FIBARO SYSTEM

OPERATING MANUAL

ENG

FIBARO FLOOD SENSOR

FGFS-101

CONTENTS

v1.0

Important safety information

Read this manual before attempting to install the device!

Failure to observe recommendations included in this manual may be dangerous or cause a violation of the law. The manufacturer, Fibar Group S.A. will not be held responsible for any loss or damage resulting from not following the instructions of operating manual.

General information about the FIBARO System

FIBARO is a wireless smart home automation system, based on the Z-Wave protocol. All of available devices can be controlled through a computer (PC or Mac), smartphone or tablet. Devices are not only receivers, but can also repeat the signal, increasing the Z-Wave network's range. It gives advantage over traditional wireless systems that require direct link between transmitter and receiver, as a result the construction of the building could affect network's range negatively.

Every FIBARO network has its unique identification number (home ID). Multiple independent networks can exist in the building without interfering. Transmission security of FIBARO System is comparable to wired systems.

Z-Wave technology is the leading solution in smart home automation. There is a wide range of Z-Wave devices that are mutually compatible, independently of manufacturer. It gives the system the ability to evolve and expand over time. For more information visit: www.fibaro.com.

#1: Description and features

FIBARO Flood Sensor is a universal, Z-Wave compatible, flood and temperature sensor. Device can be battery or VDC powered. Flood alarm is sent to the Z-Wave network devices or additionally to any alarm system controller, through opening a NC contact.

The device has built in temperature sensor, monitoring temperature of e.g. floor. Flood Sensor is designed to be placed on the floor or on a wall with a flood sensor probe extended by connected wire. The device has built in visual LED indicator and acoustic alarm. LED diode signals flood, operating mode or the Z-Wave network communication range.

In addition, the sensor is equipped with a tilt sensor reporting tilt or movement to the main controller e.g. when someone has taken the Sensor from its original location.

FIBARO Flood Sensor is sink-proof, which means it drifts on the water surface and keeps on sending alarm signal in case of substantial inundation of water.

NOTE

This device may be used with all devices certified with Z-Wave certificate and should be compatible with such devices produced by other manufacturers.

NOTE

FIBARO Flood Sensor is a Security Enabled Z-Wave Plus product and a Security Enabled Z-Wave Controller must be used in order to fully utilize the product.

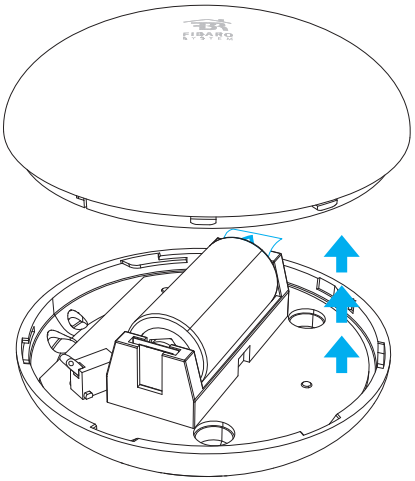
Main features of FIBARO Flood Sensor:

- Compatible with any Z-Wave or Z-Wave+ Controller
- Supports protected mode (Z-Wave network security mode) with AES-128 encryption
- May be connected to any alarm system (potential free output terminal)
- Extremely easy installation - simply put on a surface prone to flooding
- May be installed anywhere - flood sensor's contacts extended with a wire
- Battery or VDC powered. When connected to an external, VDC power source, the battery serves as an emergency power source
- Theft protection - tilt is reported to the Z-Wave network or alarm system's main controller
- Two operating modes - flood/temperature sensor or just a temperature sensor.
- Alarm is signalled by sound, visual indicator (LED diode) and Z-Wave

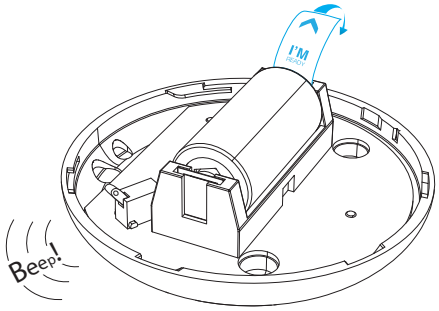
FIBARO Flood Sensor is a fully compatible Z-Wave PLUS device.

#2: Basic activation

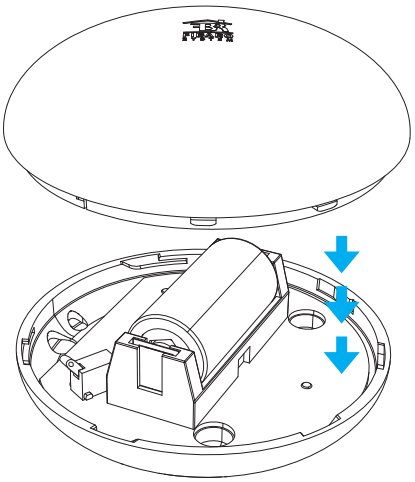
1. Turn the cover counter-clockwise and open it



2. Remove the battery blocker



3. Flood Sensor will confirm being powered with a short beep
4. Add the device (see "Adding/removing the device" on page 6)
5. Close the cover and turn it clockwise



6. Place the sensor onto a surface prone to flooding. Three electrodes underneath the device should evenly touch the surface.

NOTE

After completing installation it is recommended to test sensor's operation by placing the entire sensor or its probes' extension wire onto water surface.

NOTE

When changing the Sensor's location, it's recommended to wake up the device and reconfigure the Z-Wave network by triple clicking the TMP button.

#3: Adding/removing the device

NOTE

Adding in security mode must be performed up to 2 meters from the controller.

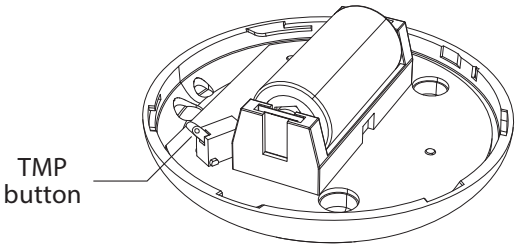
NOTE

In case the Sensor is not added, please reset the Sensor and repeat the adding procedure.

Adding (Inclusion) - Z-Wave device learning mode, allowing to add the device to existing Z-Wave network.

To add the device to the Z-Wave network:

1. Open the cover
2. Place the Flood Sensor within the direct range of your Z-Wave controller
3. Set the main controller in (security/non-security) add mode (see the controller's manual)
4. Quickly, three times press the TMP button



5. Wait for the adding process to end
6. Successful adding will be confirmed by the Z-Wave controller's message

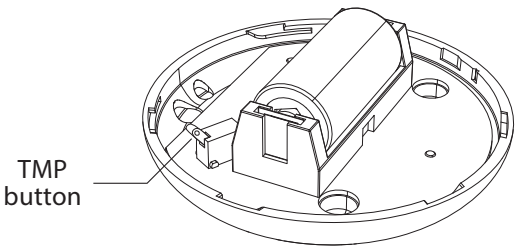
NOTE

Removing Flood Sensor from the Z-Wave network restores all the default parameters of the device.

Removing (Exclusion) - Z-Wave device learning mode, allowing to remove the device from existing Z-Wave network.

To remove the device to the Z-Wave network:

1. Open the cover
2. Place the Flood Sensor within the direct range of your Z-Wave controller
3. Set the main controller in remove mode (see the controller's manual)
4. Quickly, three times press the TMP button

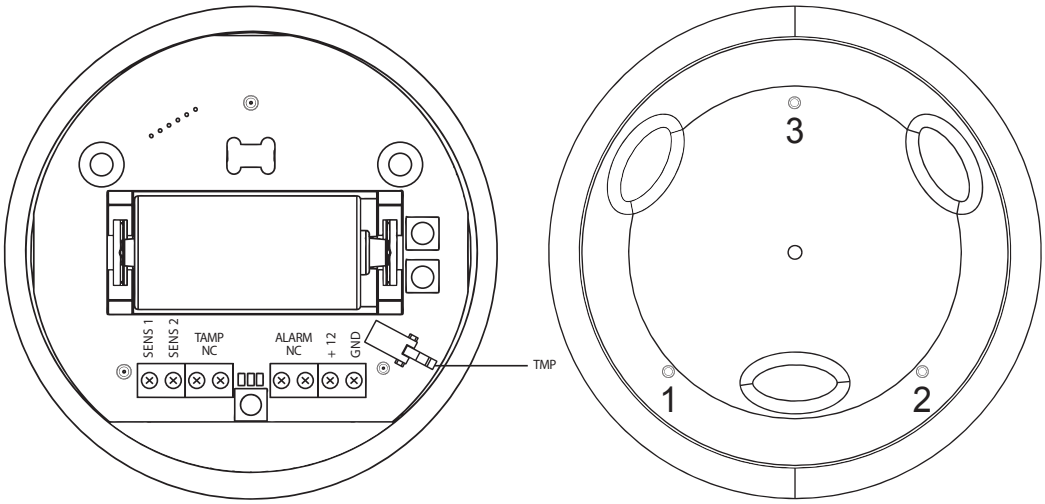


5. Wait for the removing process to end
6. Successful removing will be confirmed by the Z-Wave controller's message

#4: Diagrams and connection

Connecting the FIBARO Flood Sensor in a manner inconsistent with manual may cause risk to health, life or material damage.

Notes for the diagrams and probes marking:



+12V - 12 / 24 VDC positive terminal

GND - negative (ground) terminal

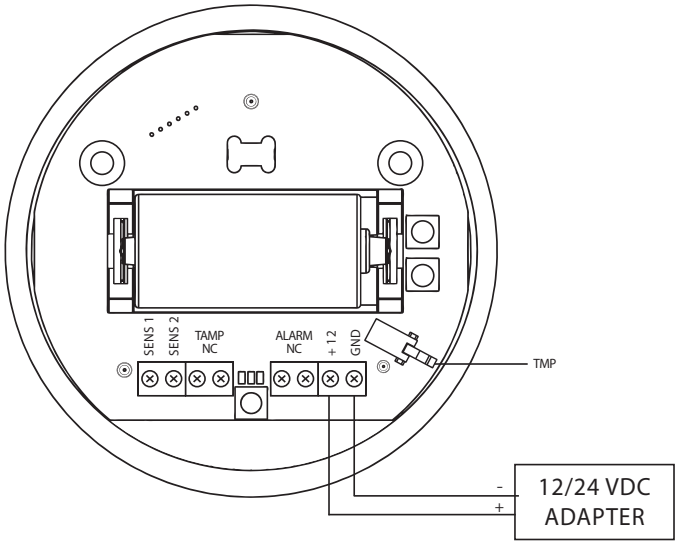
ALARM NC - potential-free flood sensor terminals (for wired systems)

TAMP NC - potential-free tamper terminals (for wired systems)

SENS1, SENS2 - flood sensor electrodes' terminals

TMP - tamper button (used to add/remove the device)

Connection to a constant power source:



CAUTION

Connect while observing wiring diagram shown in this manual only. Incorrect wiring may be dangerous or result in the device breakdown.

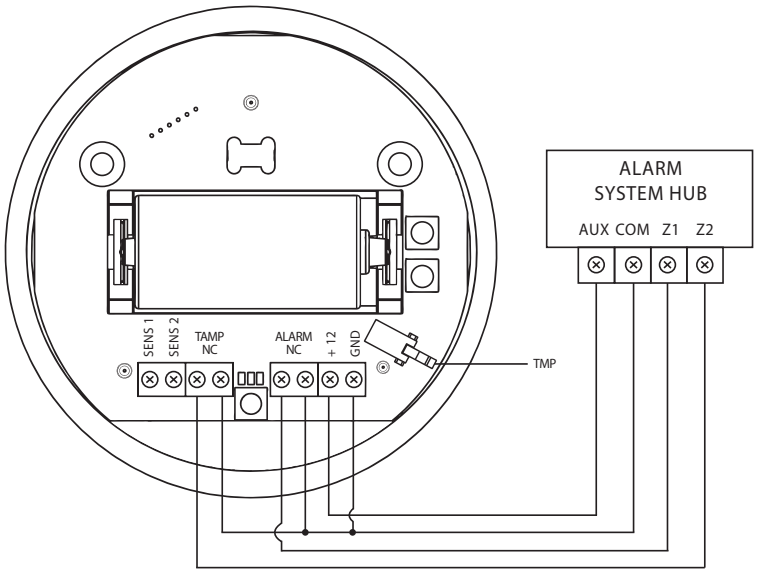
NOTE

The TMP button has two functions:
1. Adding / Removing the device to / from the Z-Wave network,
2. Tamper contact for 4th Association Group. When a sensor is added to the Z-Wave network, cover open alarm may be activated (according to parameter 74 settings).

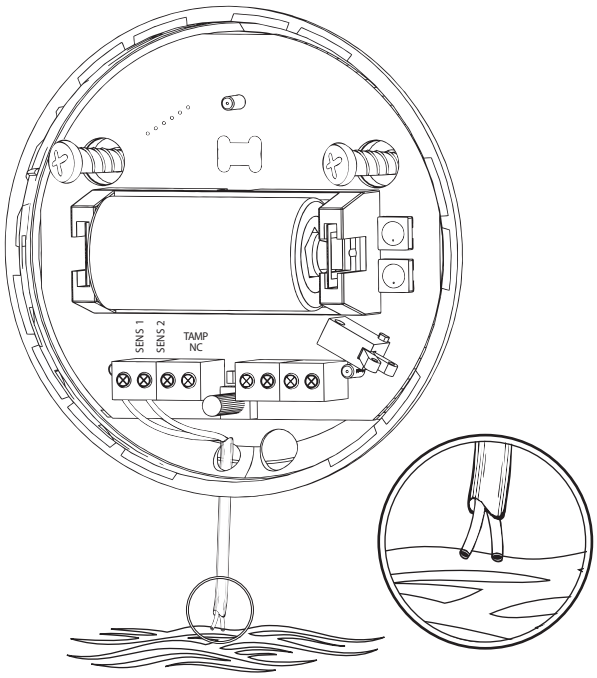
NOTE

ALARM NC and TAMP NC connectors may be used as end-of-line protective loop's terminals.

Connection with a wired alarm system:



Extending Flood Sensor contacts with a wired probe:



NOTE

Mounting screws shown in a diagram are not included in the package. Choose a screw type depending on the building material it is being attached to.

NOTE

The Sensor detects resistance between electrodes 1 and 3, 1 and 2 and electrodes connected to contacts (SENS1 and SENS2).

CAUTION

Contacts SENS1 and SENS2 are dedicated to flood detection only. Do not connect external voltage!

#5: Powering modes

There are two powering modes for the FIBARO Flood Sensor. By default it is powered by a factory included battery. In addition it can work with a constant voltage, after connecting a 12/24 VDC power supply to +12 and GND terminals (see „Diagrams and connection" on page 7).

Powering mode configuration is carried out automatically, while a sensor is being added into the Z-Wave network.

When battery powered, a FIBARO Flood Sensor communicates with a Z-Wave network main controller periodically. Detected alarms are sent immediately, but configuration parameters and associations settings only at specified wake up intervals, or at a manual wake up (TMP button click).

In DC powering mode, configuration and associations parameters are sent when necessary, and in addition a sensor serves as a Z-Wave signal repeater.

Switching to a constant voltage powering mode:

1. Remove the sensor from the Z-Wave network
2. Connect constant voltage power source (12/24 VDC) to +12 and GND terminals in accordance with „Diagrams and connection" on page 7
3. Add the FIBARO Flood Sensor to the Z-Wave network

In constant powering mode a sensor may operate without a battery. Installing a battery is recommended though, as it will serve as an emergency power source. When constant power fails, sensor will automatically shift to an backup power mode. All reports, including flood and temperature, will be sent immediately, but it will not be possible to modify the configuration or association settings until constant power returns. If a sensor served as a signal repeater for other Z-Wave devices, in emergency mode signal repeating function will be deactivated.

FIBARO Flood Sensor's battery life is ca. 2 years at factory default settings. The current battery level is displayed in a Z-Wave controller interface. Red battery icon means a battery needs replacement. In order to avoid triggering tamper alarm while replacing the battery, 4th association group's associations must be deleted, and Sensor's parameters' configuration set to default.

CAUTION

Using batteries other than specified may result in explosion. Dispose of properly, observing environmental protection rules.

NOTE

FIBARO Flood Sensor will automatically exit emergency mode once 12/24 VDC at +12 and GND terminals is detected

#6: Operating the device

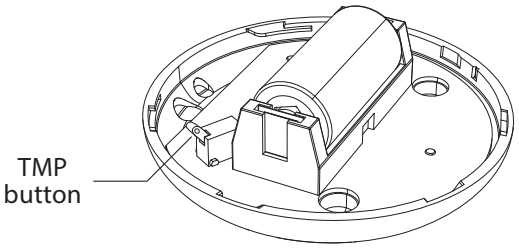
Controlling the Flood Sensor using the TMP button:

FIBARO Flood Sensor is equipped with a TMP button, which allows to use the MENU mode and additionally perform the following actions:

1x click: select the desired MENU option (if MENU mode is active)

3x click: send the Node Info Z-Wave command frame (adding/removing and wake up)

Holding: enter the MENU mode (confirmed by the visual indicator)



MENU mode & visual indications:

FIBARO Flood Sensor is equipped with a LED diode, signalling sensor's operating modes and alarms. In addition the visual indicator may inform of the Z-Wave network range and the current temperature.

Visual indicator signalling modes:

1. Flood alarm is signalled with alternating white and blue light.
2. In battery powering mode, with parameter no. 63 set to 1, visual indicator will periodically show temperature readouts (depending on parameters 50, 51, 61 and 62 settings).
3. In constant powering mode, the current temperature readouts will be continuously signalled with a colour depending on the parameters 50, 51, 61 and 62 settings.
4. Currently chosen MENU position is signalled with an illumination colour.

Press and hold the TMP button for at least 3 seconds to enter MENU. Inside MENU, each of the positions will be signalled with a LED colour.

WHITE - entering MENU confirmation

GREEN - cancel alarm for associated devices

VIOLET - Z-Wave network's range test

YELLOW - sensor reset

Release the TMP button to choose the desired function and confirm your choice with the TMP button click.

i NOTE

By default, flood sensor's insensitivity is set to 1 second, which means flooding will be reported one second after it's been detected.
Tilt tamper is insensitive to little vibrations and turns. After its activation, insensitivity is turned off for 15 seconds. After that, each Sensor's movement will trigger audible alarm, consisting of 3, brief acoustic signals.

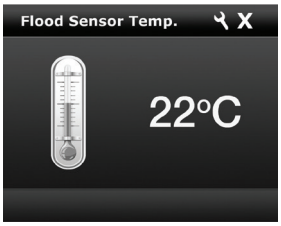
Waking up the Flood Sensor:

When in battery mode FIBARO Flood Sensor needs to be woken up to receive information about the new configuration from the controller, like parameters and associations.

To wake up the sensor manually triple click the TMP button located inside the housing.

Controlling the Flood Sensor with FIBARO Home Center controller:

FIBARO Flood Sensor has two sensors built in - flood and temperature sensors, meaning it's a multichannel device. In the Home Center controller the Sensor will be shown as two devices.



Resetting the Flood Sensor:

Reset procedure deletes EEPROM's memory, including all information on the Z-Wave network and the main controller.

1. Make sure the Sensor is powered
2. Press and hold the TMP button
3. Wait 15-20 second for visual LED indicator to glow yellow (4th position of the MENU)
4. Release the TMP button
5. Click the TMP button, once
6. After few seconds the device will be restarted, which is signalled with the red visual indicator colour and acoustic signal

NOTE

Resetting the device is not the recommended way of removing the device from the Z-Wave network. Use reset procedure only if the primary controller is missing or inoperable. Certain device removal can be achieved by the procedure of removing described in "Adding/removing the device" on page 6.

#7: Association

NOTE

Association ensures direct transfer of control commands between devices, is performed without participation of the main controller and requires associated device to be in the direct range.

Association (linking devices) - direct control of other devices within the Z-Wave system network e.g. Dimmer, Relay Switch, Roller Shutter or scene (may be controlled only through a Z-Wave controller).

FIBARO Flood Sensor provides the association of four groups:

1st Association Group – "Lifeline" reports the device status and allows for assigning single device only (the main controller by default - the device reports its status to the main controller).

2nd Association Group – "Flood Control" is assigned to the device status - sending the BASIC SET control frame to the associated devices

3rd Association Group – "Flood Alarm" is assigned to the device status - sending the NOTIFICATION REPORT control frame to the associated devices.

4th Association Group – "Tamper Alarm" is assigned to the TMP button and tilt sensor - sending the NOTIFICATION REPORT control frame to the associated devices in case a TMP button is released or a tilt sensor triggered (depending on parameter 74 settings).

FIBARO Flood Sensor in 2nd to 4th group allows for controlling 5 regular and 5 multichannel devices per an association group, out of which 1 field is reserved for the Z-Wave network main controller.

It is not recommended to associate more than 10 devices in general, as the response time to control commands depends on the number of associated devices. In extreme cases, system response may be delayed.

To add an association (using the Home Center controller):

1. Go to device options by clicking the icon: 
2. Select the „Advanced" tab
3. Specify to which group and what devices are to be associated
4. Wait for the configuration process to end. Sending relevant information to devices added to associated groups may take even a few minutes
5. Wake up the device manually to speed up the configuration process

#8: Z-Wave range test

FIBARO Flood Sensor has a built in Z-Wave network main controller's **range tester**.

Follow the below instructions to test the main controller's range:

1. Press and hold the TMP button until the visual indicator glows violet
2. Release the TMP button
3. Press the TMP button again, briefly
4. Visual indicator will indicate the Z-Wave network's range (range signalling modes described below)
5. To exit Z-Wave range test, press the TMP button briefly

Z-Wave range tester signalling modes:

Visual indicator pulsing green - Flood Sensor attempts to establish a direct communication with the main controller. If a direct communication attempt fails, the device will try to establish a routed communication, through other modules, which will be signalled by visual indicator pulsing yellow.

Visual indicator glowing green - Flood Sensor communicates with the main controller directly.

Visual indicator pulsing yellow - Flood Sensor tries to establish a routed communication with the main controller through other modules (repeaters).

Visual indicator glowing yellow - Flood Sensor communicates with the main controller through the other modules. After 2 seconds the device will retry to establish a direct communication with the main controller, which will be signalled with visual indicator pulsing green.

Visual indicator pulsing violet - Flood Sensor does communicate at the maximum distance of the Z-Wave network. If connection proves successful it will be confirmed with a yellow glow. It's not recommended to use the device at the range limit.

Visual indicator glowing red - Flood Sensor is not able to connect to the main controller directly or through another Z-Wave network device (repeater).

CAUTION

To make Z-Wave range test possible, the device must be added to the Z-Wave controller. Testing may stress the network, so it is recommended to perform the test only in special cases.

NOTE

Communication mode of the Flood Sensor may switch between direct and one using routing, especially if the device is on the limit of the direct range.

#9: Advanced parameters

FIBARO Flood Sensor allows to customize its operation to user's needs. The settings are available in the FIBARO interface as simple options that may be chosen by selecting the appropriate box.

In order to configure FIBARO Flood Sensor (using the Home Center controller):

1. Go to the device options by clicking the icon: 
2. Select the „Advanced" tab

Wake up interval (battery mode)

Available settings: **0** or **60-86400** (in seconds, 1min - 24h)

Default setting: **21 600** (every 6 hours)

FIBARO Flood Sensor will wake up at each defined time interval and always try to connect with the main controller. After successful communication attempt, a sensor will update configuration parameters, associations and settings, and then will go into standby mode. After failed communication attempt (eg. lack of Z-Wave range) the device will go into standby mode and retry to establish connection with the main controller after the next time interval.

Setting wake up interval to 0 disables sending Wake Up Notification frame automatically. Wake up may be still performed manually by a triple TMP button click.

Longer time interval means less frequent communication and thus a longer battery life

1. Alarm cancellation delay

Determines time period, in seconds, by which a Flood Sensor will retain the flood state after the flooding itself, has ceased. Sensor will keep on reporting flooding to the main controller. This parameter settings do not affect acoustic and visual alarms, which turn off immediately after flooding ceases.

Available settings:	**0-3600** (in seconds, each 1s)		
Default setting:	**0**	Parameter size:	**2** [bytes]

2. Acoustic and visual signals On / Off in case of flooding

The parameter allows for deactivation visual and acoustic alarm.

Parameter allows for increasing a battery life. Settings changes will not affect the Sensors communication with the main controller - commands to association groups, alarms and reports will still be sent.

Available settings:	**0** - acoustic and visual alarms inactive **1** - acoustic alarm inactive, visual alarm active **2** - acoustic alarm active, visual alarm inactive **3** - acoustic and visual alarms active		
Default setting:	**3**	Parameter size:	**1** [byte]

7. Forced dimming level / roller blind opening level, when sending turn on / open command to 2nd association group devices

In case of alarm frames, alarm priority is determined.

Available settings:	**1-99** - forced level **255** - turn a device on		
Default setting:	**255**	Parameter size:	**2** [bytes]

9. Alarm cancelling or turning a device off (Basic) command frame deactivation

Allows for deactivating device turn off and alarm cancellation functions for the devices assigned to 2nd and 3rd association group).

Setting the parameter's value to 0 results in stopping BASIC SET = 0 and ALARM WATER = 0 control frames from being sent. After sending flood alarm report the device will keep on reporting flooding after the it has ceased. Such a state can be cancelled by choosing alarm cancellation from the MENU, marked with green indicator colour.

Available settings:	**0** - alarm (flooding) cancellation inactive **1** - alarm (flooding) cancellation active		
Default setting:	**1**	Parameter size:	**1** [byte]

10. Temperature measurement interval

Time interval, in seconds, between consecutive measurements of battery level and temperature (done by built-in temperature sensor).

If a temperature differs from previously reported by a value determined in parameter 12, new temperature value is reported. If a battery level changes, the device reports a battery status change.

The parameter is relevant when using a Flood Sensor in a battery power mode - longer time interval means less frequent communication resulting in extended battery life.

After consecutive FAILED and SUCCESSFUL communication attempts, the Sensor will go to standby mode.

Available settings:	**1-65535** (in seconds)		
Default setting:	**300** (5min)	Parameter size:	**4** [bytes]

12. Temperature measurement hysteresis

Determines a minimum temperature change value (insensitivity level), resulting in a temperature report being sent to the main controller, according to the parameter 10 settings.

Available settings:	**1-1000** (each 0.01°C)		
Default setting:	**50** (0.5°C)	Parameter size:	**2** [bytes]

50. Low temperature alarm threshold

The parameter stores a temperature value, below which visual indicator blinks with a colour determined by a parameter 61 settings. By default the visual indicator blinks blue.

Available settings:	**- 10000 to +10000** (each 0.01°C)		
Default setting:	**1500** (15°C)	Parameter size:	**2** [bytes]

51. High temperature alarm threshold

The parameter stores a temperature value, above which visual indicator blinks with a colour determined by the parameter 62 settings. By default the visual indicator blinks red.

Available settings:	**- 10000 to +10000** (each 0.01°C)		
Default setting:	**3500** (35°C)	Parameter size:	**2** [bytes]

NOTE

The main controller does not interpret negative numbers as decimals. That's why read value may be different than entered. Negative numbers are coded in U2 standard.

Decimal	Hexadecimal (U2)	Value in controller
32767	0x7FFF	32767
1	0x0001	1
0	0x0000	0
-1	0xFFFF	65535
-10000	0xD8F0	55536
-32768	0x8000	32768

61. Low temperature alarm indicator colour

Parameter stores RGB colour value.

Available settings:	**0-16777215**		
Default setting:	**255**	Parameter size:	**4** [bytes]

62. High temperature alarm indicator colour

Parameter stores RGB colour value.

Available settings:	**0-16777215**		
Default setting:	**16711680**	Parameter size:	**4** [bytes]

NOTE

A main controller interprets colours as a sum of it component colours value. Each colours value is a number from 0 to 255.

Indicated colour = 65536 * **RED** + 256 * **GREEN** + **BLUE**

Colour	Decimal value
Red	16711680
Green	65280
Blue	255
Yellow	16776960
Turquoise	65535
Orange	16750848
White	16777215
Indicator turned off	0

63. Managing a visual indicator under standard operation

Parameter determines visual indicator's operation. Set to 0 turns the indicator off, saving a battery life.

Available settings:	**0** - visual indicator does not indicate the temperature **1** - visual indicator indicates the temperature (blink) every Temperature Measurement Interval (parameter 10, constant current and battery) or Wake Up Interval (battery mode) **2** - visual indicator indicates the temperature continuously, only in constant power mode		
Default setting:	**2**	Parameter size:	**1** [byte]

73. Temperature measurement compensation

Parameter stores a temperature value to be added to or deducted from the current temperature measured by internal temperature sensor in order to compensate the difference between air temperature and temperature at the floor level.

Available settings:	**-10 000 to +10 000**		
Default setting:	**0** (0.00°C)	Parameter size:	**2** [bytes]

74. Alarm frame sent to 1st and 4th Association Group activation (MOVEMENT_TAMPER / BUTTON_TAMPER)

The device is able to turn on alarms resulting from sensor's vibrations (e.g. when the sensor is moved) or the TMP button released.

Available settings:	**0** - tamper alarms inactive **1** - button tamper alarm active **2** - movement tamper alarm active **3** - button and movement tampers alarm active		
Default setting:	**2**	Parameter size:	**1** [byte]

NOTE

Parameter 75 is ignored when parameter 2 is set to 0.

75. Visual and audible alarms duration

The user can silence the Flood Sensor. Because the Sensor's alarm may last for a long time, it is possible to turn off visual and audible alarm signalling to save battery.

The parameter determines time after which alarm will become "quiet" - still active but the device will go into battery saving mode. Visual or acoustic alarm will be reactivated after time specified in the parameter 76. When alarm status ceases, alarm will be turned off immediately.

The value of 0 means visual and acoustic alarms are active indefinitely. In battery power mode the Sensor will never go to sleep which may shorten battery life significantly.

Available settings:	**0** - alarms active indefinitely **1-65535** - time in seconds		
Default setting:	**0**	Parameter size:	**4** [bytes]

NOTE

In case a time period set in parameter 76 is shorter than the one specified in parameter 75, the device will not quiet the alarm, it will remain active.

76. Alarm frame / Basic Set frame retransmission time when retaining flood alarm

Parameter determines a time period after which an alarm frame will be retransmitted. The value of 0 cancels an alarm frame retransmission.

Available settings:	**0** - retransmission inactive **1-65535** - time in seconds		
Default setting:	**0**	Parameter size:	**4** [bytes]

77. Flood sensor functionality turned off

Allows for turning of the internal flood sensor. Tamper and built in temperature sensor will remain active.

Available settings:	**0** - Default flood sensor operation (flood detection, reactions) **1** - Built-in flood sensor TURNED OFF (does not change its state in the main controller, does not send Alarms and Basic Set frames with flood state changes. Always visible in the main controller as turned off)		
Default setting:	**0**	Parameter size:	**1** [byte]

78. Associations in Z-Wave network security mode

This parameter defines how commands are sent in specified association groups: as secure or non-secure. Parameter is active only in Z-Wave network security mode. It does not apply to 1st "Lifeline "group.

Available settings:	**0** - none of the groups sent as secure **1** - 2nd group "Flood Control" sent as secure **2** - 3rd group "Flood Alarm" sent as secure **4** - 4th group „Tamper" sent as secure		
Default setting:	**7**	Parameter size:	**1** [byte]

#10: Specifications

Power Supply:	12 - 24V DC
Battery Type:	CR123A
Power Consumption (at VDC operation):	0.4W
Maximum voltage at output terminals:	24V DC / 20V AC
EU standards compliance:	EMC 2004/108/EC R&TTE 1999/5/EC RoHS 2011/65/EU LVD 2006/95/EC
Radio protocol:	Z-Wave
Radio frequency:	868.4 or 869.8 MHz EU; 908.4 or 916.0 MHz US; 921.4 or 919.8 MHz ANZ; 869.0 MHz RU;
Range:	up to 50m outdoors up to 30m indoors (depending on terrain and building structure)
Operational Temperature:	0 - 40°C
Measured temperature range:	-20 - 100°C
Temperature measuring accuracy:	0.5°C (within 0 - 40°C range)
Dimensions (Diameter x Height):	72 x 28 mm

#11: Guarantee

1. The Guarantee is provided by FIBAR GROUP S.A. (hereinafter „Manufacturer"), based in Poznan, ul. Lotnicza 1; 60-421 Poznan, entered in the register of the National Court Register kept by the District Court in Poznań, VIII Economic Department of the National Court Register, no. 553265, NIP 7811858097, REGON: 301595664.

2. The Manufacturer is responsible for equipment malfunction resulting from physical defects (manufacturing or material) of the Device during 12 months for business / 24 months for individual customers from the date of its purchase.

3. During the Guarantee period, the Manufacturer shall remove any defects, free of charge, by repairing or replacing (at the sole discretion of the Manufacturer) any defective components of the Device with new or regenerated components that are free from defects. When the repair proves impossible, the Manufacturer reserves the right to replace the device with a new or regenerated one, which shall be free from any defects and its condition shall not be worse than the original device owned by the Customer.

4. In special cases, when the device cannot be replaced with the device of the same type (e.g. the device is no longer available), the Manufacturer may replace it with a different device having technical parameters similar to the faulty one. Such activity shall be considered as fulfilling the obligations of the Manufacturer. The Manufacturer shall not refund money paid for the device.

5. The holder of a valid guarantee shall submit a guarantee claim through the guarantee service. Remember: before you submit a guarantee claim, contact our technical support using telephone or e-mail. More than 50% of operational problems are resolved remotely, saving time and money spent to initiating guarantee procedure. If remote support is insufficient, the Customer shall fill the guarantee claim form (using our website - www.fibaro.com) in order to obtain claim authorization. When the guarantee claim form is submitted correctly, the Customer shall receive the claim confirmation with a unique number (Return Merchandise Authorization -RMA).

6. The claim may be also submitted by telephone. In this case, the call is recorded and the Customer shall be informed about it by a consultant before submitting the claim. Immediately after submitting the claim, the consultant shall provide the Customer with the claim number (RMA-number).

7. When the guarantee claim form is submitted correctly, a representative of the Authorised Guarantee Service (hereinafter as „AGS") shall contact the Customer.

8. Defects revealed within the guarantee period shall be removed not later than 30 days from the date of delivering the Device to AGS. The guarantee period shall be extended by the time in which the Device was kept by AGS.

9. A faulty device shall be provided by the Customer with complete standard equipment and documents proving its purchase.

10. Parts replaced under the guarantee are the property of the Manufacturer. The guarantee for all parts replaced in the guarantee process shall be equal to the guarantee period of the original device. The guarantee period of the replaced part shall not be extended.

11. Costs of delivering the faulty device shall be borne by the Customer. For unjustified service calls, the Service may charge the Customer with travel expenses and handling costs related to the case.

12. AGS shall not accept a complaint claim only when:

- the Device was misused or the manual was not observed,

- the Device was provided by the Customer incomplete, without accessories or nameplate,

- it was determined that the fault was caused by other reasons than a material or manufacturing defect of the Device

- the guarantee document is not valid or there is no proof of purchase,

13. The Manufacturer shall not be liable for damage to property caused by defective device. The Manufacturer shall not be liable for indirect, incidental, special, consequential or punitive damage, or for any damage, including, inter alia, loss of profits, savings, data, loss of benefits, claims by third parties and any property damage or personal injuries arising from or related to the use of the Device.

14. The guarantee shall not cover:

- mechanical damage (cracks, fractures, cuts, abrasions, physical deformations caused by impact, falling or dropping the device or other object, improper use or not observing the operating manual);

- damage resulting from external causes, e.g.: flood, storm, fire, lightning, natural disasters, earthquakes, war, civil disturbance, force majeure, unforeseen accidents, theft, water damage, liquid leakage, battery spill, weather conditions, sunlight, sand, moisture, high or low temperature, air pollution;

- damage caused by malfunctioning software, attack of a computer virus, or by failure to update the software as recommended by the Manufacturer;

- damage resulting from: surges in power supply and/or telecommunication network, improper connection to the grid in a manner inconsistent with the operating manual, or from connecting other devices not recommended by the Manufacturer.

- damage caused by operating or storing the device in extremely adverse conditions, i.e. high humidity, dust, too low (freezing) or too high ambient temperature. Detailed permissible conditions for operating the Device are defined in the operating manual;

- damage caused by using accessories not recommended by the Manufacturer

- damage caused by faulty electrical installation of the Customer, including the use of incorrect fuses;

- damage caused by Customer's failure to provide maintenance and servicing activities defined in the operating manual;

- damage resulting from the use of spurious spare parts or accessories improper for given model, repairing and introducing alterations by unauthorized persons;

- defects caused by operating faulty Device or accessories.

15. The scope of the guarantee repairs shall not include periodic maintenance and inspections, in particular cleaning, adjustments, operational checks, correction of errors or parameter programming and other activities that should be performed by the user (Buyer). The guarantee shall not cover natural wear and tear of the Device and its components listed in the operating manual and in technical documentation as such elements have a defined operational life.

16. If a defect is not covered by the guarantee, the Manufacturer reserves the right to remove such defect at its sole discretion, repairing the damaged or destroyed parts or providing components necessary for repair or replacement.

17. This guarantee shall not exclude, limit or suspend the Customer rights when the provided product is inconsistent with the purchase agreement.