Communication interface for **Modbus**
– for automation

The CIM/CIU 200 is a standard interface for data transmission between a Modbus RTU network and a Grundfos pump or controller. It makes data exchange possible between Grundfos pumping systems and a PLC or SCADA system.

Extensive amounts of datapoints are available from each product via the CIM/CIU 200. The interface offers uncomplicated system integration with both new and legacy systems, as the Modbus RTU protocol is widely supported by existing control systems and PLCs.

The interface module can be installed as an internal add-on or as a wall-mounted unit where internal connection is not supported. The wall-mounted unit is equipped with a 24-240 VAC/VDC power supply.

In addition to Modbus, interface modules are also available for GENIbus, BACnet, Profibus, LON, GSM/ GPRS (wireless communication) and other systems.

CIM 200 add-on module
The CIM 200 is an add-on communication module installed internally in 11-22 kW Grundfos E-pumps or Dedicated Controls or Hydro Multi-B.

CIU 200 wall-mounted/DIN-rail unit
The CIU 200 with internal power supply is for Grundfos products that do not support the add-on module.

Supported products
> Dry running E-pumps: CRE/CRNE/CRIE, MTRE, CME, TPE Series 1000/2000, NBE/NKE
> MAGNA/ UPE Circulators*
> CUE Motor drive for pumps
> Multi Pump Controller: Control MPC*
> Boosters: Hydro Multi-E and Hydro MPC* and Hydro Multi-B
> CR Monitor* condition monitoring for CR pumps
> Dedicated Controls for sewage pumps (separate data sheet)
> Motor Protector MP 204
* additional add-on GENIbus module required

Advantages at a glance
> Supports a wide range of Grundfos products
> Simple configuration of Modbus RTU hardware settings
> Modular design – prepared for future needs
> 24-240 VAC/VDC power supply in CIU
> Modbus diagnostics available
> Transmission speeds up to 38.4 kbs

Using CIM/CIU with Grundfos products

General CIU 200 data

Supply voltage	24-240 VAC/VDC, -10% / + 15%
Frequency	0 - 60 Hz
Power consumption	Max. 11 W
Cable size	IEC: 0.2 - 4 mm2, UL: 24-12 AWG
Enclosure class	IP 54, according to IEC 60529
Cable entry	6 x M16 Ø4 - Ø10
Operating temperatures	-20 °C to +45 °C (-4 °F to +113 °F)
Storage temperatures	-20°C to +60°C (-4°F to +140°F)
Dimensions (H/W/D)	182 x 108 x 82 mm

GENIbus Communication

Protocol	GENIbus
Recommended cable type	Screened, double twisted-pair
Maximum cable length	1200 m/ 4000 ft

Modbus Communication

Protocol	Modbus RTU
Transceiver	RS-485
Transmission speeds	1.2, 2.4, 4.8, 9.6, 19.2, 38.4 kbits/s
Parity settings	Even or no parity
Modbus Slave address	1 – 247, set via rotary switches

Modbus RTU network

Data points

CIM/CIU 200 Modbus

s = available with sensor
s* = available with sensor or TPE 2000
[1] differential or absolute, depends on sensor
[2] Not standard for Control MPC
[3] Not supported for all pump variants
G= only for MGE model G

	MAGNA / UPE	E-Pumps 0.25-7.5 kW	CUE / E-Pumps 11-22 kW	Multi-E	Hydro MPC/ Control MPC	MP 204	CR Monitor	Hydro Multi-B
Control								
Operating Mode	•	•	•	•	•	•	•	•
Setpoint	•	•	•	•	•		•	•
Control Mode	•	•	•		•		•	
Relay Control		•	•			•		
Tank filling control								•
Status								
Operating Mode Status	•	•	•	•	•	•	•	•
Control Mode Status	•	•	•	•	•		•	•
Feedback	•	•	•	•	•		•	•
Alarm/warning information	•	•	•	•	•	•	•	•
Bearing Service information		G	•				•	
Tank filling status information								•
Measured Data								
Power/Energy Consumption	•	•	•	•	•	•	•	•
Pressure (Head) [1]	•	s*	s*	•	•[2]		•	
Flow	•	s*	s*		•[2]		•	
Relative Performance	•	•	•	•	•			•
Speed and Frequency	•	•	•				•	
Digital Input/Output		•	•	•	•		•	•
Motor Current		•	•	•		•	•	
DC Link Voltage	•	•	•					
Motor Voltage		•	•			•	•	
Remote Flow		G+s	s					
Inlet Pressure [1]		G+s	s		s		s	s
Remote Pressure [1]		G+s	s		s			
Level		s	s		s			s
Motor Temperature		G	•			s	•[3]	
Remote Temperature		s	s		s			
Pump Liquid Temperature	•	G+s	s				s	
Bearing Temperatures			s					
Auxilary Sensor Input		s	s				s	
Operation Time (Run Time)	•	•	•	•	•	•	•	•
Total on time	•	•	•	•		•	•	
Number Of Starts		•	•			•	•	
Ambient Temperature					s			
Inlet and Outlet Temperatures					s			
Temperature Difference					s			
Outlet Pressure [1]					•[2]		s	s
Feed Tank Level					s			s
Phase Voltages						•		
Line Voltages/Currents/Frequency						•		
Start/Run Capacitor						•		
Voltage Angles + Cos phi						•		
Insulation resistance						•		
Starts/h and auto restarts/24h						•		
Calculated/Measured Efficiency							•	
Available/required NPSH							•	
Cavitation Margin							•	
Subpump Data (for each sub pump in the system)								
Alarm/Status information				•	•			•
Operation Time (Run Time)				•	•			•
Speed					•			•
Line current/ power consumption								•
Motor temperature								•
Number of starts								•
Control pump: force to stop/ auto								•

Note: E-Pumps = CRE/CRNE/CRIE, MTRE, CME, TPE Series 1000/2000, NBE/NKE

97501369 0511