

Product News

Autumn 2010

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The world's first slim industrial solid-state relay

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Our knowledge at your fingertips

Following its introduction in April 2009, the new online after sales service and support portal from Omron, has continued to grow at an incredible rate. myOMRON is a multi-featured web portal that's designed to help our customers with information, support, and interactive advice delivered straight to their desktop.

Within one year myOMRON has grown to over 7000 registered customers who regularly make use of myQuestions to get answers to their after sales technical questions. They are benefiting from the knowledge and experience of the Omron application engineers right across Europe. In addition they can use myKnowledge to read over 1000 technical articles, download utilities, examples and much more.



To find out more, or register for free – just visit www.myomron.com

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TJ2-MC64 Trajexia stand-alone motion controller



Features and benefits:

- Perfect control of 64 axes
- Each axis moves can be programmed using linear, circular, helical or spherical cams and gearboxes
- Open communication – Serial and Ethernet/IP built-in, EtherCAT, MECHATROLINK-II, PROFIBUS-DP, DeviceNet and CANopen options
- Reuse of engineering – Compatible programming with existing stand-alone and PLC based Trajexia CPUs



Total freedom in motion control

64 axes motion controller

Omron has expanded Trajexia stand-alone product line with a new controller that provides a large improvement in performance and accuracy. Based on 64bit 400MHz MIPS processor the new TJ2-MC64 controller allows you to run your machines faster.

Controlling all 64 axes with a total system cycle time of 1 ms and with the use of 64 bit integers, Trajexia TJ2-MC64 ensures the fastest operation at the highest accuracy. It is ideal for high demanding packaging, printing and textile machines.

The new controller maintains compatibility with the instruction set of existing Trajexia controller units while adding new features like the support for EtherNet/IP communications or the control of Scara and Delta robots.

As you would expect, a wide choice of best-in-class rotary and linear servos as well as inverters are available to meet your needs in compactness, performance and reliability.

Motion & Drives

Sigma 5



EtherCAT option board

The Sigma-5 incorporates decades of experience in servo design and has all that you would expect from a servo and more. The new EtherCAT option board implements the CANopen drive profile (CiA402) with the EtherCAT digital communication bus. This allows you to control a Sigma-5 amplifier from an EtherCAT master.

Features and benefits:

- The EtherCAT option board implements the CANopen drive profile (CiA402)
- Quicker positioning and smooth control
- Mechanical vibration suppression
- High Accuracy and low cogging

CJ1W-MC472 Trajexia motion controller for PLC



trajexia

4 axes motion controller for PLC

Trajexia expands with a new PLC-based controller

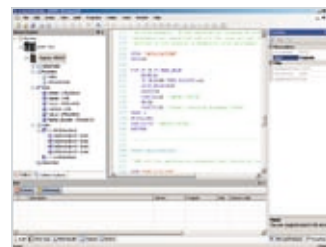
Omron has added a new 4 axes motion controller to the existing 30 axes PLC Trajexia motion unit. The new unit provides better product scalability while reducing engineering time when reusing the same application for small and large machines.

Capable of controlling up to 4 axes, the new motion CPU maintains compatibility with the existing family of Trajexia units while having the same performance level and instruction set as the current 30 axes PLC Trajexia controller.

As you would expect, a wide choice of best-in-class rotary and linear servos as well as inverters are available to meet your needs in compactness, performance and reliability.

Features and benefits:

- Motion controller suitable for machines with low number of axes
- Compact size unit compatible with CJ1 and CJ2 PLCs
- I/O data exchange area with the CJ CPU
- Built-in support for absolute or incremental master encoder
- Embedded 16/8 digital I/Os
- Support for Servos and Inverters in a single MECHATROLINK-II network
- Wide range of motors and drives
- Reuse of engineering. Same programming as existing Stand-alone and PLC based Trajexia CPUs.



trajexia
studio

SX 690V inverters



Features and benefits:

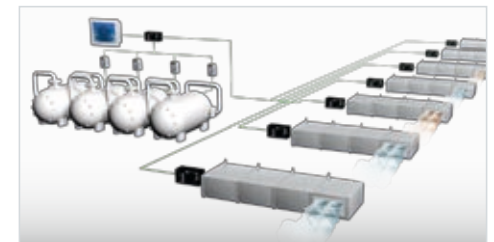
- From 90 kW to 1,000 kW
- Compact size
- Protection from damage and downtime
- Flux vector and variable torque drives
- Double rating
- Standard drive IP54
- Fully customizable (water cooling, etc.)
- Built-in filter - C3 class
- Pre-maintenance functionality
- Simplified maintenance thanks to a minimum of easily accessible mechanical parts
- High functionality LCD
- Logic programming feature

Expanding motor control capabilities

The new SX 690V inverter helps you to optimize the operation of critical assets, such as cranes, crushers, pumps, fans, compressors or blowers. Your process is protected from damage and downtime, and you benefit from reduced installation, energy and maintenance costs.

Fully customizable

Our new solution offers a wide range of options to choose from to fit your application, including: protection class, cooling method, safety, external I/O, or encoder, among others.



Electric motors, as used to drive winches, pumps, cranes and thrusters, all require control of the motor speed. A frequency inverter combines a dependable drive with excellent starting torque and accurate speed control.



www.industrial.omron.eu/690v

L1000 inverter**High performance vector control**

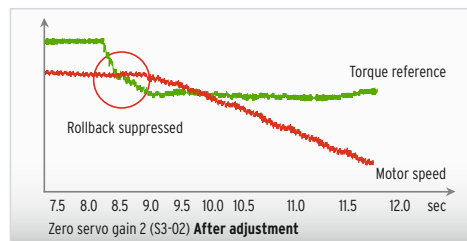
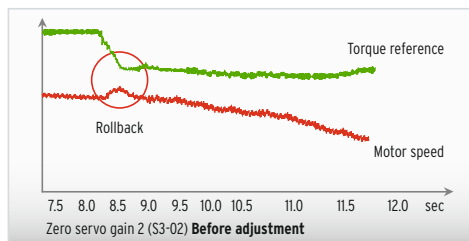
The L1000A is designed for 3 Million starts and more than 70.000 hrs of maintenance free operation. It provides advanced control functions to run induction and PM motor applications in geared or gearless elevator systems. With its motor capacities ranging from 4 to 110 kW the L1000A is capable of driving almost any elevator. In addition, the L1000A is quickly installed and can be integrated into most control systems.

Torque compensation at start without load sensor

New sensor-less torque compensation function includes the advanced anti-rollback function, preventing shock at start to ensure a smooth start

Features and benefits:

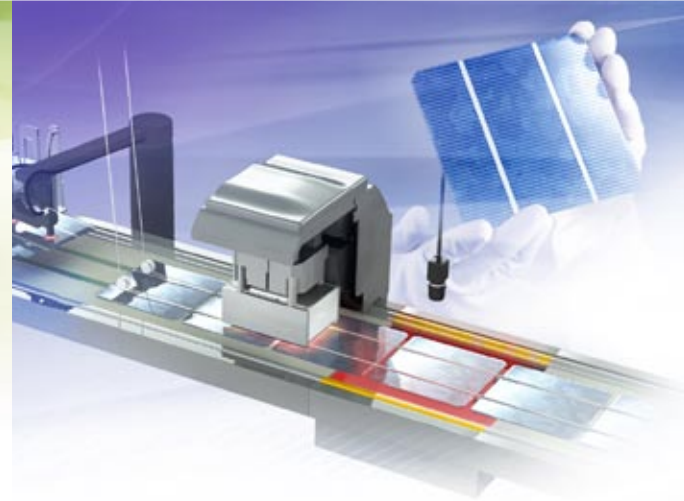
- Up to 55 kW
- For Induction Motor and Permanent Magnet Motor Control.
- High-performance current vector control
- Rotational Auto-Tuning and Stationary Auto-Tuning.
- Torque compensation at start without load sensor
- UPS and light-load direction search function for rescue operation.
- Safety in compliance with EN954-1 safety category 3 stop category 0, EN ISO 13849-1. PLC, IEC/EN61508 SIL2.



Note: Anti-rollback function: provides the right amount of torque compensation to suppress shock and prevent speed variations when the brake is released.



www.industrial.omron.eu/l1000

FlexXpect PV**Features and benefits:**

- Easy and intuitive set-up
- Automatic extraction and teaching of the PV wafer
- Precise inspections with high resolution cameras
- Automatic robot calibration
- Fade-out strings and conveyor belts

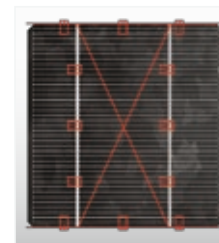
High precision PV wafer alignment & crack inspection

FlexXpect is a modular Vision platform. In combination with the powerful Xpectia hardware, it takes you into a new dimension of specialisation.

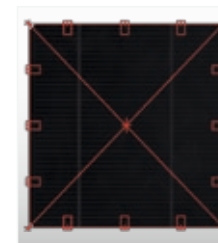
FlexXpect-PV delivers tailored functionality for alignment and the inspection of wafers for chips and cracks.

Supported PV inspections:

- Precise wafer and string alignment
- Accurate chamfer chip inspection
- Detection of minute edge cracks
- Bus bar alignment on the wafer



Bus bar alignment



Outline edge alignment



Precise detection of edge breakage



www.industrial.omron.eu/flexxpect

FQ vision sensor



Features

- One-touch control via simple, icon-driven menu
- Crystal-clear image quality
- Real Colour Processing (16 million colours)
- Operation via PC or handy TouchFinder screen

Simply guided & crystal clear

Omron defines a new era of simplicity and performance with the new FQ vision sensor range. Now you can benefit from state-of-the-art technology without complex operation instructions or technical know-how. With one-touch control via PC or the intuitive TouchFinder console, you can access all functions and settings quickly and easily.

Excellent image quality is achieved from even the most challenging surfaces, with advanced processing tools. And because the FQ Vision Sensor is available in a wide range of models, you won't have to compromise with a choice that has too many or too few features for your needs. So you can be sure of a best-fit solution for your particular application.



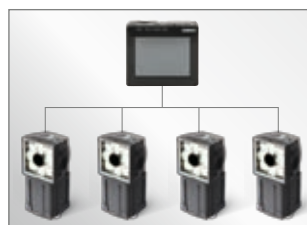
Make it sharp

High performance LEDs and powerful filtering deliver clear images on even the most difficult surfaces.



Simple guided

Always know where you are in operation with the simple navigation menu.



Flexible platform

Select the vision sensor that best fits your application and decide how you want to operate it.



Real color sensing

All RGB gradations (16+ million) are processed directly. No grayscale conversion or color filtering required.



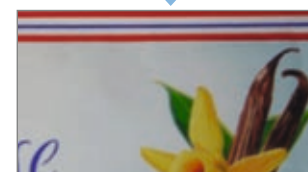
High power lighting

Contrast was once a major issue in image processing. With the FQ Vision Sensor however, every image is bright and clear, with perfect contrast for reliable results.



HDR sensing

Variations in lighting conditions can cause unwanted glare or halation. HDR minimizes these effects, maximizing the stability of inspection results, even countering piece-to-piece variation or misalignment.



Cylindrical photoelectric sensors portfolio



Features and benefits:

- Sizes from 500 µm diameter to M18
- Plastic, brass and stainless steel housings
- Best performance – application fit, just choose the performance you need

Completing the range.....just choose the performance you need

Omron's range of cylindrical photoelectric sensors continues to expand. A global leader in this popular shape, our range has been extended with new standard and special application models.

- New families of M5, M6, M8 and M12 sized sensors
- New transparent object sensor in M18 sized housing
- Portfolio extension in chemical resistant fiber optics
- Portfolio extension in heat resistant fiber optics

New families of M5, M6, M8 and M12 sized sensors						
	•	•	•	•	•	•
	0.5 mm	3 mm/M3	M4 to M6	M8	M12	M18
General	E32 miniature		E32 Standard	NEW: E3T-C	NEW: E3H2	E3F
	Miniature fibers		Standard fibers	Miniature photo sensors		Standard photo sensors
Heat/chemical resistant	EXTENSION: E32 chemical/heat resistant					E3F2-,-S
Transparent detection	E32 Glass detection					NEW: E3FZ-B
Fast mount	E32 Easy mount					E3FZ
Special applications	E32 Vacuum resistant/E32 Area/ E32 Precision/E32 Robot/ E32 Long distance/E32 Special					E3F Radial/E3F2 Widebeam

Note: more information on new E3T-C will be provided in Product News 10

E32 heat and chemical resistant fiber sensors



High flex fibers with 100°C temperature resistance

Features and benefits:

- Heat resistance up to 100 deg.C and bending radius of 2 mm
- Completing the range of heat and chemical resistant fibers up to 400 °C and sizes down to 2 mm dia.

Stay flexible...

...even when the heat is on

The E32-_51R series of heat-resistant fiber sensors can withstand temperatures of up to 100°C providing a bending radius of just 2 mm. This makes them ideal for applications with limited space and hot environments.

Acid, alkaline, alcohol... absolutely

The E32-_11F series has a PTFE cover that provides the highest level of resistance to chemicals and detergents. A new production technique providing increased flexibility ensures best value for money.



www.industrial.omron.eu/e32_standard

E3H2 miniature photoelectric sensors



Features and benefits:

- M8 or M12 sized cylindrical housings
- * Completes the range of cylindrical photoelectric sensors from 500µm diameter up to M18

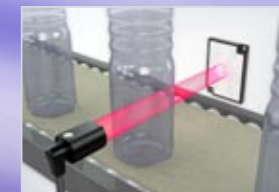
When size does matter

The E3H2 series of miniature photoelectric sensors come in M8 and M12 sized housings completing OMRON's portfolio of cylindrical photoelectric sensors with housing sizes from 500µm diameter up to M18.....just choose the size you need.



www.industrial.omron.eu/e3h2

E3FZ-B transparent object detection sensor



Stable transparent object detection

Features and benefits:

- Easy mounting and adjustment
- Coaxial optics for stable, position-independent detection

It is easy to see things clearly

The E3FZ-B sensor provides reliable detection of all glass and plastic transparent objects and can be easily adjusted by potentiometer.

The compact M18 housing is easy to install and features the same coaxial detection performance as the recently introduced E3ZM-B_T of OMRON's most popular rectangular E3Z family.



www.industrial.omron.eu/e3fz-b

CP1E



The all-in-one package for small applications

Omron's CP1 family continues to grow. The latest members of the family are the CP1E-NA models. They have two analog inputs, and one analog output. Standard on board. The two AIs can be used to read pressure, position or speed, and the AO to control an inverter or valve. This makes the CP1E-NA model a perfect solution for small control tasks.

Features and benefits:

- 2 analog inputs with a 1/6000 resolution
- 1 analog output with a 1/6000 resolution
- 2 100kHz pulse outputs for highprecision position control
- 2 100kHz and 4 10kHz, singlephase high-speed counters
- 20 digital in & 8 digital out



www.industrial.omron.eu/cp1e

CJ2M series PLCs



Proven track record
Based on the highly popular CJ1, the CJ2 combines field-proven technology with a wider choice of CPUs.



Faster development
Faster development by the use of tag-based communications technology, on-line debugging improvements and the added function block memory.



Talks to all
The CJ Family supports major open networking technologies



Features and benefits

- Always accessible through standard USB port
- Standard Ethernet port with EtherNet/IP Data Link function
- Wide range of program capacities, from 5 Ksteps to 60 Ksteps
- High-speed pulse I/O module connects directly to the CPU
- Serial option board for CJ2M-CPU
- Dedicated function block memory

Omron enhances PLC performance and flexibility with CJ2M series

A versatile and cost-effective choice for applications of low to medium complexity, the new CJ2M range of programmable controllers from Omron has been specifically designed to help users meet demands for increasing intelligence and flexibility in control systems, while at the same maintaining competitive pricing. The new CJ2M controllers complement the recently introduced CJ2H models, which offer similar benefits in high-end applications.

Evolution of CJ1

Based on the proven technology of Omron's CJ1 PLCs, which are in use in hundreds of thousands of applications around the world, the new CJ2M products offer a wider choice of CPUs, faster operating speed, more memory and enhanced communications facilities, including optional integrated Ethernet support.

Scalability made easy

Two more important benefits of CJ2M PLCs, which they share with their CJ2H high-end counterparts, are consistent architecture across the whole range, which means that up- or down-scaling applications is fast and easy, and upgraded support for function blocks. These allow blocks of program to be developed for commonly used functions; the blocks can then be re-used as required, either in the same project or in new projects, leading to big reductions in the time needed for programming and testing.

Open for Communication

CPUs in the CJ2M range are available to suit any task, starting at 5 Ksteps program capacity plus 64 Kwords memory. The CJ2M models offer up to 60 Ksteps and 160 Kwords, while the CJ2H extends this to 400 Ksteps and 832 Kwords. All versions have a USB port to provide convenient access for programming, maintenance and troubleshooting, and all are offered with a choice of either an integrated Ethernet port with EtherNet/IP Data Link function or an RS-232C serial interface. To provide even greater versatility, the Ethernet models have a slot that can optionally be fitted with an RS-232C/422/485 port.

Fully compatible

CJ2 PLCs can be connected to all CJ1 I/O units, making it easy and inexpensive for users to upgrade or expand existing installations. A new pulse I/O add-on module for CJ2M CPUs has been introduced recently. This will allow any CJ2M CPU to directly control up to four motion axes up to 100 kHz, using the same dedicated instructions as in CJ1M Pulse I/O CPUs.



Ethernet



www.industrial.omron.eu/cj2m

CX-One



New features and benefits:

- Structures and Arrays
- New Smart Input Ladder Programming
- Cross reference popup
- Simple Ethernet/IP setup



CX-One - One software is all you need

Enhanced features that make your life even easier

The latest release of CX-One (v4) introduces a variety of features that are designed to save you time, reduce mistakes and enhance reuse when you are developing your automation solution.

Besides these improvements, there are many other new functions including support for the latest PLC (CJ2M).

Name	Data Type
sPump	
• bRunning	BOOL
• nSpeed	INT
• fFlowRate	LREAL
• bOverHeatAlarm	BOOL
• bFlowAlarm	BOOL

2	LD	Bit (1/1)	
4		0.00	Auxiliary Relay Area ...
6		Address	Name
		C0000	myCounter
		D0.00	myPump.bRunning
		D6.00	myPump.bOverHe...
		D6.01	myPump.bFlowAlarm
		T0011	myTimer

Structures & Arrays

The new support for user defined structures and arrays, greatly improves the ability to easily reuse proven code. Complex data types can be created to save hours of readdressing during reuse.

Smart Input

Key presses required to program in ladder are reduced by up to 50% thanks to the new smart input "predictive" mode. A popup that displays relevant options to guide you through symbol selection based on the instruction.

CX-Designer software



New features and benefits:

- Seven ready-to-use screen templates
- Great variety of new button styles
- Many colour variations possible
- Easy drag & drop from library

Designing attractive HMI applications was never so easy

New graphical library for NS HMI

With CX-Designer v3.12, the latest version of the programming tool for the NS HMI series - ready-to-use screen templates enable you to design an HMI screen really fast. Simply drag & drop one of the seven templates from the library and your screen design is finished! The screen template contains a background image, border/frame styles, different buttons and numeral inputs, all in a matching look.

Each template has a modern 'look' (Game, Water, Aluminum, Dot, Metal, Lighting and Metal plate) available in a variation of colors.

With the transparent setting you can set the background transparent to show underlying graphics, which gives you more flexibility in design. The all new designed graphics can also be found in the CX-Designer library.

The new CX-Designer v3.12 is included in the CX-One Auto-Update as of August 2010. The NS templates can be found on the Omron website and easily installed in the CX-Designer library.
www.industrial.omron.eu/nshmi_library



www.industrial.omron.eu/cx-one



www.industrial.omron.eu/nshmi_library

F3S-TGR-CL safety sensor accessories



Muting actuator system F39-TGR-MCL

Automated production systems can be protected using fixed guards, but where material goes in and out of a danger zone, muting can aid efficiency without affecting operator safety.

Features and benefits:

- Reliable detection of unevenly packed pallets
- Reliable detection even with stretched foil
- Direct mounting using the T-Slots of F3S-TGR-CL safety sensor
- Active/active and active/passive actuators for any application
- One model supports T- and L-muting setup
- Plug-and-play solution



www.industrial.omron.eu/f3s-tgr-cl

F3S-TGR-CL safety sensor accessories



Adjustable stands family F39-TGR-AS

This complete family of adjustable stands supports perimeter guarding around machines and muting applications where material is going in or out a dangerous zone.

Features and benefits:

- Integrated mounting system for F3S-TGR-CL safety sensors
- Robust floor mounting system with integrated alignment
- Level in top cover for easy setup and alignment
- Covers safety sensor mounting, horizontal mirror systems and muting applications
- T-, L- and X-muting is supported by adjustable muting sensor mounting brackets



www.industrial.omron.eu/f3s-tgr-as

G9SP safety controller



Modular safety control

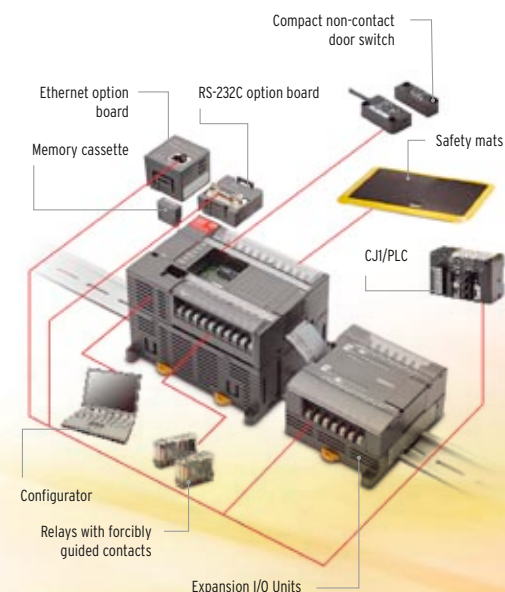
The Omron G9SP is a new range of configurable safety controllers suited to the packaging, food, automotive components, injection moulding and printing industries. Because it isn't hardwired into your system, you benefit from a new flexibility, easily reconfiguring the unit when new safety features are added to your set-up. Three different models are available, with a range of I/O lines, so you can choose the most suitable for your system. Each one is compatible with the Omron configuration tool, recognised by industry as one of the most simple and accessible on the market.

Configurable, flexible, simple: the keys to safety

Every safety system relies on correct set up and the most suitable equipment. The Omron G9SP makes this easier than ever to do. The features of this product range give your new or existing set-up a range of benefits.

Features and benefits:

- Configurable unit
- Handles function blocks for non-contact switches, single-beam sensors and safety mat inputs
- Faster and easier integration compared to hardwired systems
- Single simple GUI for configuration, simulation, testing and validation
- Greatly reduced set-up time
- EN ISO 13849-1 ready (PLe)



www.industrial.omron.eu/g9sp

TCViews mini-SCADA for temperature controllers**Features and benefits:**

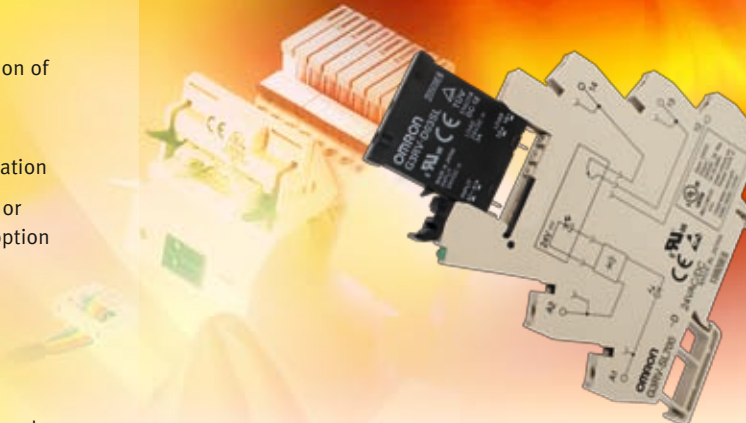
- Monitoring and manipulation of temp. controller operating parameters
- Temperature trend visualization
- Data logging of any length or interval and with encrypt option
- Save and restore TCViews configurations
- Multilevel user interface
- Multilanguage support
- Supports all new E5_N(-H) and most older Omron temp. controllers

Easy connection of multiple temperature controllers

TCViews is Windows-based software providing real-time temperature monitoring, continuous data logging and powerful data visualization. To provide quick access to all TC data and simple TC parameter setting, TCViews connects multiple temperature controllers to a standard or industrial PC.



www.industrial.omron.eu/tcviews

G3RV slim industrial solid-state relay**The world's first slim industrial solid-state relay**

The G3RV Industrial Slim Relay is the first slim (6.2 mm) truly industrial relay of its type in the world. Compatible with Omron's highly-popular G2RV series of 6 mm slim plug-in relays, it shares many of the benefits, including space saving. However, the solid-state design of the G3RV gives it superior life expectancy and reliability, as well as faster switching times and many other benefits.

Features and benefits:

- Long electrical life and high-speed switching
- Large plug-in terminals for reliable connection
- DC load models can manage resistive loads of 100 micro A to 3.0 A
- LED indicator for visible operation checking
- Quick connection via push-in models and cross-bar connectors
- Low power consumption for energy savings



Ideal for applications where fast and repetitive load switching is needed. The G3RV is perfectly suitable for switching inductive DC loads such as solenoid valves whereas it works completely wear-free, since it has no mechanical parts. A damping diode is required in order to suppress the counter-electromotive force.



www.industrial.omron.eu/g3rv

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- Temperature controllers • Power supplies • Timers
- Counters • Programmable relays
- Digital panel indicators • Electromechanical relays
- Monitoring products • Solid-state relays
- Limit switches • Pushbutton switches
- Low voltage switch gear

Sensing & Safety

- Photoelectric sensors • Inductive sensors
- Capacitive & pressure sensors
- Cable connectors
- Displacement & width-measuring sensors • Vision systems
- Safety networks • Safety sensors • Safety units/relay units
- Safety door/guard lock switches