1 Device description

Measurement and monitoring module for 5 temperatures

1.1 Front view

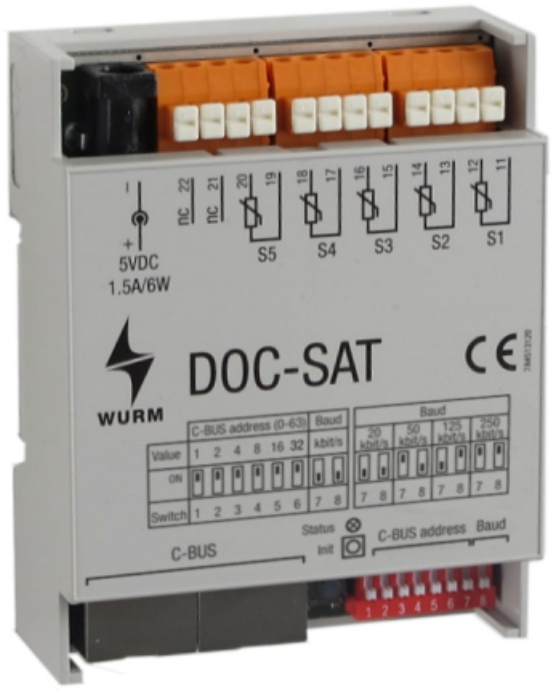

Fig. 1: DOC-SAT front view

1.2 Features

- Connection for up to 5 temperature sensors
- Temperature recording on up to 5 cold locations (including head chest)
- Individually selectable temperature sensor for each measuring point:
  - TRK277: measurement range -45...+65°C
  - DGF: measurement range 0…+150°C
- Alarm with alarm delay time for overtemperature or undertemperature
- Can be locked to prevent unwanted parameter adjustment (SAC - Security Access Control)
- Support for higher baud rates on the C-BUS
- Connection to the Wurm system via Wurm CAN communication bus (C-BUS) and FRIGODATA XP
- Retrofit to refrigeration units in existing stores
- Compatible with third-party controllers
- HACCP-compliant temperature monitoring

1.3 Scope of supply

- External connector switching power supply

1.4 Safety instructions

Writing conventions

WARNING

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

CAUTION

- Avoid the described hazard: Otherwise **minor** or **medium** bodily injury or property damage 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 case of improper use or use for other than the intended purpose.

Target group	This manual is intended for "service technician" personnel.
Intended use	DOC-SAT is a measurement and monitoring module for 5 temperatures.

WARNING

DANGER TO LIFE FROM ELECTRIC SHOCK AND/OR FIRE!

- Only use the device with the supplied connector switching power supply.
- For the connector switching power supply, use an easily accessible socket to ensure that the device can be **disconnected** from the power supply in the event of a fault.
- 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.
- 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.
- Do not use the device in close proximity to or on metal surfaces.

CAUTION

DAMAGE TO THE DEVICE IF HANDLED INCORRECTLY!

- The wiring of the device must be carried out only by qualified electricians.
- Use only the correct tools for all work.
- Connect the connection lines without mechanical stress. The connection lines have only restricted strain relief and interlocking.
- Check all wiring after connection.

Wurm Infocenter

paperless info

Version and validity of the documentation

Version	Date	Functional upgrade
V1.1.0 and higher	2021-02	Documentation status

Any 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.

1.5 Installing the device

This device is designed for indoor top-hat rail and wall installation. The device can be mounted both on the outer wall of the refrigeration unit and on structures between the refrigeration units in the sales room.

Top-hat rail installation

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.

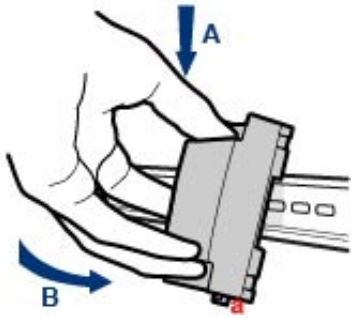

Fig. 2: Top-hat rail installation

1.6 Connection diagram

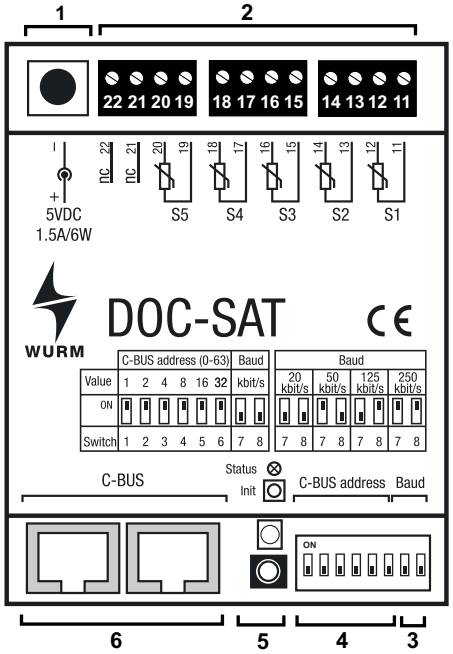

Fig. 3: DOC-SAT connection diagram

Pos.	Designation	Function
1	Power supply	Connection for external connector switching power supply
2	Sensor inputs S 1....S 5	Temperature sensor
3	DIP switch	Baud rate
4	DIP switch	CAN bus address
5	Initialisation button, status LED	Sensor identification
6	C-BUS interface	Data communication

1.7 Technical data

Power supply	Device: 5V= (+10% / -5%) Includes connector switching power supply: 100...240V~, 50/60Hz, max. 0.5A
Temperature sensor	5 x TRK277/7 PLUS, DGF
Communication	3-wire CAN bus interface, shielded, 2 x RJ45 socket
Display	1 x two-coloured LED
Dimensions	(W x H x D) 71 x 89 x 32mm
Housing	PC/ABS self-extinguishing
Fastening	Top-hat rail TH 35-15 or TH 35-7.5 (DIN EN 60715), wall installation (slot hole): screw diameter Ø4.0mm, screw head Ø8.0mm
Ambient temperature	Operation: 0...+50°C, storage: -25...+70°C
Weight	About 200g
CE conformity	2014/30/EU (EMC Directive) CE
	RoHS II
Valid from	Version 1.1.0

NOTICE

- The value measured by the sensors can be viewed using the Wurm software solutions for the related measurement channels. There, the deviation from the reference value can be determined with a calibrated third-party tool or fixed point. The deviation from the measured value can then be adjusted.
- You can find a template for documenting the calibration in the Wurm Infocenter.