1 CRA

Cold location controller for installation in refrigeration units which are ready to plug in

1.1 Front view

Fig. 1: Front view CRA

1.2 Features

- Suitable for plug-in units
- Can be used with refrigerant R290 (propane, <150gr.)
- Connection for 3 temperature sensors (supply air, return air and limit sensor)
- Weighting of 2 control sensors
- Circulated air, electric and hot gas defrosting
- Defrosting over cyclical intervals
- Run-down function of the fan control
- 3-point control, e.g. for heating function
- Input for door contact switch with adjustable timed interruption of cooling
- Quick installation
- Standard size for unit installation in insertion shaft
- Degree of protection IP65, on the front in the installation position
- Optional interface module for Modbus or CAN bus available
- Integrated power supply

Accessories

- Interface module for CAN bus or Modbus

1.3 Safety instructions

Writing conventions

CAUTION

- Avoid the described hazard: Otherwise **minor** or **medium** bodily injury or property damage will result.

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	CRA is a cold location controller for installation in refrigeration units which are ready to plug in.

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, mains voltage and/or external voltage may still be present, even if the control voltage is switched off.
- The wiring of the device must be carried out only by qualified electricians.
- 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.

Wurm Infocenter 

paperless info 

Software revision and validity of documentation

Software version	Functional upgrade
V1.0.0 - 2019-10	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
For further information, see our website at www.wurm.de

1.4 Connection diagram

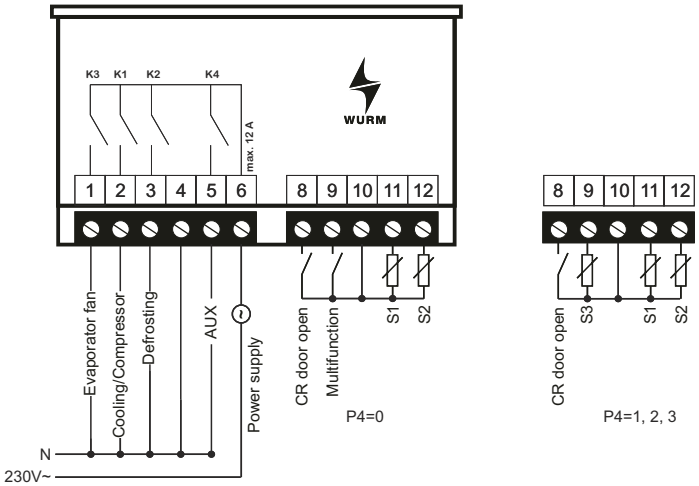

Fig. 2: Connection diagram CRA

1.5 Installing

The device is installed in refrigeration units or control cabinet doors on the cover using the enclosed brackets.

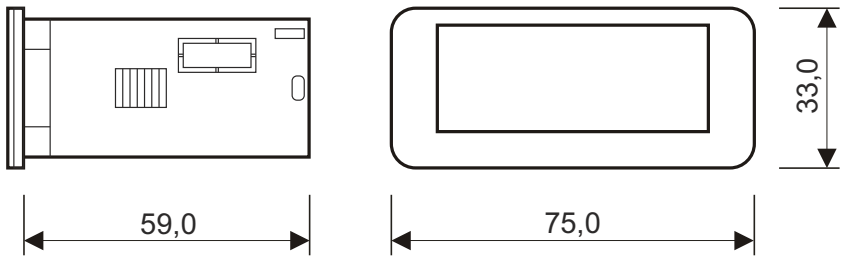

Fig. 3: Device dimensions CRA

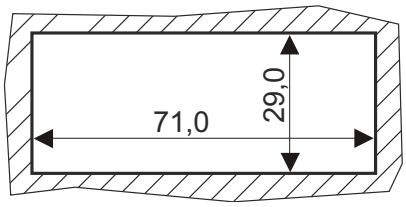

Fig. 4: Installation section CRA

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

- 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.

1. Release both brackets at the side and remove them from the device by pushing them backwards.
2. Place the device in the installation section on the cover.
3. Place both brackets on at the side and push until they reach the stop on the cover and lock into place (see. Fig. 5, „Installation in the installation section“).

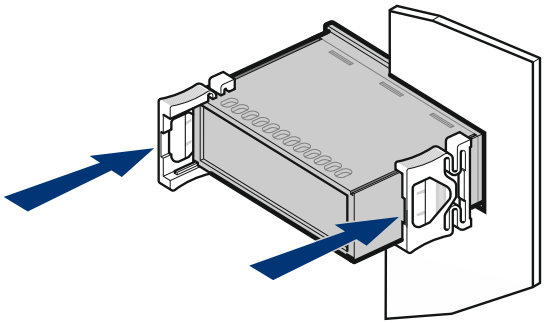

Fig. 5: Installation in the installation section

NOTICE

- The thickness of the cover, on which the device is installed, must be between 0.8 and 2.0mm.

1.6 Technical data

Power supply	115...230VAC (+10 / -15%), 50/60Hz, 3.2VA max.
Display	Operating display with decimal display, status symbols and 4 sensor keys
Sensors	2 x NTC ß3435 (10KΩ@25°C) or PTC KTY81-121 (990Ω@25°C)
Multifunctional input	1 x NTC ß3435 (10KΩ@25°C) or PTC KTY81-121 (990Ω@25°C) or 1 x digital input, 5VDC, 2mA for potential-free contact
Digital inputs	1 x door contact, 5VDC, 2 mA for potential-free contact
Digital outputs	Mechanical relay acc. to EN60079-15: 1 x evaporator fan, 5A@230VAC 1 x AUX/light, 5A@230VAC 1 x defrost, 8A@230VAC 1 x compressor, 12A@230VAC The total current for all consumers may not exceed 12A!
Serial interface	Interface module connection for CAN bus or Modbus
Dimensions	(WxHxD) 75 x 33 x 59mm, with fixed terminal strip
Housing	Plastic
Degree of protection	IP65, on the front in the installation position
Fastening	In the section with brackets
Connection cable length	Power supply: max. 10m Analogue inputs: max. 10m Digital inputs: max. 10m Digital outputs: max. 10m
Ambient temperature	Operation: 0...+55°C, storage: -25...+70°C
Weight	About 120g
CE conformity	- 2014/30/EU (EMC Directive) - 2014/35/EU (Low Voltage Directive) CE
	RoHS II
Valid from	Version 1.0.0