

Front view



Features

- Control process
 - Universal PID controller
 - Two-point controller
 - Three-point controller
 - Superheating controller
- Multiple contact switch with 4 capacity steps
- PWM operation with 0...10V analogue output
- 2 freely scalable analogue inputs 4...20mA
- 2 temperature sensor inputs
- Constant setpoint shift via analogue input
- 4 digital multifunction inputs
- 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

Writing conventions

Symbol	Meaning
 CAUTION	Avoid the described hazard: otherwise minor or medium physical injury or damage to property 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	These instructions are intended for "service technicians".
Intended use	The universal controller CRU-XP can be used for constant, two-point and three-point control of consumers with both stepped and stepless control.



WARNING

Danger to life from electric shock and/or fire!

- Switch off the power to the entire plant when installing, wiring or removing. 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!

- Use only shielded data lines and place them far away from power lines.

	Wurm Infocenter		paperless info	
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Software revisions and validity of documentation

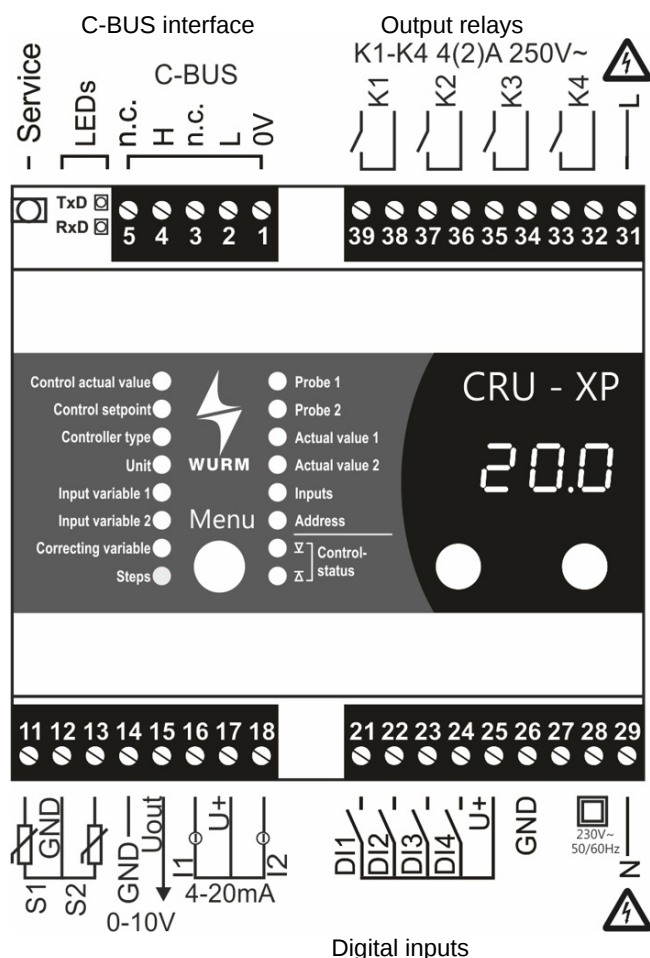
Software version		
V1.70	2019-04	Documentation status

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

Circuit diagram



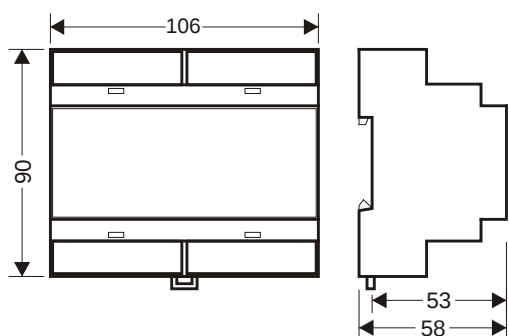
Installing and connecting



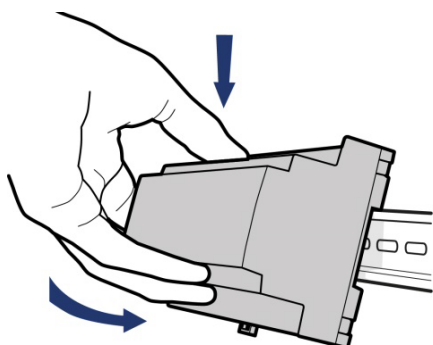
WARNING

Danger to life from electric shock and/or fire!

- Switch power off to the entire plant when installing and wiring. 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).



This device is designed for top-hat rail installation. The housing is a standard size and is also suitable for installation in fuse boxes. The devices can be positioned next to one another without gaps.



Place the device with the upper guide edge on the top-hat rail.
Then press the device gently downward until it engages with the fastening safety catch on the top-hat rail.

When wiring the data lines, please refer to the description of the "FRIGOENTRY bus system".
We recommend the use of shielded cables for sensor extension.

Cable length	Cross section
Up to 100m	0.75mm ²
Up to 400m	1.5mm ²

Technical data

Power supply	230V~, +10% / -15%, approx. 5VA
Temperature sensor	2 x TRK277 or DGF
Current input	2 x current input, 4...20mA (I1 and I2)
Digital inputs	Inputs for voltage-free contacts: 4 x multifunction input
Output relay	4 x normally open contact, 230V~, 4(2)A, rated voltage 250V~
Analogue output	1 x 0...10V=, non-isolated, max. load 1mA, alternatively for actuating an electronic relay ATV230
Central unit	Single-chip microcomputer, data memory
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	About 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 1.70

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