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Made in Czech Republic

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EN

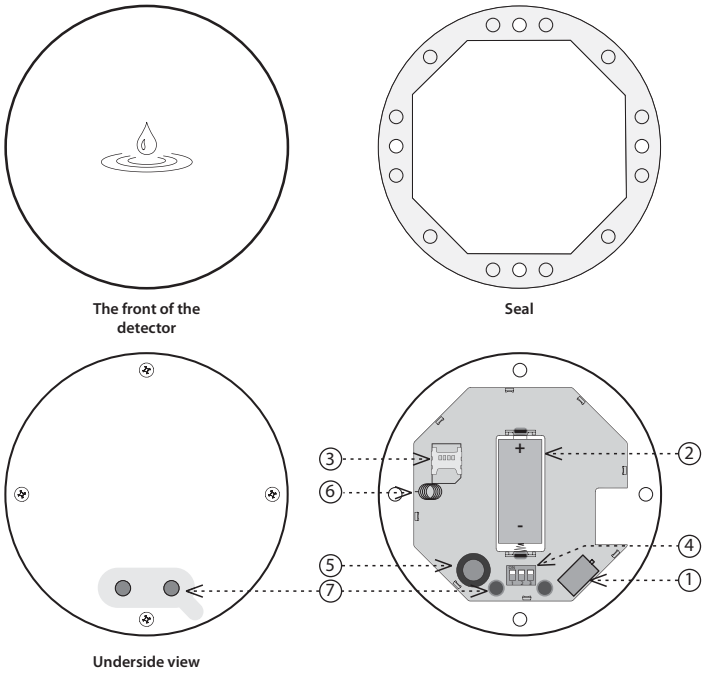
AirSF-100NB

Flood detector

Characteristics

- The flood detector is used to detect water leakage - the activation occurs the moment the flooding of the contacts located on the underside of the detector occurs.
- Provides a quick solution to learn about unwanted flooding in your bathroom or kitchen that you can react too immediately.
- With a wireless NB-IoT communication network the device can be immediately put in the desired location and run immediately.
- Flood detection is signalled by vibration, optical and acoustic signalling. In the case of water detection, data is sent to the server, ...
- Data is sent to the server from which it can be subsequently displayed as a smartphone, application, or Cloud notification.
- Anti-sabotage: If access to the device is unauthorized, a message is immediately sent to the server.
- Power supply: 1x CR123A battery.

Description



1. Vibrating motor
2. Battery
3. NanoSIM slot
4. DIP switch
5. Hooter
6. Antenna
7. Probes pads

Cloud app assignment

It is done in your Smartphone application. Enter the relevant information on the product cover into the application.

General instrucions

Internet of Things (IoT)

- The IOT wireless communications category describes the Low Power Wide Area (LPWA). This technology is designed to provide full-range coverage both inside and outside buildings, energy-saving and low-cost operation of individual devices. The NarrowBand network is available to use this standard.

Information about the NarrowBand network

- The network provides two-way communication and the only one to use the licensed LTE band. Our devices allow band 1 (2100MHz), Band 3 (1800MHz), Band 8 (900MHz), Band 5 (850MHz), Band 20 (800MHz) and Band 28 (700MHz).
- It uses this SIM card technology for each device.
- The advantage of NarrowBand is the use of already built-up grids, which ensures sufficient reception outside and inside buildings.
- For more information on this technology, please visit www.vodafone.cz

Caution for proper operation:

- Products are installed according to the wiring diagram given for each product.
- For proper device functionality, it is necessary to have sufficient coverage of the selected network at the installation site.
- At the same time, the device must be registered in the network. Successful device registration on a given network requires a charge for traffic.
- Each network offers different tariff options - it always depends on the number of messages you want to send from your device. Information on these tariffs can be found in the current version of the ELKO EP pricelist.

Function

The detector is designed to detect the presence of water in flooded areas such as cellars, bathrooms, warehouses, etc. It is suitable for dealing with potentially recurring situations such as bath overflow, washing machine, dishwasher, boiler, blockages or foul waste, and floods due to groundwater, river or other emergencies.

Detector states

- Alarm - when the scanning contact is connected, the detector sends the data message and starts the set alarm. The signalling type can be set by the DIP switch. Signalling stops after 3 minutes even if the reason for the alarm has not been removed. In case of positive detection, the audible alarm is restored after 5 minutes.
- Terminate the alarm after a few seconds after the flood has dropped (disconnect the connection contacts).
- The data status report is sent at twelve-hour intervals (can be edited by a message from the server). In case of detection 2 seconds after connection of sensing contacts.

Important Notice

- CAUTION: The flood detector detects only the presence of liquid that has reached the sensor. Liquid may be present in other areas.
- Always be aware of potential dangers, develop safety awareness, and take precautions to avoid dangers whenever and wherever needed. The detector can reduce the likelihood of catastrophe but cannot guarantee 100% safety.

Commissioning

- Remove the protective tape from the sensor contacts.
- To activate the detector, place a conductive object (such as the included paper clips) on the sensing contacts. Hold for 20 seconds. The detector triggers a light and beep and sends an initial message.

Inserting nanoSIM

1. Use a screwdriver to open the detector.
2. Remove the battery.
3. Carefully insert nanoSIM (the device must not be energized when inserting or replacing nanoSIM!)
5. Insert the battery and check the correct location (when the battery is inserted, the detector functionality message will be sent to the application).
7. Replace the seal, attach the front cover - make sure the correct location. Screw in, tighten the screws to maintain IP protection.

Signal settings

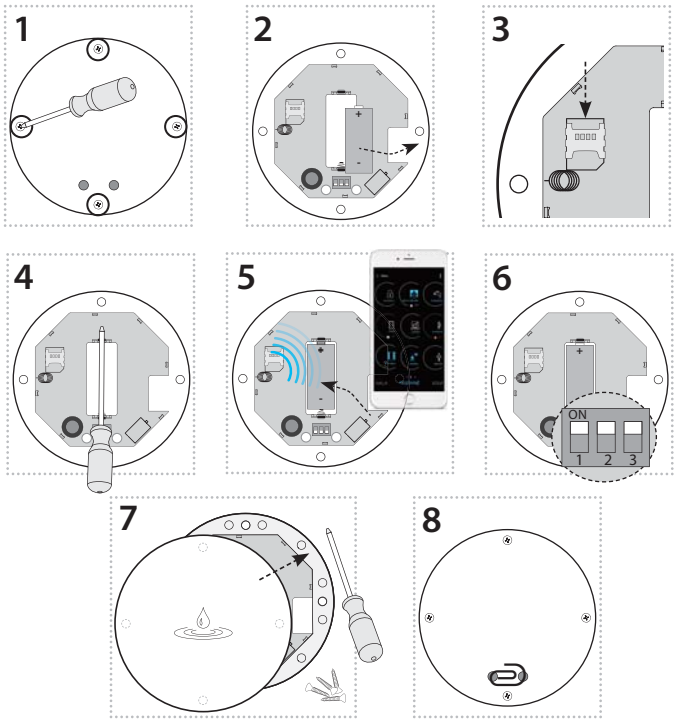
1. Use a screwdriver to open the detector.
6. Set the DIP as required (all DIP switch positions are on by default).
7. Replace the seal, attach the front cover - make sure the correct location. Screw in, tighten the screws to maintain IP protection.

Replacement of a battery

1. Use a screwdriver to open the detector.
2. Remove the battery.
4. Use a metal object (such as a screwdriver) to connect the battery holders (to reset the device). Caution - Do not touch other parts of the device with a metal object!
5. Insert the battery and check the correct location (when the battery is inserted, the detector functionality message will be sent to the application).
7. Replace the seal, attach the front cover - make sure the correct location. Screw in, tighten the screws to maintain IP protection.
8. Commissioning: To activate the detector, place a conductive object (such as the included paper clips) on the sensing contacts. Hold for 20 seconds. The detector triggers a light and beep and sends an initial message.

Notice:

Only use batteries designed for this product correctly inserted in the device! Immediately replace weak batteries with new ones. Do not use new and used batteries together. If necessary, clean the battery and contacts prior to using. Avoid battery shorts! Do not dispose of batteries in water or fire. Do not dismantle batteries, do not try to charge them and protect them from extreme heating - danger of leakage! Upon contact with acid, immediately rinse the affected area with a stream of water and seek medical attention. Keep batteries out of the reach of children. If it is suspected that the battery has been swallowed or somehow placed inside the body, consult a doctor immediately. Give the doctor information about the type of battery (from battery case, device or its manual, etc.) to determine the chemical composition of the battery. Batteries must be recycled or returned to an appropriate location (e.g. collection container) in accordance with local legal provisions.



Safe handling

When handling a device unboxed it is important to avoid contact with liquids. avoid unnecessary contact with the components of the device. Do not touch the metal objects inside the unit.

Placement recommendations

Place the activated detector on a flat, non-conductive surface where flooding is likely.

The detector requires no maintenance and is intended for indoor use.

What to do when flood is detected

If a flood is detected, your immediate attention and action is required.

It is essential to identify the source of the flood and take appropriate action.

UPLINK / DOWLINK

UPLINK

Byte	0-14	15	16								17	18	19
Bit			7	6	5	4	3	2	1	0			
NOTIFICATION	IMEI	1	Reserved for future use							„Flood: 1 - alarm 0 - OK“			
HEARTBEAT		2											
START		3	Version FW								Subversion FW	Version FW Narrowband	Subversion FW Narrowband

DOWNLINK

Byte	0	1	2								3	4	5	6	7	8
Bit			7	6	5	4	3	2	1	0						
CONFIGURATION	5	Heartbeat period 0 - 127 [x min] 128 - 255 [(x - 127) h]	Reserved for future use				alert priority 1 - downlink 0 - dip	LED alert 1 - ON 0 - OFF	Vibration alert 1 - ON 0 - OFF	Sound alert 1 - ON 0 - OFF	Reserved for future use					

Technical parameters

	AirSF-100NB
Power supply	
Battery power:	1x CR123A battery
Battery life by frequency *:	
1x 10 minutes	2 years
1x 60 minutes	4 years
1x 12 hours	5.5 years
1x 24 hours	6 years
Setting	
Alarm Detection:	message to the server, vibration, optical and audible alarm
Battery status view:	message to the server
DIP switch:	Position 3: turn off sound signal Position 2: turn off mechanical signal Position 1: turn off optical signal
Acoustic signal:	greater than 45 dB / 1m
Detection	
Sensor:	contacts for flooding
Detection principle:	contact between the sensor sensed liquid
Response Time:	2 s after connecting the scanning contacts
Measurement accuracy:	99.8 %
Sensitivity:	in the range 0.03 - 20 kΩ
Indication	
LED:	broadcast, alarm
Communication	
Protocol:	NB-IoT
Transmitter frequency:	LTE Cat NB1**
Range in open space:	Approx. 30 km***
Transmission power (max.):	200 mW / 23 dBm
Other parameters	
Working temperature:	0…+50°C (Pay attention to the operating temperature of batteries)
Storage temperature:	-20…+60°C
Operation position:	capture contacts for flooding downwards
Mounting:	loose
Protection degree:	IP62
Dimension:	Ø 89 x 23 mm
Weight:	92 g

* Values are calculated under ideal conditions, without triggering an energy-intensive alarm (vibration, light and sound signal)
** Multiple frequency bands of B1 / B3 / B5 / B8 / B20 / B28
*** Depending on network coverage

Warning

Read the operating instructions before installing the device and putting it into operation. Instruction manual is designated for mounting and also for user of the device. It is always a part of its packing. Installation and connection can be carried out only by a person with adequate professional qualification upon understanding this instruction manual and functions of the device, and while observing all valid regulations. Trouble-free function of the device also depends on transportation, storing and handling. In case you notice any sign of damage, deformation, malfunction or missing part, do not install this device and return it to its seller. It is necessary to treat this product and its parts as electronic waste after its lifetime is terminated. Before starting installation, make sure that all wires, connected parts or terminals are de-energized. While mounting and servicing observe safety regulations, norms, directives and professional, and export regulations for working with electrical devices. Do not touch parts of the device that are energized – life threat. To ensure the transmission of the radio signal, make sure that the devices in the building where the installation is installed are correctly located. Unless otherwise stated, the devices are not intended for installation in outdoor and damp areas, they must not be installed in metal switchboards or in plastic cabinets with metal doors - this prevents transmission of the radio frequency signal. iNELS Air is not recommended for controlling life-saving instruments or for controlling hazardous devices such as pumps, heaters without thermostat, lifts, hoists, etc. - radio frequency transmission may be overshadowed by obstruction, interference, transmitter battery may be discharged etc., thereby disabling the remote control.

Conductivity of liquids

Liquids suitable for detection

Type of liquid	Resistivity [Ωcm]*
Drinking water	5-10 kΩ
Well water	2-5 kΩ
River water	2-15 kΩ
Rain water	15-25 kΩ
Waste water	0.5-2 kΩ
Seawater	~0.03 kΩ
Salt water	~2.2 kΩ
Natural / hard water	~5 kΩ
Chlorinated water	~5 kΩ
Condensed water	~18 kΩ
Milk	~1 kΩ
Milk serum	~1 kΩ
Fruit juices	~1 kΩ
Vegetable Juices	~1 kΩ
Broths	~1 kΩ
Wine	~2.2 kΩ
Beer	~2.2 kΩ
Coffee	~2.2 kΩ
Soap toam	~18 kΩ

* Resistivity characterizes the local conductivity or resistive properties of materials which conduct electric current.

Inadmissible liquids

- Demineralised water
- Deionised water
- Bourbon
- Gasoline
- Oil
- Liquid gases
- Paraffi n
- Ethylene glycol
- Paints
- High alcohol-content liquids