

1.1 Technical data

Nominal torque:

Primus	10Nm
Favorit	20Nm
Master	30Nm
Champion	40Nm

Other technical data:

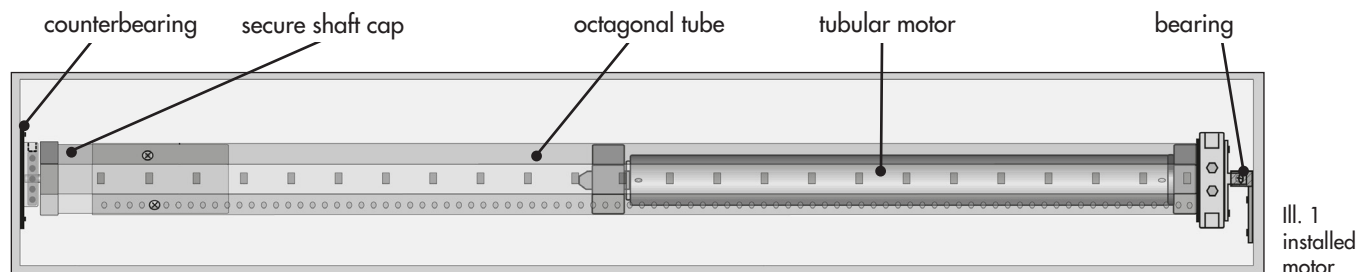
Nominal rotation speed:	15tpm.
	Champion 40Nm : 12 U/min.
Mains voltage:	230V/50Hz
Duty cycle:	4 minutes
Skidders/cross section:	5x0,75mm ²
External diameter:	46mm
Cable length:	2,5m
Overtravel distance:	3 degrees
Protection type:	IP44

Please note for all work the safety guidelines and the guidelines under "Power connection"; here in particular the guidelines for the protection of the connecting cable that otherwise could easily be damaged by the roller shutters rotating in the box and the laying of the connecting cable not "for dry areas".

1.2 Electric outlet

After installing the roller shutter shaft feed the connecting cable into the switch and distribution box provided. Lay and fix the cable in such a way that no damage can arise from the rotating shutters. Lay all feed cables securely. It is essential to observe the safety guidelines in these instructions. The drives are intended for connection to the 230V AC supply network. They cannot be driven together with mains or demand switches. These could cause damage to the drives. Roller shutter drives must not be connected in parallel because, with parallel connection, damage to the drives or switching device can arise. If more drives are to be used at the same time via one switch additional multiple control devices (e.g. Art. 330000) must be used. Depending on the switching capacity of the connected switch or controls, these drives can be connected in parallel. The drives are supplied with rubber connecting cables that are to be laid in accordance with the VDE regulations. The connection leads are to be used for laying in "dry locations". In case the drives are used in places that are not "dry locations", e.g. outside areas, in damp locations or when it cannot be excluded that the roller shutter boxes, because of their design or because of roof overhangs or similar, are reliably protected, drives with connecting cables that are suitable for the installation situation must be installed or the cables must be protected by conduits. This also applies to protection from direct sunlight.

1.3 Installation

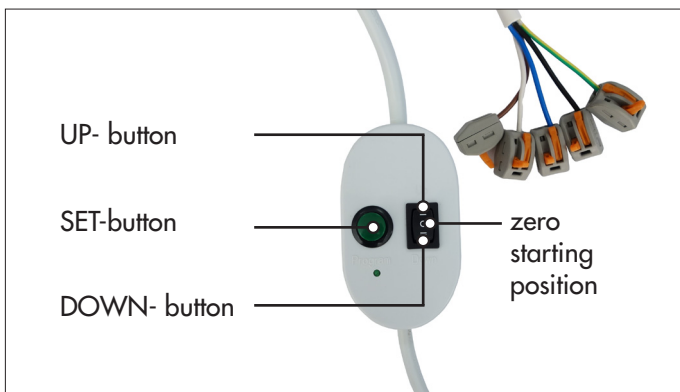


Ill. 1
installed
motor

The drive is designed for installation into the roller shutter shaft, octagonal, SW60 (60mm wide Allen key). Push the adapter on to the drive and then fix the carrier on to the square end of the drive. Then carefully push the drive into the shaft up to the stop of the adaptor ring. For this position the adaptor and carrier in such a way that the inner channel of the roller shutter shaft fits into the hollow provided by the adaptor and the carrier. Important: In this and the further assembly avoid the shaft slipping from the adaptor and the adaptor slipping from the rotor ring as otherwise the end shut-off will not work properly later. Screw the square end to the motor head. Push the shaft cap (accessories or present on site) into the shaft on the other side. Screw on the drive mounting and counterbearing in the roller shutter box or masonry in such a way that the roller shutter shaft is in balance. Push the roller bearing on to the kingpin of the shaft cap.

Install the roller shutter shaft with the drive pushed in. For this first place the ball bearing of the shaft cap into the counter bearing and then place the drive with the drive square end into the drive mounting. Now press the ball bearing securely into the bearing shell of the counter bearing. So that the square end of the drive does not "slip out" of the mounting in further operation, the shaft cap must be pushed so far out on assembly that the drive and the roller shutter shaft with shaft cap are hanging almost free of clearance in the mountings. You can compensate for measurement inaccuracies of the roller shutters of up to 40mm during assembly by pulling out the shaft cap. The shaft cap must be secured against being pushed out sideways. For this 2 screws can be screwed into the top and bottom of the roller shutter shaft and the shaft cap in it so that the shaft cap cannot "wander". Close the roller shutter box in such a way that it can be opened easily and without consequential costs in case of servicing.

2 Adjustment of limit switches



Ill.2: adjustment switch

2 Options for limit setting

The motor offers different options for adjusting the limit switches:

Section 2.1: Limit setting via adjustment switch (supplies),
Art. 125150; alternative via button on motor-head

Section 2.2: Automatic limit switch setting

2.1 Limit setting via adjustment-switch

The adjustment of limit switches can be done via making use of an adjustment switch:

1. Install the motor as described in section 1.3
2. Now connect the adjustment switch to the motor cable (take care for correct polarity)
2. Push the UP-button and the motor drives upwards. After the drive starts moving, keep pushing the UP- button and additionally push the green SET-button. Keep pushing both buttons until the upper limit position is reached. Once the motor reaches the limit position immediately release the Set- button and the limit switch is then adjusted.
4. Now push the DOWN-button and the motor drives downwards. After the drive starts moving, keep pushing the DOWN- button and additionally push the green SET-button. Keep pushing both buttons until the lower limit position is reached. Once the motor reaches the limit position immediately release the Set- button and the limit-switch is then adjusted.

Both limit switches are now successfully adjusted. If those limit positions need to be readjusted, return to section 2.

2.1.1 Limit setting via button on the motor-head

The limit setting via button on the motor head can be done as described in section 2.1. The button on the motor head can be used instead of the green SET- button. The UP- and-DOWN- button of the local switch can be used for driving up- and- downwards.

2.2 Automatic limit-setting

The motor additionally provides the possibility of setting the limit switches automatically. For doing so, the adjustment switch is not necessarily needed. The local switch can also be used. However, the automatic function can only be used if the lowest slat is equipped with stoppers or an angle. Furthermore the roller shutter casing has to be fixed to the shaft by making use of a sufficient amount of suspension springs. For adjusting the limit switches automatically, the pre-programmed limit positions have to first be deleted as follows:

1. Drive the motor to the upper limit position.
2. Set the adjustment switch to zero. Now delete the limit switch by switching from UP to zero five times in a row. Between the different switching operations an interval of 1 second has to be kept.
3. Drive the motor to the lower limit position.
4. Set the adjustment switch to zero. Now delete the limit switch by switching from DOWN to zero five times in a row. Between the different switching operations an interval of 1 second has to be kept. The motor now symbolizes a successful erasure of both limit switches by shortly driving in one direction.
5. Now push the up button and wait until the motor has performed the complete learning movement and sets the limit switches automatically.

2.3 Obstacle detection

The motors of the Series Electronic Mercato are provided with an obstacle detection. That means that when the shutter is confronted with an obstacle, the motor automatically stops and reverses for approx. 20cm.

2.5 Connection line

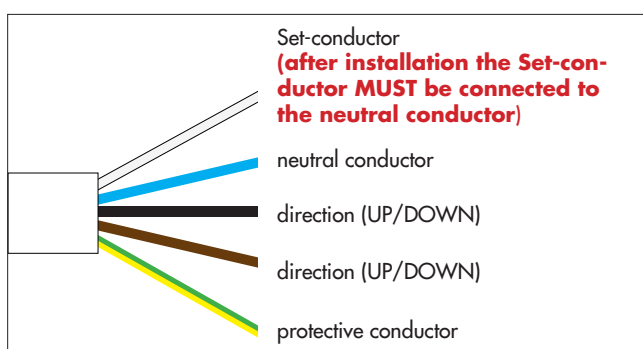


Abb.3 Anschlussleitung

The conductors have to be connected to the adjustment switch and/or the local switch with the correct polarity.

After adjusting the limit switches, the Set-conductor is no longer needed and has to be connected to the neutral conductor.

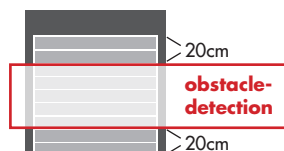
3 Modes of operations

Regarding the obstacle detection with reverse-function the motor does have 3 different operation modes. In factory setting, mode a is active.

The antifreeze protection is however active in every mode.

1. MODE A

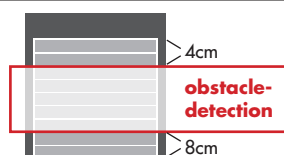
The obstacle detection is only active in a distance of 20cm from both limit positions.



Mode A is signaled by short one-folded turnarounds. (shutter shortly moves in both directions)

2. MODE B

The obstacle detection is only active in a distance of 4cm from the upper limit position and 8cm from the lower limit position.



Mode B is signaled by short two-folded turnarounds.

3. MODE C

The obstacle detection is completely turned off. The antifreeze detection stays active.



Mode C is signaled by short three-folded turnarounds.

3.1 Changing the operation mode

Switching to a different mode of operation has to be done as follows:

1. Connect the motor to the adjustment switch with correct polarity.
2. Push the green Set-button on the adjustment switch. After a short interval of 1 sec. additionally push the UP- button and keep both buttons pressed for 6-8 seconds, until the motor signalizes changing the mode by short turnarounds.

Short 1- folded turnarounds signalize mode A; 2-folded turnarounds signalize mode B; three-folded turnarounds signalize mode C.



Ill. 3:
Adjustment-
switch (detail)

4 Activate/deactivate reverse-function

Subordinated to those 3 different operation modes, the obstacle detection and the antifreeze protection is equipped with a reverse-function, which can manually be activated and deactivated. In case of activation/ deactivation this counts for every operation mode.

Reverse-function means that once the shutter is confronted with an obstacle and the motor stops, it immediately moves 20cm to the opposite direction.

The reverse-function can be activated/deactivated as follows:

1. Drive the motor to the upper limit position.
2. Set the adjustment switch to zero. Now switch from UP to zero three times in a row. Between the different switching operations an interval of 1 second has to be kept.
3. Drive the motor to the lower limit position.
4. Set the adjustment switch to zero. Now switch from DOWN to zero five times in a row. Between the different switching operations an interval of 1 second has to be kept. The motor signalizes a successful activation/deactivation by short, one folded turnarounds (activated), or short two-folded turnarounds (deactivation).

If you like to activate/ deactivate the function again, perform the same process again.

IMPORTANT:

When deactivating the reverse-function, the obstacle detection stays active. Only the reverse-function is then switched off. In this case, the motor would only stop when being confronted with an obstacle.