

Grundfos MI 301

Installation and operating instructions



Grundfos MI 301

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English (GB) Installation and operating instructions

Original installation and operating instructions

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1. General information



Read this document before you install the product. Installation and operation must comply with local regulations and accepted codes of good practice.

1.1 Hazard statements

The symbols and hazard statements below may appear in Grundfos installation and operating instructions, safety instructions and service instructions.



DANGER

Indicates a hazardous situation which, if not avoided, will result in death or serious personal injury.



WARNING

Indicates a hazardous situation which, if not avoided, could result in death or serious personal injury.



CAUTION

Indicates a hazardous situation which, if not avoided, could result in minor or moderate personal injury.

The hazard statements are structured in the following way:

SIGNAL WORD



Description of the hazard

Consequence of ignoring the warning

- Action to avoid the hazard.

1.2 Notes

The symbols and notes below may appear in Grundfos installation and operating instructions, safety instructions and service instructions.



Observe these instructions for explosion-proof products.



A blue or grey circle with a white graphical symbol indicates that an action must be taken.



A red or grey circle with a diagonal bar, possibly with a black graphical symbol, indicates that an action must not be taken or must be stopped.



If these instructions are not observed, it may result in malfunction or damage to the equipment.



Tips and advice that make the work easier.

2. Product introduction

Grundfos GO Remote can be used to establish wireless connection to Grundfos products. It is available from Apple App Store and Google Play Store.

Grundfos GO Remote must be used in conjunction with the following MI (mobile interface):

- Grundfos MI 301.

MI 301 has built-in infrared (IR) and radio communication.



The Grundfos product must support either IR communication or radio communication. See the section for supported Grundfos products.

Related information

[2.4 Supported Grundfos products](#)

2.1 Intended use

This product is intended for remote control of Grundfos products.

2.2 Scope of delivery

MI 301 is a module that connects to an Android or iOS-based smartphone via Bluetooth Low Energy (BLE). MI 301 has a rechargeable Li-ion battery.

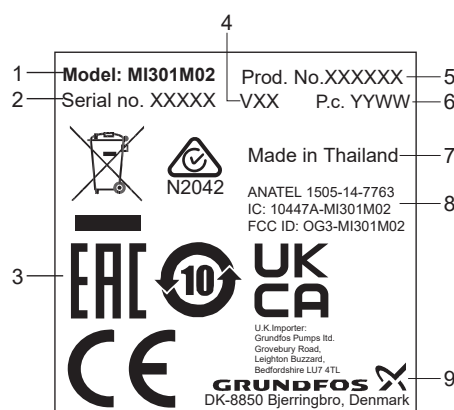
- Grundfos MI 301 (M02)
- battery charger (only for part number 98046408)
- USB cable
- quick guide.



MI 301

TM053890

2.3 Nameplate



TM079076

Example of a nameplate

Pos.	Description
1	Model
2	Serial number
3	Markings and approvals
4	Production version number
5	Product number
6	Production code (year and week)
7	Production site
8	IC and FCC text (only relevant for UL variants)
9	Address of manufacturer

2.4 Supported Grundfos products

Find the right communication type in the list below.

Product	Communication	
	IR	Radio
MAGNA3 circulator		•
UPE and MAGNA circulators	•	
CME, CHIE, MTRE multistage pumps	•	• ¹
CRE, CRNE, CRIE multistage pumps	•	• ¹
TPE single-stage pump	•	• ¹
NBE, NKE single-stage pumps	•	• ¹
MP 204 motor protector	•	
Grundfos Hydro Multi-E booster system	•	• ¹
Grundfos AUTO _{ADAPT} sewage system (CIU 272/902)	•	• ²
IO 351 module	•	
CU 3 motor protector	•	
CU 300, 301 controllers	•	
CIU 273 SQFlex//CIU 903	•	
CU 362 Dedicated Controls wastewater controller		• ²

¹ Only MGE motors, model H or later.

² Only with add-on CIM 060 module.

Related information

[2. Product introduction](#)

[4.2 Grundfos GO Remote](#)

[4.3 Radio connection](#)

[6.2 MI 301 cannot connect via infrared \(IR\)](#)

[6.3 MI 301 cannot connect via radio](#)

2.5 Status LEDs

LED status	Description
Permanently green	The product is charging.
Flashing blue, 3 seconds	The product is searching for a connection.
Flashing green, 3 seconds	The product is connected.
Flashing green or blue quickly, 0.5 second	The product is almost discharged.



Placement of the LED



Link to MI 301 quick guide

TM079073

QR98133720

3. Installation requirements



The product must be used as described in these installation and operating instructions and may not be co-located or used in conjunction with any other antenna or transmitter.

3.1 EU

The radio part of this product can be operated in the EU without restrictions.

3.2 Radio frequency radiation exposure information (for Canada and US only)

This equipment complies with FCC and Canadian radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

3.2.1 USA

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

Users are cautioned that changes or modifications not expressly approved by Grundfos could void the user's authority to operate the equipment.

3.2.2 Canada

CAN ICES-003(B) / NMB-003(B)

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

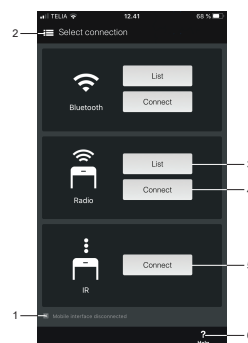
4. Wireless connection

4.1 Pairing with MI 301

To use MI 301 with your smartphone, you must first pair them.

1. Open the main menu in the upper left corner of Grundfos GO Remote.
2. For iOS smartphones, select **Remote > Connect** and follow on-screen instructions.
3. For Android smartphones, select **Settings > Remote > Pair with MI** and follow on-screen instructions.

4.2 Grundfos GO Remote



Connecting to a Grundfos product

Pos.	Action
1	Check that your mobile interface has been connected.
2	Press or slide to open or close the menu.
3	Radio - List: Search for radio-enabled Grundfos products within range.
4	Radio - Connect: Connect directly to a specific Grundfos product via radio.
5	IR - Connect: Connect directly to a specific Grundfos product via infrared signal.
6	Press Help for on-screen guidance.



Link to MI 301 quick guide

Related information

[2.4 Supported Grundfos products](#)

[4.3 Radio connection](#)

[4.4 IR connection](#)

4.2.1 Connecting to Grundfos GO Remote

Before connecting the product, the Grundfos GO Remote app must be downloaded to your smartphone. The app is free of charge and available for iOS and Android smartphones.

1. Open Grundfos GO Remote on your smartphone. Make sure that Bluetooth is enabled.
Make sure that your smartphone and MI 301 are charged.
Your smartphone and MI 301 must be within range of each other to establish Bluetooth connection.
2. Switch on MI 301 by pressing its power button. The indicator light will flash blue, indicating that MI 301 is ready for connection.
3. Press the connect icon in Grundfos GO Remote.

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- The blue LED is flashing until your smartphone is connected. Once the connection is established, the LED starts to flash green.
- MI 301 is now ready to establish a connection to a Grundfos product. Keep MI 301 within range of the Grundfos product you want to connect to.

4.3 Radio connection

Radio - List and **Radio - Connect** are methods for radio communication between Grundfos GO Remote and a Grundfos product.

Check the section concerning supported Grundfos products to see if your Grundfos product is supported.

Use **Radio - List** for products that are difficult to access physically or for a quick status overview. You must unlock the Grundfos product when you connect to it for the first time. A padlock shows whether the product is locked or unlocked.

Use **Radio - Connect** for quick and direct access to the product.



The Grundfos product is locked.



The Grundfos product is unlocked.

Related information

[2.4 Supported Grundfos products](#)

[4.2 Grundfos GO Remote](#)

[4.3.1 Connecting to a product using Radio - List](#)

[4.3.2 Connecting to a product using Radio - Connect](#)

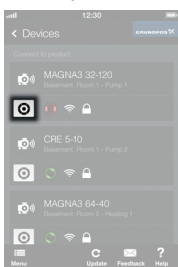
[4.5 Signalling communication with remote control](#)

[6.3 MI 301 cannot connect via radio](#)

4.3.1 Connecting to a product using Radio - List

Follow this procedure to unlock and connect to a product:

- Press **List** next to **Radio**.
- All products within radio range are listed. It may take some time to scan for all products.
- The list shows the product name, pump status, signal strength and whether the product is locked or unlocked.
- Use the wink command to identify the product you have selected. When you press the symbol, an indicator light will flash on the product. See the section concerning signalling communication with remote control. Press the symbol again to stop the wink.



Wink symbol

- Press the product name to connect to the product.
- If the product is locked, press **OK** or a dedicated connection button on the product.
- Data is loading. It may take some time.
- A connection has been established, and Grundfos GO Remote shows the product dashboard.
- Press **Disconnect** to disconnect the product and connect to another one.

Related information

[4.3 Radio connection](#)

4.3.2 Connecting to a product using Radio - Connect

Follow this procedure to establish connection:

- Press **Connect** next to **Radio**.
- The indicator light in the centre of the Grundfos Eye is flashing on all supported products within range. Press **OK** or a dedicated connection button on the product you want to connect to.
- Data is loading. It may take some time.
- A connection is established, and Grundfos GO Remote shows the product dashboard.
- Press **Disconnect** to disconnect the product and connect to another one.

Related information

[4.3 Radio connection](#)

4.4 IR connection

IR - Connect is a method of infra-red communication with the Grundfos product.

Related information

[4.2 Grundfos GO Remote](#)

[4.5 Signalling communication with remote control](#)

[6.2 MI 301 cannot connect via infrared \(IR\)](#)

4.4.1 Connecting to a product using IR - Connect

Follow this procedure to establish connection:



The infrared transmitter is located at the opposite end of MI 301 from the power button

- Point the infrared transmitter on MI 301 at the infrared receiver on the Grundfos product. The distance must not be more than 1 metre.
- Press **Connect** next to **IR**.
MI 301 is connecting to the Grundfos product via IR.
Data is loading. This may take some time.
- Hold MI 301 steady until all data have been read. An indicator light on the product flashes when the product is communicating via IR.
When the connection is established, Grundfos GO Remote shows the product dashboard.
- Press **Disconnect** to disconnect the product and connect to another one.

4.5 Signalling communication with remote control

The centre indicator light in the Grundfos Eye indicates communication with Grundfos GO Remote.



Grundfos Eye

For more information, see the Installation & Operating instructions for the connected product.

Related information

[4.3 Radio connection](#)

[4.4 IR connection](#)

TM053552

5. Maintenance

5.1 Cleaning

Clean the product with a dry, soft cloth.

5.2 Battery

WARNING

Explosive environment

Death or serious personal injury



- Disposal of the battery or the complete unit into fire or a hot oven, or mechanically crushing it or cutting the battery can result in an explosion.

The rechargeable Li-ion battery of MI 301 complies with the battery directive (2006/66/EC). It does not contain mercury, lead or cadmium.

To preserve battery life, MI 301 automatically switches off when not connected. To switch it off manually, press the power button until the LEDs are switched off and then release the button. To switch it on, press the power button.

5.2.1 Charging

This product has a rechargeable battery. If the battery needs charging, the indicator light on MI 301 flashes every 0.5 second. It can be charged by means of the micro USB cable and the charger. Full charging time is four hours. While connected to the charger, the green indicator light is switched on.

CAUTION

Fire

Minor or moderate personal injury



- Do not charge the battery if the ambient temperature exceeds +45 °C.

Related information

[6.4 The connection between the smartphone and MI 301 is lost](#)

5.3 Software update

You will automatically be notified via Grundfos GO Remote when software updates are available. Follow the on-screen instructions.

6. Fault finding the product

6.1 The app does not start or freezes

Cause	Remedy
The app needs to be restarted.	<ul style="list-style-type: none"> Close the app and restart it.

6.2 MI 301 cannot connect via infrared (IR)

Cause	Remedy
MI 301 is too far away from the product.	<ul style="list-style-type: none"> Hold MI 301 closer to the product, pointing the infrared transmitter at the product. The infrared transmitter is located at the opposite end of MI 301 from the power button.
Incorrect transmission angle.	<ul style="list-style-type: none"> MI 301 needs to point at the IR receiver on the product, $\pm 12^\circ$.
App problem.	<ul style="list-style-type: none"> The app needs to be restarted.
No IR on the pump.	<ul style="list-style-type: none"> Your product may not support IR. See section about supported Grundfos products.

Related information

[2.4 Supported Grundfos products](#)

[4.4 IR connection](#)

6.3 MI 301 cannot connect via radio

Cause	Remedy
MI 301 is too far away from the product.	<ul style="list-style-type: none"> Hold MI 301 closer to the product.
App problem.	<ul style="list-style-type: none"> The app needs to be restarted.
The product has no radio connection.	<ul style="list-style-type: none"> Your product may not support radio. See the section concerning supported Grundfos products.

Related information

[2.4 Supported Grundfos products](#)

[4.3 Radio connection](#)

6.4 The connection between the smartphone and MI 301 is lost

The display shows **Mobile interface disconnected**.

Cause	Remedy
Outside Bluetooth range.	<ul style="list-style-type: none"> Move the smartphone closer to MI 301. If this does not solve the problem, it may be necessary to pair the two products again in GO settings.
Low battery.	<ul style="list-style-type: none"> Charge the battery for two to four hours.

Related information

[5.2.1 Charging](#)

6.5 MI 301 is not shown in the list in Grundfos GO Remote

Cause	Remedy
Outside Bluetooth range.	<ul style="list-style-type: none"> Move the smartphone closer to MI 301.
MI 301 is switched off.	<ul style="list-style-type: none"> Switch on MI 301 using the power button. The indicator light will flash blue. Charge MI 301.

7. Technical data

Built-in battery	Li-ion battery 3.7 V, 500 mAh, 1.85 Wh
Current consumption	Maximum 30 mA
Charging time	5 hours
Enclosure class	IP40
Operating time (30 mA consumption, 100 % battery)	Minimum 8 hours
IR communication	
Transmission angle	± 12°
Range	Min. 2 metres
Radio communication	
Band	IEEE 802.15.4, 2400 - 2483.5 MHz
Range	Up to 30 metres in free environment (no angle restrictions)
Bluetooth Low Energy	
Band	BLE 2402-2480 MHz
Range	Up to 10 metres
Environment	
Relative air humidity	Maximum 95 %
Operating temperature	-10 to +50 °C -4 to +122 °F
Storage temperature	-20 to +70 °C -4 to +158 °F

8. Disposing of the product

This product or parts of it must be disposed of in an environmentally sound way.

1. Use the public or private waste collection service.
2. If this is not possible, contact the nearest Grundfos company or service workshop.



The crossed-out wheellie bin symbol on a product means that it must be disposed of separately from household waste. When a product marked with this symbol reaches its end of life, take it to a collection point designated by the local waste disposal authorities. The separate collection and recycling of such products will help protect the environment and human health.

See also end-of-life information at www.grundfos.com/product-recycling.

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