

# UPDATE

Date: 09/23/2022

## HCO<sub>2</sub>-G4

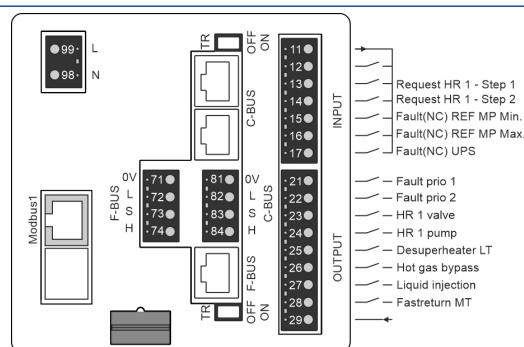
### MASTER MODULE FOR PROCESS CONTROL OF R744 REFRIGERATION PLANTS



#### NOTICE

Features and connection diagram updated!

- Label the page 1-38 in the current product overview 2022 as invalid!
- Use the HCO<sub>2</sub>-G4 update only!



#### Features

- Plant-specific installation of control circuits
- Start-up support with special start-up mode
- High pressure control and medium pressure control with up to 2 valves
- Analogue gas cooler control or via Modbus interface in 2 groups with functions for cleaning, additional cooling, emptying and sub-area shutdown
- Refrigerant level monitoring in collector and MT/LT separators with level switches or filling level probes, flooding of MT and LT cold locations
- Oil return and oil pressure control
- Compressor protection via load shedding
- Liquid injection and hot gas bypass with optional partial load reduction
- Parallel compression with 1 modulating and 2 multi-step compressors, load shedding
- Ejector operation for Wurm ejectors: gas (3 x modulated) and liquid (1 x modulated) incl. control of the valves mounted on the suction side
- Air conditioning at medium pressure level with pump control incl. safety functions
- Heat recovery: up to 2 heat recovery units, 7-stepped sequences for desuperheating, power increase, GC fan shut-down, GC bypass, GC heat pump, 2 external heat sources
- Heating up operation with optional reservoir control (electric heating element, pumps)
- Heat pump control: 1 GC heat pump and up to 2 external heat pumps in the refrigerant circuit at MT1, MT2 or LT level including defrosting, outside temperature-controlled rack shift and optional compressor decoupling in heat pump operation
- Can be locked to prevent unwanted parameter adjustment (SAC – Security Access Control)
- CAN bus connection by patch cable and push-in terminals
- Wurm G4 control concept and 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
- 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

#### 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-conductor CAN bus interface, shielded, galvanically isolated, push-in terminals 2.5mm <sup>2</sup> / RJ45 socket and switchable terminating resistor for communication with system devices
F-BUS communication	3-conductor CAN bus interface, shielded, galvanically isolated, push-in terminals 2.5mm <sup>2</sup> / RJ45 socket and switchable terminating resistor for communication with field modules
Modbus communication	3-conductor Modbus RTU, galvanically isolated, RJ45 socket
Digital inputs	6 x 24V~, self-powered, 5mA approx. per input, push-in terminals 2.5mm <sup>2</sup>
Digital outputs	8 x normally open contact with common supply, 1A, rated voltage 230V~, push-in terminals 2.5mm <sup>2</sup>
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

Technical data	
<b>Ambient temperature</b>	Operation: 0...+55°C, storage: -25...+70°C
<b>Weight</b>	About 650g
<b>CE conformity</b>	<ul style="list-style-type: none"> <li>- 2014/30/EU (EMC Directive)</li> <li>- 2014/35/EU (Low Voltage Directive)</li> </ul>
<b>EAC conformity</b>	<ul style="list-style-type: none"> <li>- TR CU 004/2011</li> <li>- TR CU 020/2011</li> </ul>
	RoHS II

Scope of supply
<ul style="list-style-type: none"> <li>▪ Terminating resistor for F-BUS</li> </ul>

Accessories	
<b>MGR</b>	Installation frame for master modules, switch cards and dummy plates
<b>ZCB</b>	Pre-assembled cables and adapters
<b>ZEM</b>	Clamping device for frameless installation of master modules G3 and G4
<b>ZCB-ADP/MODPAT</b>	Modbus adapter for master modules with Modbus connection