

1 HKS-G4

Master module for 8 cold locations

1.1 Front view



Abb. 1: Front view HKS-G4

1.2 Features

- Control device with high-performance controller and large internal memory for complex control and management tasks
- Simple start-up by configuration of cold locations with default settings from the expert database
- Connection of 8 cold location field modules
- Frigotakt+ adaptive control process with Frigotakt-G4 further development for demanding CO₂ refrigeration plants
- Intelligent EC defrost
- Intelligent EEV control with Smartflow+
- Control by representative wares temperature or temperature range
- Differentiation between unused sensors and faulty sensors
- Can be locked to prevent unwanted parameter adjustment (SAC – Security Access Control)
- Integrated relay outputs
- Multilingual menu navigation (DE/EN/FR/NL)
- G4 operating concept
- Innovative user interface with 1-finger operation
- Graphical display with backlighting, plain text, 6 operating keys, and 1 Info key
- Context-sensitive Help with links to the paperless info Wurm-App
- Direct navigation by Quicklink
- Interchangeable with FRIGOLINK-G3
- CAN bus connection by patch cable and push-in terminals
- Fastening in the installation frame, or individual installation without frame
- Connection to the Wurm system via Wurm CAN communication bus (C-BUS) and FRIGODATA XP
- High level of safety with galvanically isolated Wurm CAN buses

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

Target group

This manual is intended for "service technician" personnel.

Intended use

The HKS-G4 is a master module for 8 cold locations.

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.
- 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



Version and validity of the documentation

Version	Date	
V9.2.4 and higher	2022-03	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.

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

1.4 Installation

DANGER TO LIFE FROM ELECTRIC SHOCK AND/OR FIRE!

- Switch off the power to the entire plant before installing. Otherwise, a mains voltage and/or external voltage may still be present even if the control voltage is switched off.

WARNING



Installing in the MGR131/141 and MGR231/241 installation frame

- ✓ The entire plant must be free of voltage.
- Push the device into the installation frame up to the stop.
 - ▶ The device snaps in between the spring clips.

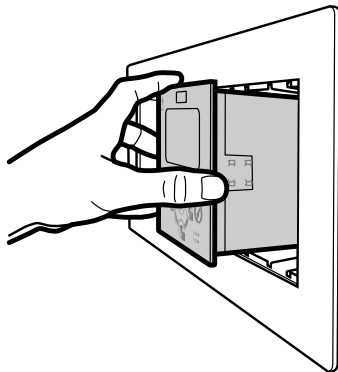


Abb. 2: Installing in the MGR131/141 installation frame

- Please refer to the product information for the MGR131/MGR141 and MGR231/241 installation frames.

NOTICE



Installing the device with ZEM type screw-in clamps

- ✓ The entire plant must be free of voltage.
- Insert the device up to the stop in a mounting cutout in the switch cabinet door.
 - Fix the device to the switch cabinet door using the ZEM type screw clamps.

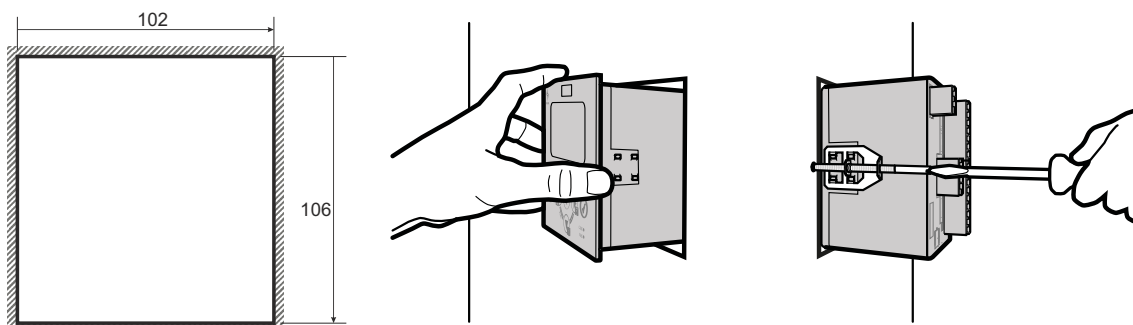


Abb. 3: Installing in a mounting cut-out with ZEM clamps

1.5 Circuit diagram

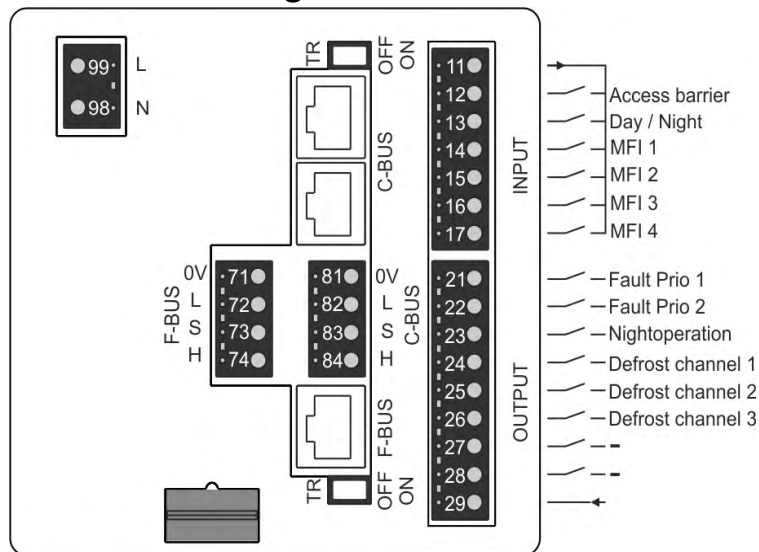


Abb. 4: Circuit diagram HKS-G4

Wiring and connection of several master modules

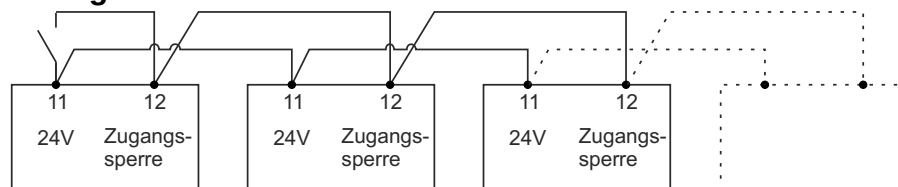


Abb. 5: Wiring and connecting master modules

1.6 Technical data

Power supply	230V~, +10% / -15%, 50Hz, max. 13VA
Display	Graphical display with backlighting 1 x red LED, flashes in case of fault 1 x green LED, for parameter adjustment 1 x yellow LED, for C-BUS operating status 1 x yellow LED, for F-BUS operating status
C-BUS communication	3-wire CAN bus interface, shielded, galvanically isolated, 2.5mm ² push-in terminals / RJ45 socket and switchable terminating resistor for communication with system devices
F-BUS communication	3-wire CAN bus interface, shielded, galvanically isolated, 2.5mm ² push-in terminals / RJ45 socket and switchable terminating resistor for communication with field modules
Digital inputs	6 x 24V=, self-powered, 5mA approx. per input, push-in terminals 2.5mm ²
Digital outputs	8 x normally open contact with common supply, 1A, rated voltage 230V~, push-in terminals 2.5mm ²
Dimensions	(W x H x D) 109 x 109 x 92mm
Housing	Plastic, foil
Fastening	In MGR installation frame, individual installation with ZEM
Ambient temperature	Operation: 0...+55°C, storage: -25...+70°C
Weight	About 650g
CE conformity	- 2014/30/EU (EMC Directive) - 2014/35/EU (Low Voltage Directive)
EAC conformity	- TR ZU 004/2011 - TR ZU 020/2011
	RoHS II
Valid from	V9.2.4

