ifm ZB0929 Gateway for Wireless Vibration Sensors Instruction Manual

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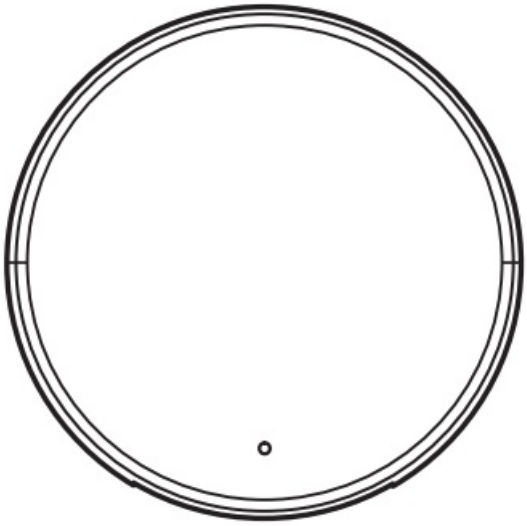


Contents

Preliminary note

Technical data, approvals, accessories, and further information at www.ifm.com.

Safety instructions

- Read this document before setting up the product and keep it during the entire service life.
- The product must be suitable for the corresponding applications and environmental conditions without any restrictions.
- Only use the product for its intended purpose (→ Functions and features).
- If the operating instructions or the technical data are not adhered to, personal injury and/or damage to property may occur.
- The manufacturer assumes no liability or warranty for any consequences caused by tampering with the product or incorrect use by the operator.
- Installation, electrical connection, set-up, operation, and maintenance of the product must be carried out by qualified personnel authorized by the machine operator.
- The plant operator is responsible for the safety of the plant in which the device is installed.
- If the device is not used as intended by the manufacturer, the protection supported by the device may be impaired.
- Protect units and cables against damage.
- The device is designed for indoor use.
- The operation can affect the function of electronic devices that are not correctly shielded. Disconnect the unit in the vicinity of medical equipment. Please contact the manufacturer of the device in case of problems.
  Interference with medical devices
  The device may emit radio waves, which could affect the operation of nearby electronics, including cardiac pacemakers, hearing aids, and defibrillators. If you have a pacemaker or other implanted medical device, do

not use the device without first consulting your doctor or the manufacturer of your medical device.

Maintain a safe distance between the device and your medical devices and stop using the device if you observe a persistent interference with your medical device.

Symbols used

▶Instruction
>Reaction, result
→Cross-reference

Important note
Non-compliance may result in malfunction or interference.

Information
Supplementary note.

Functions and features

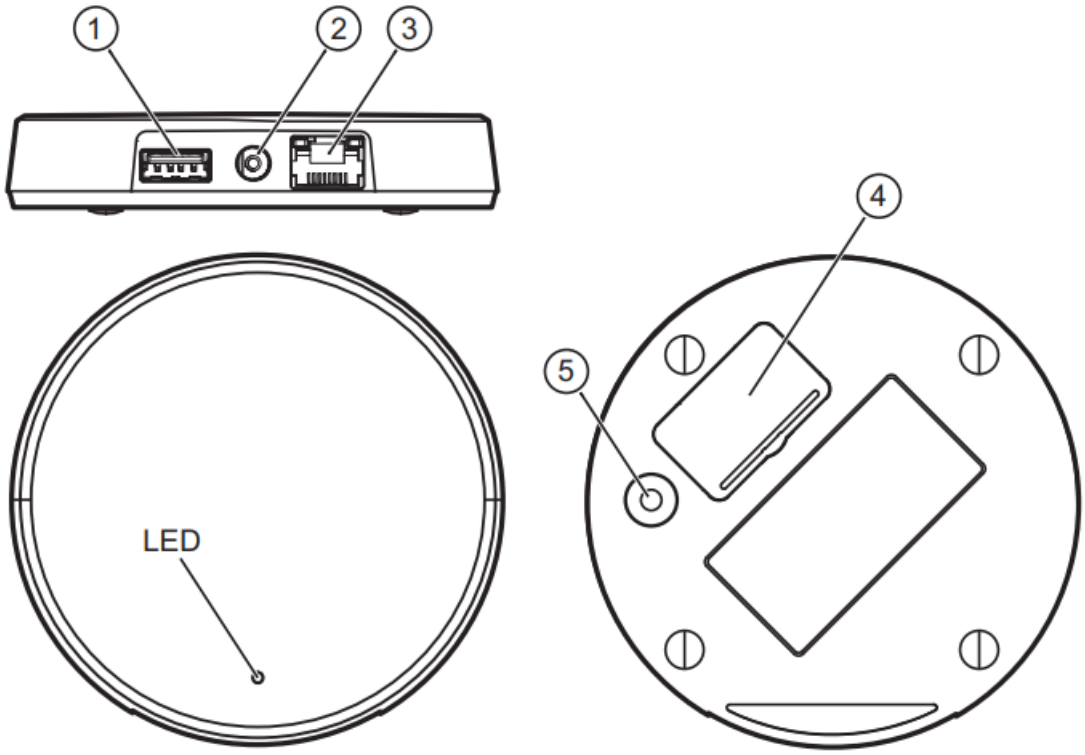
- The gateway transmits sensor data to the back-end system. In the backend system, the sensor data is made available to carry out analyses and evaluations and to create alarm rules.
- Connect the gateway to the Internet either via a wired Ethernet connection, wirelessly via a mobile network (NB-IoT, CatM1, or 2G), or via a wireless LAN connection.

The device must not be operated within a radius of 20 km around Ny-Ålesund, Spitsbergen, Norway.

Installation

Position the device close to the sensor. If necessary, use the supplied mounting accessories for installation.

Operating and display elements



1: USB connection	4: Micro-SIM card slot
2: Mains connection	5: Confi guration button
3: Ethernet connection	

Electrical connection

► Connect the device with the supplied power supply.

Set-up

The unit switches on automatically when connected to the power supply.

LED	Colour	Status	Meaning
	green	on	Device is connected to the Internet.
	blue	on	Wireless connection to the Internet is being established.
		flashes	The device is in local configuration mode.
	red	on	Device fault ► Open configuration mode and examine the malfunction.

Connect to the Internet

 A connection via Ethernet or mobile radio automatically disables the wireless LAN connection.

Ethernet connection
Use the RJ45 socket for Ethernet connection.

- Adjusting Ethernet settings in the configuration menu → chapter 7.2.

Wireless LAN connection

- Open configuration mode and set up wireless LAN connection → chapter 7.2.

Mobile network connection

- Adjusting settings (operator, APN, SIM PIN) in the configuration menu →chapter 7.2.
- Open the micro-SIM card slot.
- Unlock and open the cardholder.
- Insert the micro-SIM card with the contacts facing down and close everything.

 If necessary, activate the micro-SIM card first with your mobile phone provider.

Gateway configuration

- Press the configuration key for at least 10 s until the LED flashes blue.
  > The device becomes a wireless LAN access point.

The serial number and password for the initial set-up is on the type label on the back of the gateway.

- Connect PC, smartphone, etc. to the wireless LAN access point. The name of the wireless LAN access point is “image-serial number”.
- Enter the password.

While the gateway is establishing a radio connection (LED lights up blue), the configuration mode cannot be started.

Windows 10 may ask for a PIN code as the primary access point password. Use the option ‘password’.

- Open the browser on the PC, smartphone, etc.
- Open the address 192.168.0.1:3001 in the browser.
- Make the necessary configurations (e.g. change password for gateway access, check error log, set up a connection via wireless LAN, Ethernet, or mobile phone).

Leave the gateway configuration
Close the program with [Quit]. The gateway will reboot.

Sensor set-up

Recommendation:
Due to the mesh topology, arrange the sensors around the gateway.

- Press the button briefly (switch on the device).
  > Green LED lights up briefly and goes out again.
  > Green LED lights up briefly again: connection with the gateway ok or
  > Red LED lights up briefly again: no connection with the gateway.
- Check the connection and position the unit closer to the gateway.

Switch off the sensor:
► press the button for 30 s.
You will find detailed information about the sensors at **www.ifm.com**.

Maintenance, repair, disposal

The operation of the unit is maintenance-free. It is not possible to repair the unit.
Dispose of the unit in an environmentally friendly way in accordance with the applicable national regulations when it is no longer used.

Radio approvals

If approvals are granted, the approval texts of the respective countries shall apply.

Overview

Radio technology	Frequency bands	max. transmission power
LTE Cat. M1	B2, B3, B4, B5, B8, B20	+ 23 dBm
LTE NB-IoT	B2, B3, B4, B5, B8, B20	+ 23 dBm
2G GPRS/EGPRS	B3	+ 33 dBm
2G GPRS/EGPRS	B8	+ 30 dBm
WLAN (2.4 GHz)	2.4 GHz ISM	+ 17.3 dBm
2.4 GHz ISM (Proprietary)	2.4 GHz ISM	+ 4 dBm

The overview of the approval status of a device is available on our website at **www.ifm.com**.

Europe / EU Declaration of Conformity
ifm electronic gmbh hereby declares that the device corresponds to the directive 2014/53/EU.
The full text of the EU Declaration of Conformity is available at the following Internet address: **www.ifm.com**.

USA

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

1. This device must not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.
   Changes or modifications to this device that have not been expressly approved by ifm could void the user‘s authority to operate the equipment.

Information to the user:
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.

Radiofrequency radiation exposure information:
This device complies with the radiation exposure limits prescribed for an uncontrolled environment for fixed and mobile use conditions. This device should be installed and operated with a minimum distance of 20 cm between the device and the body of the user or nearby persons.

Canada

ISED note:
This device contains license-exempt transmitters/receivers that comply with Innovation, Science, and Economic Development Canada's license-exempt RSS.
Operation is subject to the following two conditions:

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

   This device complies with IC RSS-102 radiation exposure limits set forth for an uncontrolled environment.

Documents / Resources

	ifm ZB0929 Gateway for Wireless Vibration Sensors [pdf] Instruction Manual ZB0929, UN6-ZB0929, UN6ZB0929, ZB0929 Gateway for Wireless Vibration Sensors, Gateway for Wireless Vibration Sensors, Wireless Vibration Sensors, Vibration Sensors, Sensors

References

- ifm - automation made in Germany