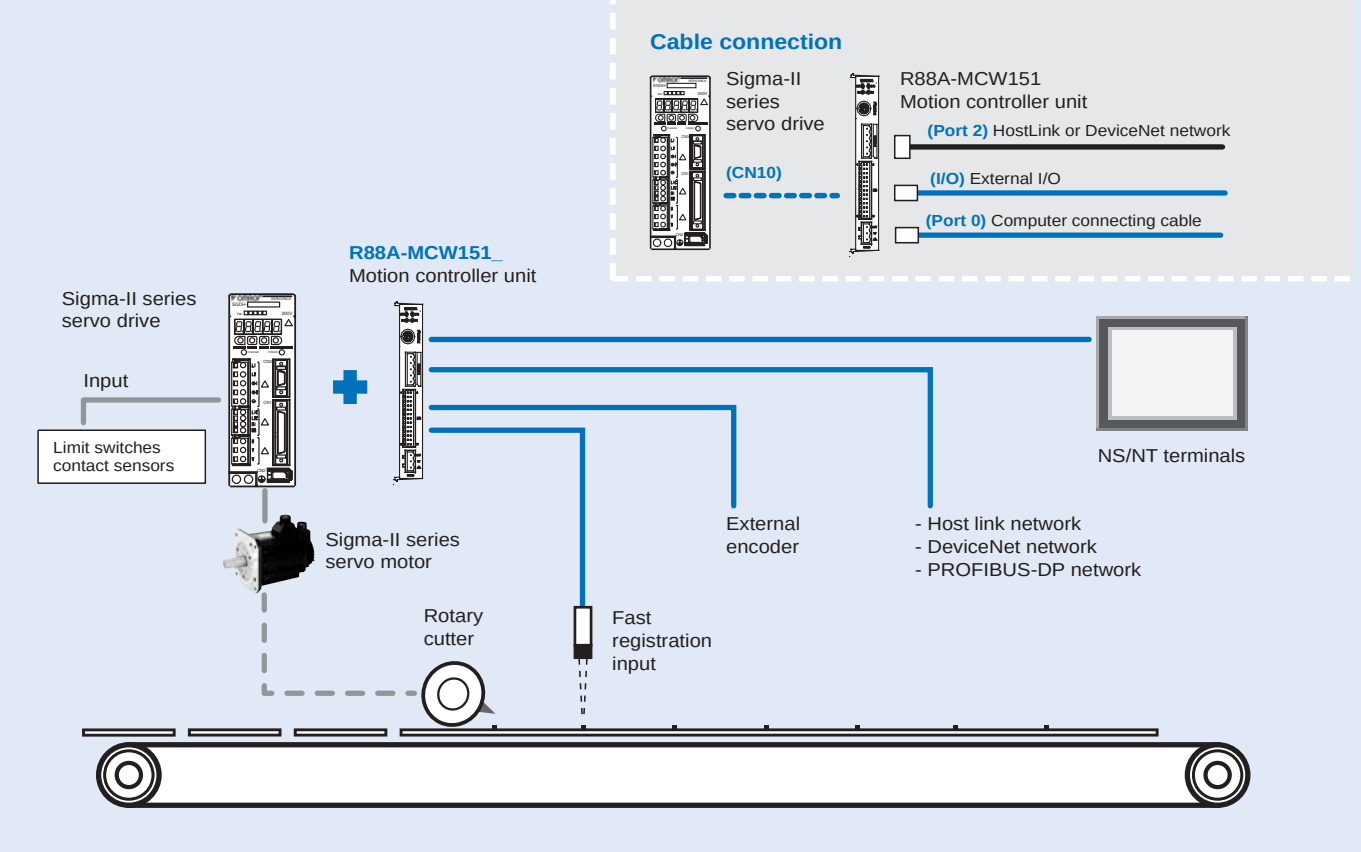
Specifications	Model
CX-One version 1.1 or higher	CX-ONE

Motion pure 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	Model
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	Model
PROFIBUS-DP module interface for R88A-MCW151-E motion controllers	PRT1-SCU11

Serial cables (for Port 0, 1)

Name	Model
Programing cable, 2 m. (Port 0)	R88A-CCM002P4-E
Spliter 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	Model
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 accesories, refer to Automation systems catalogue or contact your OMRON representative.

Computer software

Specifications	Model
Motion perfect	MOTION TOOLS CD
EDS file	

Servo System

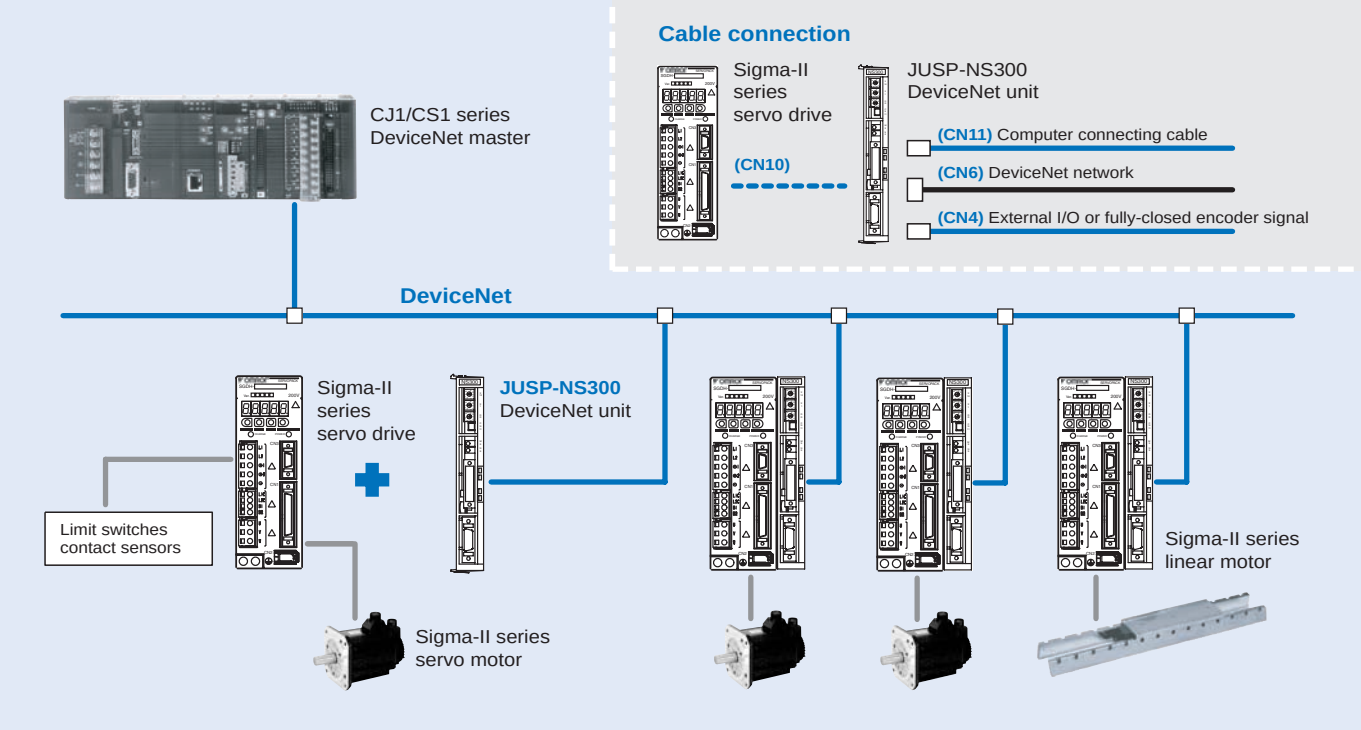
Note: Refer to the servo systems section for more information

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	Model
DeviceNet Interface unit with point to point positioning functionality	JUSP-NS300

Serial cable (for CN11)

Name		Model
Computer connecting cable	2m	R88A-CCW002P4

Connectors

Name	Model
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 accesories, refer to networks section or contact your OMRON representative.

Computer software

Name	Model
NS tool	MOTION TOOLS CD
ESD file	

Servo system

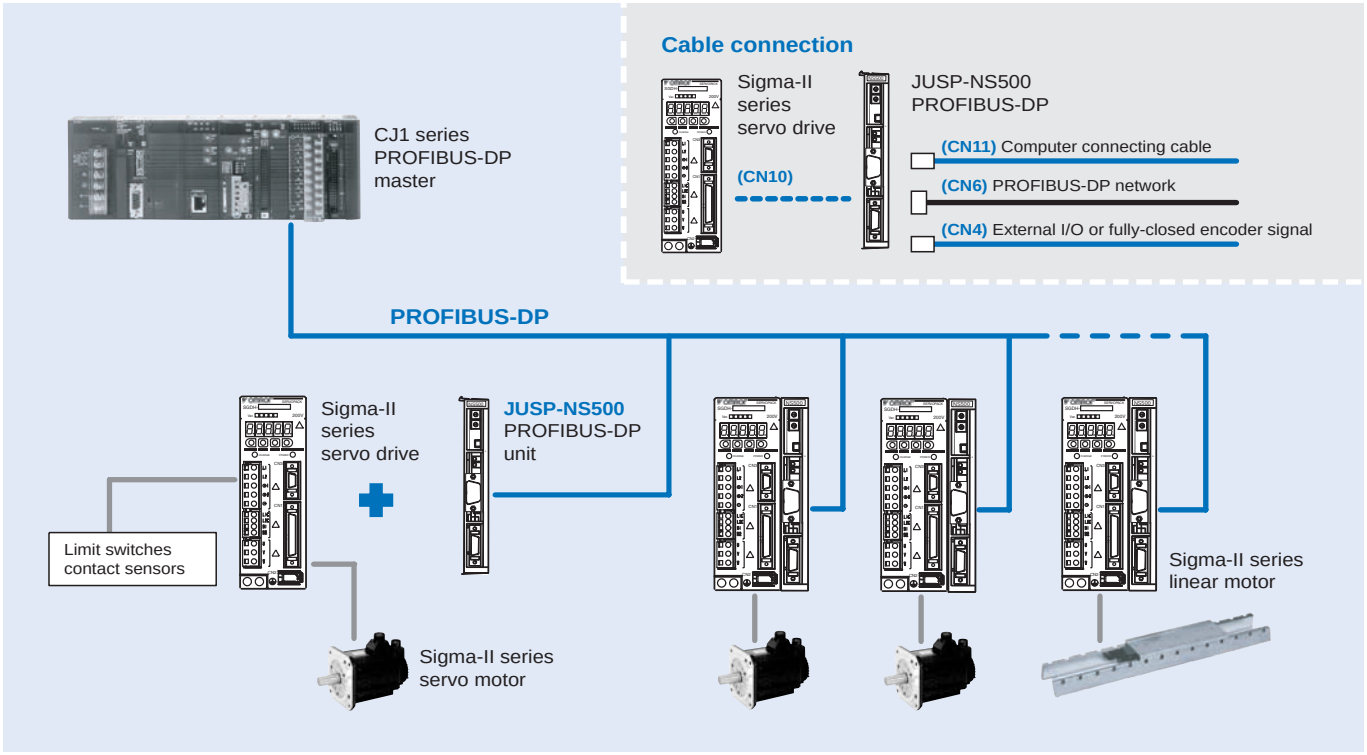
Note: Refer to the Servo systems section for more information.

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	Model
PROFIBUS-DP interface unit with point to point positioning functionality	JUSP-NS500

Serial cable (for CN11)

Name		Model
Computer connecting cable	2 m	R88A-CCW002P4

Connectors

Name	Model
Conector for CN4. For connecting external I/O signals or fully-closed encoder signals	R88A-CNU01R or DE9406973

Computer software

Name	Model
NS tool	MOTION TOOLS CD
GSD file	

Servo system

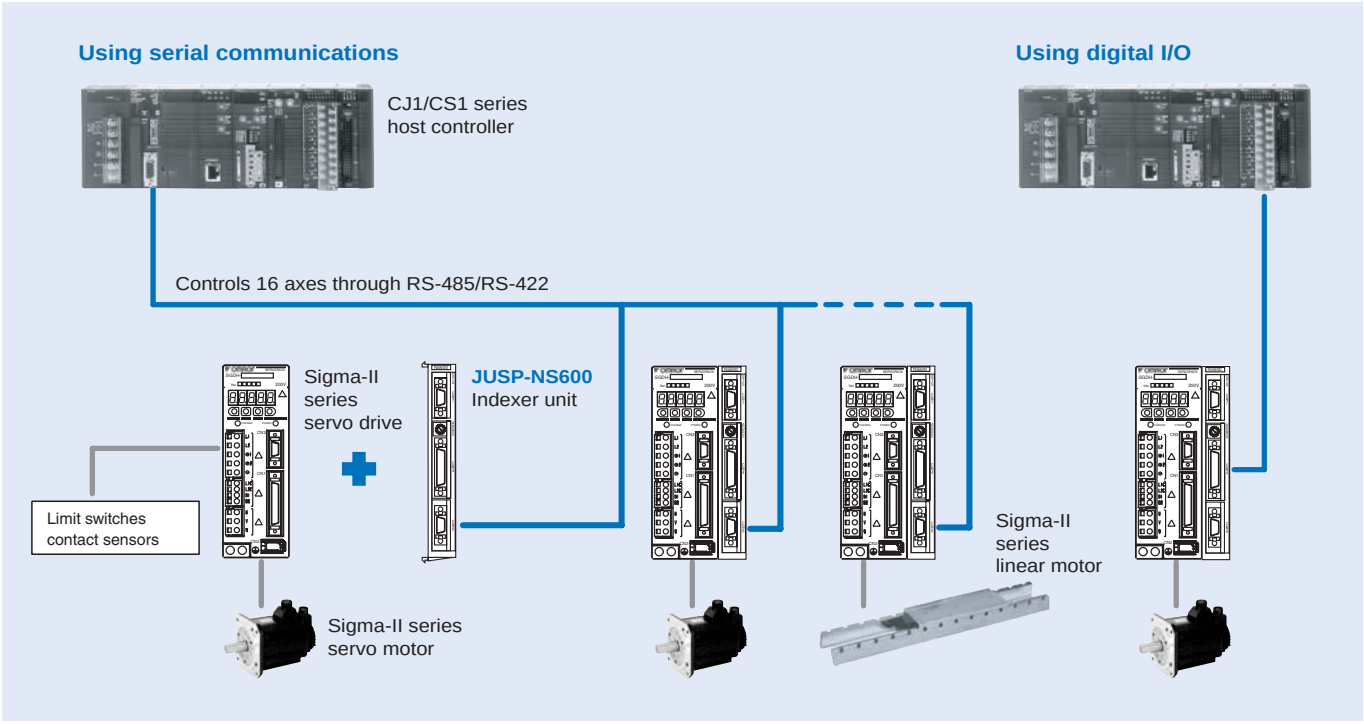
Note: Refer to the Servo systems section for more information.

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	Model
Indexer unit. Versatile point to point positioning	JUSP-NS600

Serial options (for CN7)

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

Connectors

Specification	Model
Conector for CN4	R88A-CNU01C
Conector for CN6 and CN7	R7A-CNA01R

Computer software

Specifications	Model
SigmaWin+	MOTION TOOLS CD

Servo system

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

Servo systems

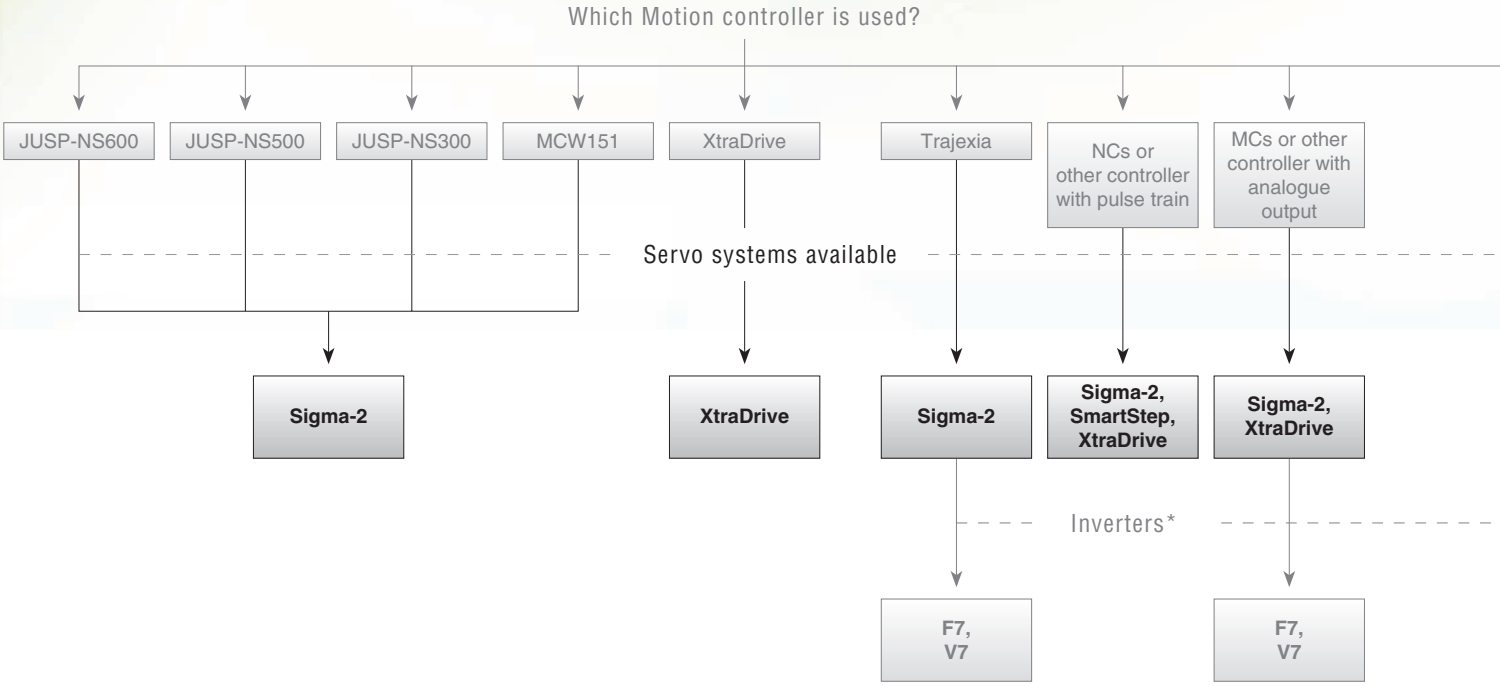
Designed with ZERO compromise

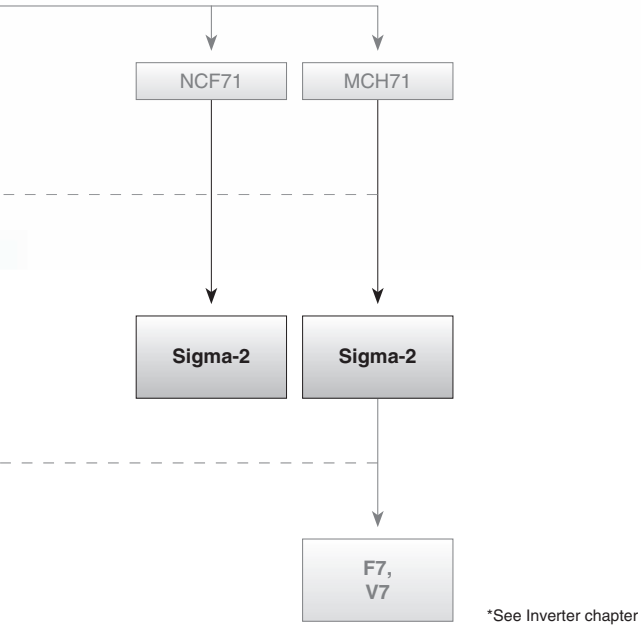
The Sigma II servo series was designed with ZERO compromise on quality, reliability or performance.

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 motions 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 field buses, Mechatrolink II, Sercos and motion controller and indexers
- Trace function allowing oscilloscope functionality





*See Inverter chapter

Table of contents

Selection table

Servo drives			
			
	XtraDrive	**Sigma-II**	**SmartStep**
	All in one! Servo drive and motion controller	Designed with ZERO compromise	Servo capability with stepper simplicity
Ratings 230 V single-phase	30 W to 1,500 W	30 W to 1,500 W	30 W to 800 W
Ratings 400 V single-phase	0.5 kW to 5 kW	0.5 kW to 55 kW	N/A
Motors applicable	Sigma linear motors, rotary Sigma-II and SmartStep motors	Rotary Sigma-II and Sigma linear motors	SmartStep motors
Positioning control	Internal program, pulse train input or via PROFIBUS-DP	Pulse train input or via option unit	Pulse train input
Speed control	Internal program, analogue ±10 V or via PROFIBUS-DP	Analogue ±10 V or via option unit	N/A
Torque control	Internal program, analogue ±10 V or via PROFIBUS-DP	Analogue ±10 V or via option unit	N/A
Page	330	334	339

Rotary servo motors			
			
	SGMAH	**SGMPH**	**SGMGH**
	Sigma-II rotary motors (6 diferent 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 and XtraDrive	Sigma-II and XtraDrive	Sigma-II 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
Page	342		

Sigma linear servo motors			
			
	SGLFW	**SGLGW**	**SGLTW**
	Iron-core Sigma linear motor, making the difference	Coreless GW linear motor construction results in zero attraction force	Iron-core TW linear motor with magnetic attraction cancellation
Rated force range	25 N to 2250 N	13.5 N to 325 N	300 N to 2,000 N
Peak force range	86 N to 5400N	40 N to 1300 N	600 N to 7500 N
Maximum speed	5 m/sec	5 m/sec	5 m/sec
Design type	Iron-core coil	Coreless coil	Iron-core coil
Magnetic attraction	314 N to 14600 N	zero	zero
Drives applicable	Sigma-II and XtraDrive	Sigma-II and XtraDrive	Sigma-II and XtraDrive
Page	357		

Rotary servo motors				
				
	SGMSH	**SGMUH**	**SGMBH**	**SmartStep motors**
	Sigma-II rotary motors (6 diferent motor families to cover all application needs)			**SmartStep**
	Low-inertia motors for high dynamics	High speed servo motors	High power applications	Ultra compact motor
Rated speed	3,000 rpm	6,000 rpm	1,500 rpm	3,000 rpm
Max speed	5,000 rpm	6,000 rpm	2,000 rpm	4,500 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
Sizes	1 to 5 kW	1 to 5 kW	22 kW to 55 kW	30 to 800 W
Drives applicable	Sigma-II and XtraDrive	Sigma-II and XtraDrive	Sigma-II	SmartStep and XtraDrive
Encoder resolution	17 bits-incremental and absolute	17 bits-incremental	17 bits-incremental and absolute	2000 pulses / revolution
IP rating	IP67	IP67	IP44	IP55
Page	342			353

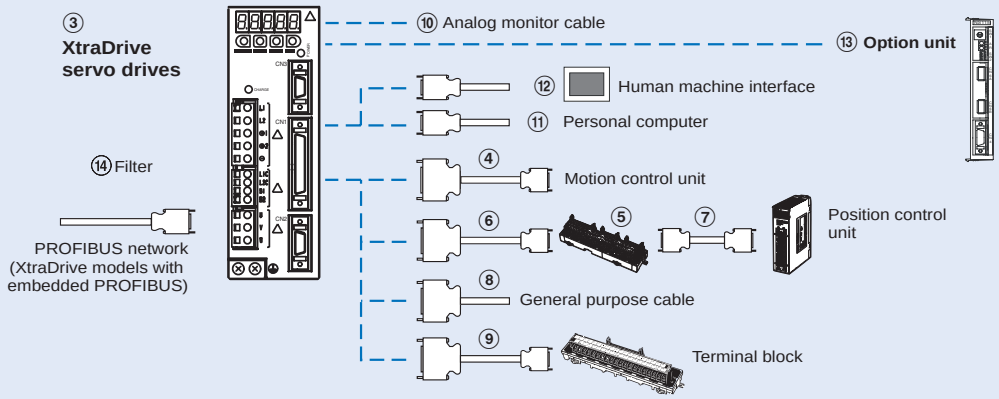
All-in-one servo drive and motion controller integrated

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.

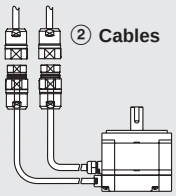
- Patented non-linear technique for tight control
- Very low tracking error with no overshoot and zero settling time
- The ideal drive for linear-motor control
- Supports various servo-motor encoder types
- PROFIBUS-DP embedded

Ordering information

System configuration

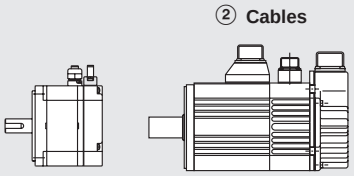


(Refer to chapter SmartStep servo motors)



① R7M servo motor

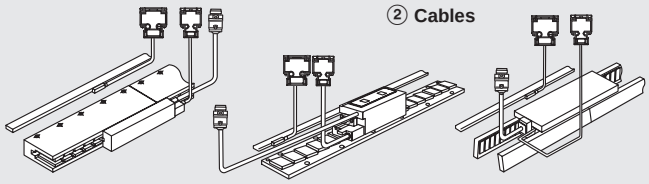
(Refer to chapter Sigma-II rotary motors)



① SGMAH, SGMPH servo motor

① SGMGH, SGMUH, SGMSH, SGMBH servo motor

(Refer to chapter Sigma-II linear motors)



① SGLG_ linear servo motor

① SGLF_ linear servo motor

① SGLT_ linear servo motor

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		XtraDrive	XtraDrive-E with electronic CAM	XtraDrive-DP with PROFIBUS	XtraDrive-DP-E with PROFIBUS and electronic CAM	Compatible servo motors ①		
							Sigma-II rotary	SmartStep	Sigma linear motors
③	1 phase 200 VAC	30 W	XD-P3-MN01	XD-P3-MN01-E	-	-	SGMAH-A3A□	R7M-A03030-□	-
		50 W	XD-P5-MN01	XD-P5-MN01-E	-	-	SGMAH-A5D□	R7M-A05030-□	SGLGW-30A050□
		100 W	XD-01-MN01	XD-01-MN01-E	XD-01-MSD0	XD-01-MSD0-E	SGMAH-01A□, SGMPH-01A□	R7M-A10030-□, R7M-AP10030-□	SGLGW-30A080□, SGLGW-40A140□
		200 W	XD-02-MN01	XD-02-MN01-E	XD-02-MSD0	XD-02-MSD0-E	SGMAH-02A□, SGMPH-02A□	R7M-A20030-□, R7M-AP20030-□	SGLFW-20A□, SGLFW-35A120□, SGLGW-40A253A□, SGLGW-60A140□
		400 W	XD-04-MN01	XD-04-MN01-E	XD-04-MSD0	XD-04-MSD0-E	SGMAH-04A□, SGMPH-04A□	R7M-A40030-□, R7M-AP40030-□	SGLGW-40A365A□, SGLGW-60A253A□
		750 W	XD-08-MN	XD-08-MN01-E	XD-08-MSD0	XD-08-MSD0-E	SGMAH-08A□, SGMPH-08A□	R7M-A75030-□, R7M-AP75030-□	SGLFW-35A230□, SGLFW-50A200□, SGLGW-60A365A□

Symbol	Specifications		XtraDrive	XtraDrive-E with electronic CAM	XtraDrive-DP with PROFIBUS	XtraDrive-DP-E with PROFIBUS and electronic CAM	Compatible servo motors ①		
							Sigma-II rotary	SmartStep	Sigma linear motors
③	1 Phase 200 VAC	1.5 kW	XD-15-MN	XD-15-MN00-E	-	-	SGMPH-15A□	-	SGLFW-50A380□, SGLFW-1ZA200□, SGLGW-90A200A□
	3 Phase 400 VAC	0.5 kW	XD-05-TN	XD-05-TN00-E	XD-05-TSD0	XD-05-TSD0-E	SGMGH-05D□, SGMAH-03D□, SGMPH-02D□/04D□	-	SGLFW-35D□
		1.0 kW	XD-10-TN	XD-10-TN00-E	XD-10-TSD0	XD-10-TSD0-E	SGMGH-09D□, SGMSH/UH-10D□, SGMAH-07D□, SGMPH-08D□	-	SGLFW-50D200□, SGLTW-35D170□, SGLTW-50D170□
		1.5 kW	XD-15-TN	XD-15-TN00-E	XD-15-TSD0	XD-15-TSD0-E	SGMGH-13D□, SGMSH/UH-15D□, SGMPH-15D□	-	SGLFW-50D380□, SGLFW-1ZD200□
		2.0 kW	XD-20-TN	XD-20-TN00-E	XD-20-TSD0	XD-20-TSD0-E	SGMGH-20D□, SGMSH-20D□	-	SGLTW-35D320□, SGLTW-50D320□
		3.0 kW	XD-30-TN	XD-30-TN00-E	XD-30-TSD0	XD-30-TSD0-E	SGMGH-30D□, SGMSH/UH-30D□	-	SGLFW-1ZD380□, SGLTW-40D400□
		5.0 kW	XD-50-TN	XD-50-TN00-E	-	-	SGMGH-44D□, SGMSH/UH-40D□, SGMSH-50D□	-	SGLTW-40D600□, SGLTW-80D400□

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	Len	Model
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
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	Model
⑩	Analog monitor cable	R88A-CMW001S or DE9404559

Options (for CN3)

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

Human machine interface

Symbol	Name	Model
⑫	4.1“ HMI monochrome	NT3S-ST126B-E

Option units (for CN10)

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

Filters

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

Battery backup for absolute encoder

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

Connectors

Specification		Model
Control I/O connector (For CN1)		R88A-CNU11C or JZSP-CKI9
XtraDrive 200V connector kit. (For 200V motors SGMAH/PH-□□A□□□D-OY and R7M-A□-D)	Connectors included	XD-CN200K-DE
	DE9406973 SPOC-17H-FRON169 SPOC-06K-FSDN169	
XtraDrive 400V connector kit. (For 400V motors SGMAH/PH-□□D□□□D-OY)	Connectors included	XD-CN400K-DE
	DE9406973 SPOC-17H-FRON169 LPRA-06B-FRBN170	
Sigma-II Drive encoder connector (For CN2)		DE9406973 or R88A-CNU01R
Hypertac encoder connector IP67 (For motors SGMAH/PH-□□□□□□□D-OY and R7M-A□-D)		SPOC-17H-FRON169

Specification	Model
Hypertac power connector IP67, 200V. (For 200V motors SGMAH/PH-□□A□□□□D-OY and R7M-A□-D)	SPOC-06K-FSDN169
Hypertac power connector IP67, 400V. (For 400V motors SGMAH/PH-□□D□□□□D-OY)	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	Model
XtraWare	MOTION TOOLS

Specifications

Single-phase, 230 V

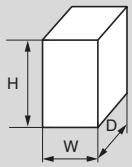
Servo drive type			XD-P3-M□	XD-P5-M□	XD-01-M□	XD-02-M□	XD-04-M□	XD-08-M□	XD-15-M□
Applicable servo motor		SGMAH-□	A3A□	A5A□	01A□	02A□	04A□	08A□	15A□
		SGMPH-□	-	-	01A□	02A□	04A□	08A□	-
		R7M-□	A03030-□	A05030-□	A10030-□	A20030-□	A40030-□	A75030-□	-
		R7M-□	-	-	AP10030-□	AP20030-□	AP40030-□	AP75030-□	-
Basic specifications	Max. applicable motor 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%						
	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 capacity kW		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 current A(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

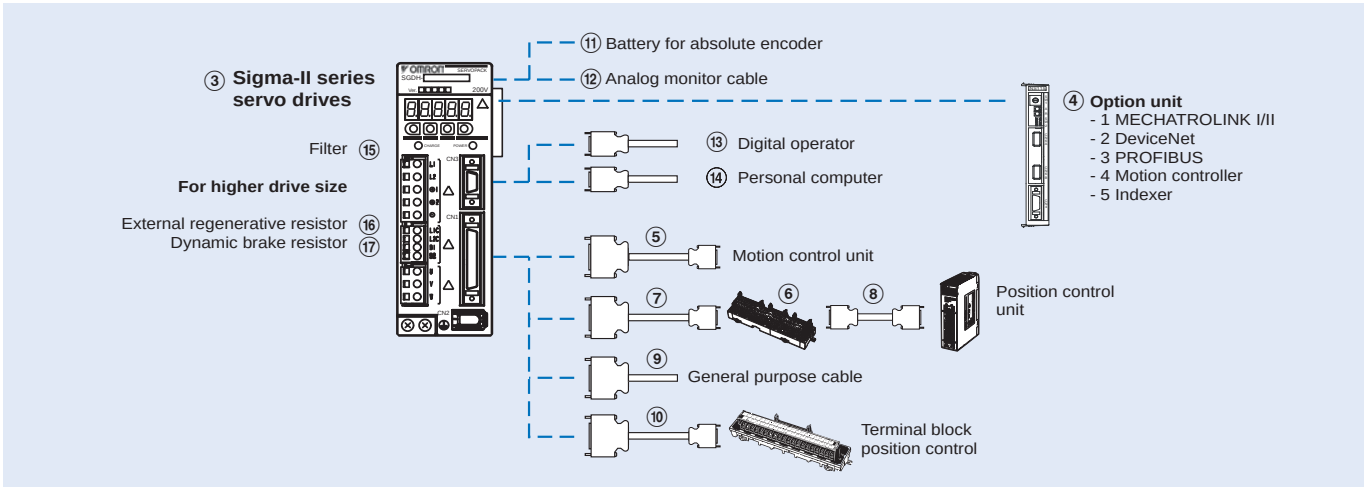
Specifications		Drive model	H	W	D	
1-phase 200 VAC	30 W	XD-P3-M☐	160	55	130	
	50 W	XD-P5-M☐				
	100 W	XD-01-M☐				
	200 W	XD-02-M☐				
	400 W	XD-04-M☐	160	75	130	
	750 W	XD-08-M☐	160	90	180	
	1.5 kW	XD-15-M☐	250	110	180	
3-phase 400 VAC	0.5 kW	XD-05-T☐	160	110	180	
	1.0 kW	XD-10-T☐				
	1.5 kW	XD-15-T☐				
	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

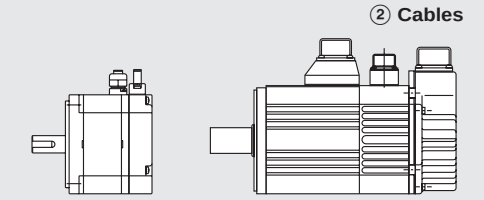
The Sigma II servo series was designed with ZERO compromise on quality, reliability or performance. The servo amplifiers are ultra-compact with pulse and analogue inputs as standard, plus an auto-tuning function. Plug-in option cards offer enhanced functionality such as indexing and complex motions such 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 field buses, MECHATROLINK-II, servos and motion controller and indexers
- Trace function allowing oscilloscope function

Ordering information



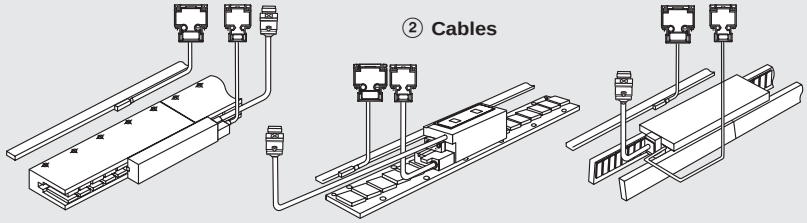
(Refer to chapter Sigma-II rotary motors)



① SGMAH, SGMPH servo motor

① SGMGH, SGMUH, SGMSH, SGMBH servo motor

(Refer to chapter Sigma-II linear motors)



① SGLG_ linear servo motor

① SGLF_ linear servo motor

① SGLT_ linear servo motor

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		Model	Compatible rotary servo motors ①	Compatible linear motors ①
③	1 Phase 200 V AC	30 W	SGDH-A3AE-OY	SGMAH-A3A□	-
		50 W	SGDH-A5AE-OY	SGMAH-A5D□	SGLGW-30A050□
		100 W	SGDH-01AE-OY	SGMAH-01A□, SGMPH-01A□	SGLGW-30A080□, SGLGW-40A140□
		200 W	SGDH-02AE-OY	SGMAH-02A□, SGMPH-02A□	SGLFW-20A□, SGLFW-35A120□, SGLGW-40A253A□,SGLGW-60A140□
		400 W	SGDH-04AE-OY	SGMAH-04A□, SGMPH-04A□	SGLGW-40A365A□, SGLGW-60A253A□
		750 W	SGDH-08AE-S-OY	SGMAH-08A□, SGMPH-08A□	SGLFW-35A230□, SGLFW-50A200□, SGLGW-60A365A□
		1500 W	SGDH-15AE-S-OY	SGMPH-15A□	SGLFW-50A380□, SGLFW-1ZA200□, SGLGW-90A200A□

Symbol	Specifications		Model	Compatible rotary servo motors ①	Compatible linear motors ①
③	3 Phase 400 V AC	0.5 kW	SGDH-05DE-OY	SGMGH-05D□, SGMAH-03D□, SGMPH-02D□/04D□	SGLFW-35D□
		1.0 kW	SGDH-10DE-OY	SGMGH-09D□, SGMSH/UH-10D□, SGMAH-07D□, SGMPH-08D□	SGLFW-50D200□, SGLTW-35D170□, SGLTW-50D170□
		1.5 kW	SGDH-15DE-OY	SGMGH-13D□, SGMSH/UH-15D□, SGMPH-15D□	SGLFW-50D380□, SGLFW-1ZD200□
		2 kW	SGDH-20DE-OY	SGMGH-20D□, SGMSH-20D□	SGLTW-35D320□, SGLTW-50D320□
		3 kW	SGDH-30DE-OY	SGMGH-30D□, SGMSH/UH-30D□	SGLFW-1ZD380□, SGLTW-40D400□
		5 kW	SGDH-50DE-OY	SGMGH-44D□, SGMSH/UH-40D□, SGMSH-50D□	SGLTW-40D60□, SGLTW-80D400□
		6 kW	SGDH-60DE-OY	SGMGH-55D□	-
		7.5 kW	SGDH-75DE-OY	SGMGH-75D□	SGLTW-80D600□
		11 kW	SGDH-1ADE-OY	SGMGH-1AD□	-
		15 kW	SGDH-1EDE-OY	SGMGH-1ED□	-
		22 kW	SGDH-2BDE	SGMBH-2BD□	-
		30 kW	SGDH-3ZDE	SGMBH-3ZD□	-
		37 kW	SGDH-3GDE	SGMBH-3GD□	-
		45 kW	SGDH-4EDE	SGMBH-4ED□	-
		55 kW	SGDH-5EDE	SGMBH-5ED□	-

Option units (for CN10)

Symbol	Name	Model
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 fuctionality	JUSP-NS300
	PROFIBUS-DP interface unit with positioning fuctionality	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		Model
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		Model
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	Model
⑪	Battery for 30 W to 5 kW drives	JZSP-BA01
	Battery for 6 kW to 15 kW drives	JZSP-BA01-1

Options (for CN3)

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

Cable (for CN5)

Symbol	Name	Model
⑫	Analog monitor cable	R88A-CMW001S or DE9404559

Filters

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

External regenerative resistor

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

DB resitor units

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

Connectors

Specification	Model
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	Model
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

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)

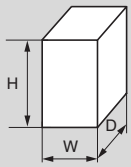
Servo drive type			**SGDH-□**	**05DE-OY**	**10DE-OY**	**15DE-OY**	**20DE-OY**	**30DE-OY**	**50DE-OY**	**60DE-OY**	**75DE-OY**	**1ADE-OY**	**1EDE-OY**
Applicable servo motor			**SGMGH-□**	**05D□**	**09D□**	**13D□**	**20D□**	**30D□**	**44D□**	**55D□**	**75D□**	**1AD□**	**1ED□**
			SGMSH-□	**-**	**10D□**	**15D□**	**20D□**	**30D□**	**40D□/ 50D□**	**-**	**-**	**-**	**-**
			SGMUH-□	**-**	**10D□**	**15D□**	**-**	**30D□**	**40D□**	**-**	**-**	**-**	**-**
Basic specifications	**Max. applicable motor capacity**		**kW**	0.45	1.0	1.5	2.0	3.0	5.0	6.0	7.5	11	15
	Continuous output current		**A(rms)**	1.9	3.5	5.4	8.4	11.9	16.5	20.8	25.4	28.1	37.2
	Max. output current		**A(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 capacity**		**kW**	22	30	37	45	55
	Continuous output current		**A(rms)**	58	80	100	127	150
	Max. output current		**A(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-OY**	160	55	130	
	50 W	**SGDH-A5AE-OY**				
	100 W	**SGDH-01AE-OY**				
	200 W	**SGDH-02AE-OY**				
	400 W	**SGDH-04AE-OY**	160	75	130	
	750 W	**SGDH-08AE-S-OY**	160	90	180	
	1.5 kW	**SGDH-15AE-S-OY**	250	110	180	
3-phase 400 VAC	0.5 kW	**SGDH-05DE-OY**	160	110	180	
	1.0 kW	**SGDH-10-DE-OY**				
	1.5 kW	**SGDH-15AE-OY**				
	2.0 kW	**SGDH-20DE-OY**	250	110	180	
	3.0 kW	**SGDH-30DE-OY**				
	5.0 kW	**SGDH-50DE-OY**	250	125	230	
	6.0 kW	**SGDH-60DE-OY**	350	230	235	
	7.5 kW	**SGDH-75DE-OY**				
	11 kW	**SGDH-1ADE-OY**	450	260	285	
	15 kW	**SGDH-1EDE-OY**				
	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**				

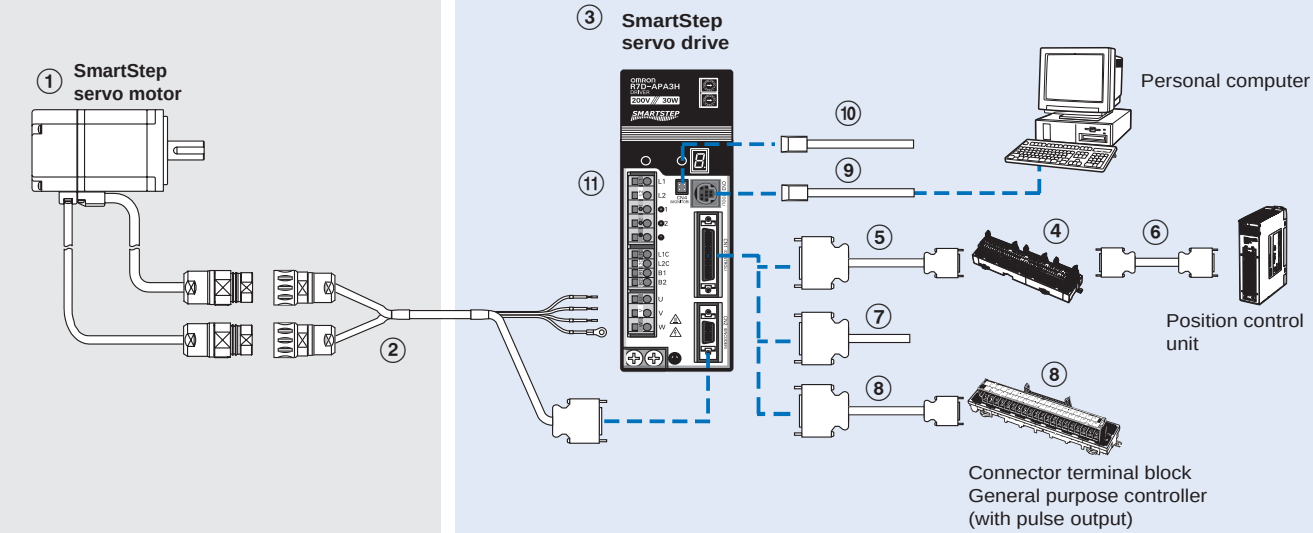
Servo capability with stepper simplicity

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

(Refer to chapter SmartStep servo motors)



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		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	Model	Available lengths
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)	
⑤	Cable to servo drive	Does not support communications functions. (for the XW2B-☐☐J6-☐B)	XW2Z-☐☐☐J-B5	1 m or 2 m (The cable length goes in the empty boxes.)
		Supports communications functions. (for the XW2B-☐☐J6-4B)	XW2Z-☐☐☐J-B7	

Symbol	Name	Compatible units	Model	Available lengths
⑥	Cable to position control unit	CQM1H-PLB21 and CQM1-CPU43-V1	XW2Z-□□□J-A3	0.5 m or 1 m (The cable length goes in the empty boxes.)
		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	R88A-CPU□□□S	1 m or 2 m (The cable length goes in the empty boxes.)
⑧	Connector terminal block cable	For general-purpose controllers	R88A-CTU□□□N	
	Connector terminal block		XW2B-40F5-P	---

Cable for CN3

Symbol	Name	Model
⑨	Computer monitor cable	R7A-CCA002P2

Cable for CN4

Symbol	Name	Model
⑩	Analog monitor cable	R88A-CMW001S

Filters

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

Connectors

Specifications		Model
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	Model
220 W, 47 Ω	R88A-RR22047S

Parameter unit & computer software

Specifications	Model
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 V DC)
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)

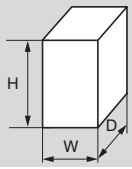
Performance specifications

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

Main dimensions

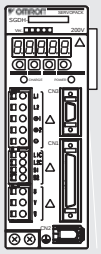
Specifications		Drive model	H	W	D	
1-phase 200 VAC	30 W	R7D-APA3H	160	55	130	
	50 W	R7D-APA5H				
	100 W	R7D-AP01H				
	200 W	R7D-AP02H				
	400 W	R7D-AP04H	160	75	130	
	750 W	R7D-AP08H	160	90	180	

The ideal servo family for motion control. 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

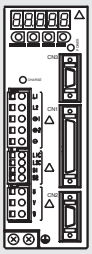
(Refer to servo drive chapter)



Servo drive with option boards for flexible system configuration

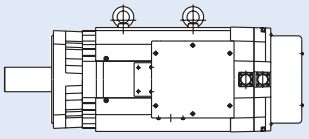
② **Sigma-II servo drive**

Drive options

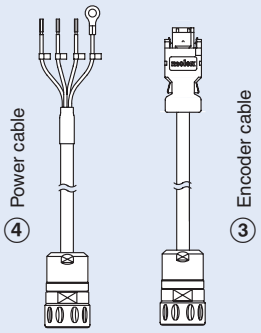


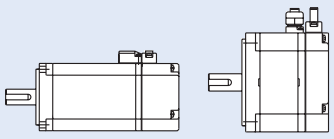
Intelligent servo drive

② **XtraDrive**



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

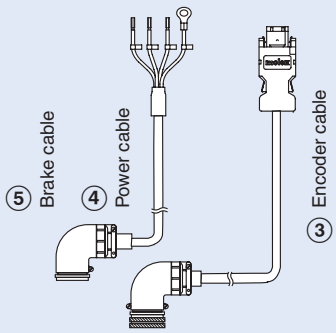


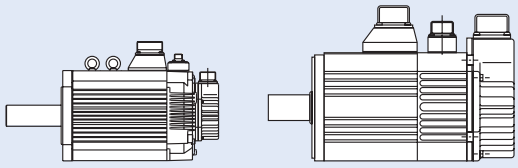


① **SGMAH servo motor 3000 rpm (30-750 W)**

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

Power and encoder cables





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

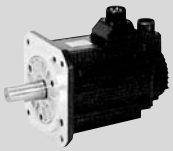
SGMAH - cylindrical servo motors 3000 r/min (30 - 750 W)

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

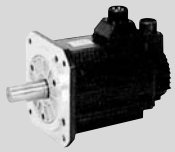
SGMPH - flat type servo motors 3000 r/min (100 - 1500 W)

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

SGMGH - servo motors 1500 r/min (0.45 - 15 kW)

Symbol	Specifications					Servo motor model	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 & tap	Without brake	2.84 Nm	0.45 kW	SGMGH-05DCA6F-OY	SGDH-05DE-OY	XD-05-TN
				5.39 Nm	0.85 kW	SGMGH-09DCA6F-OY	SGDH-10DE-OY	XD-10-TN
				8.34 Nm	1.3 kW	SGMGH-13DCA6F-OY	SGDH-15DE-OY	XD-15-TN
				11.5 Nm	1.8 kW	SGMGH-20DCA6F-OY	SGDH-20DE-OY	XD-20-TN
				18.6 Nm	2.9 kW	SGMGH-30DCA6F-OY	SGDH-30DE-OY	XD-30-TN
				28.4 Nm	4.4 kW	SGMGH-44DCA6F-OY	SGDH-50DE-OY	XD-50-TN
				35.0 Nm	5.5 kW	SGMGH-55DCA6F-OY	SGDH-60DE-OY	-
				48.0 Nm	7.5 kW	SGMGH-75DCA6F-OY	SGDH-75DE-OY	-
				70.0 Nm	11.5 kW	SGMGH-1ADCA6F-OY	SGDH-1ADE-OY	-
				95.4 Nm	15.0 kW	SGMGH-1EDCA6F-OY	SGDH-1EDE-OY	-
			With brake	2.84 Nm	0.45 kW	SGMGH-05DCA6H-OY	SGDH-05DE-OY	XD-05-TN
				5.39 Nm	0.85 kW	SGMGH-09DCA6H-OY	SGDH-10DE-OY	XD-10-TN
				8.34 Nm	1.3 kW	SGMGH-13DCA6H-OY	SGDH-15DE-OY	XD-15-TN
				11.5 Nm	1.8 kW	SGMGH-20DCA6H-OY	SGDH-20DE-OY	XD-20-TN
				18.6 Nm	2.9 kW	SGMGH-30DCA6H-OY	SGDH-30DE-OY	XD-30-TN
				28.4 Nm	4.4 kW	SGMGH-44DCA6H-OY	SGDH-50DE-OY	XD-50-TN
				35.0 Nm	5.5 kW	SGMGH-55DCA6H-OY	SGDH-60DE-OY	-
				48.0 Nm	7.5 kW	SGMGH-75DCA6H-OY	SGDH-75DE-OY	-
				70.0 Nm	11.5 kW	SGMGH-1ADCA6H-OY	SGDH-1ADE-OY	-
				95.4 Nm	15.0 kW	SGMGH-1EDCA6H-OY	SGDH-1EDE-OY	-
		Absolute encoder (17 bit) Straight shaft with key & tap	Without brake	2.84 Nm	0.45 kW	SGMGH-05D2A6F-OY	SGDH-05DE-OY	XD-05-TN
				5.39 Nm	0.85 kW	SGMGH-09D2A6F-OY	SGDH-10DE-OY	XD-10-TN
				8.34 Nm	1.3 kW	SGMGH-13D2A6F-OY	SGDH-15DE-OY	XD-15-TN
				11.5 Nm	1.8 kW	SGMGH-20D2A6F-OY	SGDH-20DE-OY	XD-20-TN
				18.6 Nm	2.9 kW	SGMGH-30D2A6F-OY	SGDH-30DE-OY	XD-30-TN
				28.4 Nm	4.4 kW	SGMGH-44D2A6F-OY	SGDH-50DE-OY	XD-50-TN
				35.0 Nm	5.5 kW	SGMGH-55D2A6F-OY	SGDH-60DE-OY	-
				48.0 Nm	7.5 kW	SGMGH-75D2A6F-OY	SGDH-75DE-OY	-
				70.0 Nm	11.5 kW	SGMGH-1AD2A6F-OY	SGDH-1ADE-OY	-
				95.4 Nm	15.0 kW	SGMGH-1ED2A6F-OY	SGDH-1EDE-OY	-
			With brake	2.84 Nm	0.45 kW	SGMGH-05D2A6H-OY	SGDH-05DE-OY	XD-05-TN
				5.39 Nm	0.85 kW	SGMGH-09D2A6H-OY	SGDH-10DE-OY	XD-10-TN
				8.34 Nm	1.3 kW	SGMGH-13D2A6H-OY	SGDH-15DE-OY	XD-15-TN
				11.5 Nm	1.8 kW	SGMGH-20D2A6H-OY	SGDH-20DE-OY	XD-20-TN
				18.6 Nm	2.9 kW	SGMGH-30D2A6H-OY	SGDH-30DE-OY	XD-30-TN
				28.4 Nm	4.4 kW	SGMGH-44D2A6H-OY	SGDH-50DE-OY	XD-50-TN
				35.0 Nm	5.5 kW	SGMGH-55D2A6H-OY	SGDH-60DE-OY	-
				48.0 Nm	7.5 kW	SGMGH-75D2A6H-OY	SGDH-75DE-OY	-
				70.0 Nm	11.5 kW	SGMGH-1AD2A6H-OY	SGDH-1ADE-OY	-
				95.4 Nm	15.0 kW	SGMGH-1ED2A6H-OY	SGDH-1EDE-OY	-

SGMSH - servo motors 3000 r/min (1 - 5 KW)

Symbol	Specifications					Servo motor model	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 & tap	Without brake	3.18 Nm	1.0 kW	SGMSH-10DCA6F-OY	SGDH-10DE-OY	XD-10-TN
				4.9 Nm	1.5 kW	SGMSH-15DCA6F-OY	SGDH-15DE-OY	XD-15-TN
				6.36 Nm	2.0 kW	SGMSH-20DCA6F-OY	SGDH-20DE-OY	XD-20-TN
				9.8 Nm	3.0 kW	SGMSH-30DCA6F-OY	SGDH-30DE-OY	XD-30-TN
				12.6 Nm	4.0 kW	SGMSH-40DCA6F-OY	SGDH-50DE-OY	XD-50-TN
				15.8 Nm	5.0 kW	SGMSH-50DCA6F-OY	SGDH-50DE-OY	XD-50-TN
			With brake	3.18 Nm	1.0 kW	SGMSH-10DCA6H-OY	SGDH-10DE-OY	XD-10-TN
				4.9 Nm	1.5 kW	SGMSH-15DCA6H-OY	SGDH-15DE-OY	XD-15-TN
				6.36 Nm	2.0 kW	SGMSH-20DCA6H-OY	SGDH-20DE-OY	XD-20-TN
				9.8 Nm	3.0 kW	SGMSH-30DCA6H-OY	SGDH-30DE-OY	XD-30-TN
				12.6 Nm	4.0 kW	SGMSH-40DCA6H-OY	SGDH-50DE-OY	XD-50-TN
				15.8 Nm	5.0 kW	SGMSH-50DCA6H-OY	SGDH-50DE-OY	XD-50-TN
		Absolute encoder (17 bit) Straight shaft with key & tap	Without brake	3.18 Nm	1.0 kW	SGMSH-10D2A6F-OY	SGDH-10DE-OY	XD-10-TN
				4.9 Nm	1.5 kW	SGMSH-15D2A6F-OY	SGDH-15DE-OY	XD-15-TN
				6.36 Nm	2.0 kW	SGMSH-20D2A6F-OY	SGDH-20DE-OY	XD-20-TN
				9.8 Nm	3.0 kW	SGMSH-30D2A6F-OY	SGDH-30DE-OY	XD-30-TN
				12.6 Nm	4.0 kW	SGMSH-40D2A6F-OY	SGDH-50DE-OY	XD-50-TN
				15.8 Nm	5.0 kW	SGMSH-50D2A6F-OY	SGDH-50DE-OY	XD-50-TN
			With brake	3.18 Nm	1.0 kW	SGMSH-10D2A6H-OY	SGDH-10DE-OY	XD-10-TN
				4.9 Nm	1.5 kW	SGMSH-15D2A6H-OY	SGDH-15DE-OY	XD-15-TN
				6.36 Nm	2.0 kW	SGMSH-20D2A6H-OY	SGDH-20DE-OY	XD-20-TN
				9.8 Nm	3.0 kW	SGMSH-30D2A6H-OY	SGDH-30DE-OY	XD-30-TN
				12.6 Nm	4.0 kW	SGMSH-40D2A6H-OY	SGDH-50DE-OY	XD-50-TN
				15.8 Nm	5.0 kW	SGMSH-50D2A6H-OY	SGDH-50DE-OY	XD-50-TN

Sigma-II rotary servo motors

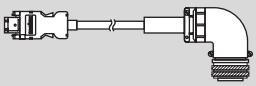
SGMUH - servo motors 6000 r/min (1 - 4 kW)

Symbol	Specifications					Servo motor model	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-OY	SGDH-10DE-OY	XD-10-TN
				2.45 Nm	1.5 kW	SGMUH-15DCA61-OY	SGDH-15DE-OY	XD-15-TN
				4.9 Nm	3.0 kW	SGMUH-30DCA61OY	SGDH-30DE-OY	XD-30-TN
				6.3 Nm	4.0 kW	SGMUH-40DCA61-OY	SGDH-50DE-OY	XD-50-TN
			With brake	1.59 Nm	1.0 kW	SGMUH-10DCA6C-OY	SGDH-10DE-OY	XD-10-TN
				2.45 Nm	1.5 kW	SGMUH-15DCA6C-OY	SGDH-15DE-OY	XD-15-TN
				4.9 Nm	3.0 kW	SGMUH-30DCA6C-OY	SGDH-30DE-OY	XD-30-TN
				6.3 Nm	4.0 kW	SGMUH-40DCA6C-OY	SGDH-50DE-OY	XD-50-TN

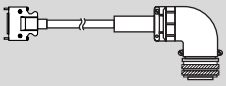
SGMBH - servo motors 1500 r/min (22 - 55 kW)

Symbol	Specifications					Servo motor model	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

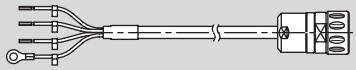
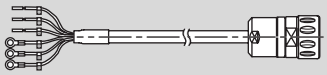
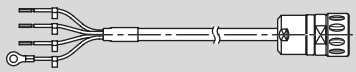
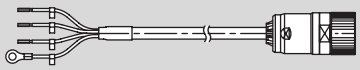
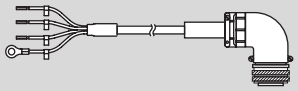
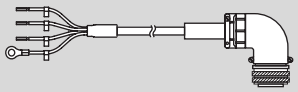
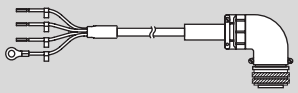
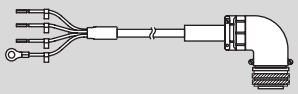
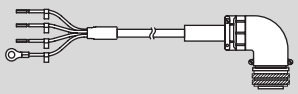
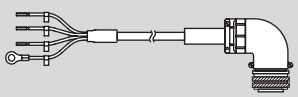
Encoder cables for Sigma-II servo drive

Symbol	Specifications		Model	Appearance
③	Sigma-II encoder cable for SGMAH/PH servo motors SGMAH-□□□□□□□D-OY SGMPH-□□□□□□□D-OY	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	

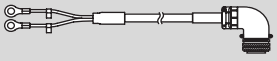
for XtraDrive servo drive

Symbol	Specifications		Model	Appearance
③	XtraDrive encoder cable for Sigma-II (SGMAH/PH) servo motors SGMAH-□□□□□□□D-OY SGMPH-□□□□□□□D-OY	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	Specifications		Model	Appearance
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	Specifications		Model	Appearance
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	Model
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)	$kg·m^2x10^{-4}$	0.017	0.022	0.036	0.106	0.173	0.672	0.173	0.672
Alowable 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
Aplicable encoder	Standard	Incremental encoder (13 bits: 2048P/R)							
	Option	Incremental / absolute encoder (16 bits: 16384P/R)							
Holding brake moment of inertia J	$kg·m^2x10^{-4}$	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)	$kg·m^2x10^{-4}$	0.0491	0.193	0.331	2.10	4.02	0.193	0.331	2.10	4.02
Alowable 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
Aplicable encoder	Standard	Incremental encoder (13 bits: 2048P/R)								
	Option	Incremental / absolute encoder (16 bits: 16384P/R)								
Holding brake moment of inertia J	$kg·m^2x10^{-4}$	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)	$kg·m^2x10^{-4}$	7.24	13.9	20.5	31.7	46.0	67.5	89.0	125	281	315
Alowable 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
Aplicable encoder	Standard	Incremental encoder (17 bits: 16384P/R)									
	Option	Absolute encoder (17 bits: 16384P/R)									
Holding brake moment of inertia J	$kg·m^2x10^{-4}$	2.10			8.50					18.8	37.5
Basic specifications: Time rating		Continuous									
Basic specifications: Insulation class		Class F									
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, IP67 (excluding shaft opening)									
Basic specifications: Vibration resistance		Vibration acceleration 24.5 m/s^2									
Basic specifications: 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)	$kg·m^2x10^{-4}$	1.74	2.47	3.19	7.0	9.60	12.3
Alowable 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
Aplicable encoder	Standard	Incremental encoder (17 bits: 16384P/R)					
	Option	Absolute encoder (17 bits: 16384P/R)					
Holding brake moment of inertia J	$kg·m^2x10^{-4}$	0.325			2.10		
Basic specifications: Time rating		Continuous					
Basic specifications: Insulation class		Class F					
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, IP67 (excluding shaft opening)					
Basic specifications: Vibration resistance		Vibration acceleration 24.5 m/s^2					
Basic specifications: 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
Alowable 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
Aplicable 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
	Innstantaneous 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)				

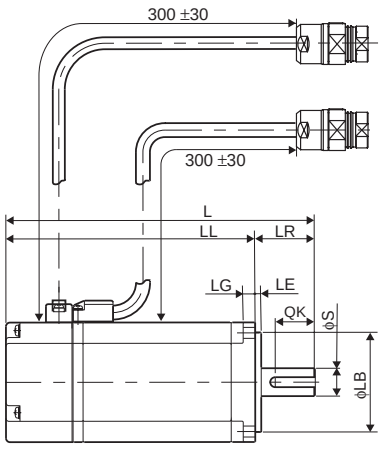
*1 37 kW and 45 kW motors with brakes are foot mount type
*2 The number of output pulses of servo drive is 16384P/R for both 17-bit and 20-bit encoders (no dividing).

Dimensions

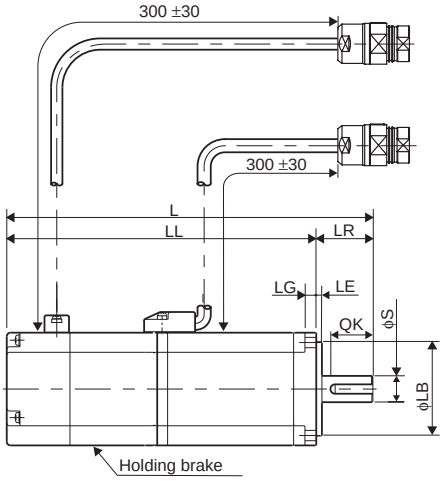
Servo motors

Type SGMAH (230/400 V)

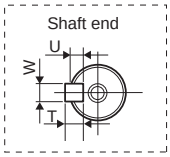
Dimensions (mm)	Without brake		With brake		LR	Flange surface						Shaft end					
Model	L	LL	L	LL		LA	LB	LC	LE	LG	LZ	S	QK	W	T	U	Tap × Depth
SGMAH-A3A□A6□D-OY	94.5	69.5	126	101	25	46	30^{h7}	40	2.5	5	4.3	6^{h6}	14	2	2	1.2	M2.5 x 5L
SGMAH-A5A□A6□D-OY	102.0	77	133.5	108.5													
SGMAH-01A□A6□D-OY	119.5	94.5	160	135								8^{h6}		3	3	1.8	M3 x 6L
SGMAH-02A□A6□D-OY	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-OY	154.5	124.5	194	164													
SGMAH-04A□A6□D-OY																	
SGMAH-07D□A6□D-OY	185	145	229.5	189.5	40	90	70^{h7}	80	3	8	7	16^{h6}	30				
SGMAH-08A□A6□D-OY																	

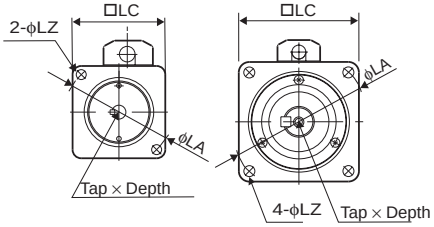


Models without brake



Models with brake

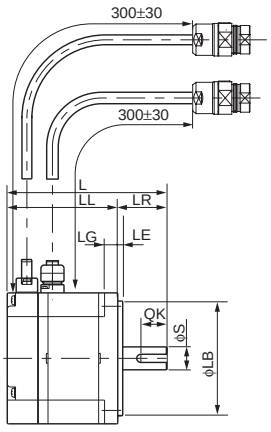




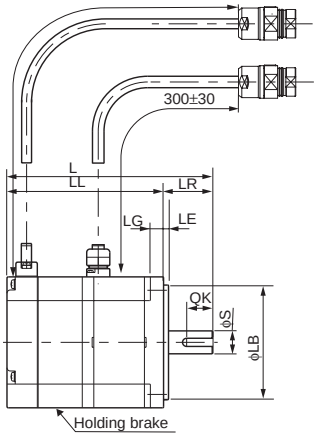
SGMAH-A3,-A5,-01 SGMAH-02 to -08

Type SGMPH (230/400 V)

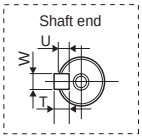
Dimensions (mm)	Without brake		With brake		LR	Flange surface						Shaft end					
Model	L	LL	L	LL		LA	LB	LC	LE	LG	LZ	S	QK	W	T	U	Tap × Depth
SGMPH-01□□□6□D-OY	87	62	116	91	25	70	50^{h7}	60	3	6	5.5	8^{h6}	14	3	3	1.8	M3x6L
SGMPH-02□□□6□D-OY	97	67	128.5	98.5	30	90	70^{h7}	80	3	8	7	14^{h6}	16	5	5	3	M5x8L
SGMPH-04□□□6□D-OY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

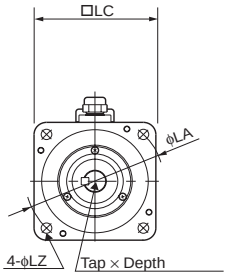


Models without brake



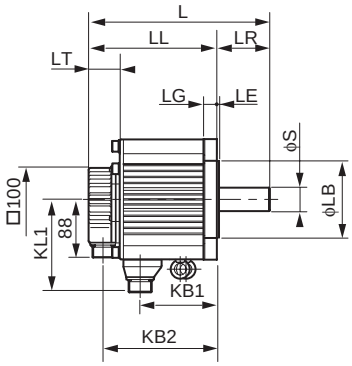
Models with brake



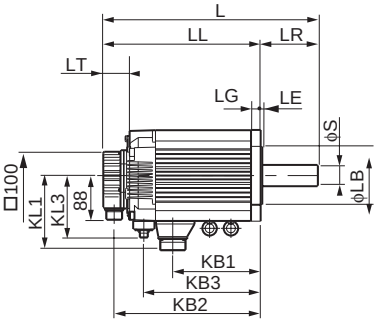


Type SGMGH (400 V)

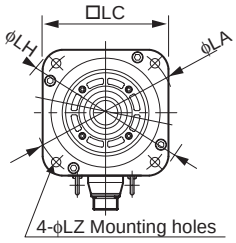
Dimensions (mm)	Without brake			With brake					LR	LT	KB1	KL1	Flange surface							Shaft end						
Model	L	LL	KB2	L	LL	KB2	KB3	KL3					LA	LB	LC	LE	LG	LH	LZ	S	Q	QK	W	T	U	P
SGMGH-05D□A6□-OY	196	138	117	234	176	154	109	98	58	46	65	109	145	110	130	6	12	165	9	19	40	25	5	5	3	M5x12L
SGMGH-09D□A6□-OY	219	161	140	257	199	177	132				88															
SGMGH-13D□A6□-OY	243	185	164	281	223	201	156				112									22			6	6	3.5	
SGMGH-20D□A6□-OY	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□-OY	271	192	170	322	243	221	163				115															
SGMGH-44D□A6□-OY	305	226	204	356	277	255	197				149															
SGMGH-55D□A6□-OY	373	260	238	424	311	289	231		113		174	150								42	110	90	12			M16x32L
SGMGH-75D□A6□-OY	447	334	312	498	385	363	305				248															
SGMGH-1AD□A6□-OY	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□-OY	573	457	435	635	519	497	415			48	343						20			55			16	10	6	M20x40L

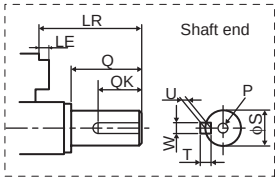


Models without brake



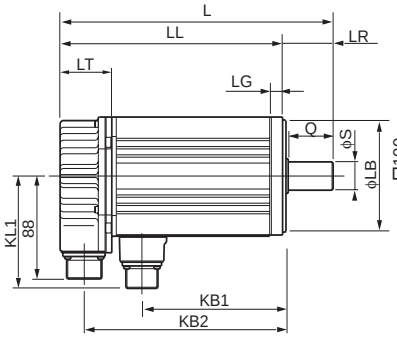
Models with brake



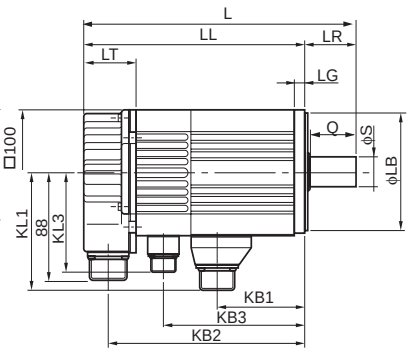


Type SGMSH (400 V)

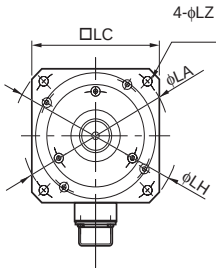
Dimensions (mm)	Without brake			With brake					LR	LT	KB1	KL1	Flange surface							Shaft end						
Model	L	LL	KB2	L	LL	KB2	KB3	KL3					LA	LB	LC	LE	LG	LH	LZ	S	Q	QK	W	T	U	P
SGMSH-10D□A6□-OY	194	149	128	238	193	171	120	85	45	46	76	96	115	95^{h7}	100	3	10	130	7	24^{h6}	40	32	8	7	4	M8x16L
SGMSH-15D□A6□-OY	220	175	154	264	219	197	146				102															
SGMSH-20D□A6□-OY	243	198	177	287	242	220	169				125															
SGMSH-30D□A6□-OY	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□-OY	299	236	215	337	274	253	207				161															
SGMSH-50D□A6□-OY	339	276	255	377	314	293	247				201															

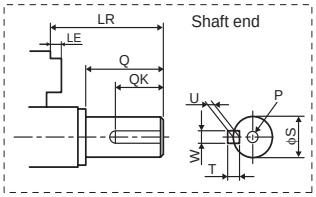


Models without brake



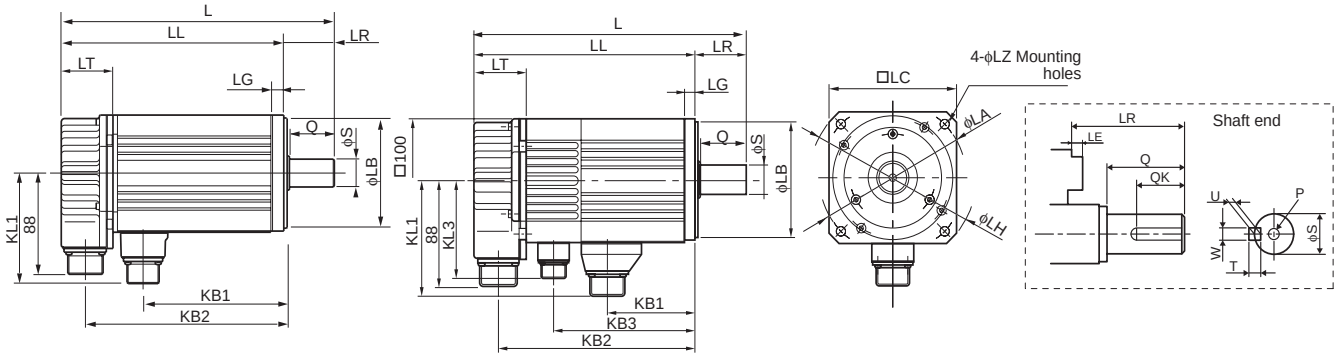
Models with brake





Type SGMUH (400 V)

Dimensions (mm)	Without brake			With brake					LR	LT	KB1	KL1	Flange surface							Shaft end						
Model	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□-OY	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□-OY	220	175	154	264	219	197	146				102															
SGMUH-30D□A6□-OY	262	202	181	300	237	219	173	98	60		127	114	165	130	155		12	190	11	28^{h6}	55	50				
SGMUH-40D□A6□-OY	327	269	245	362	302	281	210			71	164															

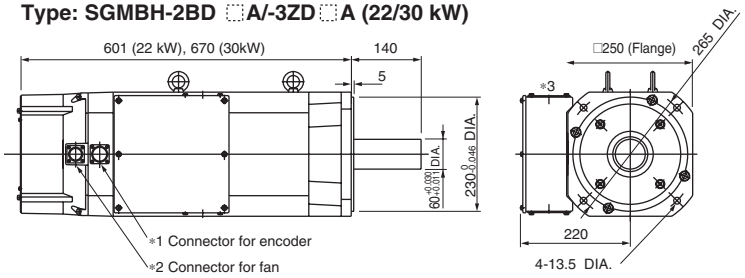


Models without brake

Models with brake

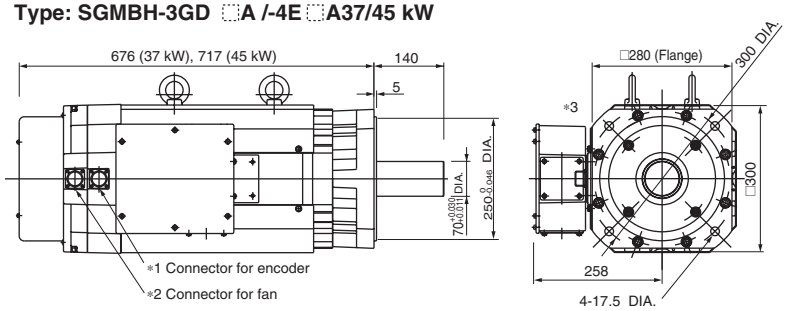
Type SGMBH (400 V)

Type: SGMBH-2BD □A/-3ZD□A (22/30 kW)



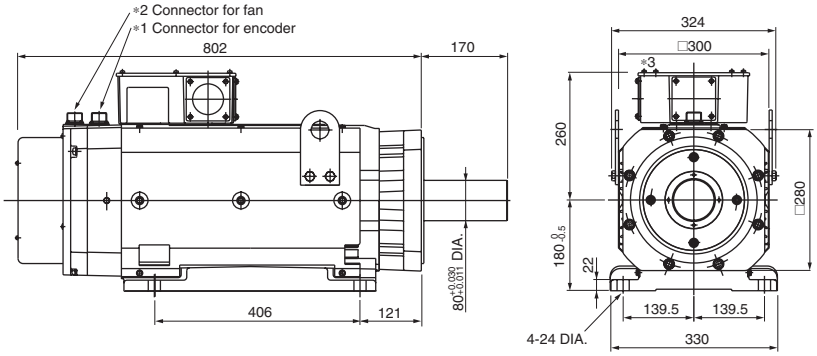
Approx. weight: 120 kg (22 kW)
140 kg (30 kW)

Type: SGMBH-3GD □A /-4E□A37/45 kW



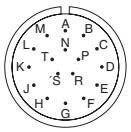
Approx. weight: 230 kg (37 kW)
250 kg (45 kW)

Type: SGMBH-5ED □A (55 kW)



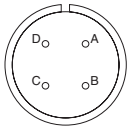
Approx. weight: 350 kg

∗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

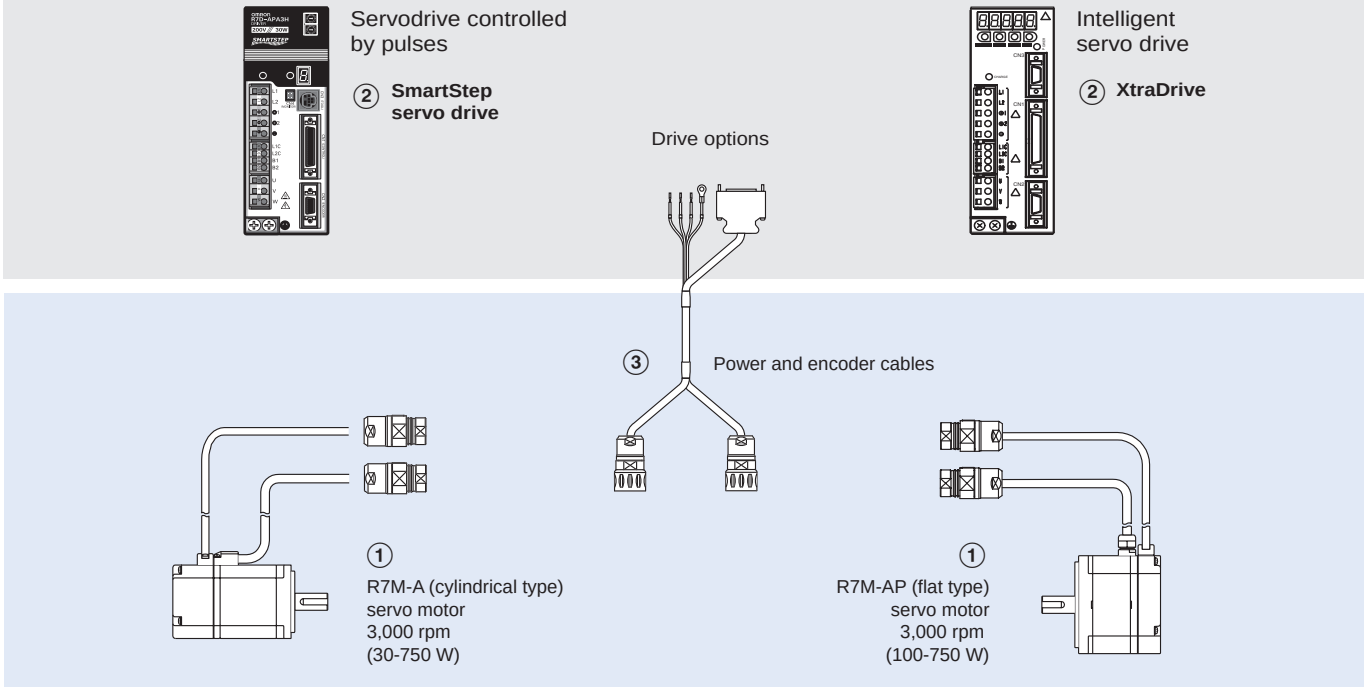
Ultra-compact motor

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

- Sizes 30 W to 800 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)



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				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				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

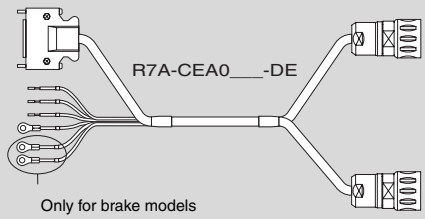
Servo drive

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

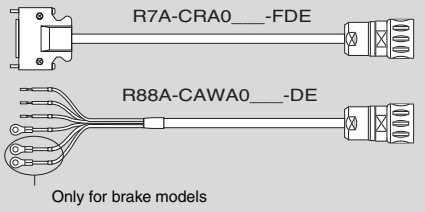
② Refer to SmartStep servo drive or XtraDrive chapter for detailed drive specifications and selection of drive accessories

Servo motor cables for SmartStep drive

Standard cable (power + encoder)

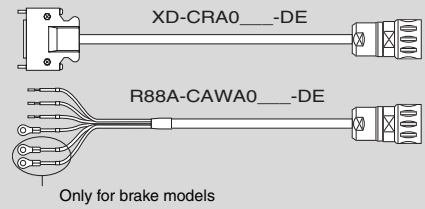
Symbol	Drive	Specifications		Power cable model	Encoder cable model	Appearance
③	SmartStep	For servo motors without brake R7M-A(P)□□□30-S1-D	3 m	R7A-CEA003S-DE		
			5 m	R7A-CEA005S-DE		
			10 m	R7A-CEA010S-DE		
			15 m	R7A-CEA015S-DE		
			20 m	R7A-CEA020S-DE		
		For servo motors with brake R7M-A(P)□□□30-BS1-D	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	Specifications		Power cable model	Encoder cable model	Appearance
③	SmartStep	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	Specifications		Power cable model	Encoder cable model	Appearance
③	XtraDrive	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		Model
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 °C to 40 °C
Ambient operating humidity	20% to 80% (with no condensation)
Ambient storage temperature	-20 °C 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 V DC)
Dielectric strength	Between power line terminals and FG: 1,500 V AC 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 V DC ±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 V DC ±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

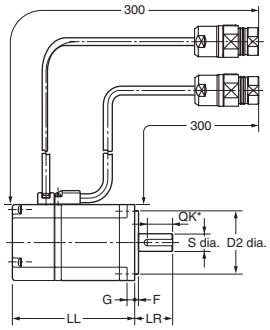
Dimensions

Cylindrical servo motors (3,000 r/min)
200 V AC: 30 W/50 W / 100 W / 200 W / 400 W / 750 W

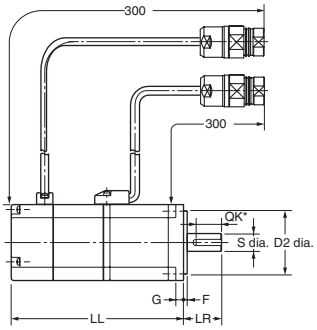
Without brake: R7M-A03030-S1-D/A05030-S1-D/A10030-S1-D/A20030-S1-D/A40030-S1-D/A75030-S1-D
With brake: R7M-A03030-BS1-D/A05030-BS1-D/A10030-BS1-D/A20030-BS1-D/A40030-BS1-D/A75030-BS1-D

Model	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			

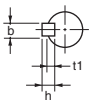
R7M-A□□□30-S1-D (without brake)

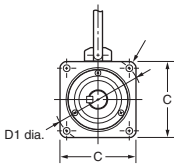


R7M-A□□□30-BS1-D (with brake)



Axis end dimensions





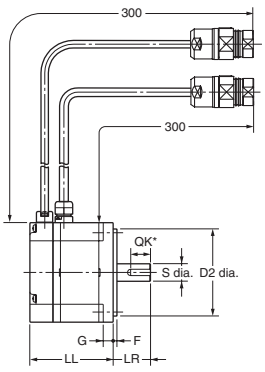
Hole with "Z" mark

Flat servo motors (3,000 r/min)
200 V AC: 100 W / 200 W / 400 W / 750 W

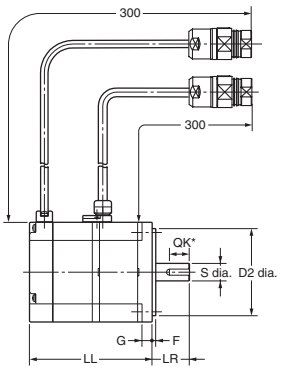
Without brake: R7M-AP10030-S1-D/AP20030-S1-D/AP40030-S1-D/AP75030-S1-D
With brake: R7M-AP10030-BS1-D/AP20030-BS1-D/AP40030-BS1-D/AP75030-BS1-D

Model	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			

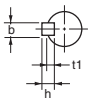
R7M-AP□□□30-S1-D (without brake)

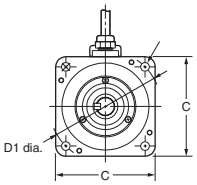


R7M-AP□□□30-BS1-D (with brake)



Axis end dimensions





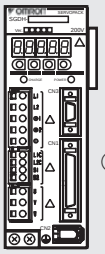
Four, Z-dia. mounting holes

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

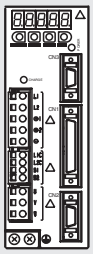
(Refer to servo drive chapter)



Servo drive with option boards for flexible system configuration

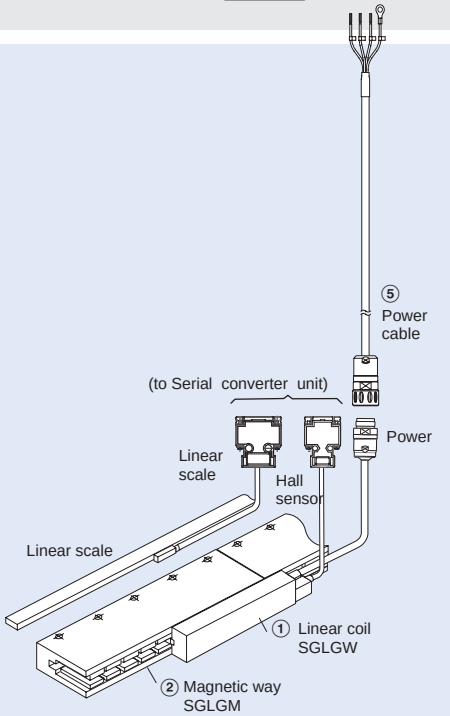
④ **Sigma-II servo drive**

Drive options

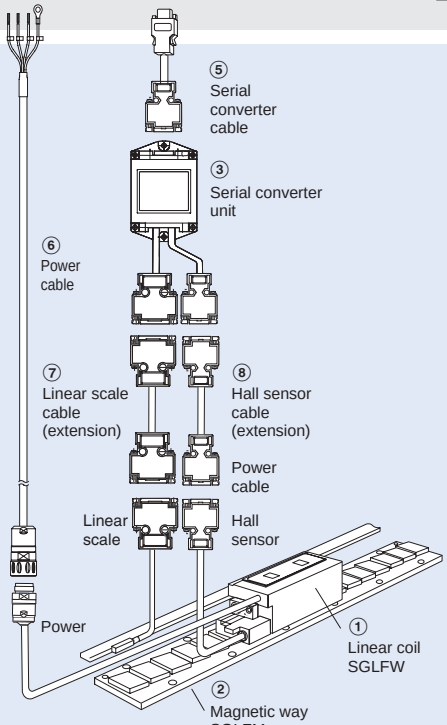


Intelligent servo drive

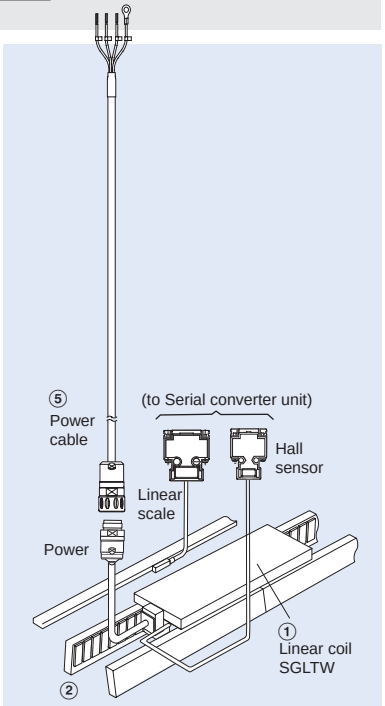
④ **XtraDrive**



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 - 230V AC single phase

Symbol	Specifications		Model				
	Rated force	Peak force	① Linear coil	② Magnetic way	③ Serial converter	④ Servo drive	
						Sigma-II series	XtraDrive
①②③④ 	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 - 230V AC single phase

Symbol	Specifications		Model				
	Rated force	Peak force	① Linear coil	② Magnetic way	③ Serial converter	④ Servo drive	
						Sigma-II series	XtraDrive
①②③④ 	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

230V AC single phase

Symbol	Specifications		Model				
	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.

400V AC three phase

Symbol	Specifications		Model				
	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

400V AC three phase

Symbol	Specifications		Model				
	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-OY	XD-10-TN
	600 N	1200 N	SGLTW-35D320HPD	SGLTM-35540HC SGLTM-35756HC	JZDP-A008-194	SGDH-20DE-OY	XD-20-TN
	450 N	900 N	SGLTW-50D170HPD	SGLTM-50324HC	JZDP-A008-195	SGDH-10DE-OY	XD-10-TN
	900 N	1800 N	SGLTW-50D320HPD	SGLTM-50540HC SGLTM-50756HC	JZDP-A008-196	SGDH-20DE-OY	XD-20-TN
	670 N	2600 N	SGLTW-40D400BP	SGLTM-40405AC	JZDP-A008-197	SGDH-30DE-OY	XD-30-TN
	1000 N	4000 N	SGLTW-40D600BP	SGLTM-40675AC SGLTM-40945AC	JZDP-A008-198	SGDH-50DE-OY	XD-50-TN
	1300 N	5000 N	SGLTW-80D400BP	SGLTM-80405AC	JZDP-A008-199	SGDH-50DE-OY	XD-50-TN
	2000 N	7500 N	SGLTW-80D600BP	SGLTM-80675AC SGLTM-80945AC	JZDP-A008-200	SGDH-75DE-OY	-

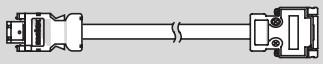
Note: Serial converters with design revision A (JZDP-A008-xxx) will be replaced by revision D (JZDP-D008-xxx), both models are fully compatible.

Servo drive

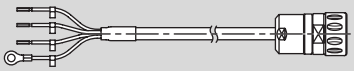
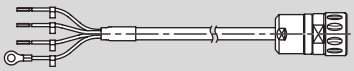
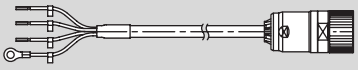
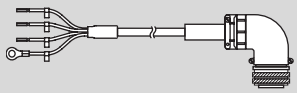
Note: Choosing Sigma-II drive or XtraDrive affects to the serial converter cable needed.

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

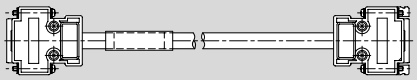
Serial converter cable to servo drive

Symbol	Specifications		Model	Appearance
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	

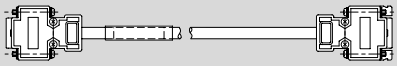
Power cables

Symbol	Specifications		Model	Appearance
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	Specifications		Model	Appearance
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	Specifications		Model	Appearance
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	Model
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	Model
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 /√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
Head sink size	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
Head sink size	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
Head sink size	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 /√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
Head sink size	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 /√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
Head sink size	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.

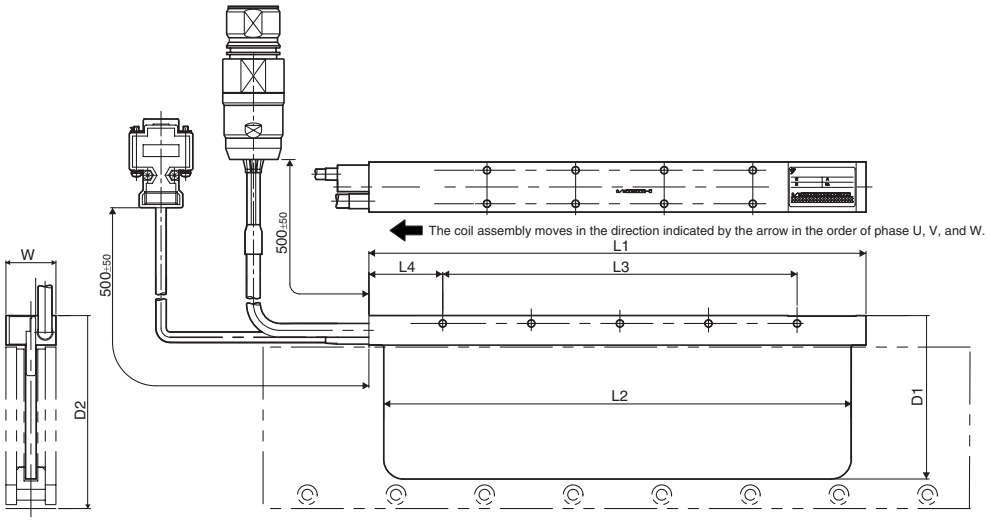
Note: - The items marked with an * and “force and speed characteristics” are the values at a motor winding temperature of 100 °C during operation in combination with a servo drive. The others are at 20 °C (68 °F).
- The above specifications show the values under the cooling condition when a heat sink (aluminium board) listed in the following table is mounted on the coil assembly.

Dimensions

Coreless SGLG□-□

Coil assembly: SGLGW-□

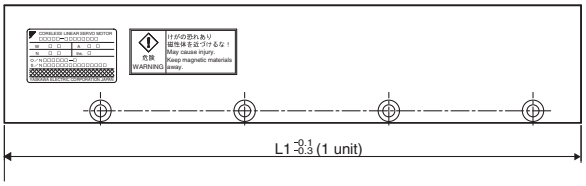
Coil assembly model SGLGW-	L1	L2	L3	L4	D1	D2	W	Approx. weight kg
30A050□□D	50	48	30	15	48.5	57	22	0.14
30A080□□D	80	72	50	15	48.5	57	22	0.19
40A140□□D	140	125	90	30	63	78	25.4	0.40
40A253□□D	252.5	237.5	180	37.5	63	78	25.4	0.66
40A365□□D	365	350	315	30	63	78	25.4	0.93
60A140□□D	140	125	90	30	83	98	25.4	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

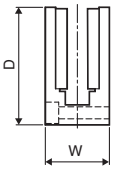


Units: mm

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	-	-



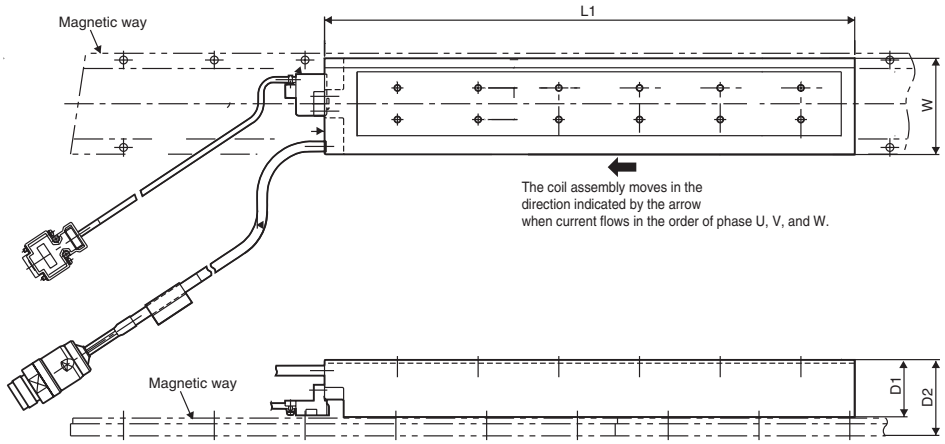


Units: mm

Iron-core SGLF□-□

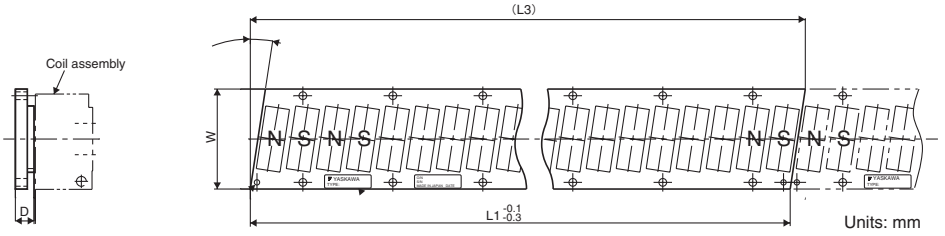
Coil assembly: SGLFW-□

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-□

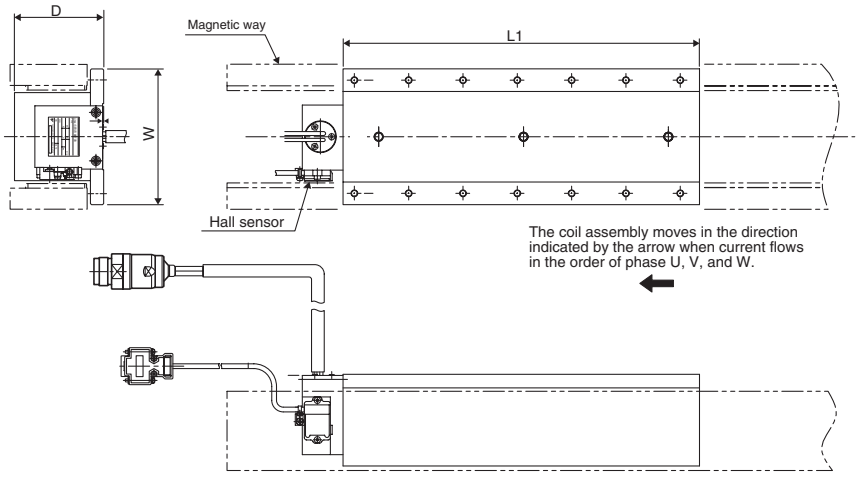
Magnetic way model SGLFM-	L1 $^{-0.1}_{-0.3}$	(L3)	D	W	Approx. weight kg
20324A	324	(331.6)	10	44	0.9
20540A	540	(547.6)	10	44	1.4
20756A	756	(763.6)	10	44	2
35324A	324	(334.4)	10	60	1.2
35540A	540	(550.4)	10	60	2
35756A	756	(766.4)	10	60	2.9
50405A	405	(416.3)	14	75	2.8
50675A	675	(686.3)	14	75	4.6
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

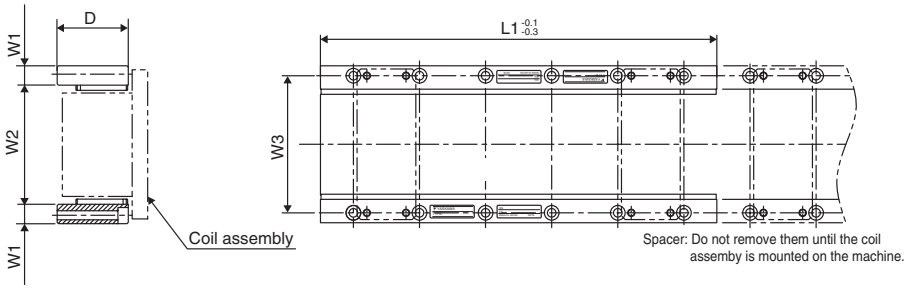


Units: mm

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

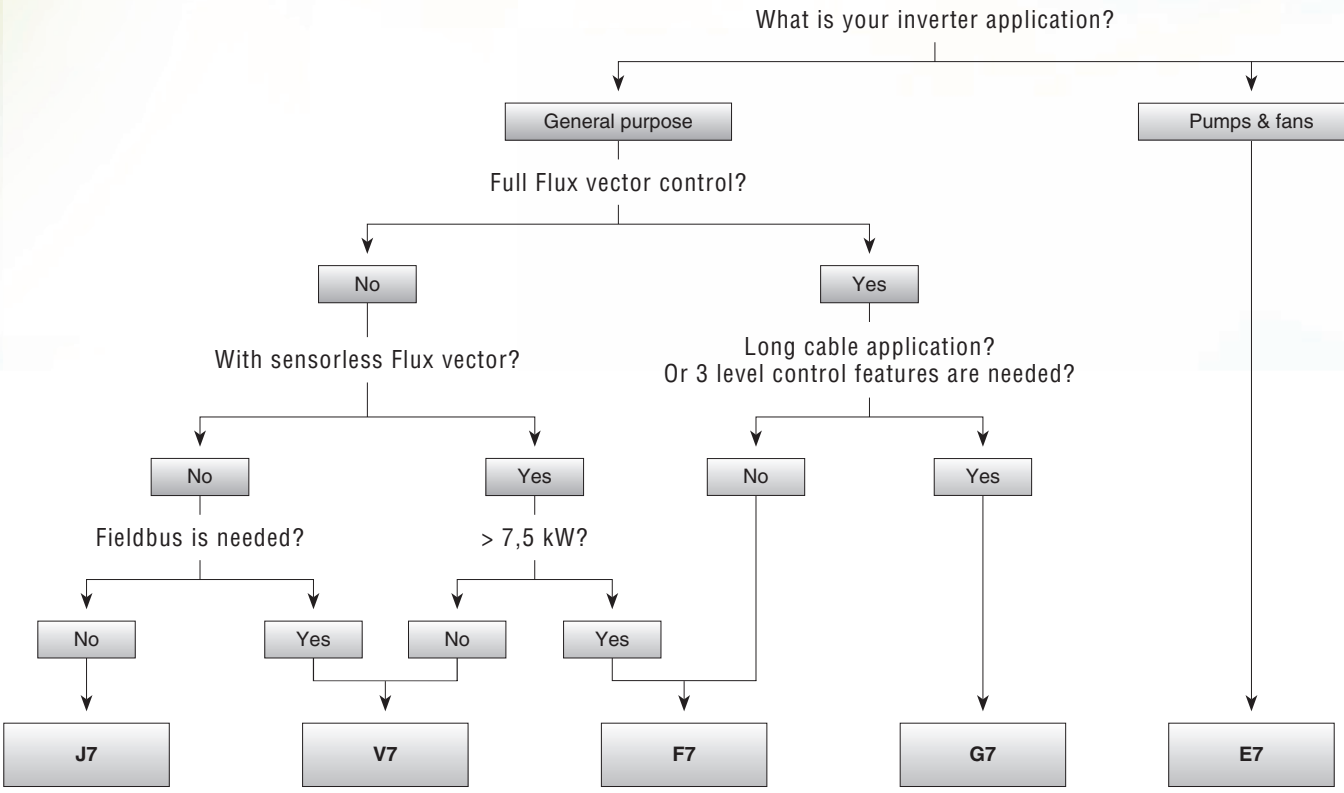
Note:
- Two magnetic ways for both ends of coil assembly make one set. Spacers are mounted on magnetic ways for safety during transportation. Do not remove the spacers until the coil assembly is mounted on a machine.
- The magnetic way may affect pacemakers. Keep a minimum distance of 200 mm from the 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 preshipment.
- Use socket headed screws of strength class 10.9 minimum for magnetic way mounting screws. Do not use stainless steel screws



Varispeed V7 – Sensorless flux vector in a pocket sized inverter

The Varispeed V7 is the perfect drive for standard industrial applications such as conveyor, cranes, grinders, etc. It delivers an amazing 100% torque at 0.5 Hz, ensuring a very stable motor speed. It is also extremely compact and silent. It can interface to all popular fieldbuses as an option. You can turn the V7 into a decentralised control station when adding a PLC option board.

- Sensorless vector control ensures 100% at 0.5Hz
- Compact size available in IP20 or IP67
- Silent operation with no current de-rating
- Programming software: CX-drive for parameter configuration
- CASE (inverter application software) and PLC option board



The E7 inverter expands with IP54 version

Omron's new E7 IP54 solution provides inverter protection from non-conductive dust and water splashes. Now you can install the inverter on walls without the need for extra cabinet space, which saves on volume and costs in the main control panel, and eliminates the need to make difficult EMC and heat-loss calculations for the main control cabinet.

The E7 series also features very advanced PID control, an energy-saving algorithm, and standard accessories such as a PLC option board, communications option boards and software customisation to meet specific applications like pump sequencing.

- Robust metal chassis and built-in RFI filter
- Perfect solution for direct installation close to the motor

Lift application

L7

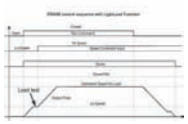
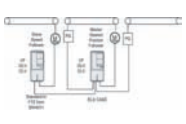
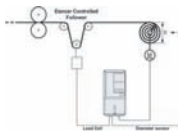
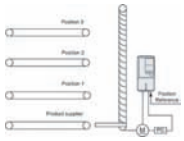
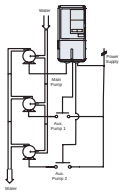
Table of contents

Selection table

Model	G7	F7	L7
			
Type	**World´s first three level inverter architecture**	**The industrial workhorse**	**Made to drive lifts**
400 V Three-phase **200 V Three-phase** **200 V Single-phase**	**0.4 kW to 300 kW** **0.4 kW to 110 kW** **N/A**	**0.4 kW to 300 kW** **0.4 kW to 110 kW** **N/A**	**4.0 kW to 55 kW** **3.7 kW to 55 kW** **N/A**
Application	High performance, long cable lines	General and high-end applications	Lift control with asynchronous or synchronous motors
Control method	Open and close loop for vector and V/F control.	Open and close loop for vector and V/F control.	Open and close loop for vector and V/F control.
Torque features	150% at 0.0 Hz (CLV) 150% at 0.3 Hz (OLV)	150% at zero speed (CLV) 150% at 0.5 Hz (OLV)	150% at zero speed (CLV) 150% at 0.5 Hz (OLV)
Connectivity	Memobus DeviceNet PROFIBUS-DP CANopen LONWorks Ethernet	Memobus DeviceNet PROFIBUS-DP CANopen LONWorks Ethernet MECHATROLINK-II	Memobus DeviceNet PROFIBUS-DP CANopen LONWorks Ethernet
Customisation options	- PLC option board - Inverter application software	- PLC option board - Inverter application software	- PLC option board - Inverter application software
Page	370	375	380

Model	E7	V7	J7
			
Type	**Drive your energy cost down**	**Sensorless flux vector in a pocket sized inverter**	**Small, simple and smart**
400V Three-Phase **200V Three-Phase** **200V Single-Phase**	**0.4 kW to 300 kW** **0.4 kW to 110 kW** **N/A**	**0.2 kW to 7.5 kW** **0.1 kW to 7.5 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	Pumps and fans (variable torque)	Compact general purpose	Simple speed control
Control method	V/F control	Sensorless vector and V/F control	V/F control
Torque features	120% at 0.5 Hz.	100% at 0.5 Hz.	150% at 3 Hz.
Connectivity	Memobus Metasys N2 L&S Apogee LONWorks DeviceNet PROFIBUS-DP CANopen	Memobus DeviceNet PROFIBUS-DP CANopen MECHATROLINK-II	Memobus
Customisation options	- PLC option board - Inverter application software - IP54 enclosure	- PLC option board - Inverter application software - IP65 enclosure	N/A
Page	384	388	392

Model	G7/F7/L7/E7 inverter PLC	V7 inverter PLC
		
Type	**The OMRON PLC embedded into the OMRON-Yaskawa inverter family**	**The OMRON PLC embedded into V7 inverter**
Supported inverter	Varispeed G7 / F7 / L7 / E7	Varispeed V7
I/O's	6 DI, 4DO in PLC board. 256 I/O's by Comopbus/S distributed network.	6 DI, 4DO
Calendar / clock	Yes	Available on RS-422/485 type
Encoder interface	Yes	No
Connectivity	Peripheral port RS-232C RS-422/485 Compobus/S master DeviceNet slave	Peripheral port RS-232C RS-422/485
Software	CX-Programmer CX-One	CX-Programmer CX-One
Page	394	396

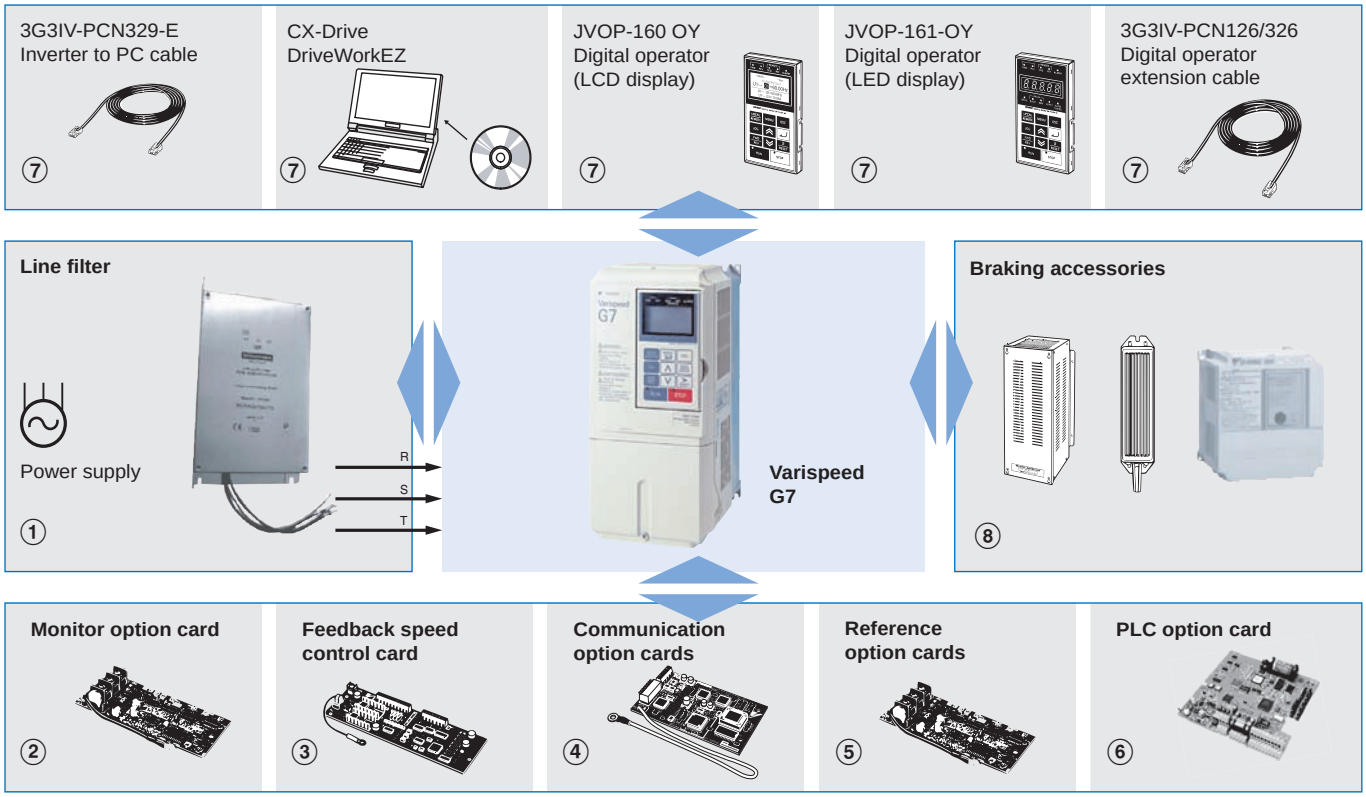
	Inverter application software					
						
	S-7071	**S-8161**	**S-8180**	**S-8795**	**S-8801**	**S-9381**
Type	CRANE software	ELS - electronic line shaft software	Winder software	Point to point software	Pump sequencer software	Traverse software
Application	Crane applications	Position and speed follower applications	Winding and unwinding applications	Point to point positioning applications	Pump sequencer application up to 2 auxiliary pumps	Textile wire winding application.
Supported inverter	Varispeed F7	Varispeed F7	Varispeed F7	Varispeed F7	Varispeed E7	Varispeed V7
Page	398					

World´s first three level inverter

The G7 has the world's first 400V 3-level inverter architecture that eliminates or minimises the installation problems associated with IGBT switching and protects the entire motor-drive system.

- 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 0.3Hz
- Silent operation. No current de-rating in silent mode
- Wide selection of option cards
- Programming software: CX-Drive for parameter configuration. DriveWorkEZ for object-orientated programming.

Ordering information



Varispeed G7

200 V

Specifications			Model
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			Model
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

Inverter model	Line filters			
Varispeed G7	Type	EN55011 class	Current (A)	Weight (kg)
CIMR-G7C20P4	3G3RV-PFI3010-SE	B, 25 m A, 100 m	10	1.1
CIMR-G7C20P7				
CIMR-G7C21P5				
CIMR-G7C22P2	3G3RV-PFI3018-SE	B, 25 m A, 100 m	18	1.3
CIMR-G7C23P7	3G3RV-PFI2035-SE	B, 25 m A, 100 m	35	1.4
CIMR-G7C25P5				
CIMR-G7C27P5	3G3RV-PFI2060-SE	B, 25 m A, 100 m	60	3
CIMR-G7C2011				
CIMR-G7C2015	3G3RV-PFI2100-SE	B, 25 m A, 100 m	100	4.9
CIMR-G7C2018				
CIMR-G7C2022	3G3RV-PFI2130-SE	A, 100 m	130	4.3
CIMR-G7C2030				
CIMR-G7C2037	3G3RV-PFI2160-SE	A, 100 m	160	6.0
CIMR-G7C2045	3G3RV-PFI2200-SE	A, 100 m	200	11.0
CIMR-G7C2055				
CIMR-G7C2075	3G3RV-PFI3400-SE	A, 100 m	400	18.5
CIMR-G7C2090				
CIMR-G7C2110	3G3RV-PFI3600-SE	A, 100 m	600	11.0

400 V

Inverter model	Line filters			
Varispeed G7	Model	EN 55011 class	Current (A)	Weight (kg)
CIMR-G7C40P4	3G3RV-PFI3010-SE	B, 25 m A, 100 m	10	1.1
CIMR-G7C40P7				
CIMR-G7C41P5				
CIMR-G7C42P2				
CIMR-G7C43P7	3G3RV-PFI3018-SE	B, 25 m A, 100 m	18	1.3
CIMR-G7C44P0				
CIMR-G7C45P5				
CIMR-G7C47P5	3G3RV-PFI3035-SE	B, 25 m A, 100 m	35	2.1
CIMR-G7C4011				
CIMR-G7C4015	3G3RV-PFI3060-SE	B, 25 m A, 100 m	60	4.0
CIMR-G7C4018				
CIMR-G7C4022	3G3RV-PFI3070-SE	A, 100 m	70	3.4
CIMR-G7C4030				
CIMR-G7C4037	3G3RV-PFI3130-SE	A, 100 m	130	4.7
CIMR-G7C4045				
CIMR-G7C4055				
CIMR-G7C4075	3G3RV-PFI3170-SE	A, 100 m	170	6.0
CIMR-G7C4090	3G3RV-PFI3200-SE	A, 100 m	250	11
CIMR-G7C4110				
CIMR-G7C4132	3G3RV-PFI3400-SE	A, 100 m	400	18.5
CIMR-G7C4160				
CIMR-G7C4185	3G3RV-PFI3600-SE	A, 100 m	600	11,0
CIMR-G7C4220				
CIMR-G7C4300	3G3RV-PFI3800-SE	A, 100 m	800	31.0

② Monitor option cards

Type	Model	Description	Function
Monitor option card	AO-08 / 3G3IV-PAO08	Analog monitor card	Outputs analog 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-12 / 3G3IV-PAO12		Outputs analog 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
	DO-08 / 3G3IV-PDO08	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-02C / 3G3IV-PDO02C	2C-relay output card	Two multi-function contact outputs (2C-relay) can be used other than those of the inverter proper unit.

③ Feedback speed control cards

Type	Model	Description	Function
Feedback speed control card	PG-A2 / 3G3FV-PPGA2	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-B2 / 3G3FV-PPGB2		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-D2 / 3G3FV-PPGD2		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-X2 / 3G3FV-PPGX2		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

④ Communication option cards

Type	Model	Description	Function
Communication option card	SI-N1	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-P1	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-S1	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-J	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.
	CM090	Ethernet option card	Modbus TCP/IP Ethernet interface unit
	SI-T	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

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

⑤ Reference option Cards

Type	Model	Description	Function
Reference option card	AI-14U / 3G3IV-PAI14U	Analog input card	2 channel high resolution analog input card Channel 1: 0 to 10 V (20KΩ) Channel 2: 4 to 20 mA (250Ω) Resolution 14 bit
	AI-14B / 3G3IV-PAI14B		3 Channel high resolution analog input card Signal level: -10 to +10V (20 KΩ) 4 to 20 mA (250 Ω) Resolution: 13 bit + sign
	DI-08 / 3G3IV-PDI08	Digital reference card	8 bit digital speed reference input card
	DI-16H2 / 3G3IV-PDI16H2		16 bit digital speed reference input card

⑥ PLC option boards

Type	Model	Description	Function
PLC option	3G3RV-P10ST8-E	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-DRT-E	PLC option with DeviceNet	Same features than standard models with DeviceNet support.

⑦ Accessories

Type	Model	Description	Function
Digital operator	JVOP-160-OY	5 lines LCD digital operator 7 language support	Configuration and monitoring device.
	JVOP-161-OY	7 segment LED digital operator	
Accesories	3G3IV-PCN126 3G3IV-PCN326	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-PCN329-E	PC configuration cable	Cable to connect inverter and PC

⑦ Software

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

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

Model 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 capacity	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								

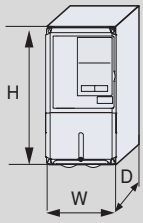
*1 Standard 4-pole motors are used for max. applicable motor output. Choose the inverter model whose rated current is allowable within the motor rated current range.
*2 When using the inverter of 200 V class 30 kW or more with a cooling fan of three-phase 230 V 50 Hz or 240 V 50/60 Hz power supply, a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

400 V

Model 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 capacity	kV	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

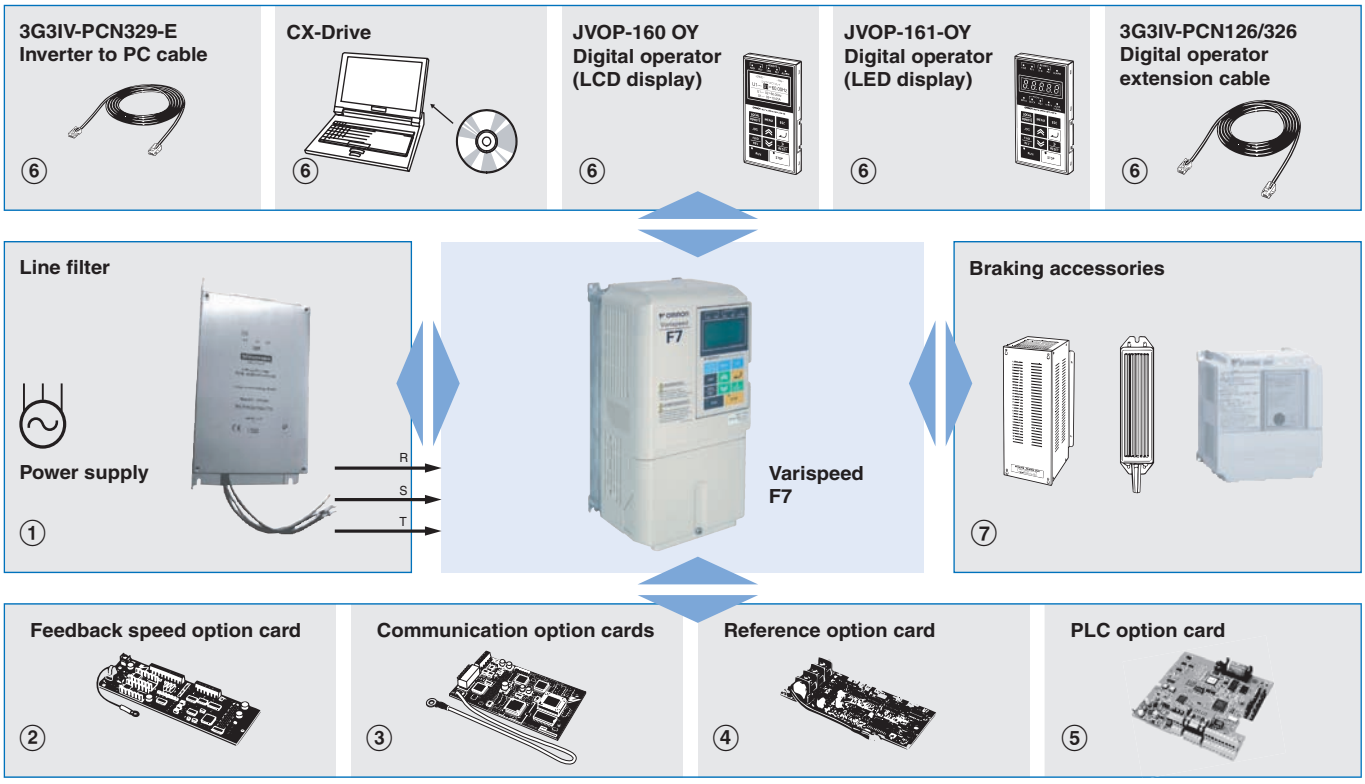
Specifications		Drive model	H	W	D	
3 phase 200 VAC	0.4 kW	CIMR-G7C20P41	140	280	157	
	0.75 kW	CIMR-G7C20P71				
	1.5 kW	CIMR-G7C21P51				
	2.2 kW	CIMR-G7C22P21			177	
	3.7 kW	CIMR-G7C23P71				
	5.5 kW	CIMR-G7C25P51	200	300	197	
	7.5 kW	CIMR-G7C27P51				
	11 kW	CIMR-G7C20111	240	350	207	
	15 kW	CIMR-G7C20151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

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

- 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
- Wide selection of option cards
- Programming software: CX-Drive for parameter configuration
- CASE (inverter application software) and PLC option board

Ordering information



Varispeed F7

200 V

Specifications				Model
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				Model
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

Inverter model	Line filters			
Varispeed F7	Type	EN55011 class	Current (A)	Weight (kg)
CIMR-F7Z20P4	3G3RV-PFI3010-SE	B, 25 m A, 100 m	10	1.1
CIMR-F7Z20P7				
CIMR-F7Z21P5				
CIMR-F7Z22P2	3G3RV-PFI3018-SE	B, 25 m A, 100 m	18	1.3
CIMR-F7Z23P7	3G3RV-PFI2035-SE	B, 25 m A, 100 m	35	1.4
CIMR-F7Z25P5				
CIMR-F7Z27P5	3G3RV-PFI2060-SE	B, 25 m A, 100 m	60	3
CIMR-F7Z2011				
CIMR-F7Z2015	3G3RV-PFI2100-SE	B, 25 m A, 100 m	100	4.9
CIMR-F7Z2018				
CIMR-F7Z2022	3G3RV-PFI2130-SE	A, 100 m	130	4.3
CIMR-F7Z2030				
CIMR-F7Z2037	3G3RV-PFI2160-SE	A, 100 m	160	6.0
CIMR-F7Z2045	3G3RV-PFI2200-SE	A, 100 m	200	11.0
CIMR-F7Z2055				
CIMR-F7Z2075	3G3RV-PFI3400-SE	A, 100 m	400	18.5
CIMR-F7Z2090				
CIMR-F7Z2110	3G3RV-PFI3600-SE	A, 100 m	600	11.0

400 V

Inverter model	Line filter			
Varispeed F7	Model	EN 55011 class*	Current (A)	Weight (kg)
CIMR-F7Z40P4	3G3RV-PFI3010-SE	B, 25 m A, 100 m	10	1.1
CIMR-F7Z40P7				
CIMR-F7Z41P5				
CIMR-F7Z42P2				
CIMR-F7Z43P7	3G3RV-PFI3018-SE	B, 25 m A, 100 m	18	1.3
CIMR-F7Z44P0				
CIMR-F7Z45P5				
CIMR-F7Z47P5	3G3RV-PFI3035-SE	B, 25 m A, 100 m	35	2.1
CIMR-F7Z4011				
CIMR-F7Z4015	3G3RV-PFI3060-SE	B, 25 m A, 100 m	60	4.0
CIMR-F7Z4018				
CIMR-F7Z4022	3G3RV-PFI3070-SE	A, 100 m	70	3.4
CIMR-F7Z4030				
CIMR-F7Z4037	3G3RV-PFI3130-SE	A, 100 m	130	4.7
CIMR-F7Z4045				
CIMR-F7Z4055				
CIMR-F7Z4075	3G3RV-PFI3170-SE	A, 100 m	170	6.0
CIMR-F7Z4090	3G3RV-PFI3200-SE	A, 100 m	250	11
CIMR-F7Z4110				
CIMR-F7Z4132	3G3RV-PFI3400-SE	A, 100 m	400	18.5
CIMR-F7Z4160				
CIMR-F7Z4185	3G3RV-PFI3600-SE	A, 100 m	600	11,0
CIMR-F7Z4220				
CIMR-F7Z4300	3G3RV-PFI3800-SE	A, 100 m	800	31.0

② Feedback speed control cards

Type	Model	Description	Function
Feedback speed control card	PG-A2 / 3G3FV-PPGA2	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-B2 / 3G3FV-PPGB2		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-D2 / 3G3FV-PPGD2		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-X2 / 3G3FV-PPGX2		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-Z2		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

③ Communication option cards

Type	Model	Description	Function
Communication option card	3G3RV-PDRT2	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-P1	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-S1	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-J	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.
	CM090	Ethernet option card	MODBUS TCP/IP Ethernet interface unit.
	SI-T	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

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

④ Reference option cards

Type	Model	Description	Function
Reference option card	AI-14U / 3G3IV-PAI14U	Analog input card	2 channel high resolution analog input card Channel 1: 0 to 10 V (20KΩ) Channel 2: 4 to 20 mA (250Ω) Resolution 14 bit
	AI-14B / 3G3IV-PAI14B		3 Channel high resolution analog input card Signal level: -10 to +10V (20 KΩ) 4 to 20 mA (250 Ω) Resolution: 13 bit + sign
	DI-08 / 3G3IV-PDI08	Digital reference card	8 bit digital speed reference input card
	DI-16H2 / 3G3IV-PDI16H2		16 bit digital speed reference input card

⑤ PLC option cards

Type	Model	Description	Function
PLC option card	3G3RV-P10ST8-E	PLC option	Full PLC featrues, 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-DRT-E	PLC option with DeviceNet	Same features than standard model with DeviceNet support.

⑥ Accessories

Type	Model	Description	Function
Digital operator	JVOP-160-OY	5 lines LCD digital operator 7 Language support	Configuration and monitoring device
	JVOP-161-OY	7 segment LED digital operator	
Accessories	3G3IV-PCN126 3G3IV-PCN326	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-PCN329-E	PC configuration cable	Cable to connect inverter and PC

⑥ Computer Software

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

⑦ Braking unit, braking resistor unit

Note: For braking units specifications and models refer to the G7 datasheet Cat-No: I23E-EN-02

Specifications

200 V Class

Model CIMR-F7Zo			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]							

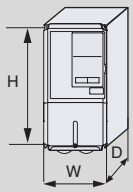
[*1] Our standard 4-pole motors are used for max. applicable motor output. Choose the inverter model whose rated current is allowable within the motor rated current range.
[*2] 322 A in case of heavy duty mode
[*3] When using the inverter of 200 V class 37 kW or more with a cooling fan of three-phase 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

Model CIMR-F7Zo			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	675
	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

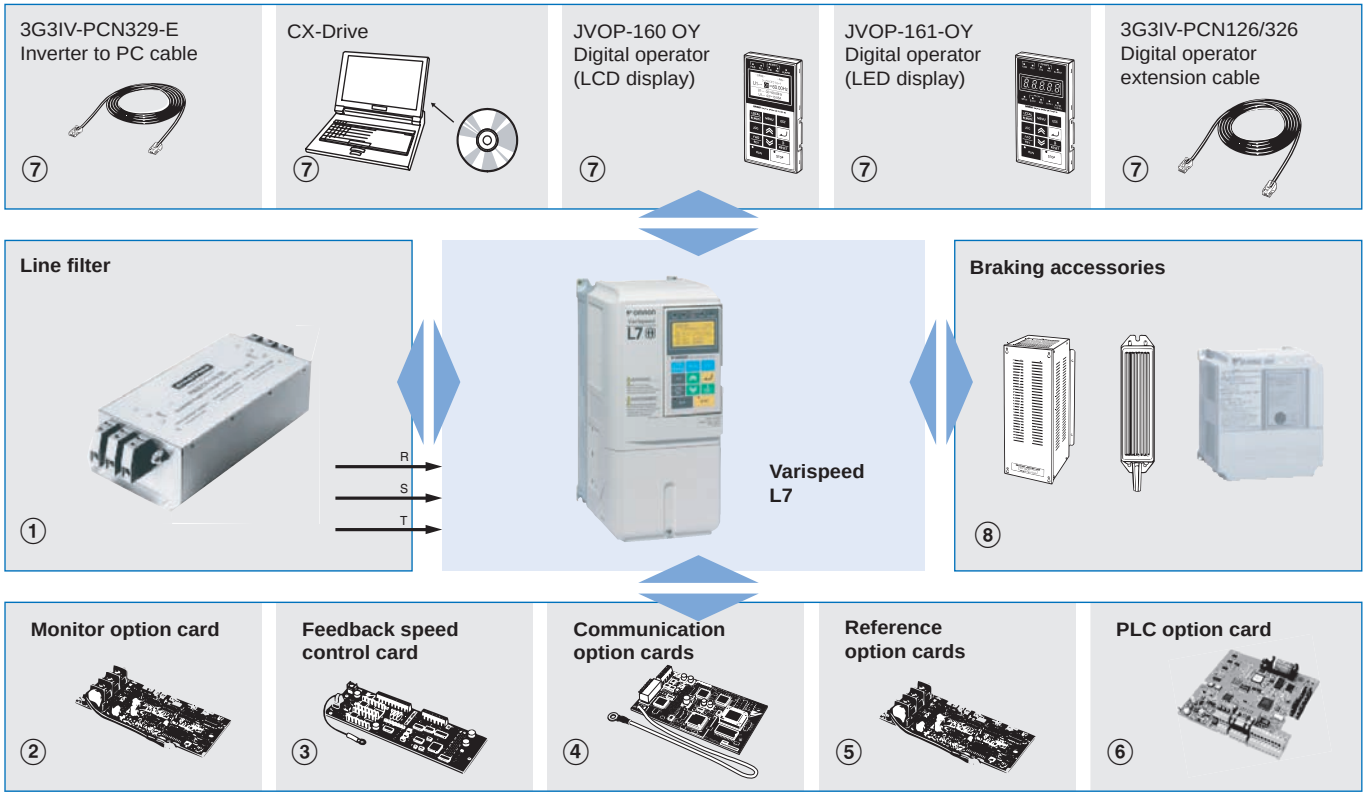
Specifications		Drive model	H	W	D	
3 phase 200 VAC	0.55 kW	CIMR-F7Z20P41	140	280	157	
	0.75 kW	CIMR-F7Z20P71				
	1.5 kW	CIMR-F7Z21P51				
	2.2 kW	CIMR-F7Z22P21				
	3.7 kW	CIMR-F7Z23P71			177	
	5.5 kW	CIMR-F7Z25P51				
	7.5 kW	CIMR-F7Z27P51	200	300	197	
	11 kW	CIMR-F7Z20111		310		
	15 kW	CIMR-F7Z20151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

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
- Programming software: CX-Drive for parameter configuration

Ordering information



Varispeed L7

200 V

Specifications			Model
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			Model
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

Inverter model	Line filters			
Varispeed L7	Type	EN55011 class	Current (A)	Weight (kg)
CIMR-L7Z23P7	3G3RV-PFI2035-SE	B, 25 m A 100 m	35	1.4
CIMR-L7Z25P5				
CIMR-L7Z27P5	3G3RV-PFI2060-SE	B, 25 m A 100 m	60	3
CIMR-L7Z2011				
CIMR-L7Z2015	3G3RV-PFI2100-SE	B, 25 m A 100 m	100	4.9
CIMR-L7Z2018				
CIMR-L7Z2022	3G3RV-PFI2130-SE	A, 100 m	130	4.3
CIMR-L7Z2030				
CIMR-L7Z2037	3G3RV-PFI2160-SE	A, 100 m	160	6.0
CIMR-L7Z2045	3G3RV-PFI2200-SE	A, 100 m	200	11.0
CIMR-L7Z2055				

400 V

Inverter model	Line filters			
Varispeed L7	Type	EN55011 class	Current (A)	Weight (kg)
CIMR-L7Z44P0	3G3RV-PFI3018-SE	B, 25 m A 100 m	18	1.3
CIMR-L7Z45P5				
CIMR-L7Z47P5	3G3RV-PFI3035-SE	B, 25 m A 100 m	35	2.1
CIMR-L7Z4011				
CIMR-L7Z4015	3G3RV-PFI3060-SE	B, 25 m A 100 m	60	4.0
CIMR-L7Z4018				
CIMR-L7Z4022	3G3RV-PFI3070-SE	A, 100 m	70	3.4
CIMR-L7Z4030				
CIMR-L7Z4037	3G3RV-PFI3130-SE	A, 100 m	130	4.7
CIMR-L7Z4045				
CIMR-L7Z4055				

① Line filters

Inverter model	Line filters			
Varispeed L7	Type	EN55011 class	Current (A)	Weight (kg)
CIMR-L7Z44P0	3G3RV-PFI3018B-SE	B, 25 m A 100 m	18	1,0
CIMR-L7Z45P5				
CIMR-L7Z47P5	3G3RV-PFI3035B-SE	B, 25 m A 100 m	35	1,5
CIMR-L7Z4011				
CIMR-L7Z4015	3G3RV-PFI3060B-SE	B, 25 m A 100 m	60	2,2
CIMR-L7Z4018				

② Monitor option cards

Type	Model	Description	Function
Monitor option card	DO-08 / 3G3IV-PDO08	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-02C / 3G3IV-PDO02C	2C-relay output card	Two multi-function contact outputs (2C-relay) can be used other than those of the inverter proper unit.

③ Feedback speed control cards

Type	Model	Description	Function
Feedback speed control card	PG-A2 / 3G3FV-PPGA2	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-B2 / 3G3FV-PPGB2		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-D2 / 3G3FV-PPGD2		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-X2 / 3G3FV-PPGX2		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-F2		Hiperface and endat encoder option.

④ Communication option cards

Type	Model	Description	Function
Communication option card	SI-N1	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-P1	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-S1	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-J	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.

⑤ Reference option cards

Model	Description	Function
AI-14U / 3G3IV-PAI14U	Analog input card	2 channel high resolution analog input card Channel 1: 0 to 10 V (20 kΩ) Channel 2: 4 to 20 mA (250 Ω) Resolution 14 bit
AI-14B / 3G3IV-PAI14B		3 channel high resolution analog input card Signal level: -10 to +10 V (20 kΩ) 4 to 20 mA (250 Ω) Resolution: 13 bit + sign
DI-08 / 3G3IV-PDI08	Digital reference card	8 bit digital speed reference input card
DI-16H2 / 3G3IV-PDI16H2		16 bit digital speed reference input card

⑥ PLC option boards

Model	Description	Function
3G3RV-P10ST8-E	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-DRT-E	PLC option with DeviceNet	Same features than standard models with DeviceNet support.

⑦ Accessories

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

⑦ Software

Model	Description	Installation
CX-DRIVE	Computer software	Configuration and monitoring software tool for Drives
CX-ONE	Computer software	Complete OMRON automation software including CX-Drive

⑧ Braking unit, braking resistor unit

Note: For braking units specifications and models refer to the G7 datasheet Cat-No: I22E-EN-02

Specifications

200 V class

Model 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. outputfrequency		Up to 120Hz available by programing.										
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.

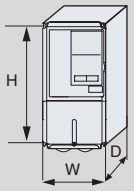
400 V class

Model 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%										
	Allowablefrequency 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

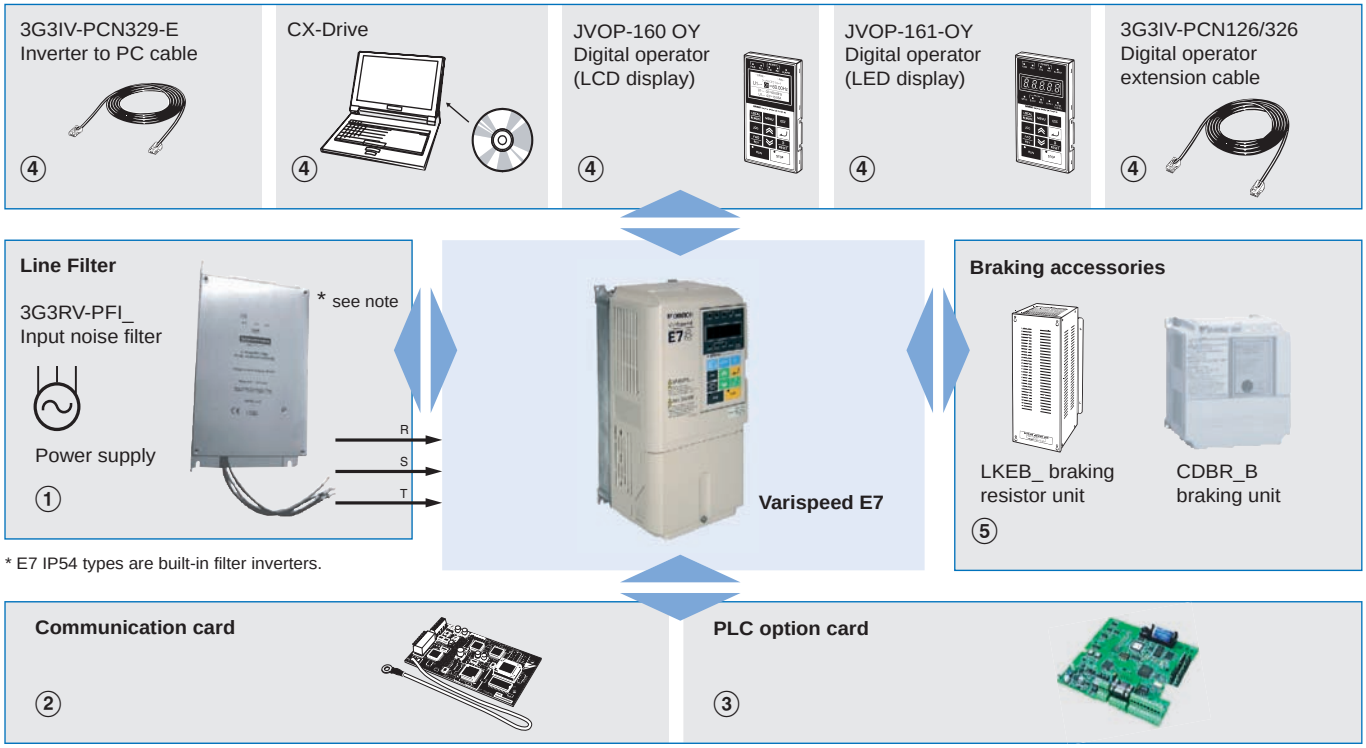
Specifications		Drive model	H	W	D	
3-phase 200 VAC	3.7 kW	CIMR-L7Z23P77	140	280	177	
	5.5 kW	CIMR-L7Z25P57				
	7.5 kW	CIMR-L7Z27P57	200	300	197	
	11 kW	CIMR-L7Z20117		310		
	15 kW	CIMR-L7Z20157	240	350	207	
	18.5 kW	CIMR-L7Z20187		380		
	22 kW	CIMR-L7Z20227	254	464	258	
	30 kW	CIMR-L7Z20300	275	450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

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%.

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

Ordering information



* E7 IP54 types are built-in filter inverters.

Varispeed E7

200 V

Specifications			Model
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			Model
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

Specifications				Model
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			Model
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

Inverter model	Line filters			
Varispeed E7	Type	EN55011 Class	Current (A)	Weight (kg)
CIMR-E7Z20P4	3G3RV-PFI3010-SE	B, 25 m A, 100 m	10	1.1
CIMR-E7Z20P7				
CIMR-E7Z21P5				
CIMR-E7Z22P2	3G3RV-PFI3018-SE	B, 25 m A, 100 m	18	1.3
CIMR-E7Z23P7	3G3RV-PFI2035-SE	B, 25 m A, 100 m	35	1.4
CIMR-E7Z25P5				
CIMR-E7Z27P5	3G3RV-PFI2060E-SE	B, 25 m A, 100 m	60	3
CIMR-E7Z2011				
CIMR-E7Z2015	3G3RV-PFI2100-SE	B, 25 m A, 100 m	100	4.9
CIMR-E7Z2018				
CIMR-E7Z2022	3G3RV-PFI2130-SE	A, 100 m	130	4.3
CIMR-E7Z2030				
CIMR-E7Z2037	3G3RV-PFI2160-SE	A, 100 m	160	6.0
CIMR-E7Z2045	3G3RV-PFI2200-SE	A, 100 m	200	11.0
CIMR-E7Z2055				
CIMR-E7Z2075	3G3RV-PFI3400-SE	A, 100 m	400	18.5
CIMR-E7Z2090				
CIMR-E7Z2110	3G3RV-PFI3600-SE	A, 100 m	600	11.0

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

400 V

Inverter model	Line filter			
Varispeed E7	Model	EN 55011 class	Current (A)	Weight (kg)
CIMR-E7Z40P4	3G3RV-PFI3010-SE	B, 25 m A, 100 m	10	1.1
CIMR-E7Z40P7				
CIMR-E7Z41P5				
CIMR-E7Z42P2				
CIMR-E7Z43P7	3G3RV-PFI3018-SE	B, 25 m A, 100 m	18	1.3
CIMR-E7Z44P0				
CIMR-E7Z45P5				
CIMR-E7Z47P5	3G3RV-PFI3035-SE	B, 25 m A, 100 m	35	2.1
CIMR-E7Z4011				
CIMR-E7Z4015	3G3RV-PFI3060-SE	B, 25 m A, 100 m	60	4.0
CIMR-E7Z4018				
CIMR-E7Z4022	3G3RV-PFI3070-SE	A, 100 m	70	3.4
CIMR-E7Z4030				
CIMR-E7Z4037	3G3RV-PFI3130-SE	A, 100 m	130	4.7
CIMR-E7Z4045				
CIMR-E7Z4055				
CIMR-E7Z4075	3G3RV-PFI3170-SE	A, 100 m	170	6.0
CIMR-E7Z4090	3G3RV-PFI3200-SE	A, 100 m	250	11
CIMR-E7Z4110				
CIMR-E7Z4132	3G3RV-PFI3400-SE	A, 100 m	400	18.5
CIMR-E7Z4160				
CIMR-E7Z4185	3G3RV-PFI3600-SE	A, 100 m	600	11,0
CIMR-E7Z4220				
CIMR-E7Z4300	3G3RV-PFI3800-SE	A, 100 m	800	31.0

② Communication cards

Type	Model	Description	Function
Communication option cards	3G3RV-PDRT2	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-P1	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-S1	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.
	CM090	Ethernet option card	MODBUS TCP/IP Ethernet interface unit.
	SI-J1	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.

③ PLC Option card

Type	Model	Description	Function
PLC option cards	3G3RV-P10CDT-E	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
	3G3-P10CDT-E-DRT	PLC option with DeviceNet	Same features than standard models with DeviceNet support

④ Accessories

Type	Model	Description	Function
Digital operators	JVOP-160-OY	5 lines LCD digital operator *1	Configuration and monitoring device.
	JVOP-161-OY	7 segment LED digital operator	
	JVOP-162	Hand-Off auto operator	
Accesories	3G3IV-PCN126 3G3IV-PCN326	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-PCN329-E	PC configuration cable	Cable to connect inverter and PC

*1 LCD digital operator is the standard in IP54 types

④ Computer software

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

⑤ Braking unit, braking resistor unit

Note: For braking units specifications and models refer to the G7 datasheet Cat-No: I21E-EN-02

Specifications

200 V class

Model 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	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

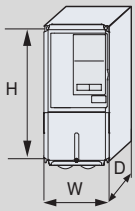
400 V class

Model 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	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												

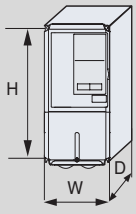
*1 Standard 4-pole motors are used for max. applicable motor output. Choose the inverter model whose rated current is allowable within the motor rated current range.
*2 A 3-wire transformer is required on the power supply for 12-phase rectification
To agg 400V class

Dimensions

Varispeed E7

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

Varispeed E7 IP54

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

Sensorless vector control inverter

The Varispeed V7 is the perfect drive for standard industrial applications such as conveyors, cranes, grinders, etc. It delivers an amazing 100% torque at 0.5 Hz, ensuring a very stable motor speed. It is also extremely compact and silent. It can interface to all popular field buses as an option. You can turn the V7 into a decentralised control station by adding a PLC option board.

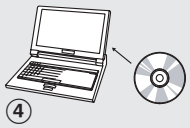
- Sensorless vector control ensures 100% at 0.5 Hz
- Compact size available in IP20 or IP65
- Silent operation with no current de-rating
- Programming software: CX-Drive for parameter configuration
- CASE (inverter application software) and PLC option board

Ordering information

3G3IV-PCN329-E
Inverter to PC cable

④

CX-Drive



④

3G3IV-PEZZ8122_
DIN attachment

④

JVOP-144
Remote digital oper.
with potentiometer

④

JVOP-146
Remote digital oper.
with potentiometer

④

3G3IV-PCN126/326
Digital operator
extension cable

④

Line filter *See note

3G3MV-PFI_
Input noise filter

Power supply

R
S
T

①

Varispeed
V7

Braking accessories

LKEB_

CDBR_B

ERF150WJ_

⑤

* V7 IP65 typer are built-in filter inverters.

Communication unit *See note

②

PLC option unit *See note

③

* Option frames are needed for V7 IP65 type.

Varispeed V7

200 V

Specifications			Model
1 x 200 V	0.12 kW	0.8 A	CIMR-V7AZB0P10
	0.25 kW	1.6 A	CIMR-V7AZB0P20
	0.55 kW	3.0 A	CIMR-V7AZB0P40
	1.1 kW	5.0 A	CIMR-V7AZB0P70
	1.5 kW	8.0 A	CIMR-V7AZB1P50
	2.2 kW	11.0 A	CIMR-V7AZB2P20
	4.0 kW	17.5 A	CIMR-V7AZB4P00
3 x 200 V	0.12 kW	0.8 A	CIMR-V7AZ20P10
	0.25 kW	1.6 A	CIMR-V7AZ20P20
	0.55 kW	3.0 A	CIMR-V7AZ20P40
	1.1 kW	5.0 A	CIMR-V7AZ20P70
	1.5 kW	8.0 A	CIMR-V7AZ21P50
	2.2 kW	11.0 A	CIMR-V7AZ22P20
	4.0 kW	17.5 A	CIMR-V7AZ24P00
	5.5 kW	25.0 A	CIMR-V7AZ25P51
	7.5 kW	33.0 A	CIMR-V7AZ27P51

400 V

Specifications			Model
3 x 400 V	0.37 kW	1.2 A	CIMR-V7AZ40P20
	0.55 kW	1.8 A	CIMR-V7AZ40P40
	1.1 kW	3.4 A	CIMR-V7AZ40P70
	1.5 kW	4.8 A	CIMR-V7AZ41P50
	2.2 kW	5.5 A	CIMR-V7AZ42P20
	3.0 kW	7.2 A	CIMR-V7AZ43P00
	4.0 kW	9.2 A	CIMR-V7AZ44P00
	5.5 kW	14.8 A	CIMR-V7AZ45P51
	7.5 kW	18.0 A	CIMR-V7AZ47P51

Varispeed V7 IP65

200 V

Specifications			Model
1 x 200 V	0.55 kW	3.0 A	CIMR-V7TZB0P405
	1.1 kW	5.0 A	CIMR-V7TZB0P705
	1.5 kW	8.0 A	CIMR-V7TZB1P505
	2.2 kW	11.0 A	CIMR-V7TZB2P205

400 V

Specifications			Model
3 x 400 V	0.55 kW	1.8 A	CIMR-V7TZ40P405
	1.1 kW	3.4 A	CIMR-V7TZ40P705
	1.5 kW	4.8 A	CIMR-V7TZ41P505
	2.2 kW	5.5 A	CIMR-V7TZ42P205
	3.0 kW	7.2 A	CIMR-V7TZ43P005
	4.0 kW	9.2 A	CIMR-V7TZ44P005

① Line filters[*1]

Inverter		Line filter			
Voltage	Model CIMR-V7AZ	Schaffner	Rasmi	Rated current (A)	Weight (kg)
3-phase 200 VAC	20P1 / 20P2 / 20P4 / 20P7	3G3MV-PFI2010-SE	3G3MV-PFI2010-E	10	0.8
	21P5 / 22P2	3G3MV-PFI2020-SE	3G3MV-PFI2020-E	20	1.0
	24P0	3G3MV-PFI2030-SE	3G3MV-PFI2030-E	30	1.1
	25P5 / 27P5	-	3G3MV-PFI2050-E	50	2.3
Single-phase 200 VAC	B0P1 / B0P2 / B0P4	3G3MV-PFI1010-SE	3G3MV-PFI1010-E	10	0.6
	B0P7 / B1P5	3G3MV-PFI1020-SE	3G3MV-PFI1020-E	20	1.0
	B2P2	3G3MV-PFI1030-SE	3G3MV-PFI1030-E	30	1.1
	B4P0	3G3MV-PFI1040-SE	3G3MV-PFI1040-E	40	1.2
3-phase 400 VAC	40P2 / 40P4	3G3MV-PFI3005-SE	3G3MV-PFI3005-E	5	1.0
	40P7 / 41P5 / 42P2	3G3MV-PFI3010-SE	3G3MV-PFI3010-E	10	1.0
	40P4	3G3MV-PFI3020-SE	3G3MV-PFI3020-E	15	1.1
	45P5 / 47P5	3G3MV-PFI3030-SE	3G3MV-PFI3030-E	30	2.3

*1. V7 IP65 types are built-in filter inverters.

② Communication cards

Type	Model	Description	Function
Communication option board	3G3MV-PDRT2[*1]	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-P1/V7[*1]	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-S1/V7[*1]	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.
	3G3MV-PCORT21[*1]	Can open gateway	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-T1/V7[*1]	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. High speed motion bus. Host controller: Trajexia, MCH or MP Series.[*2]

*1 Option frames are needed for V7 IP65 type. Please refer to motion and drive catalogue or contact your OMRON representative.
*2 Please refer to Trajexia, MCH or MP series section for host controllers detailed information.

③ PLC option card

Type	Model	Description	Function
PLC option card	3G3MV-P10CDT-E [*1]	PLC option	Full PLC featrues, wireless installation and seamless access to the inverter parameters and analogue/digital inputs and outputs. Standard OMRON tools can be used for programming Calendar / clock
	3G3MV-P10CDT3-E [*1]	PLC option with RS 422/485	Same features than standard models with RS 422/485 support.

*1 Option frames are needed for V7 IP65 type. Please refer to motion and drive catalogue or contact your OMRON representative.

④ Accessories

Types	Model	Description	Funtions
Digital operator	JVOP-146	Remote digital operator without potentiometer	Configuration and monitoring device
	JVOP-144	Remote digital operator with potentiometer	Configuration and monitoring device
	72606-CVS31060	Blank cover	-----
	3G3IV-PEZZ0838BA	Digital operator case	-----
Accessories	3G3IV-PCN126 3G3IV-PCN326	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-PCN329-E	PC configuration cable	Cable to connect inverter and PC

④ Computer software

Types	Model	Description	Installation
Software	CX - DRIVE	Computer software	Configuration and monitoring software tool for drives. (Version 1.1 or higher)
	CX - ONE	Computer software	Complete automation software including CX-Drive

⑤ Braking unit, braking resistor unit

Note: For braking units specifications and models refer to the V7 datasheet Cat-No: I20E-EN-02

Specifications

200 V class

IP20 single-phase: CIMR-V7AZ			B0P1	B0P2	B0P4	B0P7	B1P5	B2P2	B4P0
IP65 single-phase: CIMR-V7TZ			---	---	B0P405	B0P705	B1P505	B2P205	---
Three-phase CIMR-V7AZ			20P1	20P2	20P4	20P7	21P5	22P2	24P0
Maximum permissible motor output		kW *1	0.12	0.25	0.55	1.1	1.5	2.2	4.0
Output characteristics	Inverter capacity	kVA	0.3	0.6	1.1	1.9	3.0	4.2	6.7
	Rated output current	A	0.8	1.6	3.0	5.0	8.0	11.0	17.5
	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..230V 50/60 Hz Single-phase 200..240V 50/60 Hz						
	Allowable voltage fluctuation		-15%..+10%						
	Allowable frequency fluctuation		+5%						

*1 Based on a standard 4-pole motor for maximum applicable motor output. Select the inverter model within the allowable motor rated current

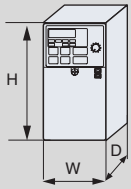
400 V class

IP20 three-phase: CIMR-V7AZ			40P2	40P4	40P7	41P5	42P2	43P0	44P0	44P5	47P5
IP65 three-phase: CIMR-V7TZ			---	40P405	40P705	41P505	42P205	43P005	44P005	---	---
Maximum permissible motor output		kW *1	0.37	0.55	1.1	1.5	2.2	3.0	4.0	5.5	7.5
Output characteristics	Inverter capacity	kVA	0.9	1.4	2.6	3.7	4.2	5.5	7.0	11.0	14.0
	Rated output current	A	1.2	1.8	3.4	4.8	5.5	7.2	9.2	14.8	18.0
	Max. output voltage		Proportional to input voltage: 0..400 V								
	Max. output frequency		400 Hz								
Power supply	Rated input voltage and frequency		3-phase 380..460 VAC, 50/60 Hz								
	Allowable voltage fluctuation		-15%..+10%								
	Allowable frequency fluctuation		+5%								

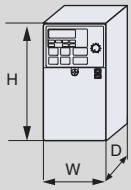
*1 Based on a standard 4-pole motor for maximum applicable motor output. Select the inverter model within the allowable motor rated current

Dimensions

Varispeed V7

Specifications		Drive model	H	W	D	
1-phase 200 VAC	0.12 kW	CIMR-V7AZB0P10	68	128	76	
	0.25 kW	CIMR-V7AZB0P20				
	0.55 kW	CIMR-V7AZB0P40			131	
	1.1 kW	CIMR-V7AZB0P70	108		140	
	1.5 kW	CIMR-V7AZB1P50			156	
	2.2 kW	CIMR-V7AZB2P20	140		163	
	4.0 kW	CIMR-V7AZB4P00	170		180	
3-phase 200 VAC	0.12 kW	CIMR-V7AZ20P10	68	128	76	
	0.25 kW	CIMR-V7AZ20P20				
	0.55 kW	CIMR-V7AZ20P40			108	
	1.1 kW	CIMR-V7AZ20P70			128	
	1.5 kW	CIMR-V7AZ21P50	108		131	
	2.2 kW	CIMR-V7AZ22P20			140	
	4.0 kW	CIMR-V7AZ24P00	140		143	
	5.5 kW	CIMR-V7AZ25P51	180		170	
	7.5 kW	CIMR-V7AZ27P51				
3-phase 400 VAC	0.37 kW	CIMR-V7AZ40P20	108	128	92	
	0.55 kW	CIMR-V7AZ40P40			110	
	1.1 kW	CIMR-V7AZ40P70			140	
	1.5 kW	CIMR-V7AZ41P50			156	
	2.2 kW	CIMR-V7AZ42P20				
	3.0 kW	CIMR-V7AZ43P00	140		143	
	4.0 kW	CIMR-V7AZ44P00				
	5.5 kW	CIMR-V7AZ45P51	180	260	170	
	7.5 kW	CIMR-V7AZ47P51				

Varispeed V7 IP65

Specifications		Drive model	H	W	D	
1-phase 200 VAC	0.55 kW	CIMR-V7TZB0P405	260	275	150.3	
	1.1 kW	CIMR-V7TZB0P705				
	1.5 kW	CIMR-V7TZB1P505				
	2.2 kW	CIMR-V7TZB2P205				
3-phase 200 VAC	0.55 kW	CIMR-V7TZ40P405	260	275	150.3	
	1.1 kW	CIMR-V7TZ40P705				
	1.5 kW	CIMR-V7TZ41P505				
	2.2 kW	CIMR-V7TZ42P205				
	3.0 kW	CIMR-V7TZ43P005				
	4.0 kW	CIMR-V7TZ44P005				

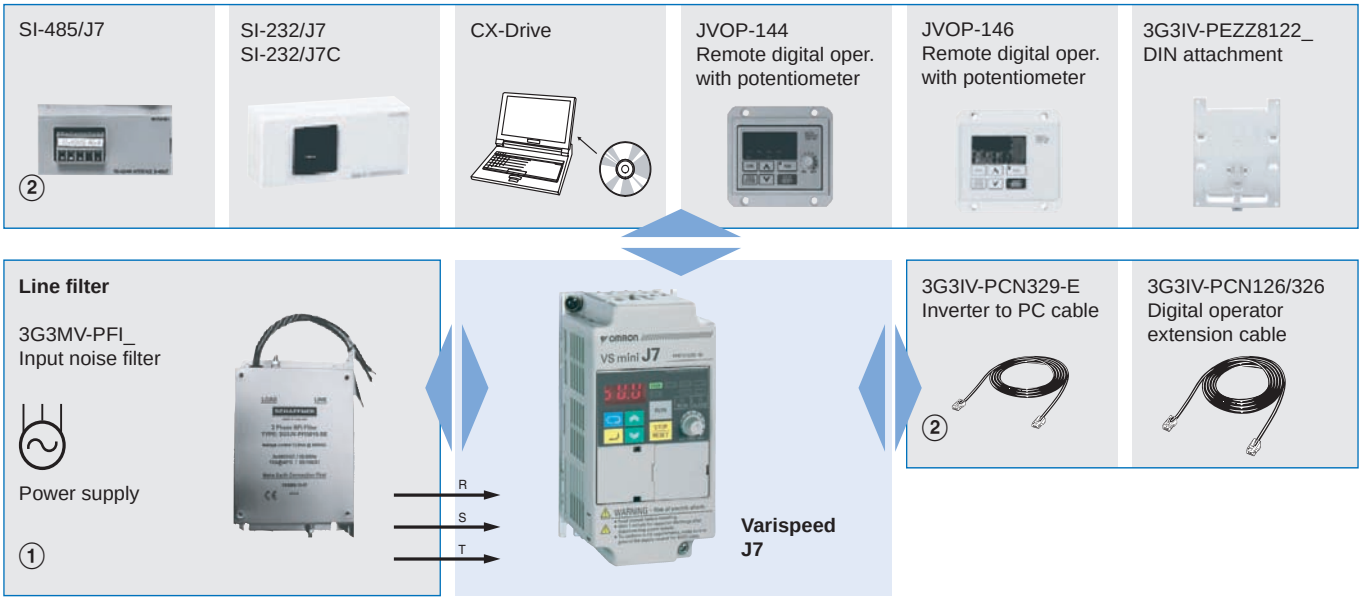
Note: For option frames sizes needed for V7 option boards please refer to motion and drive catalogue or contact your OMRON representative.

Small, simple and smart

With simplicity and cost-effectiveness in mind, the J7 was designed to meet low-end simple applications such as conveyors, fans and pumps in small power applications. With on-line torque compensation the J7 can deliver 100% torque down to 1.5 Hz. For quick installation and set-up the J7 is fitted as standard with a digital operator and speed volume.

- Easy to use. Just WIRE and RUN.
- Good torque performance: 100% torque at 1.5 Hz, 150% at 3 Hz
- Compact size
- RS-485 and RS-232C option unit
- Programming software: CX-Drive for parameter configuration

Ordering information



Varispeed J7

200 V

Specifications			Model
1 x 200 V	0.12 kW	0.8 A	CIMR-J7AZB0P10
	0.25 kW	1.6 A	CIMR-J7AZB0P20
	0.55 kW	3.0 A	CIMR-J7AZB0P40
	1.1 kW	5.0 A	CIMR-J7AZB0P70
	1.5 kW	8.0 A	CIMR-J7AZB1P50
3 x 200 V	0.12 kW	0.8 A	CIMR-J7AZ20P10
	0.25 kW	1.6 A	CIMR-J7AZ20P20
	0.55 kW	3.0 A	CIMR-J7AZ20P40
	1.1 kW	5.0 A	CIMR-J7AZ20P70
	1.5 kW	8.0 A	CIMR-J7AZ21P50
	2.2 kW	11.0 A	CIMR-J7AZ22P20
	4.0 kW	17.5 A	CIMR-J7AZ24P00

400 V

Specifications			Model
3 x 400 V	0.37 kW	1.2 A	CIMR-J7AZ40P20
	0.55 kW	1.8 A	CIMR-J7AZ40P40
	1.1 kW	3.4 A	CIMR-J7AZ40P70
	1.5 kW	4.8 A	CIMR-J7AZ41P50
	2.2 kW	5.5 A	CIMR-J7AZ42P20
	3.0 kW	7.2 A	CIMR-J7AZ43P00
	4.0 kW	9.2 A	CIMR-J7AZ44P00

① Line filters

Inverter		Line filter			
Voltage	Model CIMR-J7AZ	Schaffner	Rasmi	Rated current (A)	Weight (kg)
3-phase 200 VAC	20P1 / 20P2 / 20P4 / 20P7	3G3JV-PFI2010-SE	3G3JV-PFI2010-E	10	0.68
	21P5 / 22P2	3G3JV-PFI2020-SE	3G3JV-PFI2020-E	16	0.84
	24P0	---	3G3JV-PFI2030-E	26	1.0
Single-phase 200 VAC	B0P1 / B0P2 / B0P4	3G3JV-PFI1010-SE	3G3JV-PFI1010-E	10	0.45
	B0P7 / B1P5	3G3JV-PFI1020-SE	3G3JV-PFI1020-E	20	0.68
3-phase 400 VAC	40P2 / 40P4	3G3JV-PFI3005-SE	3G3JV-PFI3005-E	5	0.57
	40P7 / 41P5 / 42P2	3G3JV-PFI3010-SE	3G3JV-PFI3010-E	10	0.67
	43P0 / 44P0	3G3JV-PFI3020-SE	3G3JV-PFI3020-E	20 / 15	1.0

② Accessories

Type	Model	Description	Funtions
Digital operator	JVOP-146	Remote digital operator without potentiometer	Configuration and monitoring device
	JVOP-144	Remote digital operator with potentiometer	
Interface units	SI-232/J7 (3G3JV-PSI232J)	RS232 adapter	Another option SI-232/J7C (3G3JV-PSI232JC) is available, the only difference is that this one is removable.
	SI-485/J7 (3G3JV-PSI485J)	RS485 adapter	
Accessories	3G3IV-PCN126 3G3IV-PCN326	Digital operator extension cable 1 meters 3 meters	SI232/J7 is necessary to connect
	3G3IV-PCN329-E	PC configuration cable	SI232/J7 is necessary to connect

② Accessories

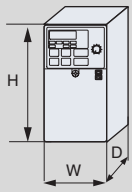
Type	Model	Description	Installation
Software	CX-DRIVE	Computer software	Configuration and monitoring software tool for drives
	CX-ONE	Computer software	Complete OMRON automation software including CX-Drive

Specifications

Voltage class		200V Single / three-phase							400V three-phase						
Model CIMR-J7AZ□	Three-phase	20P1	20P2	20P4	20P7	21P5	22P2	24P0	40P2	40P4	40P7	41P5	42P2	43P0	44P0
	Single-phase*1	B0P1	B0P2	B0P4	B0P7	B1P5	–	–	–	–	–	–	–	–	–
Max. applicable motor output kW (HP) *2		0.12	0.25	0.55	1.1	1.5	2.2	4.0	0.37	0.55	1.1	1.5	2.2	3.0	4.0
Output Characteristics	Inverter capacity kVA	0.3	0.6	1.1	1.9	3.0	4.2	6.7	0.9	1.4	2.6	3.7	4.2	5.5	7.0
	Rated output current A	0.8	1.6	3	5	8	11	17.5	1.2	1.8	3.4	4.8	5.5	7.2	9.2
	Max. output voltage V	3-phase, 200 to 230 V (proportional to input voltage) Single-phase, 200 to 240 V (proportional to input voltage)							3-phase, 380 to 460 V (proportional to input voltage)						
	Max. output frequency	400 Hz (programmable)													
Power supply	Rated input voltage and frequency	3-phase, 200 to 230 V, 50/60Hz Single-phase, 200 to 240 V, 50/60Hz							3-phase, 380 to 460 V, 50/60Hz						
	Allowable voltage function	-15 to +10%													
	Allowable frequency function	±5%													

*1 Single-phase series inverter output is three-phase (for three-phase motors)
*2 Based on a standard 4-pole motor for max. applicable motor output. Select the inverter model whose rated current is larger than motor rated current

Dimensions

Specifications		Drive model	H	W	D	
1 phase 200 VAC	0.12 kW	CIMR-J7AZB0P10	68	128	70	
	0.25 kW	CIMR-J7AZB0P20				
	0.55 kW	CIMR-J7AZB0P40			112	
	1.1 kW	CIMR-J7AZB0P70	108		129	
	1.5 kW	CIMR-J7AZB1P50			154	
3 phase 200 VAC	0.12 kW	CIMR-J7AZ20P10	68	128	70	
	0.25 kW	CIMR-J7AZ20P20				
	0.55 kW	CIMR-J7AZ20P40			102	
	1.1 kW	CIMR-J7AZ20P70			122	
	1.5 kW	CIMR-J7AZ21P50	108		129	
	2.2 kW	CIMR-J7AZ22P20			154	
	4.0 kW	CIMR-J7AZ24P00	140		161	
3 phase 400 VAC	0.37 kW	CIMR-J7AZ40P20	108	128	81	
	0.55 kW	CIMR-J7AZ40P40			99	
	1.1 kW	CIMR-J7AZ40P70			129	
	1.5 kW	CIMR-J7AZ41P50			154	
	2.2 kW	CIMR-J7AZ42P20				
	3.0 kW	CIMR-J7AZ43P00	140		161	
	4.0 kW	CIMR-J7AZ44P00				

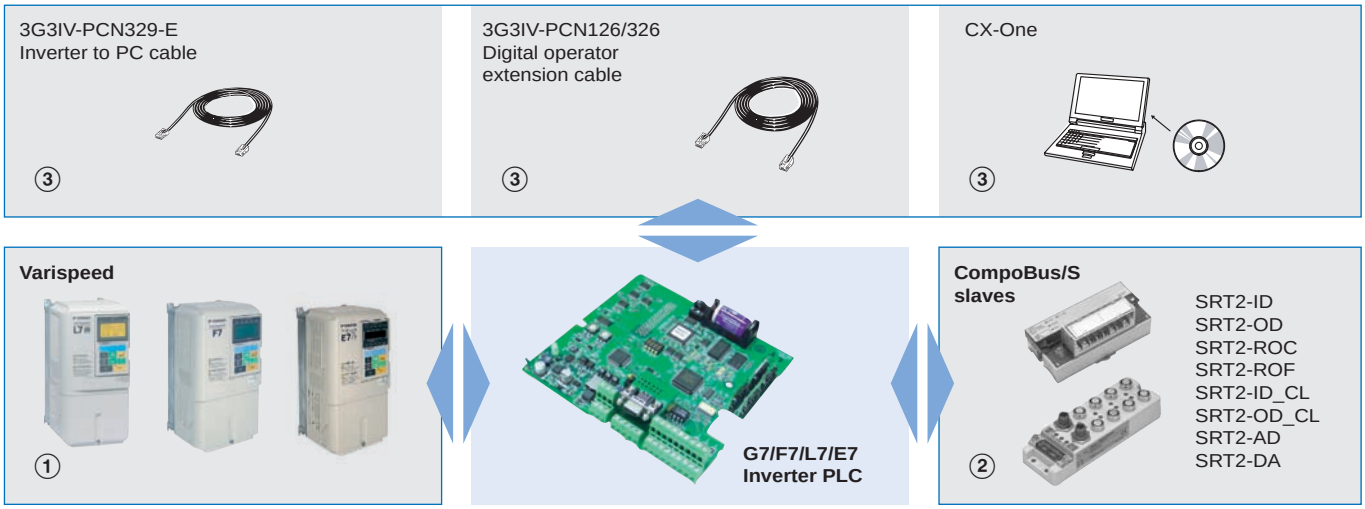
G7/F7/L7/E7 Inverter PLC

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						Model
Inputs	Ouptuts	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	Model
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	Model
Compobus/S slaves	SRT2-XX*1

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

③ Cables

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

③ Computer software

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

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

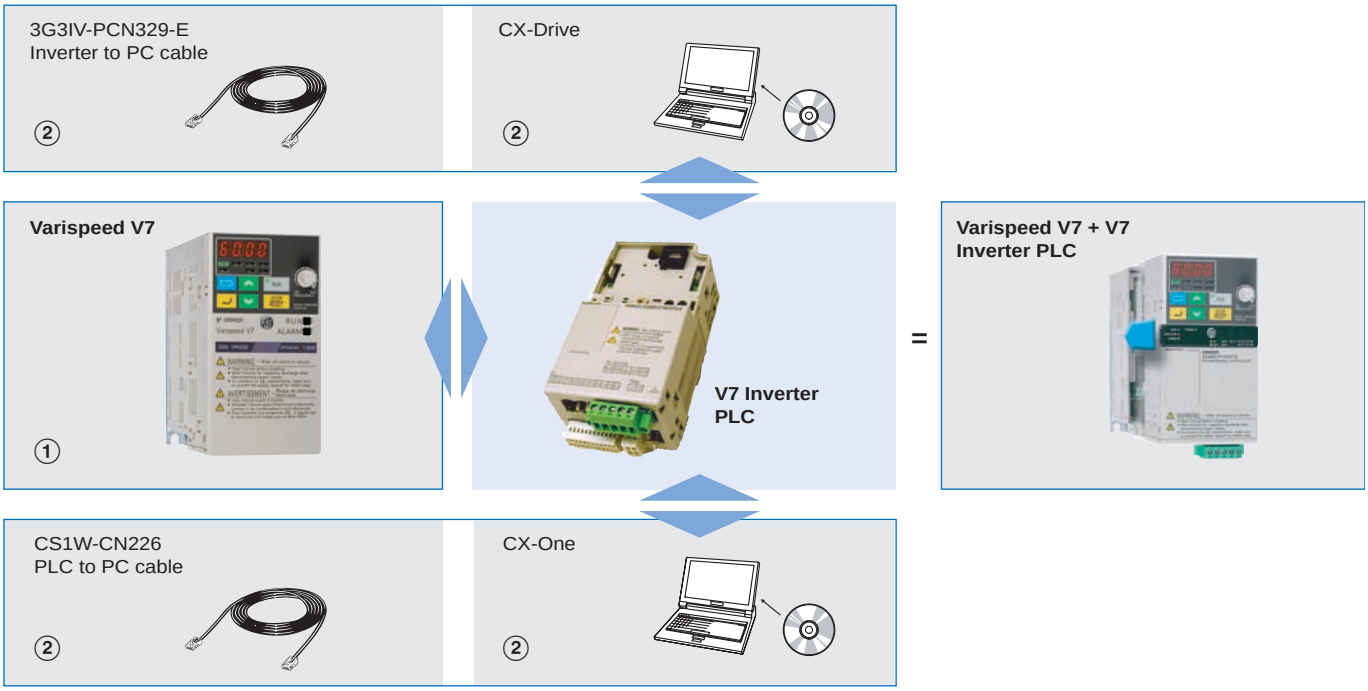
Item		Specifications	
		3G3RV-P10ST8-E	3G3RV-P10ST8-DRT-E
Rated power supply voltage		24 VDC $^{+10\%}/_{-15\%}$ (external power supply for I/O)	
Communications power supply voltage		---	11 to 25 VDC (supplied by communications connector)
Vibration resistance		10 to 20 Hz, 9.8 m/s2 max. 20 to 50 Hz, 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	

The OMRON PLC embedded into the sensorless vector control inverter

This inverter-based architecture provides wireless installation and seamless access to the V7 parameters and analogue / digital I/Os. Ideal for applications such as door control, pump sequencing, intelligent conveyor, vertical-axis control and general positioning

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

Ordering information



Inverter PLC

Specifications				Model
Inputs	Outputs	RS422 port	RTC	
6	4	No	No	3G3MV-P10CDT-E
6	4	Yes	Yes	3G3MV-P10CDT3-E

① Inverters

Specifications	Model
Sensorless vector control inverter	Varispeed V7 *1

*1 For detailed information please refer to Varispeed V7 section.

② Cables

Specifications	Model
Computer connecting cable	CS1W-CN226
Programmable console cable	CS1W-CN224

② Software

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

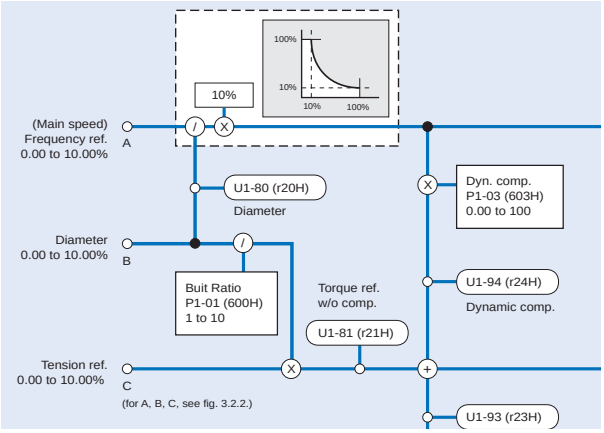
Specifications

Specifications by product

Item	3G3MV-P10CDT-E	3G3MV-P10CDT5-E	3G3MV-P10CDT3-E
PLC core	CPM2C-S	CPM2C-S	CPM2C-S
Inputs	6 24 VDC inputs	6 24 VDC inputs	6 24 VDC inputs
Outputs	3 sinking / NPN transistor outputs	3 sinking / PNP transistor outputs	3 sinking / NPN transistor outputs
	1 relay output	1 relay output	1 relay output
Peripheral port	Yes	Yes	Yes
RS-232C port	Yes	Yes	Yes
RS-422/485 port	No	No	Yes
Calendar / clock	No	No	Yes
Memory backup	Flash memory and capacitor	Flash memory and capacitor	Flash memory and battery

General specifications

Item		Specifications	
Rated power supply voltage		24 VDC $^{+10\%}/_{-15\%}$ (External power supply for I/O)	
Vibration resistance		0.15 mm (10-57 Hz) 9.8 m/s^2 (57-150 Hz) 9.8 m/s^2 (57-150 Hz) In all directions (X, Y, Z)	
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	
Output bits		01000 to 01003 (4 physical outputs)	
Inverter interface		Direct interface with V7 inverter through IR-memory DM-memory Transfer command	
Quick-response input		2 inputs (minimum input signal width: 50 µs)	
Interrupt processing	External interrupts	2 bits (used in common for input interrupt counter mode and high-speed inputs.)	
	Scheduled interrupts	1 bit (scheduled interrupts or one-shot interrupts)	
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 Differential phase mode (5 kHz) Pulse plus direction input mode (20 kHz) Up / down input mode (20 kHz) Increment mode (20 kHz)	No interrupt 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
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	
Clock / calendar function		Yes. 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		Non-volatile memory, user program, DM (read only), PLC setup	
		Fixed internal lithium battery (5 years, not replaceable by the user) or capacitor DM (read / write), HR, SR and CNT areas	
Self-diagnostic function		CPU errors, memory errors, communications errors, setting errors, battery errors	



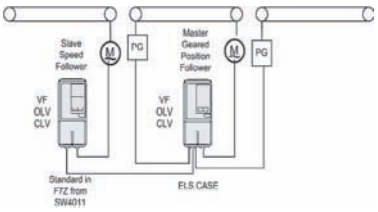
Customised software to meet your specific application requirements

The customised application software gives to a standard inverter the features of a dedicated solution

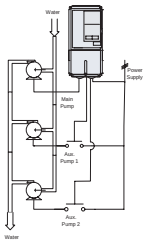
- The CASE software is a special software file that can be downloaded into a standard inverter providing additional functionality.
- Logic functions can be added.
- I/O´s settings can be set for special functionality.
- Specific paremeters, monitors and alarms can be added with application units.

Ordering information

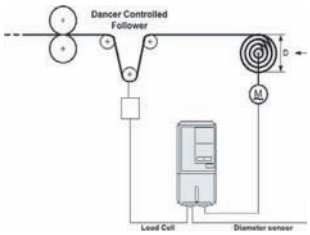
ELS software S-8161

① 

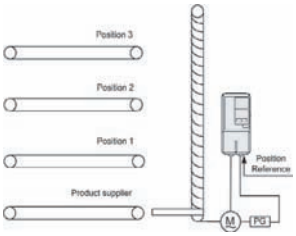
Pump sequencer software S-8801

① 

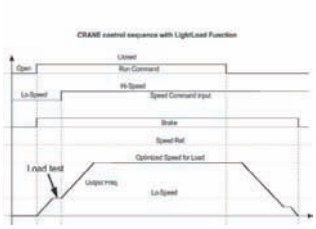
Winder software S-8180

① 

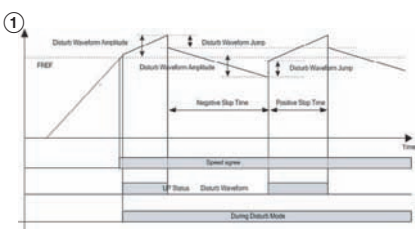
Point to point software S-8795

① 

Crane software S-7071

① 

Traverse software S-9381

① 

② 

Varispeed G7

Varispeed F7

Varispeed E7


Varispeed V7

Note: The symbols ①② show the recommended sequence to build the item name with CASE software.

① CASE software

Type	CASE software	Description	Application
CIMR-F7Z-S	7071	Dedicated software for crane applications	Cranes
	8161	Dedicated software for position and speed follower applications	Synchronized movements
	8180	Dedicated software for rewinding and unwinding applications	Rewinding & unwinding
	8795	Dedicated software for point to point position applications	Point to point movement applications
	7061	Dedicated software for 1.000 Hz output frequency	High speed
	8091	Dedicated software for position deceleration	Positioning at stopping.
	8600	Dedicated softeware for local / remote smooth changover	Local / remote control
CIMR-E7Z-S	8801	Dedicated software for pump squencer applications	Water supply, building HVAC.
	8810	Dedicated software for dynamic current limitation	Industrial pumping
CIMR-V7AZ-S	9381	Dedicated software for textile wire winding applications	Textile winding
	5502	Dedicated software for kinetic energy backup	Control under power loss conditions
	9640	Dedicated software for dinamic PID change	Variable load
	9646	Dedicated software for modification on main frequency from F.R.	Fine speed adjustments
	9662	Dedicated software for valve cleaner sequences for filter units	Valves
	9666	Dedicated software for ceramics customised functionality	Ceramics
	9676	Dedicated software for textile customised functionality	Textile
	9683	Dedicated software for textile customised functionality	Textile

Note: - For other CASE sofware examples and ordering information, please contact your standard OMRON YASKAWA supplier.
- To request new CASE software customised to meet application specific functionality, please contact your standard OMROM YASKAWA supplier.

② Inverters

Specifications	Model
3 level control method inverter	Varispeed G7
Flux vector control inverter	Varispeed F7
Pumps & fans inverter	Varispeed E7
Sensorless vector control inverter	Varispeed V7

Note: Refer to the inverters G7 / F7 / E7 / V7 series chapter for detailed inverter specifications and selection.