Communication interface for **GSM/GPRS**
– for remote wireless control and monitoring

The CIM/CIU 250 is a standard interface for data transmission between a GSM/GPRS network and a Grundfos pump or controller and can be used as follows:

- As an SMS interface it enables users to control and monitor Grundfos pumps and pump systems from a mobile phone. It is possible to get a message whenever a warning or an alarm occurs, to request the status or to do simple control like START, STOP and adjusting of setpoint.

- The GSM/GPRS module can work as a SCADA Interface enabling a SCADA system or a PLC controller to establish a remote connection either via GSM Call-up using the Modbus RTU protocol or via a GPRS using the Modbus TCP protocol connection.

Extensive amounts of datapoints are available from each product via the CIM/CIU 250. The interface offers uncomplicated wireless data transmission and remote control of Grundfos pumps systems. 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 GSM/GPRS. Grundfos CIM/CIU interface modules are also available for the wired fieldbusses GENIbus, BACnet, Profibus, LON and Modbus.

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**CIM 250 add-on-module**
The CIM 250 is an add-on communication module installed internally in 11-22kW Grundfos E-Pumps or Dedicated Controls or Hydro Multi-B.

**CIU 250 wall-mounted/DIN rail unit**
The CIU 250 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, CHIE, 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
- CR Monitor* condition monitoring for CR pumps
- Dedicated Controls for sewage pumps (separate datasheet)
- Motor Protector MP 204
- Circulators: MAGNA*/UPE
- Sewage AUTOsmart pump (separate datasheet)
* Additional add-on GENIbus module required

**Advantages at a glance**
- Supports a wide range of Grundfos products
- Simple configuration via SMS commands
- Modular design
- 24-240 VAC/VDC power supply in CIU
- Wireless remote control and monitoring
- Status request and control via SMS
- GSM call-up
- GPRS connection
- Built-in battery backup possible
Using CIM/CIU with Grundfos products

**General CIU 250 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
- 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

**GENIbus communication (CIU 250)**
- Protocol: GENIbus
- Recommended cable type: Screened, double twisted-pair
- Maximum cable length: 1200 m/4000 ft

**GSM/GPRS communication**
- Protocol: SMS
- GSM call up (Modbus RTU)
- GPRS (Modbus TCP)
- GSM antenna: Available as an option
- Battery: Included with CIU 250
- Optional for CIM 250
- 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
- Read network status: E.g. signal level, battery status, GSM/GPRS status and data statistics.
- Get messages: Alarm/warning event messages
- Heart beat messages
- Control: Set operating mode (e.g. Start/stop)
- Set control mode (e.g. constant pressure)
- Set Setpoint
- Reset Alarms
- Configuration: SMS access control via PIN code
- Configuration of SMS functions
- Configuration of GSM options
- Configuration of GPRS connection

**CIM 250 GSM/GPRS**
- 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
- Tank filling status information
- Measured Data:
  - Power/Energy Consumption
  - Pressure (Head) ^
  - Flow
  - Relative Performance
  - Speed and Frequency
  - Digital Input/Output
  - Motor Current
  - DC Link Voltage
  - 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
  - Ambient Temperature
  - Inlet and Outlet Temperatures
  - Temperature Difference
  - Outlet Pressure ^
  - Feed Tank Level
  - 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:
  - Alarm/Status information
  - Operation Time (Run Time)
  - Speed
  - Line current/ power consumption
  - Motor temperature
  - Number of starts
  - Control pump: force to stop/ auto

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