CIM/CIU COMMUNICATION INTERFACES
COMPLETE CONTROL FOR PUMPS AND PUMP SYSTEMS
MANAGE YOUR SYSTEMS WITH CIM/CIU COMMUNICATION INTERFACES

For complete control of pump systems, the Grundfos fieldbus concept is the right solution. The innovative Communication Interface Module (CIM) and the Communication Interface Unit (CIU) enable data communication via open and interoperable networks such as

- Modbus RTU
- Modbus TCP
- BACnet MS/TP
- BACnet IP
- LONWorks
- PROFLIBUS DP
- PROFINET IO
- EtherNet/IP
- 3G/4G cellular data connection and SMS
- Grundfos Remote Management (GRM)
- Grundfos iSOLUTION Cloud (GiC)

The series of Grundfos CIM/CIU communication interfaces offer ease of installation and commissioning, user-friendliness and great value for money in the long term. All modules are based on standard functional profiles for an easy integration into the network and easy understanding of data points.

WHY CIM/CIU CONNECTIVITY INTERFACES?

- Pumps and controllers have better reliability with reduced downtime, due to monitoring and control functionality on a PLC, BMS/SCADA system
- The operational cost of pumps can be lowered by reducing setpoints to match precise system needs via remote control
- Remote monitoring and control via PLC, BMS/SCADA systems reduce manual settings, monitoring time and travel time to sites or installations
- Enable predictive maintenance and fast reaction time on process changes and exceptions
- One solution for all products with a modular design prepared for future needs
- One solution offering complete process monitoring and control
- Flexible wide range power supply 24-240 VAC/VDC (CIU unit)
- Easy to install and commission, as Grundfos delivers the required support files and functional profile manuals

Available communication interfaces

- CIM 050 for GENIbus
- CIM 060 for radio communication to Grundfos GO Remote
- CIM 100/110 for LONWorks
- CIM 150 and E-Box 150 for PROFLIBUS DP
- CIM 200 and E-Box 200 for Modbus RTU
- CIM 260 for 3G/4G cellular networks
- CIM 280 for Grundfos iSOLUTIONS Cloud/GRM
- CIM 300 for BACnet MS/TP
- CIM 500 for PROFINET IO, Modbus TCP, BACnet IP, EtherNet/IP, and Grundfos iSOLUTIONS Cloud
- E-Box 500 for PROFINET IO, Modbus TCP, EtherNet/IP, Grundfos iSOLUTIONS Cloud
- CIU 900 unit for any CIM interface
- CIU 901 CIU unit with IO board
- CIU 902 unit for wastewater AUTOADAPT
- CIU 903 for SQFlex/MGFlex
- GiM CIU unit for Grundfos iSOLUTION MONITOR (GiM)
Grundfos Communication Interface Modules (CIM) and Units (CIU)

Creating intelligent communications solutions for applications in Industry, Building Services and Water Utility.

### Mounting CIM in CIU unit or E-Box

<table>
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<tr>
<th>CIM</th>
<th>CIU 900</th>
<th>CIU 901 (I0 270)</th>
<th>CIU 902 (AUTOADAPT)</th>
<th>CIU 903 (SQ Flex/MG Flex)</th>
<th>GiM CIU</th>
<th>E-Box (Small DDA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LONWorks</td>
<td>CIM 100/110</td>
<td>CIU 100/110 assembly</td>
<td>CIU 150 assembly</td>
<td>CIU 152 assembly</td>
<td>CIU 504 assembly</td>
<td>E-Box 150</td>
</tr>
<tr>
<td>PROFIBUS DP</td>
<td>CIM 150</td>
<td>CIU 150 assembly</td>
<td>CIU 152 assembly</td>
<td>CIU 201 assembly</td>
<td>CIU 202 assembly</td>
<td>E-Box 200</td>
</tr>
<tr>
<td>Modbus RTU</td>
<td>CIM 200</td>
<td>CIU 200 assembly</td>
<td>CIU 201 assembly</td>
<td>CIU 202 assembly</td>
<td>CIU 203 assembly</td>
<td>E-Box 203</td>
</tr>
<tr>
<td>BACnet MS/TP</td>
<td>CIM 300</td>
<td>CIU 300 assembly</td>
<td>CIU 261 EU/US assembly</td>
<td>CIU 261 EU/US assembly</td>
<td>CIU 262 EU/US assembly</td>
<td>E-Box 262</td>
</tr>
<tr>
<td>Cellular 3G/4G for Grundfos iSOLUTIONS Cloud/GRM</td>
<td>CIM 280 EU/US</td>
<td>CIU 280 EU/US assembly</td>
<td>CIU 503 assembly</td>
<td>Grundfos iSOLUTIONS Cloud/GRM only</td>
<td>Grundfos iSOLUTIONS Cloud only</td>
<td>E-Box 500</td>
</tr>
<tr>
<td>Industrial Ethernet</td>
<td>CIM 500</td>
<td>CIU 501 assembly</td>
<td>CIU 501 assembly</td>
<td>CIU 502 assembly</td>
<td>CIU 502 assembly</td>
<td>E-Box 500</td>
</tr>
<tr>
<td></td>
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</tr>
</tbody>
</table>

Note: All devices denoted as “assembly” consist of two parts, that are ordered separately.

### CIM modules

The CIM is an add-on communication module installed internally.

**Single pumps:**
- E-pumps based on MGE motor model H/I/J
- E-pumps based on MGE motor 11-22 kW
- MAGNA3 circulator pumps

**Boosters:**
- Hydro/Control MPC, CU 352
- DDD control, CU 354
- Hydro Multi-E and Hydro Multi-B
- MAGNA3-D twin circulator pumps
- TPED twin pump model H/I/J

**Water Utility controllers:**
- Dedicated Controls, CU 362
- Level Control, LC 2X1 wastewater, LC 2X2 submersible

### CIU 900 wall-mounted/DIN rail unit

The CIU 900 with internal power supply is for Grundfos products that do not support the internal mounting of the CIM module.

- TPED 11-22 kW
- CLUE drive for various standard pumps
- MP 204 motor protector
- DDA model XL

### CIU 901 wall-mounted/DIN-rail unit

A CIU 901 unit with additional I/O board integrated which contains:
- 2 configurable inputs (digital or analog 0/4-20 mA, 0-10 V)
- 1 Relay output (230 V, 2 A)
- 1 Analog signal output (0-10 V)
- 1 Temperature input (Pt100/Pt1000, 2-wire)
- 2 digital inputs

Supported from CIM 200 Modbus RTU, CIM 260 3G/4G cellular, CIM 280 Grundfos iSOLUTIONS Cloud/GRM, CIM 500 (Modbus TCP, Grundfos iSOLUTIONS Cloud/GRM)

### CIU 902 wall-mounted/DIN rail unit

A CIU 902 unit with but with integrated powerline communication to connect 1 to 4 wastewater ALTOADAPT pumps.

Supported from:
- CIM 150 PROFIBUS DP
- CIM 200 Modbus RTU
- CIM 260 cellular
- CIM 280 Grundfos iSOLUTIONS Cloud/GRM
- CIM 500 for Modbus TCP, PROFINET, GiC/GRM

### CIU 903 wall-mounted/DIN rail unit

A CIU 903 unit with but with integrated powerline communication to connect wastewater MGEFlex and SQFlex pumps.

Supported from:
- CIM 280 Grundfos iSOLUTIONS Cloud/GRM
- CIM 500 for GiC/GRM (not for solar power).

### GiM CIU

A CIU 900 unit with additional I/O board integrated for GiM

Supported from:
- CIM 280 Grundfos iSOLUTIONS Cloud/GRM
- CIM 500 for GiC/GRM

### E-Box

An external communication unit for small DDA dosing pumps.

- E-Box 150 PROFIBUS DP with built-in CIM 150
- E-Box 200 Modbus RTU with built-in CIM 200
- E-Box 500 Ethernet with built-in CIM 500 for support of PROFINET IO, Modbus TCP, EtherNet/IP and Grundfos iSOLUTIONS Cloud/GRM
### CIM/CIU interface products mapped to protocols

<table>
<thead>
<tr>
<th>Fieldbus Communication</th>
<th>PROTOCOLS MAINLY USED IN BUILDING SERVICES</th>
<th>FIELDBUS COMMUNICATION</th>
</tr>
</thead>
</table>
### BACnet IP, BACnet MS/TP, LONWorks
- For pumps and boosters

#### General CIU 900 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
- **Transceiver**: RS-485
- **Recommended cable type**: Screened, double twisted-pair
- **Maximum cable length**: 1200 m/4000 ft

#### CIM 500 BACnet IP Communication
- **Protocol**: BACnet IP
- **Transmission speeds**: 10/100 Mbit/s
- **Ports**: 2x RJ45
- **IP settings**: built-in webserver

#### CIM 300 BACnet MS/TP Communication
- **Protocol**: BACnet MS/TP (Master)
- **Transceiver**: RS-485
- **Transmission speeds**: 9.6, 19.2, 38.4, 76.8 kbits/s
- **BACnet master address**: 0-127

#### CIM 100 LON for pump/CIM 110 LON for booster & twin pump communication
- **Protocol**: LONtalk
- **Transceiver**: FT T-10
- **Transmission speed**: 78 kbits/s

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#### Example with BACnet IP

- **E-pump 11-22 kW with CIM 500 built-in**
- **MACNA3 with CIM 500 built-in**
- **Hydro MPC with CIM 500 built-in**

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#### Data points

#### BACnet IP, BACnet MS/TP, LONWorks

<table>
<thead>
<tr>
<th>Data points</th>
<th>MAG/A/UE</th>
<th>MAG/3</th>
<th>E-pumps &lt;11 kW</th>
<th>E-pumps model J</th>
<th>CUE</th>
<th>E-Pumps 11-22 kW</th>
<th>Multi-E, TPE</th>
<th>Hydro MPC/Control MPC</th>
<th>Hydro Multi-B</th>
</tr>
</thead>
<tbody>
<tr>
<td>s</td>
<td>if sensor installed</td>
<td>s*</td>
<td>available with sensor or TPE</td>
<td>2000 and TPE3</td>
<td>1 differential or absolute, depends on sensor</td>
<td>2 Not standard for Control MPC</td>
<td>G= only for MGE model G or later</td>
<td>H= only for MGE model H or later</td>
<td></td>
</tr>
</tbody>
</table>

#### Control
- **Operating Mode**
- **Setpoint**
- **Control Mode**
- **Relay Control**
- **Tank filling status**

#### Status
- **Operating Mode status**
- **Control Mode Status**
- **Feedback**
- **Alarm/warning information**
- **Bearing, Service Information**
- **Tank filling control**

#### Measured Data
- **Power/Energy Consumption**
- **Pressure (Head)**
- **Flow**
- **Relative Performance**
- **Speed and Frequency**
- **Digital Input/Output**
- **Motor Current**
- **Motor Voltage**
- **Remote Flow**
- **Inlet Pressure**
- **Remote Pressure**
- **Level**
- **Motor Temperature**
- **Remote Temperature**
- **Pump Liquid Temperature**
- **Bearing Temperatures**
- **Auxiliary Sensor Input**
- **Operation Time (Run Time)**
- **Total on time**
- **Number Of Starts**
- **Volume**
- **Ambient Temperature**
- **Inlet and Outlet Temperatures**
- **Heat energy meter**
- **Outlet Pressure**
- **Feed Tank Level**

#### Subpump Data
- **Alarm/Status information**
- **Operation Time (Run Time)**
- **Speed**
- **Line current/power consumption**
- **Motor temperature**
- **Number of starts**
- **Control pump: force to stop/auto**

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**Note:**
- E-pumps = CRE/CRNE/CRIE, MTRE, CME, TPE2/TPE3, NBE/NKE.
- Note: TPE6 twin pump model F or G in range 3-22 kW needs always 2 CIU modules.
- Note: MAGNA3-D twinpump model D requires 1x CIM interface installed in master head.
- For LONWorks 1x CIM 110 installed in master head.
**BACnet IP, BACnet MS/TP**

- For water utility products

### General CIU 900

- **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
- **Transceiver**: RS-485
- **Recommended cable type**: Screened, double twisted-pair
- **Maximum cable length**: 1200 m/4000 ft

### CIM 500 BACnet IP Communication

- **Protocol**: BACnet IP
- **Transmission speeds**: 10/100 Mbits/s
- **Ports**: 2x RJ45
- **IP settings**: built-in webserver

### CIM 300 BACnet MS/TP Communication

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

### Example with CIM 500

```
Switch

To controller/SCADA

LC 2x1

LC 2x2
```

### Data points

<table>
<thead>
<tr>
<th>BACnet IP, BACnet MS/TP</th>
<th>LC 2x1</th>
<th>LC 2x2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>System Control</strong></td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Reset alarm</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>Interlock pit</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>Custom relay control (On/Off/Pulse)</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td><strong>Pump Control</strong></td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Pumps On/Off/Auto</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>Pump down</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td><strong>Configuration</strong></td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Set system and pumps control levels</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td><strong>System status</strong></td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>System operation mode</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>Active alarms/warnings</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>System mode (single/multi)</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>Status/function of float switches</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>Presence of sensors</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Real time clock (read and set)</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>System control source (Manual/Auto)</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>System and pumps control levels</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>Water level</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Water level max</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>In/out flow</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Power/Energy consumption</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Specific energy</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Volume</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Overflow volume/time/counter</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>Operation time</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Operation time for simultaneous pumps</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>Mixer average starts per hours</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>3 x user defined sensor inputs</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Float switches</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Digital inputs</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>8 x I/O logic outputs</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td><strong>Digital Outputs</strong></td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Operation time</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>Operation time for simultaneous pumps</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>Latest continuous operation time</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Max continuous operation time</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>Time to service</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Pulse Flow meter</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>Current (actual/latest)</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>Voltage/frequency</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Current asymmetry</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Power/Power factor/Energy consumption</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>Motor temperature</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Insulation</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Water in oil</td>
<td>•</td>
<td>•</td>
</tr>
</tbody>
</table>

1) Available as 3 datapoints for yesterday, today and total
2) For information related to Grundfos SOLUTIONS Cloud, please contact Grundfos
3) LC 2x1 and LC 2x2 only have actual current
4) LC 2x1 and LC 2x2 do not measure power factor
PROFINET IO, Modbus TCP, EtherNet/IP, PROFIBUS DP, Modbus RTU
- For pumps and boosters

General CIU 900, CIU 901, CIU 902, CIU 903
- 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
- Dimensions (H/W/D): 182 x 108 x 82 mm
- Storage temperatures: -20 °C to +60 °C (-4 °F to +140 °F)
- Operating temperatures: -20 °C to +45 °C (-4 °F to +113 °F)
- Transceiver: RS-485
- Protocol: PROFINET IO

CIU 902 is used together with wastewater AUTOADAPT pumps
CIU 903 is used together with MGEFlex and SQFlex pumps, and only with CIM 280 for Grundfos iSOLUTIONS Cloud

GENIbus Communication
- Protocol: GENIbus
- Transceiver: RS-485
- Recommended cable type: Screened, double twisted-pair
- Maximum cable length: 1200 m/4000 ft
- Protocol: GENIbus
- Communication: only with CIM 280 for Grundfos iSOLUTIONS Cloud

CIU 500 PROFINET IO, Modbus TCP, EtherNet/IP Communication
- Protocol: PROFINET IO (rotary switch position 0)
- Modbus TCP (rotary switch position 1)
- EtherNet/IP (rotary switch position 3)
- Transmission speeds: 10/100 Mbits/s
- Ports: 2x RJ45
- Conformance class: B

CIU 200 Modbus RTU 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, Odd or No parity
- Stop bits: 1 or 2
- Modbus Slave address: 1-247, set via rotary switches

CIUM 150 PROFIBUS DP Communication
- Protocol: PROFIBUS DP
- Transceiver: RS-485
- Implementation class: DP-V0
- Transmission speeds: 9600 bits/s to 12 Mbit/s
- Slave address: 1-126, set via rotary switches

Data points

<table>
<thead>
<tr>
<th>PROFINET IO, Modbus TCP, EtherNet/IP, PROFIBUS DP, Modbus RTU</th>
<th>MAGNA/UPE</th>
<th>MAGNA3</th>
<th>E-pump &lt;11 kW</th>
<th>E-pump model J</th>
<th>CIU</th>
<th>E-pump 11-22 kW</th>
<th>Multi-E</th>
<th>TPED</th>
<th>Hydro MPC/Control MPC</th>
<th>Hydro Multi-B</th>
<th>Hydro Multi-B</th>
<th>MP 204</th>
</tr>
</thead>
<tbody>
<tr>
<td>s</td>
<td></td>
<td>s</td>
<td>s</td>
<td>s</td>
<td>s</td>
<td>s</td>
<td>s</td>
<td>s</td>
<td>s</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>* = available with sensor or TPE 2000 and TPE3</td>
<td></td>
<td>s</td>
<td>s</td>
<td>s</td>
<td>s</td>
<td>s</td>
<td>s</td>
<td>s</td>
<td>s</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>! = differential or absolute, depends on sensor</td>
<td></td>
<td>s</td>
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<td>s</td>
<td>s</td>
<td>s</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>* = Not supported for all pump variants</td>
<td></td>
<td>s</td>
<td>s</td>
<td>s</td>
<td>s</td>
<td>s</td>
<td>s</td>
<td>s</td>
<td>s</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H = only MGE model H or later</td>
<td></td>
<td>s</td>
<td>s</td>
<td>s</td>
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<td>s</td>
<td>s</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>G = only MGE model G or later</td>
<td></td>
<td>s</td>
<td>s</td>
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</tr>
</tbody>
</table>

Example with CIM 500

- 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
- Dimensions (H/W/D): 182 x 108 x 82 mm
- Storage temperatures: -20 °C to +60 °C (-4 °F to +140 °F)
- Operating temperatures: -20 °C to +45 °C (-4 °F to +113 °F)
- Transceiver: RS-485
- Protocol: GENIbus

Note: Hydro Multi-B only supported by Modbus RTU and Modbus TCP

Example with CIM 500

- 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
- Dimensions (H/W/D): 182 x 108 x 82 mm
- Storage temperatures: -20 °C to +60 °C (-4 °F to +140 °F)
- Transceiver: RS-485
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Note: Hydro Multi-B only supported by Modbus RTU and Modbus TCP
PROFINET IO, Modbus TCP, EtherNet/IP, PROFIBUS DP, Modbus RTU
- For water utility products

### General CIU 900, CIU 901, CIU 902
- **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

### CIU 902 is used together with wastewater AUTOADAPT pumps

### GENIbus Communication
- **Protocol:** GENIbus
- **Transceiver:** RS-485
- **Recommended cable type:** Screened, double twisted-pair
- **Maximum cable length:** 1200 m/4000 ft

### CIM 500 PROFINET IO, Modbus TCP, EtherNet/IP Communication
- **Protocol:** PROFINET IO (rotary switch position 0)
- **Modbus TCP (rotary switch position 1)**
- **EtherNet/IP (rotary switch position 3)**
- **Transmission speeds:** 10/100 Mbits/s
- **Ports:** 2x RJ45
- **Conformance class:** B

### CIM 200 Modbus RTU Communication
- **Protocol:** Modbus RTU
- **Transceiver:** RS-485
- **Transmission speeds:** 1, 2, 4, 8, 9, 6, 19.2, 38.4 kbits/s
- **Parity settings:** Even, Odd or No parity
- **Stop bits:** 1 or 2
- **Modbus Slave address:** 1-247, set via rotary switches

### CIM 150 PROFIBUS DP Communication
- **Protocol:** PROFIBUS DP
- **Transceiver:** RS-485
- **Implementation class:** DP-V0
- **Transmission speeds:** 9600 bits/s to 12 Mbit/s
- **Slave address:** 1-126, set via rotary switches

### Data points

#### PROFINET IO, Modbus TCP, EtherNet/IP, PROFIBUS DP, Modbus RTU

<table>
<thead>
<tr>
<th>Data point</th>
<th>PROFINET IO</th>
<th>Modbus TCP</th>
<th>EtherNet/IP</th>
<th>PROFIBUS DP</th>
<th>Modbus RTU</th>
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<td>✗/✗</td>
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<td>✗/✗</td>
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<td>✗/✗</td>
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<td>✗/✗</td>
<td>✗/✗</td>
<td>✗/✗</td>
<td>✗/✗</td>
<td>✗/✗</td>
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</table>

### System Control
- Reset alarm
- Interlock pit
- Custom relay control (On/Off/Pulse)
- Pump Control
- Pumps On/Off/Auto
- Pump down

### Configuration
- Set system and pumps control levels
- System status
- System operation mode
- Active alarms/warnings
- Pit mode (single/multi)
- Status/function of float switches
- Presence of sensors
- Real time clock (read and set)
- System control source (Manual/Auto)
- System and pumps control levels
- Water level
- Water level max
- In/ out flow or pulse flow meter
- Power/Energy consumption
- Specific energy
- Volume
- Overflow volume/time/counter
- Operation time
- Operation time for simultaneous pumps
- Mixer average starts per hours
- 3 x user defined sensor inputs
- Float switches
- Digital inputs
- Digital Outputs
- 8 x I/O logic outputs
- 5 x user defined sensor inputs
- Dedicated
- Controls
- (CU 362)
- Wastewater
- AUTOADAPT
- 1-4 pumps
- To controller/SCADA

### Special (Modbus only)
- Hour log (latest 72h of main pit/pump values)
- Event log (50 latest alarms/warnings w. time stamp)
- User defined data log (40000 registers)

---

1) Available as 3 datapoints for yesterday, today and total
2) For information related to Grundfos SOLUTIONS Cloud please contact Grundfos
3) LC 2X1 and LC 2X2 only have actual current
4) LC 2X1 and LC 2X2 do not measure power factor
5) LC 2X1 and LC 2X2 only have 40 logs
6) To create a CIU 152, you order CIU 902 + CIM 150. To create a CIU 202, you order CIU 902 + CIM 200.
7) To create a CIU 502, you order CIU 902 + CIM 500

---

*Example with CIM 500*

[Diagram of example]
Cellular data connection to SCADA or operation via SMS
- For pumps and boosters

**General CIU 900, CIU 901, CIU 902, CIU 903**

- **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 +45 °C (-4 °F to +113 °F)
- **Dimensions (H/W/D)**: 182 x 108 x 82 mm

CIU 902 is used together with wastewater AUTOADAPT pumps
CIU 903 is used together with MGEFlex and SQFlex pumps, and only with CIM 280 for Grundfos iSOLUTIONS Cloud

**GENIbus communication**

- **Protocol**: GENIbus
- **Transceiver**: RS-485
- **Recommended cable type**: Screened, double twisted-pair
- **Maximum cable length**: 1200 m/4000 ft

**3G/4G cellular communication**

- **Protocol**: SMS
- **Transceiver**: Data connection (Modbus TCP)
- **3G/4G antenna**: Available as an option
- **Battery**: Available as an option
- **SIM card**: To be supplied by user/installer

**SMS features**

- **Read product status**: E.g. pressure, power, temperature etc. (depends on product type)
- **Read network status**: E.g. signal level, battery status, cellular status and data statistics.
- **Self-triggered messages**: Alarm/warning event messages
- **Control**: Set operating mode (e.g. Start/stop)
- **Configuration**: SMS access control via PIN code

**CIU 901 I/O board**

- 2 configurable inputs (digital or analog 0/4-20 mA, 0-10 V)
- 1 Relay output (230 V, 2 A)
- 1 Analog signal output (0-10 V)
- 1 Temperature input (Pt100/Pt1000, 2 wire)
- 2 digital inputs

**Data points**

**CIM 260 3G/4G cellular**

<table>
<thead>
<tr>
<th>Data points</th>
<th>CIM</th>
<th>MAGNA/1PE</th>
<th>MAGNA3</th>
<th>E-pumps &lt;11 kW</th>
<th>E-pumps model J</th>
<th>E-pumps 11-22 kW</th>
<th>Multi-E</th>
<th>TPED</th>
<th>Hydro Multi-B</th>
<th>Hydro Multi-MAGNA/UPE</th>
<th>Hydro Multi-MAGNA3</th>
<th>Hydro Multi-E-pumps 33 kW</th>
<th>Hydro Multi-E-pumps 33 kW</th>
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<tbody>
<tr>
<td>s = if sensor installed</td>
<td>s* = available with sensor or TPE 2000 and TPE3</td>
<td>1 differential or absolute, depends on sensor</td>
<td>2 not standard for Control MPC</td>
<td>3 not supported for all pump variants</td>
<td>G = only for MAG model G and later</td>
<td>H = only for MAG model H and later</td>
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<td>•</td>
<td>•</td>
</tr>
</tbody>
</table>

**Note:** E-pumps = CRE/CRNE/CRIE, MTRE, CME, TPE2/TPE3, NBE/NKE.

**Note:** TPED twin pump model F or G in range 3-22 kW needs always 2 CIU modules.

**Note:** MAGNA3-D twinpump model D requires 1x CIM interface installed in master head.
Cellular data connection to SCADA or operation via SMS
- For water utility products

**General CIU 900, CIU 901, CIU 902, CIU 903**

- **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
- **Power consumption**: Max. 11 W
- **Cable size**: IEC: 0.2-4 mm², UL: 24-12 AWG
- **Enclosure class**: IP 54, according to IEC 60529
- **Operation 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

CIU 902 is used together with wastewater AUTOADAPT pumps. CIU 903 is used together with MGEFlex and SQFlex pumps, and only with CIM 280 for Grundfos iSOLUTIONS Cloud.

**GENIbus communication**

- **Protocol**: GENIbus
- **Transceiver**: RS-485
- **Recommended cable type**: Screened, double twisted-pair
- **Maximum cable length**: 1200 m/4000 ft

**Cellular communication**

- **Protocol**: SMS
- **3G/4G antenna**: Available as an option
- **Battery**: Available as an option
- **SIM card**: To be supplied by user/installer

**SMS features**

- **Read product status**: E.g. pressure, power, temperature etc. (depends on product type)
  - Request active alarms/warnings
  - Request I/O signal status
- **Read network status**: E.g. signal level, battery status, cellular status and data statistics.
- **Self-triggered messages**: Alarm/warning event messages
  - Heart beat messages
- **Control**: Pit interlocking
  - Reset alarms
- **Configuration**: SMS access control via PIN code
  - Configuration of SMS functions
  - Configuration of cellular connection
- **I/O board**: 2 configurable inputs (digital or analog 0/4-20 mA, 0-10 V)
  - 1 Relay output (230 V, 2 A)
  - 1 Analog signal output (0-10 V)
  - 1 Temperature input (Pt100/ Pt1000, 2-wire)
  - 2 digital inputs

**Data points**

<table>
<thead>
<tr>
<th>Fieldbus communication</th>
<th>CIU 900/901/902/903</th>
<th>CIU 903</th>
<th>CIU 902</th>
<th>CIU 260 3G/4G cellular</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protocol</td>
<td>GENIbus</td>
<td></td>
<td></td>
<td>GENIbus</td>
</tr>
<tr>
<td>Transceiver</td>
<td>RS-485</td>
<td></td>
<td></td>
<td>RS-485</td>
</tr>
<tr>
<td>Recommended cable type</td>
<td>Screened, double twisted-pair</td>
<td></td>
<td></td>
<td>Screened, double twisted-pair</td>
</tr>
<tr>
<td>Maximum cable length</td>
<td>1200 m/4000 ft</td>
<td></td>
<td></td>
<td>1200 m/4000 ft</td>
</tr>
<tr>
<td>Cellular data connection</td>
<td>Modbus TCP</td>
<td></td>
<td></td>
<td>SMS</td>
</tr>
<tr>
<td>Battery</td>
<td>Available as an option</td>
<td></td>
<td></td>
<td>Available as an option</td>
</tr>
<tr>
<td>SIM card</td>
<td>To be supplied by user/installer</td>
<td></td>
<td></td>
<td>To be supplied by user/installer</td>
</tr>
</tbody>
</table>

**System Control**

- **Reset alarm**
- **Interlock pit**
- **Custom relay control (On/Off/Pulse)**

**Pump Control**

- **Pumps On/Off/Auto**
- **Pump down**

**Configuration**

- **Set system and pumps control levels**
- **System status**
  - System operation mode
  - Active alarms/warnings
  - Pit mode (single/multi)
  - Status/Function of float switches
  - Presence of sensors
  - Real time clock (read and set)
  - System control source (Manual/Auto)
  - System and pumps control levels
  - Water level
  - Water level max
  - In/ out flow or pulse meter
  - Power/Energy consumption
  - Specific energy
  - Volume
  - Overflow volume/time/counter
  - Operation time
  - Operation time for simultaneous pumps
  - Mixer average starts per hours
  - 3 x user defined sensor inputs
  - Float switches
  - Digital inputs
  - 8 x I/O logic outputs
  - Digital Outputs

**Pump status**

- **Presence of pump**
- **Pump enabled/disabled**
- **Running/stopped**
- **Active alarms/warnings**
- **Auxiliary equipment status**
- **Control source**
- **Operation time**
  - Starts counter (total/average)
- **Latest continuous operation time**
- **Max continuous operation time**
- **Time to service**
- **Flow (actual/latest)**
- **Current (actual/latest)**
- **Voltage/Frequency**
- **Current asymmetry**
- **Power/Power factor/Energy consumption**
- **Motor temperature**
- **Insulation**
- **Water in oil**

**Special (Modbus only)**

- **Hour log (latest 12h of main pit/pump values)**
- **Event log (50 latest alarms/warnings w. time stamp)**
- **User defined data log (40000 registers)**

1) Available as 3 datapoints for yesterday, today and total
2) For information related to Modbus TCP, PROFINET or Grundfos iSOLUTIONS Cloud please contact Grundfos
3) LC 2X1 and LC 2X2 only have actual current
4) LC 2X1, LC 2X2 and AUTOADAPT do not measure power factor
5) LC 2X2 only

* To create a CIU 262, you order a CIU 902 + CIM 260

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**Used for cloud/cellular communication in water utility**

**FIELDbus communication**

**Protocols mainly used at dosing applications**
**DDA E-Box versions**  
- For Grundfos digital dosing pumps

The small DDA is mounted directly on top of the E-Box, and the bus cable included with the E-Box is connected between the small DDA and E-Box. The DDA XL uses the CIU unit solution, and the GENIbus cable is ordered separately.

### PROFIBUS - DP Communication (E-Box 150)
- **Protocol**: PROFIBUS DP
- **Implementation Class**: DP-V0
- **Transmission speeds**: 9600 bits/s to 12 Mbits/s
- **Slave address**: 1-126, set via DDA display

### Modbus RTU Communication (E-Box 200)
- **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, Odd or No parity
- **Stop bits**: 1 or 2
- **Slave address**: 1-247, set via DDA display

### CIM 500 PROFINET IO, Modbus TCP, EtherNet/IP Communication
- **Protocol**: PROFINET IO (rotary switch position 0)  
  Modbus TCP (rotary switch position 1)  
  EtherNet/IP (rotary switch position 3)
- **Transmission speed**: 10/100 Mbits/s
- **Ports**: 2 x RJ45
- **PROFINET conformance class**: B

#### Data points

**DDA E-Box 150, E-Box 200 or E-Box 500**

<table>
<thead>
<tr>
<th>Control variant</th>
<th>FC</th>
<th>A/C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Mode</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Control Mode</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Fault &amp; Warning Code</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Actual Manual Flow Setpoint</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Actual Pulse Volume Setting</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Actual Batch Dosing Volume Setting</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Actual Batch Dosing Time Setting</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Actual Flow Monitor Pressure Alarm Limit Setting</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Control Source (HMI, External, Bus)</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Measured Data</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Digital Inputs</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Analog Input Signal</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Pulse Input Frequency</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Measured Dosing Capacity</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Measured Dosing Pressure</td>
<td>•</td>
<td>•</td>
</tr>
</tbody>
</table>

#### Control
- **Operating Mode**: (Start, Stop, Service, Calibrating), Functions (Slow mode, Viscosity selection), Deaerating mode
- **Function Enable/Disable**: (AutoDearating, FlowMonitor, PROFIBUS Watchdog, AutoFlow, PulseMemory)
- **Pulse signal from bus**
- **Reset Fault and Volume Counter**
- **Control Mode**: (Manual, Pulse, Analogue, Timer, Batch)
- **Set Manual Flow Setpoint**
- **Set Pulse Volume**
- **Set Batch Volume**
- **Set Batch Dosing Time**
- **Set Flow Monitor Pressure Alarm Limit**
- **Set Analog Output**
- **Set Date & Time**

#### Status
- **Operating Mode Status**
- **Control Mode Status**
- **Alarm/Warning/Dosing (running) Status**
- **Max Dosing Pressure**
- **Max Dosing Capacity**
- **Resulting Dosing Capacity Setpoint**
- **Remaining Dosing Volume**
- **Total Dosed Volume**
- **Volume Trip Counter**
- **Actual Analog Output Signal**
- **Digital Outputs**
- **Number Of Starts**
- **Run Time**
- **Total On Time**
- **Strobe Counter**
- **Time To Next Dosing**

#### Measured Data
- **Actual Digital Inputs**
- **Actual Analog Input Signal**
- **Actual Pulse Input Frequency**
- **Actual Measured Dosing Capacity**
- **Actual Measured Dosing Pressure**

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**Network example with CIM 500 Ethernet**

The small DDA is mounted directly on top of the E-Box, and the bus cable included with the E-Box is connected between the small DDA and E-Box. The DDA XL uses the CIU unit solution, and the GENIbus cable is ordered separately.

To controller/SCADA

Switch

CIU unit with CIM module

GENIbus

Small DDA with E-Box

DDA XL with CIU
Grundfos iSOLUTIONS MONITOR (GiM)

GiM is a condition monitoring system which reduces the risk of unexpected downtime and maintenance, offering optional monitoring of both process and operational data.

Grundfos iSOLUTIONS MONITOR is a setup that monitors your pumps and pump systems for the most common issues. Compared to traditional condition monitoring solutions, it provides you with instant conclusions that you can act on right away. Grundfos service technicians are always available to remotely monitor and help you optimise your system.

Grundfos iSOLUTIONS MONITOR keeps track of a variety of common issues including motor bearing damage, dry-run, cavitation, unbalance, water hammer and liquid temperature.

These insights help you make better decisions in terms of maintenance or system optimisation. Or, you can get in touch with Grundfos to get advice from experienced service technicians. When connected to MGE or CUE, you can also monitor operational data including power consumption, speed and set points. You can even attach sensors to read data such as inlet pressure, discharge pressure, flow and extra temperature.

Grundfos iSOLUTIONS MONITOR includes a CIU unit mounted beside or on the pump, a web interface and a Grundfos GO interface to follow your installations remotely.

It can also be integrated via Modbus RTU with your SCADA/BMS system and simultaneously be connected to the Grundfos iSOLUTIONS Cloud.

TRACK YOUR PUMP INSTALLATIONS FROM ANYWHERE

Quick overview of your facility

Everything you need to know on one page

Alarm and warning description
## Product numbers of Grundfos CIM/CIU communication interfaces

<table>
<thead>
<tr>
<th>Interface name</th>
<th>Product no.</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIM 040 GENI TTL</td>
<td>98415941</td>
<td>For CU 354 DDD</td>
</tr>
<tr>
<td>CIM 050 GENIbus</td>
<td>96824631</td>
<td></td>
</tr>
<tr>
<td>CIM 060 GlowPan</td>
<td>98778356</td>
<td>Require 98778357 Antenna kit for CIM 060</td>
</tr>
<tr>
<td>CIM 100 LON</td>
<td>96824797</td>
<td>LONWorks for pumps</td>
</tr>
<tr>
<td>CIM 110 LON</td>
<td>96824798</td>
<td>LONWorks for boosters and twin pumps. Install CIM in master head in twin pumps and Multi-E</td>
</tr>
<tr>
<td>CIM 150 PROFIBUS DP</td>
<td>96824793</td>
<td></td>
</tr>
<tr>
<td>E-Box 150 PROFIBUS DP</td>
<td>97513994</td>
<td>For small DDA pumps</td>
</tr>
<tr>
<td>CIM 200 Modbus RTU</td>
<td>96824796</td>
<td></td>
</tr>
<tr>
<td>E-Box 200 Modbus RTU</td>
<td>98563350</td>
<td>For small DDA pumps</td>
</tr>
<tr>
<td>CIM 260-EU 3G/4G cellular</td>
<td>99439302</td>
<td>For European frequency bands. Requires 99518079 antenna kit 3G/4G SIM card</td>
</tr>
<tr>
<td>CIM 260-EU Grundfos iSOLUTIONS Cloud/GRM 3G/4G 1)</td>
<td>99439724</td>
<td>For European frequency bands. Requires 99518079 antenna kit 3G/4G SIM card must have additional international PDU SMS roaming active</td>
</tr>
<tr>
<td>CIM 280-US Grundfos iSOLUTIONS Cloud/GRM 3G/4G 1)</td>
<td>99439725</td>
<td>For North America frequency bands. Requires 99518079 antenna kit 3G/4G SIM card must have additional international PDU SMS roaming active</td>
</tr>
<tr>
<td>CIM 280-EU GDP for GiM only</td>
<td>99837175</td>
<td>For European frequency bands. Requires 99518079 antenna kit 3G/4G SIM card must have additional international PDU SMS roaming active</td>
</tr>
<tr>
<td>CIM 280-US GDP for GiM only</td>
<td>99837177</td>
<td>For North America frequency bands. Requires 99518079 antenna kit 3G/4G SIM card must have additional international PDU SMS roaming active</td>
</tr>
<tr>
<td>CIM 300 BACnet MS/TP</td>
<td>96893770</td>
<td></td>
</tr>
<tr>
<td>CIM 500 Ethernet 1)</td>
<td>98301408</td>
<td>For Industrial Ethernet protocols PROFINET, Modbus TCP, BACnet IP, EtherNet/IP and for GRM IP/ GiC cloud</td>
</tr>
<tr>
<td>E-Box 500 Ethernet 1)</td>
<td>99171932</td>
<td>For Industrial Ethernet protocols PROFINET, Modbus TCP, EtherNet/IP and for GRM IP/ GiC cloud (small DDA pump only)</td>
</tr>
<tr>
<td>CIU 900</td>
<td>99448387</td>
<td>Empty CIU unit. For all CIM modules</td>
</tr>
<tr>
<td>CIU 901</td>
<td>99448389</td>
<td>Empty CIU unit with built-in IO board (IO 270) For CIM 200, CIM 260 and CIM 500</td>
</tr>
<tr>
<td>CIU 902 AUTOADAPT</td>
<td>97644690</td>
<td>Empty CIU unit with built-in SEG AUTOADAPT board for interface to 1-4 SEG AUTOADAPT pumps For CIM 150, CIM 200, CIM 260 and CIM 500</td>
</tr>
<tr>
<td>CIU 903 MGEFlex/SQFlex</td>
<td>98106399</td>
<td>Empty CIU unit with interface for MGE Flex and SQ Flex. Only used for CIM 280</td>
</tr>
<tr>
<td>GiM CIU</td>
<td>For product numbers and subscriptions please reach out to Grundfos</td>
<td>CIU unit with built-in GiM IO board For CIM 280 GDP, CIM 500 GDP only</td>
</tr>
<tr>
<td>CIM 060 antenna kit</td>
<td>98778357</td>
<td>Antenna required only in case of no sight view</td>
</tr>
<tr>
<td>Antenna 3G/4G LTE (for GiM)</td>
<td>99838775</td>
<td>For GiM for EU/US area, antenna with 2 m cable and magnetic base</td>
</tr>
<tr>
<td>CIM 260/280 puc antenna kit (1.5 m cable)</td>
<td>99518079</td>
<td>For CIM 260 EU/ CIM 280 EU version</td>
</tr>
<tr>
<td>CIM 260/280 optional battery</td>
<td>99499908</td>
<td>For CIM 260/ CIM 280 to send a last power failure alarm if power drops</td>
</tr>
<tr>
<td>CIM 500 RJ45 Field plug kit</td>
<td>98471752</td>
<td></td>
</tr>
<tr>
<td>DDA GENIbus cable (3 m)</td>
<td>98589048</td>
<td>For connection to CIU unit</td>
</tr>
<tr>
<td>Robustel R3000-L3H, 3G router</td>
<td>99043055</td>
<td>For use in Europe with CIM 500</td>
</tr>
<tr>
<td>Robustel R3000-L4L, 4G router</td>
<td>99043057</td>
<td>For use in Europe with CIM 500</td>
</tr>
<tr>
<td>3G/4G rod antenna for Robustel Router (5 m cable)</td>
<td>99043061</td>
<td></td>
</tr>
<tr>
<td>External power supply 12 V for Robustel Router</td>
<td>99043052</td>
<td></td>
</tr>
</tbody>
</table>

Note: To create a CIU xxx version you need to order a CIU 900 + CIM xxx interface, similar for a CIU xx1 or CIU xx2 or CIU xx3

1) Additional GRM contract needed for data hosting in Grundfos iSOLUTIONS Cloud/GRM
CIM and CIU
Manuals and installation files

Enter the link below to access the CIM and CIU manuals and installation files mentioned in this leaflet.
http://net.grundfos.com/qr/i/CIM_CIU_01

BACnet functional profile manuals
For each product type, a manual exists covering the following:
- CIM 300 BACnet MS/TP
- CIM 500 BACnet IP
- BACnet for MIXIT
- BACnet PICS for CIM 300
- BACnet PICS for CIM 500

LONWorks functional profile manuals
- CIM 100 LON for pumps
- CIM 110 LON for boosters

PROFIBUS/PROFINET functional profile manuals
For each product type, a manual exists covering the following:
- CIM 150 PROFIBUS DP
- CIM 500 PROFINET IO

EtherNet/IP functional profile manuals
For each product type, a manual exists covering the following:
- CIM 500 EtherNet/IP

Modbus functional profile manuals
For each product type, a manual exists covering the following:
- CIM 200 Modbus RTU
- CIM 260 Modbus cellular
- CIM 500 Modbus TCP
- Modbus for MIXIT
- Modbus for iSOLUTIONS
- Modbus for SEG AUTO
- Modbus for GRUNDFOS iSOLUTIONS

GRUNDFOS

INSTRUCTIONS

INSTRUCTIONS
Grundfos has introduced an online selection tool for easy and simple selection of required fieldbus interfaces.

**EICA Selection tool** *(Electrical Instrumentation, Control and Automation)*

- Selection of correct CIM interface
- Selection of documentation/manuals
- Selection of installation files
- PLC Programming examples for PROFIBUS/PROFINET
- PC Tool CIM/CIU
- Circuit diagrams

Select the relevant product (pump, controller) and the required BUS protocol type and the page will display all the information you need to efficiently handle your projects.

https://www.grundfos-eica.com/
Advantages of Grundfos CIM/CIU communication interfaces
• Enables connection of any Grundfos pump or controller to a PLC, BMS/SCADA system
• Pumps and controllers have better reliability with reduced downtime, due to monitoring and control functionality on a PLC, BMS/SCADA system
• The operational cost of pumps can be lowered by reducing setpoints to match precise system needs via remote control
• Remote monitoring and control via PLC, BMS/SCADA systems reduce manual settings, monitoring time and travel time to sites or installations
• Enable predictive maintenance and fast reaction time on process changes and exceptions
• Simple configuration of Fieldbus settings saves commissioning time
• Modular design – prepared for future needs
• Wide range 24-240 VAC/VDC power supply in CIU
• Easy to install, as Grundfos delivers the required support files and functional profile manuals

About Grundfos
Grundfos is one of the world’s leading pump manufacturers and has been renowned for its innovative and reliable solutions since 1945. Today, we produce more than 16 million pump units every year for a wide range of application areas. Grundfos iSOLUTIONS brings a new era of intelligence to pump systems and water technology with solutions that look beyond individual components and optimise the entire system.

Learn more at www.grundfos.com/iSOLUTIONS