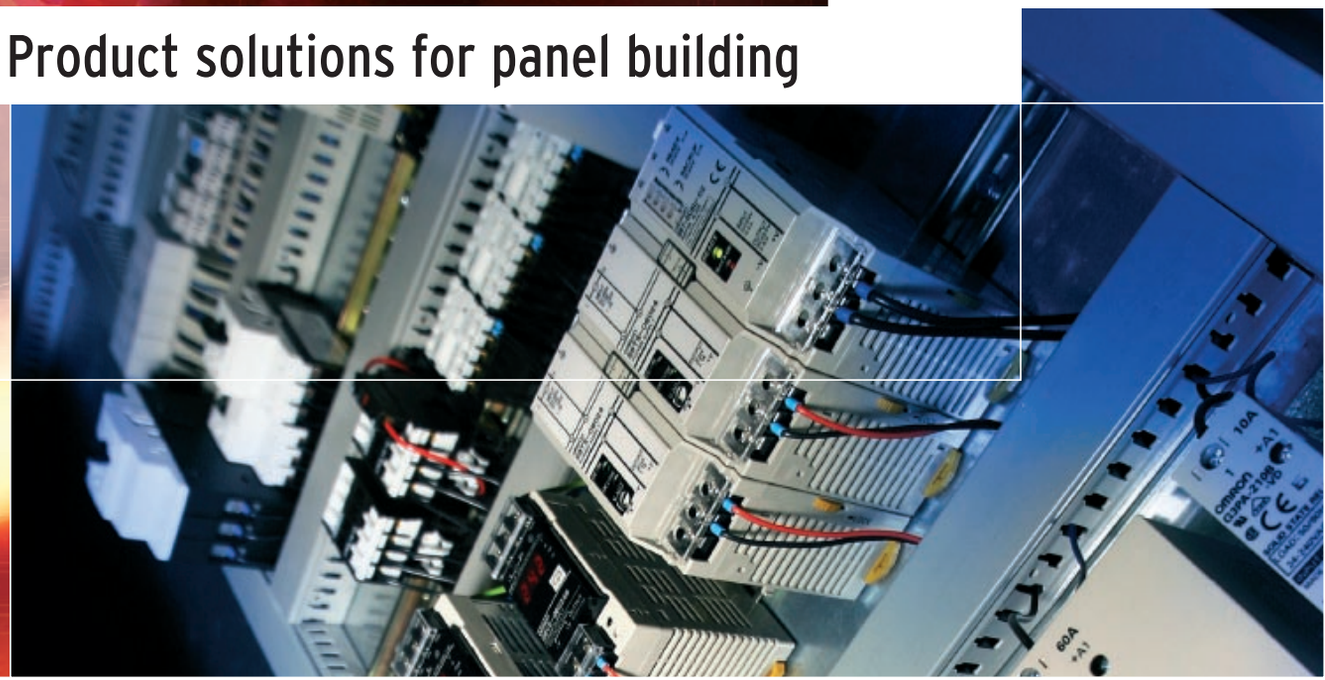
Product solutions for panel building

Switching

Control

Power

Display



Advanced Industrial Automation

OMRON

PRODUCT SOLUTIONS FOR PANEL BUILDING

Omron's core business continues to be equipping electrical control components for panels around the world. The growth of industrial automation has demanded the supply of mechanical and electronic components that can be integrated to provide a control system. Omron has risen to this challenge by becoming one of the first global suppliers of panel products.

While control automation has become an established field, the challenge of more recent times has been to develop products for panel designers and builders that offer superior performance and user-friendliness. Omron has taken the lead in these competitive times by listening to customers and delivering technologically advanced products that meet the demands of their markets.

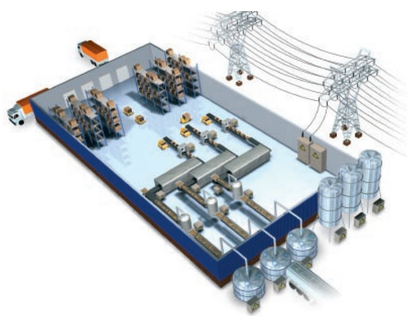
Pioneers in the industry

In 1933, Omron began its relationship with panel builders when Dr Kazuma Tateisi, who designed the world 's first electronic timer for X-ray machines, formed the Tateisi Electric Manufacturing Company to produce timers for a leading X-ray manufacturer.

Drawing on his specialised experience in the manufacture of induction-type relays - the core component in X-ray machine timers - Tateisi developed a new induction-type protective relay for use in power switchboards. A few years later, when relay production picked up, Tateisi built a new factory and expanded into the Tokyo market.

In 1943, Tateisi perfected a long-life precision switch, the first of its kind in Japan. This technological breakthrough became the foundation for Tateisi Electric 's (later Omron Corporation) reputation as a 'technological pioneer' in Japan as the nation entered the automation era.

Omron is now a world leader in industrial automation, a global company with annual sales in excess of $5 billion, employing 25,000 people in 75 countries. The company invests over 7% of its annual turnover in research and design to ensure that leading-edge products are continuously being developed. Industrial panels for process control, power distribution, motor control, building control and many other applications throughout the world are equipped with Omron products.



PANEL PRODUCT TECHNOLOGY

Switching

Omron is the global leader in electromechanical relays, with the best selling MY series having sold in excess of 50 million pieces since it was first introduced. Our range of solid-state relays covers almost every fast-switching application, and there's a new low voltage switch gear range for motor control. In addition, we have a wide range of safety products including door, limit and interlock switches, emergency-stop pushbuttons (from 16mm to 22mm) and relays.

Control

Omron is the largest global supplier of temperature controllers and timers, with ranges of products designed for the simplest to the most complex applications. In addition, Omron has a comprehensive range of solutions for automation and drive applications.

Power

Omron has supported the wide-scale use of safer, lower voltage equipment with its rapidly developing range of DC output switch-mode power supply units. Whilst the S82K power supply has established itself as an industry standard, Omron continues to lead the development of cost-effective, compact, high-performance units.

Display

Omron is currently the only company to feature a complete range of digital controllers and panel indicators with colour-change display characteristics. With this unique function users have the choice of pre-programming the displays to change colour to visualise the status of a process. And the displays offer crystal-clear presentations of data, even from a distance.

QUALITY

Reliability through quality

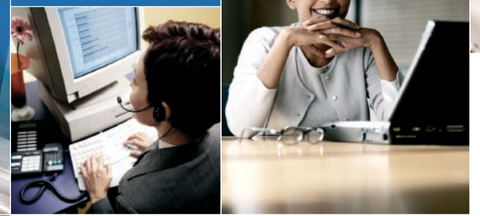
Omron has become synonymous with quality. This, in effect, is a reflection of the proven high reliability of Omron products. Omron fully understands that the reliability of a control panel system is determined by the reliability of its component parts. For this reason, all Omron products are subjected to exhaustive lifetime and operational reliability tests, so users can be sure that specified performances will be achieved. With some products, such as power supplies for example, users now can enjoy standard warranties of 5 years in some countries.

Committed to safety

IEC (International Electro technical Commission) standards are issued as technological standards relating to electricity. Established international safety standards provided by various countries and accepted worldwide are based on IEC standards. Safety requirements on equipment have become stringent in recent years. To demonstrate safety compliance, manufacturers of equipment need to select components that comply with either national or regional safety standards. Omron's products meet all relevant standards so that they can be used throughout the world without restriction.

Quality philosophy

Many companies demand assurances from their suppliers. 'Quality first' is a founding principle of the Omron Corporation. Omron is committed to operating in accordance with the International Standard ISO9000 Quality Management Systems and ISO14001 Environmental Management Systems. The use of lead-free solder and cadmium-free electrical contacts in products are just some examples of Omron 's environmental compliance.



GLOBAL PRESENCE

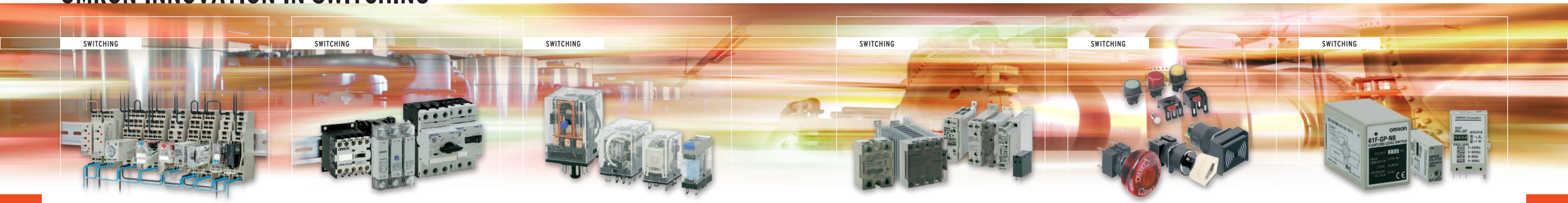
Delivery on demand
Omron is a global company with a presence in 75 countries. Combined with a large distribution network, Omron is able to ensure that any product is readily available where needed. Whether building a new panel or sourcing a spare component, a local Omron supply route will always be available.

Product continuity
Panel builders often need assurance that the product is available not just now but also in the future, so that standard designs can be adopted for engineering efficiency and maintenance planning. Omron supports this practice by manufacturing products with long-life cycles while ensuring that replacements are always available. In addition to this, Omron provides new product choices for users wishing to choose an easy upgrade path.

Optimising product supplies
Sourcing products from different suppliers can be a time-consuming and costly exercise. Omron's vast industrial automation range offers panel builders one-stop-shopping, enabling them to reduce their orders, deliveries and storage space efficiently by sourcing a package or product kit for just-in-time delivery.

Customer service and engineering support
Omron's comprehensive customer service and support complement the company's readily available, high-quality and reliable products. Providing product-engineering information is a necessity for panel designers. Data sheets, manuals and CAD drawings in 2-D and 3-D formats are available from Omron outlets and Omron 's European Product Download Centre (www.europe.omron.com). Omron also has a team of experienced engineers on hand to provide support for technical enquiries including panel product selection, application and design know-how. These experts are available to listen to your suggestions for product improvement and development. And Omron offers a rapid-response after-sales service for product repairs and returns to support maintenance programs and minimise downtime should problems occur on-site.

OMRON INNOVATION IN SWITCHING



Screw-less Clamp (SLC)
Omron is the first manufacturer to use SLC technology in a standard socket for plug-in electromechanical relays, level controllers, solid-state relays and timers. User benefits include: reduced wiring time compared with screw terminals, material saving with no wire crimp needed, constant wire clamp pressure eliminating the need to re-tighten terminals, especially in applications where vibration occurs.

Low Voltage Switch Gear
To enhance its product range in the field of low voltage switch gear Omron offers the new J7 contactor series, covering a range from 4kW up to 110kW. Omron has a wide range of products complete with inverter and soft starter for motor-control applications. This product range conforms to EN/IEC and is also approved by UL/CSA. The complete J7 series is suitable for any application in industry, domestic appliances and all industrial machinery. The products combine a high power performance with a very compact design.

Electro-mechanical relays
Omron is committed to supplying a range of industries with reliable, high-quality relays. Available in DIN-rail, surface, quick connect & PCB mounting and mechanical, solid-state and MOSFET switching types, Omron's relays cover a very wide range of applications whilst meeting all the relevant International Standards for global use. An Omron relay is available to suit every application.

Solid-State Relays (SSRs)
Omron offers a comprehensive range of solid-state relays (SSRs) that provides the perfect load switching for temperature control applications. These SSRs are a fast reliable and cost-effective partner to our temperature controllers. Combinations of temperature controller and SSR are available to handle almost any application, including heater bands for plastics extrusion processes, packaging machinery and heater elements in general manufacturing.

Switches
Omron designs and manufactures a diverse range of high quality switches for use in applications across the industry including lifts, garages, production lines, safety doors, machine tools, automotive, security, domestic goods, vending machines, OA equipment and others. Omron's range of switches is comprehensive, and includes everything from safety switches, limit switches, micro switches and tactile switches to dip switches, pushbuttons and opto switches.

Level Controllers
Omron's wide range of special sensors covers many different applications by using different sensing techniques. Capacitive or conductive sensing is used for level control devices. The capacitive level controllers can be used to detect conductive and non-conductive materials. Liquid, powder and pallet materials can be detected by these sensors and they are ideal for tank level control. The conductive level controllers are ideal for level control of conductive liquids. The 61F series of Floatless Level Controllers uses electrodes to electrically detect the level of the liquid material. These controllers are suitable for many applications, including water purification, drainage, food and beverage production lines and wastewater treatment.

OMRON INNOVATION IN CONTROL

Programmable relays (ZEN)
Omron's ZEN is a modular, expandable programmable relay whose compact size enables it to be installed in almost any location. ZEN offers an integrated interface for programming, parameter setting, monitoring and communication via a PC and modem, as well as calendar and weekly switch clock function. Special emphasis has been placed on ZEN's user-friendly operation. Menus are available in six different languages. Optionally the pushbuttons can be used for menu navigation and programming. ZEN's support software can be used for programming all parameter settings and printing. ZEN's programming cable allows programs to be easily downloaded from a PC via a front panel socket.

Lockable timers
The H3DS DIN 17.5mm timer is the world's first timer to have a unique locking mechanism that prevents accidental adjustment or tampering with timer settings. All adjustments can be locked separately using a special pen-like tool.

Temperature controllers
Omron is the world's largest supplier of temperature controllers, with models ranging from the simplest controllers to advanced communicating units that help you master any control application. Included in this range is the E5ZN, one of the slimmest dual loop temperature controllers on the market. The E5ZN features all the standard temperature control functionality in a 22.5mm-wide DIN plug-in housing that saves panel builders valuable installation time, space and wiring costs. Up to 16 dual-loop controllers can be mounted in a minimum amount of space, and at a lower cost per loop than any competitor product.

Counters
Omron is a leading global manufacturer in counters and so can offer the most complete series of products on the market today. This range includes 'simple' models for counting production numbers and total count of, for example, paper copiers or letter-franking machines, as well as versions for counting system-operating hours or for measuring rpm. For demanding industrial applications, there are programmable counters that meet protection classes IP54 to IP66, and which can be mounted in panel doors. The range includes the H8GN, the first miniature format (48 x 24 mm: DIN 1/32), programmable pre-set counter with integrated RS-485 communication port. The H8GN features a simple switching function that allows it to double as a programmable timer.

PLC
Omron's PLCs provide the flexibility, efficiency and speed you need to stay competitive in the machine building industry. Products range from the smart remote I/O and the compact CPM to the high-performance modular CJ1 and the backplane-based CS1 series. The CJ1 is a panel builder's dream; it has no back plane so it never takes up more space than is needed. It offers the best size/performance ratio around. And CJ1 screwless I/O connectors save on installation and maintenance costs. Omron's PLCs are designed to meet the increasing demands for processing speed and data transfer. Omron also has supporting software to help you unleash the power and flexibility of these control systems. Simply choose the software tools you need now, and add other software components later.

Inverters
Omron's frequency inverter series includes the 3G3MV and 3G3FV Vector Control models, which are designed with open loop vector control as standard. This provides improved speed and torque performance via a simple to use system. The 3G3FV can also be configured in closed loop vector mode, providing even better performance, including torque at zero speed, for applications such as lifts, cranes and hoists. The range also includes general purpose V/f control frequency inverters, which are designed with conventional volts/ frequency control to provide easy-to-use speed control suitable for a host of applications, especially fans, pumps and conveyors.

OMRON INNOVATION IN POWER AND SAFETY

Modular DIN-rail power supply

The S8TS is a truly modular product that allows users to build a power supply to meet their own requirements. Its unique, 'plug-together' block design and standard size DIN rail mounting make panel layout simple. Up to four 2.5A units can be combined to produce a 10A supply with 12 or 24VDC outputs. Alternatively, units including a 5V, 5A output model can be combined to produce a multi-voltage output power supply. Redundancy and DC battery back-up are also options. Standard plug-together connectors save unit-wiring time. With a few 2.5A units in stock panel builders can easily add more power as the application demands, without having to store many different models.

Compact power supply with LED display

The S8VS is an ultra-compact, cost-effective, DIN-rail 24VDC power supply range having a world first, unique optional LED display. These space saving, easy to mount power supplies provide more power per cubic centimetre from 2.5A up to 10A than any competitors 'models. The LED display indicates output voltage, current and peak current for ease of set-up, monitoring and diagnostics. A run-time monitor is also available to assist with maintenance, eliminating the need for an additional totalising time counter.

Safety relay units

These safety relays provide the ideal solution for completing control circuits in accordance with all safety requirements and norms. The G9S/G9S-A emergency-stop module detects the STOP signal generated by the control and signalling unit and executes safe shutdown of the system. This module also monitors the EMERGENCY STOP circuit for errors, as required in the control categories III and IV of EN954-1.The G9SB safety relay unit is one of the smallest safety-monitoring relays on the market. Individual relays like the G7S- and G7SA series have a standard socket with LED for commissioning. All these products comply with the EN-norms and the 'Machine Directive'.

OMRON INNOVATION IN DISPLAY

Colour change display technology

Omron is currently the only company that features a wide range of panel instruments with colour change display characteristics. Not only is the display crystal-clear, users can pre-program the display to change colour from red to green or vice-versa to indicate when a pre-set value is reached or an alarm condition occurs. Products with this feature include the H5CX multifunction timer, H7CX multi-function counter, E5CN temperature controller, K3HB, K3GN and K3MA panel indicators.

Digital Panel Indicators

A new generation of digital panel indicators brings quality, reliability and a professional look and feel to your application. Each model features a high-tech back-lit LCD display that gives excellent read-out of values. The display is dual-colour, and so provides intuitive feedback of value status. A simple-to-use menu structure gives programming continuity across all applications. These indicators are housed in a dust and waterproof casing (IP66) that guarantees top performance under adverse conditions. The models in this range give precise, reliable information on processes, temperature and rate/frequency applications.

HMI

Omron's new NS series of HMIs is well placed to provide controllable and manageable industrial IT solutions. They offer the shallowest depth in their class, which means that they can be installed and integrated more easily into your environment. In addition, the programming of even complex functions is a quick and easy operation, thanks to Omron's use of proven touch-screen technology and Windows-style user-interfaces. These HMIs are the perfect information-processing devices, with enhanced communication abilities that can support all of your manufacturing-related decision processes. Models range from very simple character displays to touch-screen terminals with advanced communication and information processing capabilities.

OMRON EUROPE B.V. Wegalaan 67-69, NL-2132 JD, Hoofddorp, The Netherlands. Tel: +31 (0) 23 568 13 00 Fax: +31 (0) 23 568 13 88 www.europe.omron.com

Austria
Tel: +43 (0) 1 80 19 00
www.omron.at

Belgium
Tel: +32 (0) 2 466 24 80
www.omron.be

Czech Republic
Tel: +420 267 31 12 54
www.omron.cz

Denmark
Tel: +45 43 44 00 11
www.omron.dk

Finland
Tel: +358 (0) 9 549 58 00
www.omron.fi

France
Tel: +33 (0) 1 49 74 70 00
www.omron.fr

Germany
Tel: +49 (0) 2173 680 00
www.omron.de

Hungary
Tel: +36 (0) 1 399 30 50
www.omron.hu

Italy
Tel: +39 02 32 681
www.omron.it

Netherlands
Tel: +31 (0) 23 568 11 00
www.omron.nl

Norway
Tel: +47 (0) 22 65 75 00
www.omron.no

Poland
Tel: +48 (0) 22 645 78 60
www.omron.com.pl

Portugal
Tel: +351 21 942 94 00
www.omron.pt

Russia
Tel: +7 095 745 26 64
www.russia.omron.com

Spain
Tel: +34 913 777 900
www.omron.es

Sweden
Tel: +46 (0) 8 632 35 00
www.omron.se

Switzerland
Tel: +41 (0) 41 748 13 13
www.omron.ch

Turkey
Tel: +90 (0) 216 474 00 40
www.omron.com.tr

United Kingdom
Tel: +44 (0) 870 752 08 61
www.omron.co.uk

Authorised Distributor:

For Russia, Middle East, Africa and other countries in Eastern Europe – Phone: +31 23 568 13 22 – www.eu.omron.com/ema