

GRUNDFOS iSOLUTIONS MONITOR



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1. Product introduction

The product monitors the activity of a Grundfos CR, CRE pump and detects possible irregularities. It is available for all CR, CRE pumps, whether they are new or retrofit and both with and without a variable frequency drive. The system transmits status, warnings and alarms to the Grundfos iSOLUTIONS Cloud (GiC), and customers can get an easy overview and detailed records using the customer login. Status, information and alarms are also displayed on the operating panel, and are available for the BMS/SCADA system through a Modbus interface. See the Modbus functional profile.

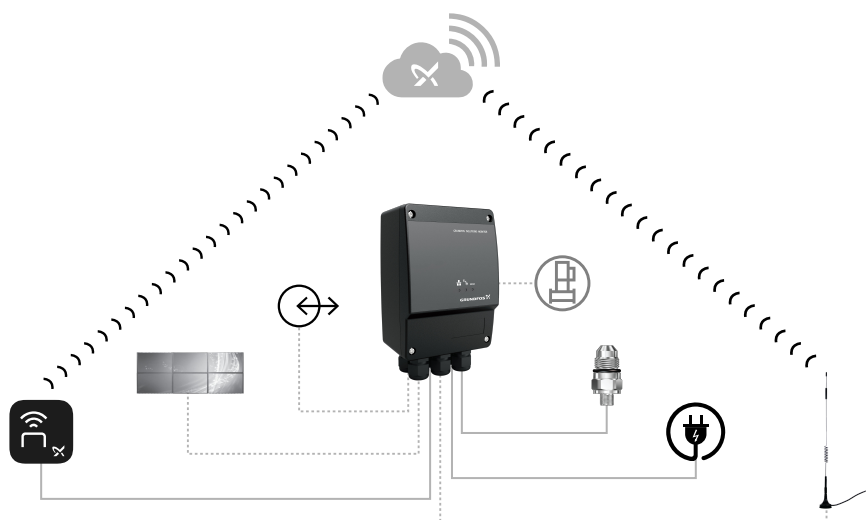
GRUNDFOS iSOLUTIONS MONITOR detects irregularities concerning CR, CRE pumps to increase system uptime and keep service and maintenance people on track with pump operation and status for maintenance planning. Communication with the SCADA system and Grundfos iSOLUTIONS Cloud is integrated in the unit.

The sensor is installed into the CR motor stool plug, and measures a range of key performance parameters using its built-in accelerometer and an ultrasonic sensor. The unit is mounted on the wall or the side of the pump using the stay bolt.



QR89549864

net.grundfos.com/qr/i/99549864



TM076635

System overview

1.1 Applications

The product is used as a communication interface between a Grundfos product and a main network. It is used together with a CIM module (CIM = Communication Interface Module) fitted in the unit.

GENIbus is optional communication between the unit and a Grundfos product.

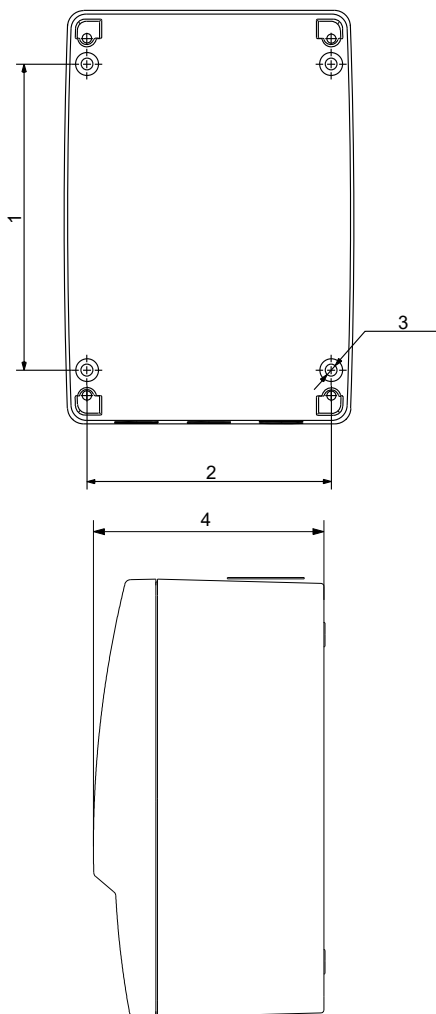
2. Product components

2.1 GiM CIU

GiM CIU processes input signals from the VTU sensor and presents the status of the pump.

Description	Product number
GiM CIU	99818038

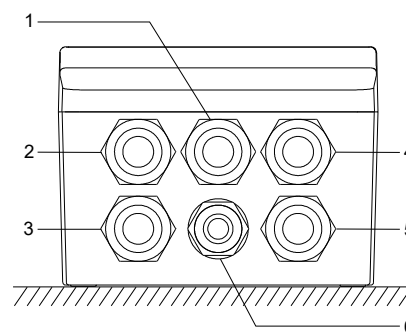
2.1.1 Dimensions



TM076032

Pos.	Dimensions [mm] (inch)
1	115 (4.53")
2	91 (3.58")
3	ø4.5 (0.18")
4	81.5 (3.21")

2.1.2 Terminals



TM076411

Pos.	Description
1	Antenna, Ethernet or IO
2	Antenna, Ethernet or IO
3	GENIbus master (pump) or IO
4	VTU sensor
5	Power supply
6	Bluetooth connect button

2.1.3 Technical data

Electrical supply

Transient overvoltage	Category II
Supply voltage	24-240 VAC/VDC, ±10 %
Frequency	DC, 50/60 Hz
Max. power consumption	11 W

Cables

Power supply cable	IEC: 0.2 - 4 mm ² UL: 24-12 AWG Use a 3-core cable that meets the requirements of the National Electric Code.
Recommended communication cable	Screened, double twisted-pair Cross-section: 0.2 - 0.3 mm ² AWG: 24-22 Maximum cable length: 1200 m (4000 ft)
Cable entry	6 x M16 ø4 - ø1



Use copper or copper-clad aluminum conductors only.

GENIbus master, for pump connection

Transceiver	RS-485
Protocol	GENIbus
Parity	None (default), Odd, Even
Stop bits	1 (default), 2
Transmission speed	9600 (default), 19200, 38400, 115200 bit/s

GENIbus connection, for Grundfos GO Remote PC

Transceiver	RS-485
Protocol	GENIbus
Parity	None (default), Odd, Even
Stop bits	1 (default), 2
Transmission speed	9600 (default), 19200, 38400, 115200 bit/s

Modbus RTU

Transceiver	RS-485
Protocol	Modbus
Parity	None (default), Odd, Even
Stop bits	1 (default), 2
Modbus address	1-247. Default: 243
Transmission speed	9600 (default), 19200, 38400 bit/s

Environmental conditions

Max. altitude above sea level	2000 m (6562 ft)
Relative humidity	95 %, non-condensing
Pollution degree	Category 3
Enclosure class	IP54 according to IEC 60529 Type 3R according to UL 50 For indoor use only

Ambient temperature

During operation	-20 to +45 °C (-4 to +113 °F)
During storage	-20 to +60 °C (-4 to +140 °F)
During transportation	-20 to +60 °C (-4 to +140 °F)

2.2 VTU sensor

The VTU sensor is a piezoelectric ultrasonic dry-run detection sensor with built-in thermometer and accelerometer. It is mounted directly into the CR, CRE motor stool plug, and connected to GiM CIU using the sensor cable.

The sensor is designed for continuous tracking of the self-resonance frequency of the front membrane and to provide other information, such as temperature and vibrations rate. The signal processing takes place in GiM CIU, and the VTU sensor must be connected to it to provide the data.



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Description	Product number
VTU sensor	99470445

For more information on the VTU sensor, see the data sheet.



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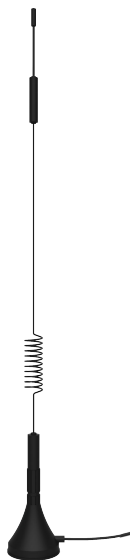
2.3 CIM module

The below CIM modules can be mounted into the GiM CIU unit.

Description	Product number
CIM 280 GiC, EU	99837175
CIM 280 GiC, US	99837177
CIM 500 Ethernet	98301408

2.4 Antenna

The 3G/4G antenna is used to connect the product to Grundfos iSOLUTIONS Cloud. The antenna is connected to GiM CIU through the SMA connector.



TN076412

3G/4G antenna

Description	Product number
Antenna 3G/4G	99838775

Specification

Power supply	Through the antenna cable (SMA connection)
Antenna type	3G/4G communication
Antenna gain	Max. 2.0 dBi
Mounting	- Horizontal mounting - Earthed to a 30×30 cm ground plate - Ensure free space around the antenna and that there is a clear connection.

3. Grundfos Product Center

Online search and sizing tool to help you make the right choice.

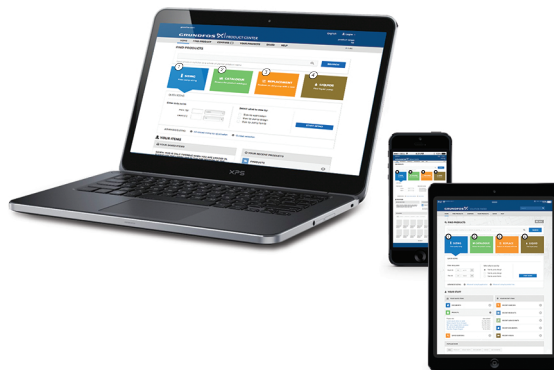
<http://product-selection.grundfos.com>

All the information you need in one place

Performance curves, technical specifications, pictures, dimensional drawings, motor curves, wiring diagrams, spare parts, service kits, 3D drawings, documents, system parts. The Product Center displays any recent and saved items - including complete projects - right on the main page.

Downloads

On the product pages, you can download installation and operating instructions, data booklets, service instructions, etc. in PDF format.



TM072384

The screenshot shows the Grundfos Product Center website. At the top is a navigation bar with the Grundfos logo, 'PRODUCT CENTER', and links for 'Services', 'Sign In', and 'Product range: International | 50 Hz | Language: English'. Below this is a secondary navigation bar with links: HOME, FIND PRODUCT, COMPARE, YOUR PROJECTS, SAVED ITEMS, TOOLS, and HELP. The main content area is titled 'Find products and solutions'. It features a search bar (callout 1) with a dropdown menu set to 'Products' and a 'SEARCH' button. Below the search bar are four large colored buttons: 'Sizing' (blue, callout 2) with 'Enter pump sizing', 'Catalogue' (green, callout 3) with 'Products and services', 'Replacement' (orange, callout 4) with 'Replace an old pump with a new', and 'Liquids' (brown, callout 5) with 'Find pump by liquid'. Below these buttons is a 'Quick sizing' section with three tabs: 'Quick sizing' (selected), 'Advanced sizing by application', and 'Guided selection'. The 'Quick sizing' tab contains two input fields for 'Enter duty point': 'Flow (Q)*' with units 'm³/h' and 'Head (H)*' with units 'm'. To the right of these fields are three radio buttons for 'Select what to size by': 'Size by application', 'Size by pump design', and 'Size by pump family'. A 'START SIZING' button is located to the right of the radio buttons.

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Pos.	Description
1	This drop-down menu enables you to set the search function to "Products" or "Literature".
2	SIZING enables you to size a pump based on entered data and selection choices.
3	CATALOGUE gives you access to the Grundfos product catalogue.
4	REPLACEMENT enables you to find a replacement product. Search results will include information on - the lowest purchase price - the lowest energy consumption - the lowest total life cycle cost.
5	LIQUIDS enables you to find pumps designed for aggressive, flammable or other special liquids.

