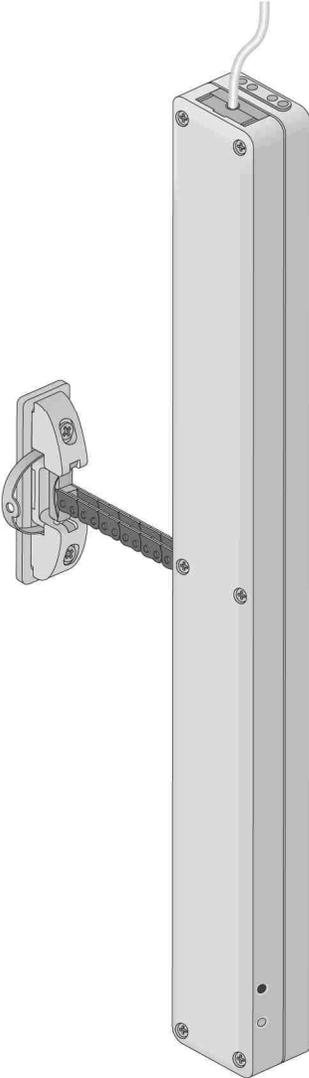


ELECTRIC ACTUATOR



**ZWS230**



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Dear Sir/Madam! Thank you for purchasing the product from FAKRO. We do hope that it will meet your expectations. To ensure appropriate functioning of the product, please peruse this User Manual.

### ACTUATOR DESCRIPTION

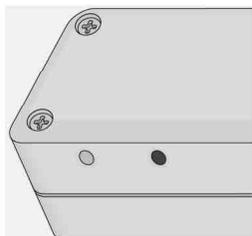
The ZWS230 actuator is designed for electric opening and closing FAKRO roof windows. The actuator is equipped with a two-way Z-Wave radio communication module. The actuator's chain is finished with a special tip that allows to block it in the holder of the installation set.

### TECHNICAL SPECIFICATION

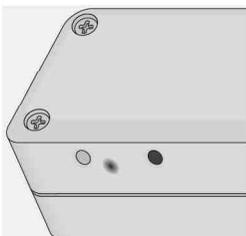
<p><b>Working temperature:</b> -10 to +65°C</p> <p><b>Dimensions:</b> 360/47/32 mm</p> <p><b>Power cable:</b> 2x0.75mm<sup>2</sup></p> <p><b>Limit switch:</b> Overload when closing Socket when opening</p>	<p><b>Current limiting:</b> Yes</p> <p><b>Double electric insulation:</b> Yes</p> <p><b>Chain extension speed:</b> 9.7 mm/s</p> <p><b>Chain pushing force:</b> 250N</p> <p><b>Closing force:</b> 250N</p>	<p><b>Chain outreach:</b> 360 mm</p> <p><b>Power voltage:</b> 230V AC</p> <p><b>Rated power:</b> 15W</p> <p><b>Standby current:</b> 0.03A</p> <p><b>Protection class:</b> IP30</p>	<p><b>Radio protocol:</b> Z-Wave</p> <p><b>Radio reach:</b> Up to 20 m in a building</p> <p><b>Radio frequency:</b> EU - 868.4 MHz; AS/NZ - 921.42 MHz; US/Canada - 908.4 MHz; RU - 869 MHz. (depending on version)</p>
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### SIGNALLING DESCRIPTION

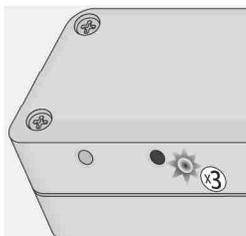
- RED BUTTON - Programming
- BLACK BUTTON - Control



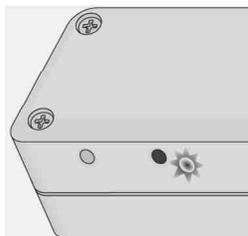
The device has been assigned to the Z-Wave network. LED programming is off.



The device has not been assigned to the Z-Wave network. LED programming is on.



Window overload/closing signalling. The control LED blinks three times.



End position reached by the actuator / window opening signalling. The control LED blinks once.



Programming and control LEDs are placed inside the housing and are not directly visible.

## SAFETY RULES



The actuator is powered by hazardous voltage of 90-230V AC!



**CAUTION!** Danger of crushing! When closing the window, the actuator exerts the force of 250N (app. 25 kg)!



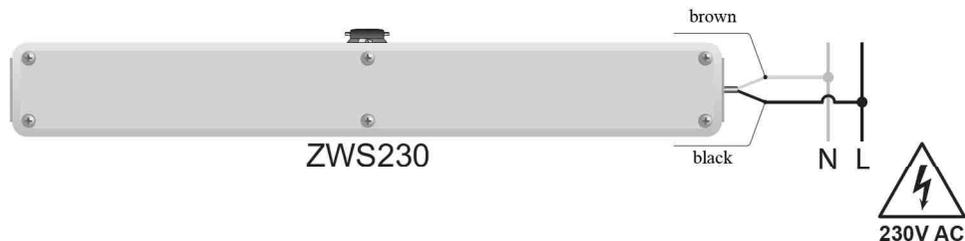
If the actuator is connected to the weather module, the window may close automatically (without warning) when the weather changes (eg. rain).

When installing the ZWS230 actuator it is required to observe the following recommendations:

- Safety requirements should be particularly respected. The use of the electric mechanical actuator installed in order to operate the window creates a risk of injury. Although the mechanism of the actuator is equipped with an overload switch, forces present there are strong enough to cause physical injuries. When closing, the actuator exerts the force of 250N (app. 25 kg)!
- If the actuator is easily accessible, e.g. the lower window edge is situated lower than 2.50 m above the floor level, then special safety measures should be adopted so as to prevent health hazards.
- The actuator is not designed for use by people (including children) with limited physical, sensory or mental ability as well as by people that do not have experience or knowledge of the equipment, unless it is done under supervision or according to the product original user manual provided by a person responsible for their safety. Do not allow children to play with the equipment.
- After unpacking, check the actuator's elements for any signs of mechanical damage.
- Installation should be carried out in accordance with manufacturer's instructions by a qualified professional.
- Before connecting the window make sure that the power supply corresponds with the voltage specified on the data plate.
- Plastic containers used for packing should be stored out of children reach as they may be a potential source of danger.
- Do not let children play with the actuator's controllers. Keep controllers out of their reach.
- The actuator should be used according to its intended design. FAKRO shall not be responsible for any consequences being the result of improper actuator use.
- Any activities related to cleaning, adjustment or dismantling the electric parts of the actuator should be preceded with disconnecting it from the power supply.
- Electric parts must not be washed using solvent-based substances or open stream of water (do not immerse in water).
- Any repairs of the device should be carried out by service authorised by the manufacturer.
- The cross-section of power supply cables should increase with the increase in their length. A cross-section of 2x1mm<sup>2</sup> is adopted for 30 metres long cables.

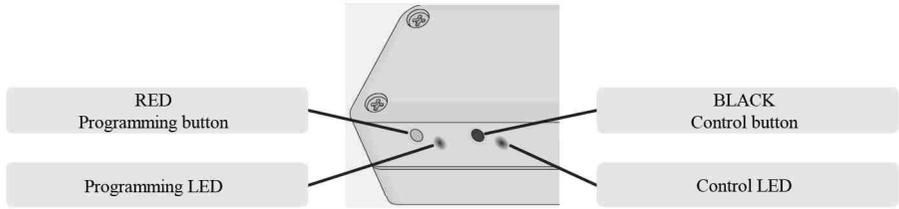
## WIRING DIAGRAM

Connect the actuator according to the diagram below.



## CONTROL

The ZWS230 actuator is designed for electric operation of roof windows. Z-Wave controllers are used for remote control of the actuator. Manual operation by means of the control button is also possible (BLACK button). When closed, the actuator reduces the clamping force (it retracts by 1 mm), protecting the seals from deformation.



In order to manually control the actuator press the manual control button. The button works in sequential mode: 1. Start, 2. Stop, 3. Start in the opposite direction, 4. Stop...

## PROGRAMMING

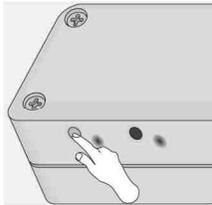
For programming information refer to the user manual of the controller concerned.



CONTROLLER – Z-Wave device such as remote control, module, wall switch, Internet gateway.

ADD TO Z-WAVE NETWORK  
ADD TO GROUP  
REMOVE DEVICE FROM Z-WAVE NETWORK  
REMOVE DEVICE FROM GROUP  
etc.

Run selected function on the Z-Wave controller.



Press the programming button on the ZWS230 actuator in time specified by the controller.

The programming result is signalled on the controller.

## ADDITIONAL ACTUATOR FUNCTIONS

**ENCRYPTED TRANSMISSION** – The actuator added to the network in this mode can only be operated via controllers having this function which is useful when the device is to be operated only by authorised users.

**DEVICE ASSOCIATION** – This function allows for such configuration of devices associated in one Z-Wave network that controlled device runs other device. For example, a window equipped with a rain sensor can send a closing signal to other windows when rain appears.



**Note!** Information on how to define additional functions can be found in user manuals of the controllers.

## Z-WAVE DEVICES COMPATIBILITY

The Z-Wave allows to integrate devices of different manufacturers which can work in different groups: lighting, heating, domestic automatic control, etc. The Z-Wave devices operate as repeaters in the network, thus increasing reach of radio communication. The more devices in the network, the more resistant to interference is the Z-Wave network.

This product is compatible with other certified Z-Wave devices of other manufacturers. All battery-free devices of different manufacturers operating in one Z-Wave network can route received signal to increase reliability of the Z-Wave network.

### **Z-Wave Plus Product in Secure mode.**

This device is a secured Z-Wave Plus product that can use encrypted Z-Wave Plus messages to communicate with other Z-Wave Plus products with security features.

**Note:** All information on adding devices to the Z-Wave network in controllers offered by other manufacturers can be found in user manuals of those products.

## ADVANCED INFORMATION

### ASSOCIATION GROUPS

1. **Life Line** – a group for reporting the position of the actuator after each stop and receiving information about the alarm (overload). A maximum of 1 device can be in the group.
2. **Basic Repeat** – a group used for sending received commands of movement (basic set) to devices belonging to this group. A maximum of 5 devices can be in the group.
3. **Multilevel Repeat** – a group used for sending received commands of movement and stop (SWITCH MULTILEVEL SET, SWITCH MULTILEVEL START LEVEL CHANGE, SWITCH MULTILEVEL STOP LEVEL CHANGE) to devices belonging to those groups. A maximum of 5 devices can be in the group.

## WARRANTY

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

- Installation has been performed as per manufacturer recommendations.
- Seals remain intact and no authorised 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.

Producent:

**FAKRO Sp. z o.o.**

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Polska

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### Quality certificate:

Device

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Model

---

Serial number

---

Seller

---

Address

---

Purchase date

---

Invoice No.

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Signature (stamp) of person installing a device



