1 CRC-XP

Cold location controller for conventional plants, up to 4 control circuits (evaporator)

Fig. 1: Front view

1.1 Features

- Control functions for 4 control circuits/evaporators
- Suitable for all cold locations, such as cold rooms and refrigeration units
- Basic functional sequences and parameters preprogrammed through selection of cold location type
- Operating modes for three-point control
- 2nd setpoint by digital input
- Different weightings selectable for 2 control sensors in day and night operation
- Intelligent fan control
- Thermal fan control and draining time after defrosting
- Suitable for electric, forced air, hot gas and cool gas defrosting
- Defrost control by real-time clock with power reserve
- Simple defrost synchronisation of multiple controllers (master-slave)
- For 8 defrost times, daily or only every xth day. Day
- Plug-in screw terminals
- Large data memory for temperature list
- Direct connection of a CAN-USB to the service socket
- Connection to the Wurm system through a Wurm CAN communication bus (C-BUS) and FRIGODATA XP

1.2 Safety instructions

Writing conventions

CAUTION

- Avoid the described hazard, otherwise there is risk of **minor** or **medium** bodily injury or property damage.

WARNING

- Avoid the described hazard: Otherwise there is danger from **electric voltage** that can lead to death or **serious** bodily injury.

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 case of improper use or use for other than the intended purpose.

Target group	This manual is intended for "service technician" personnel.
Intended use	The CRC-XP is a cold location controller for conventional plants with up to 4 control circuits (evaporators).

WARNING

DANGER TO LIFE FROM ELECTRIC SHOCK AND/OR FIRE!

- Switch off the power to the entire plant when carrying out installation, wiring or removal work. Otherwise a 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).
- Only qualified electricians are permitted to wire the device.
- Use only 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 due to 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 the device requires repairs, send it in 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	
V2.92 - 2019-03	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.
Manufacturer: Wurm GmbH & Co. KG Elektronische Systeme, Morsbachtalstraße 30, D-42857 Remscheid
You can find more information on our website at www.wurm.de.

1.3 Circuit diagram

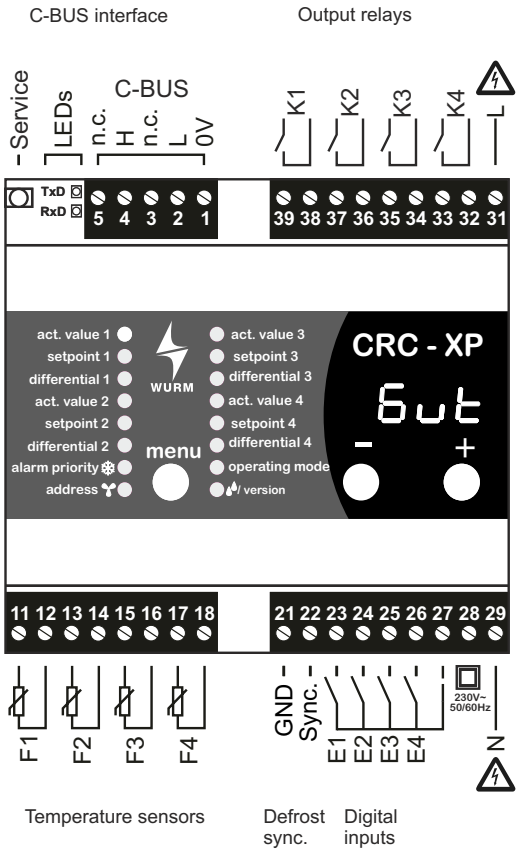

Fig. 2: Circuit diagram

1.4 Installing and connecting

The module is designed for top-hat rail installation. The housing is a standard size and is also suitable for installation in fuse boxes or distribution switch boxes. Modules can be positioned side by side without gaps.

DANGER TO LIFE FROM ELECTRIC SHOCK AND/OR FIRE! **WARNING**

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- Only qualified electricians are permitted to wire the device.
- Take note of the maximum loads on all connections.

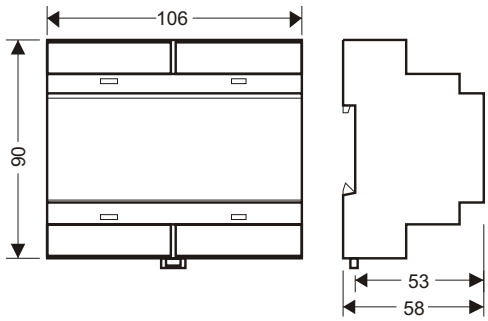

Fig. 3: Dimensions

For wiring of the data lines, we recommend the use of standard telephone lines 2x2x0.8ø. up to lengths of 100m. The shielding must be grounded in the control cabinet. For cable lengths from 100m to 400m, shielded lines with braided sheathing should be used.

Sensor extension

For sensor extensions, it is recommended that sheathed cable be laid.

Cable length	Cross section
up to 100m	0.75mm²
up to 400m	1.5mm²

1.5 Technical data

Power supply	230V~, +10% / -15%, approx. 5VA
Temperature sensor	4 x TRK277, T3000, T2015, DGF, K243, TF 201 / TF 231
Digital inputs	4 x potential-free
Output relay	4 x relay 230V~, normally open contacts, 230V~, 4(2)A
Temperature control	Thermostat method
Defrost	Forced air, electric, hot gas, cold gas
Central unit	Single-chip microcomputer, data memory and quartz clock with 5000h power reserve
Monitoring system	Monitoring of connected sensors, self-monitoring of data memory and microcomputer
Communication	3-wire CAN bus interface with integrated power supply, galvanically isolated, service socket
Dimensions	(WxHxD) 106 x 90 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	Approx. 450g
CE conformity	- 2014/30/EU (EMC Directive) - 2014/35/EU (Low Voltage Directive)
EAC conformity	- TR CU 004/2011 - TR CU 020/2011
	RoHS II
Valid from	Version 2.92

NOTICE

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