

zero  
HOME AUTOMATION

# Z07 - SWING GATE MOTOR

SUPPLY 230-24V



IT | EN | FR

Z07.REV01.2018

USER MANUAL AND CONFIGURATION

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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

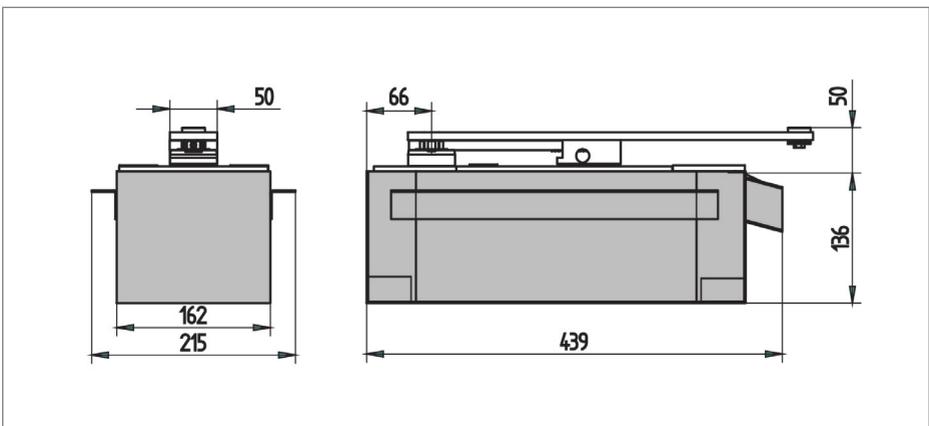
## TECHNICAL SPECIFICATIONS

Z02 specifications are as follow:

	<b>Z06</b>	<b>Z06.24</b>
Power Supply	230Vac 50/60Hz	24Vdc
Power	300W	70W
Current	1,4 A	4 A
Capacitor	12.5 $\mu$ F	-
RPM	1400	1600
Maximum gate weight/leaf	300 kg	
Torque	350 Nm	150 Nm
Operating temperatures	-25°C to 65°C	
Thermal protection	120°C	-
Protection class	IP68	
Working frequency	50%	INTENSIVE
Opening time 90°	16 seconds	

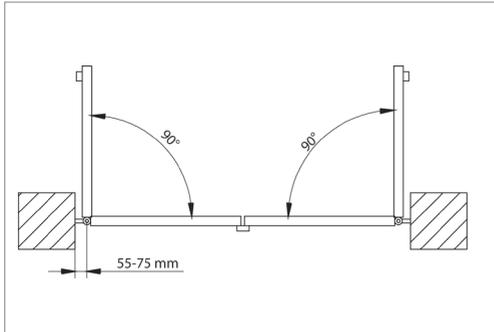
## DIMENSIONS

Z06 dimensions are the following:



## 03. INSTALLATION

## INSTALLATION STEPS



## GATE LEAF OPENING 90°:

Verify that the axis of the hinges is at a distance of 55-75 mm from the edge of the finished column.

Place the foundation box BOX at a maximum distance of 140 mm from the column.

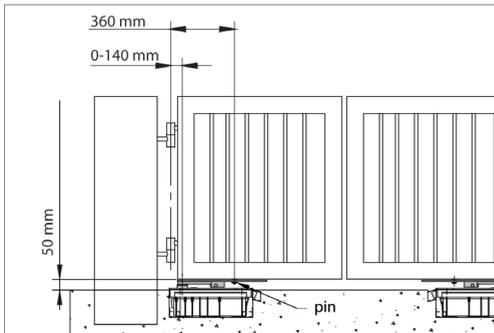
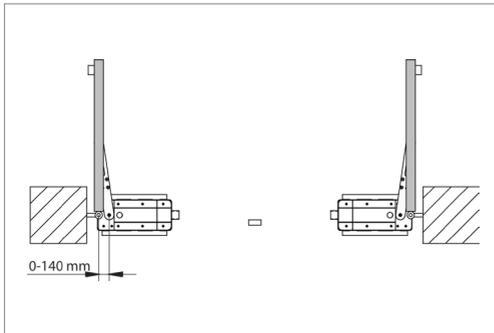
Provide a drain on the bottom of the box BOX.

Insert the corrugated tube in the hole of the box BOX. Place the BOX on the ground, make sure that the top edge of the box is at the same level of the finished floor.

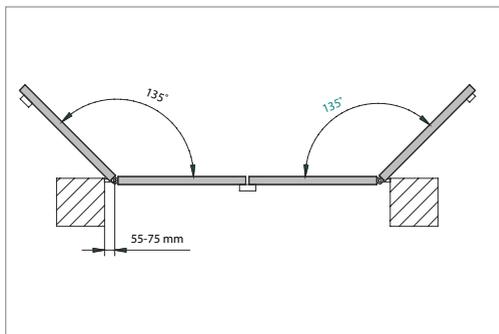
Check with a spirit level that the foundation box is perfectly horizontal.

Verify that the distance between the lower edge of the gate and the finished floor is between 50-60 mm for the installation of the lever.

Weld the pin provided with the lever under the wing at a distance of 360 mm from the axis of the hinges.



**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!**



### GATE LEAF OPENING 135°:

Verify that the axis of the hinges is at a distance of 55-75 mm from the edge of the finished column.

Place the foundation box BOX at a maximum distance of 100 mm from the column.

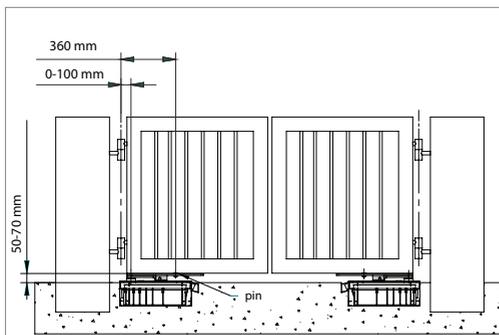
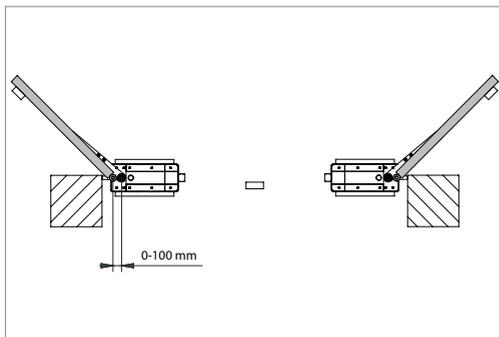
Provide a drain on the bottom of the box BOX.

Insert the corrugated tube in the hole of the box BOX. Place the BOX on the ground, make sure that the top edge of the box is at the same level of the finished floor.

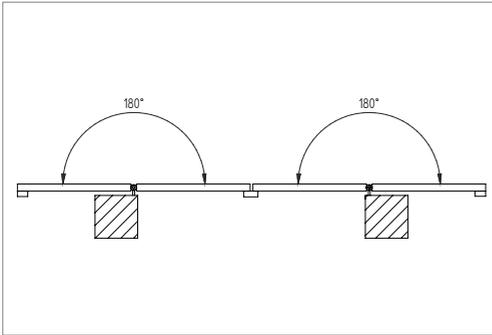
Check with a spirit level that the foundation box is perfectly horizontal.

Verify that the distance between the lower edge of the gate and the finished floor is between 50-70 mm for the installation of the lever.

Weld the pin provided with the lever under the wing at a distance of 360 mm from the axis of the hinges.



**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!**



## GATE LEAF OPENING 180°:

Verify that the axis of the hinges is at a distance of 55-75 mm from the edge of the finished column.

Place the foundation box BOX at a maximum distance of 140 mm from the column.

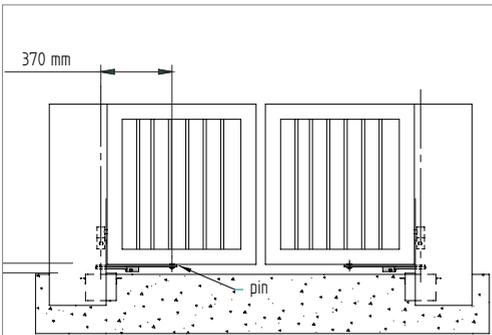
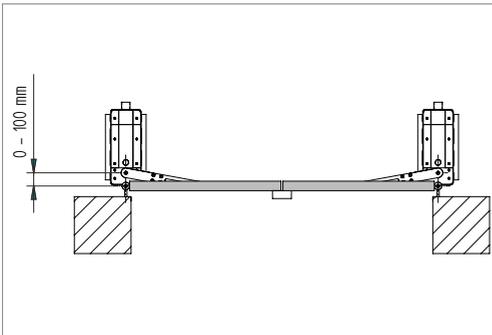
Provide a drain on the bottom of the box BOX.

Insert the corrugated tube in the hole of the box BOX. Place the BOX on the ground, make sure that the top edge of the box is at the same level of the finished floor.

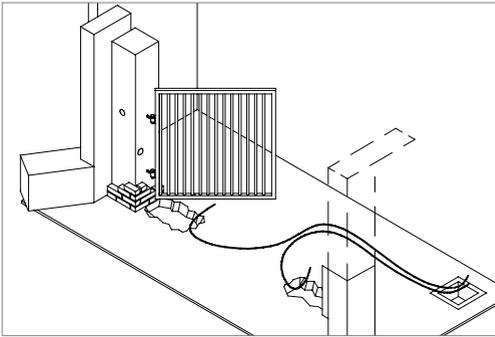
Check with a spirit level that the foundation box is perfectly horizontal.

Verify that the distance between the lower edge of the gate and the finished floor is between 50-60 mm for the installation of the lever.

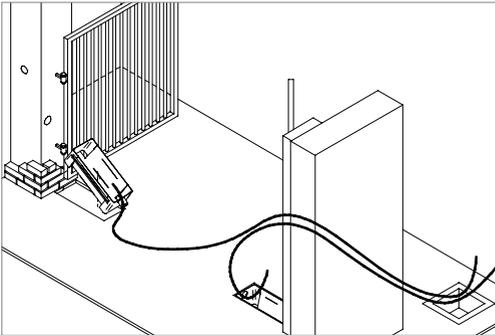
Weld the pin provided with the lever under the wing at a distance of 370 mm from the axis of the hinges.



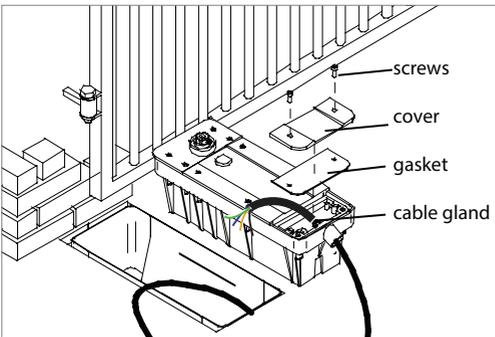
**It is very important that these dimensions are respected! Only this way can be assured the correct functioning and durability of the operators!  
It is also very important to have a levelled ground/terrain!**



Dig a hole in the ground large enough to hold the foundation boxes.  
Spread 1 corrugated pipe diameter 20 mm from the excavation to the underground pit of the electrical connections as shown in the figure.

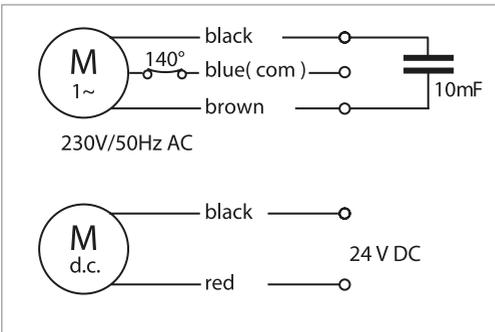


Insert the corrugated tube into the hose at the back of the BOX. Wall up the BOX with the inlet tube facing the center of the gate.  
Take account of any coatings of the columns, to make sure that amcolumn completed the coating does not prevent the insertion of the gearmotor in the foundation box. Wall up the BOX holding the upper edge of the box flush with the finished floor level (taking account of any flooring).

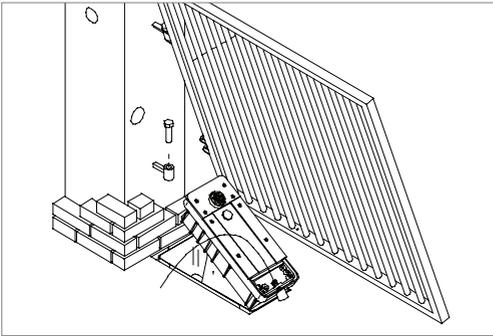


Remove:  
- 2 inox screws M6x16  
- lid of terminal compartment  
- gasket of terminal compartment

Insert the motor cable in to the corrugated pipe, then in the hole in the foundation box and then through the cable gland of the motor.



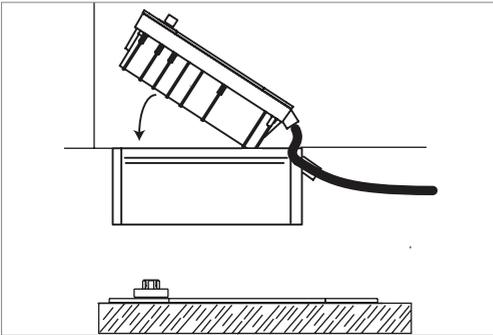
Tighten the cable gland making sure it goes to press the cable sheath and not the individual cables. Make the electrical connections as shown in the figure.



Insert the motor into the foundation box as shown.

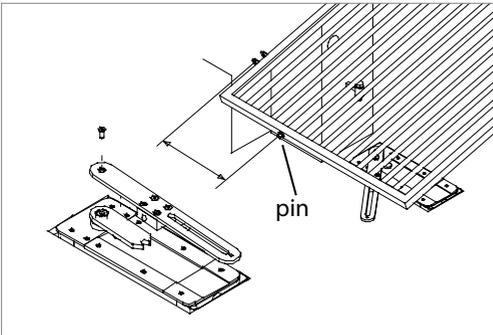
You may have to disengage the gate leaf from the column:

- Remove the pin from the lower hinge
- Move aside the leaf
- Insert the motor into the box
- Pull the power cord while sliding the engine so that it is not pinched between the drive and the foundation box.

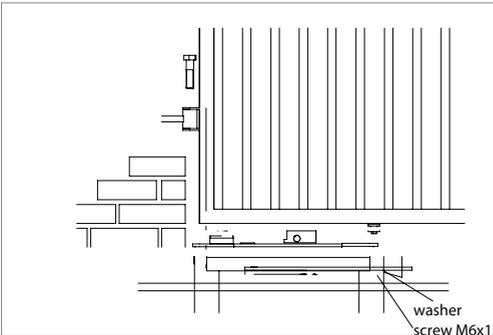


Make sure all surfaces are clean and re-fit the seal and the cover by tightening the 2 screws M6x16 steel (Tightening torque 10 Nm).

Make sure the covers of the motor are out of the ground as shown in the figure.



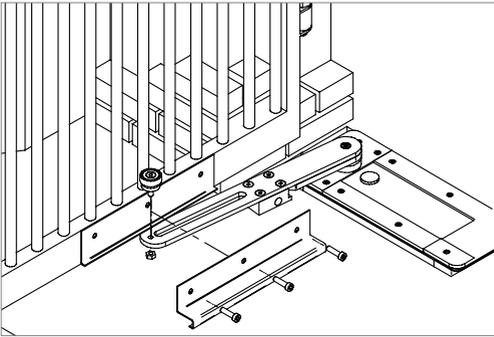
Assemble the lever as shown, and tighten the screw M8x20 countersunk head. Put bolt under the leaf at the distance indicated in previous paragraphs (depending on your type of installation).



Flip down the leaf and make sure that the pin is going to fit into the slot on the lever.

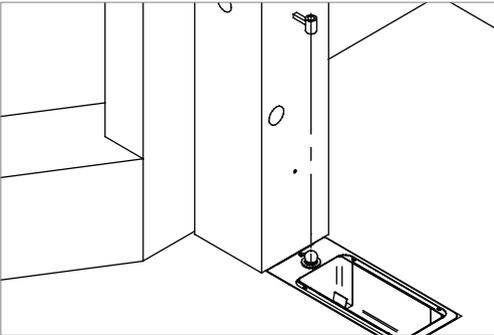
Replace the pin on the bottom hinge of the door.

Fit the washer and tighten the screw M6x12 on the pin.



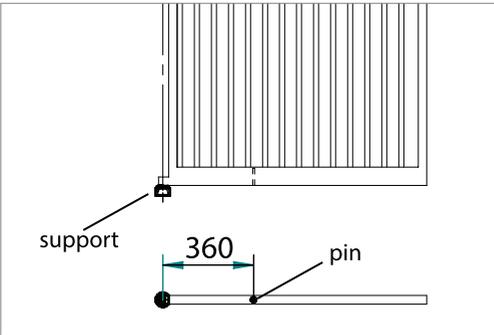
As an alternative to weld the pin below the leaf which involves having to remove the leaf from the lower hinge you can install the optional bearing kit :

- Install the pin with ball bearing on the hole at the end of the lever and tighten the nut M8 lower.
- Close the 2 plates around the bearing and secure with 3 screws to the bottom edge of the door.



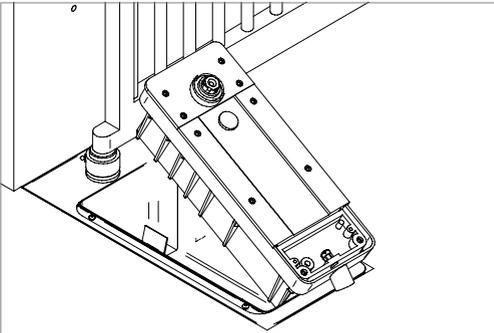
Insert the corrugated tube into the hose at the back of the CANTILEVER BOX. Wall up the BOX with the inlet tube facing the center of the gate. Take account of any coatings of the columns.

Wall up the BOX holding the upper edge of the box flush with the finished floor level (taking account of any flooring).



Weld the support with spherical hollow to the leaf, face down and perfectly aligned with the upper hinge.

Weld the pin of the lever under the wing to a 360 mm distance from the hinge. Insert the ball on the foundation box into the spherical hollow and insert the pin into the top hinge of the LEVER.

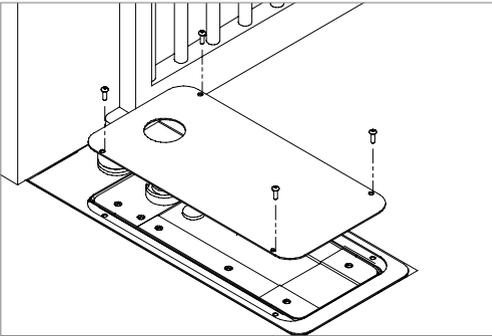


Insert the motor in foundation box as shown in figure.

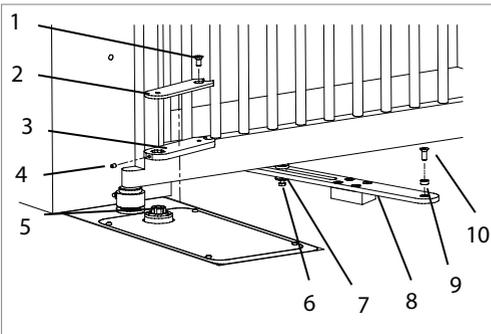
Pull the power cord while sliding the engine so that it is not pinched between the drive and the foundation box.

Make sure all surfaces are clean and re-fit the seal and the cover by tightening the 2 screws M6x16 steel (Tightening torque 10 Nm).

Make sure the covers of the motor are out of the ground as shown in the figure.



Attach the cover to the foundation box with the supplied 4 stainless steel screws M5x16 .

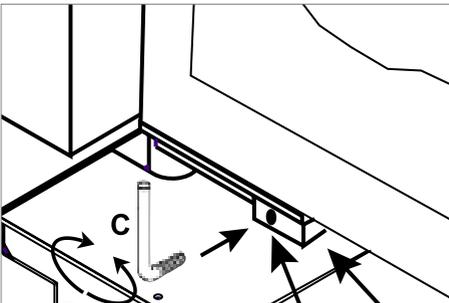


COANTILEVER BOX : Install the lever, broached (3) on the motor shaft (5) and tighten the grub screw M6x6 (4). Fix the plate (2) to the plate (3) and tighten the countersunk head M8x16 screw with hexagon socket (1). Insert the pin welded under the wing into the slot present on the lever (8) and tighten the screw M6x12 (6), fitting the washer 6x24 (7). Attach the lever (8) to the motor shaft (5) by inserting the spacer (9) and tighten the screw M8x20 countersunk screws (10).

#### 04. MAINTENANCE



**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:  
 Insert the key C provided into the appropriate hole on the lever L1 and turn the key.

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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