

Operating instructions



WaterSensor eco

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1 About these operating instructions

These operating instructions describe the WaterSensor eco (also referred to as "product" in these operating instructions).

- You may only use the product if you have fully read and understood these operating instructions.
- Verify that these operating instructions are always accessible for any type of work performed on or with the product.
- Pass these operating instructions as well as all other product-related documents on to all owners of the product.
- If you feel that these operating instructions contain errors, inconsistencies, ambiguities or other issues, contact the manufacturer prior to using the product.

These operating instructions are protected by copyright and may only be used as provided for by the corresponding copyright legislation. We reserve the right to modifications.

The manufacturer shall not be liable in any form whatsoever for direct or consequential damage resulting from failure to observe these operating instructions or from failure to comply with directives, regulations and standards and any other statutory requirements applicable at the installation site of the product.

2 Information on safety

2.1 Safety messages and hazard categories

These operating instructions contain safety messages to alert you to potential hazards and risks. In addition to the instructions provided in these operating instructions, you must comply with all directives, standards and safety regulations applicable at the installation site of the product. Verify that you are familiar with all directives, standards and safety regulations and ensure compliance with them prior to using the product.

Safety messages in these operating instructions are highlighted with warning symbols and warning words. Depending on the severity of a hazard, the safety messages are classified according to different hazard categories.



CAUTION

CAUTION indicates a hazardous situation, which, if not avoided, can result in injury or equipment damage.

NOTICE

NOTICE indicates a hazardous situation, which, if not avoided, can result in equipment damage.

In addition, the following symbols are used in these operating instructions:



This is the general safety alert symbol. It alerts to injury hazards or equipment damage. Comply with all safety instructions in conjunction with this symbol to help avoid possible death, injury or equipment damage.

2.2 Intended use

This product may only be used to detect water. When it detects water, it sends an EnOcean® wireless telegram.

Any use other than the application explicitly permitted in these operating instructions is not permitted and causes hazards.

Verify that the product is suitable for the application planned by you prior to using the product. In doing so, take into account at least the following:

- All directives, standards and safety regulations applicable at the installation site of the product
- All conditions and data specified for the product
- The conditions of the planned application

In addition, perform a risk assessment in view of the planned application, according to an approved risk assessment method, and implement the appropriate safety measures, based on the results of the risk assessment. Take into account the consequences of installing or integrating the product into a system or a plant.

When using the product, perform all work and all other activities in conjunction with the product in compliance with the conditions specified in the operating instructions and on the nameplate, as well as with all directives, standards and safety regulations applicable at the installation site of the product

2.3 Predictable incorrect application

The product must never be used in the following cases and for the following purposes:

- Hazardous area (EX)
 - If the product is operated in hazardous areas, sparks may cause deflagrations, fires or explosions.
- Use with liquids other than water
- In conjunction with products which are used for health-saving or life-saving purposes or whose operation may incur hazards to humans, animals or property.

2.4 Qualification of personnel

Only persons who are familiar with and understand the contents of these operating instructions and all other pertinent product documentation are authorized to work on and with this product.

2.5 Personal protective equipment.

Always wear the required personal protective equipment. When performing work on and with the product, take into account that hazards may be present at the installation site which do not directly result from the product itself.

2.6 Modifications to the product

Only perform work on and with the product which is explicitly described in these operating instructions. Do not make any modifications to the product which are not described in these operating instructions.

3 Transport and storage

The product may be damaged as a result of improper transport or storage.

NOTICE

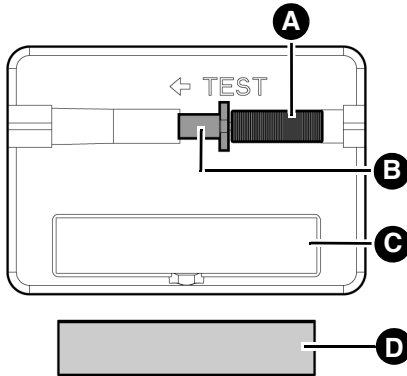
INCORRECT HANDLING

- Verify compliance with the specified ambient conditions during transport or storage of the product.
- Use the original packaging when transporting the product.
- Store the product in a clean and dry environment.
- Verify that the product is protected against shocks and impact during transport and storage.

Failure to follow these instructions can result in equipment damage.

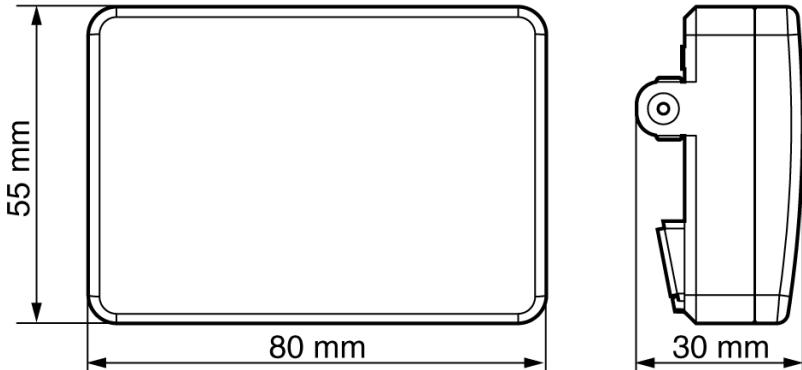
4 Product description

4.1 Overview

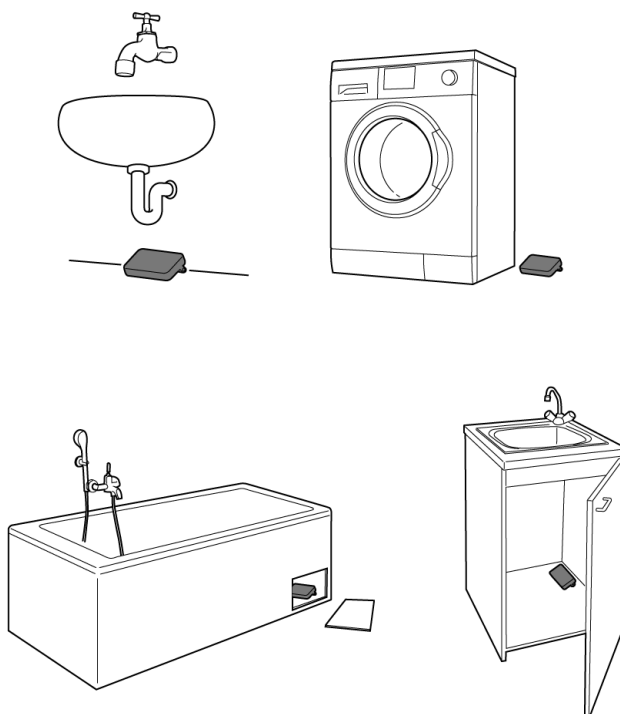


- A. Fibre disks
- B. Piston
- C. Glueing surface for foam rubber
- D. Foam rubber strip

4.2 Dimensions



4.3 Application example(s)



4.4 Function

The product detects water. The product is independent of external power supply and does not require a power supply unit or batteries. The product is water-tight and maintenance-free.

Fibre disks are located at the bottom of the product. They serve as a sensor and as an energy source. If fibre disks are in contact with water, they expand and move a piston. This generates energy. This energy is used to send an EnOcean® wireless signal to an AFRISOhome gateway. The product sends a wireless signal when the fibre disks expand (wet) and after they have shrunk to their original size (dry).

Each product has a unique ID. If multiple products are used, the AFRISOhome gateway can distinguish the individual products.

Each expansion process and shrinking process reduces the possible displacement of the piston.

The first five expansion processes take no more than six minutes. From the sixth expansion process on, it may take up to an hour until a wireless signal is sent. After the tenth expansion process, the product must be replaced. This information only applies in the case of clean water and if the fibre disks can dry completely between the expansion processes.

4.5 Approvals, conformities, certifications

The product complies with:

- EMC Directive (2014/30/EU)
- Low Voltage Directive (2014/35/EU)
- Radio Equipment Directive, RED (2014/53/EU)
- RoHS Directive (2011/65/EU)

5 Technical specifications

Parameter	Value
General specifications	
Dimensions (W x H x D)	80 x 55 x 30 mm
Weight	66 g
Housing material	PC
Colour	White, similar to RAL 9003
Response delay	< 6 minutes (for the first 5 expansion processes)
	up to 1 hour (for expansion processes 6 to 10)
Maximum use	10 expansion processes
Operating temperature range	
Ambient	-25 ... 65 °C
Medium	1 ... 65 °C
Storage	-25 ... 65 °C
Supply voltage	
Supply voltage	Energy harvesting
Electrical safety	
Degree of protection (EN 60529)	IP 43
Electromagnetic compatibility (EMC) (2014/30/EU)	
Low Voltage Directive (2014/35/EU)	
Radio Equipment Directive, RED (2014/53/EU)	
EnOcean® wireless	
Frequency	868.3 MHz
Transmission power	Max. 10 mW
Range	See chapter "Information on EnOcean® wireless"
EnOcean® Equipment Profile (EEP)	F6-05-01

6 Mounting

6.1 Setting up the product



CAUTION

RISK OF STUMBLING

Only place the product where persons cannot stumble over it.

Failure to follow these instructions can result in injury or equipment damage.

- ⇒ If you intend to mount multiple products, start by creating a mounting plan with the appropriate mounting locations. Then label the products with numbers or the corresponding mounting location to help avoid confusion of mounting locations.
- 1. Position the product as close as possible to a location where water may leak.
- 2. Place the product onto the ground with the fibre disks pointing down.
- 3. Take into account the gradient of the floor and the possible direction of flow of the leaking water.
- 4. Remove water absorbing materials on the floor, for example carpets.

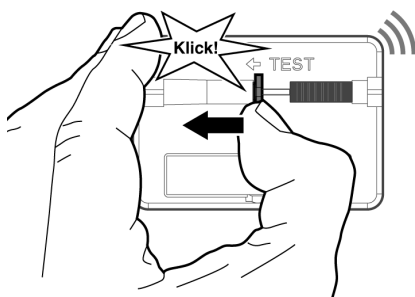
6.1.1 Fastening the product with foam rubber

You can fixate the product on slippery surfaces with the enclosed foam rubber strip.

7 Commissioning

7.1 Teaching in

- ⇒ Verify that the product is in the vicinity of the AFRISOhome gateway.
- ⇒ Verify that the AFRISOhome gateway is in "Learn" mode. See the operating instructions of the AFRISOhome gateway for information detailed information.
- ⇒ If you intend to mount multiple products, start by creating a mounting plan with the appropriate mounting locations. Then label the products with numbers or the corresponding mounting location to help avoid confusion of mounting locations.



1. Press the piston of the product once.
 - The product sends a Learn telegram to the AFRISOhome gateway.
 - The product is now connected to the AFRISOhome gateway.

7.2 Function test

- ⇒ Verify that the product is connected to the AFRISOhome gateway.
 - ⇒ Verify that the product is in the vicinity of the AFRISOhome gateway.
1. Press the piston at the product once and release it. The product sends two signals to the AFRISOhome gateway: one signal, when the piston is pressed down, one signal, when it is released.
 2. Check whether the AFRISOhome gateway has received the signals.

8 Maintenance

The product is maintenance-free.

9 Troubleshooting

Any malfunctions that cannot be removed by means of the measures described in this chapter may only be repaired by the manufacturer.

Problem	Possible reason	Repair
AFRISOhome gateway does not receive a signal during the function test	The product is outside of the range of the AFRISOhome gateway	If possible reduce the distance from the AFRISOhome gateway
		Use a repeater

10 Decommissioning, disposal

Dispose of the product in compliance with all applicable directives, standards and safety regulations.

Electronic components must not be disposed of together with the normal household waste.



1. Disconnect the product from mains.
2. Dismount the product (see chapter "Mounting", reverse sequence of steps).
3. Dispose of the product.

11 Returning the device

Get in touch with us before returning your product (service@afri-so.de).

12 Warranty

See our terms and conditions at www.afri-so.com or your purchase contract for information on warranty.

13 Spare parts and accessories

Product

Product designation	Part no.	Figure
WaterSensor eco	55080	

14 Information on EnOcean® wireless

14.1 Range of EnOcean® wireless

Visit www.enocean.com for further information on range planning with EnOcean®.

14.2 Additional information on EnOcean® wireless systems

Additional information on planning, installation and operation of EnOcean® wireless systems can be found at www.enocean.com.

- Wireless standard
- Wireless technology
- AN001
- AN102
- AN201

14.3 Features of the EnOcean® technology

Visit www.afriso.de/afrisolab for documents on EnOcean® technologies.

A variety of videos on AFRISO products can also be found on the AFRISO YouTube channel.