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Flexible small-scale automation

ZEN

the logical automation tool

Advanced Industrial Automation



OMRON



Omron's 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.

ZEN brings greater flexibility to automation control

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!



- **Omron's quality and reliability built-in**
 - *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.*
- **Total hardware supplier**
 - *Omron's huge product portfolio ensures that there's always a product available to handle your specific application!*
- **Complete solutions provider**
 - *Omron's drive for continuous development and use of innovative technologies, combined with its strict quality-first policy and just-in-time delivery of components and solutions, makes us the ideal business partner for even the most demanding user.*

The ZEN family

The ZEN is available in two standard CPU sizes: the ZEN 10 I/O and the ZEN 20 I/O. You can program the ZEN to give up to 16 Timers (T), 8 Holding Timers (#), 16 Counters (C), 16 Weekly Timers (@), 16 Calendar Timers (*), and 16 Displays (D). Both AC and DC supply voltage models are available, and two analogue inputs of 0-10 VDC can be connected to DC versions. You can also enhance the ZEN's functionality by adding up to three expansion units, which will expand CPUs of 10 I/O to 34 I/O, and 20 I/O to 44 I/O. The ZEN is available with relay (8A/250 VAC) or transistor (0,5 A/24VDC) outputs. The input for DC power supply versions can be either NPN or PNP. With such an extensive choice of features and functions, the ZEN is guaranteed to make your everyday life easier!

ZEN C1 - with LCD display

The ZEN C1 is the most advanced model available, and features time-switch functions, calendar, clock and display messages. It also features an LCD display with 4 lines and 12 characters.

Programming the ZEN C1

is an easy process, and can be done by using the eight buttons on the front panel or with Omron's dedicated software package. Settings can be easily changed using these buttons and the display. The ZEN C1's LCD screen has a backlight that makes it easier to operate in poor lighting conditions. This model is password protected to prevent inadvertent changes to the settings.



ZEN C2 - for dedicated applications

The ZEN C2 has no LCD display, but it does feature three LEDs for Power, RUN and ERROR status.

Programming is via Omron's easy-to-use software package. Updates are easy to do by adding a new program to the memory module. The program is automatically transferred from the memory module to the ZEN C2.



Expanding the ZEN

The ZEN is ideal for use in any application that requires multiple output points. What's more, expansion units can easily be clicked on to the ZEN, enabling you to make more than one hundred different programming combinations! It is possible to use different voltage supply units next to each other, so a DC input expansion unit can be located next to an AC input unit. The same applies for the output side of the expansions units, enabling you to combine relay and transistor output units.



ZEN power supply

Omron offers a power supply that is the same as the ZEN in terms of compact dimensions, housing, design and mounting method. With a maximum power of 30 W, this power supply is ideal for meeting all of ZEN's application requirements. And if the load of one unit is not sufficient it can be doubled simply by connecting two units in parallel. This power supply conforms to all main international standards, and contains lead-free soldering in line with Omron's strict environmental policy.





Features and benefits of the ZEN

Easy to use

- Basic programming skills are all you require to immediately start using the ZEN.

Easy to program

- The ZEN can be programmed using the front panel buttons and the support software.

Easy to expand

- Expansion units can simply be clicked on to the ZEN unit, enabling you to make more than one hundred different configuration combinations!

Battery back-up

- Attaching a battery unit to the ZEN ensures that all calendar and clock functions are backed up for 10 years or more.

Memory cassettes

- Memory cassettes can be used to save programs, or download and copy programs to another ZEN unit.

Battery back-up for peace of mind

A battery unit can be attached to the ZEN to ensure that all calendar and clock functions are backed up for 10 years or more. The Zen's program and parameter settings can also be backed up in the CPU unit's internal EEPROM, ensuring that no data is lost even if a battery unit is not installed.



Memory cassettes

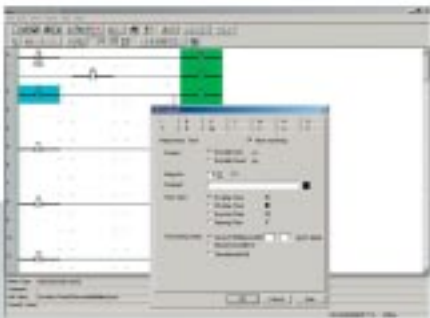
The memory cassettes can be connected to the ZEN and used to save, download or copy programs to another ZEN unit. This saves a lot of time and effort on re-programming.



Software

Easy to program

There are two ways of programming the ZEN; directly into the unit by using the eight buttons on the front panel, or via a PC using the ZEN support software. This software is based on ladder programming, which allows you to set all parameters in a most convenient way. Programs can be simulated to check that they work correctly before incorporating them in the ZEN. The support software can also be used to save files and edit comments. All programs and I/O comments, along with timer, counter and other parameter settings can be printed.



The ZEN - making everyday life easier!

Energy control
The ZEN can operate an escalator continuously between specified times and dates, or only when a person approaches it to conserve energy.



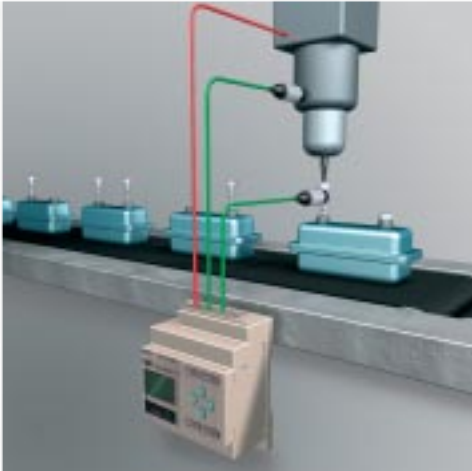
Environment control
In greenhouses, the ZEN controls the circulation of carbon dioxide or warm air.



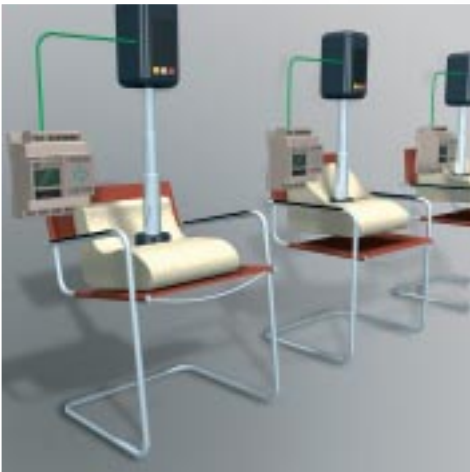
Light control
The ZEN can be programmed for complex lighting control sequences to save energy and improve lighting efficiency.



Quality control
The ZEN can be programmed to stop the production process on an assembly line when components are missing.



Test control
The ZEN can be programmed to perform durability switching and other test applications.



Operation control
In coin-operated car washes the ZEN can change the program's operating time, depending on the number of coins inserted.



Name	No. of I/O points	Display type	Power Supply voltage	Inputs		Outputs		Buttons, calendar & clock	Analogue input	Model number
CPU Units	10	LCD	100 to 240 VAC	6	100 to 240 VAC	4	Relays	Yes	No	ZEN-10C1AR-A-V1
		LED						No	No	ZEN-10C2AR-A-V1
		LCD	24 VDC	6	24 VDC	4	Relays	Yes	Yes	ZEN-10C1DR-D-V1
		LED						No	Yes	ZEN-10C2DR-D-V1
		LCD	24 VDC	6	24 VDC	4	Transistors	Yes	Yes	ZEN-10C1DT-D-V1
		LED						No	Yes	ZEN-10C2DT-D-V1
	20	LCD	100 to 240 VAC	12	100 to 240 VAC	8	Relays	Yes	No	ZEN-20C1AR-A-V1
		LED						No	No	ZEN-20C2AR-A-V1
		LCD	24 VDC	12	24 VDC	8	Relays	Yes	Yes	ZEN-20C1DR-D-V1
		LED						No	Yes	ZEN-20C2DR-D-V1
		LCD	24 VDC	12	24 VDC	8	Transistors	Yes	Yes	ZEN-20C1DT-D-V1
		LED						No	Yes	ZEN-20C2DT-D-V1
Expansion I/O Units	8	-		4	100 to 240 VAC	4	Relays	-		ZEN-8EAR
		-		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										
Power supply	-		100 to 240 VAC	-		24 VDC / 1,3 A		-		ZEN-PA03024
Memory Cassette										ZEN-ME01
Connecting Cable										ZEN-CIF01
Battery Unit										ZEN-BAT01
ZEN Support Software (CD-ROM)										ZEN-SOFT01-V3
Set containing CPU Unit (ZEN-10C1AR-A-V1), Support Software, Connecting Cable, ZEN Support Software, and manual										ZEN-KIT01-EV3 (AC)
Set containing CPU Unit (ZEN-10C1DR-D-V1), Support Software, Connecting Cable, ZEN Support Software, and manual										ZEN-KIT02-EV3 (DC)

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