

Mounting and setting instructions elero folding shutter drive type KL/DMA

General information

Torque switch-off

The drive incorporates an electronic torque switch-off. The torque at which it switches off can be adjusted over a continuous range by turning the "T" knob on the circuit board. The torque is increased by turning in the + direction, and reduced by turning in the - direction. The factory setting (in the centre) corresponds to the standard value that suits most cases. After three uninterrupted travel operations between the stops (opening and closing) the travel is programmed. The device will automatically learn the end shut-off points after driving against the stops for the first time. After this, the drive will automatically switch to a soft switch-off shortly before reaching the stops. It is still, however, necessary to have the stops. It is not possible to operate the drive without fixed stops.

Resetting

It is possible to reset the end shut-off points and/or the soft switch-off after the system has learnt them.

Important: It is only necessary to reset the drive if structural changes are made to the track.

Reset procedure

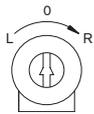
1. Connect the OPEN and CLOSE direction lines to a switch.
2. Close the switch for at least 10 seconds.
3. Reconnect the device for operation.
(See connection example.)

Important: Both drives in a pair can be reset simultaneously by connecting them in parallel.

Shut-off torque: 15 Nm–25 Nm, over a continuous range. 1 drive is required for each leaf. The electronics permit multiple drives to be connected together. (Observe the maximum rating of the power supply.)

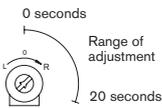
Functional description of the rotary start-up delay knob:

1. Folding shutters without rebate profile

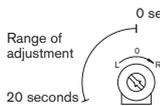


Adjusting the rotary knob when folding shutters without a rebate profile are used.

2. Folding shutters with rebate profile



Range of adjustment for folding shutter leaves with rebate profile



Range of adjustment for folding shutter leaves without rebate profile

Adjusting the start-up delay

The drive operates without delay under the factory setting (rotary knob in the centre position).

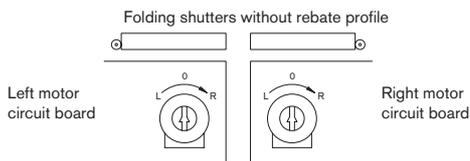


Figure 1

If a rebate profile is fitted to one of the two wings, the rotary "L-R" knob can be adjusted for a start-up delay for left or right handed running. Delay: 0–20 seconds, continuous range

Important! It is important that both drives are adjusted in accordance with Figure 2. The leaf that does not have the rebate profile also requires a start-up delay.

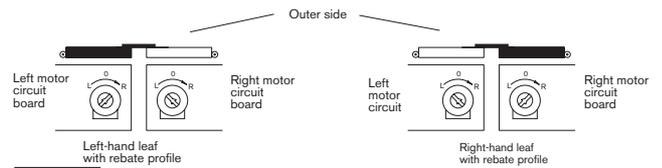
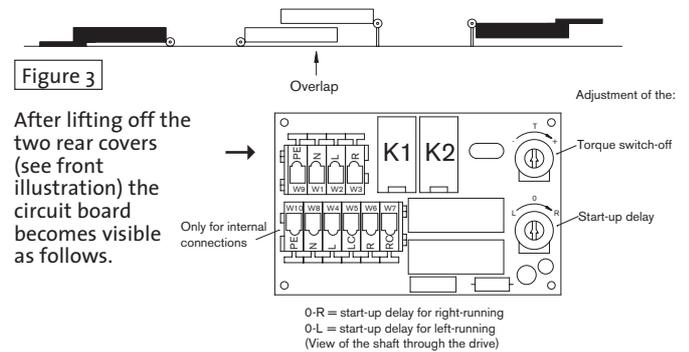


Figure 2

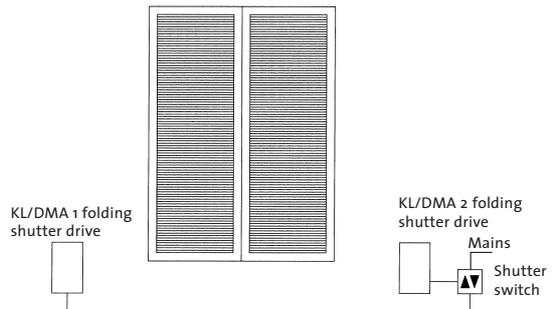
The continuously adjustable delay also makes it possible to implement overlapping opened shutters (see Figure 3).



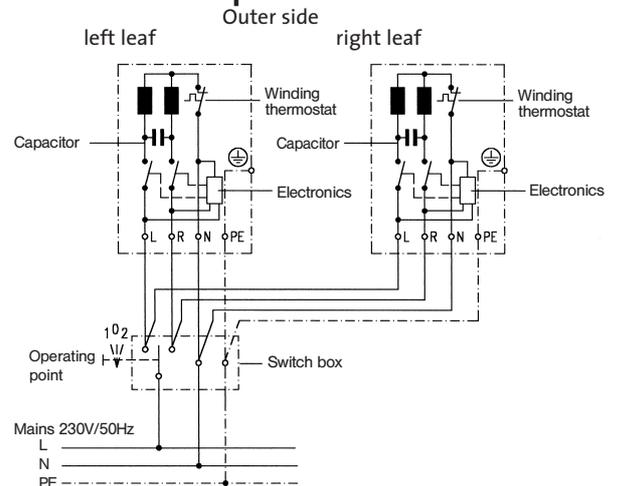
Technical data

Voltage:	230 V	Power:	160 W
Frequency:	50 Hz	Torque:	20 Nm
Current consumption:	0,7 A	Short period operation:	4 min

Example of connecting two folding shutters on one window



Connection example



Extension of control is possible, see elero-control system documentation.

Installation instructions

Ensure when assembling the folding shutter drive that the **weight of the shutter is carried by the upper hinge**, so that the inside opener only has to transmit the turning moment.

Rigid stops must be attached to the shutters inside and outside to enable the drive to function correctly.

The stops must be at the same level as the drive.

The drive and the inside opener must be properly sealed in or bolted to the wall.

Ensure during fitting that the motor and the inside opener are longitudinally aligned, and that the drive is pushed all the way onto the inside opener.

elero recommends the inside openers and mountings manufactured by Kiekert & Nieland.

Note! Make sure that moisture does not enter the drive.

The cover of the drive closes an inspection opening, and must be accessible at all times!



Sample calculation

The drive is to be fitted into a wall with a total thickness of 300 mm. Dimension "B" (196 mm) on the folding shutter drive cannot be changed.

Dimension "F" is then 300 mm - 196 mm = 104 mm.

The protective sheath "E" of the square drive shaft "D" must be 28 mm shorter than the drive shaft.

Mounting dimensions

As a result of different wall thicknesses, both the square drive shaft of the inside opener and the protective sheath must be adjusted to match the wall concerned. The following calculation formula can be used here:

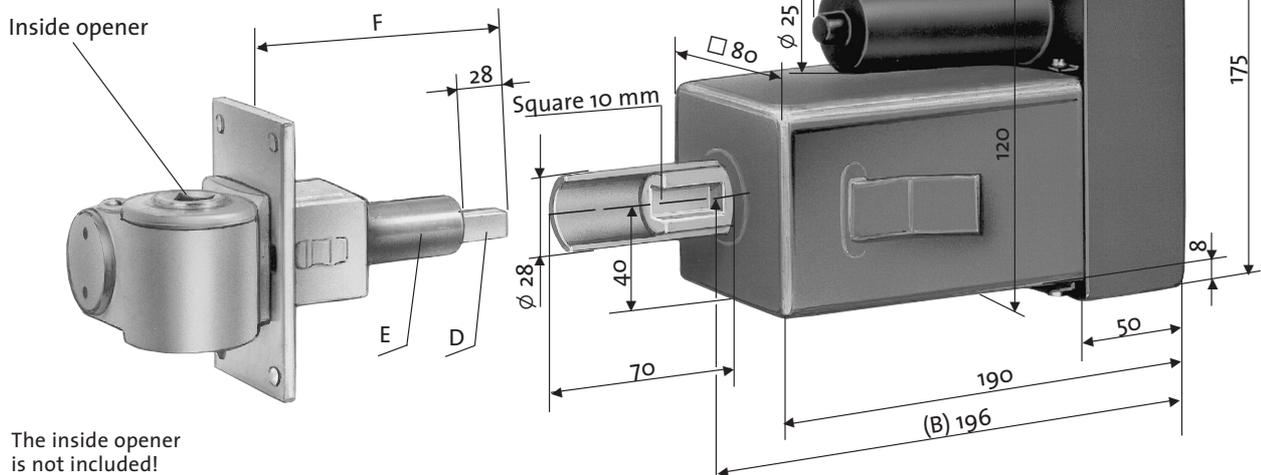
Dimension F of the inside opener = total wall thickness - 196 mm (B)

Important: The minimum dimension for which fitting is possible is 300 mm for flush mounting. 250 – 300 mm is appropriate for partial surface mounting.

Warning! **Electrical voltage!**
Risk of injury due to electrocution.
The connections to the 230 mains must be made by authorised specialist personnel.
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.

- The drive must be fixed in such a way that it is not a danger to personnel.
- The equipment must be completely disconnected from the power supply before the drive is installed.
- If the folding shutter drive is fitted into other equipment, the installer must ensure that EMC guidelines continue to be observed.
- Please observe the motor's technical data.
- Please observe the appropriate instructions for the use of controllers and window controllers.

Warning! **Risk of crushing!**
Risk of injury through crushing!
• Make sure that there is nobody in the area where the folding shutter swings.
• Make sure that it is not possible to operate the folding shutter when work such as window cleaning is being carried out nearby.



The inside opener is not included!