INDUSTRIAL COMPONENTS

Product Selector 2004/2005

- Electromechanical relays
- Timers
- Counters
- Programmable relays
- Level and leakage controllers
- Industrial switches
- Pushbutton switches
- Low voltage switch gear
- Temperature controllers
- Solid state relays
- Digital panel indicators
- Power supplies
- Sockets

Advanced Industrial Automation

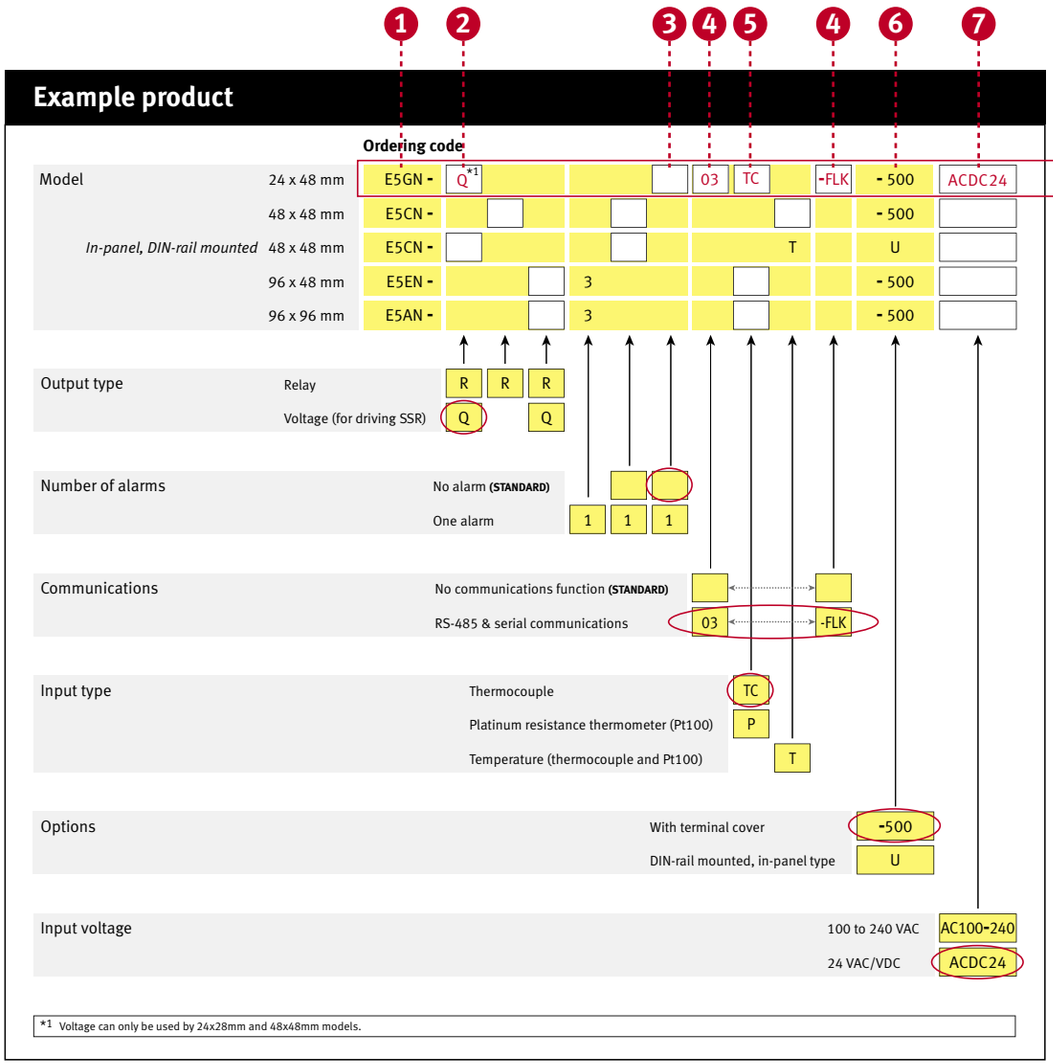
OMRON

How to order industrial component products from Omron

Omron manufactures a very wide range of industrial components and each product, or variation of a product, has a specific ordering code which must be specified correctly when ordering.
This catalog is organized to help you choose the right product for the job and construct the correct ordering code.

- **Product family introduction** — Describes the available range within a family.
- **Product comparison table** — Contains all available product variations from Omron's wide selection. Use to choose the right product for the application.
- **Product specific ordering code tables** — For constructing the ordering codes according to specifications and options required.

An example ordering code: **E5GN-Q03TC-FLK-500ACDC24**



Ordering code:

E5GN-Q03TC-FLK-500ACDC24

1. The code starts here.
2. *1 refers to the note at the bottom of the table. The box may be filled with a choice of relay or voltage, in this case the Q for voltage.
3. 'No alarm' has been chosen. This choice box has no code so the box remains empty (so also no space, or dash (-) either).
4. RS-485 & serial communications with the codes 03 and FLK has been chosen: both should be used in the code. Double codes are joined with an arrow.
5. A thermocouple with the code TC has been chosen and entered into the code.
6. A fixed element of the code that should always be included.
7. The choice of input voltage with the code 24AC/DC has been chosen and entered.
8. The ordering code is complete.

White box: to be filled with code information from table.

*1 White box with *1: refers to the note at the bottom of the table.

Colored areas: no option, not to be filled. Color refers to product comparison table.

M Colored areas with information: standard option to be included in code.

Empty box (standard).

Double codes, joined by an arrow, both should be used in the ordering code if an option is chosen.

Choose an option and fill in on top in this box:

Contents

Electromechanical relays 11

Timers 17

Counters 25

Programmable relays 31

Level and leakage controllers 35

Industrial switches 39

Pushbutton switches 53

Low voltage switch gear 63

Temperature controllers 71

Solid state relays 79

Digital panel indicators 85

Power supplies 93

Sockets 99

OMRON ADVANCED INDUSTRIAL AUTOMATION

Today's industrial manufacturers are constantly faced with new challenges posed by ever increasing demands on performance, quality and cost. In an environment where every movement, every component and every assembly operation must be immediately and automatically recorded, checked and documented for maximum efficiency, Omron can provide the solution.

Omron's industrial automation product range includes optical sensors and measuring systems, high-speed industrial-grade image processing systems, controlling and switching devices, highly dynamic drives and product tracking systems for information interchange, all of which meet today's industrial automation challenges.

Omron also caters to the logistics and information processing sectors by developing advanced network and field bus systems, which ensure that relevant data collected in the field by sensors and other equipment can be easily accessed and analyzed by production managers through standard Office applications.

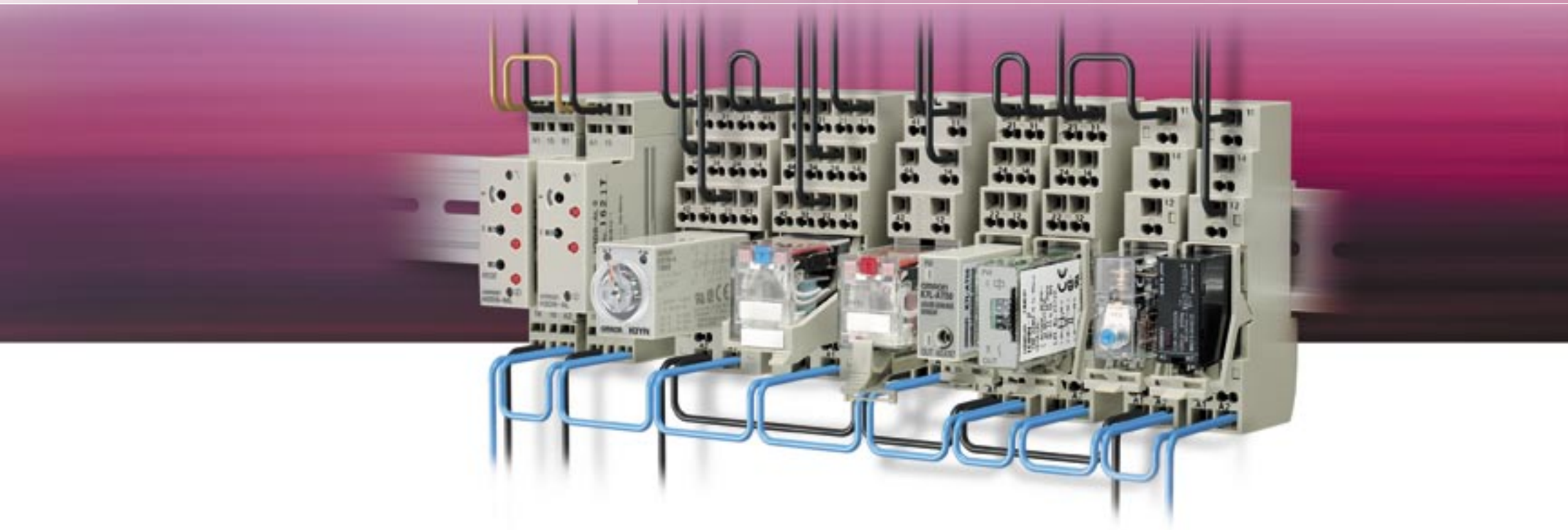
Omron is your one-stop shop for future-oriented products matched to perform in perfect unison. We are constantly developing new products and enhancing existing ones.
Each year sees the introduction of at least 20 new product ranges in industrial components, safety engineering, sensors, image processing, drives and automation systems.

Our close relations with customers and partners in industry mean we are well-positioned to quickly identify new trends which we can incorporate in the development of our own new products. In this, we are helped by our Research and Development (R&D) Centers and our highly efficient production sites in the major regions of the world. With such distributed facilities, Omron can achieve customer-specific solutions and modifications with a very short time to market.

In fact our customers see us more as joint developers for their own machinery and plant and as solution providers for their increasingly complex automation requirements, while we see our customers as providing the product ideas and development impetus so vital to our own future. It's a partnership that works very well on both sides.

You too can choose such a partnership.
Choose Advanced Technology & Services – choose Omron.

NEW PRODUCT SOLUTIONS



Screw-Less Clamp solutions

Omron is the first manufacturer to use SLC (Screw-Less Clamp) technology in a standard socket for industrial relays. These SLC sockets offer significant savings on material (crimp terminals) and wiring time. There's no over- or under-tightening of the cable connection, so better contact reliability is always achieved. Omron's sockets can be used with solid or stranded wire, with or without crimped terminals. Double wiring and easy bridge and branch connections are all possible on all terminals. And because each socket is wired from the top instead of the side, the cable troughs can be mounted directly at the socket, saving space in the switch cabinet.

The use of SLC technology also eliminates the need to check clamp screws regularly in case they need tightening. Omron has designed a complete range of timers with Screw-Less Clamps, as well as sockets for a wide range of relays, timers and controllers. When used in combination with associated products these sockets guarantee safe switching and meet the most demanding specifications. In addition, a unique ejector in each socket makes product replacement very easy.

Unique 1-2-3 step wiring process!

The timer and socket's unique mechanism uses no screws, so there's no time wasted turning screws during wiring. Just three steps are required:

1. Insert the screwdriver
2. Insert the wire
3. Withdraw the screwdriver

This procedure takes less than half the conventional wiring time, and is much more reliable!

How Omron's SLC technology works!

Unique 1-2-3 step wiring process!

NEW PRODUCT SOLUTIONS

E5CN – the best temperature controller around

Omron's E5CN was the first temperature controller to offer the high-clarity, back-lit LCD display with color change technology in a 1/16 DIN format. Now Omron has brought this world's best-selling controller to the next level. The E5CN display shows not only the process value in large, 11mm digits, it also has a tri-color back-lit matrix that produces red, green and orange.

These colors can be configured to occur on events such as an alarm condition or out-of-band warning. The new E5CN can be automatically tuned to give the maximum control performance, and thanks to Omron's unique 2-PID control, this applies to both approach-to-set value and response-to-disturbance. The benefits of this over normal PID include faster start-up times and improved response, which means that the quality of the end product can be maintained in changing circumstances. The user doesn't have to take any special action; the controller's built-in technology does all the work! Many features have been further improved along with the introduction of some innovative technologies that users will greatly appreciate.

Color change – the new display characteristics

Omron has a range of panel instruments where the process value color visualizes the status of a process. This unique function alerts any member of staff to an alarm condition by changing the display color from green to red or vice versa. The display colors can be pre-programmed so that they change in an alarm situation, when reaching a preset value, or when values vary outside a preset threshold.

COLOR CHANGE DISPLAY

Each panel instrument features a high-tech crystal-clear LCD display that provides excellent visibility in all lighting conditions and from a wide angle. All instruments have dust-and waterproof fronts that meet IP66 rating, and they conform to all general approvals. Omron is currently the only company to feature a range of panel instruments with such color display characteristics. Products that are equipped with this function include E5CN Temperature Controllers, K3GN and K3MA Two-color Display Panel Indicators, H5CX Digital Timers and H7CX Digital Counters. These panel instruments are suitable for a wide range of applications. They can be used as alarm indicators that show a particular status of a process, in a furnace to indicate the completion of a process, or to grasp the idling state of equipment. In pump and valve applications these instruments are ideal for monitoring whether the valve is open or closed, and whether or not the pump is operational.

S8VS – compact DIN rail power supply with LED display

Omron's S8VS power supply series features a unique 3-digit, 7-segment LED display that provides data on output voltage, output current and output peak current for faster, easier diagnostics. The S8VS is ultra-compact, so it requires less panel space than competitors' models. Its DIN-rail click-on system makes installation a very easy process, and it is available in a variety of power ratings from 60W to 240W.

The S8VS series is the first power supply family in the world to have an LED display. Via this display you can check the status of voltage, current, and peak current of the unit. The display makes diagnostics and maintenance easier, and helps detect power supply and power line problems faster. The S8VS also features a built-in run-time monitor that indicates the total operation time of the power supply. This helps with preventative maintenance and thus reduces operational and maintenance costs as a whole. Mounting the S8VS is easy, thanks to its DIN-rail click-on system.

K3HB – Omron's new panel indicator

Omron has developed an innovative range of analog input panel indicators built around state-of-the-art technology to set new benchmark standards in functionality and visibility. In the development of the 1/8 DIN K3HB range, Omron has focused on making the indicators simple to read, even at a distance, and to make interpreting those readings as intuitive as possible.

The K3HB indicators provide a bar-graph position indication, which is unique in 1/8 DIN horizontal housing panel indicators. The sampling speed of this new range has been increased to 50 times per second, or 2,000 times per second for the linear sensor indicator version. Furthermore, users can specify DeviceNet communications, with the option of a DeviceNet output module delivering high-speed data communication with PLCs, without the need for special programming. The full range of K3HB analog input panel indicators includes a process indicator (K3HB-X), a temperature indicator (K3HB-H), a weighing indicator (K3HB-V) and a linear sensor indicator (K3HB-S). These indicators provide convenient, high performance solutions in a broad spectrum of applications in the process industry, as well as in machinery applications such as binding, soldering, semiconductor manufacture, moulding and mixing machines. The K3HB indicators are modular in design, which enables users to select exactly the functionality they require.

NEW PRODUCT SOLUTIONS

ZEN – the logical automatic tools for small scale flexible control

The ZEN is a modular, expandable, programmable relay that is designed to provide flexible, automatic control for small-scale machines and facilities. The ZEN combines all the functionality of timers, counters and relays to control multiple input and output signals, while being easy to install and program. It enables any daily routine that involves switching and control to be easily automated, which saves time and effort. And it is the perfect solution for building automation applications where multiple timer control is very important.

Programming the ZEN is easy, thanks to a dedicated Omron support software package. Once you have created a program you can even save it to a memory module and copy to another ZEN without having to use a PC! In addition, you can enhance the ZEN's operating capability simply by connecting more expansion I/O units. The ZEN can be used to control everything from fans and pumps to complex lighting sequences and escalators. And it is ideal for replacing dedicated printed-circuit boards, enabling you to make process changes without having to redesign a new board. A very flexible, cost-effective automation tool indeed!

S8TS – Omron's power supply with system back-up options

Omron's S8TS is an innovative DC power supply series with a unique 'building-block' concept that offers flexibility, reliability, standardization and redundancy in any industrial automation system. The S8TS is available with a DC battery back-up unit and a Buffer unit that can be easily added to the power supply to ensure system integrity at all times.

This building-block concept produces one of the most flexible power supply systems around, and should appeal to those who need to maintain production in the event of a power failure. The S8TS has three output types (5, 12 and 24VDC) that enable more than 100 different power supplies to be configured. Each 'plug-together' power unit allows you to create collectives of 2.5, 5, 7.5 or 10A in 12 or 24VDC output voltages. A 5VDC, 5A block is also available.

The standard sized, DIN-rail mounting units make initial panel layout a simple operation. As load requirements change, increasing or decreasing power output capacity takes just minutes to achieve. At just 42mm wide, these units can be added as required up to a maximum of 10A per group. Unique bus connectors enable you to connect the input voltage internally to all linked power supply units.

J7 – Minimum size, maximum performance

Omron's J7 series of high-quality contactors, thermal overload relays, and motor protection circuit breakers is designed to complement the existing portfolio. This series of feature-packed products uses state-of-the art technology and is built by Omron on a product line that has been certified according to quality standards ISO 9001. The J7 series offers impressive power handling capabilities on compact footprints.

Most models of the contactor range can operate in temperatures from –40°C to +90°C, making them ideal for use in extreme, environmentally harsh conditions. Constructed according to European and International standards, these contactors, thermal overload relays and motor protection circuit breakers conform to EN/IEC and are approved by UL/CSA, enabling them to be used in any part of the world. They are suitable for any industrial application and will appeal to panel builders, OEMs and engineers in the automotive, chemical and heavy power industries looking for the best choice in top-quality products from one supplier.

E5ZN – in-panel temperature control solutions

At just 22.5mm wide, Omron's new E5ZN temperature controller series is one of the slimmest dual-loop controllers on the market. The E5ZN features all standard temperature control functionality, and thanks to its innovative design, mounting it onto a DIN-rail is simply a matter of click-and-go!

Its innovative design and built-in Omron quality guarantees process stability and saves panel builders valuable installation time, space and wiring costs. Each slim-line unit controls two temperature loops, and as many as 16 units can be mounted side by side. This allows you to control up to 32 loops in the minimum amount of space, and at a lower cost-per-loop than anything the competition has to offer!

The E5ZN features a DeviceNet option, Retransmission outputs and current control. It has two control loops in one 22.5mm module. Modules are fast and easy to replace, without rewiring. The E5ZN also has voltage (SSR), transistor or current outputs, two alarm outputs as standard, and a heater burnout alarm or retransmission output. A new addition to the series is the linear current control unit, which is equipped as standard with (volt) transfer output.

NEW PRODUCT SOLUTIONS

Controllers and SSRs – Omron's perfect partnership

Omron is the world's largest supplier of temperature controllers. This product range is unrivaled, and includes everything from the simplest controllers to advanced communication units that help you master any control application. Omron also 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. Only Omron could bring you such a product choice, and all from one supplier! Designed and tested to Omron's renowned high standards, each product in this range meets all relevant international standards and provides consistently superb quality throughout its working life.

G2RS – Omron's general-purpose relays

With the G2RS relay Omron sets new standards in feature design and reliability. Since pioneering the widespread use of slim-line interface relays over a decade ago, Omron continues to be the first choice for relay users. The G2RS relay brings enhanced features and flexibility for more user-friendly installation, commissioning and operation.

Omron's G2RS relays offer unrivaled reliability, performance and product choice. Three relay types are available, in both single-and double-pole changeover contact arrangements, as well as AC and DC coil voltages. All models feature a mechanical indicator, and a nameplate onto which identification data can be added. The mainstream and full-featured models have an LED indicator which lights green for DC coil voltage types and red for AC coil voltage types. The G2RS relays are robust and compact in design yet have a high switching capacity; the single-pole versions can switch an impressive 440VAC. They are built to Omron's own high quality and environmentally friendly standards, so a long, reliable working life is guaranteed. They meet all international standards, including UL, CSA, VDE, LR and CE. In addition, with the G2RS plug-in relay users have the choice of screw terminal or Screw-Less Clamp terminal sockets for maximum installation flexibility.

S8T-DCBU-02 – Power management control range with new DC buffer unit

The S8T-DCBU-02 is a buffer block that is designed to prevent interruptions in equipment operation, loss of data or other problems resulting from a momentary power loss. It does this by providing a back-up power source as well as a shutdown time off process for at least 500ms (at 2.5A) to 1s (at 1A) in the event of a glitch or transient interruptions in the power supply.

The S8T-DCBU-02 can be used with all of Omron's power supplies, and is one of the most cost-efficient ways of ensuring the supply of power in industrial automation systems. Up to four such buffer blocks can be connected in parallel to increase the back-up time and current handling capacity. The S8T-DCBU-02 operates by using built-in capacitors that act as a temporary power source during a power failure. In addition, the capacitors charge the energy that has been increasingly generated by a boosted charging voltage to them, to deliver more power and provide a longer back-up time than can be expected from a standard back-up system. When the power supply recovers, these capacitors start recharging. Like other Omron power supplies, built-in over-current and over-voltage protection circuits in the buffer block protect equipment against damage caused by shorts and overloads.

Sockets

Omron offers a wide range of sockets into which products like relays, timers and controllers can be connected. The most innovative of these is the Screw-Less Clamp (SLC) socket, which offers an effective, timesaving, no-compromise wiring solution in industrial environments. With SLC sockets wiring time is drastically reduced, routine maintenance is eliminated and a very reliable connection is assured. Because there are no screws to be tightened during initial wiring there's is no over- or under-tightening of cable connections and no damaged threads. Once the clamp secures the wire, it stays secured, eliminating the risk of the wiring coming loose through shock or vibration.

Omron also provides a range of Screw Terminal Sockets, with and without external clips, which are suitable for both DIN-rail and surface mounting. In addition, Omron has a range of solder terminals, plug-in terminals, PCB terminals and wire-wrap terminals, which are suitable for back-mounting and which are also available with and without external clips.

Electromechanical relays

Omron has been supplying the industry with reliable, high-quality relays for over 40 years. These relays bring enhanced features and flexibility to the market for more user-friendly installation, commissioning and operation. They are built to Omron's own high quality and environmentally friendly standards, and guarantee a long, reliable working life.

- **Excellent quality and reliability**
- **Slim, space-saving designs**
- **Push-to-test buttons – momentary and lockable**
- **Mechanical indicator and LED indicator**
- **Diode suppression**
- **Screw and screw-less terminal sockets with relay eject mechanism**
- **All relevant approvals, including UL, CSA, TüV, VDE and CE**

Omron's best-selling industrial relay is the MY series, which has sold in excess of 600 million pieces since its introduction.

Omron's range of industrial relays is capable of switching loads from micro-amps to 25A, and incorporate many features and contact configurations.

They cover a wide range of applications whilst meeting all the relevant International Standards for global use. They also meet and often exceed environmental standards.

What switching capacity is required?

Up to 5A

Label, LED indicator, mechanical flag, lockable test button

2 pole (DPDT)

G2RS-2

4 pole (4PDT)

MY4

Standard

Up to 10A

Label, LED indicator, mechanical flag, lockable test button

1 pole (SPDT)

G2RS-1

2 pole (DPDT)

MY2

Standard

LED indicator

2/3/4 pole

LY2/3/4

Standard

LED, mechanical flag, momentary test button

2/3 pole

MK

Standard

Up to 25A

LED indicator

1 pole

LY1 (15A)

Standard

4 pole

G7J (25A)

Standard

Electromechanical relays

Selection criteria | **Features**

Type	Label	Flag	Family		1 pole	2 pole	3 pole	4 pole	Contacts	LED indicator	Momentary test button	Lockable test button	Min load	Max current	SLC socket	Sealed type	Plug-in/solder terminals
Control panel relay	With label	Mechanical flag	MY			●			DPDT	○	○	○	1 mA	10A	●		●
								●	4PDT	○	○	○	1 mA	5A	●	○	●
								●	4PDT bifurcated	○	○	○	0.1 mA	5A	●	○	●
			G2RS		●				SPDT	○	○	○	100 mA	10A	●		●
						●			DPDT	○	○	○	10 mA	5A	●		●
	Without label		MK-I			●			DPDT	○			10 mA	10A			●
							●		3PDT	○			10 mA	10A			●
			MK-S			●			DPDT	○	●		10 mA	10A			●
							●		3PDT	○	●		10 mA	10A			●
		No mechanical flag	LY		●				SPDT	○			100 mA	15A			○
						●			DPDT	○			100 mA	10A			○
						●			DPDT bifurcated	○			10 mA	7A			○
							●		3PDT	○			100 mA	10A			○
								●	4PDT	○			100 mA	10A			○
			G7J		●				SPST-NC				100 mA 10 mA	8A			●
						●			DPST-NO/NC				100 mA	25A			●
							●		3PDT-NO				100 mA 10 mA	25A			●
								●	4PST-NO				100 mA 10 mA	25A			●
Special purpose relay		Mechanical flag	MYK			●			DPDT				1 mA	3A			●
		No mechanical flag	G4Q			●			DPDT				100 mA	5A			●

					AC voltage						DC voltage					Approvals											
	PCB terminals	Quick connect terminals	Diode	Varistor	6V	12V	24V	48/50V	110/120V	220/240V	6V	12V	24V	48/50V	110/120V	CE	SP	cULus	LR	cULus					D	N	S
	●		○	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●	●			
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					●	●	●	●	●	●	●	●	●	●	●												

● Standard ○ Available □ Not available

MY

G2RS

MK-I

MK-S

MY Electromechanical relays

Ordering code

Model	Without LED indicator	MY			-			(S)
	With LED indicator, standard coil polarity	MY			-			(S)
	With LED indicator, reversed coil polarity	MY			1 -	D2		(S)

Contact form	DPDT	2
	4PDT	4
	4PDT (bifurcated)	4Z
Classification	with LED indicator	N
	with LED indicator and test button	IN
Built in feature	Built-in diode (DC only)	D2
	Built-in CR (220/240 VAC, 110/120 VAC only)	CR

Rated coil voltage	6 VAC	AC6
	12 VAC	AC12
	24 VAC	AC24
	48/50 VAC	AC4850
	110/120 VAC	AC110120
	220/240 VAC	AC220240
	6 VDC	DC6
	12 VDC	DC12
	24 VDC	DC24
	48 VDC	DC48
	100/110 VDC	DC100110

G2RS Electromechanical relays

Ordering code

Model	G2R -		- S		(S)
Number of poles	1 pole	1			
	2 poles	2			

Classification	General purpose **(STANDARD)**	
	LED indicator	N
	Diode (DC only)	D
	LED indicator and diode (DC only)	ND
	LED indicator with test button	NI
	LED indicator and diode with test button (DC only)	NDI

Rated coil voltage	24 VAC	AC24
	110 VAC	AC110
	120 VAC	AC120
	230 VAC	AC230
	240 VAC	AC240
	6 VDC	DC6
	12 VDC	DC12
	24 VDC	DC24
	48 VDC	DC48

MK-I/S Electromechanical relays Standard models

Ordering code

Industrial relays	Dust cover	MK		P		-	-	

Contact form	DPDT	2
	3PDT	3
Internal connecting construction	Standard **(STANDARD)**	
	Non-standard (refer to datasheet)	2
	Non-standard (refer to datasheet, only 3PDT)	5
Mechanical indicator pushbutton	Mechanical indicator and pushbutton	S
	Mechanical indicator	I
Approved standards	UL, CSA, DEMKO, NEMKO, SEMKO, SEV, TÜV **(STANDARD)**	
	VDE	VD

Rated voltage	6 VAC	AC6
	12 VAC	AC12
	24 VAC	AC24
	50 VAC	AC50
	100 VAC	AC100
	110 VAC	AC110
	120 VAC	AC120
	200 VAC	AC200
	220 VAC	AC220
	230 VAC	AC230
	240 VAC	AC240
	6 VDC	DC6
	12 VDC	DC12
	24 VDC	DC24
	48 VDC	DC48
	100 VDC	DC100
	110 VDC	DC110

MK-I/-S Electromechanical relays Special models

Ordering code

MK [ ] P [ ] - [ ] - [ ] - [ ] [ ] [ ]

Industrial relays — Dust cover: MK

Contact form

DPDT	2
3PDT	3

Classification

LED indicator	N
Diode	D
Varistor	V
LED indicator and diode	ND
LED indicator and varistor	NV

Coil polarity

Standard (STANDARD)	
Reverse	1

Internal connection construction

Standard (STANDARD)	
Non-standard (refer to datasheet)	2
Non-standard (refer to datasheet, only 3PDT)	5

Mechanical indicator/pushbutton

Mechanical indicator and pushbutton	S
Mechanical indicator	I

Approved standards

UL, CSA only (STANDARD)	
VDE(N and D models only)	VD

Rated voltage

6 VAC	AC6
12 VAC	AC12
24 VAC	AC24
50 VAC	AC50
100 VAC	AC100
110 VAC	AC110
120 VAC	AC120
200 VAC	AC200
220 VAC	AC220
230 VAC	AC230
240 VAC	AC240
6 VDC	DC6
12 VDC	DC12
24 VDC	DC24
48 VDC	DC48
100 VDC	DC100
110 VDC	DC110

LY

LY Electromechanical relays

Ordering code

LY - [ ] [ ] - [ ] [ ] [ ]

Model

Plug-in/solder terminals	LY - [ ] [ ] - [ ] [ ]
Plug-in/solder terminals with LED	LY - [ ] [ ] N - [ ] [ ]
PCB terminals	LY - [ ] [ ] - 0 [ ]
Upper-mounting plug-in/solder terminals	LY - [ ] [ ] F [ ]

Contact form

SPDT	1
DPDT	2
DPDT (bifurcated)	2Z
3PDT	3
4PDT	4

Built-in feature

Built-in diode (DC only)	D	D2
Built-in CR (DPDT AC models only)	CR	CR

Rated coil voltage

6 VAC	AC6
12 VAC	AC12
24 VAC	AC24
50 VAC	AC50
110/120 VAC	AC110120
200/220 VAC	AC200220
220/240 VAC	AC220240
6 VDC	DC6
12 VDC	DC12
24 VDC	DC24
48 VDC	DC48
100/110 VDC	DC100110

G7J

G7J Electromechanical relays

Ordering code

Industrial relays	Model with PCB terminals (single contact)	G7J -		- P				
	Model with W-brancket screw terminals (single contact)	G7J -		- B				
	Model with tab terminals, quick-connect terminals (#250 terminals) (single contact)	G7J -		- T				
	Model of 1NO with PCB terminals (bifurcated contact)	G7J -	4A	- P - Z				
	Model of 1NC with PCB terminals (bifurcated contact)	G7J -	3A1B	- P - Z				
	Model with screw terminals (bifurcated contact)	G7J -	3A1B	- B - Z				
	Model with tab terminals, quick-connect terminals (#250 terminals) (bifurcated contact)	G7J -	3A1B	- T - Z	200/240 AC			

Contact form	4PST-NO	4A			
	3PST-NO/SPST-NS	3A1B			
	DPST-NO/DPST-NC	2A2B			
Rated coil voltage	24 VAC	AC24			
	50 VAC	AC50			
	100 to 120 VAC	AC100120			
	200 to 240 VAC	AC200240	AC200240		AC200240
	6 VDC				DC6
	12 VDC	DC12		DC12	DC12
	24 VDC	DC24	DC24	DC24	DC24
	48 VDC	DC48			DC48
	100 VDC	DC100			DC100

NOTES: For bifurcated contact type, the output is 1NO (4PST-NO) or 1NC (3PST-NO/SPST-NC).
The screw terminal and quick connect terminal relay types need a W-bracket: R99-04 (sold seperately).

MYK

MYK Electromechanical relays

Ordering code

Model		MY2K -		-
Terminals	Plug-in/ solder terminals (STANDARD)			
	PCB terminals	02		
Rated coil voltage	12 VAC		AC12	
	24 VAC		AC24	
	50 VAC		AC50	
	100 VAC		AC100	
	12 VDC		DC12	
	24 VDC		DC24	

G4Q Electromechanical relays

Ordering code

Model	Model with casing, DPDT, single contact, plug in terminal	G4Q - 212S	
	Model without casing, DPDT, single contact, solder terminal	G4Q - 211A	
Rated voltage	6 VAC		AC6
	12 VAC		AC12
	24 VAC		AC24
	50 VAC		AC50
	100/(110) VAC		AC100(110)
	200/(220) VAC		AC200(220)
	6 VDC		DC6
	12 VDC		DC12
	24 VDC		DC24
	48 VDC		DC48
	100 VDC		DC100
	200 VDC		DC200

G4Q

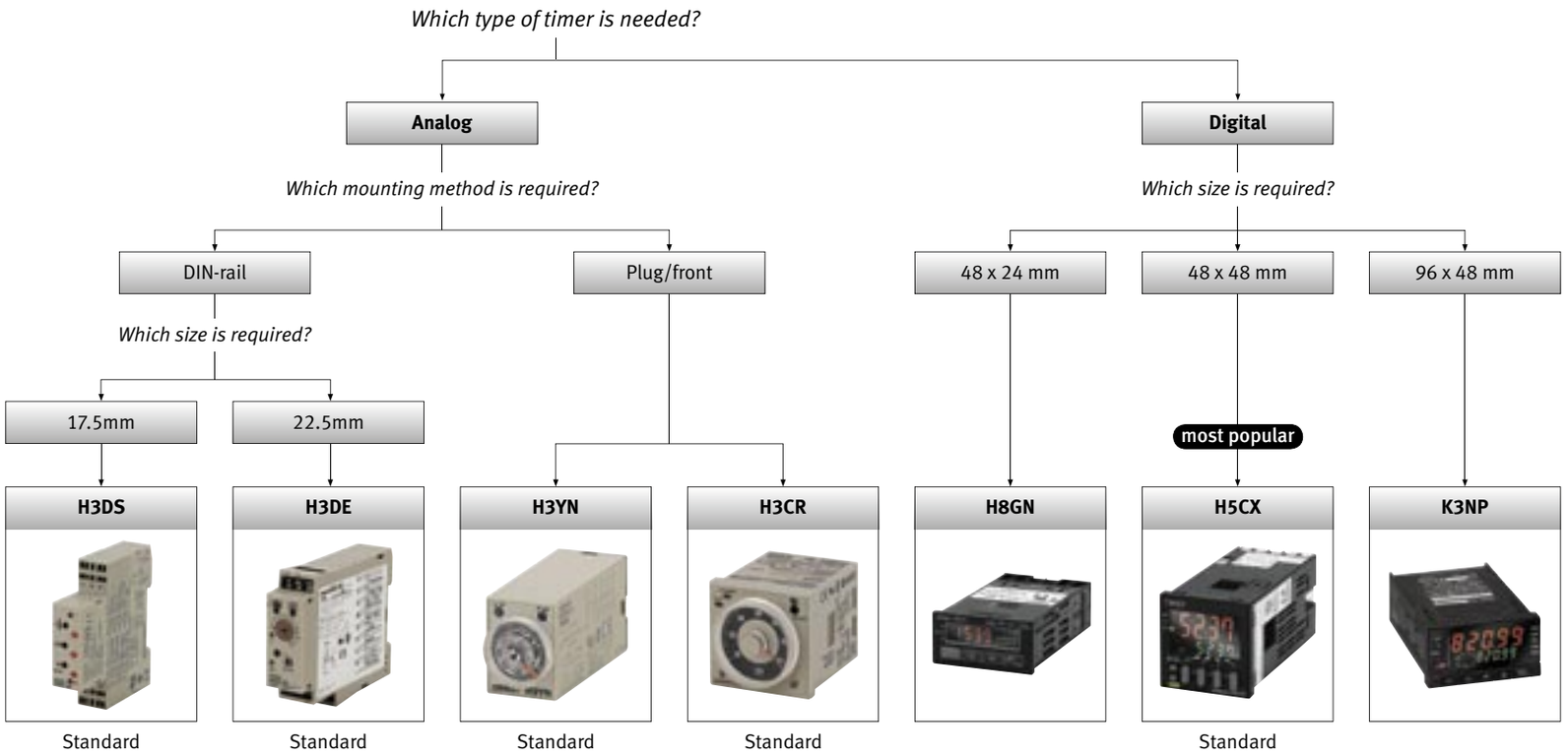
Timers

With over 70 years experience in timers, Omron knows exactly how to satisfy every timer function need. Our range includes electronic timers, standard and digital timers, all available in a wide variety of housing and mounting methods to suit any customer requirement.

- **An extensive range of electronic timers and digital timers**
- **A wide range of timer function modes**
- **Conformance to all safety standards**
- **A wide range of housing varieties to suit every application**
- **Timer range from 0.001 seconds to 9999 hours**
- **Relay outputs, contact and transistor outputs**

At just 17.5mm wide, the H3DS series fits into standard, modular 45mm panels and is available with screw terminals and screw-less clamp technology for faster, easier, more reliable wiring. Where space is limited, we offer the H3RN and H3YN series.

The H5CX series is a complete range of digital timers offering multiple time ranges and covering basically all timing functions, including real twin-timer function, memory function, an intuitive way of programming, and a two-color, back-lit negative transmissive LCD display.



Timers

Selection criteria								Contact configuration										Inputs	Outputs								
Category	Mounting	Size	Family	Type	Model		Key points	Time limit	Instantaneous	Programmable contacts	14 pins	11 pins	8 pins	5 pins	Screw terminals	Screw-less clamp terminals	Screw-less clamp sockets	Voltage input	Transistor	Relay	SCR	Relay output type				
																						SPDT	SPST-NO	DPST-NO	DPDT	4PDT
Analog solid state timer	DIN-rail	17.5 mm	H3DS	Multi-functional	H3DS-M		Smart lock system Screw-less clamp available	●							●	○		○		●		●				
					H3DS-S			●							●	○		○		●		●				
					H3DS-A			●							●	○		○		●		●				
				Twin timer	H3DS-F			●							●	○				●		●				
				Star-delta	H3DS-G			●							●	○				●			● (2x)			
				Two-wired	H3DS-X			●							●	○					●					
		22.5 mm	H3DE	Multi-functional	H3DE-M		Solid state multi-functional timer	●	●	●					●			○		●		○			○	
					H3DE-S			●	●	●					●			○		●		●			●	
				Twin timer	H3DE-F		Independent on and off settings	●							●					●		●				
				Star-delta	H3DE-G		Wide star time range (120s) and star-delta transfer time (0.5s)	●							●					●		● (2x)				
				Power OFF delay	H3DE-H		Covers wide range of supply voltage, two delay-time models	●							●					●		●				
	Socket/ on panel	21.5 mm	H3YN	Miniature	H3YN		Multiple time ranges and multiple operating modes, compatible with MY power relay socket	●			●		●				○			●				○	○	
		12.8 mm	H3RN	Ultra slim	H3RN		Pin configuration compatible with G2R socket, multiple time range	●					○	○			○			●		○		○		
		1/16 DIN	H3CR	Multi-functional	H3CR-A		Wide power supply range, 4 or 6 operating modes, PNP input models available	●	●			○	○					○	○	○		○			○	
				Twin timer	H3CR-F		Wide power supply range independent time settings, 14 time ranges	●				○	○							●					●	
				Star-delta	H3CR-G		Wide star-time range (120s) and star-delta transfer time (0.5s)	●	●			○	○							●			● (2x)			
				Power OFF delay	H3CR-H		Long power OFF-delay times, models with forced-reset input are available	●	●			○	○							●		○			○	
Digital timer			H5	Multi-functional	H5CX		Programmable PV color, ergonomic up/down digit keys, twin timer in one body, PNP/NPN switchable, IP66	●		●		○	○		○				○	○		○				
		1/32 DIN	H8	Preset counter/ timer	H8GN		Cyclic control possible, 4 preset values, IP66, RS-485 communication available, reset	●		●					●					●		●				
		1/8 DIN	K3	Period meter	K3NP		Many option boards: BCD, linear, comms, relays, NPN/PNP, sensor power supply, teaching, pre-scale function	●		●					●			●	○	○		○				

Features				Functions										Remarks			Approvals		
Time range		Supply voltage	Number of operating modes	ON-delay	Flicker OFF start	Flicker ON start	Signal ON/ OFF-delay	Signal OFF-delay	Interval (signal or power start)	Signal ON/ OFF-delay	One-shot output (ON delay)	On delay (fixed)	Independent ON/OFF time setting	Star-delta	Lineair	BCD	Transistor	CE	cULus
Total time range	Number of sub ranges																		
0.1s to 120h	7	24 to 230 VAC or 24 to 48 VDC	8	●	●	●	●	●	●	●	●							●	●	●
1s to 120h	7	24 to 230 VAC or 24 to 48 VDC	4	●		●			●		●							●	●	●
2s to 120h	7	24 to 230 VAC or 24 to 48 VDC	1									●						●	●	●
0.1s to 12h	6	24 to 230 VAC or 24 to 48 VDC	2		●	●												●	●	●
1s to 120s	2	24 to 230 VAC or 24 to 48 VDC	1											●				●	●	●
0.1s to 120h	7	24 to 230 VAC or 24 to 48 VDC	1	●													●	●	●	●
0.1s to 120h	8	24 to 230 VAC or 12 VDC	8	●	●	●	●	●	●	●	●							●	●	●
0.1s to 120h	8	24 to 230 VAC/DC or 12 VDC	4	●		●			●		●							●	●	●
0.1s to 120h	8	24 to 230 VAC/DC	1		●	●												●	●	●
1 to 120s	2	24 to 230 VAC/DC	1											●				●	●	●
0.1s 120s	2 (model dependent)	100 to 120 VAC, 200 to 230 VAC, 24 VAC/DC, 48 VAC/DC	1					●										●	●	●
0.1s to 10h (model dependent)	2	24, 100 to 120, 200 to 230 VAC, 12, 23, 48, 100 to 110, 125 VDC	4	●	●	●			●									●	●	●
0.1s to 10 min or 0.1 min to 10h (model dependent)	0	24 VAC, 12, 24 VDC	4	●	●	●			●									●	●	●
0.05s to 300h, 0.1s to 600h (model dependent)	9	100 to 240 VAC, 100 to 125 VDC, 24 to 48 VAC, 12 to 48 VDC	6 (model dependent)	○	○	○	○	○	○	○	○						○	●	●	●
0.05s to 30h or 1.2s to 300h (model dependent)	14	100 to 240 VAC, 12 VDC, 24 VAC/DC, 48 to 125 VDC			●	●												●	●	●
0.5s to 120s	4	100 to 120 VAC, 200 to 240 VAC	2											●				●	●	●
0.05s to 12s, 1.2s to 12 min	4	100 to 120 VAC, 200 to 240 VAC, 24 VAC/DC, 48 VDC, 100 to 125 VDC	1					●										●	●	●
0.001s to 9999h (configurable)		100 to 240 VAC, 24 VAC, 12 to 24 VDC	12	●	●	●	●	●	●	●	●	●	●				●	●	●	●
0.000s to 9999h (configurable)	0	24 VDC	6	●	●			●	●				●					●	●	●
0 to 999999		12 to 24 VDC, 100 to 240 VAC													○	○	○			

● Standard ○ Available Not available

H3DS-M

H3DS-A

H3DS Timers

Ordering code

Model	Smart lock mechanism	H3DS -		- L
Type	Multi-function type		M	
	Standard type		S	
	Single function type		A	
	Twin timers		F	
	Star-delta timer		G	
	Two-wired timer		X	
Mounting	Screw terminal type			
	Screw-less clamp type		C	

Accessories for H3DS

	Ordering code
Lock key	Y92S - 38
End plate	PFP - M
Spacer	PEP - S

H3DS-F

H3DS-G

H3DS-S

H3DS-X

H3DE-M

H3DE-S

H3DE-F

H3DE Timers

Ordering code

Model	Multi-function or standard model	H3DE -					
	Power OFF-delay timer	H3DE -	H				
	Other models	H3DE -					
Type	Multi-function type		M				
	Standard type		S				
	Twin timers		F				
	Star-delta timer		G				
Output	DPDT			2			
	SPDT			1			
Output	12 VDC (only for DPDT output)				DC12		
	24 to 230 VAC/DC				ACDC24230		
	100 to 120 VAC					AC100120	
	200 to 230 VAC					AC200230	
	24 VAC/VDC					ACDC24	
	48 VAC/VDC					ACDC48	
Time span code	S series: 0.1 to 12 s						S
	L series: 1 to 120 s						L

Accessories for H3DE

	Ordering code
End plate	PFP - M
Spacer	PEP - S

H3DE-G

H3DE-H

H3YN

H3YN Timers

Ordering code

Model		H3YN -			-	
Output	DPDT	2				
	4PDT	4				
Time range	Short time range (0.1s to 10 min)					
	Long-time tange (0.1 min to 10 h)		1			
Contact type	Single contact					
	Twin contacts (supply voltage only 24 VDC and 4PDT only)				Z	
Supply voltage	24 VAC					AC24
	100 to 120 VAC					AC100120
	200 to 230 VAC					AC200230
	12 VDC					DC12
	24 VDC					DC24
	48 VDC					DC48
	100 to 110 VDC					DC100110
	125 VDC					DC125

H3RN

H3RN Timers

Ordering code

Model		H3RN -			
Output	SPDT	1			
	DPST-NO	2			
Time range	Short time range (0.1s to 10 min)				
	Long-time tange (0.1 min to 10 h)		1		
Supply voltage	24 VAC				AC24
	12 VDC				DC12
	24 VDC				DC24

H3CR-A

H3CR-A Timers

Ordering code

Model	Multi-function timer	H3CR - A -				
Number of pins	11-pin model					
	8-pin model	8				
Input type for 11-pin models	No-voltage input (NPN)					
	Voltage input (PNP)		P			
Output	Relay output (DPDT) **(STANDARD)**					
	Transistor output (NPN/PNP universal use) (supply voltage 24-48AC/12-48DC only)			S		
	Relay output (SPDT) with instantaneous relay output (SPDT)			E		
Suffix	Dual mode models (signal ON/OFF delay and one-shot)				300	
	Double time scale (range) models (0.1 s to 600 h)				301	
Supply voltage	100 to 240 VAC (50/60Hz)/100 to 125 VDC					AC100240DC100125
	24 to 48 VAC (50/60Hz) / 12 to 48 VDC (not available for H3CR-A8E model)					AC2448DC1248
	24 to 48 VDC/VAC (50/60Hz) (only for H3CR-A8E model)					ACDC2448

H3CR-F

H3CR-F Timers

Ordering code

Model	Twin timers	H3CR - F -				
Number of pins	11-pin model					
	8-pin model	8				
Twin timer mode	Flicker OFF start **(STANDARD)**					
	Flicker ON start		N			
Time range	0.05 s to 30 h **(STANDARD)**					
	1.2 s to 300 h				300	
Supply voltage	100 to 240 VAC					AC100240
	24 VAC/DC					ACDC24
	12 VDC					DC12
	48 to 125 VDC					DC48125

H3CR-G Timers

Ordering code

Model	Star-delta timer, 8-pin, long body model	H3CR - G -	8		L	
Outputs	Star-delta operation contact					
	Star-delta operation and instantaneous contact			E		
Supply voltage	100 to 120 VAC (50/60Hz)					AC100120
	200 to 240 VAC (50/60Hz)					AC200240

H3CR-G

H3CR-H

H3CR-H Timers

Ordering code

Model	Power OFF-delay timer, long body model	H3CR - H -			L	
Number of pins	11-pin model					
	8-pin model		8			
Input	Without reset input					
	With reset input			R		
Supply voltage	100 to 120 VAC (50/60 Hz)					AC100120
	200 to 240 VAC (50/60Hz)					AC200240
	24 VAC/VDC					ACDC24
	48 VDC					DC48
	100 to 125 VDC					DC100125
Time unit code	S series: 0.05 to 12 s					
	M series: 0.05 to 12 min					

Accessories for H3CR Series

		Ordering code
Flush mounting adapter		Y92F - 30
		Y92F - 73
		Y92F - 74
Mounting track	50 cm (l) x 7.3 mm (t)	PFP - 50N
	1 m (l) x 7.3 mm (t)	PFP - 100N
	1 m (l) x 16 mm (t)	PFP - 100N2
End plate		PFP - M
Spacer		PFP - S
Protective cover		Y92A - 48B
Track mounting	8-pin	P2CF - 8
Front connecting socket	8-pin, finger safe type	P2CF - 8 - E
	11-pin	P2CF - 11
	11-pin, finger safe type	P2CF - 11 - E
Back connecting socket	8-pin	P3G - 8
	8-pin, finger safe type	P3G - 08 with Y92A - 48G
	11-pin	P3GA - 11
	11-pin, finger safe type	P3GA - 11 with Y92A - 48G
Time setting ring	Setting a specific time	Y92S - 27
	Limiting the setting range	Y92S - 28
Panel cover	Light grey (5Y7/1)	Y92P - 48GL
	Black (N1.5)	Y92P - 48GB
	Medium grey (5Y5/1)	Y92P - 48GM
Hold-down clip	For PL08 and PL11 sockets	Y92H - 7
	For PF085A socket	Y92H - 8

H5CX

H5CX Timers

Ordering code

Model	Standard type	H5CX - A				
	Economy type	H5CX - L	8			
External connection	Screw terminals					
	8-pin socket		8			
	11-pin socket		11			
Ouput type	Contact output					
	Transistor output			S		
Supply voltage	100 to 240 VAC 50/60 Hz				AC100240	
	12 to 24 VDC / 24 VAC 50/60 Hz				AC24DC1224	
Case color	Black **(STANDARD)**					

H8GN

H8GN Timers/Counters

Ordering code

Model	24 VDC	H8GN - AD -	
Communications output type	Communications not supported **(STANDARD)**		
	RS-485		FLK

K3NP

K3NP Timers

Ordering code

Model	K3NP -				
Input sensors	NPN inputs/voltage pulse inputs	NB			
	PNP inputs	PB			
Supply voltage	100 to 240 VAC		1		
	12 to 24 VDC		2		
Display	Basic			A	
	Set value LED display			C	

K3NP output boards Timers

Ordering code

Model	For basic display type	K31 -		
	For set value LED display type	K31 -		
Output type codes	3 comparative relay contact outputs (H, PASS, L: SPDT)		C1	C1
	5 comparative relay contact outputs (HH, H, L, LL: SPSTNO;PASS: SPDT)		C2	C2
	5 comparative relay contact outputs (HH, H, L, LL: SPSTNC;PASS: SPDT)		C5	C5
	5 comparative transistor outputs (NPN open collector)		T1	T1
	5 comparative transistor outputs (PNP open collector)		T2	T2
	BCD output (NPN open collector)		B2	
	BCD output + 5 transistor outputs (NPN open collector)		B4	B4
	Linear output (4 to 20 mA)		L1	
	Linear output (1 to 5 VDC)		L2	
	Linear output (1 mV/10 digits)		L3	
	Linear output, 4 to 20 mA + 5 transistor outputs (NPN open collector)		L4	L4
	Linear output, 1 to 5 V + 5 transistor outputs (NPN open collector)		L5	L5
	Linear output, 1 mV/10 digits+ 5 transistor outputs (NPN open collector		L6	L6
	Linear output, 0 to 5 VDC		L7	
	Linear output, 0 to 10 VDC		L8	
	Linear output, 0 to 5 VDC + 5 transistor outputs (NPN open collector)		L9	L9
	Linear output, 0 to 10 VDC + 5 transistor outputs (NPN open collector)		L10	L10
	Communication RS-232C		FLK1	
	Communication RS-485		FLK2	
	Communication RS-422		FLK3	
	RS-232C + 5 transistor outputs (NPN open collector)		FLK4	FLK4
	RS-485 + 5 transistor outputs (NPN open collector)		FLK5	FLK5
	RS-422 + 5 transistor outputs (NPN open collector)		FLK6	FLK6

Counters

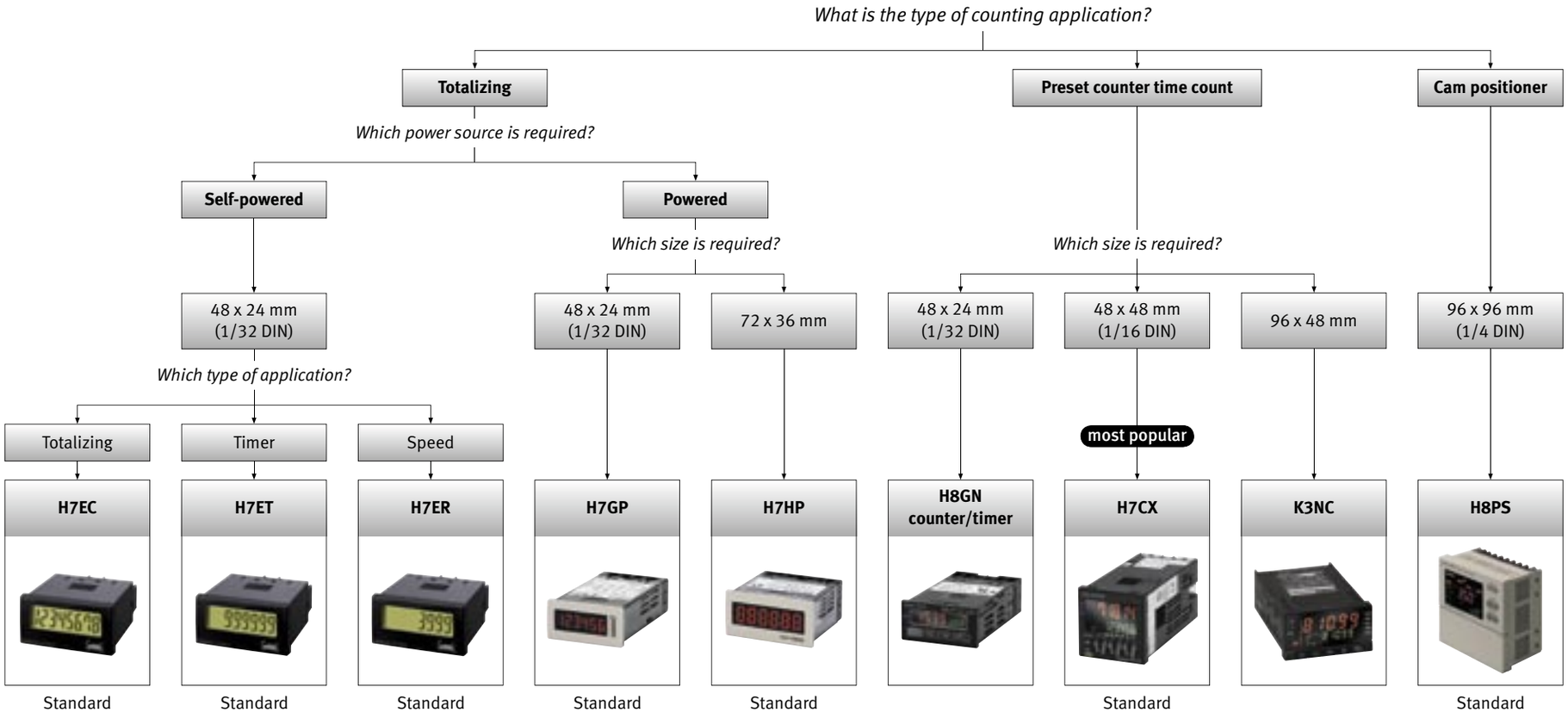
With over three decades in the counter market, Omron can provide a solution to every measurement process requirement, including total counting, timing, preset counting and specific cam positioning applications.

- **Full range of battery-powered counters for total-, timing- and speed counting**
- **Preset version has highly visible color-change feature**
- **Relay output and transistor output for preset counters**
- **Models available with communication capability**
- **Conform to all relevant safety standards**
- **LCD negative transmission back-lit display in most models**

Our H7GP/H7HP and H7E models are available as total counter, time counter and speed counter.
Our multi-functional preset counter series H7CX (1/16 DIN) offers intuitive programming and the H8GN is the first miniature format (48 x 24 mm: 1/32 DIN), programmable preset counter/timer with an integrated RS-485 communication port.

The H8PS is our special-function counter offering positioning control in combination with a rotary encoder.

The front housing of all of these products is IP66 approved, making them suitable for the most demanding industrial applications.



Counters

Selection criteria							Outputs									Inputs	Features							
Display	Size	Counter type	Family	Model		Key points	Control outputs	2 stage	5 stage	Total	Time	Pre-set	Batch	Dual	Tachometer	Control inputs	Dual operation	Number of digits	NPN/PNP switch	Back-lit	External reset	Manual reset	Number of banks	
LCD	1/32 DIN	Self-powered total	H7E	H7EC		Dual input speed, self-powered (LCD type without backlight)				●					●	No-voltage, PNP/NPN, DC voltage, AC/DC multi-voltage		8	●	○	●	●		
		Self-powered timer		H7ET		Dual time range, self-powered (LCD without backlight)				●	●					No-voltage, PNP/NPN, DC voltage, AC/DC multi-voltage		7	●	○	●	●		
		Self-powered tachometer		H7ER		Dual revolution display according to encoder resolution used, self-powered (without backlight)									●	No-voltage, PNP/NPN		4 or 5	●	○				
LCD negative transmissive		Total counter/ time counter	H7□P	H7GP		High visibility, negative transmissive display, built-in red LED backlight at low power consumption				○	○					No-voltage or DC-voltage (switchable)		6	●		●	●		
	72 x 36 mm			H7HP		High visibility, negative transmissive display, built-in red LED backlight at low power consumption				○	○					No-voltage or DC-voltage (switchable)		7	●		●	●		
	1/32 DIN	Pre-set counter/timer	H8□N	H8GN		Switch between counter and timer, pre-scaling, cyclic control, SV-bank, dual operation	1 relay (SPDT)	●		●	●	●	●	●		No-voltage	●	PV: 4, SV: 4			●	●	4	
	1/16 DIN	Pre-set counter	H7C	H7CX		Multi-function, colour change on PV, dual operation	1 relay (SPDT), transistor	○		○		○	○	○	○	No-voltage, PNP/NPN	●	PV: 4, SV: 4 or PV: 6, SV: 6	●	●	●	●		
LED	1/8 DIN	Up/down counting meter	K3	K3NC		High speed, pre-scale, sensor power supply, several output types, double display, 4 memory banks	3 or 5 relays, 5 NPN or 5 PNP, lineair, BCD (5 digit)	●	●	●	●		●	●	●	No-voltage, voltage pulse, open collector		5		○	●	●	4	
LCD	1/4 DIN	Cam positioner	H8P	H8PS		Accepts 330-rpm input, up to 16-cam control possible using parallel input and 2 H8PS, back-lit	NPN or PNP, cam outputs (8 lines), run out, tachometer									Encoder	○	7						
	44.8 x 22.4 mm	PCB mounting	H7E□	H7E□-N□P		Total counter or total timer, dedicated for PCB				○	○					No-voltage		7 or 8		●	●	●		

	Built-in sensor power supply	IP-grade	Terminals			Supply voltage			Comms	Functions						Colo r		Approvals		
			Screw terminals	PCB terminals	11-pin socket	100 to 240 VAC	12 to 24 VDC	24 VDC		Up	Down	Up/down	Reversible	Speed	Counting range	Beige	Black	CE	SA	cULus
		IP66	●					○		●				0 to 30 Hz or 0 to 1 kHz	0 to 99999999	●	●	●	●	●
		IP66	●					○		●					0.0h to 999999.9h ⇔ 0.0h to 3999d23.9h or 0s to 999h59min59s ⇔ 0.0min to 9999h59.9min	●	●	●	●	●
		IP66	●					○						1 or 10 kHz	1000 s^{-1} or 1000 min^{-1} ; 1000 s^{-1} or 1000 min^{-1} ⇔ 10000 min^{-1}	●	●	●	●	●
		IP66G	●			○	○			●				0 to 30 Hz or 0 to 5 kHz	0.1 to 99999.9h or 1s to 99h59m59s	●	●	●	●	●
		IP66G	●			○	○			●			●	1 to 30 Hz or 0 to 5 kHz	0.1 to 99999.9h or 1s to 99h59m59s	●	●	●	●	●
		IP66	●					●	○	●	●		●	0 to 30 Hz or 0 to 5 kHz	-1999 to 9999		●	●	●	●
	●	IP66	●		○	●	●			●	●	●	●	0 to 30 Hz or 0 to 5 kHz	-999 to 9999 or -99999 to 999999		●	●		●
	●	IP66	●			●	●		●	●	●	●	●	No voltage contact: 0 to 30 Hz; Voltage pulse/open collector: 0 to 50 kHz	-19999 to 99999		●	●	●	●
		IP50	●	●				●								●		●	●	●
		IP00		●				3 VDC		●				0 to 30 Hz or 0 to 1 kHz	0.0h to 999999.9h	●		●	●	●

● Standard ○ Available □ Not available

H7EC

H7EC Counters

Ordering code

Model	NPN/PNP universal DC voltage input	H7EC-N	V		-		
	Other models	H7EC-N			-		
Count input	No-voltage input (STANDARD)						
	NPN/PNP universal DC voltage input		V				
	AC/DC multi-voltage input		FV				
Case color	Black					B	
Display	7-segment LCD without backlight						
	7-segment LCD with backlight						H

H7ER

H7ER Counters

Ordering code

Model	No-voltage input	H7ER-N			
	NPN/PNP universal DC voltage input	H7ER-NV			
Number of digits	4 digits (STANDARD)				
	5 digits			1	
Case color	Light grey				
	Black			B	
Display	7-segment LCD without backlight				
	7-segment LCD with backlight				H

H7ET

H7ET Counters

Ordering code

Model	NPN/PNP universal DC voltage input	H7ET-N	V			-		
	Other models	H7ET-N				-		
Count input	No-voltage input (STANDARD)							
	NPN/PNP universal DC voltage input		V					
	AC/DC multi-voltage input		FV					
Time range	999 999.9h / 3 999d23.9h (STANDARD)							
	999h59m59s / 9 999h59.9m				1			
Case color	Black						B	
Display	7-segment LCD without backlight							
	7-segment LCD with backlight							H

H7GP

H7GP Counters

Ordering code

Model		H7GP-			
Classification	Total counter		C		
	Time counter		T		
Supply voltage	100 to 240 VAC (STANDARD)				
	12 to 24 VDC			D	
Case color of front section	Light grey (Munsell 5Y7/1) (STANDARD)				
	Black				B

H7HP

H7HP Counters

		Ordering code
Model	Total counter/time counter, 6 digits	H7HP - A
	Total counter, 8 digits	H7HP - C8
Supply voltage	100 to 240 VAC	
	12 to 24 VDC	D
Case color of front section	Light grey (Munsell 5Y7/1)	
	Black	B

H8GN

H8GN Counters/Timers

		Ordering code
Model	24 VDC	H8GN - AD -
Communications output type	Communications not supported	
	RS-485	FLK

H7CX

H7CX Counters

			Ordering code
Screw terminal type	*6 digits*	1-stage setting, contact output	H7CX - A
		Factory-set to 1-stage setting, contact and transistor	H7CX - AU
		Factory-set to 2-stage setting, contact output	H7CX - AW
		1-stage setting, transistor output	H7CX - AS
		Factory-set to 1-stage setting, transistor output	H7CX - AUS
		Factory-set to 2-stage setting, transistor output	H7CX - AWS
	4 digits	1-stage setting, contact output	H7CX - A4
		Factory-set to 2-stage setting, contact output	H7CX - A4W
		1-stage setting, transistor output	H7CX - A4S
		Factory-set to 2-stage setting, transistor output	H7CX - A4WS
11-pin socket type	*6 digits*	1-stage setting, contact output	H7CX - A11
		1-stage setting, transistor output	H7CX - A11S
	4 digits	1-stage setting, contact output	H7CX - A114
		1-stage setting, transistor output	H7CX - A114S

Supply voltage/external power supply	AC100240 (50/60Hz), 12 VDC power supply	
	12 to 24 VDC without external power supply	D
	DC1224AC24 (50/60Hz), 12 VDC power supply	D1
Case color	Black	

K3NC

K3NC Counters

		Ordering code			
Model	Basic display type	K3NC -			
Input sensors	NPN inputs/voltage pulse inputs		NB		
	PNP inputs		PB		
Supply voltage	100 to 240 VAC			1	
	12 to 24 VDC			2	
Display	Basic				A
	Set value LED display				C

K3NC output boards Counters

		Ordering code		
Model	For basic display type	K31 -		
	For set value LED display type	K31 -		
Output type codes	5 comparative relay contact outputs (OUT1, 2, 4, 5; SPST-NO;OUT3; SPDT)		C2	C2
	5 comparative relay contact outputs (OUT1, 2, 4, 5; SPST-NC;OUT3; SPDT)		C5	C5
	5 comparative transistor outputs (NPN open collector)		T1	T1
	5 comparative transistor outputs (PNP open collector)		T2	T2
	BCD output (NPN open collector)		B2	
	BCD output + 5 transistor outputs (NPN open collector)		B4	B4
	Linear output (4 to 20 mA)		L1	
	Linear output (1 to 5 VDC)		L2	
	Linear output (1 mV/10 digits)		L3	
	Linear output, 4 to 20 mA + 5 transistor outputs (NPN open collector)		L4	L4
	Linear output, 1 to 5 V + 5 transistor outputs (NPN open collector)		L5	L5
	Linear output, 1 mV/10 digits+ 5 transistor outputs (NPN open collector		L6	L6
	Linear output, 0 to 5 VDC		L7	
	Linear output, 0 to 10 VDC		L8	
	Linear output, 0 to 5 VDC + 5 transistor outputs (NPN open collector)		L9	L9
	Linear output, 0 to 10 VDC + 5 transistor outputs (NPN open collector)		L10	L10
	Communication RS-232C		FLK1	
	Communication RS-485		FLK2	
	Communication RS-422		FLK3	
	RS-232C + 5 transistor outputs (NPN open collector)		FLK4	FLK4
	RS-485 + 5 transistor outputs (NPN open collector)		FLK5	FLK5
	RS-422 + 5 transistor outputs (NPN open collector)		FLK6	FLK6

H8PS

H8PS Counters

		Ordering code		
Model	Front panel language: English	H8PS - 8B		
Mounting method	Flush mounting (STANDARD)			
	Surface/track mounting		F	
Output configuration	NPN transistor output (STANDARD)			
	PNP transistor output		P	

H7E_-N_P

H7E_-N_P Counters

		Ordering code		
Model	Total counter	H7EC - N		P
	Time counter	H7ET - N		P
Max counting speed for H7EC models	1 kHz (STANDARD)			
	30 Hz		L	

Programmable relays

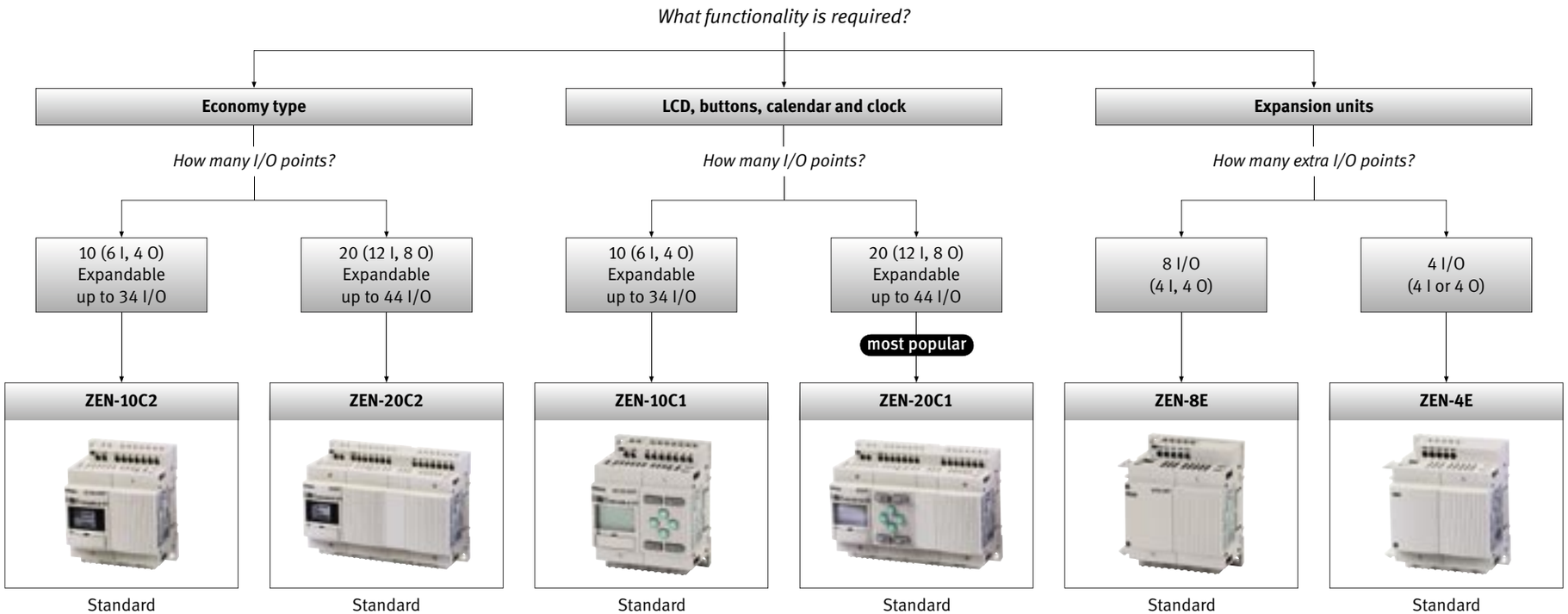
The ZEN is a compact, modular, expandable programmable relay that can be installed in almost any location for a variety of simple control applications. Two versions are available, both of which are available in two CPU sizes, 10 I/O and 20 I/O, expandable up to 34 I/O and 44 I/O respectively.

- **C1, with advanced functionality and display**
- **C2, a dedicated economy version**
- **Requires just simple programming skills**
- **Up to 44 I/O available by adding up to three expansion units**
- **Relay or transistor outputs, can be mixed**
- **Intuitive software programming and testing**
- **Memory cards for copying programs to another ZEN unit**
- **Two analog DC outputs for PNP input version**

The advanced C1 version features an integrated display, programming and function buttons, calendar, clock and up to 16 display messages. The C2 economy version offers basic functionality and programming through Omron's easy-to-use software.

The ZEN's menus are available in multiple languages, as is the supporting software. Front-panel pushbuttons can be used for menu navigation and programming.

The ZEN is available as DC or AC input/power supply voltage models, and relay or transistor output. A switch-mode power supply is also available to meet all of the ZEN's application requirements.



Programmable relays

Selection criteria

Name	Number of I/O points	Inputs	Inputs / power supply	Outputs		Type	Model		Key points
CPU units	10 expandable up to 34 I/O	6	100 to 240 VAC	4	Relays	LCD	ZEN-10C1AR-A-V1		- Up to 3 expansion units - Screen menus in 6 languages - Ladder programming - Easy programming - Flexible expansion - Hold functions for peace of mind - Operations determined after wiring
						LED	ZEN-10C2AR-A-V1		
		6	24 VDC	4	Relays	LCD	ZEN-10C1DR-D-V1		
						LED	ZEN-10C2DR-D-V1		
		6	24 VDC	4	Transistors	LCD	ZEN-10C1DT-D-V1		
						LED	ZEN-10C2DT-D-V1		
	20 expandable up to 44 I/O	12	100 to 240 VAC	8	Relays	LCD	ZEN-20C1AR-A-V1		
						LED	ZEN-20C2AR-A-V1		
		12	24 VDC	8	Relays	LCD	ZEN-20C1DR-D-V1		
						LED	ZEN-20C2DR-D-V1		
		12	24 VDC	8	Transistors	LCD	ZEN-20C1DT-D-V1		
						LED	ZEN-20C2DT-D-V1		
Expansion I/O units	8	4	100 to 240 VAC	4	Relays		ZEN-8EAR		- Up to 3 expansion I/O units can be connected, regardless of the I/O specifications or unit type
		4	24 VDC	4	Relays		ZEN-8EDR		
		4	24 VDC	4	Transistors		ZEN-8EDT		
	4	4	100 to 240 VAC				ZEN-4EA		
		4	24 VDC				ZEN-4ED		
				4	Relays		ZEN-4ER		

Accessories and options	EEPROM (for data security and copying)	ZEN-ME01	Enables programs and parameter settings to be saved or copied to another ZEN
	Battery (keeps time, date and bit values for 10 years at 25°C)	ZEN-BAT01	10 year min. battery life (at 25°C)
	Connecting cable for the programming software, RS-232C cable, 9-way 'D' connector for PC	ZEN-CIF01	2-m RS-232C (9-pin D-sub connector)
	Support software for Windows	ZEN-SOFT01-V3	Runs on Windows 95, 98, 2000, ME, XP and NT 4.0
	PS unit 24 VDC, 1.3A (30W)	ZEN-PA03024	ZEN Power supply unit
	Zen kit - with LCD display AC version	ZEN-KIT01-EV3	Set containing CPU unit (ZEN-10C1AR-A-V1), support software connecting cable, ZEN support software and manual
	Zen kit - with LCD display DC version	ZEN-KIT02-EV3	Set containing CPU unit (ZEN-10C1DR-D-V1), support software connecting cable, ZEN support software and manual

Features											Approvals	
LCD, buttons, calandar and clock	Analog input (PNP)	Timers	Holding timers	Counters	Weekly timers	Calendar timers	Displays	Work bits	Holding bits	Analog comparators (PNP)	Comparators	CE	cULus
●		16	8	16	16	16	16	16	16		16	●	●
												●	●
●	●				16	16	16			4		●	●
	●											●	●
●	●				16	16	16					●	●
	●											●	●
●					16	16	16					●	●
												●	●
●	●				16	16	16			4		●	●
	●											●	●
●	●				16	16	16					●	●
	●											●	●
												●	●
												●	●
												●	●
												●	●
												●	●

● Standard ○ Available □ Not available

ZEN-10C1

ZEN-10C2

ZEN-20C1

ZEN-20C2

ZEN-8E

ZEN-4E

ZEN Programmable relays

Ordering code

Model	ZEN -					-		V1	
Number of I/O	10 I/O	10							
	20 I/O	20							
Type	With display, buttons, calendar & clock		C1						
	Without display, buttons, calendar & clock		C2						
Input type and power supply	AC input/100-240 VAC power supply			A			A		
	DC input/240 VDC power supply			D			D		
Output type	Relay				R				
	Transistor				T				

Expansion I/O units

Ordering code

Model	ZEN -		E		
Number of I/O	4 I or 4 O	4			
	4 I / 4 O	8			
Input voltage	No input, 4O relay output model **(STANDARD)**				
	100-240 VAC			A	
	24 VDC			D	
Output type	No output, 4 input model **(STANDARD)**				
	Relay				R
	Transistor (only for 4I/4O, DC input type ZEN-8EDT)				T

Accessories for ZEN

	Ordering code
EEPROM (for data security and copying)	ZEN - ME01
Battery (keeps time, date and bit values for 10 years at 25°C)	ZEN - BAT01
For the programming software, RS-232 cable, 9-way "D" connector for PC	ZEN - CIF01
Support software for WINDOWS	ZEN - SOFT01 - V3
Power supply unit 24 VDC, 1.3A (30W)	ZEN - PA03024
Zen Kit - with display, AC input models	ZEN - KIT01 - EV3
Zen Kit - with display, DC input models	ZEN - KIT02 - EV3

Level and leakage controllers

Omron's liquid controllers consist of level and leakage controllers that sense the conductivity of liquids. The range includes models for long distance, high sensitivity, low sensitivity and two-wired control as well as a general-purpose version.

- **Wide range of sensitivity (up to 50 MΩ) can detect pure water**
- **Safe, low AC voltage on sensors**
- **Relay and transistor outputs available**
- **Wide range of electrodes and sensing bands**
- **Controllers with AC and DC power supplies**
- **Conformance to all relevant safety standards**
- **K7L has disconnection detection capability**

The level controllers (61F) are plug-in types for 8-pin or 11-pin sockets, using safe AC voltage levels for the electrodes. Typical applications include water purification, drainage, food and beverage production lines and wastewater treatment.

The leakage controller (K7L) uses an ultra-miniature amplifier to detect a wide variety of liquids, from pure water to chemical liquids with very low conductivity. A sensing band (F03-16E) is designed specially for use with this controller.

Which type of level control is required?

- **Conductive level control**
  - *Which supply voltage is required?*
    - **AC power supply**
      - Relay
        - **61F-GP-N8**
        -
        - Standard
    - **DC power supply**
      - *Which type of control output?*
        - Relay
          - **61F-GPN-BT**
          -
        - Relay and transistor
          - **61F-GPN-BC**
          -
- **Liquid leakage amplifier**
  - *Which function is required?*
    - **Standard**
      - **K7L-AT50**
      -
      - Standard
    - **With disconnection detection function**
      - **K7L-AT50D**
      -
      - Standard

Level and leakage controllers

Selection criteria								Supply voltage AC							
Detection method	Type	Family	Specialty	Model		Key points	Sensing range (configurable)	24V	100V	110V	120V	200V	220V	230V	240V
Conductive	Conductive level controller	61F	Single or two-point	61F-GP-N8		- Compact & plug-in - Two-point level control - Long-distance, high and low sensitivity models, two-wired models	4 to 50 kΩ	○	○	○	○	○	○	○	○
			AC sine wave between electrodes for stable detection with no electrolysis	61F-GPN-BT		2-point, adjustable sensitivity for use in a wide range of liquids	0 to 100 kΩ								
			AC sine wave between electrodes for stable detection with no electrolysis	61F-GPN-BC		2-point, adjustable sensitivity for use in a wide range of liquids	1 to 100 kΩ								
	Liquid leakage sensor amplifier	K7L	Sensor amplifier, AC sine wave between electrodes for stable detection with no electrolysis	K7L-AT50		Ultra miniature, to be used for a wide variety of liquids	0 to 50 MΩ								
			Sensor amplifier with disconnection detection function	K7L-AT50D		Ultra miniature, to be used for a wide variety of liquids	1 to 50 MΩ								

	Supply voltage DC		Control output			Features			Approvals		
	24V	12...24V	Transistor NPN	Transistor PNP	Relay	LED operation indicator	Adjustable sensitivity	Electrode types	CE	SA	cULus
					●	●		Electrode holder: PS-□S, PS-31, BF-1 and BS-1	●	●	●
	●				●	●	●	Electrode holder: PS-□S, PS-31, BF-1 and BS-1	●		●
	●		●		●	●	●		●		●
		○	●	●		●	●	Liquid leakage sensor band F03-16PE	●	●	●
		○	●	●		●	●		●	●	●

● Standard ○ Available □ Not available

61F-GP-N8

61F-GP-N8 Level controllers

		Ordering code
Model	Plug in, compact 8-pin type	61F - GP - N8 ☐
Applications	General purpose type	☐
	Long-distance type	L
	High-sensitivity type (reverse acting)	H
	High-sensitivity type (standard acting)	HY
	Low-sensitivity type	D
	Two-wired type	R

61F-GPN-BT

61F-GPN-BC

61F-GPN-BT/-BC Level controllers

		Ordering code
Model		61F - GPN - B ☐
Contacts	Open collector (NPN)	T
	Relay contact (SPST-NO)	C

K7L-AT50

K7L-AT50D

K7L Liquid leakage sensor

		Ordering code
Model	Liquid leakage sensor amplifier	K7L - AT50 ☐ - ☐
Disconnection detection function	No (STANDARD)	☐
	Yes	D
Terminator	With terminator (STANDARD)	☐
	Without terminator	S

Industrial switches

Omron designs and manufactures an extensive range of high-quality limit switches that bring easier, more effective switching solutions to machines and systems.

- **More contacts for increased functionality**
- **Compact, space-saving design without compromising safety or performance**
- **Robust construction for operating in the harshest environments**
- **Cost-effective, high-performance switches meeting the highest safety standards**
- **UL/CSA, TÜV, BIA, SUVA approvals**
- **Designed for global use**

Models are available with a variety of roller lever heads, as well as various types of plunger heads. Better seals, higher resistance to shock and stronger covers make these switches the perfect solution for any industrial application, even in extreme environmental conditions.

These general purpose limit switches are ideal for use in applications across the industry including lifts, garages, production lines, machine tools, automotive, security, domestic goods and vending machines.

Which type of switch is needed?

General purpose basic switch

What type of actuator?

Plunger, lever, spring

IP65

HL-5000

Plunger, lever, spring, rod

IP67

WL series

Standard

IP00

Z series

Standard

Special purpose basic switch for control of independent circuits

What type of actuator?

Plunger, lever

IP00

DZ series

Standard

General purpose limit switch

What type of actuator?

Plunger, lever, spring

IP67

most popular

D4A-N

Standard

Enclosed switch

What type of actuator?

Plunger, lever

IP65/IP60

most popular

ZE series

Standard

IP67

SHL55 series

Standard

most popular

D4C-N series

Standard

High precision optical switch

What type of actuator?

Optical

IP67

D5F series

Standard

Limit switches

Selection criteria														Features			Actuators												
Category	Type	Degree of protection		Rated current (A)							Product																		
		IEC	JIS	30 VDC	125/ 250 VDC	115 VAC	125 VAC	250 VAC	480 VAC	500 VAC	Family	Model		Key points	Weather resistant models	Microload type	Operation indicator	Adjustable rod lever	Adjustable roller lever	Bevel plunger	2,4,6 plungers	Center roller lever	Coil spring	Cone-shaped actuator	Cross roller plunger	Flexible rod	Fork lever lock	Hemisperic actuator	
General purpose switches	General purpose basic switch	IP00						20			A	A-20		Inrush currents up to 75A															
					10/3A						X	X-10		Built-in magnetic blowout															
		IP00/IP62 (drip-proof)					15	15	0,1		Z	Z-1..		High precision switching		0.1A													
		IP65	Jet-proof	5			5	5			HL	HL-5000		Miniature limit switch				●	●				●						
		IP67	Immersion-proof				10	10	10		D4	D4A-N		Operates between -40 to +100°C	●		●					●	●			●			
		IP67					10	10	10	10		D4B		Snap action & slow action			●	●	●			●	●						
		IP65	Jet-proof				10	10	10	10		D4D		Fail safe mechanism				●	●							●	●		
Special purpose switches	Small sealed switch	IP67		1			5					D4E-N		Small sealed switch		0.1A													
	Miniature limit switch	IP67	Immersion-proof	1			1					D4CC		16mm thick with connector			●			●		●			●				
	Enclosed switch			4			5	5				D4C		Miniature limit switch		0.1A	●			●					●				
		IP67		6		0,5	10	10	3			D4MC		High utility enclosed switch		0.1A													
		IP67	Immersion-proof	5		0,4	10	10	2		SHL	SHL55		Sub miniature enclosed switch		0.1A													
				6		0,5	10	10			ZC	ZC-55		High precision enclosed switch															
		IP65/ IP60	Jet-/dust-proof	15		10	15	15	10		Z	ZE/ZV/ XE/XV		Large breaking power											●				
	High precision switch	IP67	Immersion-proof								D5	D5A		High precision switch for micro units		10mA				●									
	Mechanical touch switch											D5B		High sensity touch switch		10mA							●					●	
	High-precision optical switch											D5F		Operating position in 4 ways. Cable 1 to 3m. Optical actuator: NPN/PNP open collector		0.1A													
	High temperature	IP00		1		0,4	1	1			TZ	TZ		Operation up to 400°C															
	Special purpose basic switch					0,5	10	10	2		DZ	DZ		2 independent circuits															
	Multiple limit switch	IP67	Immersion-proof			0,6	10	10			VB	VB		High sealing multiple limit switch		0.1A					2-6								
	Long life two circuit limit switch	IP67	Immersion-proof	6							W	WLM		Prewired version available			●												
	Two circuit limit switch						10	10	10	10		WL		Microload types available		0.1A	●										●		

			●	●					●	●	●								●	●	●		Hinge lever	
			●	●					●	●	●								●	●	●		Hinge roller lever	
																			●				Hinge cross roller lever	
●																	●						Horizontal plunger	
●																	●						Horizontal roller plunger	
●																	●						Horizontal ball plunger	
																			●				Leaf spring	
																			●				Long hinge lever	
										●									●	●			Low force hinge lever	
																			●				Low-force wire hinge lever	
									●	●													One-way action hinge roller lever	
									●	●	●												One-way action short hinge roller lever	
								●						●	●								One-way action roller lever	
									●	●	●	●							●	●	●		Panel mount plunger	
										●		●	●							●			Panel mount pin plunger	
									●	●	●	●	●						●	●	●		Panel mount roller plunger	
									●	●	●	●	●						●	●	●		Panel mount cross roller plunger	
			●	●	●		●	●	●	●		●	●	●					●	●	●		Pin plunger	
													●		●		●						Plastic rod	
																			●	●			Reverse hinge lever	
																			●	●			Reverse hinge roller lever	
																			●	●			Reverse short hinge roller lever	
																							Rod spring lever	
																			●				Roller leaf spring	
														●									Roller lever	
	●							●				●		●	●			●					Roller lever	
	●																●						Roller lever	
								●				●	●	●	●		●						Roller plunger	
								●	●			●	●	●									Sealed cross roller plunger	
								●				●	●	●				●					Sealed plunger	
●								●	●			●	●	●				●					Sealed plunger roller	
																			●				Short hinge cross roller lever	
									●	●	●								●	●	●		Short hinge lever	
			●	●					●	●									●	●	●		Short hinge roller lever	
																			●		●		Short spring plunger	
●																	●						Side plunger	
●																	●						Side roller plunger horizontal	
●																	●						Side roller plunger vertical	
																			●				Slim spring plunger	
																			●				Spring plunger	
●																							Top ball plunger	
●															●	●	●						Top plunger	
															●	●	●						Top roller plunger	
																			●				Unidirectional short hinge roller lever	
																		●					Variable rod lever	
●															●			●					Variable roller lever	
						●																	Wobble stick	
									●		●			●	●	●		●						Approvals
●								●	●	●	●	●	●	●	●	●	●		●	●	●			
●			●					●	●	●	●	●	●	●	●	●	●		●	●	●			
															●	●			●					
●		●							●	●		●		●	●	●								

● Standard

○ Available

□ Not available

A-20

A-20 Industrial switches

Ordering code: A - 20G [ ] - [ ]

Model	20A (250 VAC), 0.5mm contact gap	A - 20G
Actuator	Pin plunger (STANDARD)	
	Short spring plunger	D
	Panel mount plunger	Q
	Panel mount cross roller plunger	Q21
	Panel mount roller plunger	Q22
	Hinge lever	V
	Hinge roller lever	V2
	Short hinge lever	V21
	Short hinge roller lever	V22
Terminals	Solder terminal (STANDARD)	
	Screw terminal (with toothed washer)	B

X-10

X-10 Industrial switches

Ordering code: X - 10G [ ] [ ]

Model	10A (125 VDC), 0.5mm contact gap	X - 10G
Actuator	Pin plunger (STANDARD)	
	Short spring plunger	D
	Slim spring plunger	S
	Panel mount plunger	Q
	Panel mount cross roller plunger	Q21
	Panel mount roller plunger	Q22
	Leaf spring	L
	Hinge lever	W
	Hinge roller lever	W2
	Short hinge lever	W21
	Short hinge roller lever	W22
	Low-force hinge lever	W4
	Reverse hinge lever	M
	Reverse hinge roller lever	M2
	Reverse short hinge roller lever	M22
Terminals	Solder terminal (STANDARD)	
	Screw terminal (with toothed washer)	B

Z Industrial switches

Ordering code: Z - [ ] [ ] [ ] [ ] [ ]

Model		Z -
Ratings	0.1A (for micro load)	01
	15A	15
Contact gap	0.25mm (high-sensitivity, micro load)	H
	0.5mm (standard)	G
	1.8mm (high-capacity)	E
Actuator	Pin plunger (STANDARD)	
	Slim spring plunger	S
	Short spring plunger	D
	Spring plunger (medium OP)	K
	Spring plunger (high OP)	K3
	Panel mount plunger (low OP)	Q3
	Panel mount plunger (medium OP)	Q
	Panel mount plunger (high OP)	Q8
	Panel mount roller plunger	Q22
	Panel mount cross roller plunger	Q21
	Leaf spring (high OF)	L
	Roller leaf spring	L2
	Short hinge lever	W21
	Hinge lever (low OF)	W
	Hinge lever (medium OF)	W3
	Hinge lever (high OF)	W32
	Low-force hinge lever	W4
	Long hinge lever	W44
	Low-force wire hinge lever (low OF)	W78
	Low-force wire hinge lever (high OF)	W52
	Short hinge roller lever	W22
	Hinge roller lever	W2
	Hinge roller lever (large roller)	W25
	Short hinge cross roller lever	W49
	Hinge cross roller lever	W54
	Unidirectional short hinge roller lever (low OF)	W2277
	Reverse hinge lever	M
	Reverse short hinge roller lever	M22
	Reverse hinge roller lever	M2
	Flexible rod (high OF)	NJ
	Flexible rod (low OF)	NJS
Degree of protection	General purpose (STANDARD)	
	Drip-proof	55
	Drip-proof (including the terminals)	A55
Terminals	Solder terminal (STANDARD)	
	Screw terminal (with toothed washer)	B
	Screw terminal with terminal cover (for Z-15G@A55 only)	B5V

Note: For combinations of models, refer to the datasheet.

Z-15G

Z-10 split-contact models Industrial switches

		Ordering code		
Model	10A, 1mm (high-capacity),split-contact models screw terminal (with toothed washer)	Z - 10F		Y - B
Actuator	Pin plunger (STANDARD)			
	Slim spring plunger		S	
	Short spring plunger		D	
	Panel mount plunger		Q	
	Panel mount roller plunger		Q22	
	Hinge lever		W	
	Short hinge roller lever		W22	
	Hinge roller lever		W2	
	Reverse short hinge roller lever		M22	

Z-15 maintained contact models Industrial switches

		Ordering code		
Model	15A, 1.8mm (high-capacity), maintained contact models	Z - 15 - E		R
Actuator	Pin plunger (STANDARD)			
	Slim spring plunger		S	
	Hinge lever		W	

HL-5000

HL-5000 Industrial switches

		Ordering code		
Model		HL - 5 -		
Actuators	Roller lever		000	
	Adjustable roller lever		030	
	Adjustable rod lever		050	
	Sealed plunger		100	
	Sealed roller plunger		200	
	Coil spring		300	
Ground terminal specifications	Without ground terminal (STANDARD)			
	With ground terminal/M5 tapping on the rear side		G	

D4A-N Industrial switches

Ordering code

Model			D4A -				N
Receptacle Box	(STANDARD)	1/2-14 NPT conduit (SPDT, double-break)	1				
	(STANDARD)	1/2-14 NPT conduit (DPDT, double-break)	2				
		G 1/2 conduit (SPDT, double-break)	3				
		G 1/2 conduit (DPDT, double-break)	4				
		M20 x 1.5 conduit (SPDT, double-break)	5				
		M20 x 1.5 conduit (DPDT, double-break)	6				
Switch Box		SPDT, double-break, without indicator		1			
		SPDT, double-break, neon lamp		3			
		SPDT, double-break, LED (12 VDC)		A			
		SPDT, double-break, LED (24 VDC, leakage current 4mA)		C			
		SPDT, double-break, LED (24 VDC, leakage current 1.3mA)		E			
		SPDT, double-break, LED (48 VDC)		G			
		DPDT, double-break, simultaneous operation, without indicator		5			
		DPDT, double-break, sequential operation, without indicator *1		7			
		DPDT, double-break, center neutral operation, without indicator *2		9			
		DPDT, double-break, simultaneous operation, neon lamp		L			
		DPDT, double-break, sequential operation, neon lamp *1		M			
		DPDT, double-break, center neutral operation, neon lamp *2		N			
		DPDT, double-break, simultaneous operation, LED		P			
		DPDT, double-break, sequential operation, LED *1		Q			
		DPDT, double-break, center neutral operation, LED *2		R			
Head		Roller lever, standard			01		
		Roller lever, high-sensitivity			02		
		Roller lever, low torque			03		
		Roller lever, high-sensitivity, low torque			04		
		Roller lever, maintained			05		
		Roller lever, sequential operation			17		
		Roller lever, center neutral operation			18		
		Side plunger, standard			06		
		Side plunger, vertical roller			07-V		
		Side plunger, horizontal roller			07-H		
		Side plunger, adjustable			08		
		Top plunger, standard			09		
		Top plunger, roller			10		
		Top plunger, adjustable			11		
		Flexible rod, spring wire			12		
		Flexible rod, plastic rod			14		
		Flexible rod, cat whisker			15		
		Flexible rod, coil spring			16		

*1 Use the D4A-0017N special head.
*2 Use the D4A-0018N special head.

D4A

D4B-N

D4B Industrial switches

Ordering code

Model			D4B -				N
Conduit		PG13.5 (1-conduit)	1				
		G 1/2 (PF 1/2) (1-conduit)	2				
		1/2-14NPT (1-conduit)	3				
		PG13.5 (3-conduit)	5				
		G 1/2 (PF 1/2) (3-conduit)	6				
		1/2-14NPT (3-conduit)	7				
Built-in switch		1NC/1NO (snap-action)		1			
		2NC (slow-action)		A			
		1NC/1NO (slow-action, excluding D4B□□81N and D4B-□□87N models)		5			
Actuator		Switch box (without head)			00		
		Roller lever (standard)			11		
		Adjustable roller lever			16		
		Adjustable rod lever			17		
		Roller lever (conventional D4B-compatible)			1R		
		Top plunger			70		
		Top roller plunger			71		
		Coil spring			81		
		Plastic rod			87		

D4D

D4D-N Industrial switches

Ordering code

Model		D4D -				N
Conduit	PG13.5 (1-conduit)	1				
	G 1/2 (1-conduit)	2				
	1/2-14NPT (1-conduit)	3				
	PG13.5 (2-conduit)	5				
	G 1/2 (2-conduit)	6				
Built-in switch	1NC/1NO (snap-action)		1			
	2NC (slow-action)		A			
	1NC/1NO (slow-action)		5			
Actuator	Roller lever (standard, resin lever)			20		
	Adjustable roller lever			21		
	Roller lever (metal lever)			22		
	Adjustable roller lever (with 50 dia. rubber roller)			27		
	Top plunger			31		
	Top roller plunger			32		
	One-way roller arm lever (horizontal)			62		
	One-way roller arm lever (vertical)			72		
	Cat whisker			80		
	Plastic rod			87		
	Fork lever lock (right operation)			RE		
	Fork lever lock (left operation)			LE		

D4D-R Industrial switches

Ordering code

Model		D4D -				R
Conduit	PG13.5 (1-conduit)	1				
	G 1/2 (1-conduit)	2				
	1/2-14NPT (1-conduit)	3				
	PG13.5 (2-conduit)	5				
	G 1/2 (2-conduit)	6				
Built-in switch	2NC (slow-action)		A			
	1NC/1NO (slow-action)		5			
Actuator	Roller lever			20		
	Adjustable roller lever			21		
	Adjustable roller lever (with rubber roller)			27		
	Plunger			31		
	Roller plunger			32		
	One-way roller arm lever (horizontal)			62		
	One-way roller arm lever (vertical)			72		

D4E-N

D4E-N Industrial switches

Ordering code

Model		D4E -					N
Rated current	5A at 125 VAC (1A at 125 VAC/30 VDC for model with a connector)	1					
	0.1A at 125 VAC (0.1A at 125 VAC/30 VDC for model with a connector)	2					
Actuator	Roller plunger		A				
	Crossroller plunger		B				
	Plunger		C				
	Sealed roller plunger		D				
	Sealed crossroller plunger		E				
	Sealed plunger		F				
	Roller lever		G				
	One-way action roller lever		H				
Terminals	AC connector			00			
	DC connector			10			
	Screw terminals without a cable			20			
	Screw terminals with a cable (right-hand) (cable is S-FLEX VCTF 3m)			21			
	Screw terminals with a cable (left-hand) (cable is S-FLEX VCTF 3m)			22			
	Molded terminals with a cable (right-hand) (cable is S-FLEX VCTF 3m)			23			
	Molded terminals with a cable (left-hand) (cable is S-FLEX VCTF 3m)			24			
Operation indicator							
	Neon lamp (250 VAC)				L		
	LED (12 VDC)				L1		
	LED (24 VDC)				L2		
	LED (48 VDC)				L3		

Notes: Only the molded terminal models can be equipped with an operation indicator.
Desired Switches may not be manufactured depending on the combination between molds and indicators.
Contact our sales representative for further information.

D4CC

D4CC Industrial switches

Ordering code

Model		D4CC -		O	
Rated load	1A at 125 VAC	1			
	1A at 125 VAC (with LED indicator)	2			
	1A at 30 VDC	3			
	1A at 30 VDC (with LED indicator)	4			
Actuator	Pin plunger		01		
	Roller plunger		02		
	Crossroller plunger		03		
	Bevel plunger		10		
	Roller lever		24		
	Sealed pin plunger		31		
	Sealed roller plunger		32		
	Sealed crossroller plunger		33		
	Panel mount pin plunger		41		
	Panel mount roller plunger		42		
	Panel mount crossroller plunger		43		
	Plastic rod		50		
	Center roller lever		60		

Note: With standard models, the operation indicator turns OFF when the switch operates. If models with operation indicators that turn ON when the switch operates are required, add "-B" to the end of the model number.

D4C

D4C Industrial switches

Ordering code

Model		D4C -			
Rated current	5A at 250 VAC, 4A at 30 VDC	1			
	5A at 125 VAC (with LED indicator)	2			
	4A at 30 VDC (with LED indicator)	3			
	0.1A at 125 VAC, 0.1A at 30 VDC	4			
	0.1A at 125 VAC (with LED indicator)	5			
	0.1A at 30 VDC (with LED indicator)	6			
Cable specifications	VCTF oil-resistant cable (3m)		2		
	VCTF oil-resistant cable (5m)		3		
	VCTF (3m)		4		
	VCTF (5m)		5		
	SJT(O) (3m)		6		
	SJT(O) (5m)		7		
	VCTF oil-resistant cable (2m)		8		
	VCTF (2m)		9		
Actuator	Pin plunger			01	
	Roller plunger			02	
	Crossroller plunger			03	
	Bevel plunger			10	
	Roller lever			20	
	Roller lever (high-sensitivity model)			24	
	Sealed pin plunger			31	
	Sealed roller plunger			32	
	Sealed crossroller			33	
	Panel mount pin plunger			41	
	Panel mount roller plunger			42	
	Panel mount crossroller plunger			43	
	Plastic rod			50	
	Center roller lever plunger			60	

Notes: Some combinations of the above may not be supported.
With standard models, the operation indicator turns OFF when the switch operates.
If models with operation indicators that turn ON when the switch operates are required, add "-B" to the end of the model number.

D4MC

D4MC Industrial switches

Ordering code

Model		D4MC -	
Actuator	Panel mount plunger		5000
	Panel mount roller plunger		5020
	Panel mount crossroller plunger		5040
	Short hinge lever		1020
	Hinge lever		1000
	Hinge roller lever		2000
	Short hinge roller lever		2020
	One-way action short hinge roller lever		3030

SHL-55

SHL55 Industrial switches

Ordering code

Model		SHL -		55 -	
Actuator	Plunger	D			
	Panel mount plunger	Q			
	Panel mount roller plunger	Q22			
	Panel mount crossroller plunger	Q21			
	Short hinge lever	W			
	Hinge lever	W1			
	Short hinge roller lever	W2			
	Hinge roller lever	W21			
	One-way action short hinge roller lever	W3			
	One-way action hinge roller lever	W31			
Rated current	Standard				
	Micro load	01			

Note: See catalog.

ZC-55

ZC-55 Industrial switches

		Ordering code
Model		ZC- □ 55
Actuator	Plunger	D
	Panel mount plunger	Q
	Panel mount roller plunger	Q22
	Panel mount crossroller plunger	Q21
	Sealed roller plunger	N22
	Sealed crossroller plunger	N21
	Short hinge lever	W
	Hinge lever	W1
	Short hinge roller lever	W2
	Hinge roller lever	W21
	One-way action short hinge roller lever	W3
	One-way action hinge roller lever	W31

ZE/ZV/XE/XV

ZE/ZV/XE/XV Industrial switches

Ordering code: Model □ □ - □ - 2 □

Built-in switch	SPDT (AC)	Z
	SPDT (DC)	X
Mounting direction	Side mounting	E
	Base mounting	V
	Diagonal side mounting	V2
Actuator	Plunger	Q
	Roller plunger	Q22
	Crossroller plunger	Q21
	Roller arm lever	QA2
	One-way action roller arm lever	QA277
	Sealed plunger	N
	Sealed roller plunger (ZE, ZV, ZV2 only)	N22
	Sealed crossroller plunger (ZE, ZV, ZV2 only)	N21
	Sealed roller arm lever	NA2
	Sealed one-way action roller arm lever	NA277
Conduit/ground terminal	G 1/2/without ground terminal (STANDARD)	
	G 1/2/with ground terminal	G1
	Pg13.5/with ground terminal	G
	1/2-14NPSM/with ground terminal	SG1
	M20/with ground terminal	YG1
	1/2-14NPSM/without ground terminal	S
	M20/without ground terminal	Y

D5A

D5A Industrial switches

Ordering code: Model D5A- □ □ □ □

Actuator	Pin plunger, type M5, repeat accuracy 1µm max, IP40	1
	Pin plunger, type M5, repeat accuracy 3µm max, IP40	2
	Pin plunger, type M8, repeat accuracy 1µm max, IP67	3
	Pin plunger, type M16, repeat accuracy 3µm max, IP67	7
	Pin plunger, type slim, repeat accuracy 1µm max, IP67	5
	Top plunger, type limit, repeat accuracy 3µm max, IP67	8
	Bevel plunger, type limit, repeat accuracy 3µm max, IP67	9
Operating force	0.29N max	1
	0.49N max	2
	0.98N max	3
	2.45N max (M16 type only)	4
	3.92N max (limit type only)	5
Model	Contact output model (without operation indicator)	0
	Solid-state output models (with operation indicator)	1
Cable outlet	Pre-wired, 1m	0
	Pre-wired, 3m	1
	Pre-wired, 5m	2
	Connector, 1m	3
	Connector, 3m	4
	Connector, 5m	5

D5B

D5B Industrial switches

		Ordering code			
Model		D5B -			
Size	M5		5		
	M8		8		
	M10		1		
Actuator	Hemispheric			01	
	Cone-shaped			02	
	Wobble stick (short spring)			51	
	Wobble stick (long spring), M10 type only			53	
Cable length	1m				1
	3m				3
	5m				5

D5F

D5F Industrial switches

		Ordering code			
Model		D5F -			O
Output configuration	PNP open collector (+common), SPST-NC, indicator on when not operated		2B		
	NPN open collector (+common), SPST-NO, indicator on when operated		3C		
Cable length	1 m			1	
	3 m			3	

TZ

TZ Industrial switches

		Ordering code	
Model	1A (250 VAC), 0.5mm contact gap	TZ - 1G	
Actuator	Pin plunger (STANDARD)		
	Hinge lever		V
	Hinge roller lever		V2
	Short hinge roller lever		V22

DZ Industrial switches

Ordering code

Model		DZ - 10G		- 1	
Actuator	Pin plunger (STANDARD)				
	Hinge lever	V			
	Short hinge roller lever	V22			
	Hinge roller lever	V2			
	Hinge lever	W			
	Short hinge roller lever	W22			
	Hinge roller lever	W2			
Terminals	Solder terminal				A
	Screw terminal				B

DZ

VB Industrial switches

Ordering code

Model		VB -						
Number of plungers	2 plungers	2						
	3 plungers	3						
	4 plungers	4						
	5 plungers	5						
	6 plungers	6						
Actuator	Bevel plunger		1					
	Roller plunger		2					
Switch box	Flange switch box with two conduit holes on the side			1				
	Flange switch box with four conduit holes			2				
	Non-flange switch box with two conduit holes on the side			4				
	Non-lange switch box with four conduit holes			5				
Scraper	NBR scraper				1			
	FPM scraper				2			
Contact	10A (STANDARD)							
	0.1A (micro load)					A		
Ground terminal	Without ground terminal (STANDARD)							
	With ground terminal						E	

VB

WL Industrial switches

Ordering code

Model		WL -	
Electrical rating	Standard (STANDARD)		
	Micro		01
Actuator and head specifications	Switches without levers		
	Roller lever: standard model (R38)	WLRCA2	CA2
	Roller lever: standard, standard model (R50)	WLRCA2	CA2-7
	Roller lever: standard, standard model (R63)	WLRCA2	CA2-8
	Roller lever: overtravel, general purpose model, 80	WLRH2	H2
	Roller lever: overtravel, high-sensitivity, 80	WLRG2	G2
	Roller lever: overtravel, 90	WLRCA2-2N	CA2-2N
	Roller lever: high-precision	WLRGCA2	GCA2
	Adjustable roller lever: standard	WLRCA2	CA12
	Adjustable roller lever: overtravel, general purpose model, 80	WLRH2	H12
	Adjustable roller lever: overtravel, high-sensitivity, 80	WLRG2	G12
	Adjustable roller lever: overtravel, 90	AdjustWLRCA2-2N	CA12-2N
	Adjustable rod lever: standard	WLRCL	CL
	Adjustable rod lever: overtravel, general purpose model, 80, 25 to 140 mm	WLRH2	HL
	Adjustable rod lever: overtravel, general purpose model, 80, 350 to 380 mm	WLRH2	HLAL4
	Adjustable rod lever: overtravel, high-sensitivity, 80, 25 to 140 mm	WLRG2	GL
	Adjustable rod lever: overtravel, 90, 25 to 140 mm	AWLRCA2-2N	CL-2N
	Rod spring lever: protective, overtravel, general purpose model, 80	WLRH2	HAL5
	Fork lever lock: protective, WL-5A100	WLRCA32	CA32-41
	Fork lever lock: protective, WL-5A102	WLRCA32	CA32-42
	Fork lever lock: protective, WL-5A104	WLRCA32	CA32-43
	Plunger: top plunger	---	D
	Plunger: top-roller plunger	---	D2
	Plunger: sealed top-roller plunger	---	D28
	Plunger: top-ball plunger	---	D3
	Plunger: horizontal plunger	---	SD
	Plunger: horizontal-roller plunger	---	SD2
	Plunger: horizontal-ball plunger	---	SD3
	Flexible rod: coil spring	---	NJ
	Flexible rod: coil spring, multi-wire	---	NJ-30
	Flexible rod: coil spring, resin rod	---	NJ-2
	Flexible rod: steel wire	---	NJ-S2
Environment-resistant model specifications	Standard (STANDARD)		
	Corrosion-proof		RP
	Weather-resistant		P1
Built-in switch specifications	General purpose built-in switch (STANDARD)		
	Hermetically-sealed built-in switch		55
Temperature specifications	Standard: –10C to 80C (STANDARD)		
	Heat-resistive: 5C to 120C		TH
	Low temperature: –40C to 40C		TC
Special hermetic model specifications	No cables or molding (STANDARD)		
	General purpose built-in switch with cables attached and molded conduit opening and cover (cover cannot be removed).		139
	Airtight built-in switch with cables attached and molded conduit opening, cover, and case cover (cover cannot be removed).		140
	Airtight built-in switch with cables attached and molded conduit opening, cover, and case cover (cover cannot be removed), the head opening is created to protect it from cutting powder.		141
	Airtight built-in switch with cables attached and molded conduit opening, cover, and case cover (cover cannot be removed, head can be mounted in any of 4 directions). The head opening is created to protect it from cutting powder.		145
	Airtight built-in switch with cables attached, SC Connector can be used, molded conduit opening, cover, and case cover (cover cannot be removed, head direction can be changed).		RP40
	Airtight built-in switch with cables attached, fluorine rubber-molded conduit opening, cover, and case cover (cover cannot be removed, head direction cannot be changed).		RP60
Conduit size, ground terminal specifications*1	G 1/2 without ground terminal (STANDARD)		
	G 1/2 with ground terminal		G1
	Pg13.5 with ground terminal		G
	M20 with ground terminal		Y
	1/2-14NPT with ground terminal		TS
Indicator type	Neon lamp: 125 VAC / 0.6mA leakage current or 250 VAC / 1.9mA leakage current		LE
	LED: 10 to 115 VAC/VDC / 0.5mA leakage current		LD
Lamp wiring	NC connection: light-ON when operating		2
	NO connection: light-ON when not operating		3
Lever type	Standard lever (STANDARD)		
	Double nut lever		A

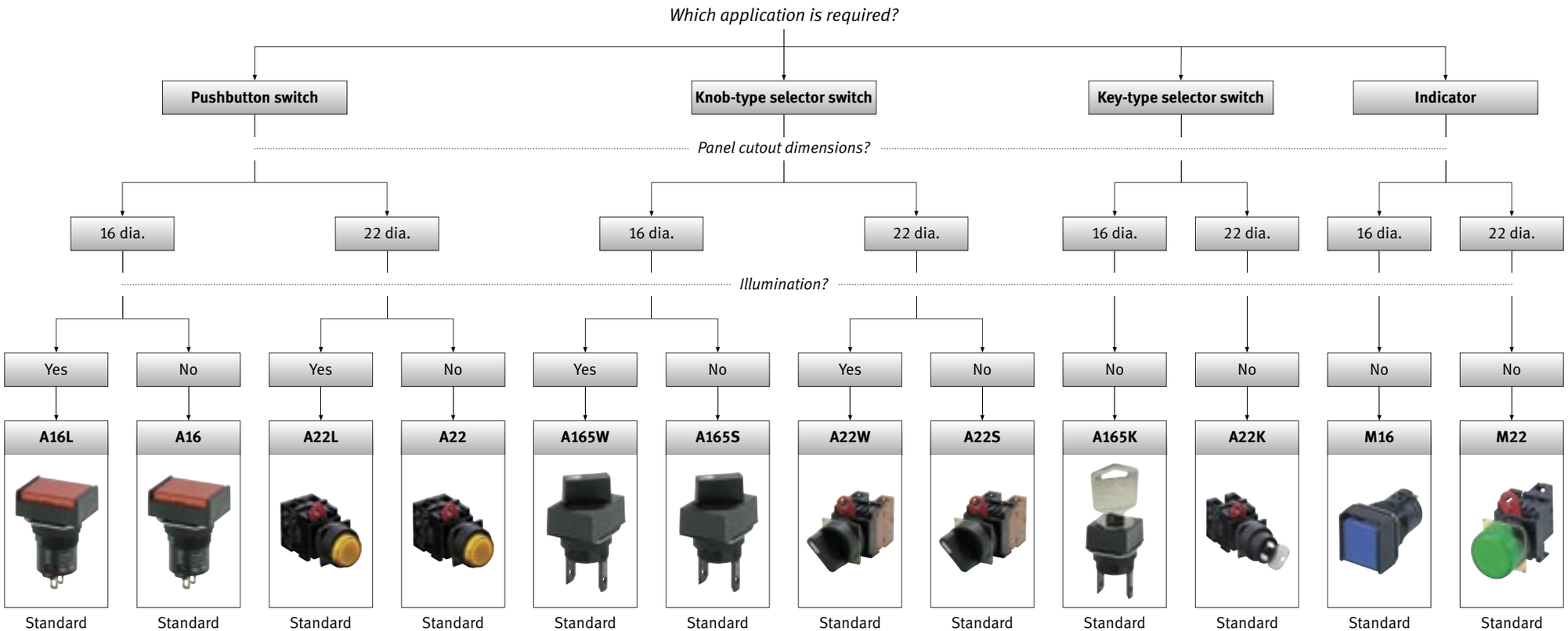
*1 Switches with ground terminals meet EN/IEC standards (and have the CE marking).

Pushbutton switches

Omron worked closely together with many leading machine manufacturers to produce this diverse range of high quality pushbutton switches that offer practical solutions for industrial applications.

- **2-piece construction**
- **Snaps together for quick assembly**
- **16 to 22 mm housings**
- **IP40 and IP65, oil-tight**
- **Variety of shapes: rectangular, square, round**
- **Illuminated and non-illuminated types**

Omron's pushbutton switches include models in 16 mm or 22 mm diameter. Available in a variety of shapes, sizes, colors and functions, the range allows you to select the right product for your application.



Pushbutton switches

Selection criteria							Pushbutton color																	
							Incandescent lamp-lighted						LED-lighted					Non-lighted						
Type	Mounting	Size	Model		Key points	Shape	Red	Amber	Green	White	Blue	Orange	Red	Amber	Green	White	Blue	Red	Amber	Green	White	Blue	Black	
Pushbutton switch	Nut mounting	16mm	A16		Modular construction	▭ □ ○	●	●	●	●	●		●	●	●	●	●						●	
		22mm	A22		Easy mounting & removing	▭ □ ○	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	
Key-type selector switch		16mm	A165K		Oil-resistant	▭ □ ○																	●	
		22mm	A22K		3-row mounting of switch blocks	▭ □ ○																	●	
Knob-type selector switch		16mm	A165S/W		Short mounting depth	▭ □ ○							●	●	●									
		22mm	A22S/W		Finger-protection mechanism	▭ □ ○	●	●	●		●		●	●	●		●						●	
Indicator		16mm	M16		LED, incandescent and neon lamp	▭ □ ○	●	●	●	●	●		●	●	●	●	●							
		22mm	M22		Easy mounting & removing	▭ □ ○	●	●	●	●	●		●	●	●	●	●							

Features								Switch ratings [A]			Terminals		Operating voltage			Form									Approvals		
Momentary operation	Self-holding	No of contacts	IP rating	Buzzer	Legend plate	Reset method manual	Reset method automatic	125 VAC	250 VAC	30 VDC	Solder	Screw-less clamp	5 VDC	12 VDC	24 VDC	SPDT	DPDT	2 notches	3 notches	SPST-NO	SPST-NC	SPST-NO + SPST-NC	DPST-NO	DPST-NC	CE	SA	cULus
●	●	2	IP40/IP65		●	●		5	3	3	●														●	●	●
		6	IP65		●			10	6	10			●	●	●					●	●	●	●	●	●	●	●
		2	IP65		●	●	●	5	3	3	●		●	●	●	●	●	●	●						●	●	●
●	●	6	IP65		●	●		10	6	10								●	●	●	●	●	●	●	●	●	●
●	●	2	IP65		●			5	3	3	●		●	●	●	●	●	●	●						●	●	●
●	●	6	IP65		●	●		10	6	10								●	●	●	●	●	●	●	●	●	●
			IP40/IP65		●						●	●	●	●	●										●	●	●
			IP65		●								●	●	●										●	●	●

● Standard ○ Available □ Not available

A16

A16 Pushbutton switches

Ordering code

Pushbutton	A16		L -				-		-	

Degree of protection	IP40 (STANDARD)		
	IP65	5	
Flange shape	Rectangular	J	
	Round	T	
	Square	A	
Pushbutton color code	Red		R
	Yellow		Y
	Green		G
	Blue		A
	White		W
	Black *1		B
Operation	Momentary		M
	Alternate		A
Illumination/voltage	*None*	(STANDARD)	
	LED	5 VDC	5D
		12 VDC	12D
		24 VDC	24D
		120 VAC	TV
	Incandescent lamp	5 VAC/VDC	5
		12 VAC/VDC	12
		24 VAC/VDC	24
Contacts	SPDT		1
	DPDT		2

*1 Models with B (Black) only available without illumination.

A16 Subassembled pushbutton switches

Pushbutton

Ordering code

Pushbutton	A16		L -					

Degree of protection	IP40 (STANDARD)		
	IP65 oil-resistant	5	
Flange shape	Rectangular	J	
	Round	T	
	Square	A	
Illumination color	***Non-lighted models***	Red	R
		Green	G
		Yellow	Y
		White	W
		Blue	A
		Black	B
	Lighted models *LED/incandescent lamp*	Red	R
		Yellow	Y
		White	W
		Blue	A
	LED	Green	GY
	Incandescent lamp	Green	G

Case

Ordering code

Case	A16		-					

Degree of protection	IP40 (STANDARD)		
	IP65 oil-resistant	5	
Flange shape	Rectangular	CJ	
	Round	CT	
	Square	CA	
Switch action	Momentary		M
	Alternate		A

Lamp

Ordering code

Lamp	A16 -							

Operating voltage (rated)	*Incandescent lamp*	5 (6) VAC/VDC	5
		12 (14) VAC/VDC	12
		24 (28) VAC/VDC	24
	LED	5 VDC	5DS
		12 VDC	12DS
		24 VDC	24DS
Illumination color		Incandescent lamp	
		Red (LED)	R
		Green (LED)	G
		Yellow (LED)	Y
		White (LED)	W
		Blue (LED)	A

Switch

Ordering code

Switch (solder terminals)	A16 -							

Voltage reduction circuit		Without (STANDARD)	
	Operating/rated voltage	100 VAC/110 VAC	T1
Contacts	SPDT		1
	DPDT		2

A16

A22

A22 Subassembled pushbutton switches

Pushbutton

Ordering code

Pushbutton		Non-lighted	A22 -
		Lighted	A22 L -

Flange shape	*Non-Lighted*	Round/flat	F
		Round/projection	T
		Round/full-guard	G
		Round/half guard	H
		Square/projection	C
		Square/full-guard	D
		Round/mushroom (30-dia, head)	S
		Round/mushroom (40-dia, head)	M
	Lighted	Round/projection	T
		Round/full-guard	G
		Round/half guard	H
		Square/projection	C
		Square/full-guard	D

Illumination color	Red	R
	Green	G
	Yellow	Y
	White	W
	Blue	A
	Black (for non-lighted models only)	B

Lamp

Ordering code

Lamp			A22 -

Operating voltage (rated voltage)	*Incandescent lamp*	5 VAC/DC (5V)	5
		12 VAC/DC (12V)	12
		24 VAC/DC (24V)	24
		100 VAC/DC (100V)	H1
	LED	6 VDC (6 VDC)	6D
		6 VAC (6 VAC)	6A
		12 VAC/VDC (12 VAC/VDC)	12A
		24 VAC/VDC (24 VAC/VDC)	24A

Illumination color	Incandescent lamp **(STANDARD)**	
	Red	R
	Green	G
	Yellow	Y
	Blue	A

Switch

Ordering code

Switch	A22		-			-	

Lighted/ non-lighted	Non-lighted **(STANDARD)**	
	Lighted	L

Contacts	SPST-NO	10
	SPST-NC	01
	SPST-NO+SPST-NC	11
	DPST-NO	20
	DPST-NC	02

Switch action	Momentary	M
	Alternative	A

Voltage reduction unit (lighted type only)	Without voltage reduction unit **(STANDARD)**	
	110 VAC (95-115 VAC)	T1
	220 VAC (190-230 AC)	T2

A165K

A165K Key-type selector switches - subassembled pushbutton switches

Selector

Ordering code: A165K - [ ] [ ]

Flange shape	Rectangular	J
	Round	T
	Square	A
Number of notches/reset method/key release position	2 notches/manual/left	2ML
	2 notches/manual/right	2MR
	2 notches/manual/right and left	2M
	2 notches/automatic/left	2AL
	3 notches/manual/centre	3MC
	3 notches/manual/right	3MR
	3 notches/manual/left	3ML
	3 notches/manual/right, left and centre	3M
	3 notches/automatic/centre	3AC

Switch

Ordering code: A16S - [ ] [ ]

Number of notches	2 notches	2N
	3 notches	3N
Contacts	SPDT	1
	DPDT	2

A22K

A22K Key-type selector switch subassembled pushbutton switches

Selector

Ordering code: A22K - [ ]

Number of notches/reset method/key release position	2 notches/manual/left	2ML
	2 notches/manual/left and right	2M
	2 notches/automatic/left	2AL
	3 notches/manual/left	3ML
	3 notches/manual/left and right	3M
	3 notches/manual/centre	3MC
	3 notches/automatic/centre	3AC

Switch

Ordering code: Switch A22 - [ ] M

Contacts	SPST-NO (2 notch models only)	10
	SPST-NC (2 notch models only)	01
	SPST-NO+SPST-NC	11
	DPST-NO	20
	DPST-NC	02

A165S/W

A165S/W Knob-type selector switches - subassembled pushbutton switches

Selector

Ordering code

Selector, IP65	A165	☐	-	☐	☐	☐

Lighted/non-lighted	Non-lighted	S
	Lighted	W
Flange shape	Rectangular	J
	Round	T
	Square	A
Number of notches	2 notches/manual	2M
	2 notches/automatic	2A
	3 notches/manual	3M
	3 notches/mixed-operation	3A
	3 notches/CCW-manual/CW-automatic	3MA
	3 notches/CCW-automatic/CW-manual	3AM
Illumination color	Red	R
	Yellow	Y
	Green	G
	Black *1	B

*1 Models with B (Black) only available without illumination.

Switch

Ordering code

Switch, solder terminals, IP65	A16S -	☐	- N -	☐	☐

Number of notches	2	2
	3	3
Contacts	SPDT	1
	DPDT	2
Lighted/non-lighted	Non-lighted	
	Lighted	L

Lamp

Ordering code

Lamp	A16S -	☐	☐

Operating voltage (rated voltage)	5 VDC	5DS
	12 VDC	12DS
	24 VDC	24DS
Illumination color	Red (LED)	R
	Green (LED)	G
	Yellow (LED)	Y

A22S/W

A22S/W Subassembled knob-type selector switches - pushbutton switches

Pushbutton

Ordering code

Pushbutton	Non-lighted	A22S -
	Lighted	A22W -

Number of notches/reset method	2 notches/manual	2M
	2 notches/automatic	2A
	3 notches/manual	3M
	3 notches/automatic	3A

Illumination color	Black (for non-lighted models only) **(STANDARD)**	
	Red	R
	Green	G
	Yellow	Y
	Blue	A

Lamp

Ordering code

Lamp			A22 -
Operating voltage (rated voltage)	*Incandescent lamp*	5 VAC/DC (5V)	5
		12 VAC/DC (12V)	12
		24 VAC/DC (24V)	24
		100 VAC/DC (100V)	H1
	LED	6 VDC (6 VDC)	6D
		6 VAC (6 VAC)	6A
		12 VAC/VDC (12 VAC/VDC)	12A
		24 VAC/VDC (24 VAC/VDC)	24A

Illumination color	Incandescent lamp **(STANDARD)**	
	Red	R
	Green	G
	Yellow	Y
	Blue	A

Switch

Ordering code

Switch		A22 -

Lighted/non-lighted	Non-lighted **(STANDARD)**	
	Lighted	L

Contacts	SPST-NO (2 notch models only)	10
	SPST-NC (2 notch models only)	01
	SPST-NO+SPST-NC	11
	DPST-NO	20
	DPST-NC	02

Voltage reduction unit (lighted type only)	Without voltage reduction unit **(STANDARD)**	
	110 VAC (95-115 VAC)	T1
	220 VAC (190-230 VAC)	T2

M16

M16 Indicators - subassembled pushbutton switches

Display

Ordering code

Display	For LED-lighted models	A16		L -		
	Incandescent lamps	A16		L -		

Degree of protection	IP40 (STANDARD)	
	IP65 oil-resistant	5

Flange shape	Rectangular	J
	Square	A
	Round	T

Illumination color	Red	R	R
	Yellow	Y	Y
	Pure Yellow	PY	PY
	Green	G	GY
	White	W	W
	Blue	A	A

Case

Ordering code

Case	A16		- C		M

Degree of protection	IP40 (STANDARD)	
	IP65 oil-resistant	5

Flange shape	Rectangular	J
	Square	A
	Round	T

Socket

Ordering code

Socket	M16 -	

Terminals	Solder terminals	0
	Solder terminals, voltage reduction lighting, 100V	T1
	Screw-less clamp, voltage reduction lighting, 200V	T2-S

Lamp

Ordering code

Lamp	LED	A16 -			
	Incandescent lamps	A16 -			

Operating voltage	5 VDC	5D		
	12 VDC	12D		
	24 VDC	24D		
	5 VAC/VDC		5	
	12 VAC/VDC		12	
	24 VAC/VDC		24	

Illumination color	Red		SR
	Yellow		SY
	Green		SG
	White		SW
	Blue		A

M22

M22 Indicators - subassembled pushbutton switches

Display

		Ordering code
Display		M22 ☐ ☐
Flange shape	Round/flat	F
	Square/projection	C
Cap color	Red	R
	Green	G
	Yellow	Y
	White	W
	Blue	A

Socket

		Ordering code
Socket		M22 - 00 - ☐
Voltage reduction unit	Without voltage reduction unit **(STANDARD)**	
	110 VAC	T1
	220 VAC	T2

Lamp

			Ordering code
Lamp		LED	A22 - ☐ ☐
Operating voltage (rated voltage)	*Incandescent lamp*	5 VAC/DC (5V)	5
		12 VAC/DC (12V)	12
		24 VAC/DC (24V)	24
		100 VAC/DC (100V)	H1
	LED	6 VDC (6 VDC)	6D
		6 VAC (6 VAC)	6A
		12 VAC/VDC (12 VAC/VDC)	12A
		24 VAC/VDC (24 VAC/VDC)	24A
Illumination color		Incandescent lamp	
		Red	R
		Green	G
		Yellow	Y
		Blue	A

Low voltage switch gear

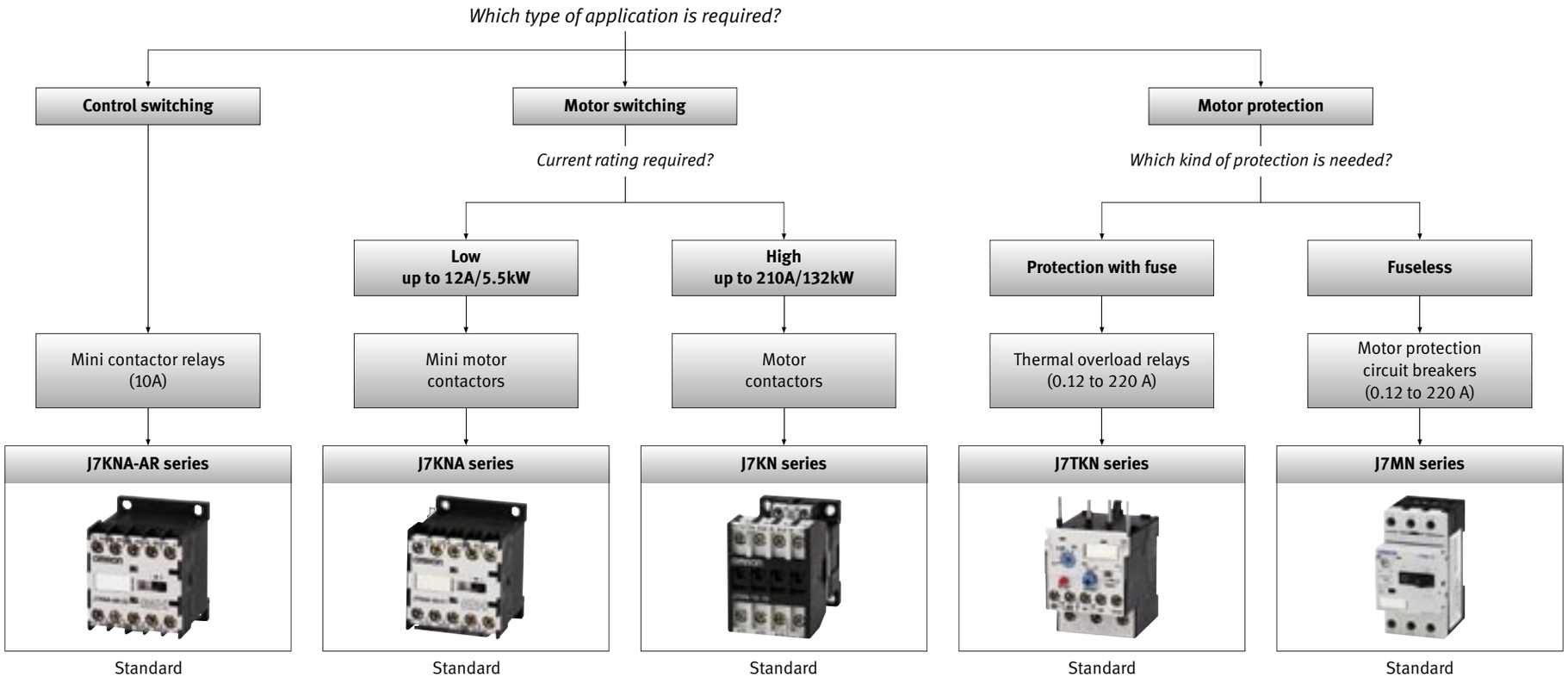
Omron is an established global manufacturer of low voltage switch gear (LVSG) products, and the company's new series (J7) complements the existing portfolio.

- **High power-handling on very compact footprints**
- **State-of-the-art technology**
- **Designed and built to quality standards ISO 9001**
- **Contactor range, up to 55kW, can operate in temperatures from –40°C to +90°C**
- **Conformance to EN/IEC**
- **UL/CSA approval**

This series has been designed using state-of-the-art technology and includes high-quality contactors, thermal overload relays and motor protection circuit breakers.

The contactors, up to 110kW, offer impressive power-handling capabilities on a small footprint. They conform to EN/IEC and are approved by UL/CSA.

Suitable for any industrial application, they will appeal to panel builders, OEMs and engineers looking for top-quality products from one supplier.



Low voltage switch gear

Selection criteria									Thermal overload relay	Auxiliary contacts	
Category	Mounting	Distinction number according to EN 50011	AC15 230V [A]	AC15 400V [A]	Thermal rated current I_e [A]	Model		Key points		Integrated auxiliary contacts	Additional auxiliary contacts block
Mini contactor relay	35mm DIN-rail or base	40E	3	2	10	J7KNA-AR-40		AC & DC operated		4 NO	J73-KNA-11 (1 NO + 1 NC) J73KN-A-02 (2 NC) J73KN-A-40 (4 NO) J73KN-A-22 (2 NO + 2 NC)
		31E	3	2	10	J7KNA-AR-31		Positively guided contacts		3 NO + 1 NC	
		22E	3	2	10	J7KNA-AR-22		For el. devices DIN 19240		2 NO + 2 NC	

Selection criteria									Thermal overload relay	Auxiliary contacts	
Category	Mounting	AC1 up to 690V [A]	Motor AC3 up to 400V [kW]	Motor AC3 380-415V [kW]	Motor AC3 660-690V [kW]	Model		Key points		Integrated auxiliary contacts	Additional auxiliary contacts block
Mini motor contactor	35mm DIN-rail or base	20	4	4	4	J7KNA-09		AC & DC operated Integrated auxiliary contacts	 J7TKN-A	1 NO/1 NC	J73KN-AM-11 (1 NO + 1 NC) J73KN-AM-02 (2 NC) J73KN-AM-22 (2 NO + 2 NC)
			5.5	5.5	5.5	J7KNA-12				1 NO/1 NC	
Motor contactors		25	4	5.5	5.5	J7KN-10		AC & DC operated Integrated auxiliary contacts Screw fixing Snap fitting up to 45 kW Front mounted single Pole auxiliary contacts (1 NC or 1 NO) Side mounted Auxiliary contacts (1 NC/1 NO) Mechanical interlock Suppressors Pneumatic timer modules Linking modules MPCB – contactor	 J7TKN-B	1 NO/1 NC	J73KN-B-10 (1 NO) J73KN-B-01 (1 NC)
			5.5	7.5	7.5	J7KN-14				1 NO/1 NC	
		32	7.5	10	10	J7KN-18				1 NO/1 NC	
			11	10	10	J7KN-22				1 NO/1 NC	
		50	11	15	15	J7KN-24			 J7TKN-C		J73KN-B-10 (1 NO) J73KN-B-01 (1 NC) J73KN-C-11S (1 NO + 1 NC)
		65	15	18.5	18.5	J7KN-32					
		80	18.5	18.5	18.5	J7KN-40					
		110	22	30	30	J7KN-50			 J7TKN-D		
		120	30	37	37	J7KN-62					
		130	37	45	45	J7KN-74					
	Base	150	45	55	55	J7KN-85			 J7TKN-E	2 NO + 2 NC	
		170	55	55	55	J7KN-110				2 NO + 2 NC	
		200	75	75	75	J7KN-150			 J7TKN-F	1 NO/1 NC	
		250	90	90	90	J7KN-175				1 NO/1 NC	
		350	110	110	110	J7KN-200				2 NO + 2 NC	

	AC power consumption of coils		DC power consumption of coils		Cable cross-section			Auxiliary contact		Features					Approvals		
	Inrush [VA]	Sealed [VA]	Inrush [W]	Sealed [W]	Solid or stranded [mm²]	Flexible [mm²]	Cables per clamp [mm²]	I_{th}	AC15 at 230V	Rated insulation voltage U_i	AC operated	DC operated	4 pole version	Short circuit protection	CE	SA	cULus
	25	4 – 5	2.5	2.5	0.75 – 2.5	0.75 – 2.5	2	10A	3A	690 VAC	●	●	○	20A	●	●	●
	25	4 – 5	2.5	2.5	0.75 – 2.5	0.75 – 2.5	2	10A	3A	690 VAC	●	●	○	20A	●	●	●
	25	4 – 5	2.5	2.5	0.75 – 2.5	0.75 – 2.5	2	10A	3A	690 VAC	●	●	○	20A	●	●	●

	AC power consumption of coils		DC power consumption of coils		Cable cross-section			Auxiliary contact		Features					Approvals		
	Inrush [VA]	Sealed [VA]	Inrush [VA]	Sealed [VA]	Solid or stranded [mm²]	Flexible [mm²]	Cables per clamp [mm²]	I_{th}	AC15 at 230V	Maximum power (AC3-380/415V)	AC operated	DC operated	4 pole version	Short circuit protection	CE	SA	cULus
	25	4 – 5	2.5	2.5	0.75 – 2.5	0.75 – 2.5	2	10A	3A	690 VAC	●	●	●	20A	●	●	●
											●	●			●	●	●
	33 – 45	7 – 10	75	2	0.75 – 6	1 – 4	2	16A	12A		●	●		25A	●	●	●
											●	●			●	●	●
											●	●			●	●	●
											●	●			●	●	●
	90 – 115	9 – 13	140	2	1.5 – 25	2.5 – 16	1	16A	12A		●	●			●	●	●
											●	●			●	●	●
											●	●			●	●	●
	140 – 165	13 – 18	200	6	4 – 50	10 – 35	1	16A	12A		●	●			●	●	●
											●	●			●	●	●
											●	●			●	●	●
	280 – 350	16 – 23	170	2	10 – 70	6 – 50	1	16A	12A		●	●		25A	●	●	●
	350 – 420	23 – 29	320	4		16 – 50					●	●			●	●	●
	550	120			95	Screw	1	10A	3A		●			10A	●	●	●
					120						●				●	●	●
	1100	66			185						●				●	●	●

● Standard ○ Available □ Not available

J7 - Contactors Low Voltage Switch Gear

Ordering code

| Model | | | J7KNA - | | |

J7KNA-AR

J7TKNA-09

J7TKN-10

J7TKN-B

Accessories for auxiliary contact models

Ordering code

Model	For mini contactor relays, front mounting	J73KN - A -	☐			
	For mini contactors, front mounting	J73KN - AM -		☐		
	For mini contactor reversing starter left hand side, front mounting	J73KN - AM -			11V	
	For mini contactor reversing starter right hand side, front mounting	J73KN - AM -			11X	
	For motor contactors 4-37kW, front mounting	J73KN - B -		☐		
	For motor contactors 11-37kW, side mounting	J73KN - C -	11			S

Combination of NO/NC contacts						
	0NO 1NC			01		
	1NO 0NC			10		
	1NO 1NC	11	11		11V	11X
	0NO 2NC	02	02			
	2NO 2NC	22	22			
	4NO 0NC	40				

Accessories for motor contactors: RC suppressor units

Ordering code

Model	A-type for mini motor contactor and motor contactor (4-18.5kW)	J74KN - A - RC	230	
	B-type for mini motor contactor and motor contactor (4-55kW)	J74KN - B	☐	
	C-type for motor contactors 4-37kW	J74KN - C - RC		☐

Voltage			
	24-48 VAC/DC	48	
	110-230 VAC/DC	230	
	250-415 VAC/DC	400	
	12-48 VAC (50/60 Hz)/DC		24
	48-127 VAC (50/60 Hz)/DC		110
	110-250 VAC (50/60 Hz)/DC		230

Accessories for motor contactors: varistor units

Ordering code

Varistor units		J74KN -	☐	- VG ☐
For which model	For motor contactor (4-11kW) to snap on to coil terminals		A	
	For motor contactor (4-37kW) to snap on to contactor		B	
Voltage	110-230 VAC/DC			230
	250-415 VAC/DC			400

Accessories for motor contactors: pneumatic timers

Ordering code

Model	For motor contactor 4-11kW	J74KN - B - TP	☐	☐
Time	40 seconds		40	
	180 seconds		180	
Delay	ON-delayed			DA
	OFF-delayed			IA

Accessories for motor contactors: mechanical interlock

Ordering code

Model		J74KN -	☐	- ML
For which model	Motor contactor 4-18.5kW		B	
	Motor contactor 22-37kW		C	
	Motor contactor 45-55kW		D	

Low voltage switch gear – Motor protection circuit breakers (MPCB)

Selection criteria

Category	Type	Current range	Family		Rated current [A]	Suitable for motors 3~400V [kW]	Current thermal overload release [A]	Setting range instantaneous short-circuit release [A]	Short-circuit breaking capacity at 3~400V [kA]	Model
Motor protection circuit breaker	Switch type	0.11 - 12A	J7MN-12		0.16		0.11 – 0.16	2.1	100	J7MN-12-E16
					0.2		0.14 – 0.2	2.6		J7MN-12-E2
					0.25	0.06	0.18 – 0.25	3.3		J7MN-12-E25
					0.32	0.09	0.22 – 0.32	4.2		J7MN-12-E32
					0.4		0.28 – 0.4	5.2		J7MN-12-E4
					0.5	0.12	0.35 – 0.5	6.5		J7MN-12-E5
					0.63	0.18	0.45 – 0.63	8.2		J7MN-12-E63
					0.8		0.55 – 0.8	10		J7MN-12-E8
					1	0.25	0.7 – 1	13		J7MN-12-1
					1.25	0.37	0.9 – 1.25	6		J7MN-12-1E25
					1.6	0.55	1.1 – 1.6	21		J7MN-12-1E6
					2	0.75	1.4 – 2	26		J7MN-12-2
					2.5		1.8 – 2.5	33		J7MN-12-2E5
					3.2	1.1	2.2 – 3.2	42		J7MN-12-3E2
					4	1.5	2.8 – 4	52		J7MN-12-4
					5		3.5 – 5	65		J7MN-12-5
					6.3	2.2	4.5 – 6.3	82		J7MN-12-6E3
					8	3	5.5 – 8	104	50	J7MN-12-8
					10	4	7 – 10	130		J7MN-12-10
					12	5.5	9 – 12	156		J7MN-12-12
	Rotary type	0.16 - 25A	J7MN-25		0.16		0.11 – 0.16	2.1	100	J7MN-25-E16
					0.2		0.14 – 0.2	2.6		J7MN-25-E2
					0.25	0.06	0.18 – 0.25	3.3		J7MN-25-E25
					0.32	0.09	0.22 – 0.32	4.2		J7MN-25-E32
					0.4		0.28 – 0.4	5.2		J7MN-25-E4
					0.5	0.12	0.35 – 0.5	6.5		J7MN-25-E5
					0.63	0.18	0.45 – 0.63	8.2		J7MN-25-E63
					0.8		0.55 – 0.8	10		J7MN-25-E8
					1	0.25	0.7 – 1	13		J7MN-25-1
					1.25	0.37	0.9 – 1.25	6		J7MN-25-1E25
					1.6	0.55	1.1 – 1.6	21		J7MN-25-1E6
					2	0.75	1.4 – 2	26		J7MN-25-2
					2.5		1.8 – 2.5	33		J7MN-25-2E5
					3.2	1.1	2.2 – 3.2	42		J7MN-25-3E2
					4	1.5	2.8 – 4	52		J7MN-25-4
					5		3.5 – 5	65		J7MN-25-5
					6.3	2.2	4.5 – 6.3	82		J7MN-25-6E3
					8	3	5.5 – 8	104		J7MN-25-8
					10	4	7 – 10	130		J7MN-25-10
					12.5	5.5	9 – 12.5	163		J7MN-25-12E5
					16	7.5	11 – 16	208	50	J7MN-25-16
					20		14 – 20	260		J7MN-25-20
					22		17 – 22	286		J7MN-25-22
					25	11	20 – 25	325		J7MN-25-25
		32 - 50A	J7MN-50		25	11	18 – 25	325		J7MN-50-25
					32	15	22 – 32	416		J7MN-50-32
					40	18.5	28 – 40	520		J7MN-50-40
					45	18.5	36 – 45	585		J7MN-50-45
					50	22	40 – 50	650		J7MN-50-50
		45 - 100A	J7MN-100		63	30	45 – 63	819	100	J7MN-100-63
					75	37	57 – 75	975		J7MN-100-75
					90	37	70 – 90	1170		J7MN-100-90
					100	45	80 – 100	1235		J7MN-100-100

Accessories																Approvals		
Transverse auxiliary contact block	Auxiliary contact block for left hand side mounting	Signalling switch for left hand side mounting	Undervoltage release	Shunt release	Moulded plastic enclosures (IP55)	Moulded plastic front plates (IP55)	Holder for frontplate	Door coupling rotary mechanisms (black and red/yellow)	Emergency-stop door-coupling rotary mechanisms (red/yellow)	Three-phase busbar system up to 5 MPCB	Line side terminal	Shroud	Adapter for mechanical fixing of MPCB and contactor	Link module	Terminal block	CE	cULus	
J73MN-11F	J73MN-11S		J74MN-U-N1	J74MN-S-N2	J74MN-PF12	J74MN-P12				J74MN-L3-1/2 J74MN-L3-1/3 J74MN-L3-1/4 J74MN-L3-1/5	J74MN-TC12	J74MN-DS	J74MN-HU	J74KN-VD-12	J74MN-TB25	●	●	●
		J73MN-T-11S			J74MN-PF25	J74MN-P25	J74MN-PH	J74MN-DC-B	J74MN-DC-RY		J74MN-TC25			J74KN-VD-25		●	●	●

● Standard ○ Available □ Not available

J7MN - Motor protection circuit breakers

Model		Ordering code				
	Switch type (0.11-12A)	J7MN - 12 -				
	Rotary type (0.16-25A)	J7MN - 25 -				
	Rotary type (32-40A)	J7MN - 50 -				
	Rotary type (45-100A)	J7MN - 100 -				
Setting range	0.11 – 0.16		E16	E16		
	0.14 – 0.2		E2	E2		
	0.18 – 0.25		E25	E25		
	0.22 – 0.32		E32	E32		
	0.28 – 0.4		E4	E4		
	0.35 – 0.5		E5	E5		
	0.45 – 0.63		E63	E63		
	0.55 – 0.8		E8	E8		
	0.7 – 1		1	1		
	0.9 – 1.25		1E25	1E25		
	1.1 – 1.6		1E6	1E6		
	1.4 – 2		2	2		
	1.8 – 2.5		2E5	2E5		
	2.2 – 3.2		3E2	3E2		
	2.8 – 4		4	4		
	3.5 – 5		5	5		
	4.5 – 6.3		6E3	6E3		
	5.5 – 8		8	8		
	7 – 10		10	10		
	9 – 12		12			
	9 – 12.5			12E5		
	11 – 16			16		
	14 – 20			20		
	17 – 22			22		
	20 – 25			25		
	18 – 25				25	
	22 – 32				32	
	28 – 40				40	
	36 – 45				45	
	40 – 50				50	
	45 – 63					63
	57 – 75					75
	70 – 90					90
	80 – 100					100

J7MN-12

J7MN-25

J7MN-50

J7MN-100

Accessories for auxiliary contacts for MPCB

Model		Ordering code	
	1NO 1NC	J73MN - 11	
Mounting	Side mounting		S
	Front mounting		F

Accessories for line side terminals

Model		Ordering code	
		J74MN - TC -	
Type	Switch type		12
	Rotary type		25

Accessories for door coupling rotary mechanism

Model		Ordering code	
		J74MN - DC	
Colour	Black/grey		B
	Red/yellow		RY

Accessories for release

Model		Ordering code
	Shunt release, 210-230V 50/60Hz	J74MN - S - N2
	Under voltage release, 230V 50Hz / 240V 60HZ	J74MN - U - N1

Accessories for auxiliary contacts for MPCB

Model		Ordering code
	Trip indicating contact, 1NO 1NC, side mounting	J73MN - T11S

Accessories for motor contactors: link modules MPCB - motor contactors

Link modules MPCB - motor contactor		Ordering code	
	Link module type	J74MN - VD	
	DIN-Rail adapter type	J74MN - HU	
For which model	Motor contactor 4 - 7.5 kW		12
	Motor contactor 11 - 15 kW		25

Accessories for busbar systems

Model		Ordering code	
	3-phase busbar system (45mm modular spacing)	J74MN - L3 -	
	Shroud for unused terminal	J74MN - DS	
Selection	For 2 circuit breakers		1/2
	For 3 circuit breakers		1/3
	For 4 circuit breakers		1/4
	For 5 circuit breakers		1/5

Accessories for mounting

Model		Ordering code		
	Molded plastic enclosure/front plate	J74MN -		
	Holder for front plate	J74MN -	PH	
Type	Enclosure IP55			PF
	Module plastic front plate			P
	Holder for front plate			PH
MPCB Type	Switch type			12
	Rotary type			25

Temperature controllers

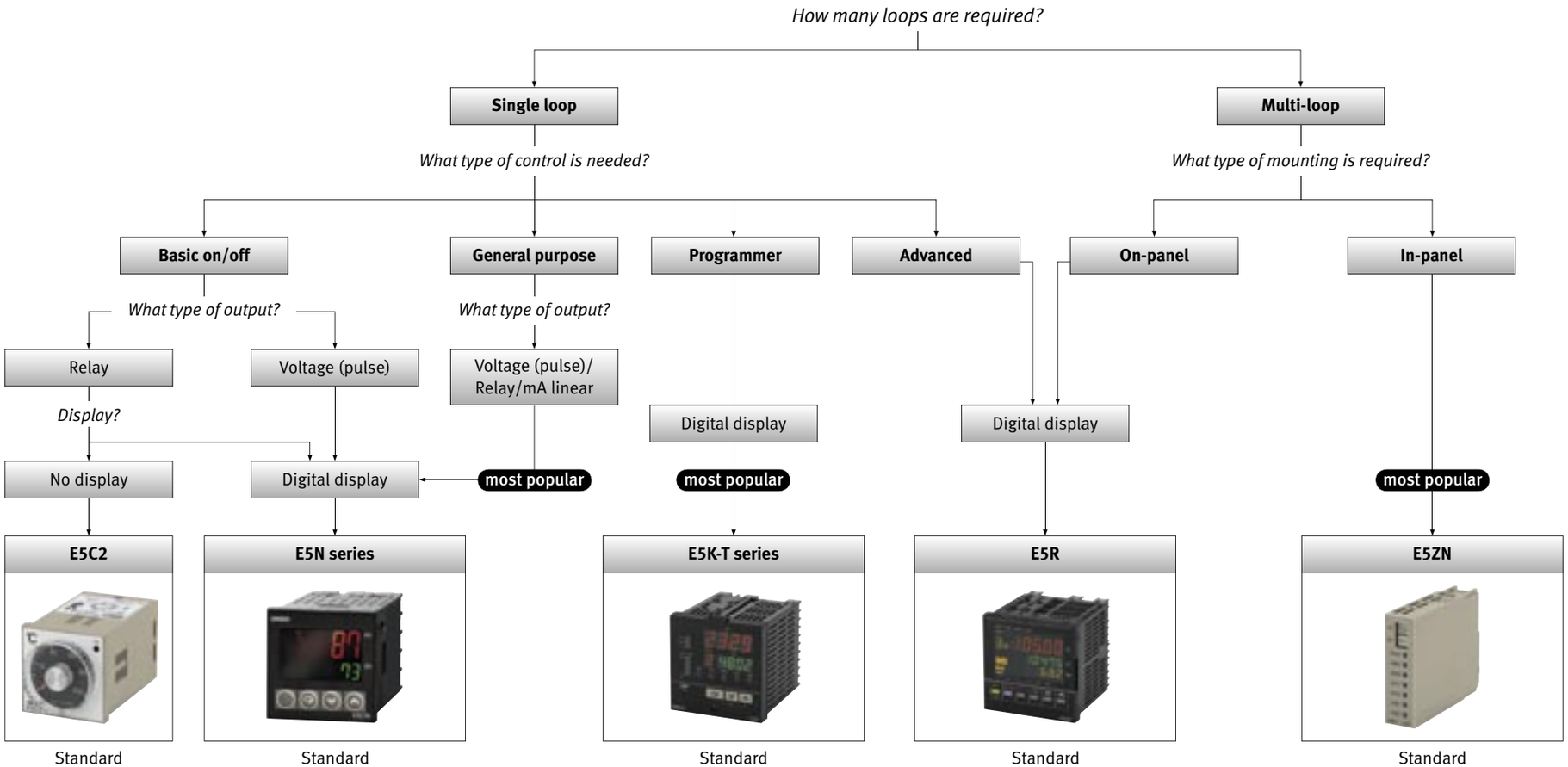
Omron is the largest supplier of temperature controllers in the world, and has products ranging from the simplest controllers to advanced units with communication options that help you master any control application.

- **Heating or heating/cooling control**
- **Variety of selectable input ranges**
- **Auto-tuning and self-tuning options for optimum control**
- **Parameter linked crystal-clear color change displays**
- **Conformance to all relevant standards (including CE, UL, IEC & CSA)**

The E5N and E5K series meet all standard control requirements, from simple on/off control up to complex high-speed process applications.

Where space is limited the slim E5ZN (just 22.5mm wide) is the ideal choice. In-panel E5ZN models can be plugged together to control a system of up to 32 loops.

The new E5CN features a unique PID-control algorithm that ensures very stable temperature control, and an 11-segment LCD, 3-color change display provides clear read-outs at all times.



Temperature controllers

Selection criteria									Control mode					Features								
Panel	Loops	Category	Type	Family	Size	Model		Key points	ON/ OFF	PID	2-PID *4	Operation *6	Position proportional *1	Accuracy	Auto-tuning	Self-tuning	Transfer output	Remote input	Number of alarms	Heater burnout	IP rating front panel	
On-panel type	Single loop	Analogue TC	Basic	E5C2	1/16 DIN	E5C2		- Compact - Cost-effective - In- & on-panel	●	● *3		H									IP40	
		Digital temperature controller	Basic	E5CS-X	1/16 DIN	E5CS-X		- Easy to read - Deviation indicator - Dip switch set-up	●	●		H/C		0.5% FS		●			1		IP50	
			General purpose	E5_N	1/4 DIN	E5AN		- Compact & intelligent - Various temperature inputs - Heating or heating/cooling - Comms optional	●		●	H&C		±0.5%	●	●			3	○	IP66	
					1/8 DIN	E5EN			●		●	H&C		±0.5%	●	●			3	○	IP66	
					1/16 DIN	E5CN			●		●	H&C		±0.5%	●	●	○		2/3	○ *7	IP66	
					1/32 DIN	E5GN			●		●	H&C		±0.5%	●	●			1	○	IP66	
		Digital process controller	Universal	E5_K	1/4 DIN	E5AK		- Modular structure - High accuracy - Advanced tuning	●		●	H&C	●	±0.3%	●	●	○	○	3	○	IP66	
					1/8 DIN	E5EK			●		●	H&C	●	±0.3%	●	●	○	○	3	○	IP66	
					1/16 DIN	E5CK			●		●	H&C		±0.3%	●	●	○		3	Loop burnout	IP66	
			Universal/ programmer	E5_K-T	1/4 DIN	E5AK-T			●		●	H&C	●	±0.3%	●	●	○		3	○	IP66	
					1/8 DIN	E5EK-T			●		●	H&C	●	±0.3%	●	●	○		3	○	IP66	
					1/16 DIN	E5CK-T			●		●	H&C		±0.3%	●	●	○		3	Loop burnout	IP66	
	Multi-loop		Advanced	E5_R	1/4 DIN	E5AR		- High speed and high accuracy applications - Multi-loop, cascade and proportional control	●		●	H&C	●	±0.1%	●		●	●	4		IP66	
					1/8 DIN	E5ER			●		●	H&C	●	±0.1%	●		●	●	4		IP66	
In-panel type		Digital temperature controller	Modular	E5ZN	22.5 x 130 mm	E5ZN		- Modular - Two channels per module - Replacement without rewiring	●		●	H&C		±0.5%	●		●		3	●		

***1** Positon proportional = Valve control (relay up & down). ***2** Profibus communication option via gateway for E5_N, E5_R, E5ZN, ask your local Omron representative. ***3** P only. ***4** 2 PID is Omron's unique high-performance PID control. ***5** Fuzzy PID available. ***6** H = Heat, H/C = Heat or Cool, H&C = Heat and Cool.

		Supply voltage		Comms *2					Control output					Input type - linear			Input type - thermocouple												Input type - RTD			Approvals			
	Display	110/220 VAC	24 VAC/ VDC	RS232	RS485	Event IP	QLP port	DeviceNet	Relay	SSR	Voltage (pulse)	Linear voltage	Linear current	mA	mV	V	K	J	T	E	L	U	N	R	S	B	W	PLII	Pt100	JPt100	THE	CE	SP	cULus	cULus
	SV dial	●							●		●						●	●			●								●		●	●	●	●	●
	Single 3 digit	●	○						●		●						●	●			●								●	●	●	●	●		●
	Dual 4 digit	●	○	○	○	○	●		●		●		●	○	●		●	●	●	●	●	●	●	●	●	●			●	●		●	●	●	●
	Dual 4 digit	●	○	○	○	○	●		●		●		●	○	●		●	●	●	●	●	●	●	●	●	●			●	●		●	●	●	●
	Dual 4 digit colour change	●	○		○	○	●		●		●		●	●	●	●	●	●	●	●	●	●	●	●	●	●			●	●		●	●	●	●
	Dual 4 digit	●	○		○		●		●		●			○	●		●	●	●	●	●	●	●	●	●	●			●	●		●	●	●	●
	Dual 4 digit	●	○	○	○	○	●		●	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●	●	●	●
	Dual 4 digit	●	○	○	○	○	●	○	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●	●	●	●
	Dual 4 digit	●	○	○	○	○	●		●	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●	●	●	●
	Dual 4 digit	●	○	○	○	○	●		●	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●	●	●	●
	Dual 4 digit	●	○	○	○	○	●		●		●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●	●	●	●
	Triple 5 digit	●	○		○	●	●	○	●		●		●	●		●	●	●	●	●	●	●	●	●	●	●	●		●			●	●	●	●
	Triple 5 digit	●	○		○	●	●	○	●		●		●	●		●	●	●	●	●	●	●	●	●	●	●	●		●			●	●	●	●
	○ Dual 4 digit		●		●	●		○			●		●	○	●		●	●	●	●	●	●	●	●	●	●			●	●		●	●	●	●

***7** Heater alarm = Heater burnout & SSR failure detection.

● Standard ○ Available Not available

E5C2

E5C2 Temperature controllers

Ordering code

Input type	K-type thermocouple	E5C2 -	☐	☐	K	☐	☐			
	J-type thermocouple	E5C2 -	☐	☐	J	☐		☐		
	L-type thermocouple (J-DIN type)	E5C2 -	☐	☐	L-D	☐		☐		
	Platinum resistance thermometer (Pt100)	E5C2 -	☐	☐	P-D	☐			☐	
	Thermistor (THE)	E5C2 -	☐	☐	G	☐				☐
Control output	Relay		R							
	Voltage		Q							
Control method	ON-OFF control			20						
	P control			40						
Voltage	100-120 VAC				AC100120					
	200-240 VAC				AC200240					
	24 VDC				DC24					
Temperature range	0 to 100 C							0-100	0-100	
	0 to 200 C					0-200	0-200	0-200		
	0 to 300 C					0-300	0-300	0-300		
	0 to 400 C					0-400	0-400	0-400		
	0 to 600 C					0-600				
	0 to 800 C					0-800				
	0 to 1,000 C					0-1000				
	0 to 1,200 C					0-1200				
	-50 to 50 C							-50-50	-50-50	
	-20 to 80 C							-20-80		
	0 to 50 C							0-50		
	50 to 150 C								50-150	
	100 to 200 C								100-200	
	150 to 300 C								150-300	

Note: Call customer service for temperature range.

E5CS-X

E5CS-X Temperature controllers

Ordering code

Model		E5CS -	☐	☐	☐	X	
Control output	Relay		R				
	Voltage		Q				
Number of alarms	No alarm (STANDARD)			☐			
	1 alarm			1			
Input type	Thermocouple K type or J type				KJ		
	Platinum resistance thermometer (Pt100)				P		
	Thermistor				G		

E5AN

E5EN

E5CN

E5GN

E5_N Temperature controllers

Ordering code

| | | |

E5AK

E5EK

E5CK

E5AK-T

E5EK-T

E5CK-T

E5_K Temperature controllers

Ordering code

Model	48 x 48 mm, terminal cover	E5CK -		AA	1	- 500		
	96 x 48 mm, terminal cover	E5EK -			2	- 500		
	96 x 96 mm, terminal cover	E5AK -			2	- 500		

Constant values/ program	Constant values (STANDARD)	
	Program	T
Model	Standard model	AA
	Position proportional model	PRR
Auxiliary outputs	1 auxiliary output	1
	2 auxiliary outputs	2
Inspection report	None (STANDARD)	
	Inspection report	K
Input voltage	100 to 240 VAC	AC100240
	24 VAC/VDC	ACDC24

Accessories for E5CK and E5CK-T

		Ordering code
Option units	RS-232C	E53 - CK01
	RS-485	E53 - CK03
	Event input: 1 point	E53 - CKB
	Transfer output (4 to 20 mA)	E53 - CKF
Terminal cover	Order seperately	E53 - COV07
Output units	Relay/relay	E53 - R4R4
	Pulse (NPN)/relay	E53 - Q4R4
	Pulse (PNP)/relay	E53 - Q4HR4
	Linear (4 to 20 mA)/relay	E53 - C4R4
	Linear (0 to 20 mA)/relay	E53 - C4DR4
	Linear (0 to 10 V)/relay	E53 - V44R4
	Pulse (NPN)/pulse (NPN)	E53 - Q4Q4
	Pulse (PNP)/pulse (PNP)	E53 - Q4HQ4H

Accessories for E5EK/E5AK and E5EK-T/E5AK-T

		Ordering code
Output units	Relay	E53 - R
	SSR	E53 - S
	Pulse (NPN) 12 VDC	E53 - Q
	Pulse (NPN) 24 VDC	E53 - Q3
	Pulse (PNP) 24 VDC	E53 - Q4
	Linear (4 to 20 mA)	E53 - C3
	Linear (0 to 20 mA)	E53 - C3D
	Linear (0 to 10 V)	E53 - V34
	Linear (0 to 5 V)	E53 - V35
Option units	Event input	E53 - AKB
	Communication (RS-232C)	E53 - AK01
	Communication (RS-422)	E53 - AK02
	Communication (RS-485)	E53 - AK03
	Transfer output	E53 - AKF
Current transformer	5.8 dia. (0 to 50 A)	E54 - CT1
	12.0 dia. (0 to 120 A)	E54 - CT3
Terminal cover	E5AK	E53 - COV09
	E5EK	E53 - COV08

Note: Maximum 3 option units for E5AK, maximum 1 for E5EK.

E5_R Temperature controllers

Ordering code

Model	96 x 48 mm, constant value	E5ER -									-		
	96 x 96 mm, constant value	E5AR -									-		
Control method	Standard or heating/cooling control (STANDARD)												
	Position proportional control		P										
Output 1	DPST-NO relay outputs			R									
	Pulse voltage and pulse voltage/ current outputs			Q									
	Current and current outputs			C									
Output 2	None (STANDARD)												
	Relay outputs				R								
	Pulse voltage and pulse voltage/current outputs				Q								
	Current and current outputs				C								
Auxiliary outputs	None (STANDARD)												
	4PST-NO relay output					4							
	2 transistor outputs					T							
Optional function 1	None (STANDARD)												
	RS-485 communication						3						
Optional function 2	None (STANDARD)												
	4 event inputs							D					
Input 1	Multi-input and 2 event inputs								B				
	Multi-input and FB (potentiometer impedance)								F				
	Multi-input and multi-input								W				
Input 2	None (STANDARD)												
	Multi-input and multi-input									W			
Communication method	None (STANDARD)												
	Compoway/F or MODBUS										FLK		
	DeviceNet										DRT		
Input voltage	100 to 240 VAC											AC100240	
	24 VAC/VDC											ACDC24	

Available E5_R Models

- E5ER - Q 4 B
- E5ER - Q 4 3 B - FLK 100-240AC
- E5ER - Q T B - DRT
- E5ER - Q T W - DRT
- E5ER - Q T 3 D B - FLK 100-240AC
- E5ER - Q T 3 D W - FLK
- E5ER - Q C 4 3 B - FLK
- E5ER - C 4 B
- E5ER - C 4 3 B - FLK 100-240AC
- E5ER - C T B - DRT
- E5ER - C T W - DRT
- E5ER - C T 3 D B - FLK 100-240AC
- E5ER - C T 3 D W - FLK
- E5ER - P R T F - DRT
- E5ER - P R T D F
- E5ER - P R Q 4 3 F - FLK
- E5AR - Q 4 3 B - FLK 100-240AC
- E5AR - Q 4 3 D B - FLK 100-240AC
- E5AR - Q 4 3 D W - FLK 100-240AC
- E5AR - Q 4 B - DRT
- E5AR - Q 4 B
- E5AR - Q Q 4 W - DRT
- E5AR - Q Q 4 3 D W - FLK
- E5AR - Q Q 4 3 D W W - FLK 100-240AC
- E5AR - Q C 4 B - DRT
- E5AR - Q C 4 3 D B - FLK
- E5AR - C 4 B
- E5AR - C 4 B - DRT
- E5AR - C 4 3 B - FLK 100-240AC
- E5AR - C 4 3 D B - FLK 100-240AC
- E5AR - C 4 3 D W - FLK 100-240AC
- E5AR - C C 4 W W - DRT
- E5AR - C C 4 3 D W W - FLK
- E5AR - P R 4 D F
- E5AR - P R Q 4 3 D F - FLK
- E5AR - P R 4 F - DRT
- E5AR - P R Q 4 F - DRT

E5AR

E5ER

E5ZN

E5ZN Temperature controllers

Ordering code

Model	Two control points, RS-485, Compoway/F serial communications	E5ZN - 2				03		- FLK
Control output & options	Voltage output (for driving SSR) & heater burnout alarm		Q		H			
	Transistor output & heater burnout alarm		T		H			
	Current output & transfer output		C		F			
Auxiliary output	Transistor (sourcing)			P				
	Transistor (sinking)			N				
Input type	Thermocouple						TC	
	Platinum resistance thermometer						P	

Accessories for E5ZN

Ordering code

Terminal unit	18 terminals	E5ZN - SCT18S - 500	Extension socket
	24 terminals	E5ZN - SCT24S - 500	Master socket with power and communication terminals
Current transformer	5.8 dia. (0 to 50A)	E54 - CT1	
	12.0 dia. (0 to 120A)	E54 - CT3	
Setting display unit	24 VDC	E5ZN - SDL	Purchase sockets seperately
Sockets for setting display unit	Front-connecting socket (with finger protection)	P2CF - 11 - E	Din-rail mounting
	Back-connecting socket	P3GA - 11	Panel mounting
	Terminal cover for finger protection	Y92A - 48G	For P3GA-11
Terminal cover	For SCT18S-500 models	E53 - COV13	
	For SCT24S-500 models	E53 - COV12	

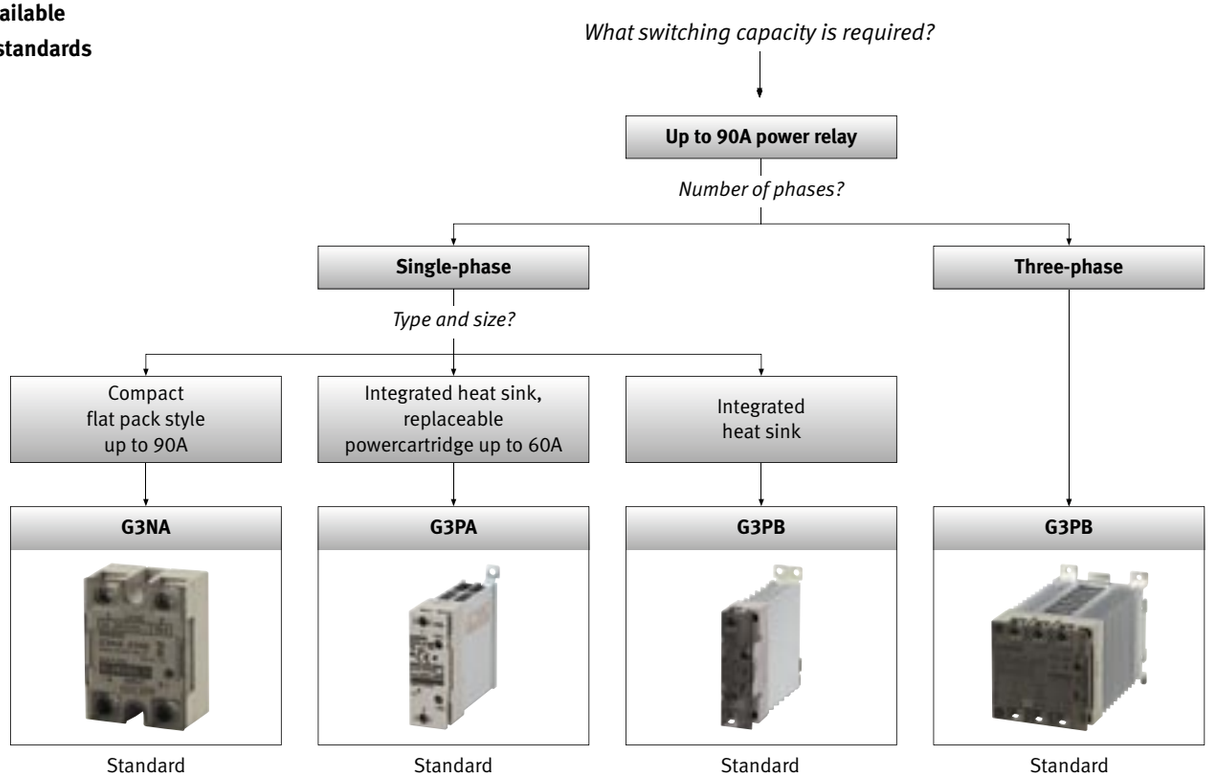
Solid state relays

Omron's range of solid state relays is faster, more reliable and more cost-effective than any similar range on the market. There's an Omron solid state relay for almost every need, from heater control and motor control to interfacing and general applications that simply require high frequency, noiseless switching. What's more, these relays provide the perfect switching control for temperature controllers.

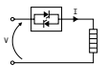
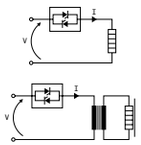
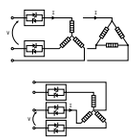
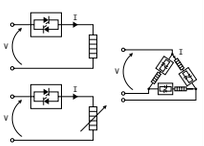
- **Output current ranging from 2 to 150 A**
- **Replaceable, easy-to-install power device cartridges for ease of maintenance**
- **Zero cross AC load switching**
- **Built-in heat sinks**
- **For use in single- and three-phase applications**
- **Space saving design**
- **Operational indicator**
- **Built-in surge suppression**
- **Cycle control, AC input, voltage, short-circuit and failure detection modules available**
- **Conformance to all relevant standards**

Omron's range of solid state relays (SSRs) is the fastest, most reliable and most cost-effective on the market. There's an Omron SSR for almost every application, from heater and motor control to interfacing, that requires high frequency, noiseless switching.

What's more, these SSRs are ideal for use in combination with temperature controllers, for controlling heater bands for plastics extrusion processes, packaging machinery and heater elements in general manufacturing.



Solid state relays

Selection criteria											Load voltage/current [VAC]						Load voltage/current [VDC]				
Mounting	Application	Type of load	1-phase control	2-phase control	3-phase control	Function	Model		Max. current rating	Relay compatible	24 to 240	100 to 240	180 to 440	200 to 480	100/110	200/230	5 to 200	5 to 110	4 to 48	5 to 24	
Socket mounting type		Normal resistors Middle and long wave IR heater	●			Panel-mounted interfaces	G3B		5A	MK compatible		●									
Control panel mounting type			●			Heater control	G3PB		45A			●		●							
		Normal resistors Middle and long wave IR heater Transformers and inductors	●			Heater control, motor control	G3NA		50A		●			●			●				
			●			Heater control	G3PA		60A		●			●							
		Normal resistors		●	●	Heater control	G3PB		45A					●							
Power regulator		Normal resistors Middle and long wave IR heater Quarz heaters, short wave IR heater, elements made from siliconcarbide Normal resistive load With open delta connection	●			Heater control	G3PX		60A						●	●					

	Input voltages [VDC or VAC]								Features											Mounting		Approvals						
	5 VDC	12 VDC	24 VDC	5 to 24 VDC	12 to 24 VDC	24 VAC	100 to 120 VAC	200 to 240 VAC	Built-in heat sink	Zero-cross	Built-in varistor	LED operation indicator	Protective cover	3-phase loads via 3 single-phase SSRs	Replaceable power cartridge	Alarm output	Built-in failure detection	SSR open circuits detection	SSR short circuits detection	DIN-rail	Screw	CE	SA	cULus		TÜV	VDE
				●								●								●	●	●		●		●	●
					●				●	●		●	●							●	●	●		●		●	●
				●			●	●		●	●	●	●	●	●					●	●	●	●	●	●	●	
				●	●	●			●	●		●	●	●	●		●			●	●	●	●	●		●	●
					●				●	●	●	●	●	●						●	●	●		●		●	●
									●	●		●			●			●			●		●	●			

● Standard ○ Available □ Not available

G3B

G3BD

G3B/BD Solid state relays

Ordering code

Model	200V type, switches AC loads	G3B -	2	05	S	- VD	DC5 - 24
	100V type switches DC loads	G3BD -	1	03	S	- VD	DC5 - 24

Rated load power supply voltage	100 to 240 VAC	2
	5 to 110 VDC	1
Rated load current	3A	03
	5A	05
Terminal type	Plug-in terminals	S
Certification	Certified by UL, CSA and TÜV	-VD
Rated input voltage (V)	5 to 24 VDC	DC5-24

G3PB

G3PB single-phase Solid state relays

Ordering code

Model	100 to 240 VAC, screw terminal, single-phase models certified by UL, CSA and VDE, 12 to 24 VDC	G3PB - 2		B		- VDDC12 - 24

Rated load current	15A	15
	25A	25
	35A	35
	45A	45
Single phase type	Din-rail mounting and built-in heat sink	

G3NA

G3NA Solid state relays

Ordering code

Model	24 to 240 VAC	G3NA - 2		B		
	24 to 240 VAC	G3NA - 2		B		
	200 to 480 VAC	G3NA - 4		B		
	200 to 480 VAC	G3NA - 4		B		
	5 to 200 VDC	G3NA - D2		B		
Rated output load (A)	5A		05			
	10A		10	10	10	
	20A		20	20		
	40A		40	40		
	50A			50		
	75A		75			
	90A		90			
Rated input voltage (V)	5 to 24 VDC				DC5-24	DC5-24
	100 to 120 VAC				AC100-120	
	100 to 240 VAC					AC100-240
	200 to 240 VAC				AC200-240	

G3PA

G3PA Solid state relays

Ordering code

Model	200V, equipped with zero cross function, screw terminals, certified by UL, CSA and VDE	G3PA -	2			B - VD	
	200V, not equipped with zero cross function, screw terminals, certified by UL, CSA and VDE	G3PA -				BL - VD	DC5 - 24
	400V, screw terminals, certified by UL, CSA and VDE	G3PA -				B - VD	DC12 - 24
Rated load power supply voltage	24 to 240 VAC		2				
	180 to 400 VAC		4				
	200 to 480 VAC		4			-2	
Rated load current	10A			10			
	20A				20		
	30A				30		
	40A			40			
	50A				50		
	60A			60			
Special functions	Standard models (STANDARD)						
	480V Models					-2	
Rated input voltage (V)	5 to 24 VDC					DC5-24	DC5-24
	12 to 24 VDC						DC12-24
	24 VAC					AC24	

G3PB

G3PB three-phase Solid state relays

Ordering Code

Model	Screw terminals, DIN-rail mounting and built-in heat sink certified by UL, CSA and VDE, 12 to 24 VDC	G3PB -	☐	☐	B -	☐	N	- VDDC12 -24

Rated load power supply voltage	100 to 240 VAC	2
	200 to 480 VAC	5
Rated load current	15A	15
	25A	25
	35A	35
	45A	45
Number of phases & elements	3-phase, 2-element models	2
	3-phase, 3-element models	3

G3PX

G3PX Solid state relays

Ordering code

Model	Simple model, 100/110 VAC and 200/230 VAC, single number of phases	G3 PX - 2	☐	E	UN			
	Function model, 100/110 VAC and 200/230 VAC, single number of phases	G3 PX - 2	☐	E	☐	-	☐	

Rated load current	20A	20
	40A	40
	60A	60
Functions	Simple models	UN
	Single heater open circuit detection function	H
	Multiple heater open circuit detection function	HN
	Constant current function	C
CT unit type	CT unit, 30cm length of wires	CT03
	CT unit, 100cm length of wires	CT10

G3PX cartridge Solid state relays

Ordering code

Model	Power device cartridge	G32 X - A	☐

Rated load current	20A	20
	40A	40
	60A	60

Variable resistor Solid state relays

Ordering code

Model		G32 X -	☐

Basic model name	3kΩ variable resistor	V3K
	2kΩ variable resistor	V2K

CT unit Solid state relays

Ordering code

Model	CT unit	G32 X - CT	☐	☐

Length of lead wires	30cm	03
	100cm	10

Series	*Series for single heater open circuit detection*	for G3PX-2☐☐EH **(STANDARD)**	
	Series for multiple heater op circuit detection	for G3PX-2☐☐EH	HN
	Series for constant current	for G3PX-2☐☐EC	C

Digital panel indicators

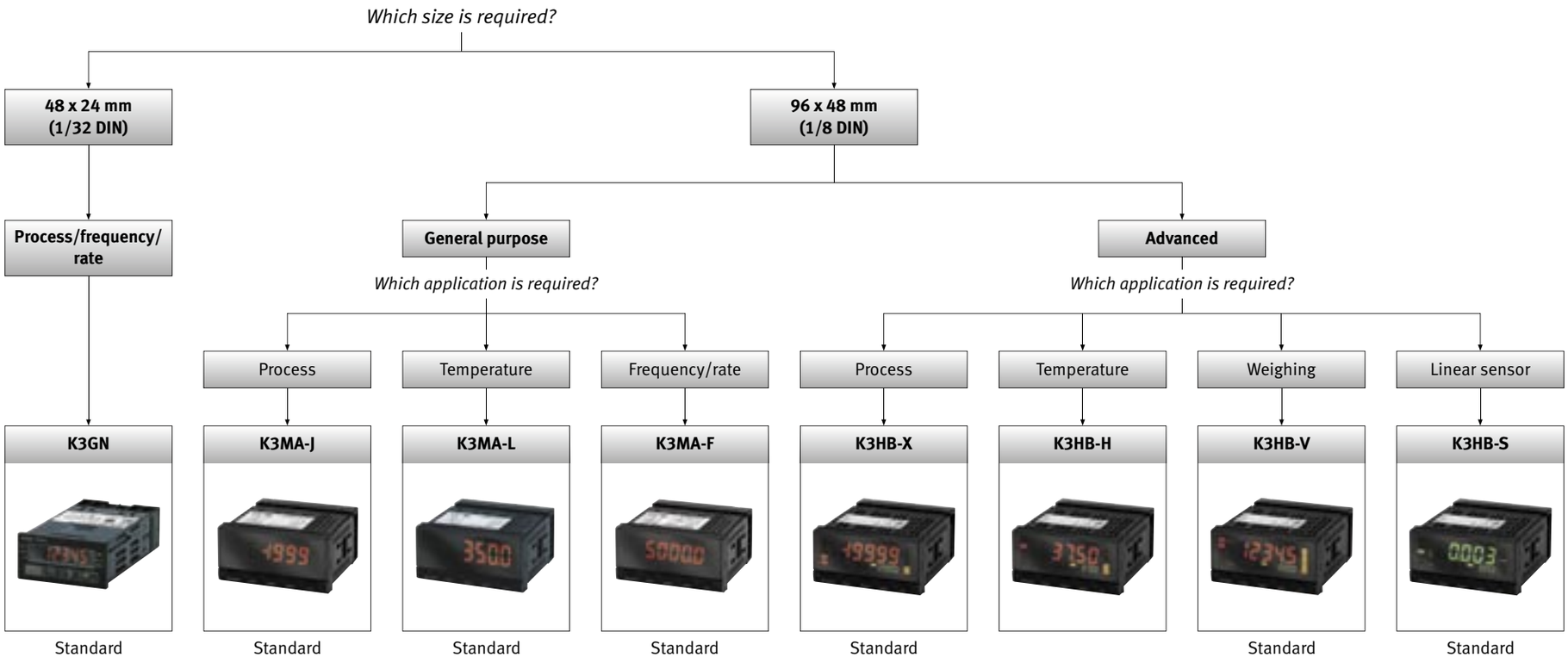
Omron's digital panel indicator series accepts a wide range of input signals (process, temperature, pulse/impulse, weight, etc.), that can be displayed in any required value. The series also includes a green/red color change display feature, which clearly visualizes the status of a process.

- **Multiple inputs, including process, temperature, frequency and many more!**
- **Highly visible display provides a clear, highly stable read-out of values**
- **Large, front-panel keys for unambiguous, user-friendly programming**
- **Dust-proof and waterproof front case that complies with NEMA4X (IP66 equivalent) standards**
- **Wide range of models with communication capability including DeviceNet**

The K3MA is a basic indicator (1/8 DIN) that accepts process, temperature and frequency inputs with basic output functionality.

The K3GN (1/32 DIN) is a very compact multi-functional, five-digit indicator handling process, frequency and data inputs. Covering all basic functionality, it has a variety of outputs, including a communication (RS-485) output.

The K3HB is a modular, input indicator (1/8 DIN) featuring a unique bar-graph position indication and double display feature. It has a sampling speed of 20ms for the process/temperature/weight indicators, and 0.5ms for the linear sensor indicator.



Digital panel indicators

Selection criteria						Features													
Panel indicator type	Size	Family	Model		Key points	Color change display	Number of digits	Leading zero suppres-sion	Forced zero function	Min/ max hold function	Average process-ing	User selecta-ble inputs	Start-up compen-sating time	Key protec-tion	Decimal point position setting	Accuracy	Sample rate	Additional features	Sensor power supply
Multifunc-tional digital panel indicator	1/32 DIN	K3GN	K3GN		DC voltage/current input, frequency input	●	5	●	●	●	●	●	●	●	●	± 0.1% of full scale	4Hz	Remote/local processing, parameter initialisation, programmable output configuration, process value hold	
Process indicator	1/8 DIN	K3MA	K3MA-J		DC voltage/current input	●	5	●	●	●	●	●		●	●	± 0.1% of full scale	4Hz	Teaching, comparative output pattern selection, parameter initialisation, programmable output configuration, process value hold	
Temperature indicator			K3MA-L		Temperature meter	●	5	●	●	●	●	●		●	●	± 0.1% of full scale	0 to 30Hz or 0 to 5 kHz	Programmable output configuration, process value hold	
Frequency/ rate indicator			K3MA-F		Frequency/rate meter	●	5	●	●	●	●	●	●	●	●	± 0.1% of full scale	0 to 30Hz or 0 to 5 kHz	Teaching, comparative output pattern selection, programmable output configuration, process value hold	●
Process indicator		K3HB	K3HB-X		DeviceNet, high-speed sampling (50Hz), bargraph	●	5	●	●	●	●	●		●	●	± 0.1% of full scale (DC voltage & DC current), ± 0.5% of full scale (AC voltage & AC current)	50Hz	Scaling, teaching, averaging, output hysteresis, output off delay, output test, bank selection, reset, comparative output	○
Temperature indicator			K3HB-H		High-speed, high-precision, DeviceNet, high-resolution, bargraph	●	5	●	●	●	●	●		●	●	Thermocouple: ± 0.3% of full scale, Pt-100: ± 0.2% of full scale	50Hz	Scaling, teaching, averaging, output hysteresis, output off delay, output test, bank selection, reset, comparative output	○
Weighing indicator			K3HB-V		DeviceNet, high-speed sampling (50Hz), bargraph, easy jugdement for pressure, load, torque, weight	●	5	●	●	●	●	●		●	●	± 0.1% of full scale	50Hz	Scaling, teaching, averaging, output hysteresis, output off delay, output test, bank selection, reset, comparative output	○
Linear sensor indicator			K3HB-S		High speed position indicator (2000Hz), DeviceNet, easy recognition & judgement, bargraph	●	5	●	●	●	●			●	●	One input: ± 0.1% of full scale Two inputs: ± 0.2% of full scale	2000Hz	Scaling, 2-input calculation, teaching, averaging, output hysteresis, output off delay, output test, bank selection, reset, comparative output	○
Up/down counting indicator		K3N	K3NC		High-speed up/down counting (50 kHz), serial communication, models with only PV display & PV and SV display, 4 memory banks		5	●	●			NPN, voltage pulse or PNP	●		●		Voltage pulse & open collector: 50 kHz; no-voltage contact: 30Hz	Scaling, variable lineair output range, remote/ local processing, counting value reset, security, memory power failure	●
Period indicator			K3NP		50 kHz input range, serial communication, models with only PV display & PV and SV display, 4 memory banks		5	●	●	●		NPN, voltage pulse or PNP	●		●		Voltage pulse & open collector: 50 kHz; no-voltage contact: 30Hz	Scaling, variable lineair output, remote/local processing, max/min value data reset, comparative output pattern, time unit display, security, teaching	●
Frequency/ rate lindicator			K3NR		50 kHz input range, intelligent interface modules with seven operating modes, single or dual input, serial communication, models with only PV display & PV and SV display, 4 memory banks		5	●	●	●	●	NPN, voltage pulse or PNP	●		●		Voltage pulse & open collector: 50 kHz; no-voltage contact: 30Hz	Scaling, variable lineair output, remote/local processing, max/min value data reset, comparative output pattern, process time for averaging measured values, time unit display, security, teaching	●

Front protection		Inputs										Outputs					Comms	Approvals			
IP grade	Supply voltage	NPN	PNP	Temperature	Contact	Voltage pulse	Load cell	DC voltage	DC current	AC voltage	AC current	Relay	NPN	PNP	Linear	BCD		CE	SP	c UL us	c TÜV us
IP66	24 VDC	●	●					●	●			●	●	●			●	●			
IP66	24 VDC/AC or 100 to 240 VAC							●	●			●						●			●
IP66	24 VDC/AC or 100 to 240 VAC	●	●					●				●						●			●
IP66	24 VDC/AC or 100 to 240 VAC	●	●		●	●						●						●			●
IP66	100 to 240 VAC or 24 VAC/VDC	○	○					○	○	○	○	○	○	○	○		○	●			●
IP66	100 to 240 VAC or 24 VAC/VDC	○	○	●								○	○	○	○		○	●			●
IP66	100 to 240 VAC or 24 VAC/VDC	○	○				●					○	○	○	○		○	●			●
IP66	100 to 240 VAC or 24 VAC/VDC	○	○					●	●			○	○	○	○		○	●			●
IP66	100 to 240 VAC or 12 to 24 VAC/VDC	○	○		○	○						○	○	○	○	○	○	●	●	●	
IP66	100 to 240 VAC or 12 to 24 VAC/VDC	○	○		○	○						○	○	○	○	○	○	●	●	●	
IP66	100 to 240 VAC or 12 to 24 VAC/VDC	○	○		○	○						○	○	○	○	○	○	●	●	●	

● Standard ○ Available □ Not available

K3GN

K3GN Digital panel indicators

Ordering code

Model	DC voltage/current, NPN	K3GN - ND	□		-	□	24VDC
	DC voltage/current, PNP	K3GN - PD		□	-	□	24VDC

Output type	2 relay contact outputs (SPST-NO)	C	C
	3 transistor outputs (NPN open collector)	T1	
	3 transistor outputs (PNP open collector)		T2

Communication output type	Not supported **(STANDARD)**	
	RS-485	FLK

K3MA-J

K3MA-L

K3MA-F

K3MA Digital panel indicators

Ordering code

Model	Process meter, DC voltage/current	K3MA - J	□		□
	Temperature meter, platinum resistant thermometer	K3MA - L		□	□
	Frequency/rate meter, rotary pulse	K3MA - F	□		□

Output type	No output **(STANDARD)**		
	2 relay contact outputs (SPST-NO)	A2	
	With relay contact ouput (SPDT)		C

Supply voltage	100 to 240 VAC	100-240AC
	24 VAC/VDC	24AC/DC

K3HB-X

K3HB-H

K3HB-V

K3HB-S

K3HB Digital panel indicators

			Ordering code		
Base units	Temperature indicator	K3HB - H	TA		
	Weighing indicator	K3HB - V	LC		
	Linear sensor indicator	K3HB - S	SD		
	Process indicator	K3HB - X			

Input sensor codes	Temperature intput thermocouple/resistance thermometer input	TA
	Load cell input (DC low-voltage input)	LC
	DC voltage/current input	SD
	DC voltage input	VD
	DC current input	AD
	AC voltage input	VA
	AC current input	AA

Supply voltage	100 to 240 VAC	AC100-240
	24 VAC/VDC	AC/DC24

K3HB Digital panel indicators Sensor supply/output boards

		Ordering code
Sensor power supply/output boards	K33 -	

Types	Relay output (PASS: SPDT) + sensor power supply (12 VDC +/-10%, 80mA)	CPA
	Relay output (PASS: SPDT) + sensor power supply (10 VDC +/- 5%, 100mA)	CPB
	Linear current output (DC 0(4) - 20 mA) + sensor power supply (12 VDC +/-10%, 80mA)	L1A
	Linear current output (DC 0(4) - 20 mA) + sensor power supply (10 VDC +/- 5%, 100mA)	L1B
	Linear voltage output (DC 0(1) - 5V, 0 to 10 V) + sensor power supply (12 VDC +/-10%, 80mA)	L2A
	Linear voltage output (DC 0(1) - 5V, 0 to 10 V) + sensor power supply (10 VDC +/- 5%, 100mA)	L2B
	Sensor power supply (12 VDC +/-10%, 80mA)	A
	Sensor power supply (10 VDC +/- 5%, 100mA)	B
	Communications (RS-232C) + sensor power supply (12 VDC +/-10%, 80mA)	FLK1A
	Communications (RS-232C) + sensor power supply (10 VDC +/- 5%, 100mA)	FLK1B
	Communications (RS-485) + sensor power supply (12 VDC +/-10%, 80mA)	FLK3A
	Communications (RS-485) + sensor power supply (10 VDC +/- 5%, 100mA)	FLK3B

NOTES: CPA and CPB can be combined with relay outputs only.
Only one of the communications (BCD of DeviceNet) can be used by each indicator.

K3HB Digital panel indicators Relay/transistor output boards

		Ordering code
Relay/transistor output boards	K34 -	

Types	Relay contact (H/L: SPDT each)	C1
	Relay contact (HH/H/LL/L: SPST-NO each)	C2
	Transistor (NPN open collector: HH/H/PASS/L/LL)	T1
	Transistor (PNP open collector: HH/H/PASS/L/LL)	T2
	DeviceNet	DRT

K3HB Digital panel indicators Event input boards

		Ordering code
Event input boards	K35 -	

Types	5 points (M3 terminal blocks) NPN open collector	1
	8 points (10-pin MIL connector) NPN open collector	2
	5 points (M3 terminal blocks) PNP open collector	3
	8 points (10-pin MIL connector) PNP open collector	4

K3NC

K3NC Digital panel indicators

Ordering code

Model	Basic display type	K3NC -			
Input sensors	NPN inputs/voltage pulse inputs		NB		
	PNP inputs		PB		
Supply voltage	100 to 240 VAC			1	
	12 to 24 VDC			2	
Display	Basic				A
	Set value LED display				C

K3NC Digital panel indicators Counters

Ordering code

Model	For basic display type	K31 -		
	For set value LED display type	K31 -		
Output type codes	5 comparative relay contact outputs (OUT1, 2, 4, 5; SPST-NO;OUT3; SPDT)		C2	C2
	5 comparative relay contact outputs (OUT1, 2, 4, 5; SPST-NC;OUT3; SPDT)		C5	C5
	5 comparative transistor outputs (NPN open collector)		T1	T1
	5 comparative transistor outputs (PNP open collector)		T2	T2
	BCD output (NPN open collector)		B2	
	BCD output + 5 transistor outputs (NPN open collector)		B4	B4
	Linear output (4 to 20 mA)		L1	
	Linear output (1 to 5 VDC)		L2	
	Linear output (1mV/10 digits)		L3	
	Linear output, 4 to 20 mA + 5 transistor outputs (NPN open collector)		L4	L4
	Linear output, 1 to 5 V + 5 transistor outputs (NPN open collector)		L5	L5
	Linear output, 1mV/10 digits + 5 transistor outputs (NPN open collector		L6	L6
	Linear output, 0 to 5 VDC		L7	
	Linear output, 0 to 10 VDC		L8	
	Linear output, 0 to 5 VDC + 5 transistor outputs (NPN open collector)		L9	L9
	Linear output, 0 to 10 VDC + 5 transistor outputs (NPN open collector)		L10	L10
	Communication RS-232C		FLK1	
	Communication RS-485		FLK2	
	Communication RS-422		FLK3	
	RS-232C + 5 transistor outputs (NPN open collector)		FLK4	FLK4
	RS-485 + 5 transistor outputs (NPN open collector)		FLK5	FLK5
	RS-422 + 5 transistor outputs (NPN open collector)		FLK6	FLK6

K3NP

K3NP Digital panel indicators

Ordering code

Model		K3NP -			
Input sensors	NPN inputs/voltage pulse inputs		NB		
	PNP inputs		PB		
Supply voltage	100 to 240 VAC			1	
	12 to 24 VDC			2	
Display	Basic				A
	Set value LED display				C

K3NP Digital panel indicators Timers

		Ordering code		
Model	For basic display type	K31 -		
	For set value LED display type	K31 -		
Output type codes	3 comparative relay contact outputs (H, PASS, L: SPDT)		C1	C1
	5 comparative relay contact outputs (HH, H, L, LL: SPSTNO;PASS: SPDT)		C2	C2
	5 comparative relay contact outputs (HH, H, L, LL: SPSTNC;PASS: SPDT)		C5	C5
	5 comparative transistor outputs (NPN open collector)		T1	T1
	5 comparative transistor outputs (PNP open collector)		T2	T2
	BCD output (NPN open collector)		B2	
	BCD output + 5 transistor outputs (NPN open collector)		B4	B4
	Linear output (4 to 20 mA)		L1	
	Linear output (1 to 5 VDC)		L2	
	Linear output (1mV/10 digits)		L3	
	Linear output, 4 to 20 mA + 5 transistor outputs (NPN open collector)		L4	L4
	Linear output, 1 to 5 V + 5 transistor outputs (NPN open collector)		L5	L5
	Linear output, 1mV/10 digits + 5 transistor outputs (NPN open collector		L6	L6
	Linear output, 0 to 5 VDC		L7	
	Linear output, 0 to 10 VDC		L8	
	Linear output, 0 to 5 VDC + 5 transistor outputs (NPN open collector)		L9	L9
	Linear output, 0 to 10 VDC + 5 transistor outputs (NPN open collector)		L10	L10
	Communication RS-232C		FLK1	
	Communication RS-485		FLK2	
	Communication RS-422		FLK3	
	RS-232C + 5 transistor outputs (NPN open collector)		FLK4	FLK4
	RS-485 + 5 transistor outputs (NPN open collector)		FLK5	FLK5
	RS-422 + 5 transistor outputs (NPN open collector)		FLK6	FLK6

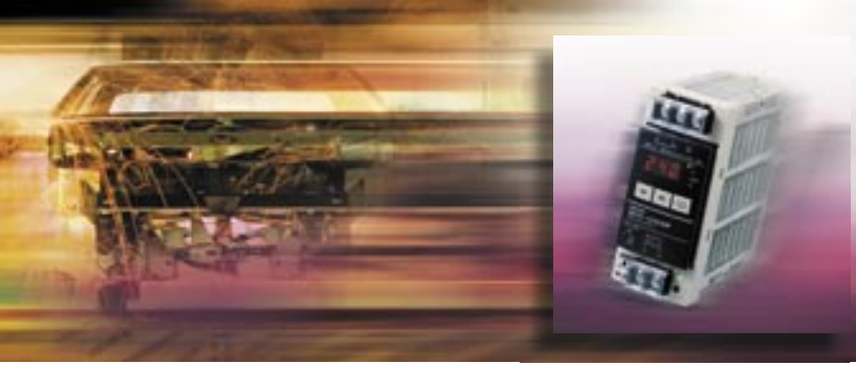
K3NR Digital panel indicators

		Ordering code			
Model	Basic display type	K3NR -			
Input sensors	NPN inputs/voltage pulse inputs		NB		
	PNP inputs		PB		
Supply voltage	100 to 240 VAC			1	
	12 to 24 VDC			2	
Display	Basic				A
	Set value LED display				C

K3NR

K3NR Digital panel indicators Counters

		Ordering code		
Model	For basic display type	K31 -		
	For set value LED display type	K31 -		
Output type codes	3 comparative relay contact outputs (H, PASS, L: SPDT)		C1	C1
	5 comparative relay contact outputs (HH, H, L, LL: SPSTNO; PASS: SPDT)		C2	C2
	5 comparative relay contact outputs (HH, H, L, LL: SPSTNC; PASS: SPDT)		C5	C5
	5 comparative transistor outputs (NPN open collector)		T1	T1
	5 comparative transistor outputs (PNP open collector)		T2	T2
	BCD output (NPN open collector)		B2	
	BCD output + 5 transistor outputs (NPN open collector)		B4	B4
	Linear output (4 to 20 mA)		L1	
	Linear output (1 to 5 VDC)		L2:	
	Linear output (1mV/10 digits)		L3:	
	Linear output, 4 to 20 mA + 5 transistor outputs (NPN open collector)		L4:	L4:
	Linear output, 1 to 5 V + 5 transistor outputs (NPN open collector)		L5:	L5:
	Linear output, 1mV/10 digits + 5 transistor outputs (NPN open collector)		L6:	L6:
	Linear output, 0 to 5 VDC		L7:	
	Linear output, 0 to 10 VDC		L8:	
	Linear output, 0 to 5 VDC + 5 transistor outputs (NPN open collector)		L9:	L9:
	Linear output, 0 to 10 VDC + 5 transistor outputs (NPN open collector)		L10:	L10:
	Communication RS-232C		FLK1:	
	Communication RS-485		FLK2:	
	Communication RS-422		FLK3:	
	RS-232C + 5 transistor outputs (NPN open collector)		FLK4:	FLK4:
	RS-485 + 5 transistor outputs (NPN open collector)		FLK5:	FLK5:
	RS-422 + 5 transistor outputs (NPN open collector)		FLK6:	FLK6:



Power supplies

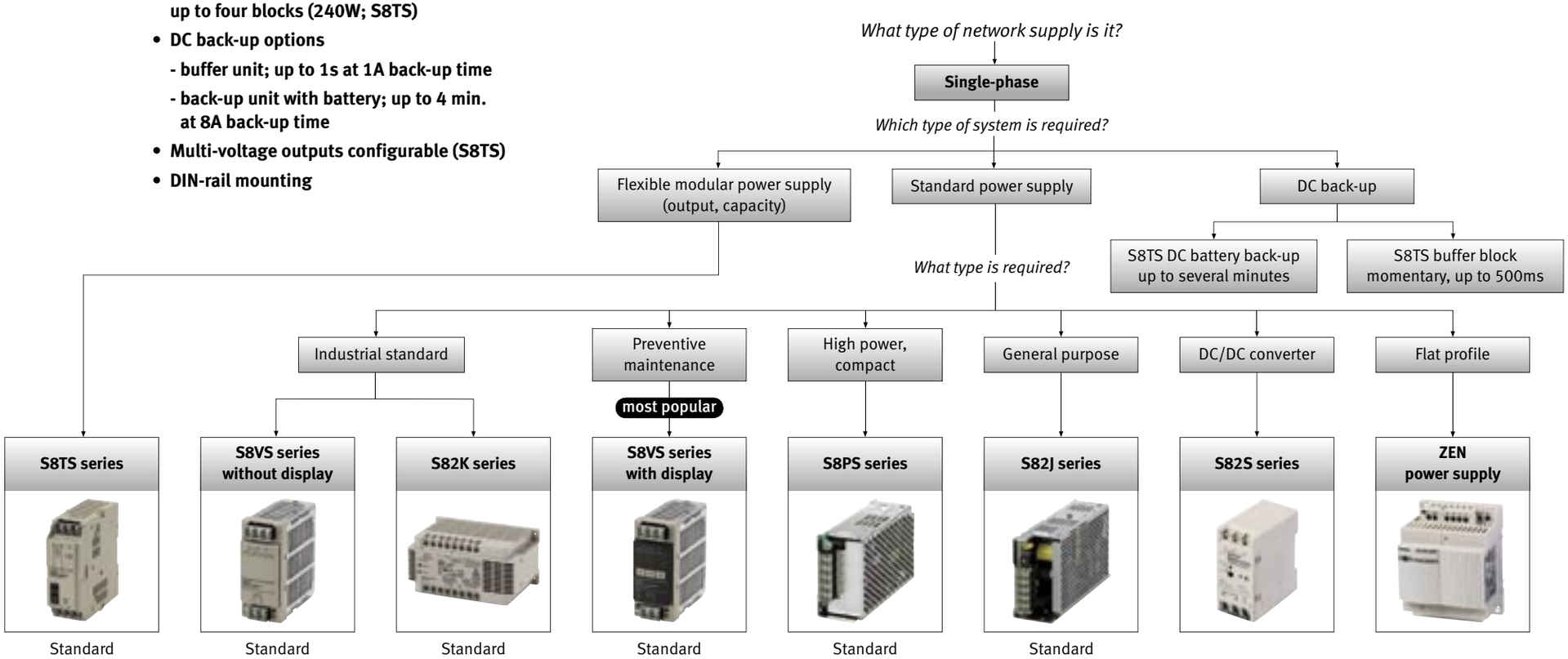
Omron's power supplies combine innovative features with high performance, high reliability and compact designs, making them ideal for modern industrial control panels where space is often at a premium.

- **AC voltages switchable from 85 to 264 VAC**
- **DC output voltages: 5, 12 or 24 VDC**
- **Variety of outputs up to 600W**
- **Under-voltage detection**
- **Displays for preventive maintenance (S8VS)**
  - **diagnostics of output**
  - **remaining life of power supply**
  - **run-time monitor**
- **Parallel operation with BUS connectors possible up to four blocks (240W; S8TS)**
- **DC back-up options**
  - **buffer unit; up to 1s at 1A back-up time**
  - **back-up unit with battery; up to 4 min. at 8A back-up time**
- **Multi-voltage outputs configurable (S8TS)**
- **DIN-rail mounting**

The S8TS features a unique 'building-block' concept and can be plugged together to give a power supply capacity of 60 to 240 W for standard operation.

The ultra-compact S8VS model features a unique 3-digit, 7-segment LED display for output voltage, output current and output peak current for faster, easier diagnostics. The S8VS is available in a variety of power ratings from 60 to 240 W (15/30W models released).

The S8T-DCBU-02 buffer unit is designed to ensure the supply of power in your systems for Omron's following power supplies: S8TS, S8VS, S82J, S82K, S8PS.



Power supplies

Selection criteria							Power [W]																	Features	
Phases	Rated voltage	Category	Family		Key points	Voltage	3W	7.5W	10W	15W	25W	30W	50W	60W	90W	100W	120W	150W	180W	240W	300W	480W	600W	960W	PFC built-in/conforms to EN61000-3-2 A14	
Single-phase	100/230 VAC or 100...240 VAC	Modular	S8TS		- 60 to 240 W - Multi-power supply configurations - Modular: just one model	5V					● 5A													●	
						12V						● 2.5A		● 5A	● 7.5A		● 10A							●	
						24V								● 2.5A			● 5A		● 7.5A	● 10A				●	
		Back-up			- Momentary power back-up	24V								● 2.5A											
		With status monitor	S8VS-Bx/Ax		Display features: - Output status monitor - Run time monitor - Maintenance forecast monitor - Ultra compact size	24V								● 2.5A	● 3.75A		● 5A		● 7.5A	● 10A				●	
		Industrial standard	S8VS		- Ultra compact size	24V								● 2.5A	● 3.75A		● 5A		● 7.5A	● 10A				●	
			S82K		- Wide power range - Widely used world-wide - Dual output type available	5V	● 0.6A	● 1.5A		● 2.5A		● 5A												○	
						12V	● 0.25A	● 0.6A		● 1.2A		● 2.5A												○	
						15V	● 0.2A	● 0.5A																○	
						24V	● 0.13A	● 0.3A		● 0.6A		● 1.3A	● 2.1A		● 3.75A	● 4.2A				○ 10A				○	
		Compact	S8PS		- Open-frame and covered types - Most compact up to 600W	5V							● 10A											●	
						12V							● 4.2A											●	
						24V							● 2.1A			● 4.5A		● 6.5A			● 14A		● 27A	●	
		General purpose	S82J		- Compact & economical - Open frame, cover type and enclosed type	5V			● 2A		● 5A		● 10A			● 20A										
						12V			● 1A		● 2.1A		● 4.2A			● 8.5A										
						15V			● 0.7A		● 1.7A					● 7A										
						24V			● 0.5A		● 1.1A		● 2.1A			● 4.5A		● 6.5A			● 14A		● 27A		
	12 - 24 VDC	DC/DC converter	S82S		- Ideal for applications with limited space - Wide input voltage ranges: 10.2 to 27.6 VDC - Dual output type available	5V	● 0.6A	● 1.5A																	
						12V	● 0.25A	● 0.6A																	
						15V	● 0.2A	● 0.5A																	
						24V	● 0.13A	● 0.3A																	

Note. A low-profile power supply is available, see more in detail.

													Approvals						
	DC back-up	Capacitor back-up	Undervoltage detection	Overvoltage protection	Overload protection	DIN-rail mounting	Screw mounting (with bracket)	Class B	Class 2	N+1 redundancy	Parallel operation	Series operation	Based on EMC & LVD	CSA22.2-14	UL508	EN50178 (VDE0160)/ EN60950 (VDE0806)	UL1310, UL60950 (UL1950), CSA22.2-14, CSA22.2-60950	UL508	UL1310, UL60950
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	○	○	●	●	●	●		●	●	●	●	●	●		●	●	●		
		●		●	●	●		●	●		●		●		●	●	● UL1604/CSA213		
		○	●	●	●	●			● Only 60W model			●	●		●	●	●	●	
		○	●	●	●	●			● Only 60W model			●	●		●	●	●	●	
			●		●	●	●	●	●				●	●		●		●	●
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			●		●	●	●	●	●				●	●		●		●	●
		○	○	● Only 240W model	●	●	●		●		● Only 100/240W models	● Only 90/100/240W models	●	●		●		●	●
				●	●	●	●	●				● Only 50W model	●	●		●		●	●
				●	●	●	●	●				● Only 50W model	●	●		●		●	●
		○		●	●	●	●	●			● Only 300/600W models	●	●	●		●		●	●
				● Only 100W model	●	●	●		● Except 10/25W models			● Except 10/25W models	●	●		●		●	●
					●	●	●		●			● Except 10/25W models	●	●		●		●	●
					●	●	●		●			● Except 10/25W models	●	●		●		●	●
		○		● Only 100/300/600W models	●	● Except 300/600W models	●		● Only 50W model		● Only 300/600W models	● Except 10/25W models	●	●		●		●	●
					●	●								●					●
					●	●								●					●
					●	●								●					●
					●	●								●					●

● Standard ○ Available □ Not available

S8TS

S8TS Power supplies

Ordering code

Model	25W 5V 5A	S8TS - 02505			
	30W 12V 2.5A	S8TS - 03012		-	
	60W 24V 2.5A	S8TS - 06024		-	
Terminals	Connector terminals		F		
Bus line connectors	Basic block only **(STANDARD)**				
	S8T-BUS01 and S8T-BUS02 included*1				E1

*1 Not for 5V models.

Accessories: S8TS bus line connector

Ordering code

AC line+ DC line bus (parallel operation)	S8TS-BUS		1
AC line bus (series or isolated operation)	S8TS-BUS		2
Quantity	Single connector	0	
	10 connectors	1	

S8VS-Bx/Ax

S8VS

S8VS Power supplies

Ordering code

Model	60W, 24V	S8VS -	060	24		
	90W, 120W, 180W, 240W, 24V	S8VS -		24		
Capacity	90W		090			
	120W		120			
	180W		180			
	240W		240			
Configuration	No display					
	With maintenance forecast monitor					A
	With total run-time monitor					B
	With maintenance forecast monitor and undervoltage alarm (sinking)				A	
	With total run-time monitor and undervoltage alarm (sinking)				B	
	With maintenance forecast monitor and undervoltage alarm (sourcing)				AP	
	With total run-time monitor and undervoltage alarm (sourcing)				BP	

New – No Display

S8VS 15W and 30W

Ordering code

Model	15W	S8VS -	015	-	
	30W	S8VS -	030	-	
Output voltage	5V				05
	12V				12
	24V				24

S82K

S82K Power supplies

Ordering code

Model	3W	S82K -		003	
	7.5W	S82K -		007	
	15W	S82K -		015	
	30W	S82K -		030	
	50W	S82K -		050	24
	90W	S82K -		090	24
	100W	S82K -		100	24
Power factor correction	No				
	Yes		P		
Output voltage	+5 VDC			05	05	05
	+12 VDC			12	12	12
	+15 VDC			15	15	
	+24 VDC			24	24	24
	12 VDC				27	
	15 VDC				28	
Undervoltage alarm indicator/output	No					

S8PS

S8PS Power supplies

Ordering code

Model	50W	S8PS - 050			
	100W	S8PS - 100	24		
	150W	S8PS - 150	24		
	300W	S8PS - 300	24		
	600W	S8PS - 600	24	C	
Output voltage	5V		05		
	12V		12		
	24V		24		
Configuration	Open-frame type with front-mounting bracket				
	Covered type with front-mounting bracket			C	C
	Open-frame type with DIN-rail mounting bracket			D	
	Covered type with DIN-rail mounting bracket			CD	CD

S82J

S82J Power supplies

Ordering code

Model	10W	S82J - 010						
	25W	S82J - 025						
	50W	S82J - 050						
	100W	S82J - 100				*1		
	150W	S82J - 150	24					
	300W	S82J - 300	24					
	600W	S82J - 600	24					
Output voltage	5V		05	05				
	12V		12	12				
	15V		15					
	24V		24	24				
Configuration	Enclosed type, front terminals with mounting bracket							
	Open-frame type, front terminals				A	A		
	Covered type, front terminals				D	D		
Mounting bracket	Front-mounting bracket type							
	DIN-rail mounting bracket type							D

*1 Top terminals (B&E) and connector type (C&F) not for 24V type.

S82S

S82S Power supplies

Ordering code

Model	3W 12 to 24 VDC	S82S - 73		
	7.5W 12 to 24 VDC	S82S - 77		
Output voltage	5V		05	05
	12V		12	12
	15V		15	15
	24V		24	24
	±12V		27	
	±15V		28	

Sockets

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, and constant wire clamp pressure that eliminates the need to re-tighten terminals.

- **Unique release lever ensures easy product replacement**
- **Different gauge wires to be connected to the same terminal**
- **Standard DIN-rail connection for faster, easier panel building**
- **Safe terminal arrangement; coil terminals separated from contact terminals**
- **Environmentally friendly; no Pb, Cd or Be used**

When used in combination with associated products these sockets guarantee safe switching and meet the most demanding specifications. Double wiring and easy bridge and branch connections are all possible on all terminals. And because each socket is wired from the top instead of the side, the cable troughs can be mounted directly at the socket, saving space in the switch cabinet. In addition, a unique ejector in each socket makes product replacement very easy.

P2CF

Standard

P2RF-S

P2RF08

Standard

PTF08A

Standard

PYF

Standard

PYF08-S

Standard

PYF14-S

Standard

Sockets

Selection criteria						Product group					
						Relays					
Mounting	Terminals	Hold down clip	Poles	Model	Color	MY	G2RS	LY	MK-I/S	MYK	
Front mounting (DIN-rail)	Screw-less clamp	Without clips	1	P2RF-05-S	Grey		●				
			2	P2RF-08-S	Grey		●				
			2	PYF08A-S	Grey	●					
			4	PYF14-A-S	Grey	●					
Front-mounting (DIN-rail/screw)	Screw terminal	With external clip	1 or 2	PTF08A-E	Black			●			
			1 or 2	PTF08A	Black			●			
			2	PF083A	Black				●		
			2	PF083A-E	Black				●		
			2	PYF08A	Black	●					
			3	PYF11A	Black	●					
			3	PF113A	Black				●		
			3	PF113A-E	Black				●		
			3	PTF11A	Black			●			
			4	PTF14A	Black			●			
			4	PTF14A-E	Black			●			
			4	PYF14A-E	Black	●				●	
			4	PYF14A-N	Grey	●				●	
			2	PYF08A-E	Black	●					
			2	PYF08A-N	Grey	●					
			4	PYF14A	Black	●				●	
		With integral clip	1	P2RF-05	Black		●				
			1	P2RF-05-E	Grey		●				
			2	P2CF-08	Black						
			2	P2CF-08-E	Black						
			2	P2RF-08	Black		●				
			2	P2RF-08-E	Grey		●				
			2	P3G-08	Black						
			3	P2CF-11	Black						
			3	P2CF-11-E	Black						
			3	P3GA-11	Black						
Back mounting	Solder terminals	With external clip	2	PL08	Black						
			3	PL11	Black						
			2	PY08	Black	●					
			3	PY11	Black	●					
			4	PY14	Black	●				●	
		With integral clip	2	PY08-Y1	Black	●					
			3	PY11-Y1	Black	●					
			4	PY14-Y1	Black	●				●	
			1	P2R-05A	Black		●				
			2	P2R-08A	Black		●				
	Plug-in/solder	With external clip	1 or 2	PT08	Black			●			
			3	PT11	Black			●			
			4	PT14	Black			●			
	PCB terminals	With external clip	1 or 2	PT08-0	Black			●			
			2	PY08-02	Black	●					
			3	PY11-02	Black	●					
			3	PT11-0	Black			●			
			4	PT14-0	Black			●			
			4	PY14-02	Black	●				●	
		With integral clip	1	P2R-05P	Black		●				
			1	P2R-057P	Grey		●				
			2	P2R-08P	Black		●				
			2	P2R-087P	Grey		●				
	Wire-wrap	With external clip	1 or 2	PT08QN	Black			●			
			3	PT11QN	Black			●			
			4	PT14QN	Black			●			
			2	PY08QN	Black	●					
			2	PY08QN2	Black	●					
			3	PY11QN	Black	●					
			3	PY11QN2	Black	●					
			4	PY14QN	Black	●				●	
			4	PY14QN2	Black	●				●	
		With integral clip	2	PY08QN2-Y1	Black	●					
			2	PY08QN-Y1	Black	●					
			3	PY11QN-Y1	Black	●					
			3	PY11QN2-Y1	Black	●					
			4	PY14QN2-Y1	Black	●					
			4	PY14QN-Y1	Black	●				●	

	Timers						Counters		Level			Solid state relays								Temperature controllers		Feature	Approvals			
	H3YN	H3RN	H3CR	H5CR	H5CX	H2C	H7CX	H7CR	K7L	61F	E7L	G3B	G3BD	G3F	G3FD	G3R-I	G3R-O	G3H	G3HD	E5C2	E5ZN	Finger safe	CE	SP	cULus	LR
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● Standard ○ Available □ Not available

Warranty

CERTAIN TERMS AND CONDITIONS OF SALE

1. **Offer; Acceptance.** These terms and conditions (these "Terms") are deemed part of all catalogs, manuals or other documents, whether electronic or in writing, relating to the sale of goods or services (collectively, the "Goods") by Omron Electronics LLC and its subsidiary companies ("Seller"). Seller hereby objects to any terms or conditions proposed in Buyer's purchase order or other documents which are inconsistent with, or in addition to, these Terms. Please contact your Omron representative to confirm any additional terms for sales from your Omron company.

2. **Prices.** All prices stated are current, subject to change without notice by Seller. Buyer agrees to pay the price in effect at time of shipment.

3. **Discounts.** Cash discounts, if any, will apply only on the net amount of invoices sent to Buyer after deducting transportation taxes and duties, and will be allowed only if (i) the invoice is paid according to Seller's payment terms and (ii) Buyer has no past due amounts owing to Seller.

4. **Orders.** Seller will accept no order less than $200 net billing.

5. **Governmental Approvals.** Buyer shall be responsible for, and shall bear all costs involved in, obtaining any government approvals required for the importation or sale of the Goods.

6. **Taxes.** All taxes, duties and other governmental charges (other than general real property and income taxes), including any interest or penalties thereon, imposed directly or indirectly on Seller or required to be collected directly or indirectly by Seller for the manufacture, production, sale, delivery, importation, consumption or use of the Goods sold hereunder (including customs duties and sales, excise, use, turnover and license taxes) shall be charged to and remitted by Buyer to Seller.

7. **Financial.** If the financial position of Buyer at any time becomes unsatisfactory to Seller, Seller reserves the right to stop shipments or require satisfactory security or payment in advance. If Buyer fails to make payment or otherwise comply with these Terms or any related agreement, Seller may (without liability and in addition to other remedies) cancel any unshipped portion of Goods sold hereunder and stop any Goods in transit until Buyer pays all amounts, including amounts payable hereunder, whether or not then due, which are owing to it by Buyer. Buyer shall in any event remain liable for all unpaid accounts.

8. **Cancellation; Etc.** Orders are not subject to rescheduling or cancellation unless Buyer indemnifies Seller fully against all costs or expenses arising in connection therewith.

9. **Force Majeure.** Seller shall not be liable for any delay or failure in delivery resulting from causes beyond its control, including earthquakes, fires, floods, strikes or other labor disputes, shortage of labor or materials, accidents to machinery, acts of sabotage, riots, de r lack of transportation or the requirements of any government authority.

10. **Shipping; Delivery.** Unless otherwise expressly agreed in writing by Seller:
    a. Shipments shall be by a carrier selected by Seller;
    b. Such carrier shall act as the agent of Buyer and delivery to such carrier shall constitute delivery to Buyer;
    c. All sales and shipments of Goods shall be FOB shipping point (unless otherwise stated in writing by Seller), at which point title to and all risk of loss of the Goods shall pass from Seller to Buyer, provided that Seller shall retain a security interest in the Goods until the full purchase price is paid by Buyer;
    d. Delivery and shipping dates are estimates only.
    e. Seller will package Goods as it deems proper for protection against normal handling and extra charges apply to special conditions.

11. **Claims.** Any claim by Buyer against Seller for shortage or damage to the Goods occurring before delivery to the carrier must be presented in writing to Seller within 30 days of receipt of shipment and include the original transportation bill signed by the carrier noting that the carrier received the Goods from Seller in the condition claimed.

12. **Warranties.** (a) Exclusive Warranty. Seller's exclusive warranty is that the Goods will be free from defects in materials and workmanship for a period of twelve months from the date of sale by Seller (or such other period expressed in writing by Seller). Seller disclaims all other warranties, express or implied. (b) Limitations. SELLER MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, ABOUT NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF THE GOODS. BUYER ACKNOWLEDGES THAT IT ALONE HAS DETERMINED THAT THE GOODS WILL SUITABLY MEET THE REQUIREMENTS OF THEIR INTENDED USE. Seller further disclaims all warranties and responsibility of any type for claims or expenses based on infringement by the Goods or otherwise of any intellectual property right. (c) Buyer Remedy. Seller's sole obligation hereunder shall be to replace (in the form originally shipped with Buyer responsible for labor charges for removal or replacement thereof) the non-complying Good or, at Seller's election, to repay or credit Buyer an amount equal to the purchase price of the Good; provided that in no event shall Seller be responsible for warranty, repair, indemnity or any other claims or expenses regarding the Goods unless Seller's analysis confirms that the Goods were properly handled, stored, installed and maintained and not subject to contamination, abuse, misuse or inappropriate modification. Return of any goods by Buyer must be approved in writing by Seller before shipment. Seller shall not be liable for the suitability or unsuitability or the results from the use of Goods in combination with any electrical or electronic components, circuits, system assemblies or any other materials or substances or environments. Any advice, recommendations or information given orally or in writing, are not to be construed as an amendment or addition to the above warranty.

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