

Keep these instructions in a safe place!
After installation of the tubular drive attach these instructions to the cable for the electrician.

Device function:

- Commissioning the drive with the assembly cable
- Quick limit switch adjustment**
When the drive is shipped from the factory, the quick limit position adjustment is active.
Only use this function for the first adjustment.
The limit switches do not switch over during the quick limit position adjustment process. Run to the limit positions. Carry out the re-adjustment via the limit switch adjusting screws after deactivation of the quick limit switch adjustment.
Further limit position changes are only possible via the limit switch adjusting screw.



Warning!



Important safety instructions!

Observe the following instructions.

Risk of injury due to electrocution.

The connections to the 230 V mains **must** be made by authorised specialist personnel.

Check the system (roller shutters, awnings) regularly for wear or damage.

The regulations of the local energy supply company as well as the regulations for wet and damp rooms according to VDE 0100 must be followed when making the connections.

Only use unmodified original **elero** electrical parts.
Keep people away from the system until it is stationary.
When working on the system (servicing, cleaning windows etc.), always disconnect it from the mains supply.

Check the following before installation:

- Only turn the limit switch ring slightly before and during assembly. (It interferes with the result of the end position adjustment)
- The drive is only capable of operation as installed.
- Only perform connecting work with the power turned off.
- The hanging must be attached to the winding shaft.
- The profile tube must have sufficient clearance from the motor tube.

Remove of the motor cable plug

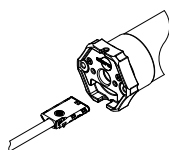


Warning!

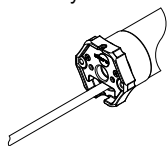


Risk of injury due to electric shock.

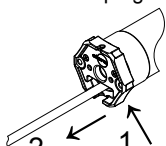
When the motor cable plug is removed the supply line **must** have no voltage.



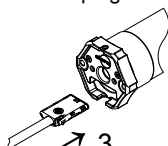
Delivery condition



Remove plug



Insert plug



Remove the motor cable plug

Switch off voltage supply.

- Press locking mechanism on the plug towards the cable using a screwdriver.
- Pull out the plug.

Insert the motor cable plug

- Switch off voltage supply. Insert plug until locking mechanism engages.

Installation



Warning!

Observe the following installation instructions!

- The drive must be fixed in such a way that it does not endanger personnel.
- Before installing the drive, all lines and equipment, which are not required for operation, must be removed from the site.
- During installation, during operation and when work is carried out on the system, the option to separate all three poles from the mains must always exist (Hirschmann connector and Hirschmann coupling or a two-pole switch with minimum 3 mm contact gap or all-pole main switch).
- Parallel switching only with sequencing relay.**
- If the drive is controlled by a switch with OFF pre-setting (dead man's button), the momentary contact switch must be fitted at a height of more than 1.50 m and separated from the moving parts. The travel range of the systems must always be visible during operation.
- Moving parts in a drive, which are below 2.5 m, must be protected.
- Set torque and set operating time must be adapted to the requirements of the product which is driven.
- Please note the technical data on the type plate.
- Please note that with this drive (type M and L tubular motors) the smallest internal tube diameter corresponds with 47 mm and 58 mm.
- The drive must be installed so that it cannot get wet.
- Do not install drives in surroundings which are at risk of explosion or in mobile appliances (e.g. motor vehicles).
- Keep children away from the (remote) control unit.

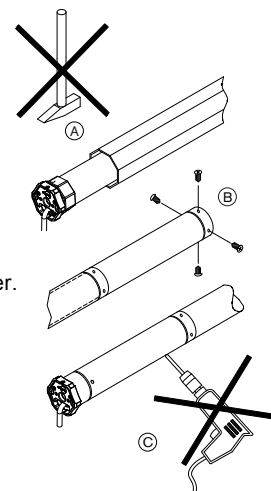
Installation in profile tubes

- Ⓐ Push drive with relevant adapter and limit switch into the profile tube.

Protect the motor cable in order to avoid it brushing against the hangings. Avoid kinking the cable.

- Ⓑ Secure the counterpart support to prevent axial movement, e.g. screw or rivet on cross member. Secure the drive axially in the motor bearing!

- Ⓒ Attach the hangings to the shaft! Run in the **DOWN** direction if it is necessary to install the hangings on the winding shaft.



Warning!



Risk of injury due to electric shock.

Do not drill in the area of the motor!

Connection and limit switch adjustment

Shaft assembly

Installation in profile tubes

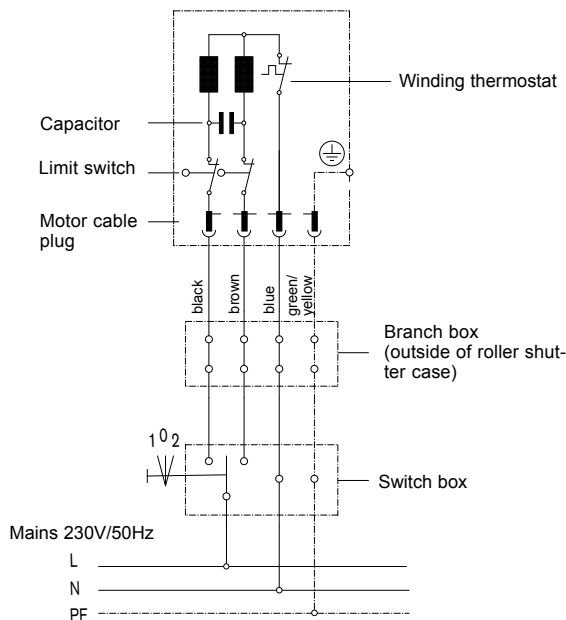
- ① On round tubes, cut a slot in the end of the tubes on the drive side (width 4 mm, length 6 mm)!
- ② Push the drive (do not knock in) so that the drive lug engages in the slot.
- ③ Screw on or rivet on the coupling (adaptor)!
- ④ Attach the hangings to the shaft!
Run in the **DOWN** direction if it is necessary to install the hangings on the winding shaft.

Secure the abutment against axial shifting by riveting or bolting the cross member.

Check the following before installation:

- The drive is only capable of operation as installed.
- It is not permitted to adjust the limit position to a mechanical stop.
- Only perform connecting work with the power turned off.
- Do not drill in the area of the tubular motor!
- Do not connect motor plug with mains on.

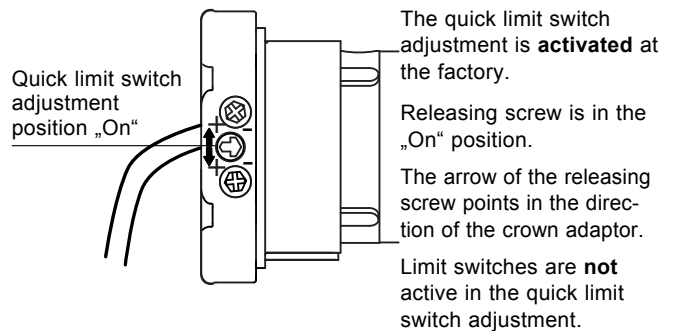
Connection example VariEco+ tubular motor 230 V / 50 Hz



Note: The motor controls in up/down direction must be locked against each other.
A reversing delay of at least 0,5 sec. must be ensured.

Note: Parallel switching only possible with cut-off relay.

Delivery status/factory setting



Note: The maximum limit switch range is 35 revolutions of the shaft.
Use the adjusting tool for carrying out the adjustment.

Adjusting tool

Adjusting tool
13 116.3801

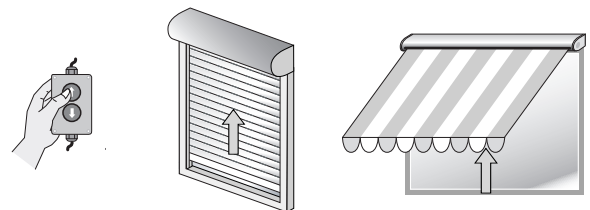


Note: The limit switches will only work after the motor has been installed in the shaft.

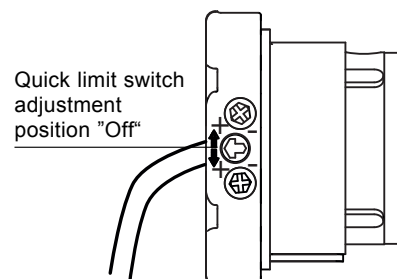
Only at commissioning

Quick limit switch adjustment

1. Attach the hangings to the shaft.
Run in the **DOWN** direction if it is necessary to move the winding shaft.



2. Use the motor cable to move the hangings in the **UP** direction until you reach the desired limit position.



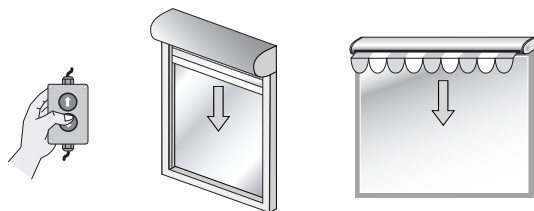
3. Turn the releasing screw to the „Off“ position.
The arrow of the releasing screw points in the direction of the cable.
Use an adjusting tool to do so.
4. Both limit positions are now roughly pre-set.
The fine adjustment must be carried out using the individual adjusting screws.

Connection and limit switch adjustment

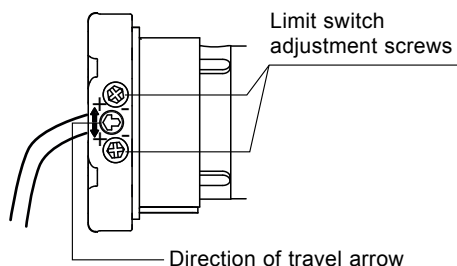
Notes on troubleshooting

Setting of the upper limit position

(Fine adjustment or limit position changes)



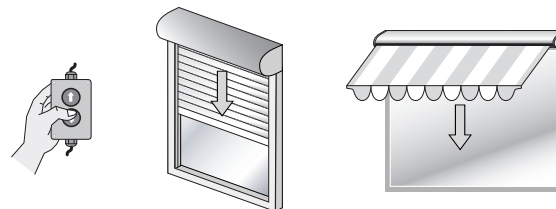
1. Press the **DOWN** button on the assembly cable and run the hangings down a little bit from the upper limit position.
2. Then press the **UP** button on the assembly cable and hold it down.



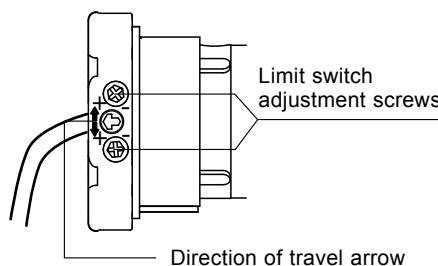
3. Turn the adjusting tool of the **UP** limit switch adjusting screw in the + or – direction until the final limit position is reached. One turn of the limit switch adjusting screw represents approx. 60° of turning of the winding shaft.

Setting the lower limit position

(Fine adjustment or limit position changes)



1. Press the **DOWN** button on the assembly cable and **keep it depressed**.



2. Turn the adjusting tool of the **DOWN** limit switch adjusting screw in the + or – direction until the final limit position is reached. One turn of the limit switch adjusting screw represents approx. 60° of turning of the winding shaft.

The directional arrows show the corresponding travel direction of the limit switch screws (4 mm Allen screws).

minus (–) = shorter travel
plus (+) = longer travel

Troubleshooting

Fault	Possible cause	Remedy
<ul style="list-style-type: none"> Switching off points are far from the limit positions after the quick adjustment is made 	<ul style="list-style-type: none"> Limit switch ring was turned before and during installation Drive is retracted in the installed position without hangings 	<ul style="list-style-type: none"> Adjust limit positions via the limit switch adjusting screw
<ul style="list-style-type: none"> The drive does not switch off via the limit switch Drive does not react 	<ul style="list-style-type: none"> Limit switch ring is not being driven Quick limit switch adjustment is still active Limit switch is not adjusted 	<ul style="list-style-type: none"> Readjust installation and limit switches via the limit switch adjusting screws Deactivate quick limit switch adjustment and set limit positions Set limit switch
<ul style="list-style-type: none"> Drive does not react 	<ul style="list-style-type: none"> Wrong connection The thermostat has triggered 	<ul style="list-style-type: none"> Readjust connection Cool drive down

Declaration of conformity

EC DECLARATION OF CONFORMITY

We hereby declare that the following mentioned product/s meet/s the **Machinery Directive 2006/42/EC**.

Product designation: **Tubular Drive**

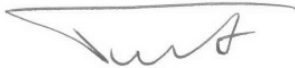
- VariEco+ S all versions
- VariEco S all versions
- VariEco+ M all versions
- VariEco M all versions
- VariEco+ L all versions
- VariEco L all versions

Description: Actuator for shutters and awnings

The conformity of the above mentioned products with the relevant health and safety requirements is taken into account by the following directives and standards:

- EMC Directive 2004/108/EC
- Low Voltage Directive 2006/95/EC
DIN EN 60335-2-97 (VDE 0700-97):2009
- DIN EN 14202:2004

Beuren, 30.05.2012



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-CE Manager-, -Representative documentation -