

1 CRC-BL

Cold location controller for top-hat rail installation with enhanced operating modes for 4 cold locations

1.1 Front view



Fig. 1: Front view

1.2 Features

- Suitable for max. 4 cold locations
- Basic functional sequences and parameters preprogrammed through selection of cold location type
- Plain text designation for each parameter on the display
- Unique parameter identification with Quicklinks
- One-finger operation
- Intelligent fan control, compressor oscillation protection, fan delay
- Thermal fan control and draining time after defrosting
- Suitable for electric defrost, forced air defrost, hot gas defrost and cool gas defrost
- Defrost control by real-time clock with power reserve
- Simple defrost synchronisation of multiple controllers (master-slave)
- 6 defrost times via integrated weekly timer
- Digital inputs for setpoint switchover, manual defrost initiation and door contact
- Option to select 3-point control
- Weighting of the control sensor for day operation and night operation can be set separately
- Plug-in screw terminals
- Large data memory for temperature list
- Connection to the Wurm system through a Wurm CAN communication bus (C-BUS) and FRIGODATA XP

1.3 Safety instructions

Writing conventions

WARNING



- Avoid the described hazard: otherwise, **electric voltage** poses a hazard that could lead to **death** or **serious** bodily injury.

CAUTION



- Avoid the described hazard: otherwise, **minor** or **medium** physical injury or damage to property will result.

For your safety

For safe operation and to avoid personal injury and equipment damage through operator error, always read these instructions, become familiar with the device, and follow all safety instructions on the product and in this document, as well as the safety guidelines of Wurm GmbH & Co. KG Elektronische Systeme. Keep these instructions ready to hand for quick reference and pass them on with the device if the product is sold.

Wurm GmbH & Co. KG Elektronische Systeme accepts no liability in the event of improper use or use for other than the intended purpose.

| | |
|---------------------|---|
| Target group | This manual is intended for "service technicians". |
| Intended use | The CRC-BL is a cold location controller for max. 4 cold locations. |

WARNING



DANGER TO LIFE FROM ELECTRIC SHOCK AND/OR FIRE!

- Switch off the power to the entire plant when installing, wiring or removing. Otherwise, mains voltage and/or external voltage may still be present, even if the control voltage is switched off. Always remove both power plugs (L and N).
- The device should only be wired by a qualified electrician.
- Always use the correct tools for all work.
- Check all wiring after connection.
- Take note of the maximum loads on all connections.
- Never expose the device to moisture, for example, condensation or cleaning agents.
- Take the device out of operation if it is faulty or damaged and is therefore compromising safe operation.
- Do not open the device.
- Do not repair the device yourself. If required, send it in for repair with an exact description of the fault.

CAUTION



ELECTROMAGNETIC INTERFERENCE CAN CAUSE FAULTS!

- Always use shielded data cables and place them far away from power lines.

Software revision and validity of documentation

| | |
|-------------------------|----------------------|
| Software version | |
| V2.0.0 – 2018-12 | Documentation status |

Any software versions not listed are special solutions for individual projects and are not described in detail in this document. This document automatically ceases to be valid if a new technical description is issued.

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You can find more information on our website at www.wurm.de.

1.4 Connection diagram

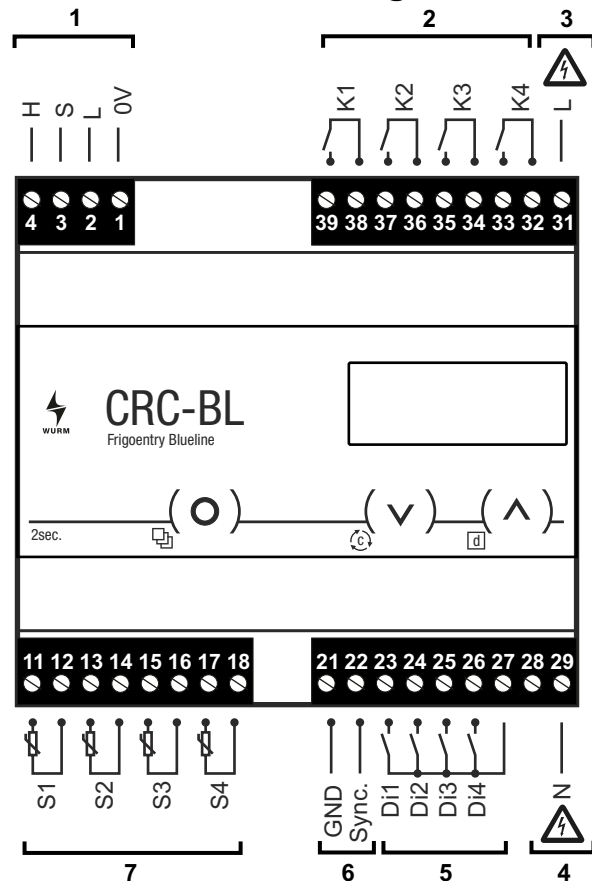


Fig. 2: Connection diagram

| Item | Designation | Function |
|------|--------------------------|---|
| 1 | C-BUS interface | Data communication (H = CAN high, S = shield, L = CAN low) |
| 2 | Output relays K1...K4 | Dependent on cold location type, potential-free contact, 230V~, 4(2)A |
| 3 | Power supply for L | 230V~/50Hz |
| 4 | Power supply for N | Neutral conductor |
| 5 | Digital inputs Di1...Di4 | Dependent on cold location type |
| 6 | Defrost bus | Defrost synchronisation |
| 7 | Sensor inputs S1...S4 | Temperature sensor |

1.5 Installing the device

This device is designed for top-hat rail installation. The housing has standard dimensions according to DIN 43880 and is also suitable for operation in fuse boxes and distribution cabinets.

The device can be positioned immediately next to another without gaps.

WARNING



DANGER TO LIFE FROM ELECTRIC SHOCK AND/OR FIRE!

- Switch off the power to the entire plant before installing. Otherwise, mains voltage and/or external voltage may still be present, even if the control voltage is switched off. Always remove both power plugs (L and N).

- ✓ The entire system must be free of voltage.
- 1. **(A)** Place the device with the leading edge at an acute angle to the top-hat rail.
- 2. **(B)** Push the device downwards onto the top-hat rail.
 - ▶ The device snaps into place with the fastening safety catch **(a)** on the top-hat rail.
 - ▶ You can now connect the device.

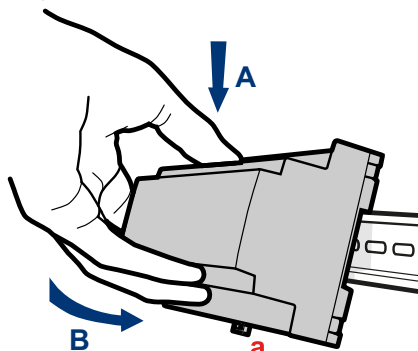


Fig. 3: Top-hat rail installation

2 Technical data

| | |
|----------------------------|--|
| Power supply | 230V~, +10% / -15%, max. 7VA |
| Display | 1 x display with text display 2 x green LEDs, C-BUS data traffic (CAN Tx, CAN Rx) |
| C-BUS communication | 3-wire CAN bus interface with integrated power supply, galvanically isolated |
| Temperature sensor | 4 x TRK277, T3000, T2015, DGF, K243, TF201/TF231 |
| Digital inputs | 4 x potential-free |
| Output relay | 4 x relays 230V~, normally open contact, 230V~, 4(2)A |
| Real-time clock | Battery-powered |
| Monitoring system | Monitoring of data memory and connected sensors |
| Dimensions | (W x H x D) 106mm x 90mm x 58mm (DIN 43880) |
| Fastening | Top-hat rail TH 35-15 or TH 35-7.5 (DIN EN 60715) |
| Ambient temperature | Operation: 0...+55°C, storage: -25...+70°C |
| Weight | About 450g |
| CE conformity | - 2014/30/EU (EMC Directive) - 2014/35/EU (Low Voltage Directive) |
| | RoHS II |
| Valid from | Version 2.0.0 |



NOTICE



- You can find more information about the device in the Wurm Infocenter.