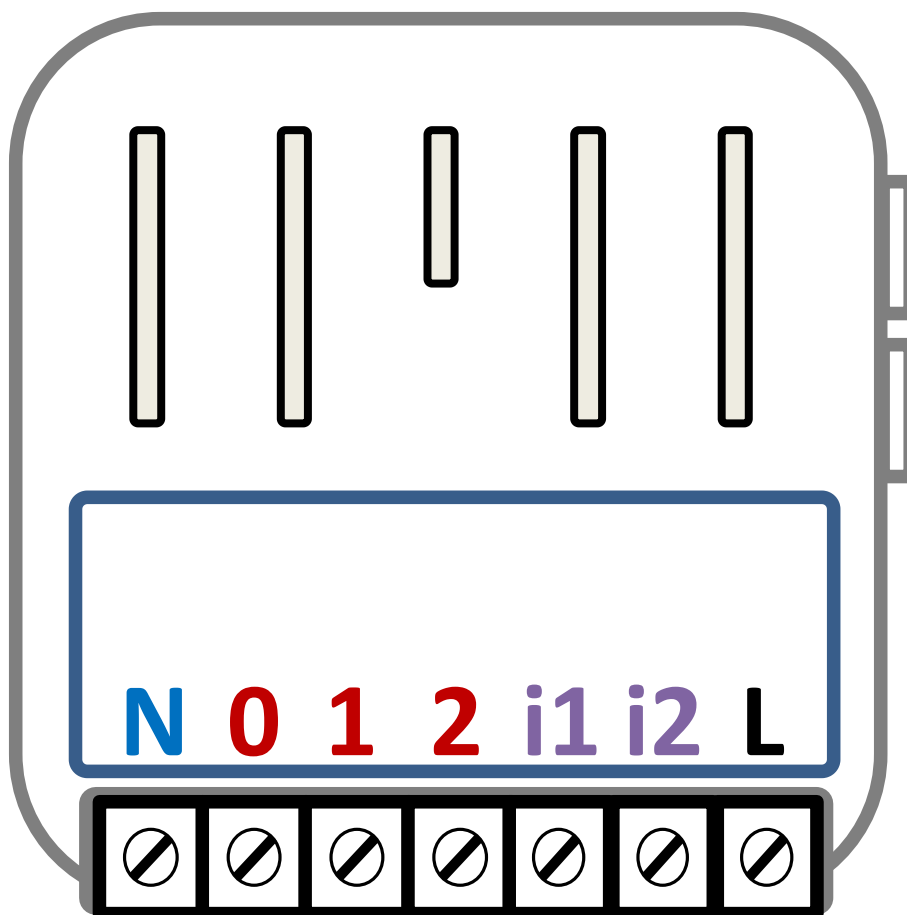




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# UNIVERSAL ROLLER SHUTTER

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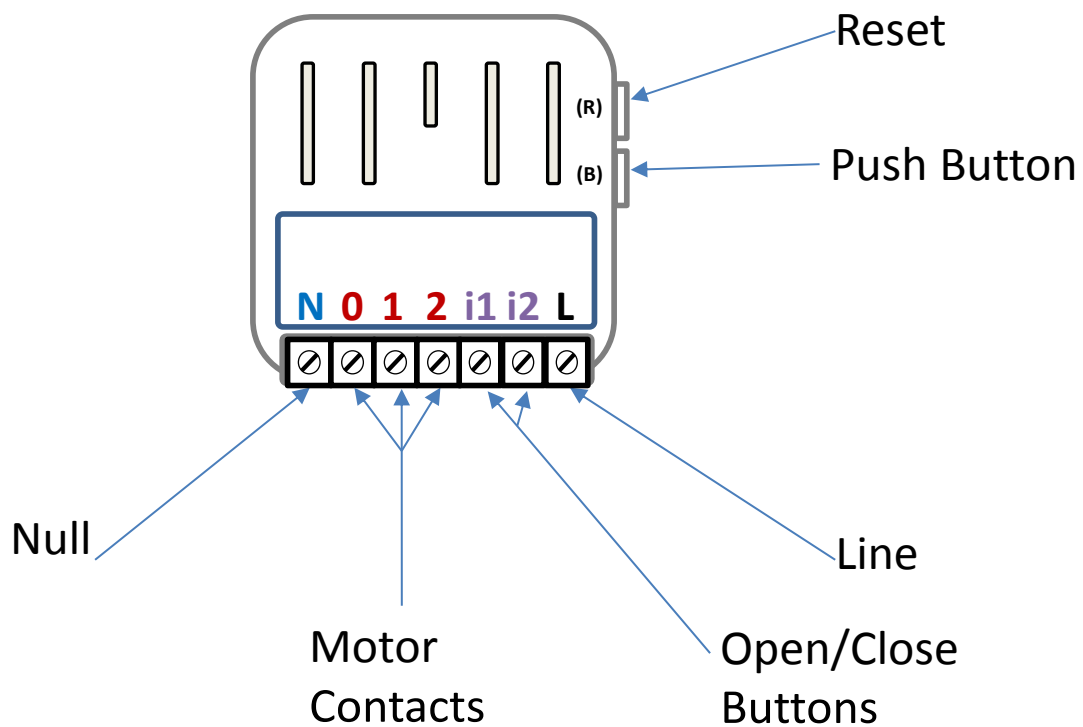


UMS 1.04 Operating instructions

Revision History

Rev. Doc.	Date	Revisor	Pag.	Description
0	04/09/2014	RC		Initial version

## Device description



Line	Phase connection terminal
Null	Neutral connection terminal
Motor Contacts	0) Motor common 1) Closure 2) Aperture
Open/Close Buttons	I1) Close command I2) Open command
Reset	Press this button to restart the system
Push Button	Service button: 1 click to enter Learning Mode, 6 clicks to reset the system to manufacturer's settings

## Technical Specification

Power supply	230 VAC±10% 50/60 Hz
Maximum Load	1200 Watt
System temperature limitation	105°C
Work temperature	0 – 40° C
Radio protocol	Z-Wave 868.4 MHz
Maximum distance	up to 60 m outdoor up to 30 m indoor
Dimensions	43x43x17 mm
Consumption	< 230 mW in standby mode < 500 mW when motor is moving
Actuator element	Relay
Compliance	CE, RoHs

## Introduction

WiDom Universal Roller Shutter is a Z-Wave certified “in wall device”.

The combination of an innovative design and an effective implementation ensures an extremely low energy consumption.

After an initial calibration procedure, thanks to a proprietary algorithm, WiDom Universal Roller Shutter is able to exactly identify the position of the roller shutter without using external sensors. During the utilization phase, a continuous and automatic control of limit switches allows maintaining the calibration. In the absence of a power source, the system runs a self-repositioning procedure that restores calibration.

At the same time, it is completely configurable so that it can adapt to the most varied needs while also being ready to be used without needing additional configurations in order to operate.

Thanks to the framework developed by WiDom, the various types of “events” on the “External Switch” can be recognised and associated to actions to be performed on the device, on any associated devices, on all devices on the network. The events that the system recognises are the number of “clicks” or hold on the External Switch.

Although Z-Wave is a rather new technology, it has already become universally recognizable and an officially binding standard, similarly to Wi-Fi. Many manufacturers in various industries offer solutions based on Z-Wave technology, while ensuring their compatibility. This implies that the system is open and it may be extended in the future.



**External switch:** Double command button: UP/DOWN, open/close, ON/OFF



**Events:** The actions performed on the external Switch: Clicks or Hold.



**Click:** If the external switch is a button (when pressed it autonomously returns to the initial position), a click means pressing and then releasing it. If the external switch is bistable (when pressed it does not return to the initial position), a single click means one single flip of the switch.



**Hold:** This applies only to buttons that are normally open and that are identified as such when the pressure phase lasts at least 1.5 seconds.



Device status **ON/OFF/STOP**, Open/Close/Stop refers to the fact that the motor is rotating towards the direction Open/Close or it is stopped.

## Installation



**INFO:** WiDom Universal Roller Shutter is designed to be installed in flush mounting junction boxes and close to the motor to be controlled.



**WARNING:** WiDom Universal Roller Shutter must be installed by electricians qualified to intervene on electrical systems in compliance with safety requirements set out by the regulations in force.



**DANGER:** WiDom Universal Roller Shutter must be connected with a voltage of 230 VAC, before carrying out any operation, please make sure the general switch of the electricity meter is in the **OFF** position.



**DANGER:** Any procedure requiring the use of the (R) and (B) service buttons is related only to the installation phase and is to be considered a service procedure that must be performed by qualified personnel. This operation must be performed with all necessary precautions for operating in areas with a single level of insulation.



**WARNING:** Do not connect loads that exceed the maximum load permitted by the relay contacts.



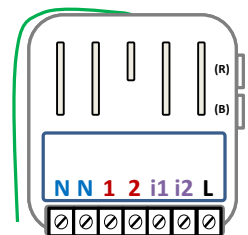
**WARNING:** All connections must be performed according to the electrical diagrams provided

## WiDom Universal Roller Shutter Activation

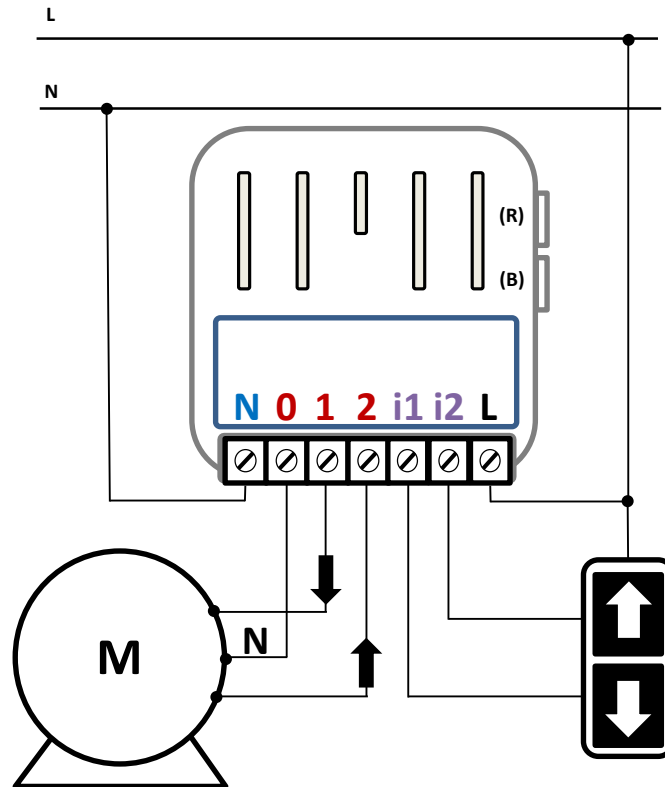
- 1) Make sure the main switch is set to the OFF position
- 2) Connect the device based on the diagrams provided
- 3) Close the electrical box that contains the device
- 4) Turn the main switch to the ON position
- 5) If necessary, calibrate the motor limit switches (see motor manufacturer's manual)
- 6) Include the device in the Z-Wave network



**TIP:** The antenna must not be shortened, removed or modified. To ensure maximum efficiency, it must be installed as shown. Large size metal equipment near the antenna can negatively affect reception. Each WiDom device is a node in a mesh network. If there are metal obstacles, the obstacle can often be overcome with a further triangulation node.



## Electrical connections



N) Neutral; L) Phase; 0, 1, 2) Motor terminals; i1, i2) Commands switch



**WARNING:** The power line must be opportunely protected from short-circuits and excess load due to a potential motor malfunction.


## Reset to the factory settings

The device can be reset to the original factory settings using one of the following methods:

**Method 1:** Remove the device from the Z-Wave network

**Method 2:** 6 consecutive clicks on UP/DOWN button within 1 minute from the start of the system

**Method 3:** Set parameter No. 61 to value 0 - FACTORY RESET (see Configuration Parameters).

 **INFO:** If the reset is performed while the device is still part of a network, it notifies the other devices that it has been removed (*Device Reset Locally Notification*). If WiDom Universal Roller Shutter receives a removal notification from another device, it will delete the removed device from its own associations.


## Including the device into an existing Z-Wave network

WiDom Universal Roller Shutter can be included and operated in any Z-Wave network with other Z-Wave certified devices from any other manufacturer. As a constantly powered node, WiDom Universal Roller Shutter will act as repeater regardless of the vendor in order to increase reliability of the network.

The device supports both the *Network Wide Inclusion* mechanism (which offers the ability to be included in a network even if the device is not directly connected the controller) and *Normal Inclusion*.

By default, if the device is not included in any network, as soon as it is powered, the *Network Wide Inclusion* procedure starts and lasts for about 1 minute. The procedure can be reactivated at the next device restart or by pressing the (R) button.


If the used controller does not support the *Network Wide Inclusion* functionality, the device may be included in the network through *Normal Inclusion* by pressing the (B) button once or three times or alternatively by pressing the external switch once.

 **INFO:** a single click on the UP button carries out the normal inclusion procedure while a single click on the DOWN button enables the inclusion with the inversion of commands.

## Excluding the device from a Z-Wave network

Only a controller can remove a device from the network. WiDom Universal Roller Shutter is compatible with all Z-Wave certified controllers. After the exclusion function has been activated by the controller, the device can be removed by setting it in *Learning Mode*.

 Be aware that press the (B) button is equal to press the UP button.

 To disable unintentional removals of the device, once it has been included into the network, the Learning Mode activation (by using (B) button or external switch) needs to be explicitly enabled through the use of parameter No. 65.

## Requesting a network update

If a **SUC** (Static Update Controller) or **SIS** (SUC ID Server) is present within the network, a network update can be requested by pressing the external switch four times.

## Associations

WiDom Universal Roller Shutter can control other devices like other relays or dimmers. WiDom Universal Roller Shutter supports 5 association groups:

Group 1: devices that will be notified of changes in its status

Group 2: devices that will be controlled by a single click on the external switch

Group 3: devices that will be controlled by a double click on the external switch

Group 4: devices that will be controlled by a triple click on the external switch

Group 5: devices that will be controlled by hold on the external switch



**INFO:** Association ensures direct transfer of control commands between devices, and is performed without participation of the main controller.



**TIP:** WiDom Universal Roller Shutter can control up to 16 devices for each group. To avoid network delays, we recommend limiting the amount of associated devices to no more than 5 per group.

## Controlling the device with an external switch

With WiDom devices, the normal switches/buttons found in a traditional electrical system can become intelligent control systems.

WiDom framework recognises the number of clicks or hold event on the external switch and can be configured to perform different actions based on the identified event.

## Controlling the device via the Z-Wave network

All Z-Wave controllers can control the device using the *Basic Set* commands.

The behaviour of the device based on its status and on the commands received from the network can also be configured.

## Alarms management

WiDom Universal Roller Shutter can also be configured to react to alarm notifications from sensors on the network. WiDom Universal Roller Shutter recognises and complies with *Notification V3 Report frame* alarm notifications.



**INFO:** By default, WiDom Universal Roller Shutter reacts to smoke, heat, water and home security alarms generated by others Z-Wave sensors in the system. The **ON**, **OFF** reaction type can be configured as needed.

## Switch ALL ON/OFF

By default, WiDom Universal Roller Shutter accepts *Switch All ON/OFF* commands.

## Calibration

It is the procedure through which the systems carries out a mapping of the position taken by the roller shutter and the motor functioning parameters. After this procedure is executed, it will be possible to control the shutter movement and to indicate the exact position it has to reach.

The calibration procedure runs automatically as soon as the system is included in a Z-Wave network and it will be automatically repeated in case of inversion of commands through the use of the parameter No. 63 (0x3F). The procedure can be subsequently activated through the use of the parameter No. 60 (0x3C).

The system precision depends on several factors such as the motor type, the limit switches sensitivity, the shutter type, etc. Statistically, the maximum error occurring while reaching a set position, starting from top or from the bottom is lower than the height of a single shutter batten.

The start of the calibration procedure requires the system to completely run twice, from being completely closed to completely open and to stop then in the final position.

## Favourite Positions

The system can set two favourite positions: one for the upward movements (opening movements) **Favourite level for ON position**, the other for the downward movements (closing movements) **Favourite level for OFF position**. These positions can be activated by the user through a double click on the UP button or on the DOWN button respectively.



## Configurations

### Controlling the device by external switch

The clicks/hold on the external switches control the shutter movements. The actions that will be performed on the associated devices can also be configured.

#### **Device status**

- Holding the UP/DOWN button makes the motor move in the relevant direction, and stops it as soon as the button is released or the shutter reaches its limit switch.
- If the motor is moving towards the UP/DOWN direction, an action ordering a movement in the opposite direction would result in a stop of the motor.
- If the motor is moving towards the UP/DOWN direction, a click on the UP/DOWN button will be ignored.
- A double click on the button UP/DOWN makes the motor move until it reaches the favourite position set for the UP/DOWN position .

#### **Parameter No. 1 Enables/Disables the shutter control trough the external Switch (1 byte).**

0 – SWITCH DISABLED

1 – SWITCH ENABLED

Default value: **1 – SWITCH ENABLED**

#### **Parameter No. 2: Favourite level for ON position (1 byte).**

From: 50 (50%) to 100 (100% - FULL ON)

Default value: **100 – FULL ON**

#### **Parameter No. 3: Favourite level for OFF position (1 byte).**

From: 0 (OFF) to 49 (49%)

Default value: **0 – OFF**

### Controlling the associated devices

Defines the actions to be carried out on the associated devices in terms of *Basic Set*. The following configurations can be used to configure the parameters No. 5, 6, 7, 8.

Configuration	Event	Action executed on the associated devices
1 – CONTROL ASSOCIATED	Actions on the ON button	<i>Basic Set ON_LEVEL</i>
	Actions on the OFF button	<i>Basic Set OFF_LEVEL</i>
2 – IGNORE IF ON	Actions on the ON button	No action
	Actions on the OFF button	<i>Basic Set OFF_LEVEL</i>
3 – IGNORE IF OFF	Actions on the ON button	No action
	Actions on the OFF button	<i>Basic Set OFF_LEVEL</i>
4 – IGNORE	Actions on the ON button	No action
	Actions on the OFF button	

#### **Parameter No. 5: Action on the associated devices when the external switch receives 1 click (1 byte).**

Default value: **1 – CONTROL ASSOCIATED**

#### **Parameter No. 6: Action on the associated devices when the external switch receives 2 clicks (1 byte).**

Default value: **1 – CONTROL ASSOCIATED**

#### **Parameter No. 7: Action on the associated devices when the external switch receives 3 clicks (1 byte).**

Default value: **1 – CONTROL ASSOCIATED**

#### **Parameter No. 8: Action on the associated devices when the external switch is hold (1 byte)**

Default value: **1 – CONTROL ASSOCIATED**



**WARNING:** Careless usage of the configuration parameters can create inconsistencies.

## Controlling the device by Z-Wave Network

The device final status reached by the device when it receives a **Basic Set** command from the Z-Wave network.

### **Parameter No. 20 (0x14): Device status upon receipt of a Basic Set command (1 byte)**

Configuration	Command received	Final status
<b>1 – AS RECEIVED</b> (Default value)	ON	ON
	OFF	OFF
2 – IGNORE IF ON	ON	Maintains the initial status
	OFF	OFF
3 – IGNORE IF OFF	ON	ON
	OFF	Maintains the initial status
4 – IGNORE	ON	Maintains the initial status
	OFF	

### Setting ON LEVEL and OFF LEVEL

Defines the values associated to the ON\_LEVEL and OFF\_LEVEL parameters used in the **Basic Set** commands. The following values can be used to configure parameters 30, 31, 32, 33, 34, 35, 36 and 37.

From: 1 to 99 for dimming purpose – 0 (OFF) and 255(0xFF) (ON) for switching ON/OFF

**Parameter No. 30 (0x1E): ON\_LEVEL value used for devices belonging to Group 2 (1 Click association group) (1 byte).**

Default value **255(0xFF) – ON**

**Parameter No. 31 (0x1F): OFF\_LEVEL value used for devices belonging to Group 2 (1 Click association group) (1 byte).**

Default value **0 – OFF**

**Parameter No. 32 (0x20): ON\_LEVEL value used for devices belonging to Group 3 (2 Click association group) (1 byte).**

Default value **255(0xFF) – ON**

**Parameter No. 33 (0x21): OFF\_LEVEL value used for devices belonging to Group 3 (2 Click association group) (1 byte).**

Default value **0 – OFF**

**Parameter No. 34 (0x22): ON\_LEVEL value used for devices belonging to Group 4 (3 Click association group) (1 byte).**

Default value **255(0xFF) – ON**

**Parameter No. 35 (0x23): OFF\_LEVEL value used for devices belonging to Group 4 (3 Click association group) (1 byte).**

Default value **0 – OFF**

**Parameter No. 36 (0x24): ON\_LEVEL value used for devices belonging to Group 5 (Hold association group) (1 byte).**

Default value **255(0xFF) – ON**

**Parameter No. 37 (0x25): OFF\_LEVEL value used for devices belonging to Group 5 (Hold association group) (1 byte).**

Default value **0 – OFF**

## Manage Alarms

WiDom devices can react to alarms received. The system recognises alarm messages of type *Alarm report (version 3 of Alarm Command Class)*. By default, all alarms are ignored except for those defined in the following table:

Alarm	Alarm or Notification Type	Event	Event Parameters
Smoke Alarm, CO, CO2	0x01 – 0x02 – 0x03	ANY	ANY
Heat Alarm	0x04	ANY	ANY
Water Alarm	0x05	ANY	ANY
Home Security	0x07	ANY	ANY

The way the device reacts when it receives an alarm can be customised using parameters 50, 51, 52 and 53.

Configuration	Device reaction
1 – ON	The device status switches to <b>ON</b>
2 – OFF	The device status switches to <b>OFF</b>
4 – IGNORE	The alarm will be ignored

**Parameter No. 50 (0x32): Smoke Alarm, CO, CO2 Action (1 byte)** - Defines how the device reacts when it receives one of the following types of alarms: smoke, CO and CO2.

Default value: **4 - IGNORE**

**Parameter No. 51 (0x33): Heat Alarm (1 byte)** - Defines how the device reacts when it receives a Heat Alarm

Default value: **4 - IGNORE**

**Parameter No. 52 (0x34): Water Alarm (1 byte)** - Defines how the device reacts when it receives a Water Alarm

Default value: **4 - IGNORE**

**Parameter No. 53 (0x35): Home Security (1 byte)** - Defines how the device reacts when it receives a Home Security Alarm.

Default value: **4 – IGNORE**

### Other configuration parameters

**Parameter N°60 (0x3C): Calibration (1 byte)** - Starts the system calibration by setting the parameter value as final level

From: 0 (0%) to 100 (100%)

Default value: **0 – 0%**

During the calibration phase the parameter value is set to 1 and it is restored to the default value at the end of the procedure.

**Parameter N°61 (0x3D): Configuration Reset (1 byte)** - Defines what are the parameters to be restored to default values.

Configuration	Device reaction
0 – FACTORY RESET	The device is restored to the original manufacturer's configuration.
1 – ASSOCIATIONS RESET	All and only the associations are reset
2 – CONFIGURATIONS RESET	The associations are maintained while all other configuration parameters are reset to the manufacturer's original settings, except for this specific configuration.
4 – <b>IGNORE</b> (Default value)	No action is carried out

**Parameter N°62 (0x3E): Protection time (1 byte)** - Represents to maximum time to complete a run (from completely open to completely closed). After that time the relay contacts are opened.

From: 0 to 127 Seconds

Default value: **60 Seconds**

**Parameter N°63 (0x3F): Inversion of UP/DOWN commands (1 byte)** – Inverts the outputs controlling the motor. Once the inversion is enabled, the receipt of an aperture/closure command will make the motor move in the opposite direction compared to what happens when the parameter is set on 0.



**WARNING:** The inversion of commands starts the calibration procedure requiring the system to completely run twice, from being completely open to completely closed.

Configuration	Device reaction
<b>0 – DISABLED</b> (Default value)	Inversion disabled
1 – ENABLED	Inversion enabled

**Parameter No. 65 (0x41): Learn Mode (1 byte)** - Defines the sequence of clicks on the external switch to be associated with the *Learning Mode* status.

Configuration	Device reaction
<b>0 – DISABLED</b> (Default value)	Action of the <i>Learning mode</i> cannot be enabled through the external switch.
1 – 1 CLICK	<i>Learning mode</i> activated by 1 click on the external switch
2 – 2 CLICK	<i>Learning mode</i> activated by 2 click on the external switch
3 – 3 CLICK	<i>Learning mode</i> activated by 3 click on the external switch



**INFO:** When *Learning mode* is associated to a click event any configuration related to the associated devices is ignored. The configuration is valid for a single event. After which the default value will be restored (**0 – DISABLED**).

## Disposing the devices



This product bears the selective sorting symbol for waste electrical and electronic equipment (WEEE).

This means that this product must be handled pursuant to European Directive 2002/96/EC in order to be recycled or dismantled to minimize its impact on the environment.

For further information, please contact your local or regional authorities.



Electronic products not included in the selective sorting process are potentially dangerous for the environment and human health due to the presence of hazardous substances.

## Compliance with directives

WiDom devices are built in compliance with directives LVD 2006/95/EC, EMC 2004/108/CE and R&TTE

Widom shall not be held responsible for any damage caused by these devices if they are used in a manner that is not compliant with the instructions in this manual. WiDom reserves the right to make any changes to the product that it considers necessary or useful without jeopardising its primary features.

## Warranty

This warranty is provided by WiDom srl (hereinafter “WiDom”) based in Quartu S.Elena 09045 (CA), Italy (VAT number 03452490927).

WiDom warrants to the original purchaser (hereinafter “Customer”) that the device sold under this agreement (hereinafter “Device”) is free from defects in parts and workmanship under normal use for 12 months from date of purchase (“Warranty Period”).

The original purchase invoice or sales receipt, showing the date of purchase is the proof of date of purchase by the Customer.

If a Device, sold by WiDom to the Customer, has manufacturing defects or in any case of alleged lack of conformity, the Customer shall send within thirty (30) days from the day in which he discovers such defects, a claim form by using the web site ([www.widom.it](http://www.widom.it)) informing WiDom on the full name of the Customer, the nature of the defects and the date in which the Devices has been purchased.

Warranty Claims received after the expiration of the Warranty Period shall not be considered valid.

Once WiDom, receives the Warranty Claim, it shall inform the Customer by e-mail or letter, if the Warranty is applicable and the address where the Device shall be sent in order to verify the defects (if any). Customer must prepay shipping and transportation charges as indicated by WiDom. The Device shall be sent by the Customer to WiDom at its own costs and expenses, by express courier or hand delivered, and with the original packaging, the supplied accessories (if any) and documents proving date of purchase. WiDom shall then inform the Customer about the defects and on its repair or replacement (where applicable). Should WiDom not evidence defects on the Device, the Device shall be returned to the Customer.

Should WiDom notices the defects, and this warranty is applicable, it will remove, at its sole discretion, any defect, free of charge, by repairing any defective components of the Device with new or regenerated components or by replacing the Device. The Warranty Period of the replaced or repaired Device shall not be extended.

WiDom will ship the repaired or a replaced Device to Customer freight prepaid.

WiDom will not be liable for damages to property caused by faulty device. WiDom will not be liable for indirect, incidental, special, consequential or punitive damages, 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.

If the Device cannot be replaced with another of the same type (e.g. the Device is no longer in production or no longer available for selling in the Customer’s country), it may be replaced with a different one having similar technical specifications to the faulty one. Such replacement shall be considered as a total fulfilment of WiDom’s obligations.

## Warranty exclusion

- defects caused by normal wear of parts or especially subject to wear, such as parts that require periodic replacement during the normal operation of the system (e.g. Batteries);
- splits, cracks, scratches, dents, scratched or discolored surfaces and parts, breakage of plastic parts and in general of any other cosmetic damage;
- damages resulting from use of the system other than that provided, including but not limited to the failure to follow instructions contained in the operating manual;
- damages caused by accident, abuse, misuse, dirt, viruses, liquid contact, fire, earthquake, improper or inadequate maintenance or calibration, negligence or other external causes;
- environmental damage and / or defects caused by smoke, dust, dirt, soot, or other external influences;
- damages caused by modifications and alterations in the functionality or features without the written permission of WiDom;
- damages resulting from transportation or inadequate packaging when returning the product to a WiDom or to an authorize service center;
- defects caused by force majeure events such as lightning, floods, fires, incorrect voltage, improper ventilation;
- damages caused by malfunctioning software, computer virus attack, or by failure to update the software as recommended by WiDom;
- damages resulting from surges in the power 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 WiDom;
- damages caused by operating or storing the device in extremely adverse conditions, i.e. high humidity, dust, too low (freezing) or too high ambient temperature;
- products whose serial number has been removed, damaged or rendered illegible;

- expiration of the Warranty Period.

If a defect is not covered by the Warranty, WiDom will inform the Customer about the extra expenses for the repair or replacement.

This warranty may be subject to changes. Please check at [www.widom.it](http://www.widom.it) the newest warranty claim procedure.

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

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