Communication interface for **BACnet MS/TP**
- for building automation

The CIM/CIU 300 is a standard interface for data transmission between a BACnet MS/TP network and a Grundfos pump. It makes data exchange possible between pumps and a SCADA system or supervisory controller.

The communication interface is based on standard BACnet object types, allowing for straight forward data access over the network.

The BACnet functional profile has been optimised for exchanging data between pumping systems and building management systems / operator workstations.

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 BACnet MS/TP, interface modules are also available for GENIbus, LON, Modbus RTU, Modbus TCP, PROFINET IO, Profibus, GSM/GPRS (wireless communication) and GRM.

CIM 300 add-on module
The CIM 300 is an add-on communication module installed internally in 11-22 kW Grundfos E-pumps, MGE model H, Hydro MPC, Control MPC, MAGNA3 or Hydro Multi-B

CIU 300 wall-mounted/DIN-rail unit
The CIU 300 with internal power supply is for Grundfos products that do not support the add-on module.

Product support list
> 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
> Simple configuration of BACnet MS/TP network settings
> Modular design based on open standards
> 24-240 VAC/VDC power supply in CIU
> Supports automatic device recognition on BACnet network
> Transmission speeds up to 76.8 kbit/s

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Using CIM/CIU with Grundfos products

General CIU 300 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

BACnet Communication

Transceiver	RS-485
Protocol	BACnet MS/TP (Master)
Transmission speeds	9.6, 19.2, 38.4, 76.8 kbits/s
BACnet master address	0 – 127

BACnet MS/TP Network

E-pump
11-22 kW
with CIM 300

MAGNA3
with CIM 300
built in

Hydro MPC
with CIM 300
built in

Data points

CIM 300 BACnet

s = if sensor installed
s* = available with sensor or TPE 2000
[1] differential or absolute, depends on sensor
[2] Not standard for Control MPC
G= only for MGE model G
H= only for MGE model H

	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
Control							
Operating Mode	✓	✓	✓	✓	✓	✓	✓
Setpoint	✓	✓	✓	✓	✓	✓	✓
Control Mode	✓	✓	✓	✓	H	✓	
Relay Control			✓	✓	H		
Tank filling status							✓
Status							
Operating Mode status	✓	✓	✓	✓	✓	✓	✓
Control Mode Status	✓	✓	✓	✓	✓	✓	✓
Feedback	✓	✓	✓	✓	✓	✓	✓
Alarm/warning information	✓	✓	✓	✓	✓	✓	✓
Bearing Service Information			G	✓			
Tank filling control							✓
Measured Data							
Power/Energy Consumption	✓	✓	✓	✓	✓	✓	✓
Pressure (Head) [1]	✓	✓	s*	s*	✓	✓[2]	s
Flow**	✓	✓	s*	s*	H+s	✓[2]	
Relative Performance	✓	✓	✓	✓	✓	✓	✓
Speed and Frequency	✓	✓	✓	✓			
Digital Input/Output		✓	✓	✓	✓	✓	✓
Motor Current		✓	✓	✓	✓		
Motor Voltage			✓	✓			
Remote Flow		s	G+s	s	H+s		
Inlet Pressure [1]			G+s	s	H+s	s	s
Remote Pressure [1]		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			
Auxilary 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 [1]			H+s		H+s	s	s
Feed Tank L evel			H+s		H+s	s	s
Subpump Data							
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/CRIE, MTRE, CME, TPE Series 1000/2000, NBE/NKE.

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

GRUNDFOS Holding A/S
Poul Due Jensens Vej 7
DK-8850 Bjerringbro
Tel: +45 87 50 14 00
www.grundfos.com

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