

# 1 HVV-G4

Master module for 2 rack systems

## 1.1 Front view



Fig. 1: Front view HVV-G4

## 1.2 Features

- Simple start-up with configuration of the plants using default settings
- Connection of 8 rack field modules
- Control of 16 compressors (depending on compressor type, field module type and operating-mode)
- Compressor control according to COP
- Hardware with high-performance controller
- Differentiation between unused sensors and faulty sensors
- Control circuits:
  - Suction pressure control
  - Condenser control
  - Control of electronic expansion valves
- Control processes:
  - Standard multiple contact switch with base load change
  - Compressor control with frequency converter
  - Frigotakt+
- Integrated relay outputs
- Multilingual menu navigation (DE/EN/FR/NL)
- Innovative G4 control concept with direct navigation by Quicklink
- Graphical display with backlighting, plain text, 6 operating keys, and 1 Info key
- Context-sensitive help with links to the paperless info Wurm app
- Interchangeable with FRIGOLINK-G3
- 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 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 the case of improper use or use for purposes other than the intended purpose.

<b>Target group</b>	This manual is intended for "service technician" personnel.
<b>Intended use</b>	The HVV-G4 is a master module for a maximum of 2 suction-pressure-controlled compressor racks and 2 expansion valves.

**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	
V9.0.5 and higher	2022-06	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](http://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.
1. Push the device into the installation frame up to the stop.
    - ▶ The device snaps in between the spring clips.

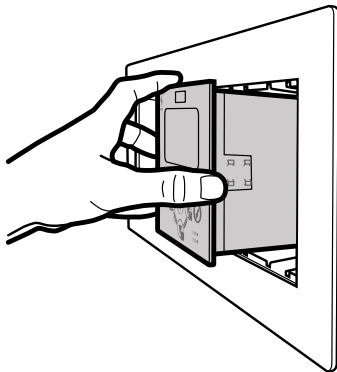


Fig. 2: Installing in the MGR131/141 installation frame

- 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.
1. Insert the device up to the stop in a mounting cutout in the switch cabinet door.
  2. Fix the device to the switch cabinet door using the ZEM type screw clamps.

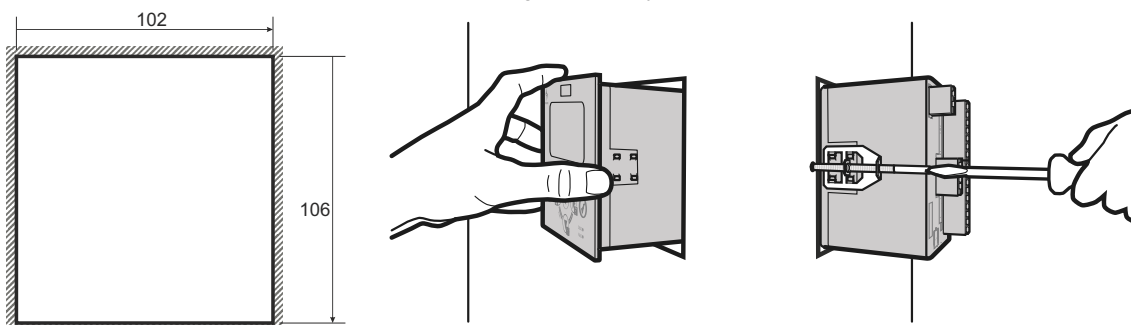


Fig. 3: Installing in a mounting cut-out with ZEM clamps

### 1.5 Circuit diagram

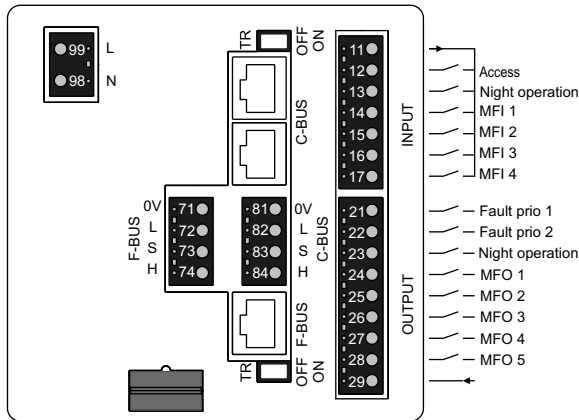


Fig. 4: Circuit diagram HVV-G4

### Wiring and connection of several master modules

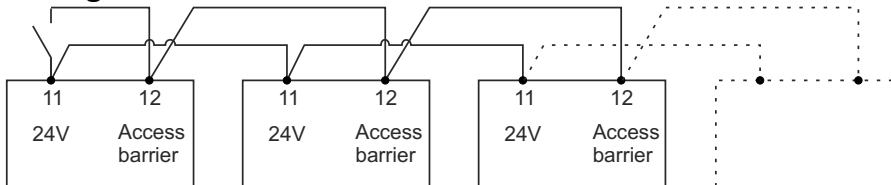


Fig. 5: Wiring and connecting master modules

### 1.6 Technical data

<b>Power supply</b>	230V~, +10% / -15%, 50Hz, max. 13VA
<b>Display</b>	Graphical display with backlight 1 x red LED, flashing in case of fault 1 x green LED, for parameter adjustment 1 x yellow LED, for operating status of C-BUS 1 x yellow LED, for F-BUS operating status
<b>C-BUS communication</b>	3-wire CAN bus interface, shielded, galvanically isolated, 2.5mm <sup>2</sup> push-in terminals / RJ45 socket and switchable terminating resistor for communication with system devices
<b>F-BUS communication</b>	3-wire CAN bus interface, shielded, galvanically isolated, 2.5mm <sup>2</sup> push-in terminals / RJ45 socket and switchable terminating resistor for communication with field modules
<b>Digital inputs</b>	6 x 24V=, self-powered, 5mA approx. per input, push-in terminals 2.5mm <sup>2</sup>
<b>Digital outputs</b>	8 x normally open contact with common supply, 1A, rated voltage 230V~, push-in terminals 2.5mm <sup>2</sup>
<b>Dimensions</b>	(W x H x D) 109 x 109 x 92mm
<b>Housing</b>	Plastic, foil
<b>Fastening</b>	In MGR installation frame, individual installation with ZEM
<b>Ambient temperature</b>	Operation: 0...+55°C, storage: -25...+70°C
<b>Weight</b>	About 650g
<b>CE conformity</b>	- 2014/30/EU (EMC Directive) - 2014/35/EU (Low Voltage Directive)
<b>EAC conformity</b>	- TR CU 004/2011 - TR CU 020/2011
	RoHS II
<b>Valid from</b>	V9.0.5

