

Linear actuators

MAGFORCE

Limit switch unit Potentiometer unit STW, STD, STG, STN

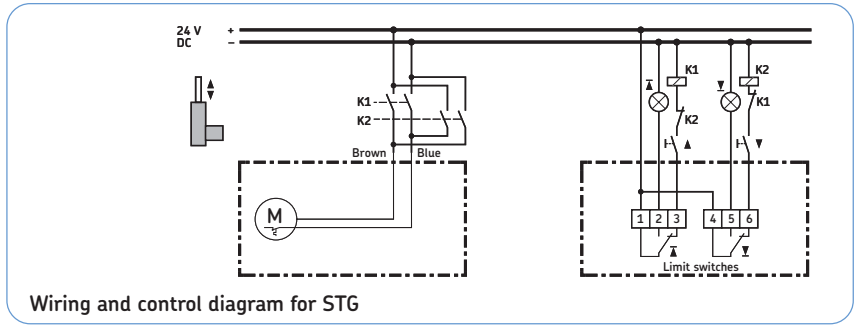
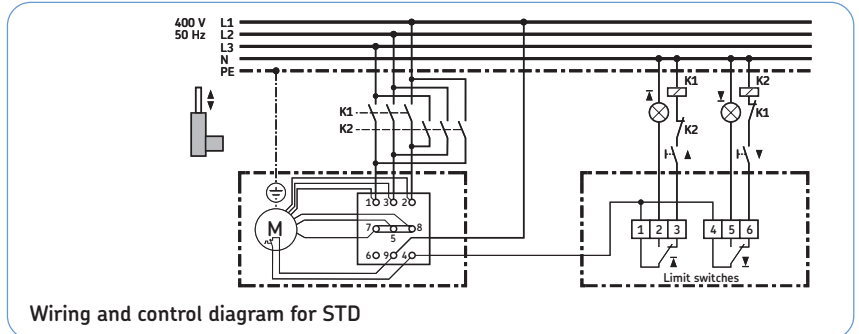
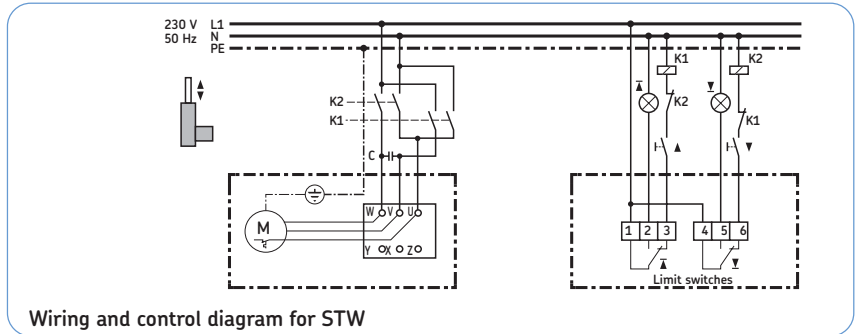
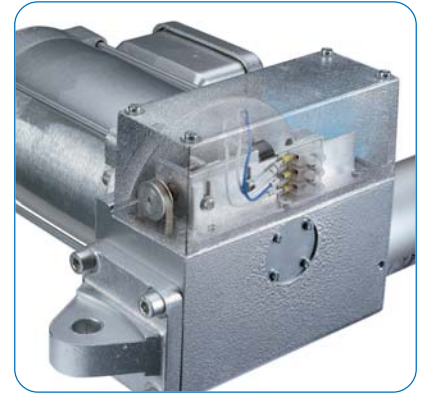
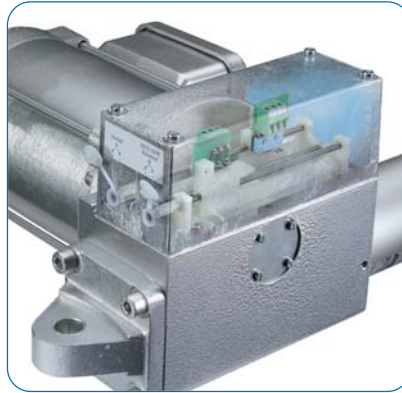
Description

The manual operation limit switch of the types STD, STW, STG and STN is shown as an option on the outline drawing on our leaflets L5321,2310/2320/2330/2345. By means of the manual operation limit switch there is, depending on the application, a possibility to change the course simply and effectively. Independent of each function the requested end position "above or below" can be adjusted to the necessary demands, i.e. extend the max retracted stroke 100 mm of the course. Thereby has to be taken note of the event that in the "up and down" end position the adjustable stroke is shortened by 10 mm. The reason is the construction of the manual operation limit switch (mechanical/ electrical) and the run on the actuator. Under the aluminium cover you will find the mechanic limit switch unit. On a control spindle which is driven on over a toothed belt there are two switch nuts which are hampered in the rotation by a guide-rail and from this reason are moving axial. Because of this axial movement of the control nuts, two limit switches are operated, which define the retracted and extended end position of the linear unit.

CAUTION: On maximum stroke in delivered condition or after the adjustment of the requested special stroke, do not turn the push tube again because the attachment to the limit switch unit is not longer secured!

Electrical Connection

Connection of the limit switch unit and the motor must be in accordance with the adjacent diagrams. Before final commissioning of the motors, it is necessary to check by means of short pulses that the direction of rotation or phase sequence of the motor is correct. Otherwise there is a risk that the limit switches will be overrun and the limit switch unit damaged.



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Adjustment of the manual operation limit switch (option)

The optional limit switch is assembled on the gear box (see illustration 2). In the box there are two openings from which the limit switch will be adjusted with a hexagon socket screw key. After the adjustment, the openings have to be closed again with the lids. The manual operation limit switch will be adjusted by trimming the two limit switches on the respective spindle (see illustration 1). The push tube is secured with a gummed tape together with the housing tube. A distortion of the push tube by hand causes that the attachment to the lower end position is not guaranteed any longer. The limited switches are adjusted by the company to the maximum stroke (= 1...2 mm before the limit stop).

Adjustment of the potentiometer (option)

The optional potentiometer is assembled on the gear case (see illustration 2). The electrical connection will be installed in accordance with the diagrams. The potentiometer contains facts as follows:

- Resistor value: max 1 kΩ ± 5%, characteristic curve
- Nominal capacity: 3 W on 40 °C, 2 W on 70 °C.

Proceedings:

- Please assemble the cover after the electrical installation.
- Alteration of the resistor value can be defined by driving of various stroke length. If during the assembly of the actuator the push tube has been turned out by hand, there is no more guarantee that the potentiometer will remain attached any longer (actuator lower end position = 0 Ω).

Drive the actuator in the lower end position and the base adjustment will be restored. Otherwise there will be wrong resistor values. The potentiometer is equipped with a friction clutch.

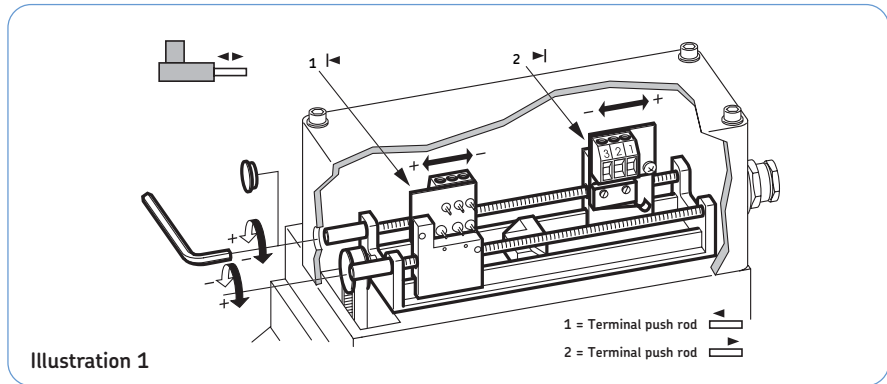


Illustration 1

Proceedings:

- After the installation of the electricity (see chapter "electric/supply") and after studying the mechanic function of the manual operation limit switch, the cover can be assembled. The connecting terminals are under voltage!
 - Please control whether the direction of the motors motion is correct. If necessary alter the phase sequence/polarity.
- Drive the actuator to the required lower end position.
 - Now turn the limit switch to the lower end position as far against the trip cam until it is switching.
 - Please do the same for the upper end position.
 - Drive the linear actuator repeatedly up and down and if need be work out the necessary fine corrections.

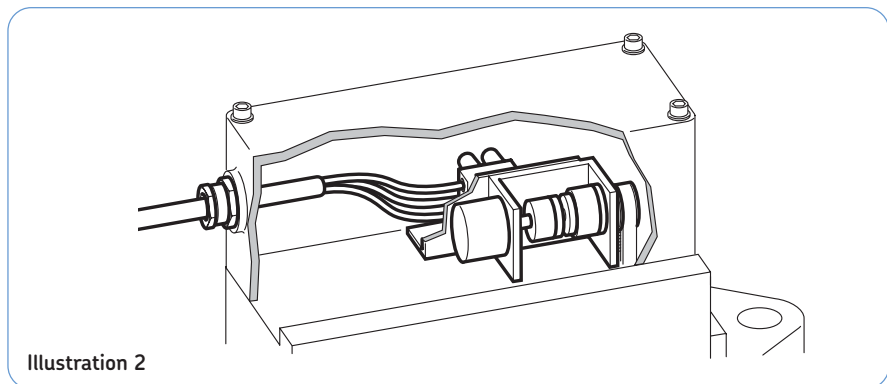
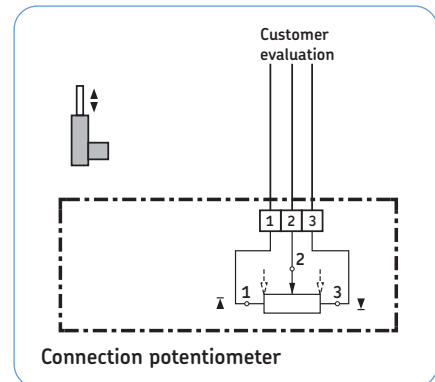


Illustration 2

Electrical connection of the potentiometer

If the linear actuator is equipped with a potentiometer, the connection of it has to be done in accordance with the connection potentiometer drawing. The actuator will be connected according to the variation of voltage as described in page 1.



Connection potentiometer