

Measurement and control solutions Zelio temperature controller

Zelio RTC48

Catalog

April 2013



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Zelio temperature controller

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Measurement and control solutions

Zelio temperature controller

Zelio RTC48

Zelio RTC48

The A to Z of temperature control

The Zelio RTC48 temperature controllers are key components for temperature regulation solutions (solid state relays, electromechanical relays, PLCs, and displays).



Featuring intelligent adaptive display and Modbus communication, the RTCs offer easy installation and implementation with unique performance.

Added simplicity

Easy to implement

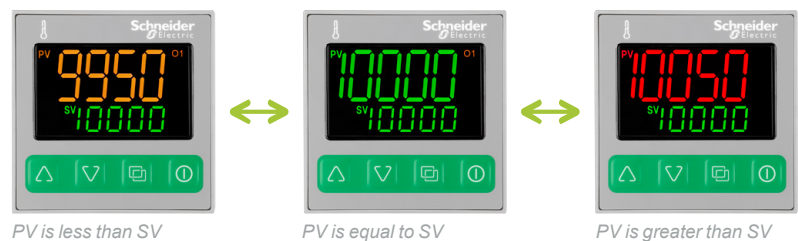
Zelio RTC48 is designed with the operator in mind. The set-up is intuitive and can be completed in a few simple steps. Schneider Electric's powerful PID and auto-tuning algorithm makes the setting up of device faster and simplifies operation.

The Zelio RTC48 can also be configured from a PC loaded with **Zelio Temperature Control Soft** software via a USB cable.



Adaptive display

The minimalistic design of Zelio RTC48 makes the display panel simple and user friendly. The intelligent PV (Process Value) display continuously changes color (Red, Green, Orange) according to its varying value from the SV (Set Value) range. This high quality display with status indicated by color can be easily viewed and read from a distance.



Make the most of your energy

Combined performance and economy

Zelio RTC48 clearly demonstrates Schneider Electric's determination to do more with less, in line with the efficiency needs of machine manufacturers.

Simplified installation

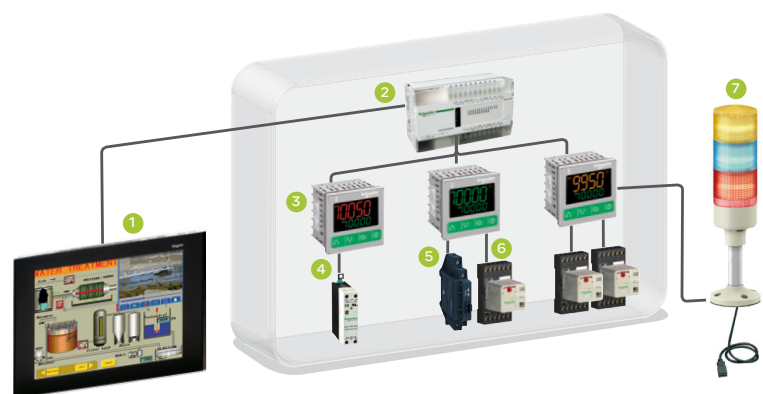
Zelio RTC48 is a compact and space saving solution that requires less panel depth than the conventional temperature controllers. Installation is easy, quick and much simpler that makes it ideal for various types of machines.

The display front face is IP66 rated, thus making the device suitable for operation in harsh industrial environments.



Open communication

With an ever increasing level of automation, the Zelio RTC48 is built to be Modbus communication ready. By connecting to a central monitoring system, up to 31 temperature controllers can be daisy-chained in a single loop and monitored easily.



- 1 Display unit Magelis XBT GT
- 2 Programmable controllers Twido TWD LC
- 3 Temperature controller Zelio RTC48
- 4 Solid-state relay Zelio SSR
- 5 Solid-state relay Zelio SSM
- 6 Electromechanical relay Zelio RUM
- 7 Illuminated indicator bank Harmony XVGU

Measurement and control solutions

Zelio temperature controller

Zelio RTC48

Supply voltage	~ 24 V
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Size - Standard	48 x 48 mm/1.900 x 1.900 in. – 1/16 DIN												
Inputs	Universal – Thermocouple, RTD, DC voltage, and DC current												
Sampling time	250 ms												
Communication on Modbus	Yes, with "C" models RTC48PUNC●●●●												
IP degree of protection for front panel	IP66 (conforming to NEMA-4X)												
Conformity to international standards	LVD EN 61010-1, EMC EN 61326-1												
Functions	<table border="1"> <tr><td>Hysteresis ON/OFF</td><td>Yes</td></tr> <tr><td>PID</td><td>Yes</td></tr> <tr><td>Auto-tuning</td><td>Yes</td></tr> <tr><td>Auto-reset (For PD control only)</td><td>Yes</td></tr> <tr><td>Operating mode</td><td>Automatic/Manual control</td></tr> <tr><td>Control output OFF</td><td>Yes</td></tr> </table>	Hysteresis ON/OFF	Yes	PID	Yes	Auto-tuning	Yes	Auto-reset (For PD control only)	Yes	Operating mode	Automatic/Manual control	Control output OFF	Yes
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PID	Yes												
Auto-tuning	Yes												
Auto-reset (For PD control only)	Yes												
Operating mode	Automatic/Manual control												
Control output OFF	Yes												
Alarm outputs	<table border="1"> <tr><td>Number of outputs</td><td>1 output on RTC48PUN1●●●● or RTC48PUNC●●●● and 2 outputs on RTC48PUN2●●●●</td></tr> <tr><td>Output voltage</td><td>3 A, 250 V ~ for resistive load</td></tr> </table>	Number of outputs	1 output on RTC48PUN1●●●● or RTC48PUNC●●●● and 2 outputs on RTC48PUN2●●●●	Output voltage	3 A, 250 V ~ for resistive load								
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Relay electrical durability (operating cycles per hour)	100,000 cycles												
Solid state output rating	Max 40 mA, 12 V DC +/-15% (short-circuit protected)												
Temperature controller type	RTC48PUN●●●LU												
Page	8												

(1) For more information on output types and the models, please refer to the Reference table on page 8.

Supply voltage	~ 100...240 V
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Size - Standard	48 x 48 mm/1.900 x 1.900 in. – 1/16 DIN												
Inputs	Universal – Thermocouple, RTD, DC voltage, and DC current												
Sampling time	250 ms												
Communication on Modbus	Yes, with "C" models RTC48PUNC●●●●												
IP degree of protection for front panel	IP66 (conforming to NEMA-4X)												
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Solid state output rating	Max 40 mA, 12 V DC +/-15% (short-circuit protected)												
Temperature controller type	RTC48PUN●●●HU												
Page	8												

(1) For more information on output types and the models, please refer to the Reference table on page 8.



Presentation

Product

The Zelio RTC48 is a compact sized temperature controller with high quality display and performance. This user-friendly device can be easily installed and integrated into various solutions.

The range includes 28 models which offer the following characteristics:

- 48 x 48 mm/1.900 x 1.900 in. (1/16 DIN),
- 62 mm/2.440 in. depth,
- Supply voltage: \sim 100 to 240 V or \approx 24 V,
- Input: Thermocouple, RTD, DC Voltage, or DC current,
- 11 segment LCD display in 3 colors (Green, Red, Orange),
- 1 or 2 alarm outputs, depending on the model,
- Communication: Serial and Console, with communication on Modbus ("C" models RTC48PUNC●●●●).

Operation

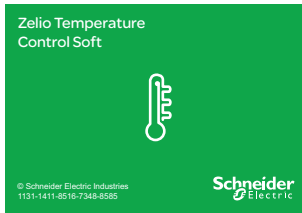
- One or two dedicated outputs for heating or cooling based on PID algorithms.
- Advanced functions:
 - hysteresis (for ON/OFF control),
 - auto-tuning or auto-reset,
 - automatic or manual operating mode.

Applications

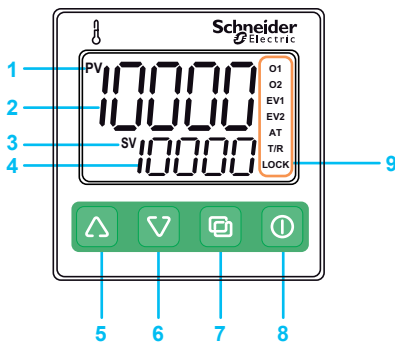
The **RTC48** temperature controller is aimed at system integrators and machine manufacturers. RTC48 offers temperature control solutions for industries like HVAC, industrial machines, packaging, and textiles.

Application examples:

- Extrusion lines,
- Plastic and rubber injection presses,
- Thermo-forming,
- Production of synthetic fibres and polymerisation,
- Food and beverage processing lines,
- Moulding presses,
- UV and Laser technologies,
- Maintaining temperature of a color bath,
- Cold rooms,
- Paint booths,
- Horticultural and livestock farms.



Zelio Temperature Control Soft software



Software configuration

“Zelio Temperature Control Soft” software is used to configure the parameter settings of RTC temperature controller with Modbus communication (“C” models RTC48PUNC●●●●).

- Available as a freeware and can be downloaded from our web site: www.schneider-electric.com,
- Runs on a PC with Microsoft Windows 98, Windows XP, Windows Vista or Windows 7 operating system,
- Allows you to modify and save parameter settings in the PC and upload the configurations to RTC48.

Description

48 x 48 size/1.900 x 1.900 in. – 1/16 DIN standard

- 1 PV indicator: Lights when the PV (Process Value) is indicated in PV/SV display mode.
- 2 PV display: Indicates the PV.
- 3 SV indicator: Lights when the SV (Set Value) is indicated in PV/SV display mode.
- 4 SV display: Indicates the SV.
- 5 Increase key: Increases the numeric value.
- 6 Decrease key: Decreases the numeric value.
- 7 Mode key: Selects the setting mode or registers the set value.
- 8 ON/OFF key: Switches control output ON/OFF or Auto/Manual control function.
- 9 Action indicators:
 - O1(OUT1): Lights when control output is ON or when heating output is ON
 - O2(OUT2): Lights when cooling output is ON
 - EV1: Lights when Alarm 1 output is ON
 - EV2: Lights when Alarm 2 output (A2 option) is ON or when Heater burnout alarm is ON
 - AT: Flashes during AT (Auto-tuning)
 - T/R: Lights during Serial communication (TX output)
 - LOCK: Lights when Lock 1, Lock 2, or Lock 3 is selected

Measurement and control solutions

Zelio temperature controller

Zelio RTC48

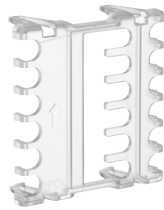


RTC48PUN1RNHU

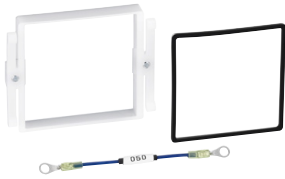
Zelio temperature controller								
48 x 48 mm/1.900 x 1.900 in. size – 1/16 DIN standard, Universal input								
Description	Supply voltage	Output 1		Output 2		Alarm	Reference	Weight kg/lb
		Relay	SSR	Relay	SSR			
Temperature Controller	~ 100 to 240 V	Yes	-	-	-	2	RTC48PUN2RNHU	0.135/0.298
		-	Yes	-	-	2	RTC48PUN2SNHU	0.135/0.298
		Yes	-	-	-	1	RTC48PUN1RNHU	0.135/0.298
		-	Yes	-	-	1	RTC48PUN1SNHU	0.135/0.298
		Yes	-	Yes	-	1	RTC48PUN1RRHU	0.135/0.298
		Yes	-	-	Yes	1	RTC48PUN1RSHU	0.135/0.298
		-	Yes	Yes	-	1	RTC48PUN1SRHU	0.135/0.298
		-	Yes	-	Yes	1	RTC48PUN1SSHU	0.135/0.298
Temperature Controller with Modbus communication	~ 100 to 240 V	Yes	-	-	-	1	RTC48PUNCRNHU	0.135/0.298
		-	Yes	-	-	1	RTC48PUNCSNHU	0.135/0.298
		Yes	-	Yes	-	1	RTC48PUNCRRHU	0.135/0.298
		Yes	-	-	Yes	1	RTC48PUNCRSHU	0.150/0.331
		-	Yes	Yes	-	1	RTC48PUNCSRHU	0.135/0.298
		-	Yes	-	Yes	1	RTC48PUNCSSHU	0.150/0.331
Temperature Controller	~ 24 V	Yes	-	-	-	2	RTC48PUN2RNLU	0.135/0.298
		-	Yes	-	-	2	RTC48PUN2SNLU	0.135/0.298
		Yes	-	-	-	1	RTC48PUN1RNLU	0.135/0.298
		-	Yes	-	-	1	RTC48PUN1SNLU	0.135/0.298
		Yes	-	Yes	-	1	RTC48PUN1RRLU	0.135/0.298
		Yes	-	-	Yes	1	RTC48PUN1RSLU	0.135/0.298
		-	Yes	Yes	-	1	RTC48PUN1SRLU	0.135/0.298
		-	Yes	-	Yes	1	RTC48PUN1SSLU	0.135/0.298
Temperature Controller with Modbus communication	~ 24 V	Yes	-	-	-	1	RTC48PUNCRNLU	0.135/0.298
		-	Yes	-	-	1	RTC48PUNCSNLU	0.135/0.298
		Yes	-	Yes	-	1	RTC48PUNCRRLU	0.135/0.298
		Yes	-	-	Yes	1	RTC48PUNCRSLU	0.150/0.331
		-	Yes	Yes	-	1	RTC48PUNCSRSLU	0.135/0.298
		-	Yes	-	Yes	1	RTC48PUNCSSLU	0.150/0.331



RTCCBL



RTCCOV



RTCACC

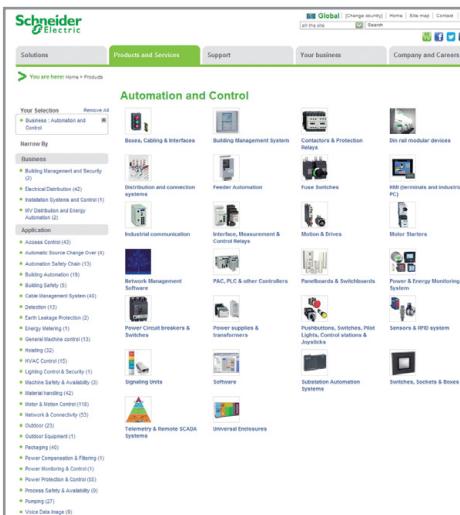
Accessories

Description	Reference	Weight kg/lb
USB cable	RTCCBL	0.135/ 0.298
Terminal cover	RTCCOV	0.135/ 0.298
Spare parts pack (gasket, shunt resistor, and mounting frame)	RTCACC	0.135/ 0.298

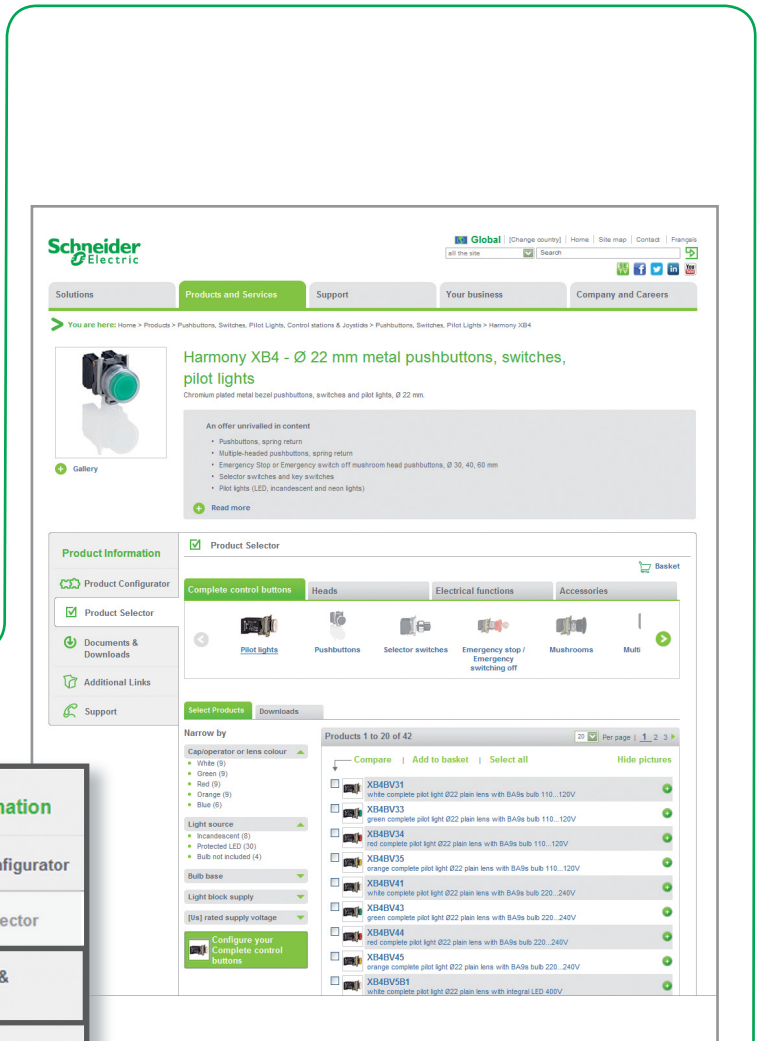


Personal computer

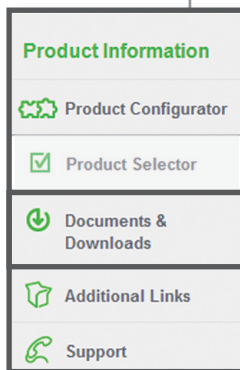
Path: www.schneider-electric.com > **Products and Services** > Automation and control > Product offer



All product ranges displayed by function



Dynamic catalogs (hyperlinks, video, ...)

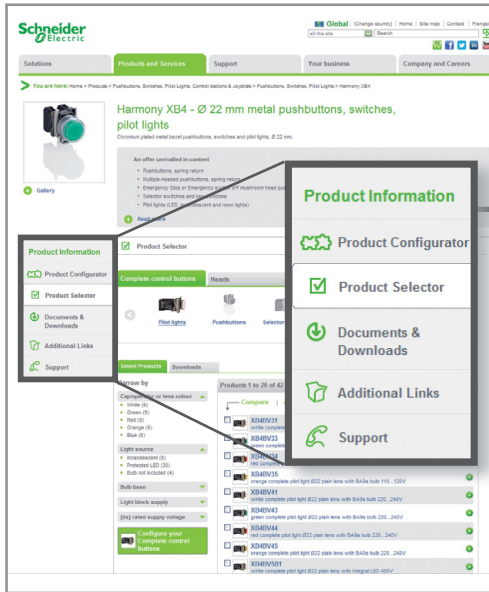


Product selector: dynamic filters to get easily your part number

Access product references with adapted tools

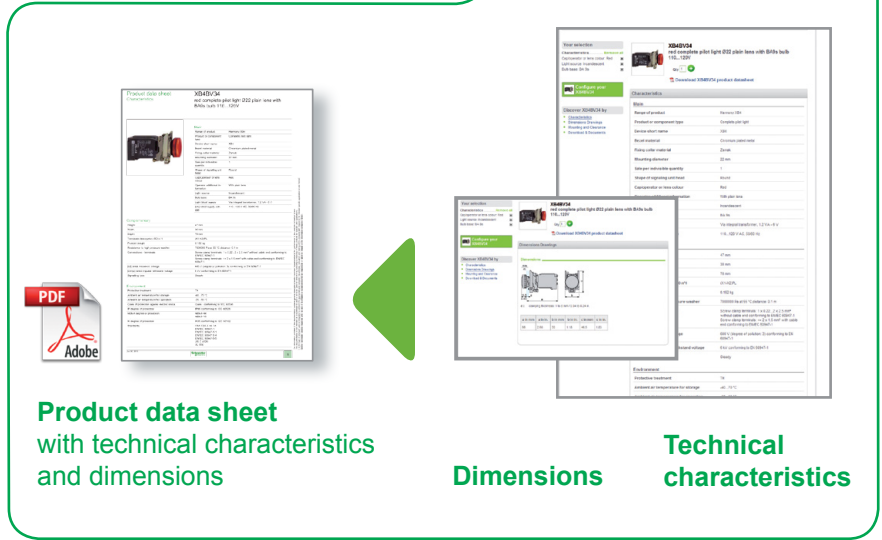
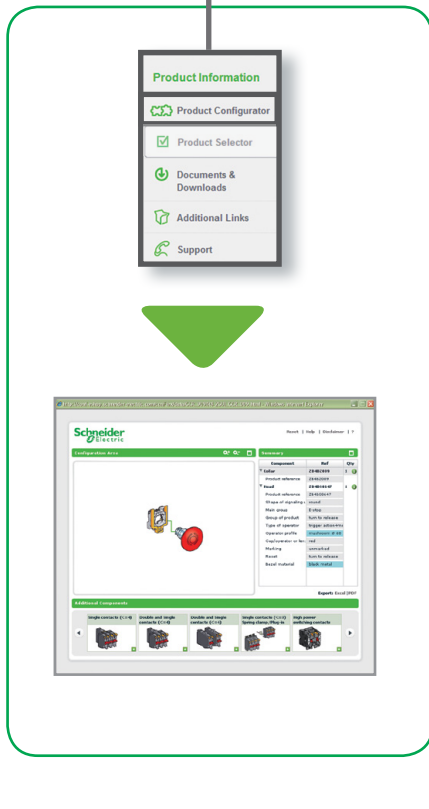


Path: www.schneider-electric.com > **Products and Services** > Automation and control > ... > Product offer



Graphic product configurator
Select the right product with just a few clicks

Dynamic product selector
Visualize product characteristics and dimensions



Product data sheet
with technical characteristics
and dimensions

Dimensions

Technical characteristics

Compare, select, and compile



Path: www.schneider-electric.com > **Products and Services** > Automation and control > ... > Harmony XB4*

Compare
technical
characteristics

Select
and store
your products
into
the basket



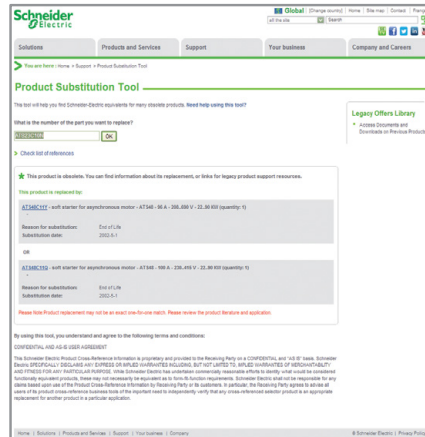
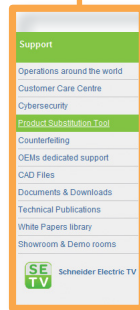
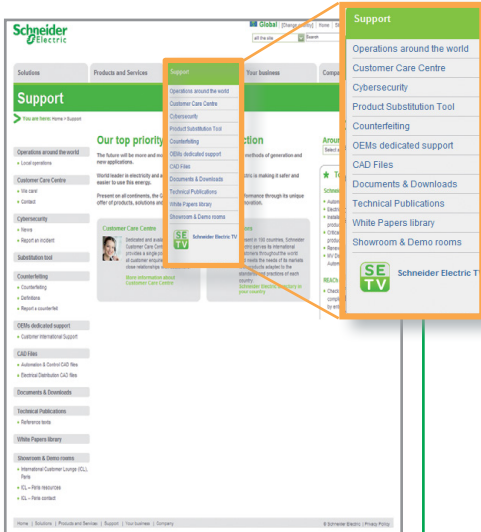
Compile
all data sheets
in a unique
document

* Example of research on a product

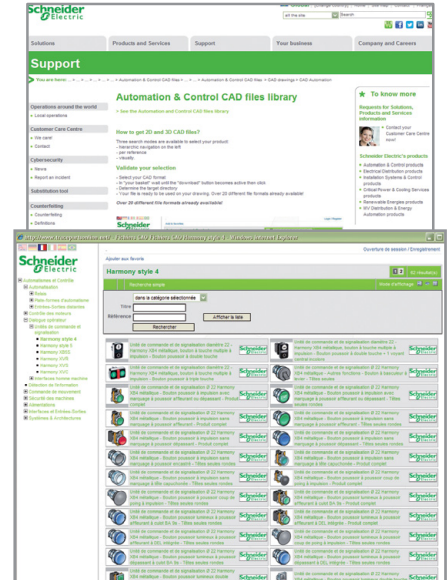
Check the product status, design your equipment



Path: www.schneider-electric.com > **Support** > Product Substitution Tool
 Path: www.schneider-electric.com > **Support** > CAD files



Product status:
 indicate whether the product is still commercialized. Otherwise, the tool suggests a product substitution.



CAD files:
 available in various formats they will be easily integrated into your installation design software.

Please note that all references to products and services are just examples.

R	
RTC48PUN1RNHU	8
RTC48PUN1RNLU	8
RTC48PUN1RRHU	8
RTC48PUN1RRLU	8
RTC48PUN1RSHU	8
RTC48PUN1RSLU	8
RTC48PUN1SNHU	8
RTC48PUN1SNLU	8
RTC48PUN1SRHU	8
RTC48PUN1SRLU	8
RTC48PUN1SSHU	8
RTC48PUN1SSLU	8
RTC48PUN2RNHU	8
RTC48PUN2RNLU	8
RTC48PUN2SNHU	8
RTC48PUN2SNLU	8
RTC48PUNCRNHU	8
RTC48PUNCRNLU	8
RTC48PUNCRRHU	8
RTC48PUNCRRLU	8
RTC48PUNCRSHU	8
RTC48PUNCRSLU	8
RTC48PUNCSNHU	8
RTC48PUNCSNLU	8
RTC48PUNCSRHU	8
RTC48PUNCSRLU	8
RTC48PUNCSSHU	8
RTC48PUNCSSLU	8
RTCACCC	9
RTCCBL	9
RTCCOV	9

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