

zero  
HOME AUTOMATION

# Z03 - SWING GATE MOTOR

SUPPLY 230-24V



IT | EN | FR

Z03.REV01.2018

USER MANUAL AND CONFIGURATION

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HOME AUTOMATION

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## 01. SAFETY INSTRUCTIONS

## ATTENTION:

- To ensure the safety of people, it is important that you read all the following instructions. Incorrect installation or incorrect use of the product can cause physical injury and material damage.
- Keep these instructions in a safe place for future reference.
- This product was designed and produced strictly for the use indicated in this manual. Any other use, not expressly indicated here, could compromise the good condition/ operation of the product and/or be a source of danger.
- ZERO SRLS. is not responsible for the improper use of the product, or other use than that for which it was designed.
- ZERO SRLS. is not responsible if safety standards were not taken into account when installing the equipment, or for any deformation that may occur to it.
- ZERO SRLS. is not responsible for the safety and proper operation when using components not sold by them.
- Do not make any modifications to the operator components and / or their accessories.
- Before installation unplug the automatism from the source of power.
- The installer must inform the client how to handle the product in case of emergency and provide this manual to user.
- Keep remote controls away from children, to prevent the automated system from being activated involuntarily.
- The customer shall not, under any circumstances, attempt to repair or tune the operator .Must call qualified technician only.
- Connect the automatism to a 230V plug with ground wire.
- Operator for outdoor and indoor use.

## 02. OPERATOR

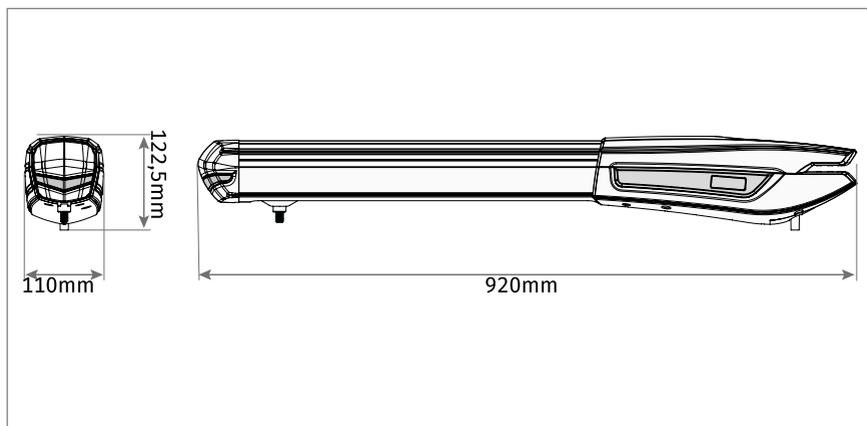
## TECHNICAL SPECIFICATIONS

Z02 specifications are as follow:

	<b>Z03</b>	<b>Z02.24</b>
Power Supply	230Vac 50/60Hz	24Vdc
Power	300W	80W
Current	1,4 A	3 A
Capacitor	12,5 $\mu$ F	-
RPM	1400	1650
Noise level	LpA <= 50 dB (A)	
Force	2800 N	
Operating temperatures	-25°C to 65°C	
Thermal protection	120°C	-
Protection class	IP23	
Working frequency	25%	INTENSIVE
Opening time	13-18 seconds	

## DIMENSIONS

Z02 300 || 400 || 600 dimensions are the following:



## 03. INSTALLATION

## INSTALLATION DIMENSIONS

Z03 specifications are as follow: The operator Z03 must be installed with a small inclination , to prevent water infiltration through the extension arm.

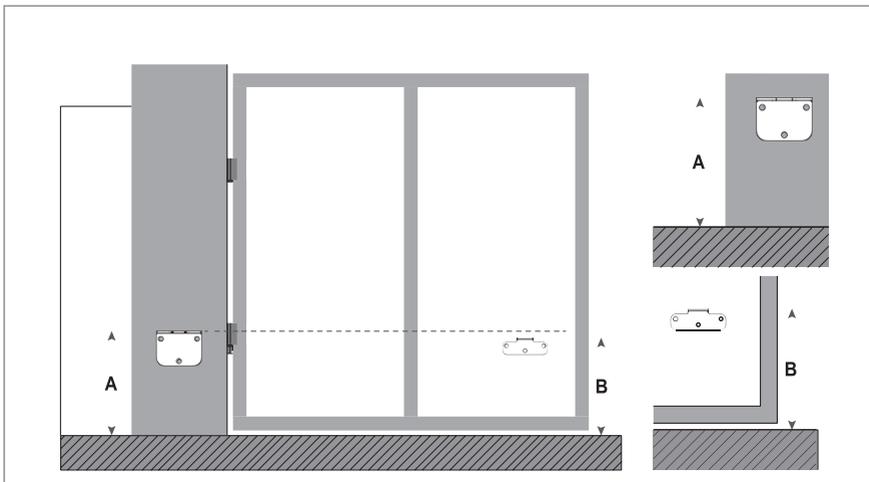
For this, the front support must be fixed to the gate with a height lower than the height of the rear support. See example below:

Dimension A • Vertical distance from the floor to the top of the rear support .

Dimension B • Vertical distance from the floor to the top of the front support.

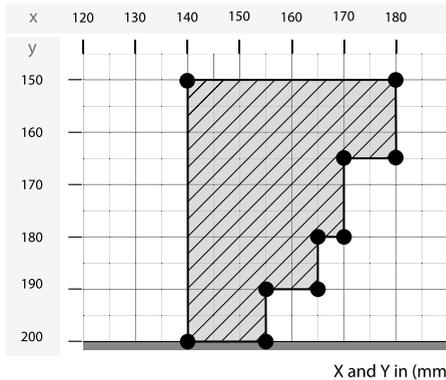
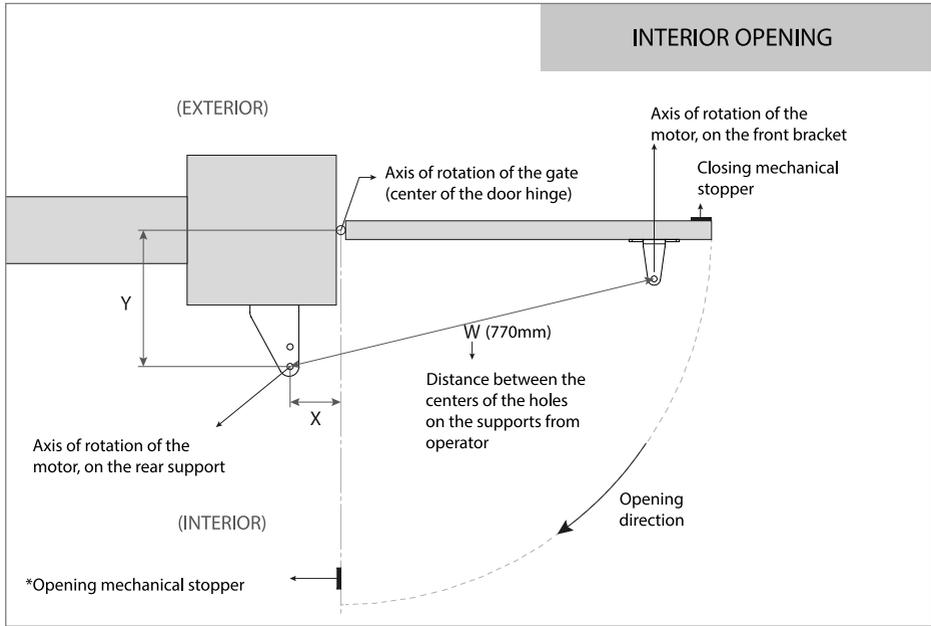
**Example:**

- Set dimension A (this can be any size of your choice).
- After you set dimension A, subtract 56mm to find dimension B.
- If the height of the rear bracket (dimension A) is set at 600 mm, then the height of the front bracket (dimension B) will be 544 mm (600mm-56mm).



**It is very important that these dimensions are respected! Only this way can be assured the correct functioning and durability of the operators!**  
It is also very important to have a levelled ground/terrain!

On the Illustrated diagrams below and are the dimensions for the installation of the automated system.

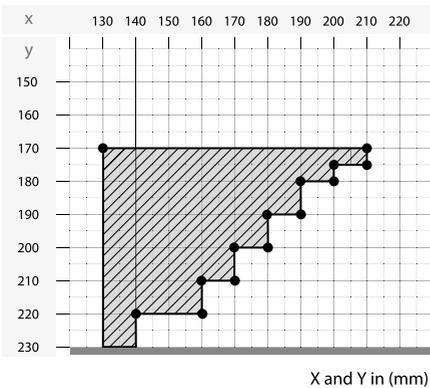
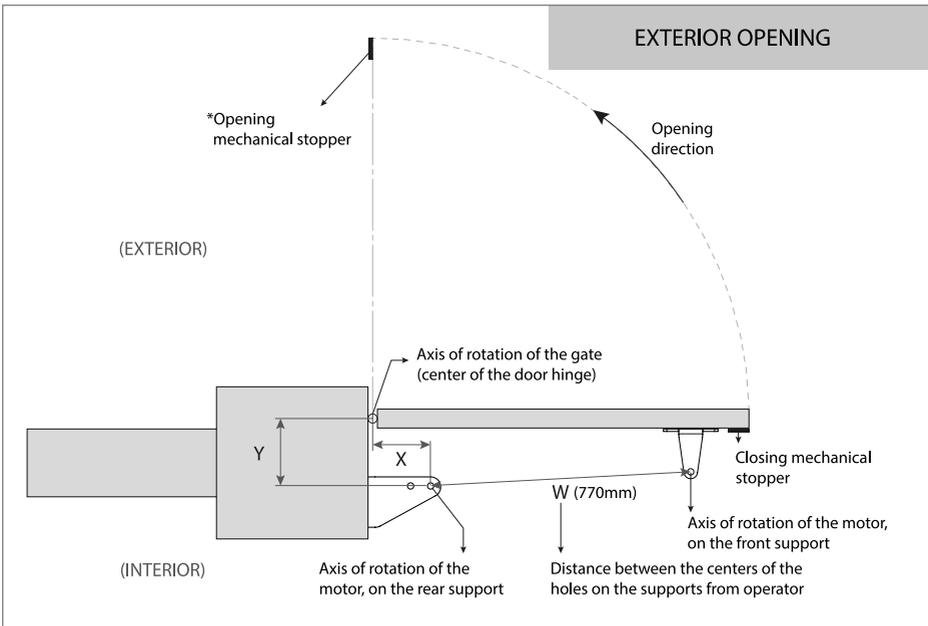


**Legend:**

**Dimension X** - Horizontal distance between hinge axis of the door and the rear axle of the motor.

**Dimension Y** - Vertical distance between hinge axis of the door and the rear axle of the motor.

**Dimension W** - Distance between axis of the motor brackets (770mm).



During the installation process, it is required to respect the dimensions that are within the highlighted area: (ex:  $y=190$ ;  $x=180$ )

**Legend:**

**Dimension X** - Horizontal distance between hinge axis of the door and the rear axle of the motor.

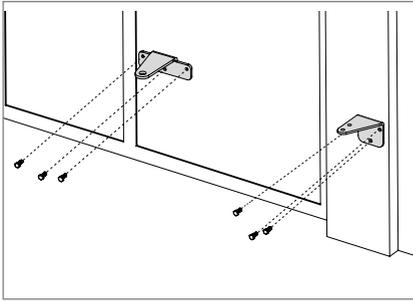
**Dimension Y** - Vertical distance between hinge axis of the door and the rear axle of the motor.

**Dimension W** - Distance between axis of the motor brackets (770mm).

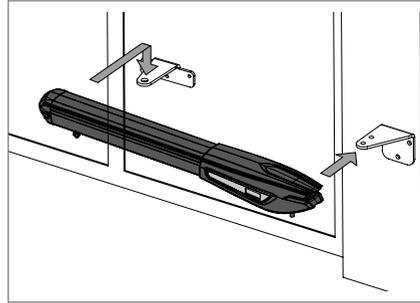


It is very important that these dimensions are respected! Only this way can be assured the correct functioning and durability of the operators!

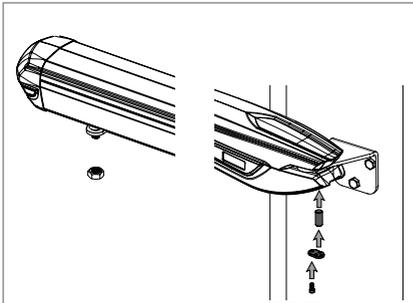
## INSTALLATION STEPS

**01. Fix the supports.**

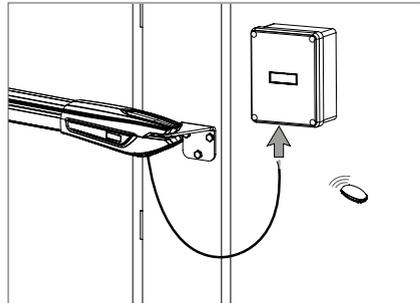
The rear support must be fixed on the pillar or wall. The front support must be fixed on the gate. Respect the height and distance measures between the front and rear supports. It can be fixed by using screws with mechanical bushing or chemical welding process, because both provide an appropriate support

**02. Install the operator on the supports**

The operator must be placed on both supports the same time to avoid leaving the operator suspended by only one of the supports. To make the task easier, you should unlock the operator in order to be able to stretch/retract arm easily, to get the correct position for supports.



**03. Install the pins removed earlier on each side with a small amount of lubricant for less friction.** Unlock the motor and move the door manually to see if the door opens and closes uniformly and correctly, without any irregular friction during its entire movement. This will ensure that the motor is not subjected to problems during operation.



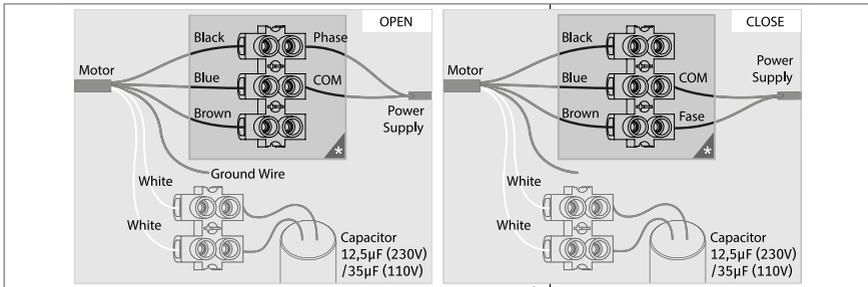
**04. Connecting operator to control board and configuring control devices.** With the operator installed, connect it to control board for system configuration (see control board user manual). Must also configure the desired control devices (transmitters, wall switch, etc.) and other additional components such as antenna, warning light, key selector, among others.



**It is important to respect this installation order!**

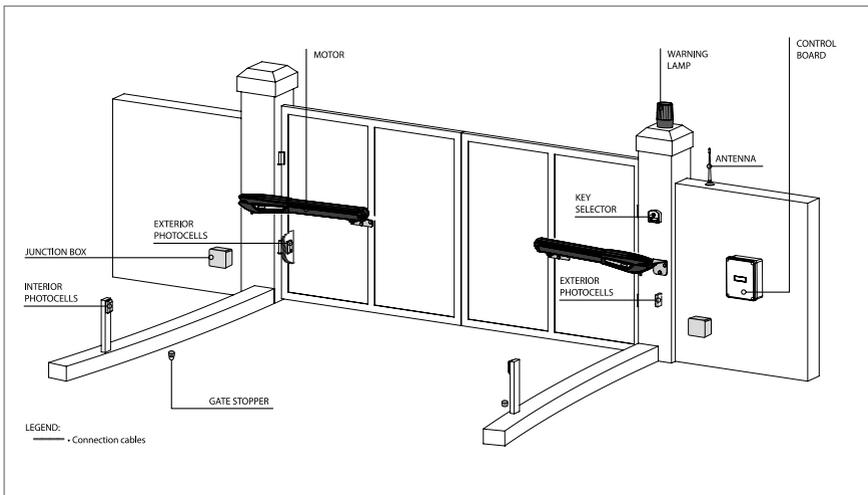
**Otherwise, it is not possible to ensure correct installation and operators may not work properly!**

## MOTOR WIRE CONNECTIONS



01. Connect the 3 automation wires in the terminal.
02. Connect the two automation white wires with the capacitor wires.
03. Connect the power supply wires in the opening the motor will rotate one way and during the closing, the motor will rotate the opposite way.

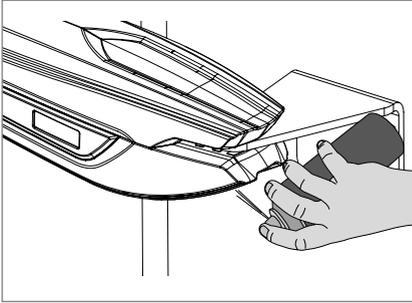
## TYPICAL INSTALLATION



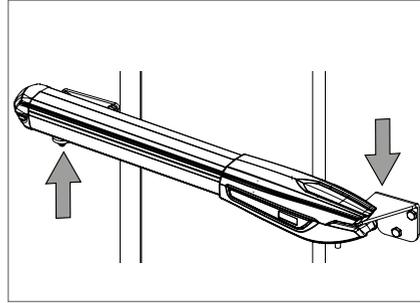
**It is important to use mechanical stoppers in the opening and closing position of the gate. If not respected, components of the automation may suffer efforts for which they were not prepared, and as a result will be damaged.**

**It is important to use junction boxes for connections between motors, components and control unit. All cables must enter and exit on the bottom of the junction and control board box.**

## 04. MAINTENANCE



Make sure that supports remain well fixed on the pillars and gate to ensure proper functioning of the equipment.



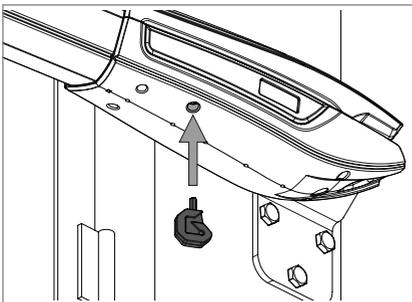
Lubricate pins. Place a small amount of lubricant on the holes that contains support pins.



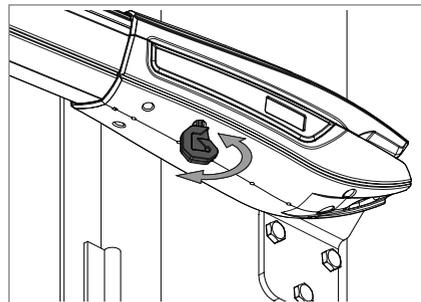
**Check motor supports:** Make sure that supports remain well fixed on the pillars and gate to ensure proper functioning of the equipment. These maintenance measures must be applied every year in order to insure proper functioning of the automated system.

## MANUAL RELEASE

To open manually the gate in case of electric power failure or in case of damage, follow the below steps:



Place the unlocking key in the slot signed on image 05 (motor installed on the left) or 06 (motor installed on the right).



Turn the key to lock or unlock the motor. **NOTE :** To lock operator so it can work automatically, must do it by turning the key anticlockwise.



05. TROUBLESHOOTING

Problem	Procedure	Behavior	Procedure II
Door doesn't work	Make sure you have 230V power supply connected to control board and if it is working properly.	Still not working.	Consult a qualified ZERO technician.
Motor doesn't move but makes noise	Unlock motor and move the gate by hand to check for mechanical problems on the movement	Encountered problems?	Consult an experienced gate expert.
		The gate moves easily?	Consult a qualified ZERO technician.
Motor opens but doesn't close	Unlock motor and move the gate by hand to closed position. Lock motor again and turn off power supply for 5 seconds. Reconnect it and send start signal using transmitter.	Gate opened but didn't close again.	Check if there is any obstacle in front of the photo-cells;
			Check if any of the control-devices (key selector, push button, video intercom, etc.) of the gate are jammed and sending permanent signal to control unit;
			Consult a qualified ZERO technician.
Gate doesn't make complete route	Unlock motor and move gate by hand to check for mechanical problems on the gate	Encountered problems?	Consult an experienced gate expert.
		The gate moves easily?	Consult a qualified ZERO technician.

Discovering the origin of the problem				
1. Open control board and check if it has 230V power supply	3. Disconnect the motor from control board and test them by connecting directly to power supply in order to find out if they have problems.	4. If the motor works, the problem is on the control board. Pull it out and send it to our ZERO technical services for diagnosis.	5. If the motor doesn't work, remove them from installation site and send to our ZERO technical services for diagnosis.	
2. Check input fuses				
Check all motion axis and associated motion systems related with the motor and the gate to find out what is the problem.				
1. Check capacitors, testing operator with new capacitors;	2. If capacitors are not the problem, disconnect motors from control board and test them by connecting directly to power supply in order to find out if they have problems.	3. If the motors work, the problem is from control board. Pull it out and send it to our ZERO technical services for diagnosis;	4. If the motors don't work, remove them from installation site and send to our ZERO technical services for diagnosis	
<p>All ZERO control boards have LEDs that indicate the functioning of connections to allow easy diagnosis of faults. All safety devices LEDs (DS) in normal situations remain On. All "START" circuits LEDs in normal situations remain Off.</p> <p>If LEDs devices are not all On, there is some security systems malfunction (photocells, safety edges), etc.</p> <p>1 • Close with a shunt all safety systems on the control board (check manual of the control board in question). If the automated system starts working normally check for the problematic device.</p> <p>2 • Remove one shunt at a time until you find the malfunction device .</p> <p>3 • Replace it for a functional device and check if the motor works correctly with all the other devices. If you find another one defective, follow the same steps until you find all the problems.</p>				
1. Check capacitors, testing with new capacitors;	3. If the motor doesn't work, remove it from installation site and send to our ZERO technical services for diagnosis.	4. If motor work well and move gate at full force during the entire course, the problem is from controller. Set force using P1 button on the board. Make a new working time programming, giving sufficient time for opening and closing with appropriate force.	5. If this doesn't work, remove control unit and send it to ZERO technical services services.	
2. If capacitors are not the problem, disconnect motor from control board and test it by connecting directly to power supply in order to find out if it is broken;				
Check all motion axis and associated motion systems related with the motor and the gate to find out what is the problem.				
<p>NOTE: Setting force of the controller should be sufficient to make the gate open and close without stopping, but should stop and invert with a little effort from a person. In case of safety systems failure, the gate shall never cause physical damaged to obstacles (vehicles, people, etc.).</p>				



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