

AMZ Z-Wave Solar Awning Blind



Read the instruction below carefully before proceeding to device usage



Table of Contents

Important informations	3
Characteristics of the awning blind	4-5
Characteristics of the remote	6
Device programming	7-10
Adding the device to the network (remote) - INCLUDE function	7
Assigning the device to the operating buttons of the controller - ASSOCIATE function	8
Removing the device from the operating buttons - DELETE function	9
Removing the device from the network (controller) - EXCLUDE function	10
Additional informations	11
Cooperation of device from different manufacturers in Z-Wave network	11
Adding the AMZ awning to the network operate by the controller of other manufacturer	11
Special function – ALL ON, ALL OFF	11
Manual operating	11
Remote control	12
Modes of control	12
Switching between control modes	12
Procedure for selection of mode control	12
Operation mode and automatic control	13-14
Modes of the awning blind operation	13
Change of parameters	13
Opening or closing time in A and S mode	13
Insolation level	13
Change of work modes	13
Change of sensitivity level of the night mode	14
Restoring default parameters	14
Additional functions	15
Checking battery charge level	15
Checking opening / closing status	15
Technical parameters	16
Warranty	16

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Important information

Read the instruction below carefully before proceeding to device usage in order to ensure its proper functioning.

Please read carefully the instructions below before proceeding to the device installation so as to prevent electric shock, injury etc.

When installing the electric awning blind it is necessary to observe the following recommendations:

- After unpacking, check the awning blind elements for any signs of mechanical damage.
- Installation should be performed by a qualified person in accordance with manufacturer's instructions.
- Plastic containers used for packing should be stored out of children reach as they may be a potential source of danger.
- The awning blind should be used according to its intended design.
- The FAKRO Company shall not be responsible for any consequences being the result of improper awning blind use.
- Any activities relating to cleaning, adjustment or dismantling should be preceded with disconnecting the power supply.
- The awning blind cannot be washed using solvent-based substances or open stream of water (do not immerse in water).
- Any repairs of the awning blind should be carried out by service authorised by the manufacturer.
- The awning blind has been designed for installation outside the room.
- It is recommended to position remote control in the room in which the awning blind has been installed. Spare parts are available in service of Fakro Company. When ordering it is necessary to provide information from the data plate.

Characteristics of the awning blind

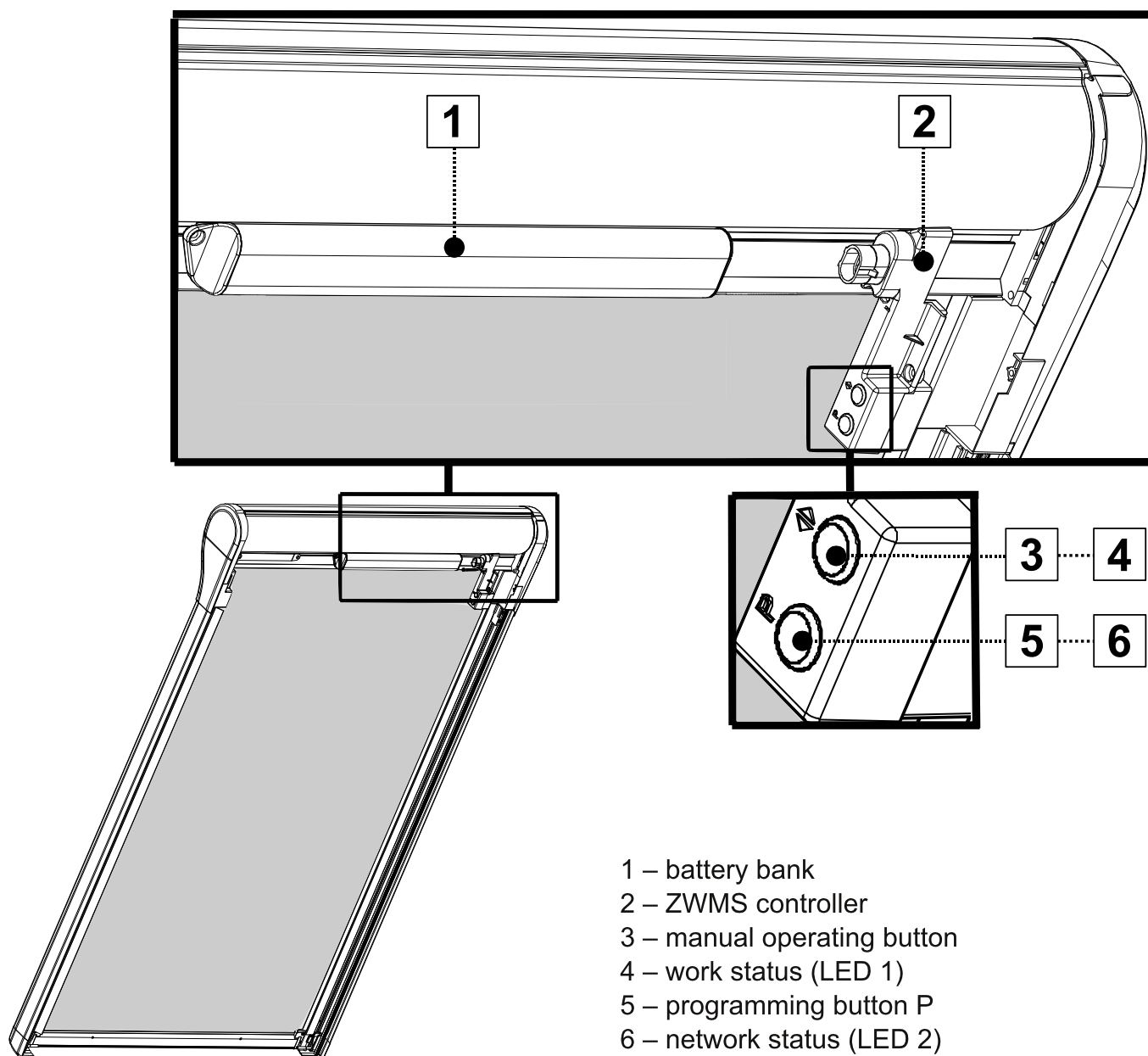
The AMZ Z-Wave Solar Awning Blind is intended for installation in Fakro roof windows and is adapted to cooperation with elements of wireless remote control system offered by FAKRO and other manufacturers offering products with Z-Wave logo. The awning blind is equipped with a two-way radio communication module. For communication, Z-Wave utilizes radio wave frequency of 868,42 MHz.

The controller of the awning blind is equipped with solar radiation and temperature sensors, thus allowing blind operating in one of three modes: automatic, semi-automatic and manual.

The AMZ Z-Wave Solar Awning Blind is equipped with three protections:

- at the maximum unrolling of the awning blind (outskirt)
- at the maximum rolling up of the awning blind (outskirt)
- current limiting protecting the awning blind against damage and the user against accidental injury as a result of contact with movable elements of the awning blind.

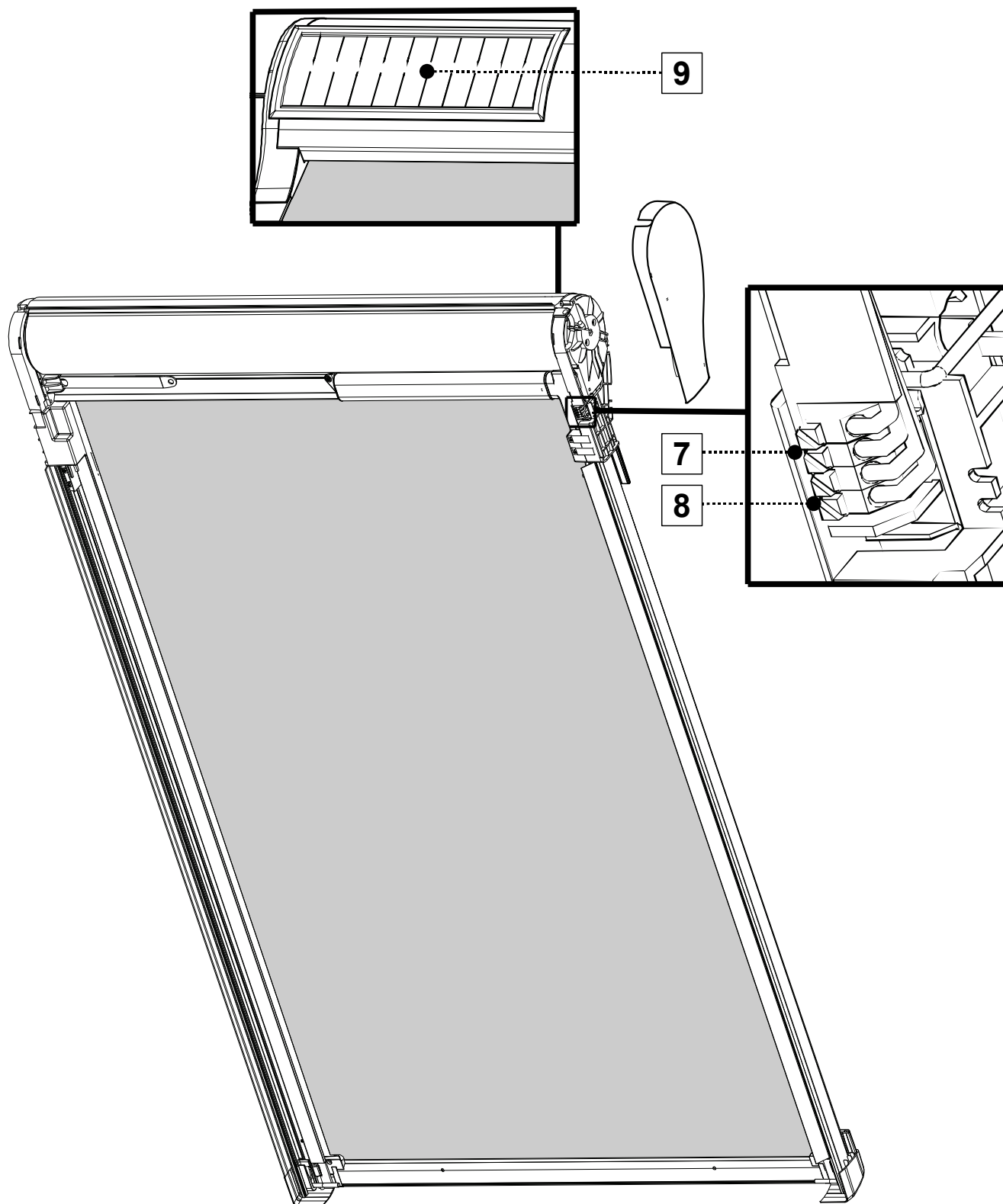
To be able to control the device, it is necessary to install it following the picture installation instructions included in the product package. Below there is presented a general view of the AMZ Z-Wave Solar awning blind with the description of the available buttons and signalling.



Characteristics of the awning blind

Available programming and manual operating buttons (up-down arrow) and signalling are on the right side of the awning blind guide.

ZWMS controller terminals of the AMZ Z-Wave Solar awning blind are under right cover of the awning blind – see the picture below.



- 7 – place of power supply connection (photovoltaic panel)
- 8 – place of motor connection
- 9 – photovoltaic panel for recharging the battery

Characteristics of the remote

Note!!! ZWP SA4 is a remote intended to control the AMZ Z-Wave Solar awning blind. Using other controllers is possible but it can cause faster wearing off the batteries of these controllers due to the using awakening function which extends required time of the controller activity. Therefore it is possible to program the awning blind to one of the controllers (e.g. ZWP10 remote, ZWK or ZWG keyboards) offered by FAKRO or any controller of other manufacturer equipped with the Z-Wave module.

I – button for channel selection

1 – active channel no. 1 – remote control of the awning blind no. 1 by using operating buttons □ □ □

2 – active channel no. 2 – remote control of the awning blind no. 2 by using operating buttons □ □ □

3 – active channel no. 3 – remote control of the awning blind no. 3 by using operating buttons □ □ □

4 – active channel no. 4 – remote control of the awning blind no. 4 by using operating buttons □ □ □

1,2,3,4 – remote control of the group of awning blinds simultaneously (max. 4 awning blinds)

II – button for manual mode selection

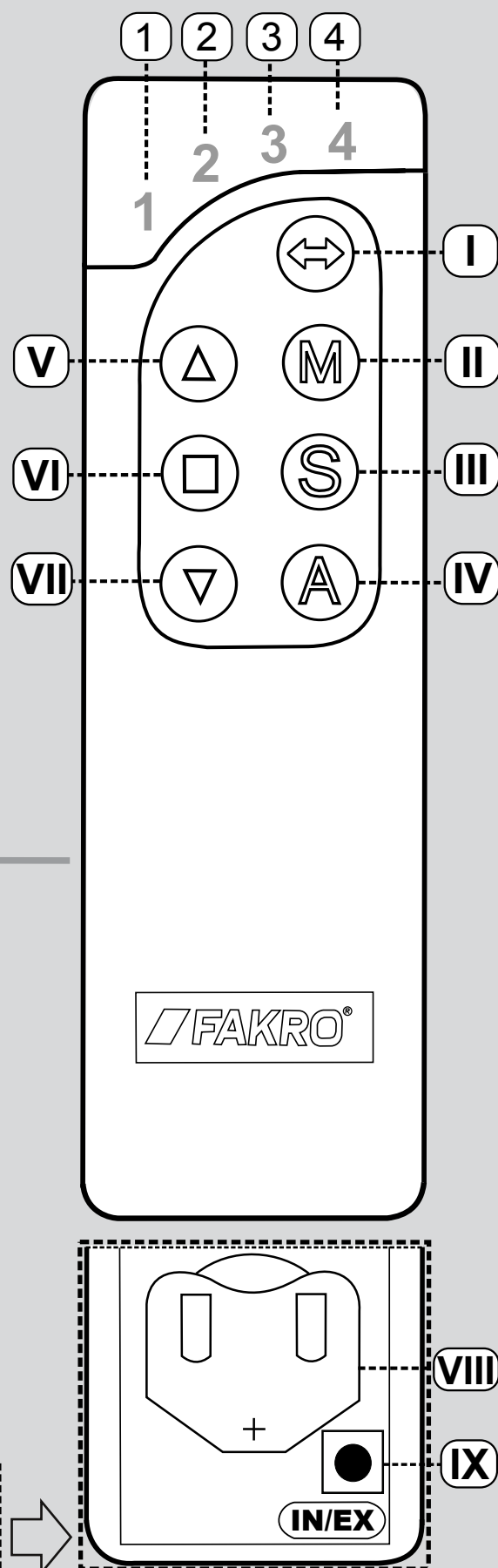
III – button for semi-automatic mode selection

IV – button for automatic mode selection

V – operating button – for rolling up the awning blind

VI – stop button – for stopping the awning blind in requested position

VII – operating button – for unrolling the awning blind

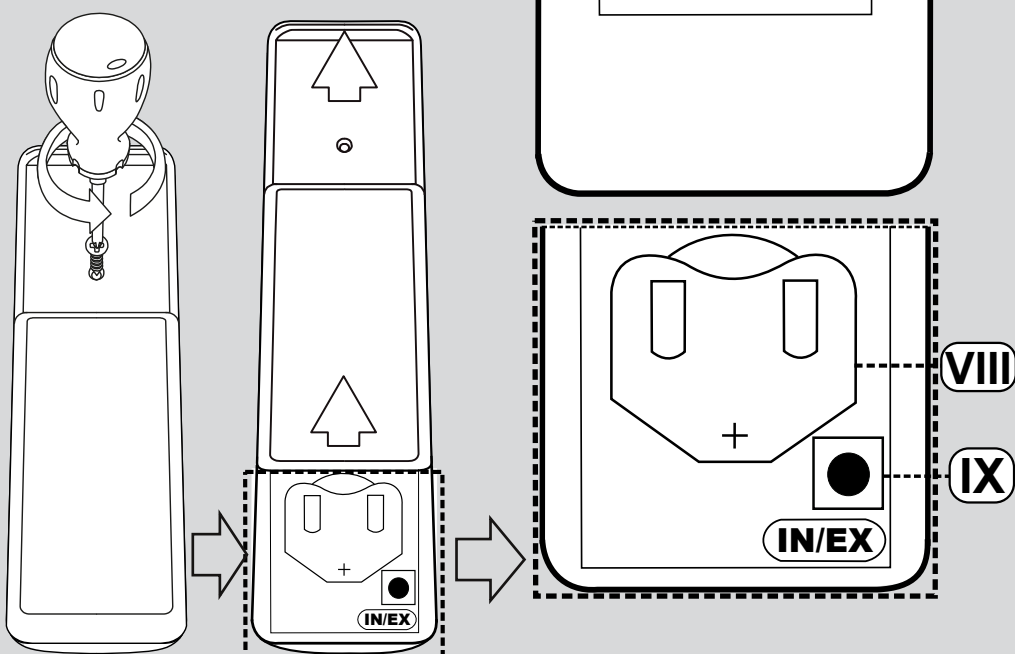


NOTE!!! Programming button IN/EX and 3VDC button cell battery is positioned under back part of the cover.

NOTE!!! Older controllers of the Z-Wave system cannot operate awakening function of energy-efficient devices such as the AMZ Z-Wave Solar awning blind.

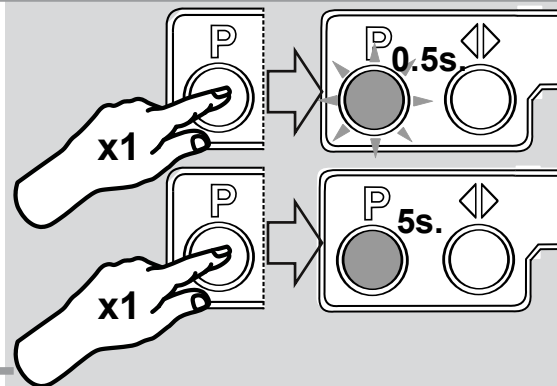
VIII – 3V button cell battery

IX – IN/EX programming button



Device programming

NOTE!!! The awning blind is factory programmed for **ZWP SA4** controller on channel 1. In case of need for controller replacement, change of configuration or programming additional device, it is necessary to follow recommendations presented below. Before proceeding to programming check whether the device is not already a part of another network. The device is in the network when after pressing P button the network status LED blinks once **for 0.5 sec.** The device does not belong to any network when after pressing P button the network status LED blinks **for 5 sec.**

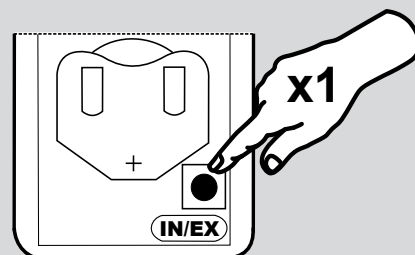


Adding the device to the network (remote) – INCLUDE function

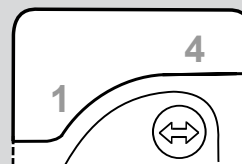
For the device to communicate in the Z-Wave network, it is necessary to connect to this network and assign a specific number (Node ID). The device can be added to the network, only if it is not already a part of another network. To add the device to another network, it must be first removed from the existing network or restored to factory settings by means of any PRIMARY controller. Readiness to be added to the network is signalled by the network status LED (fig. on page 4).

Below exemplary procedure of adding device to the network (INCLUDE FUNCTION):

1. Press once In/Ex button on the controller (remote)

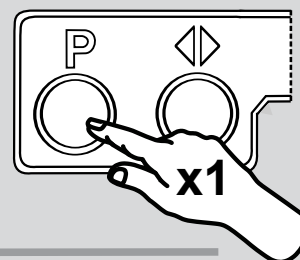


2. The controller signals awaiting for information about the device being added to the network – external LEDs (1,4) light up for about 10 seconds.



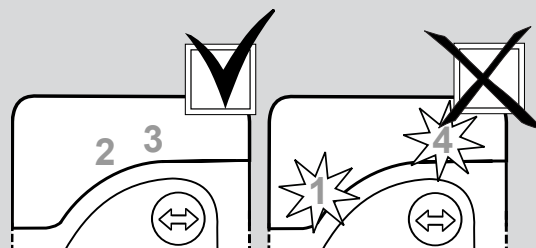
then within 10 seconds:

3. Press the programming button on the blind longer than 1 second:



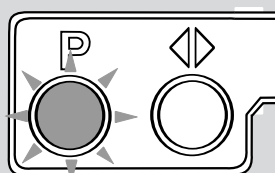
4. The controller (remote) signals:

- ▣ correct adding the device to the network – two LEDs (2,3) light up for 2 seconds.
- ▣ incorrect device adding – two LEDs (1,4) blink three times, it is necessary to repeat the process



5. The awning blind signals:

- correct adding the device to the network – network status LED 2 blinks once after pressing the button)



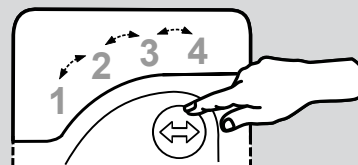
Device programming

Assigning the device to the operating buttons of the controller – ASSOCIATE function.

Please find below exemplary procedure of adding the device to the operating buttons of the controller (ASSOCIATE FUNCTION):

In order to control the device (the awning blind):

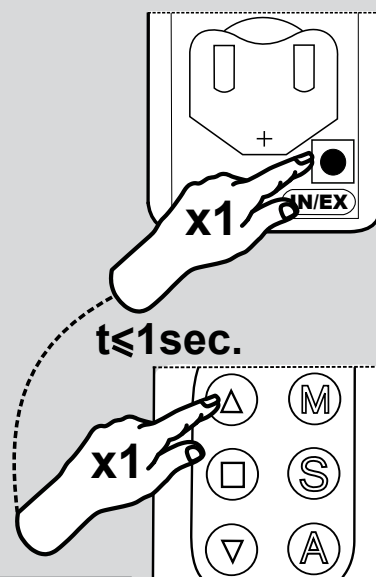
1. By pressing button 1 choose one of four channels which will be used for operating the blind and then...



Within 1 second press the sequence of buttons:

2. Press the In/Ex button momentarily and then...

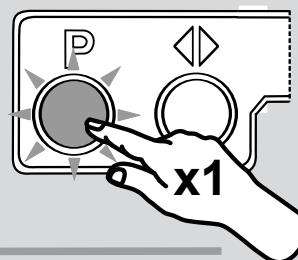
3. Press one of the operating buttons 2 or 3 or 4



4. Readiness to assign the device is signalled by the controller –
- LEDs 1,2,3 light up for 10 sec.



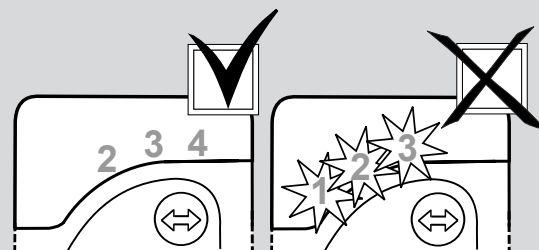
5. Press the programming button on the awning blind for longer than 1 sec.



6. The controller signals

□ correct assigning – LEDs 2,3,4 light up for 2 sec.

□ Incorrect assigning – LEDs 1,2,3 blink three times

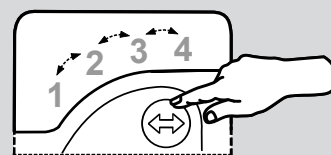


Device programming

Removing the device from the operating buttons – DELETE function.

In some cases (change of place of installation, replacement of damaged equipment), it is necessary to remove the device from the operating buttons (DELETE) as well as from the network (EXCLUDE) to prevent errors when sending commands (to non-existent devices) and excessive drain on the batteries of portable controllers. **Do not remove devices physically from the network without first removing them from the memory controller by using the DELETE and EXCLUDE functions!** It can lead to considerable delays in the operation of devices in the network and the rapid wear on the batteries of portable controllers. The order of execution of the function is also very important. First, perform the DELETE function and at the very end the EXCLUDE function. Please find below exemplary procedure of removing the device from the operating buttons.

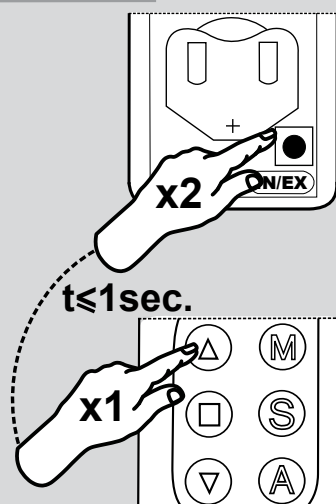
1. By pressing button  choose one of four channels which will be used for programming the blind and then...



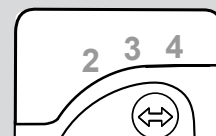
Within 1 second press the sequence of buttons:

2. Press the In/Ex twice and then...

3. Press one of the operating buttons  or  or 



4. Readiness to remove the device is signalled by the controller – LEDs 2,3,4 light up for 10 sec.

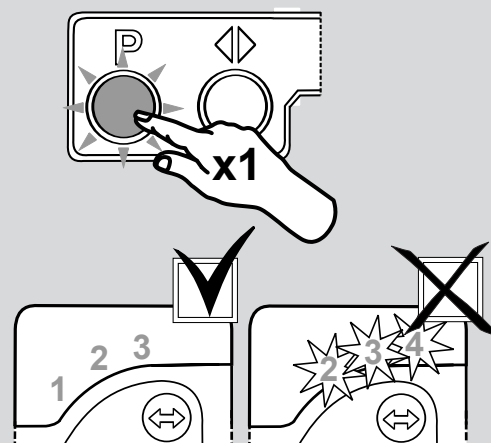


5. Press the programming button on the awning blind for 1 sec.

6. The controller signals:

 correct removing of the assigning is signalled by the controller – LEDs 1,2,3 light up for 2 sec.

 incorrect removing of the assigning – LEDs 2,3,4 blink three times.

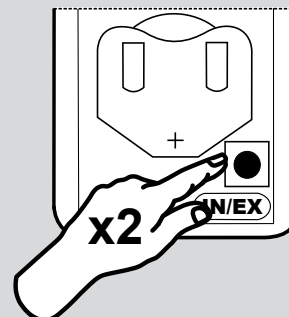


Device programming

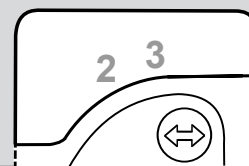
Removing the device from the network (controller) – EXCLUDE function.

Please find below exemplary procedure of removing the device from the network (controller).

1. Press twice In/Ex button on the controller momentarily.

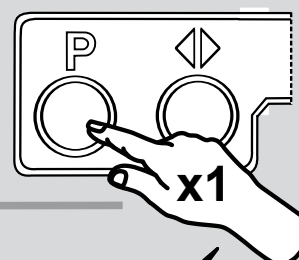


2. The controller signals awaiting for information about the device being removed from the network – LEDs 2,3 light up for about 10 sec.



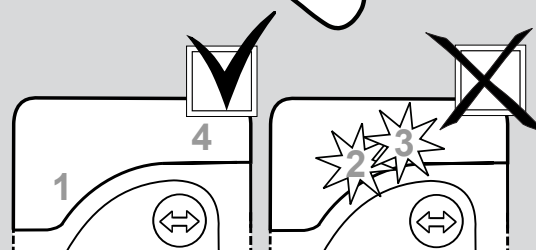
then within 10 sec.

3. Press the programming button on the awning blind for longer than 1 sec.:



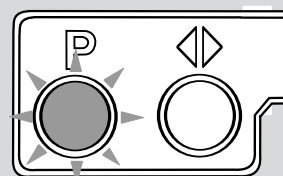
4. The controller signals:

- ▣ correct device removal from the network – LEDs 1,4 light up for 2 sec.
- ▣ incorrect removal from the network – LEDs 2,3 blink three times.



5. The awning blind signals:

- ▣ correct device removal from the network – network status LED 2 lights up for 5 sec.



Additional information

Cooperation of devices from different manufacturers in Z-Wave network

Z-Wave allows to integrate devices of different manufacturers which can work in different groups; lighting, heating, domestic automation etc. Z-Wave devices operate as repeaters in the network, thus increasing the range of radio communication. The more devices in the network, the more reliable and more resistant to interference is performance of the devices within the network.

Adding the AMZ Solar awning blind to the network operated by the controller of other manufacturer.

Note!!! Make sure that the device (awning blind) is not a part of any network.

Start the INCLUDE procedure by means of the controller of the existing network and then press the "Programming" button on the awning blind being added to the network.

Note: Information on how to initiate and perform the INCLUDE and ASSOCIATE functions with the use of controllers of other manufacturers is to be found in the manuals of these devices.

Special function – ALL ON, ALL OFF

It is possible to define whether the awning blind has to obey CLOSE ALL and OPEN ALL commands.

Note: Instructions on how to define CLOSE ALL and OPEN ALL functions can be found in the manuals of these devices.

Manual operating

The manual operating button makes it possible to operate the AMZ Z-Wave Solar awning blind right after its installation. In order to control the awning blind manually, it is necessary to press the manual operating button. Buttons operate in the sequential cycle:

1. First pressing of the button causes the awning blind to unroll.
2. Second pressing of the button stops the awning blind.
3. Third pressing of the button causes the awning blind to roll up.

Remote control

Modes of control

Note!!! Every command sent from the remote to the awning blind is preceded with the period of awakening the blind. It lasts about 0.3 sec. In practice it reflects in 0.5 sec. delay of the awning blind.

The awning blind can be controlled in one of three modes:

- 1) manual – control with the use of the remote control
- 2) semi-automatic – automatic closing and with the use of the remote control
- 3) automatic – automatic opening and closing and with the use of the remote control

In the automatic control mode the awning blind is controlled by the actuator on the basis of predetermined algorithm. In this mode the blind can also be manually operated, but after expiration of set time (default 3min.) the actuator takes control over the awning blind operation.

In semi-automatic mode due to exceeding set value of insolation level the awning blind unrolls. Rolling up is possible only with the remote control. After manual rolling up of the awning blind due to the exceeding set value of solar insolation and after expiration of set time, the actuator one more time unrolls the awning blind.

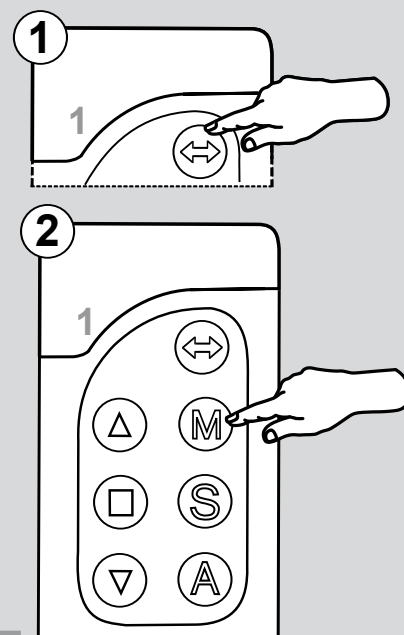
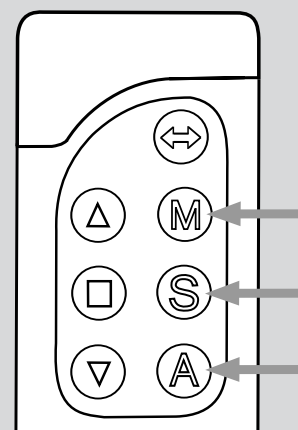
In manual mode the awning blind can be controlled only via the remote control (automatic control is turned off).

Switching between control modes

Switching between control modes is made via remote control (buttons M S A) or automatically depending on the voltage level of terminals of the charged battery. Below 12,3V there is a change from automatic to manual mode. In manual mode below 11,8 V the awning blind cannot be unrolled. It is signalled through its downward movement (about 3cm) and upward. The awning blind will be stopped in case of voltage below 11,1 V in order to protect the battery.

Procedure for selection of mode control:

1. Channel selection (with SELECT button) from four available to which the device is programmed.
2. Choice of the mode control: M – manual, S – semi-automatic or A – automatic.



Operation mode and automatic control

Mode of the awning blind operation

In automatic control the solar blind utilizes 2 sensors: solar radiation and temperature. Solar radiation sensor is realized by measuring the voltage from photovoltaic panel and has direct influence on the awning blind unrolling and rolling up.

Temperature sensor influences mode of the awning blind operation – summer or winter. The awning blind works in summer mode when the temperature is above 0 °C and in winter mode below this temperature. In summer mode after exceeding set value of insolation (default 60%) the awning blind automatically unrolls. Below this value (e.g. permanent cloudiness) it rolls up. If the awning blind is below a certain min. insolation level (during the night) it unrolls.

When setting semi-automatic control mode the awning blind can be open for a few minutes depending on a set time (default 3 min.). In winter mode the awning blind opens for a day and closes during a night, thus contributing to solar energy gains.

In manual control mode the awning blind is unrolled and rolled up with the use of the remote control buttons.

NOTE!!! When changing parameters watch carefully signalling LEDs. Correct setting of the parameters is signalled by a single blink of LED of the chosen level. Incorrect setting of the parameters is signalled with three blinks of the chosen level.

Change of parameters

Opening or closing time in A and S mode

Change of default opening/closing time of the blind (3 min.) in semi-automatic control mode is realized by M and UP/DOWN buttons. It is possible to choose 1,2,3 or 4 LEDs corresponding to 3,4,5 or 6 minutes.

1. Press and hold M button and then...
2. By pressing one of the controlling buttons $\square$ or Δ or ∇ choose requested value.
3. Release M button.

Insolation level

Change of default insolation level (60%) at which opening or closing of the blind is realized with the use of S and UP/DOWN buttons.

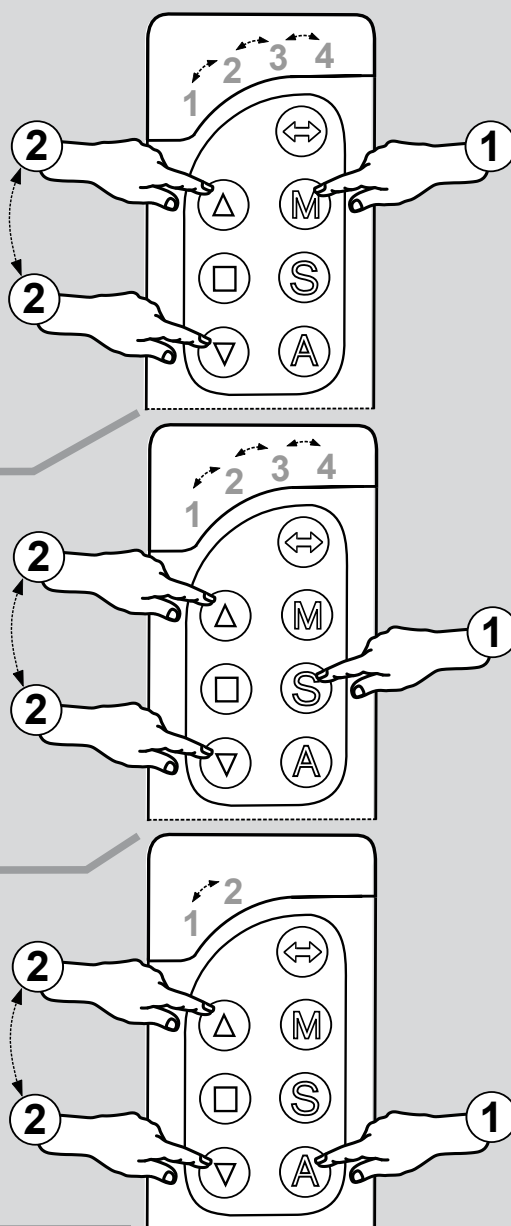
It is possible to set 50%, 60%, 70%, 80%

1. Press and hold S button and then...
2. By pressing one of the operating buttons $\square$ or Δ or ∇ choose requested value
3. Release S button

Change of work modes

To choose 2 modes of work – (1) SUMMER/WINTER and (2) SUMMER. Mode no. 1 of work is default. In order to change mode of work it is necessary to press A and UP/DOWN buttons.

1. Press button A and then...
2. By pressing one of the operating buttons $\square$ or Δ or ∇ choose requested value
3. Release A button

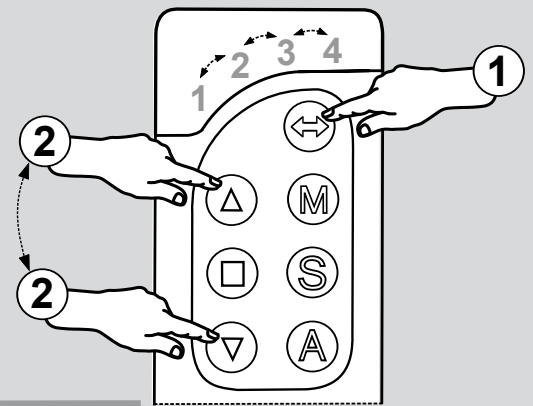


Mode of work and automatic control

Change of sensitivity level of the night mode

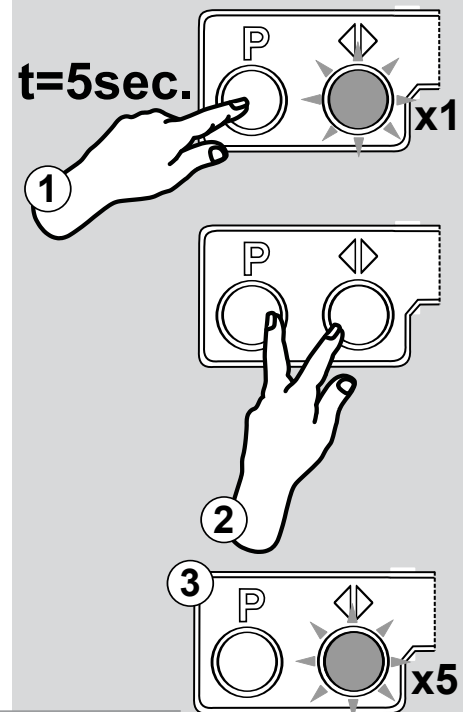
It is possible to choose between 4 sensitivity levels of the night mode. No. 2 is default mode of the sensitivity level. In order to change sensitivity level of the night mode it is necessary to press SELECT and UP/DOWN buttons.

1. Press and hold SELECT  and then...
2. By pressing one of the operating buttons  or  or  choose requested value.
3. Release SELECT  button.



Restoring default parameters

1. Press and hold for 5 sec. programming button P on the awning blind until single blink of motor status LED and then...
2. Not releasing P button press manual operating button for longer than 1 sec.
3. Correct restoring of the default parameters – motor status LED blinks 5 times



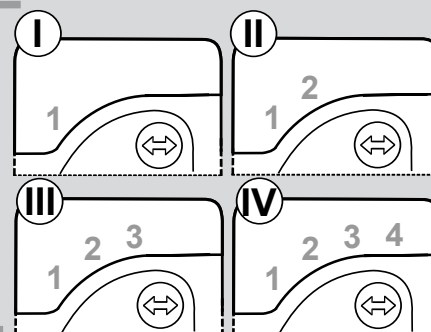
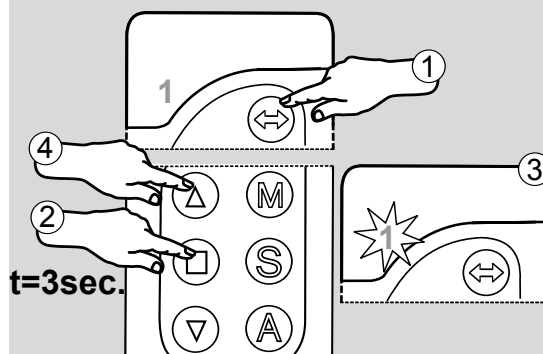
Additional functions

Checking battery charge level

1. Choose with the SELECT () button appropriate channel on which the awning blind is programmed, e.g. 1
2. Press the button () and hold for 3 sec. until LED of the channel 1 starts blinking
3. Channel LED blinks for about 10 sec.
4. Press button (). Awaiting time for pressing () is about 10 sec.

The inquiry concerning battery charge level is sent to the device. In response the device receives message displayed with the use of the controller's LEDs:

- I – 1 (25% battery charge level),
- II – 1,2 (50% battery charge level),
- III – 1,2,3 – (75% battery charge level),
- IV – 1,2,3,4 – (100% battery charge level)

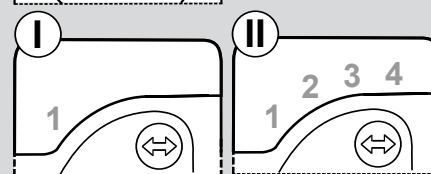
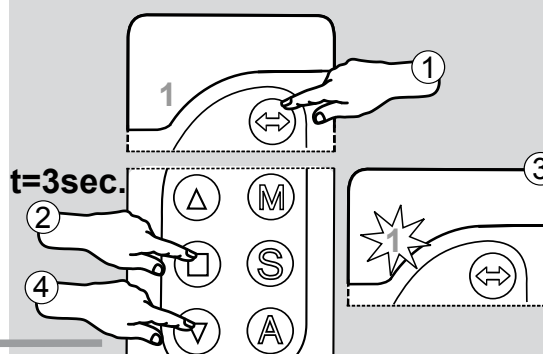


Checking opening / closing status

1. Choose with the SELECT () button appropriate channel on which the awning blind is programmed, e.g. 1
2. Press the button () and hold for 3 sec. until LED of the channel 1 starts blinking.
3. Channel LED blinks for about 10 sec.
4. Press button (). Awaiting time for pressing () is about 10 sec

The inquiry concerning battery opening / closing status is sent to the device. In response the device receives message displayed with the use of the controller's LEDs:

- I – 1 (0% - the awning blinds completely closed)
- II – 1,2,3,4 (100% - the awning blind completely open)



Technical parameters

Technical parameters

Technical parameters	
Parameter	Motor of AMZ Z-Wave Solar Awning Blind
Power voltage	12V DC
Rated current	1,4 A
Speed	23 r.p.m
Power cable	2 x 0,75 mm ²
Weight	0,850 kg

Warranty

The manufacturer guarantees correct device functioning. It also undertakes to repair or replace the device if damage is a result of material or structural faults. The warranty period is 24 months from the purchase date, fulfilling the following conditions:

- Installation has been performed by an authorised person, as per manufacturer recommendations.
- Seals remain intact and no unauthorised structural changes have been made.
- The device has been used in accordance with its intended use as per user manual. Damage is not a result of improperly made electrical system or atmospheric phenomena.
- The manufacturer is not liable for damage which occurred as a result of improper use or mechanical damage.
- In case of failure, the device must be submitted for repair with a Warranty Card. Defects revealed within the warranty period will be removed free of charge no longer than 14 days after accepting the product for repair. Warranty and post-warranty repairs are performed by the manufacturer i.e. FAKRO PP. Sp. z o.o..

Quality Certificate:
Device

Model.....
Serial No
Seller
Address
Purchase date
.....

Signature (stamp) of installing person