INSTALLATION INSTRUCTIONS FOR TUBULAR MOTORS

1. NOTES

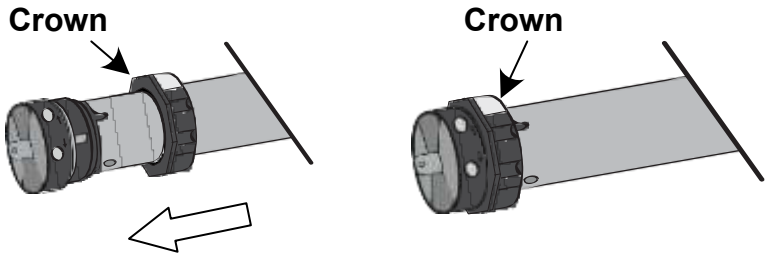
a) Read carefully the instructions before installation;
b) Make sure that all adapters have been fixed correctly and that the motor works without mechanical problems. The load weight must be combined with a motor with the right torque expressed in Newton/meter;
c) The electrical connection, in order to work in accordance with the rules, must be made by qualified technicians.

2. INSTALLATION:

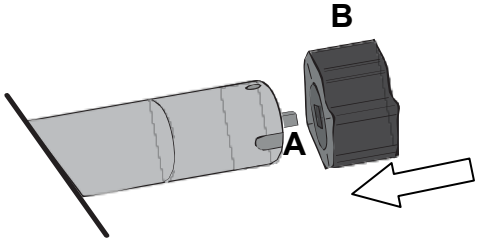
First of all make sure that the tube is octagonal and 60mm diameter.
N.B: There are also octagonal tubes with diameter 70mm, round with diameter 70 or round with diameter 78: when purchasing the motor just ask for the correct adapter for the roller type.

3. PREPARATION OF THE MOTOR FOR ROLLER SHUTTERS

Slide the crown onto the motor head, checking the correct interlocking insertion.



Check the correct tightening of the drive pulley (B) to the motor pin (A), usually it is pre-assembled.



4. ASSEMBLING THE MOTOR TO THE ROLLER

A. Measure the fixing distance of the pulley to the tube and make a mark with a pencil on the outside of the tube where the set screw will be applied;

B. Insert the motor into the tube and make a small hole with a drill at the same distance previously measured to be sure not to drill in the wrong place.

C. You can then fix the motor to the tube by using a self-drilling screw (not supplied) as shown.

Attention: Do not fasten screws in correspondence of the gear motor, not even to fix the shutter to the roller, they may plow or cut the motor tube itself making it unusable and out of warranty.

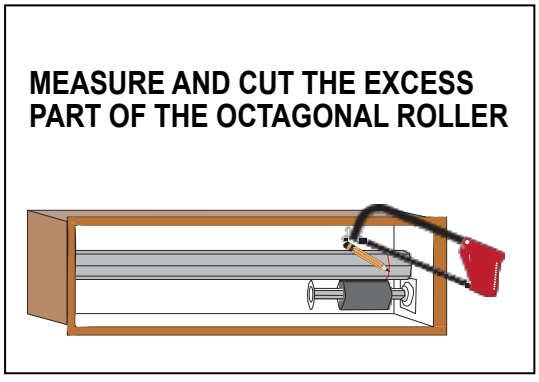
5. INSTALLATION OF THE MOTORIZED ROLLER IN THE BOX

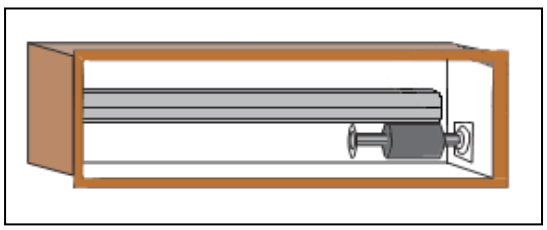
To place the motor on the power supply side it will be necessary to fix to the wall a special support. The choice of the support will depend on the situation present inside your box. It will be good that you pay attention after removing the old roller with pulley to make sure you order the right support for your case. If you already have the material ready for installation you can proceed to fix the support at the same height of the previous one. Now we can proceed with cutting the roll to the desired size.

A. Insert the motor just assembled into the motor support, insert the cap into the support with bearing on the opposite side and lay the tube as shown in the illustration. Mark with a pencil where to make the cut to eliminate the excess part.

B. Cut with a hacksaw the excess part to be eliminated. Remove any burrs with a blade and make sure it is clean inside and free from residues. If the cap is adjustable, before inserting the motor fully retract the pin to then adjust the exit and the insertion into the support once placed the motor. You can then tighten the cap with the Allen key

C. Insert the cap on the roller and place the pin in the bearing





6. HOW TO ELECTRICALLY CONNECT A MOTOR FOR MECHANICAL ROLLER SHUTTERS

A. PRELIMINARY WARNINGS

We remind you that if you make substantial changes to the systems, it is mandatory to contact a qualified electrician. Once the work has been carried out, it is mandatory to have the declaration of conformity issued by the installer, which refers only to the interventions performed, not to the entire system that was affected by works.
To make any electrical connection you will necessarily have to cut off the general power of the house.
In order to comply with the regulations, the installation must be prepared for the insertion of an omnipolar cutting device with a minimum opening of the contacts of 3 mm.
NEVER connect two or more motors to the same inverter/diverter.
Do not use light switches.
For the maneuver, use only momentary position diverters in compliance with current regulations, categorically avoid the use of diverters that offer the simultaneous operation of the two directions of travel, you risk burning the motor. Follow the wiring diagram supplied with the diverter to be connected. In case of failure or malfunction of the gearmotor, disconnect the power supply, refraining from any attempt to repair or intervene.
Make sure that the electric cables are not peeled or damaged.

B. MATERIAL REQUIRED

- A stable and safe ladder;
- Electrician's scissors;
- Terminals for electrical connections of medium-small size;
- Small slotted screwdriver;
- A few screw cable clamps to lock the cable in place;

C. THREE BUTTON SOLUTIONS

I. If your system is set up, that is, if it already has the box on the wall where to house the button, all you have to do is to get one that is of the same series as the buttons mounted on the house plates. Therefore, you will have to ask the shopkeeper for a push button panel for motorized roller shutters (phase inverter).

II. If you have removed the winder and you find the hole in the wall to plug, you may decide to use one of our specific buttons. They are push button panels mounted ad-hoc on a plate that closes the entire hole in the wall. Remember to measure the distance between the screw holes on the winder box in order to order the right plate. The finished work will be clean and elegant, and there will be no electrical parts protruding from the wall.

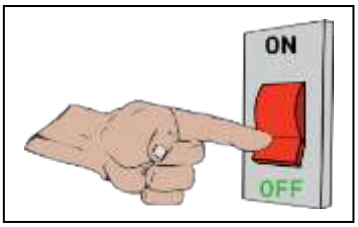
III. If for some reason you have decided to place the button in a place other than the cavity of the old winder, then you will need to get the appropriate external push button panel and a blind plate to hide the hole left open. Also in this case it is necessary to take the distance between the holes of the 2 screws on the winder box in order to buy the plate that fits perfectly.

D. ELECTRICAL CONNECTION OF THE INVERTER

The choice will be made according to the cable-carrying pipes, if for example they are near each box or if there is no predisposition you will have to connect to the nearest power socket and therefore with an exposed system; in this case the most suitable procedure will be the first.

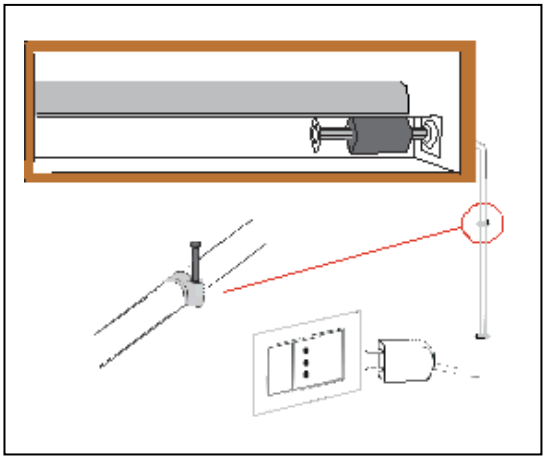
I. First you will have to "peel" the last 10 cm of each of the 230V cable (phase, earth, neutral) in order to free the internal cables from the external protective plastic. Now that all individual cables are visible you just have to peel 1 cm of each so you will be ready for the connection. To block the connections you can use a five-place mammoth or five closed-type terminals.

II. Turn off the power to the electrical system of the house in order to work in absolute safety.



III. Place the ladder so you can work comfortably inside the box. Remove the cover of the box and start by peeling the power cables that you used to power the electric shutter.

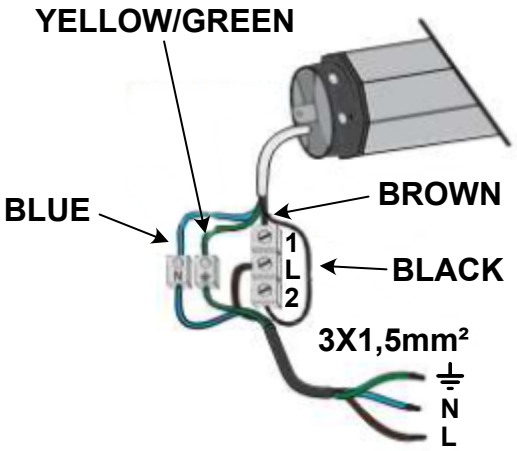
IV. Bring the cable from the motor to the control board making it follow a path that absolutely does not interfere with the roller shutter. So make sure to prevent it from touching or dragging with it during handling. An excellent precaution is to block the cable along its path with some cable clamps. Those with screws are preferable rather than with the classic nail.
Once near the control board, the motor cable can be cut keeping a minimum spare length, but without exaggerating. Now you will need to peel about ten centimeters of the outer coating and then peel the 3 colored cables.



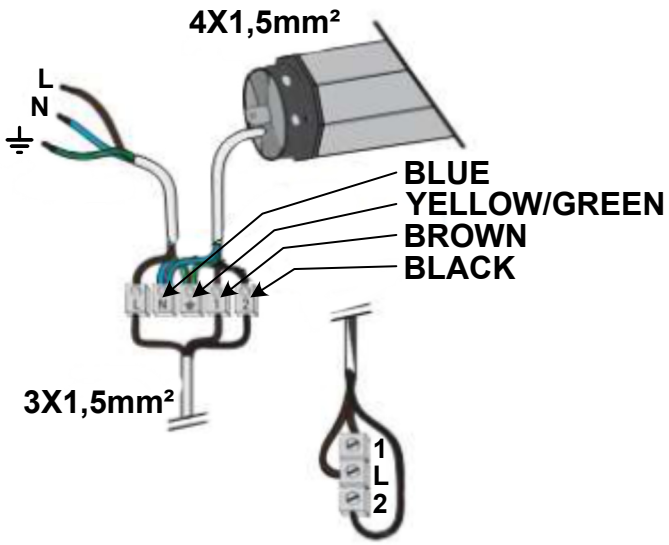
V. There are 4 power cables to recognize: yellow/green will be the ground, blue (N) will be the neutral, brown (1) will be the up, and black (2) will indicate the down.

In case of opposite rotation, simply reverse the connection of the brown and black cables.

Example of connection with direct power supply to the switch button:



Example of connection with direct power supply to the box:



220/230V ELECTRICAL NETWORK CONNECTION:

L: Indicates the phase, the color of the cable can be BLACK, BROWN or GRAY
N: Indicates the neutral, the color is only LIGHT BLUE or BLUE
⏚ Indicates the earth, the color is only YELLOW/GREEN

4-WIRE MOTOR CONNECTION:
1: Indicates the up, the color of the cable is BROWN
2: Indicates the down, the color of the cable is BLACK
N: Indicates the neutral, the color is only LIGHT BLUE or BLUE
⏚ Indicates the earth, the color is only YELLOW/GREEN

7. HOW TO ADJUST THE MOTOR LIMIT SWITCH FOR ROLLER SHUTTER

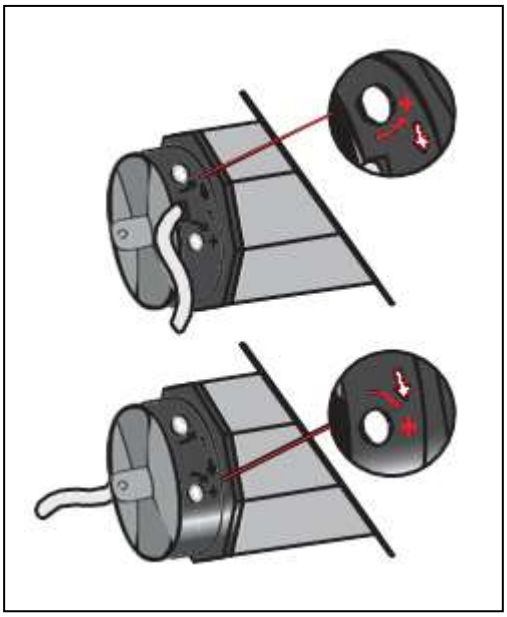
a) Unhook the roller shutter from the roller.
b) Make sure that the motor is mounted correctly and run the motor, by pressing the down button, until it will stop by itself, that is when it will have reached the pre-set lower limit switch position.
c) Hook the roller shutter to the roller by using the belts.
d) Press the up button and let the motor raise the roller shutter, after a few turns the motor should stop because it has reached the pre-set upper limit switch point.
e) Turn the screw next to the arrow pointing downwards. Rotate in the + direction while keeping the up button pressed. The shutter should raise in jerks, continue until the desired position is reached.
f) Once the up limit switch point has been adjusted, press the down button so that the roller shutter reaches the pre-set down limit switch point.
g) Turn the screw next to the arrow pointing upwards. Rotate in the + direction while keeping the down button pressed. The shutter should lower in jerks, continue until the desired position is reached.

With these illustrations we want to clarify the meaning of the arrows. The limit switch screws of the motor are arranged on two sides, in order to facilitate installation, in fact, we will have more possibilities to easily access the screws.
Depending on the position in which the motor is fixed, we could find the up limit switch at the bottom or at the top.
The large arrows indicate the direction of rotation of the motor. The screw next to it is used to increase (+) or decrease (-) the stroke.

UPPER LIMIT SWITCH (FULLY OPEN ROLLER SHUTTER)

Position of the up limit switch with the output of the electric cable towards the inside of the house

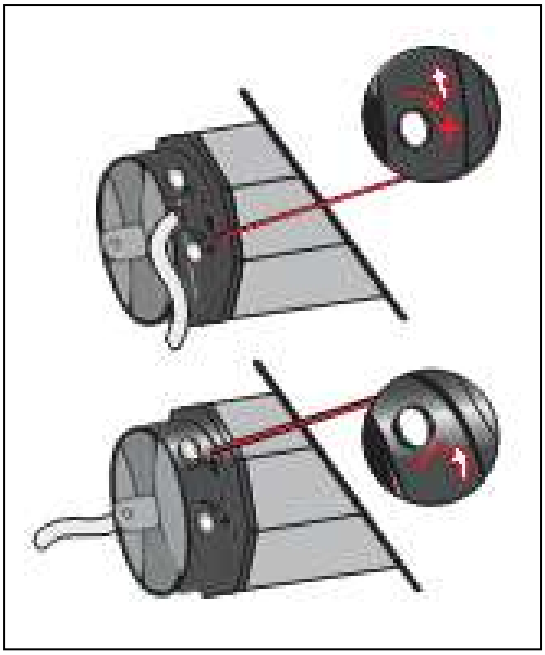
Position of the up limit switch with the output of the electric cable towards the outside of the house



LOWER LIMIT SWITCH (ROLLER SHUTTER CLOSED COMPLETELY)

Position of the down limit switch with the output of the electric cable inwards of the house

Position of the down limit switch with the output of the electric cable outwards of the house



8. WHAT TO DO IF...

The motor does not turn

1. Check that the network voltage is present, check the wiring.
2. Check that the motor is not in thermal protection. Wait 20-25 minutes until it cools down. (It is quite normal for the motor to overheat a lot during operation.)

The motor does not stop at the limit switch

Check that the crown is fit well on the head of the motor and properly stuck on the tube, otherwise the motor would not detect how many revolutions it is making and would never reach the limit switch point.

N.B: It is not possible to do reliable tests on the operation of the limit switch without the motor being mounted in the tube.

Up limit switch correctly recorded, can't adjust the down limit switch

Press the up button to the high limit switch point.

Act on the adjustment screw at the bottom by rotating quickly in the direction - and at the same time press the down button. If the motor at some point in down movement stops it means that you have intercepted the down limit switch point, then you can proceed by acting in the direction of + to lower the curtain to the desired point.

If the motor does not stop before the roller shutter touches the ground, it is necessary to interrupt the descent, press the up button to raise the roller shutter and repeat the operation from the beginning. It may be necessary to repeat the operation several times. If even after these attempts it is not possible to set the down limit switch, the limit switch could be broken so we recommend to contact the supplier.

Down limit switch correctly registered, the up limit switch cannot be adjusted

Press the down button to the lower limit switch point.

Act on the adjustment screw at the top by turning quickly in the direction - and at the same time press the up button. If the motor stops at a certain point on the way up it means that the upper limit switch point has been intercepted, then you can proceed by acting in the direction of + to raise the curtain to the desired point. If the motor does not stop before the roller shutter is completely rewound, you must stop the up movement, press the down button to make the roller shutter go back down and repeat the operation from the beginning. It may be necessary to repeat the operation several times. If even after these attempts you are unable to set the up limit switch, the limit switch could be broken so we recommend to contact the supplier.

9 WARNINGS:

a) The tubular motor must be connected to the ground after installation.
b) In order not to reduce the life of the tubular motor, it shall not exceed the lifted load allowed by the motor power.
c) Before using the motor, please adjust the limit switches.
d) The motor is equipped with a thermal protection that blocks its use when overheating; in case of block, wait for the motor cooling for a few minutes before reusing the motor.
e) NEVER connect motors in parallel with other motors.
f) Do not put screws that may interfere with the tubular motor.

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