

# Communication interface for **LON**

## – easy integration in building automation

The CIM/CIU 100 and CIM/CIU 110 are standard interfaces for data transmission between a LON network and a Grundfos pump or controller. It makes data exchange possible between Grundfos pumping systems and a building management system.

The communication interface is fully compliant with the standard LONmark functional profile 8120 “Pump Controller”, ensuring interoperability with other LON devices.

The communication interfaces have been certified as conforming to LonMark Application Layer interoperability guidelines 3.4.

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 LON, interface modules are also available for GENIbus, BACnet MS/TP, Modbus RTU, Modbus TCP, PROFINET IO, Profibus DP, GSM and Grundfos Remote Management.

### CIM 100/CIM 110 add-on module

The CIM 100 is an add-on communication module installed internally in 11-22 kW Grundfos E-pumps or MAGNA3. CIM 110 add-on module is used for Hydro MPC, Control MPC or HydroMulti B.

### CIU 100 / CIU 110 wall-mounted/DIN-rail unit

The CIU 100 and CIU 110 with internal power supply are for Grundfos products that do not support the add-on module.

### Supported products

- > MAGNA \*/ UPE FZ / MAGNA3
- > Dry-running E-pumps: CRE/CRNE/CRIE, MTRE, CME, TPE Series 1000/2000, NBE/NKE
- > CUE Motor drive for pumps
- > Multi Pump Controller: Control MPC
- > Boosters: Hydro Multi-E and Hydro MPC and Hydro Multi-B

\* additional add-on GENIbus module required

### Advantages at a glance

- > Supports a wide range of Grundfos products
- > Uses 8120 – Pump Controller functional profile from LONmark
- > Modular design – prepared for future needs
- > 24-240 VAC/VDC power supply in CIU
- > Self-documentation strings for fast installation



# Using CIM/CIU with Grundfos products

## General CIU 100 / CIU 110 data

Supply voltage	24-240 VAC/VDC, -10% / + 15%
Frequency	0 - 60 Hz
Power consumption	Max. 11 W
Cable size	IEC: 0.2 - 4 mm <sup>2</sup> , 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

## LON Communication

Transceiver	FTT-10
Protocol	LONtalk
Transmission speeds	78 kbits/s

## LON Network



E-pump 11-22 kW with CIM 100 built in

MAGNA3 with CIM 100 built in

Hydro MPC with CIM 110 built in

## Data points

CIM /CIU 100/110 LON	MAGNA / UPE	MAGNA3	E-Pumps 0.25-7.5 kW	CUE / E-Pumps 11-22 kW	Multi-E	Hydro MPC/ Control MPC	Hydro Multi-B
s = available with sensor s* = available with sensor or TPE 2000 <sup>1</sup> differential or absolute, depends on sensor <sup>2</sup> Not standard for Control MPC G = only for MGE model G H = only for MGE model H							
<b>Control</b>							
Operating Mode	✓	✓	✓	✓	✓	✓	✓
Setpoint	✓	✓	✓	✓	✓	✓	✓
Control Mode	✓	✓	✓	✓	H	✓	
Relay Control			✓	✓	H		
Tank filling status							✓
<b>Status</b>							
Operating Mode status	✓	✓	✓	✓	✓	✓	✓
Control Mode Status	✓	✓	✓	✓	✓	✓	✓
Feedback	✓	✓	✓	✓	✓	✓	✓
Alarm/warning information	✓	✓	✓	✓	✓	✓	✓
Bearing Service Information			G	✓			
Tank filling control							✓
<b>Measured Data</b>							
Power/Energy Consumption	✓	✓	✓	✓	✓	✓	✓
Pressure (Head) <sup>1</sup>	✓	✓	s*	s*	✓	✓ <sup>2</sup>	
Flow**	✓	✓	s*	s*	H+s	✓ <sup>2</sup>	
Relative Performance	✓	✓	✓	✓	✓	✓	✓
Speed and Frequency	✓	✓	✓	✓			
Digital Input/Output			✓	✓	✓	✓	✓
Motor Current		✓	✓	✓	✓		
Motor Voltage			✓	✓			
Remote Flow		s	G+s	s	H+s		
Inlet Pressure <sup>1</sup>			G+s	s	H+s	s	s
Remote Pressure <sup>1</sup>		s	G+s	s	H+s	s	
Level			s	s	H+s	s	s
Motor Temperature			G	✓			
Remote Temperature		s	s	s	H+s	s	
Pump Liquid Temperature	✓	✓	G+s	s	H+s		
Bearing Temperatures			H+s	s			
Auxiliary Sensor Input			s	s	H+s		
Operation Time (Run Time)	✓	✓	✓	✓	✓	✓	✓
Total on time	✓	✓	✓	✓	✓		
Number Of Starts		✓	✓	✓			
Volume (CUE only)			H+s	s			
Ambient Temperature			H+s		H+s	s	
Inlet and Outlet Temperatures						s	
Heat energy meter		✓	H				
Outlet Pressure <sup>1</sup>			H+s		H+s	s	s
Feed Tank L level			H+s		H+s	s	s
<b>Subpump Data</b>							
Alarm/Status information					✓	✓	✓
Operation Time (Run Time)					✓	✓	✓
Speed					H	✓	✓
Line current/power consumption					H	✓	✓
Motor temperature					H	✓	✓
Number of starts					H	✓	✓
Control pump: force to stop/auto						✓	✓

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

Note: TPED twin pumps in range 3,0 -22 kW needs always 2 CIU 100 modules