User Manual

Strips MS-H Article # 1302002

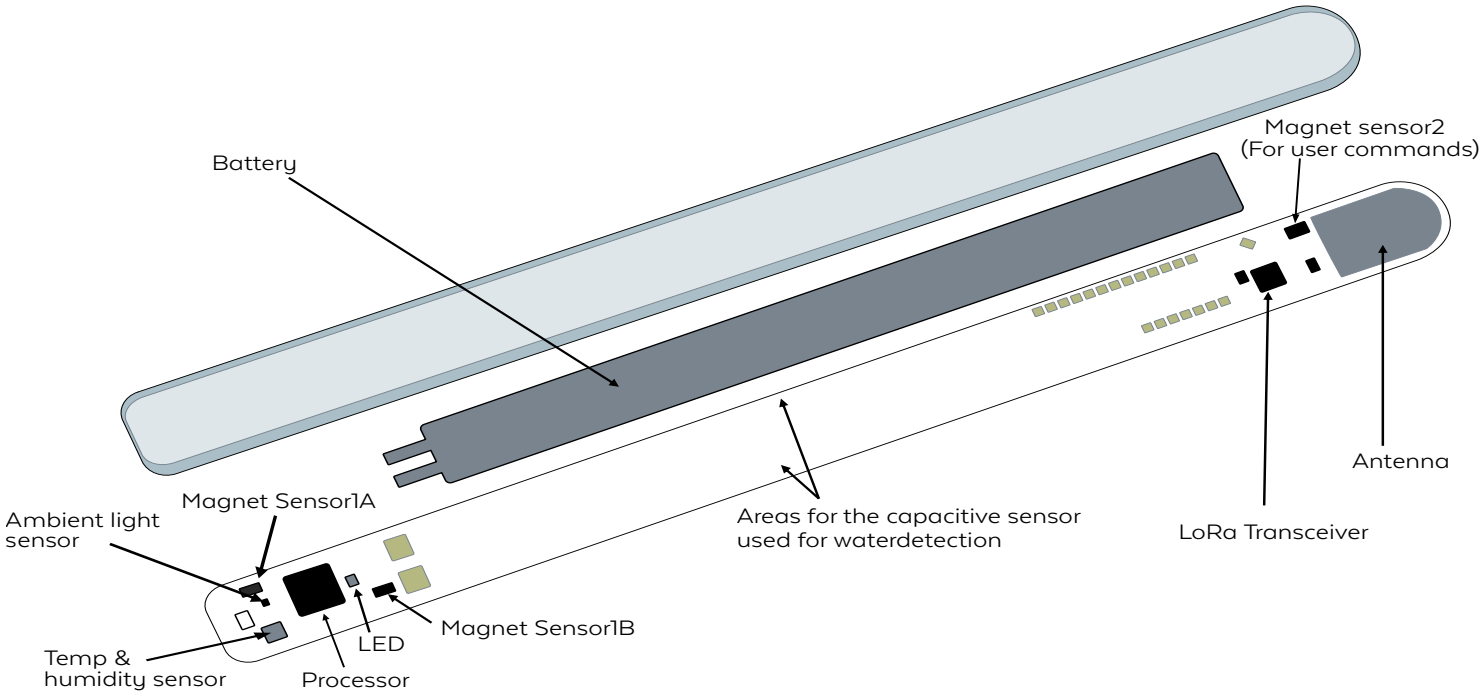
Strips MS-WL Article # 1301002

User Manual

Strips MS-H Article # 1302002

Strips MS-WL Article # 1301002

Hardware Description



Multi-sensor

- Measures ambient light (LUX)
- Measures temperature and average temperature
- Magnetic contact sensor

Common Features

- Easy Installation
- Long-range
- Up to ten year battery life
- Compatible with LoRaWAN specification 1.0.3

MS-H

Detects humidity

MS-WL

Detects water leak

Joining Strips to your network

Strips comes in transport mode, when both of the magnets are attached the device is idle. When removing the magnets for the first time, the device will automatically send a join request.

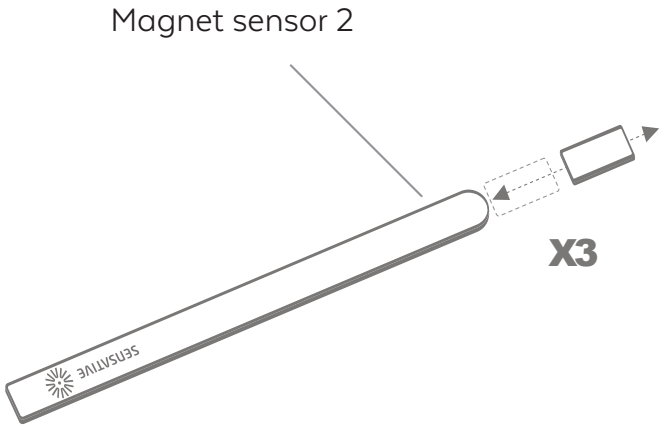
*Tip : Make sure the device is set up on your server before removing the magnets for the first time.

If you have removed the magnets, and you need to manually join the device, take one of the magnets and move it to the round edge (Magnet sensor 2) of the Strip 3 times (3 green LED blinks at the Sensative logo). This will send a join request to the server. (See figure A)

One long green LED blink signals the device has been successfully joined to the server

5 red blinks means the device failed to join to the network

Figure A)



After Strips is included in your network, the device is in default mode, and is only set up as a magnetic contact sensor. In order to configure the device and turn on its many functions, please see the Sensor Configuration instructions.

Your devices key information can be found in the package or sent to you digitally. Please contact your Sensative representative to obtain the key information via e-mail.

Sensor Configuration

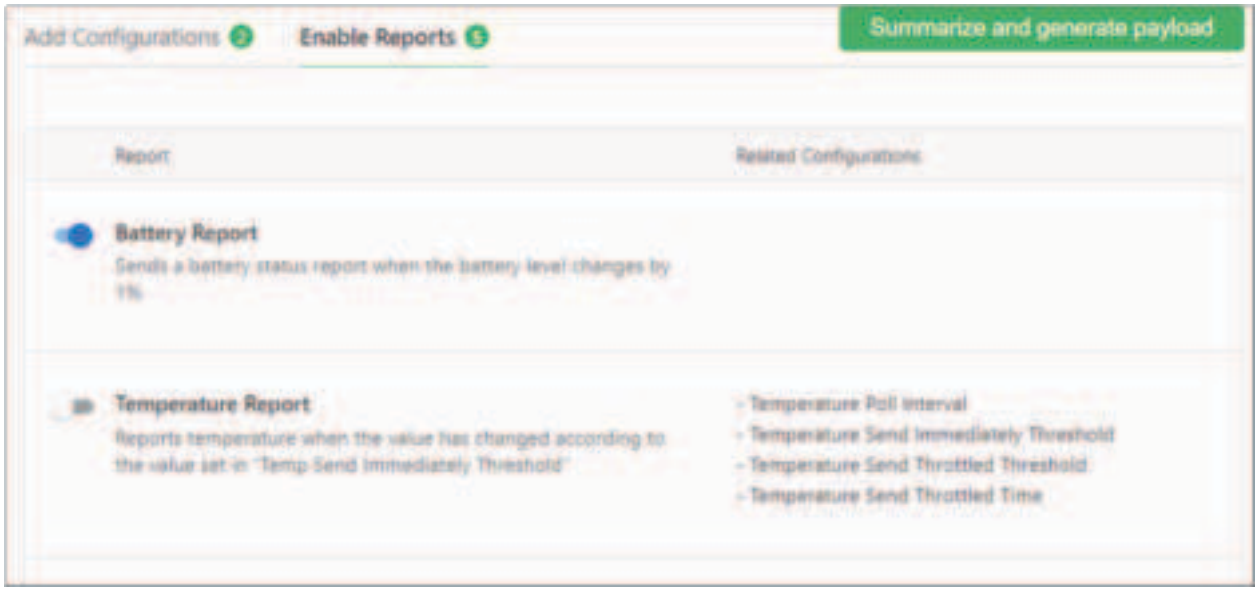
After you have joined the device to the network, you are ready to configure the device towards your specification using our down-link generator at :

www.sensative.com/loraconfig

How to use the down-link generator :

Step 1:

Clink on the page titled "Enable Reports" and find the alarms or reports you wish to enable for your device.

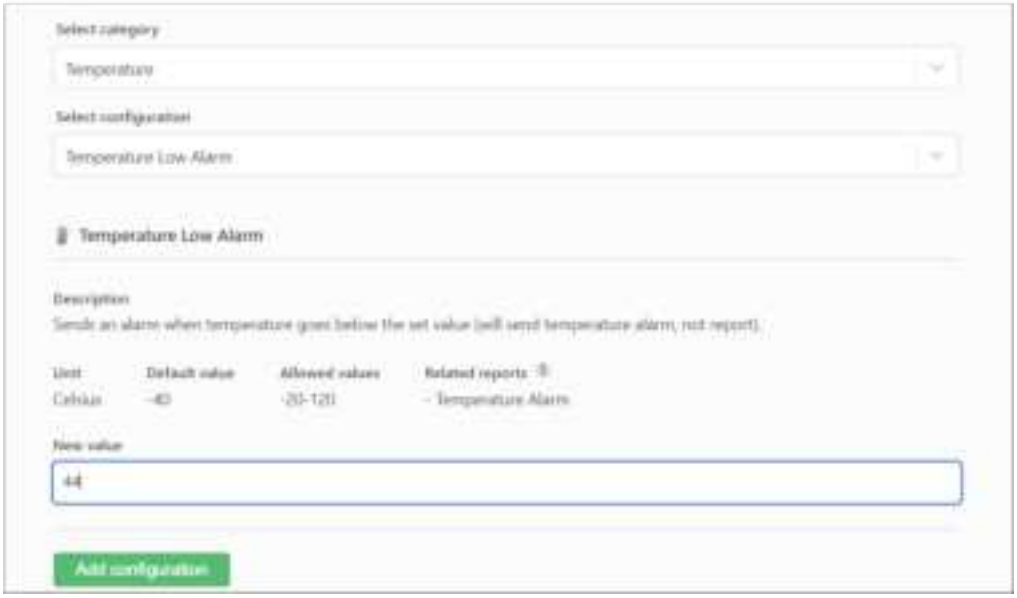


Step 2:

Under "Related Configurations" click the configuration setting you wish to edit (non edited configurations will use default values that are described in the configuration description)

Step 3:

Review the description and enter the new value if you wish to change it from the default setting. Then click "Add configuration"



Step 4:

You may add/edit as many configuration and settings as you wish, once you have finished adding your settings, click the "Summarize and generate payload" button.

Step 5:

Review the configurations and reports that were edited, remove any if necessary.

Step 6:

Lastly, copy the payload and send the down-link via your server application on port 11. Strips is a type A device, so an open frame must be sent in order to receive the down-link, to do this : Move the magnet over the rounded edge 3 time (3 LED blinks)

User commands

1. Sending open frame

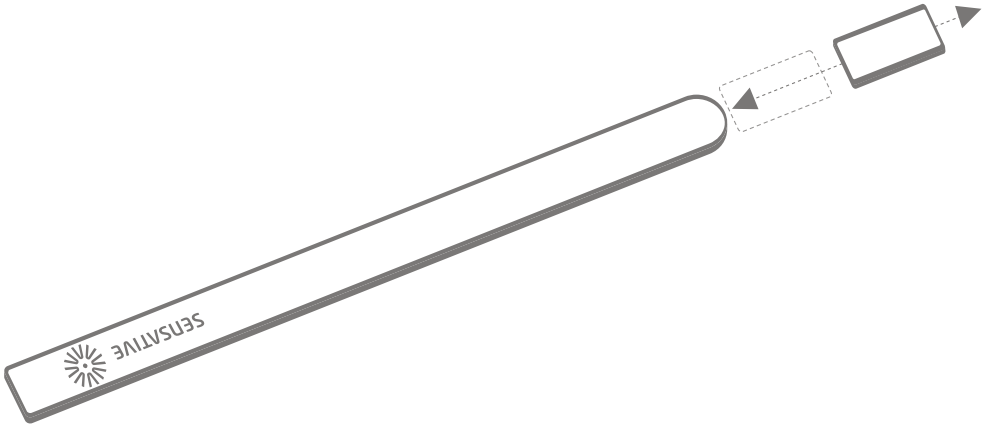
Move the magnet to the rounded edge 3 times (see 3 green LED blinks at Sensative logo)

1 short blink means the frame was sent (success)

5 red means there was no acknowledgment from the gateway

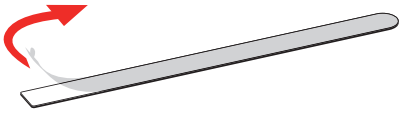
2. Factory reset

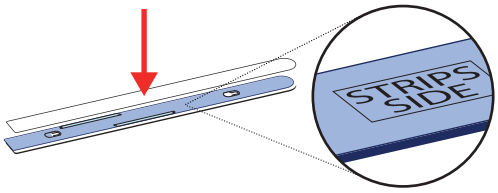
To reset the device to the factory settings, move the magnet to the rounded edge 3 times, and on the 3rd pass hold the magnet for 10 seconds. One long green LED blink means reset was successful



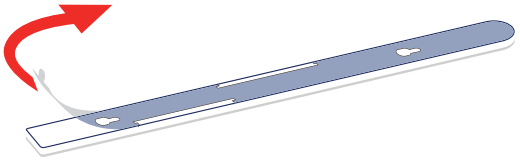
Installation instructions

To mount MS-WL to base plate for water leak detection:

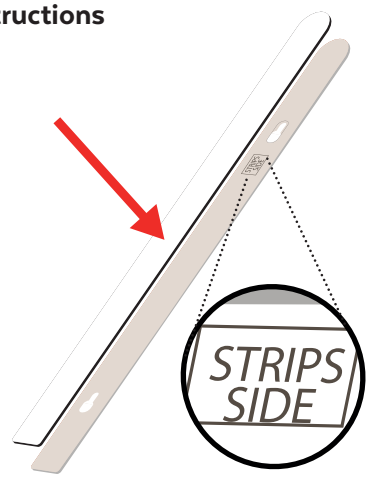


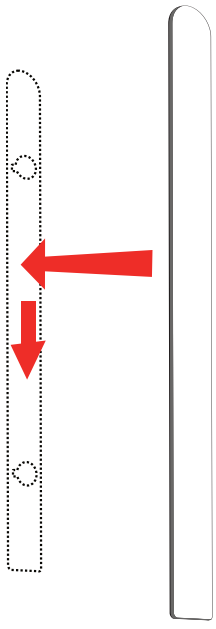


Mount Strips on "Strips side" of the mounting plate

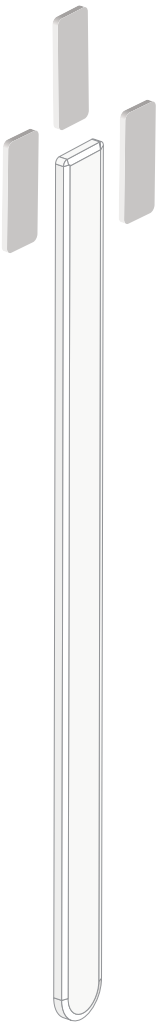


Optional mounting plate instructions





How to mount magnets for door/window set up.



When mounting the magnets, align magnets in any of these positions at the square edge of the Strip, with no more than 5mm space in between.

Technical Information

Product	Strips LoRa MS-H Sensor
Features	LED indication Temperature sensor (+/- 0.40°C) Humidity sensor (+/- 3% RH) Ambient light sensor (1-64000 LUX)
Regions	Europe (863-870 MHz) North America (902 - 928 MHz)
Range	Up to + 14 dBm output power Rx sensitivity -137 dBm Up to 10 km range (free line of sight)
Dimensions	Sensor: 195*15*2.98 mm Magnet: 12*2 mm Mounting plate: 195*15*3 mm
Operating conditions	-30 to +60 degree C. Indoor usage
Power supply	Built-in battery (LiMnO2). 10 years battery life
Magnetic range	Approx. 10 mm
Supports	LoRaWAN v1.0.3 OTAA configuration

Product	Strips LoRa MS-LW sensor
Features	Magnet sensor LED indication Temperature +/- 0.25 degree C accuracy Ambient Light 1-64000 LUX Flooding alert
Regions	Europe (863-870 MHz) North America (902 - 928 MHz)
Range	Up to + 14 dBm output power Rx sensitivity -137 dBm Up to 10 km range (free line of sight)
Dimensions	Sensor: 195*15*2.98 mm Magnets: A: 30*11*1 mm B: Diameter 12 * 3 mm
Operating conditions	-30 to + 60 degree C. In- and outdoor usage.
Power supply	Built-in battery (LiMnO2). Life span up to 10 years
Magnetic range	Approx. 10 mm
Supports	LoRaWAN v1.0.3 OTAA configuration

Prolonged Exposure to High Humidity **

Prolonged exposure to high humidity will result in a gradual upward drift of the RH reading. The shift in sensor reading resulting from this drift will generally disappear slowly under normal ambient conditions. The amount of shift is proportional to the magnitude of relative humidity and the length of exposure. In the case of lengthy exposure to high humidity, some of the resulting shift may persist indefinitely under typical conditions.

PRODUCT /WARRANTY/WARRANTY PERIOD/DEFECT:
Sensative AB ("Company") warrants to the original end-user purchaser ("Purchaser") that Strips ("Product") will be free from substantial defects in material and workmanship from the date when the Product is delivered to the Purchaser and continues for twelve (12) months thereafter ("Warranty period"). The information contained herein is provided to the Purchaser as a convenience.
LIMITATION OF PRODUCT WARRANTY:
Company warrants that the Product under normal use is free from substantial defects in material and workmanship ("Defect") during the Warranty Period, subject to a proper installation, operation and maintenance of the Product as set forth in the user manual and other documentation that may become available to the Purchaser from time to time at www.sensative.com/strips_tips ("User Manual"). Company does however not warrant that the Product will operate uninterrupted or error-free or that all deficiencies, errors, defects or non-conformities will be corrected.
The Warranty extends only to Purchaser and is not transferable to anyone else.
CLAIMS PROCEDURE:
Warranty claims are handled at www.sensative.com/Strips_tips.
Note that warranty claims must be filed to the Company by the Purchaser within 30 days of the manifestation of the problem.

EXCLUSIONS:
The warranty shall not apply to problems or damages resulting from or related to
i) mechanical and/or transport problems
ii) external causes such as accidents, acts of God, disasters, weather conditions, air pollution, abuse, misuse, misapplication or any equipment that generates electrical disturbance of radio communication that violates FCC regulations
iii) negligence, improper handling and failure to operate the Product according to the User Manual
iv) operating and storage problems
v) electrical power and telecommunications
vi) the network and/or other products in the network
vii) change of window/door position
viii) accessories or attachments not recommended by Company or modifications to the Product or its parts
ix) failure to follow Companys instructions relating to the Product's use or installation and/or to fulfil the maintenance and servicing activities defined in the User Manual.

INDUSTRY CANADA STATEMENTS:
This device complies with Industry Canada licence-exempt RSS standard(s). 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 equipment complies with the safety requirements for RF exposure in accordance with RSS-102 §2.5.2. This equipment must be installed and operated in accordance with the provided instructions and a minimum 20 cm spacing must be provided between the antenna and any person's body during wireless modes of operation.
INDUSTRY CANADA NOTICE:
"This device complies with ISED's licence-exempt RSSs. 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"

INDUSTRY CANADA STATEMENTS:
Cet appareil est conforme avec Industrie Canada exempt de licence Rss standard(s). Son fonctionnement est soumis aux deux conditions suivantes : (1) cet appareil ne peut causer d'interférences, et (2) cet appareil doit accepter toute interférence, y compris des interférences qui peuvent provoquer un fonctionnement indésirable du périphérique.

Ce dispositife est conforme à la norme de sécurité en matière d'exposition RF conformément à la RSS-102 §2.5.2. Ce dispositif doit être installé et utilisé conformément aux instructions fournies et à 20 cm espacement minimal doit être prévu entre l'antenne et le corps de toute personne pendant les modes sans fil de fonctionnement.

FCC NOTICE (for USA):
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
Federal Communication Commission (FCC) Radiation Exposure Statement: This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna shall not be less than 20cm (8 inches) during normal operation.
The antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
No changes shall be made to the equipment without the Company's permission as this may void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limit 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.
• Consult the dealer or an experienced radio/TV technician for help.
• Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.