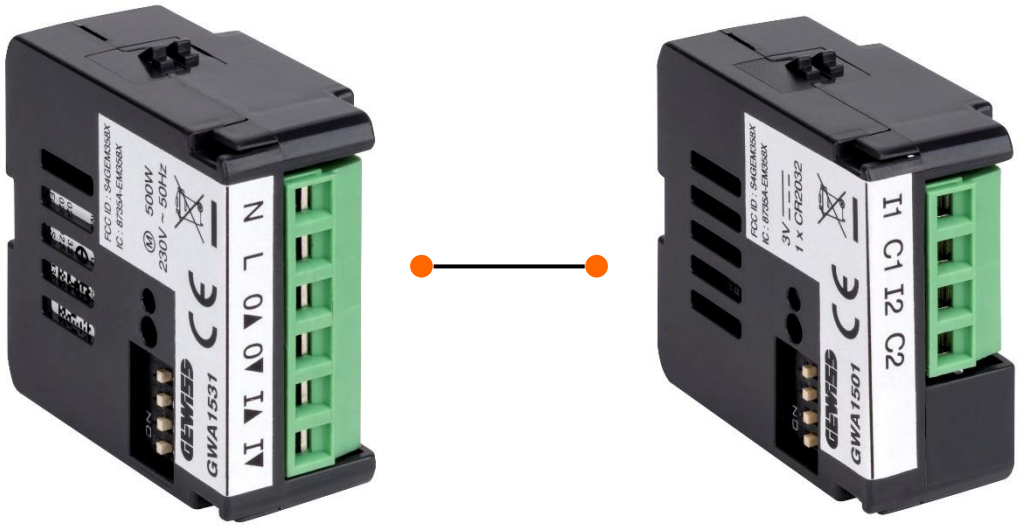
CHORUS

# MANUAL ZIGBEE CONFIGURATION

BINDING BETWEEN THE GWA1531 ROLLER SHUTTER ACTUATOR AND THE GWA1501 INTERFACE




zigbee

TECHNICAL MANUAL

## CONTENTS

## AIM OF THIS PUBLICATION

This manual is designed for the installer responsible for configuring the ZigBee system.

It explains how to make the binding between the GWA1531 and GWA1501 devices.

## ZIGBEE KEY – USEFUL TERMS

| | |
|---|---|
| Binding: | The association between an actuator and a sensor in order to carry out a certain function |
| Coordinator: | The ZigBee device that carries out the following tasks:<br>1. Create the ZigBee network<br>2. Define the optimal frequencies that the network will use<br>3. Generate the PAN (Personal Area Network)<br>4. Generate the decoding key used by that specific network<br>5. Assign a short address to all the devices which are part of that ZigBee network<br>6. Transmit the decoding key to those devices |
| End device: | Battery-controlled ZigBee devices |
| Joining: | Operation via which a ZigBee device becomes part of a ZigBee network |
| Permit Join: | Operation via which a ZigBee network coordinator opens that network so that one ZigBee device or more (not yet part of the network) can become part of it |
| Router: | Any device of a ZigBee system that is not the coordinator or an end device (battery-controlled). Router devices forward messages within the ZigBee network, facilitating communication between devices. |

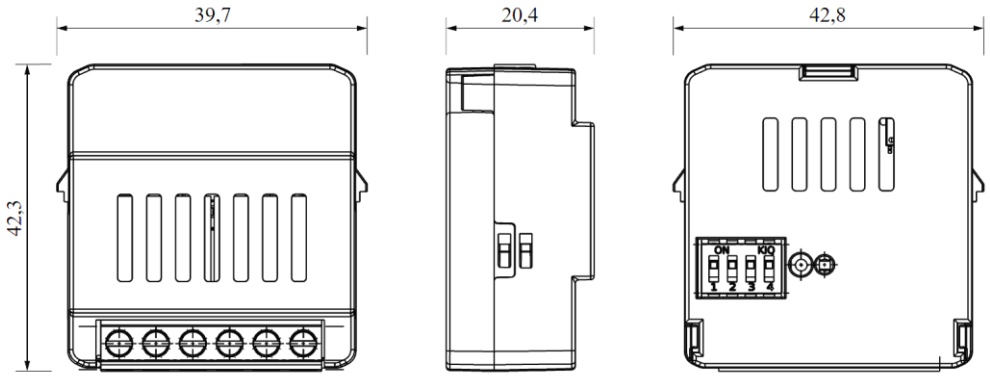
## TECHNICAL FILES

| GWA1531 | |
|---|---|
| **CATEGORY:** | Roller shutter actuator |
| **SUPPLY VOLTAGE:** | 230V AC / 50Hz |
| **MAX. OUTPUT CURRENT:** | 6A-230V AC (in accordance with 60669-2-1) |
| **MAX. DISPERSIBLE POWER (W):** | 2.3W |
| **MAX. MOTOR POWER:** | 500W |
| **OUTPUT POWER:** | 8 dBm |
| **DEGREE OF PROTECTION:** | IP20 |
| **OPERATING TEMPERATURE:** | [-5°; +45°C] |
| **STORAGE TEMPERATURE:** | [-25°; +70°C] |
| **RELATIVE HUMIDITY (NON-CONDENSATIVE):** | Max. 93% |
| **DIMENSIONS L X H X D (MM):** | 42x40x20 |
| **COMMUNICATION PROTOCOL:** | ZigBee (IEEE 802.15.4) |
| **REFERENCE STANDARDS:** | 2014/53/EU |

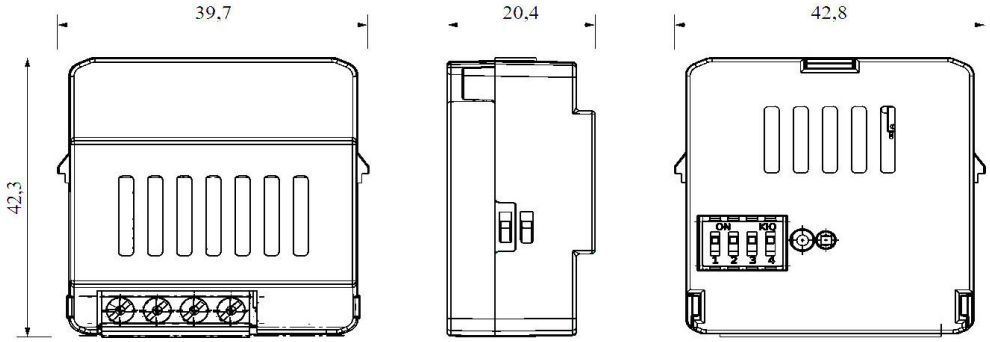
| GWA1501 | |
|---|---|
| **CATEGORY:** | Contact interface |
| **SUPPLY VOLTAGE:** | Battery-controlled |
| **INPUT VOLTAGE:** | Potential-free |
| **SUPPLY BATTERIES:** | CR2032 replaceable |
| **OUTPUT POWER:** | 8 dBm |
| **NO. OF INPUT CHANNELS:** | 2 |
| **MAX. CABLE LENGTH:** | 15m |
| **DEGREE OF PROTECTION:** | IP20 |
| **STORAGE TEMPERATURE:** | [-25°; +70°C] |
| **OPERATING TEMPERATURE:** | [-5°; +45°C] |
| **RELATIVE HUMIDITY (NON-CONDENSATIVE):** | Max. 93% |
| **DIMENSIONS L X H X D (MM):** | 42x40x20 |
| **COMMUNICATION PROTOCOL:** | ZigBee (IEEE 802.15.4) |
| **REFERENCE STANDARDS:** | 2014/53/EU, EN 60669-2-1, EN 60669-1, ETSI EN 300-328 |

## DIMENSIONS

### GWA1531

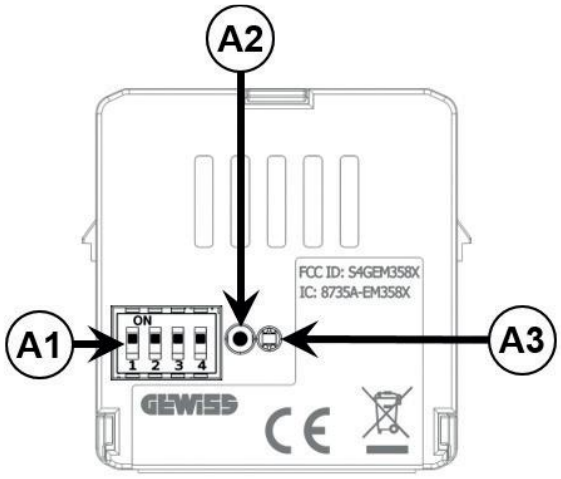



### GWA1501



## BREAKDOWN OF THE ZIGBEE DEVICES

### GWA1501

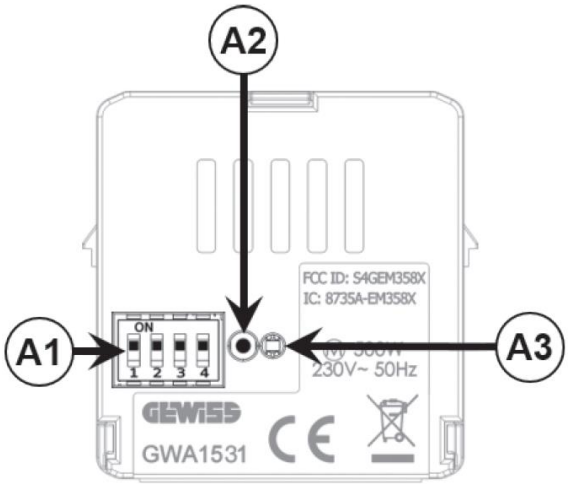



A1. DIP-switch with 4 one-way switches

A2. Miniature button key for joining functions

A3. Status LED

### GWA1531



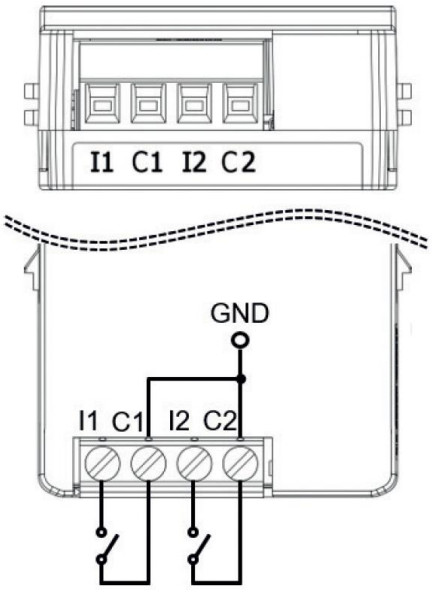

A1. DIP-switch with 3 one-way switches

A2. Miniature button key for joining functions

A3. Status LED

## ELECTRIC DIAGRAMS

### GWA1501



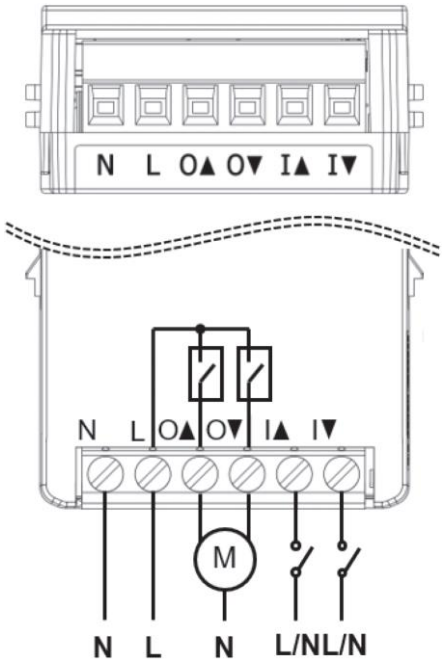

I1. Channel 1 input

C1. Channel 1 common wire

I2. Channel 2 input

C2. Channel 2 common wire

### GWA1531




N. Power supply neutral

L. Power supply phase

O▲. NO output with powered contact for the up movement

O▼. NO output with powered contact for the down movement

I▲. Local command input for the up movement

I▼. Local command input for the down movement

## CONFIGURATION

If the ZigBee network hasn't yet been created, proceed as follows:

1. Choose which device will have the role of coordinator
2. Activate the procedure to create the ZigBee network via the coordinator
3. After creating the network, activate Permit Join
4. Power the devices that you want to join to the network (GWA1531 and GWA1501)
5. Make the binding between the GWA1531 and GWA1501 devices

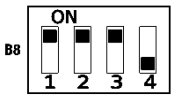
If the ZigBee network has already been created, only the last three points of the list are required:

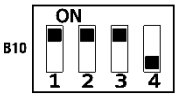
1. After creating the network, activate Permit Join
2. Power the devices that you want to join to the network (GWA1531 and GWA1501)
3. Make the binding between the GWA1531 and GWA1501 devices

### Creating and joining to the ZigBee network:

1. Make sure the actuator is in its factory-set condition (if it isn't, make a factory reset)
2. The LED on the device must have a fixed red light
3. Press the Permit Join activation button key quickly for 3 times. The LED will turn green for a few seconds and then begin flashing. From this moment, Permit Join is activated for 15 minutes (this device is now the network coordinator).
4. Make sure the interface is in its factory-set condition (if it isn't, make a factory reset)
5. When the device is powered, a scan will be launched (red LED) to identify an open ZigBee network
6. When the association has been made, the status LED will begin flashing red (or it will switch off)
7. Briefly press the button key of the actuator (network coordinator) to close the network

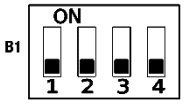
### Association between devices:

1. On the GWA1531 actuator, bring the dip-switches to the positions 

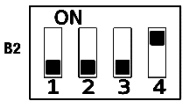
shown:
The status LED will have a fixed yellow light
2. Press the push-button connected to local input I▲ on the actuator. The status LED will make a double yellow flash and this will continue cyclically
3. On the GWA1501 interface, bring the dip-switches to the position 

4. The status LED will turn yellow
5. Now use the button key connected to the interface that you want to associate (I1 or I2)
6. Repeat the operation from point 2 (always with the input on the actuator) to add the button key not yet joined (I2) (if present)
7. The identification phase will normally terminate automatically (the LED will have a fixed yellow light again). If this doesn't happen, wait 3 minutes.
8. Set the dip-switches on the basis of the functions required

## ACTUATOR PARAMETERS (GWA1531)




Shutter




Venetian blind

NB: this setting only takes effect on the local input of the actuator; the setting that will be made on the interface will in any case be executed by the actuator.

### How to set the downward stroke time of the roller shutter/Venetian blind

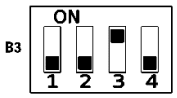
The downward stroke time can be modified as follows:

1. .Bring the roller shutter/Venetian blind to the completely open position 

("fully up")
2. Bring the dip-switches to the position shown, to enter downward stroke time configuration mode
3. Briefly press the button connected to the local input I▼ to start the downward stroke time count; the roller shutter/Venetian blind will begin to move down
4. When the roller shutter/Venetian blind reaches the lower limit switch (completely lowered), briefly press one of the two push-buttons connected to the local inputs (I▲ or I▼) to stop the descent, end the count and save the new downward stroke time value

### How to set the upward stroke time of the roller shutter/Venetian blind

The upward stroke time can be modified as follows:

1. .Bring the roller shutter/Venetian blind to the completely closed position ("fully down")
2. Bring the dip-switches to the position 

shown, to enter upward stroke time configuration mode
3. Briefly press the push-button connected to the local input I▲ to start the upward stroke time count; the roller shutter/Venetian blind will begin to move up
4. When the roller shutter/Venetian blind reaches the upper limit switch (completely raised), briefly press one of the two push-buttons connected to the local inputs (I▲ or I▼) to stop the ascent, end the count and save the new upward stroke time value

### How to set the number of slat regulation steps when closing the Venetian blind

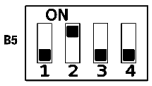
The number of slat regulation steps on closing can be modified as follows:

1. Bring the Venetian blind slats to the completely open position
2. Bring the dip-switches to the position 

shown, to enter the mode for configuring the number of slat regulation steps on closing
3. Briefly press the push-button connected to the local input I▼ to perform a slat regulation step on closing (step duration = 100 ms); repeat the operation until the slats are completely closed
4. Briefly press the push-button connected to the local input I▲ to stop the count and save the new value of the number of slat regulation steps on closing

## How to set the number of slat regulation steps when opening the Venetian blind

The number of slat regulation steps on opening can be modified as follows:

1. Bring the Venetian blind slats to the completely closed position
2. Bring the dip-switches to the position shown 

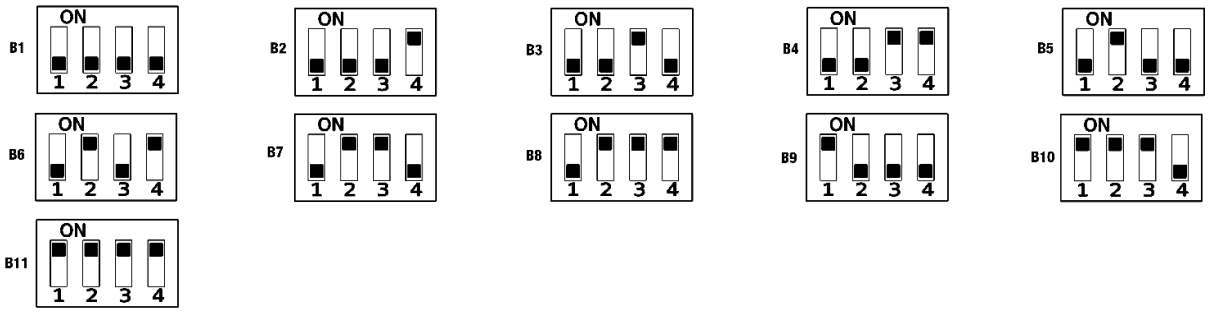
to enter the mode for configuring the number of slat regulation steps on opening
3. Briefly press the push-button connected to the local input I▲ to perform a slat regulation step on opening (step duration = 100 ms); repeat the operation until the slats are completely open
4. Briefly press the push-button connected to the local input I▼ to stop the count and save the new value of the number of slat regulation steps on opening

## INTERFACE PARAMETERS (GWA1501):

| POSITION | CHANNEL 1 MODE (L1) | CHANNEL 2 MODE (L2) |
|---|---|---|
| **B1** | Independent push-button | Independent push-button |
| **B2** | Combined push-buttons | Combined push-buttons |
| **B3** | One-way switch (toggle) | One-way switch (toggle) |
| **B4** | One-way switch (on/off) | One-way switch (on/off) |
| **B5** | Scene | Scene |
| **B6** | Independent push-button | One-way switch (toggle) |
| **B7** | Scene | Independent push-button |
| **B8** | Timed push-button | Independent push-button |

Depending on the operating mode selected and the actuators associated, the behaviour of each channel upon the closure/opening of the corresponding input is as follows:

| MODE | ASSOCIATION WITH ON/OFF ACTUATOR |
|---|---|
| **Independent push-button** | • Long press: up/down movement (reverses the last movement)<br>• Short press: stop (if movement in progress) or slat regulation (if Venetian blind actuator) |
| **Combined push-button** | • Long press: up movement if channel 1, down movement if channel 2<br>• Short press: stop (if movement in progress) or slat regulation (if Venetian blind actuator) on opening on channel 1, on closure on channel 2 |
| **Toggle switch** | • Contact closed: no alarm<br>• Contact open: weather alarm in progress |
| **On/Off switch** | • Contact closed: no alarm<br>• Contact open: weather alarm in progress |
| **Scene** | • Long press: scene 1 learning if channel 1 / scene 2 learning if channel 2<br>• Short press: scene 1 execution if channel 1 / scene 2 execution if channel 2 |
| **Timed push-button** | No compatible function |



## INTERFACE (GWA1501) FACTORY RESET

Press and hold the Permit Join activation push-button (A2) for at least 10 seconds. The status LED will flash red and green alternately for 3 seconds, then become red fixed.

## ACTUATOR (GWA1531) FACTORY RESET

Press and hold the Permit Join activation push-button (A2) for at least 10 seconds. The status LED will flash red and green alternately for 3 seconds, then become red fixed.

code 70194246

Punto di contatto indicato in adempimento ai fini delle direttive e regolamenti UE applicabili:
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