

Electronic Wall Mounted Room Thermostat 230V / 24V

Model:
CRTN / CRT24N



Quick Guide

INTRODUCTION

The **CRTN / CRT24N** room thermostat is designed as an electronic temperature controller for the electrical fine adjustment of hot-water based heating systems, and is used for controlling electro-thermal valve actuators or other electrical devices.

PRODUCT COMPLIANCE

This product complies with the essential requirements and other relevant provisions of Directives EMC 2014/30/EU, LVD 2014/35/EU and RoHS 2011/65/EU.

SAFETY INFORMATION

Use in accordance with the regulations. Indoor use only. Keep your device completely dry. Disconnect your device before cleaning it with a dry cloth.

Note: Always isolate the AC Mains supply before installing or working on any components that require 230 VAC 50Hz supply.

TECHNICAL INFORMATION

	CRTN	CRT24N
Operating Voltage	230VAC / 50HZ	24VAC / 50 Hz
Max. switching output	10 (2) A	
Rated impulse voltage	4000 V	
Max. no. of valve actuators	5 units - 3 W	
Temperature range	5°C - 30°C	
Degree of protection through casing	IP 30	
Dimensions [W x H x D]	75 x 75 x 27 mm	
Operating temperature	0°C - 50°C	
Storage temperature	-25°C - 65°C	

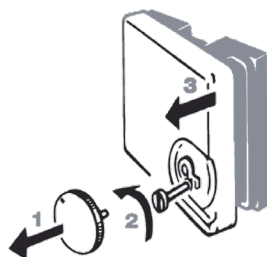


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WALL MOUNTING



Find a position for the thermostat where it is not covered by curtains, furniture or anything else. The controller must not be installed too close to any heat source (lights, stove, direct sunlight etc.), nor should it be installed in a position where it will be exposed to draughts. The controller must be installed in a suitable location in order for room temperature to be monitored accurately and accordingly regulated with precision.

Important: The thermostat must be disconnected from its power supply before its housing is opened.

The housing cover must be separated from the base plate before the controller is fitted. Follow the steps listed below:

1. Carefully pull off the adjuster wheel.
2. Remove the screw from under the adjuster wheel.
3. Open the housing by pulling off its cover on the adjuster wheel (right) side.

Now, using the screws supplied, screw the base plate firmly to the wall or the flush-mounted socket.

WIRING CRTN

The **CRTN** thermostat must be wired in accordance with the wiring diagram below:

KLEMME	FUNKTION
⊖	Lead for temperature reduction
N	Neutral conductor supply lead
L	230 VAC power supply
←	Switch output (valve actuator, terminal strip)

WIRING CRT24N

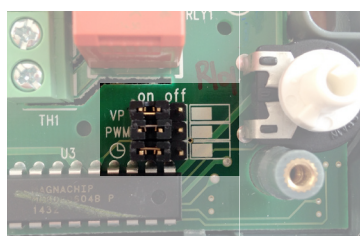
The **CRT24N** thermostat must be wired in accordance with the wiring diagram below:

KLEMME	FUNKTION
⊖	Lead for temperature reduction
L2	Neutral
NC	Circuit closed once temperature reached (e.g. cooling unit)
←	Common
NO	Circuit open once temperature reached (e.g. heating unit)
L1	24 VAC power supply

PLEASE NOTE: If you want to switch the current, please add a BRIDGE between L1 AND NO!

JUMPERS

The jumpers on the printed circuit board can be used to turn on or off various functions of the **CRTN / CRT24N** thermostat:

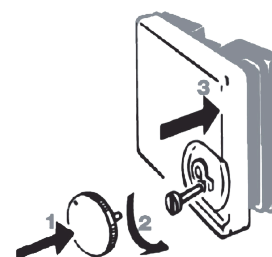


SWITCH	FUNCTION	ON	OFF
VP	Valve protection function	⊖ ⊖ ⊖	⊖ ⊖ ⊖
PWM	Pulse width modulation	⊖ ⊖ ⊖	⊖ ⊖ ⊖
⊖	Temperature reduction	⊖ ⊖ ⊖	⊖ ⊖ ⊖

The factory setting for all these functions is ON. You can change these settings according to your own requirements by moving the contact terminals on the jumpers.

Important: The contact terminals should not be removed.

COMPLETING INSTALLATION



Reverse the procedure from the 'Wall mounting' section in order to complete the installation.

PULSE WIDTH MODULATION (PWM)

By continuously comparing set temperature with actual temperature, the lengths of opening times for the valve actuators are regulated in such a way that the temperature is almost completely prevented from exceeding or falling below the set temperature. In this way, the required temperature setting is regulated in a precise and convenient way.

Note: When **CRTN / CRT24N** is used with radiator or convector heating systems, pulse width modulation can be switched off if necessary (see 'Jumpers' section).

VALVE PROTECTION FUNCTION

To ensure that valves remain movable and ready for use even when they are unused for considerable periods – e.g. over the summer – **CRTN / CRT24N** includes a valve protection function. Briefly once a week, even when there is no requirement for any heat, the valve actuators open the valves that they control.

Note: The valve protection function can be switched off if it is not required (see 'Jumpers' section).

TEMPERATURE REDUCTION

Timed and demand-oriented heating control are amongst the best ways of managing heating energy in an economical way. **CRTN / CRT24N** has an integrated temperature reduction function which enables you to automatically reduce the set temperature by 4K with no need for any costly add-on installation on the boiler controller. This 'night reduction' can be activated by an external signal, e.g. time control from a terminal strip, or using a standard external timer.