

ALPHA Reader

MI401

Installation and operating instructions



ALPHA Reader

English (GB)

Installation and operating instructions	4
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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.

1.3 Abbreviations used in this document

Abbreviation	Description
app	Application
BLE	Bluetooth low energy

1.4 Radio communication

The Grundfos ALPHA Reader BLE unit is approved in all EU countries.

1.5 Battery statements



WARNING

Intoxication or risk of chemical burn

Death or serious personal injury

- The battery can cause severe or fatal injuries in 2 hours or less if it is swallowed or placed inside any part of the body. In such an event, seek medical attention immediately.

The product contains a button cell battery.

Type:	CR2032
Nominal voltage:	3 V
Rechargeable:	No
Removable:	Yes
CE compliant:	Yes

To avoid the risk of ingestion, observe the following:

- Even used batteries may cause severe injury or death.
- Call a local poison control center for treatment information.
- Remove and immediately recycle or dispose of used batteries according to local regulations and keep them away from children. Do not incinerate the batteries or dispose of them in household trash.
- Remove and immediately recycle or dispose of batteries from the equipment not used for an extended period of time according to local regulations.
- Do not discharge, recharge, disassemble, heat above 80 °C/176 °F or incinerate the batteries. Doing so may cause injury due to venting, leakage or explosion resulting in chemical burns.
- Always secure the battery compartment. If the battery compartment does not close securely, stop using the product, remove the batteries, and keep them away from children.
- Ensure the batteries are installed correctly according to polarity (+ and -).

2. Receiving the product

2.1 Scope of delivery

- Quick guide
- MI401 ALPHA Reader unit
- CR2032 lithium battery.



ALPHA Reader

3. Product introduction

The MI401 ALPHA Reader unit is the receiver and transmitter of pump performance data. The unit broadcasts to an Android or iOS-based mobile device via Bluetooth. The unit uses a small lithium battery.

Together with the Grundfos GO Balance, this unit is used for balancing heating systems primarily in one-family houses. The app guides you through a number of steps about information on installation and measurements from the pump. In a two-string system heated by radiators, the app calculates the balancing values for each of the valves. Based on these values, the app guides you through the adjustment of each valve in the system.

The app is available for both Android and iOS devices, and you can download it from the Google Play or the App Store.



Use the unit with the ALPHA2 Model E and ALPHA3 Model A circulator pumps only.



The Bluetooth range is affected by the materials in walls, roofs and floors, as well as the type of mobile phone and the weather conditions. Therefore, there is a possibility for the Bluetooth range to be shorter than specified. In such a case, use a second unit as signal repeater.



You can only do hydronic balancing in two-pipe heating systems.

4. Starting up the product

4.1 Bluetooth broadcasting

The unit broadcasts data via BLE to the mobile device using the Bluetooth function. The transmission from the unit is received by the mobile device as soon as the unit is switched on, the app is opened and the mobile device and the unit are within the same range.

4.1.1 Using the unit and the Grundfos GO Balance app

1. Make sure that your mobile device and the unit are no more than one metre apart.
2. Make sure a button-cell battery (CR2032) has been inserted. For more information, see the quick guide.

WARNING

Intoxication or risk of chemical burn

Death or serious personal injury



- The battery can cause severe or fatal injuries in 2 hours or less if it is swallowed or placed inside any part of the body. In such an event, seek medical attention immediately.

3. Press the power button to switch on the unit. The indicator light flashes every second indicating that the unit is on.
4. Start the Grundfos GO Balance app on your mobile device. The Bluetooth is automatically activated. The app tries to find the transmission from the unit.
5. Press the power button for 3 seconds to switch off the unit.



When you open the app, it shows data from the first unit from which it receives data. Therefore, only use the system on one pump at a time.

4.1.2 Indicator light status

The indicator light shows the status of the unit.

Indicator light	Description
Flashing green every second	The unit is switched on.
Flashing green twice every second ...	The unit is switched on and is sending data.
Flashing red every second	The battery level is low. There is no transmission to the mobile device.
Flashing red twice every second ...	The battery level is low, but the unit is transmitting.
Flashing red and green every second	The alternating blink indicates software update.

4.2 Supported devices

The unit and the Grundfos GO Balance app are supported by Android devices with Android 4.4 or later, and iOS devices with iOS 8 or later. You must use a mobile device that supports Bluetooth.

4.3 Performing hydronic balancing



Make sure the Grundfos GO Balance app is installed on your mobile device.

1. Switch on the unit.
2. Press **[>]** until **[III]** is displayed to set the pump to constant speed III.
3. On the pump, press **[w m³/h]** for 3 seconds until the status indicator light is flashing.
4. Place the unit on the pump.
5. Open the app and make sure your device is receiving data from the unit.
6. Start the balancing. The app guides you through the hydronic balancing step by step.
7. Measure zero flow.
8. Measure maximum flow rate.
9. Measure base flow rate.
10. Perform the balancing.
11. Adjust each radiator as requested in the app.
12. Click **[Proceed to report]**. You receive a final report that you can use for documentation purposes once you finalise the hydronic balancing.
13. Remove the unit from the pump.
14. Press the power button to switch off the power.

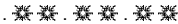
4.4 Setting up a signal repeater

You can expand the range of the unit signal by using a second unit. The second unit repeats the signal from the primary unit that is installed on the pump.

The primary unit must be on and must be transmitting data.

1. Switch on the second unit.
2. Place it between the primary unit and the position with poor signal.
3. Make sure the status indicator light on the second unit flashes twice every second. Refer to the table below.

The signal is now repeated and the range is extended.

Indicator light	Description
Flashing every second 	The second unit is switched on but there is no connection to the primary unit.
Flashing twice every second 	The second unit is switched on and is sending data as a signal repeater.

The signal repeater flashes green if the battery level is sufficient, and red if the battery level is low.



TM071630

Pump without Bluetooth, one transmitter and one signal repeater



TM071631

Pump with Bluetooth and one signal repeater

5. Servicing the product

5.1 Cleaning the product

Clean the unit with a dry, soft cloth.

5.2 Changing the battery

WARNING

Intoxication or risk of chemical burn

Death or serious personal injury



- The battery can cause severe or fatal injuries in 2 hours or less if it is swallowed or placed inside any part of the body. In such an event, seek medical attention immediately.

The lithium battery used in the unit does not contain mercury, lead or cadmium. If the battery is flat, replace it with a new battery of the same type.

The unit automatically switches off after 5 minutes when not in use. To switch off the unit manually, press the power button for 3 seconds.

5.3 Installing software and updates

If you install the Grundfos GO Balance on a mobile device, you get notified when software updates are available through either the App Store or the Google Play.

Downloading the software and updates from the App Store

You can download and update the Grundfos GO Balance app for Apple iOS devices from the App Store. It is free of charge.

1. Go to the App Store.
2. Search for Grundfos GO Balance.



Downloading the software and updates from Google Play

You can download and update the Grundfos GO Balance app from the Google Play. It is free of charge.

1. Go to Google Play.
2. Search for Grundfos GO Balance.



6. Fault finding the product

6.1 Grundfos GO Balance app on Apple iOS

6.1.1 The app does not start when you press the icon, or freezes, or exits without warning.

Cause	Remedy
There is an application-related error.	- Restart the app. 1. Close the app. 2. Press the home button twice very quickly to see running apps. iOS 8 or later: 1. Swipe the Grundfos GO Balance-app preview window upwards until it disappears. 2. Start the app again via its icon.

6.1.2 The app is not available on my device.

Cause	Remedy
The application has not been installed on the device yet.	- Install the app. 1. Go to the App Store and download the Grundfos GO Balance app for free. 2. Search for Grundfos GO Balance.

6.2 Grundfos GO Balance app on Android

6.2.1 The app does not start when you press the icon, or freezes, or exits without warning.

Cause	Remedy
There is an application-related error.	- Restart the app. 1. Close the app. 2. Open the task manager and close the app if necessary.

6.2.2 The app is not available on my device.

Cause	Remedy
The application has not been installed on the device yet.	- Install the app. 1. Go to the Google Play and download the Grundfos GO Balance app for free. 2. Search for Grundfos GO Balance.

6.3 ALPHA Reader

6.3.1 The signal between the mobile device and the unit is lost.

Cause	Remedy
The mobile device is outside the Bluetooth range.	- Move your mobile device closer to the unit. - If the signal is not strong enough, use a second unit as a signal repeater.
The battery level is low.	Change the battery. Low battery level affects the signal range.

Related information*7. Technical data***7. Technical data**

Common data	
Range	The range is 20 metres in a free environment, there are no angle restrictions. The range is affected by the type of building materials used for the walls.
Operating time	The operating time is minimum 120 hours. If the unit is not used, the battery life is one year.
Environment	
Relative humidity	Maximum 95 %
Operating temperature	-10 to +55 °C -4 to +130 °F
Storage temperature	-20 to +70 °C -4 to +158 °F
Grundfos ALPHA Reader	
Voltage supply	CR2032 lithium battery, 3 V
Enclosure class	IP42

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.
3. Dispose of the waste battery through the national collective schemes. If in doubt, contact your local Grundfos company.



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.

9. Document quality feedback

To provide feedback about this document, scan the QR code using your phone's camera or a QR code app.



[Click here to submit your feedback](#)

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