

Front view



Features

- Control of 1 digital scroll compressor and 2 standard scroll compressors
- Voltage control via 0...10V input
- Suction pressure shift by switching contact or enthalpy
- Constant condensation pressure control by speed regulator
- Monitoring of final compression temperature of the digital scroll compressor
- Individual monitoring of temperature switches of each compressor
- Foreign-language front plates available on request
- 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

DSC-XP

Rack control for plants with digital scroll compressors
and integrated condensation pressure control



Writing conventions

Symbol	Meaning
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 operating 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 DSC-XP is a compact rack control for plants with digital scroll compressors and integrated condensation pressure control.



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 attempt to 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.

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Software revisions and validity of documentation

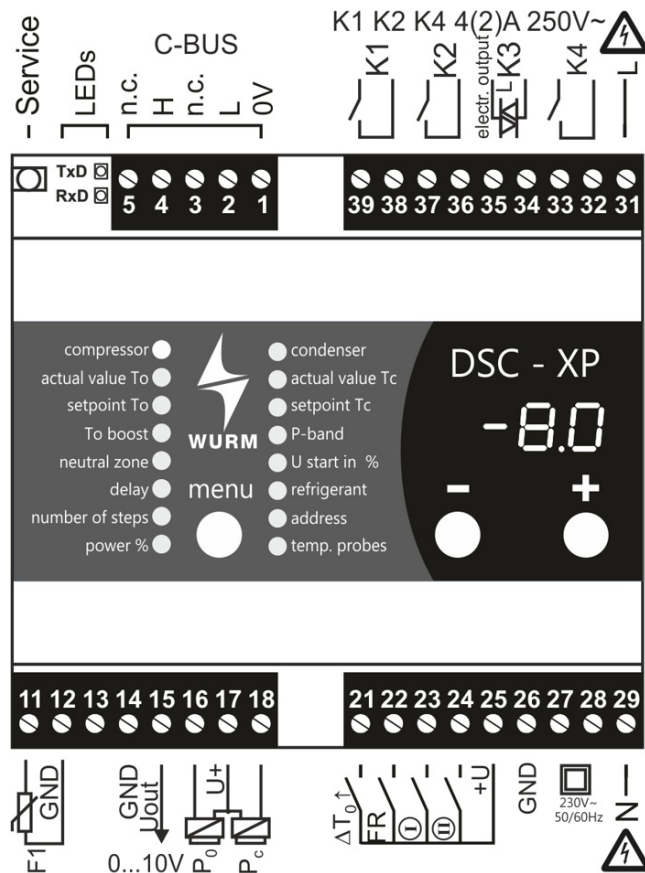
Software version		
V2.3.0	2019-04	Documentation status

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

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

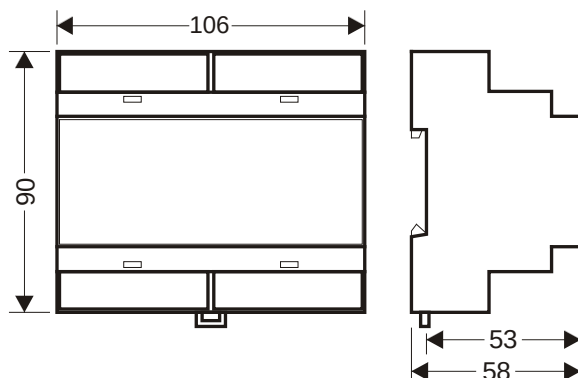
Circuit diagram



Installing and connecting

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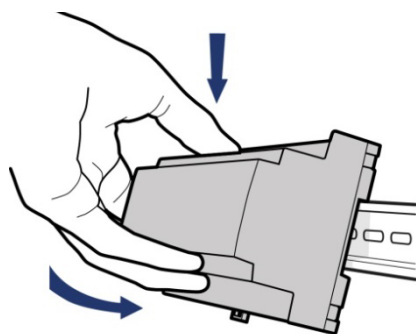


This device is designed for top-hat rail installation. The housing is a standard size and is also suitable for installation in fuse boxes.

The devices can be positioned next to one another without gaps.

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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.

For wiring of the data lines, we recommend the use of standard telephone lines 2x2x0.8 ϕ 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.

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

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
Pressure sensor	p ₀ and p _c : -0.5...7bar, 0...25bar, 0...40bar, 0...60bar (each corresponds to 4...20mA)
Temperature sensor	Final compression temperature thermistor
Control input	0...10V= (for output control in voltage control operating mode)
Digital inputs	Inputs for voltage-free contacts: 1 x setpoint increase ($\Delta T_0 \uparrow$) 1 x fast return (FR) 2 x emergency shutdown Klixon (closed circuit) for scroll compressors and 1 uncontrolled compressor
Output relay	3 x normally open contacts, 230V~, 4(2)A, rated voltage 230V~
Electronic output	230V~, 4...60VA, note the minimum output! Δ Residual voltage measureable! Integrated semiconductor protection (no isolator).
Analogue output	0...10V=, non-isolated, max. load 10mA, for connection of ADC (multiple contact switch), speed regulator or frequency converter for condensation pressure control
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 2.3.0