

5-Zone UFH Control Box

Modell: **CRKL**



Quick Guide

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Sept 2023
V004



INTRODUCTION

The CRKL extension module control box is an element of the underfloor heating / cooling control system. The control box allows you to control 5 different zones. Number of controlled zones can be increased up to 15 zones by connecting CRKL extension modules to the CRKL unit which is equipped with a module system that controls the source of heating and cooling. Each individual zone can be operated by one thermostat. Thermostat which require 230V power supply have to be powered directly from control box. The spring clamps provide quick and convenient wiring connections. The control box is designed to work with NC (normally-closed) type actuators. It is recommended to mount it on a surface or on a DIN rail.

PRODUCT COMPLIANCE

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

SAFETY INFORMATION

Use in accordance with current national and EU regulations. Device is intended for indoor use only in dry conditions. Product for indoor use only. Installation must be carried out by a qualified person in accordance to current national and EU regulations. Before attempting to setup and install, make sure that the device is not connected to any power source. Incorrect installation may cause damage to the devices. The CRKL should not be installed in areas where it may be exposed to water or damp conditions.

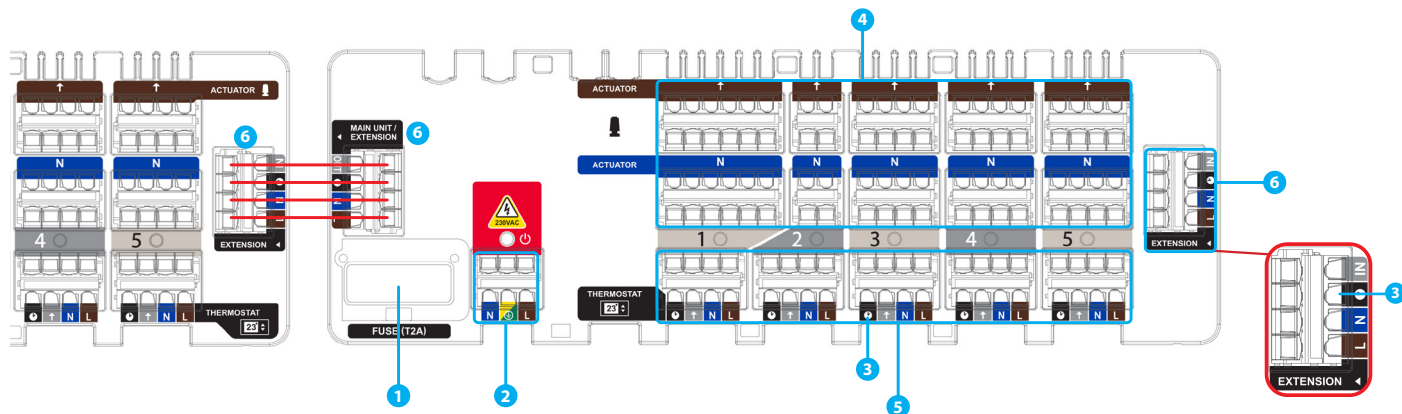
TECHNICAL INFORMATION

Power Supply	230 V AC
Total Load Max	1 A
Outputs	Actuators (AC 230V)
Dimensions [mm]	270 x 110 x 55

CONTROL BOX DESCRIPTION

1. Cartridge fuse 5 x 20 mm T2A
2. Power supply
3. NSB (Night Set Back reduction) function

4. Actuators output connections (AC 230V)
5. Thermostats input connections
6. CRKL extension input



WARNING! DO NOT connect power supply to the CRKL power supply input when it is connected together with another CRKL. CRKL power supply input have to be used only when control box extension works as standalone device.

1. FUSE

Note: Replacement of the fuse to be carried out only when the control box is disconnected from power supply (230 V ~).

Main fuse is located under the housing cover next to power supply terminals and secures the control box and the devices connected to it. Use ceramic tube slow blow 250 V ROHS fuses (5x20 mm) with nominal max current 2A. To replace fuse remove the fuse holder with a flat screwdriver and pull out the fuse.

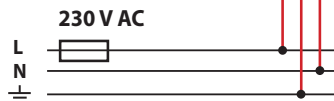
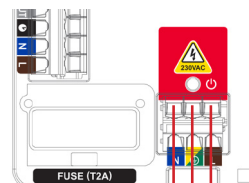
2. POWER SUPPLY

Power supply for control box is 230 V ~ 50Hz.

Three wire installation should be made in accordance with the current applicable regulations.



The red LED will illuminate indicating that the control box is connected to the power supply.

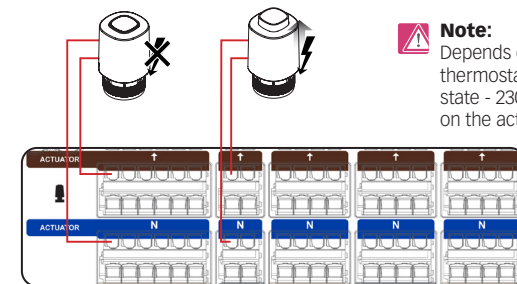


3. NSB (NIGHT SET BACK REDUCTION) FUNCTION

The NSB (Night Set Back) function enables you automatically reduce the setpoint temperature on non-programmable thermostats via programmable thermostat connected to the same control box or an extension module. NSB function changes comfort to economic setpoint temperatures for each thermostat individually. The programmable thermostat, e.g. installed in the living room, sends a signal to the non-programmable thermostats through a control box (by wires). Then, the non-programmable thermostats automatically reduce the setpoint temperature according to the value set on them. The NSB terminal is marked with the clock icon - all NSB terminals are connected together within control box. The NSB function works only in a 4-wire installations (see connection diagrams).

4. ACTUATORS CONNECTION

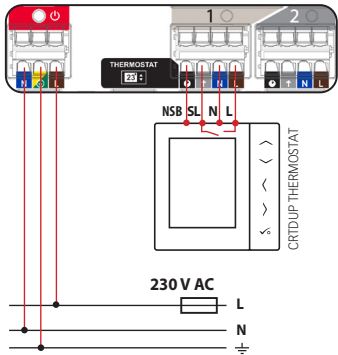
Actuators wires should be plugged into the spring clamps of the respective zones. Maximum current load for each zone is designed to handle up to 6 actuators with a power of 2W each. With more actuators in one zone, an additional relay should be used to make sure that actuators output will be not overloaded.



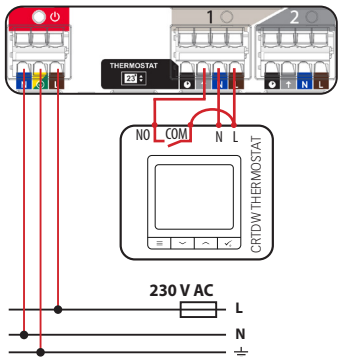
Note: Depends on the thermostat heating/cooling state - 230 V AC may appear on the actuators output.

5. THERMOSTATS CONNECTION

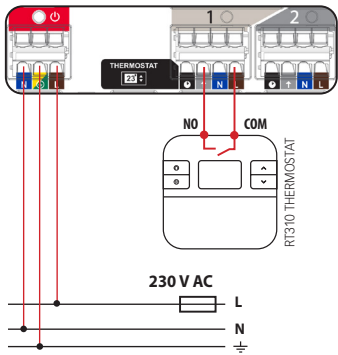
- Connecting CRTDUP, CRT230HK or CRT55 series thermostats



- Connecting a 230 V thermostat to the CRKL control box extension (e.g. CRTDWH)



- Connecting ON/OFF battery-powered thermostat with voltage-free COM / NO output contacts (e.g. RT310, RT510 or RT520)



- L 230 V live terminal
- N Neutral
- ⏻ NSB function terminal
- SL (↑) 230 V control signal

Note: NSB contact can be used for CO contact in the following thermostats: CRT230HK, CRTDAP, CRT55 and CRTD55.
↑ = SL
⏻ = NSB

INSTALLATION

1

Remove the top cover of the extension module

2

Control box power supply and pump (min. 3 x 1,0 mm² 230 V max. 3 x 1,5 mm² 230 V)

Thermostats wires and extension module (min. 4 x 0,75 mm² 230 V max. 4 x 1,5 mm² 230 V)

Remove the appropriate piece of insulation from the wires

3

Connect the wires to the spring clamps according to the wiring diagrams. You can run the cables in the tunnel under control box housing

4

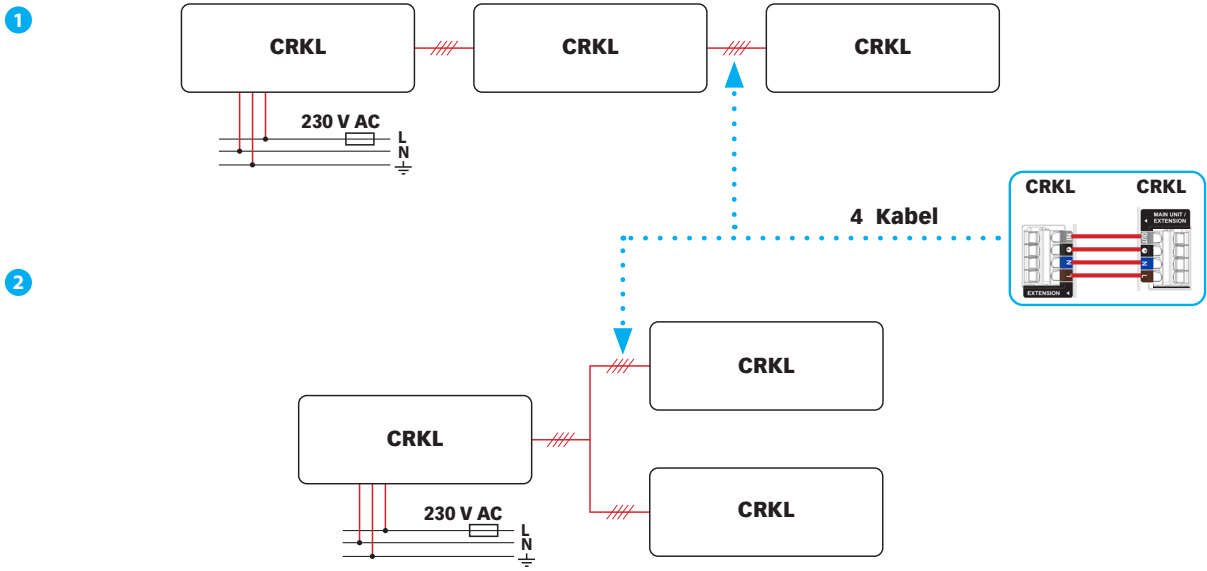
For safety use fastening strap to prevent power supply / thermostats wires from falling out.

5

Make sure that all the wires are properly connected, mount top cover and power up the control box - the red power indicator LED will be illuminated.

6. CONNECTION BETWEEN 2 OR MAX. 3 CRKL

If there is a need to increase the number of zones of CRKL control box, it is possible to connect the CRKL with other CRKLs - max. 2 more
The 230V AC power is supplied only to the main CRKL control box. A maximum of two more CRKL extension modules can be connected to the CRKL control box using a 4-wire cable (230V) - please pay attention to the terminal markings. All thermostats connected to the CRKL have impact on the system module which controls the heat / cool sources in the CRKL control box.



WARNING! ONLY connect 1 time power supply, even you have more than 1 CRKL!