

## General

- Application: Drive system for roller shutters and textile sun protection independent of the mains current, operation with solar energy, pre-charged ready for operation
- Power supply: Direct current (12 V) from battery pack
- No wiring to the mains or to a control unit necessary
- Limit switch: electronic with soft brake
- Noiseless soft brake
- Special feature: Cut-out when obstacles are detected, frost protection function, 2 intermediate positions freely definable
- End positions adjustable via elero hand-held transmitter (see „Accessories“)
- Wave frequency: from 50 mm Ø

### Standard scope of delivery

- MiniPlug Solar DC 0.27 m connection cable (233956301) for Solar Bundle DC plug-in, assembly instructions (138250001)

### Accessories

- Adapter sets, motor bearings, solar bundle DC
- elero radio transmitter:
  - MonoTec-868 (28 650.0002)
  - QuinTec-868 (28 655.0002)
  - MonoCom (28 405.0002)
  - VarioCom (28 445.0002)
  - App Centero Home (version after 1.4.5)

## Safety instructions



General safety instructions for use including installation of motors for roller shutters, awnings, textile sun protection and Venetian blinds can be found in the „Safety instructions“ leaflet supplied with each motor. Please read the general safety instructions and this installation manual carefully as the procedure in this manual is a prerequisite for correct use of the product. Any intervention by unqualified personnel or failure to comply with warnings may lead to personal injuries or material damage.

All work on the device may only be carried out by a qualified and approved electrician. Relevant national regulations must be observed.

Figures included are for illustration purposes only. The illustrations may differ from your product with in minor details and are provided for general information only.

elero GmbH continuously strives to improve all products. As a result, the specifications, features and technology of this product may be changed at any time. The information provided is based on current information at the time of publication.

No claims can be derived from the technical data, images and information provided in this manual.

## Assembly

- Only connect the drive with the power turned off.
- Only operate the drive in a horizontal position for its intended use.
- The length of the winding shaft is determined for each specific installation depending on the drive head and motor bearing used at the installation site.

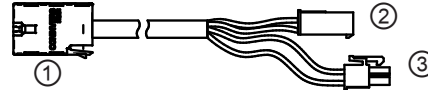
### Installation in profile tube / round tube

- Push the drive with mechanical seal ring on the motor head and the appropriate adapter set (drive adapter and crown adaptor, accessories) in the profile tube.
- Secure the counterpart support to prevent axial movement (screw or rivet on the idler).
- Secure the drive axially in the support.
- Attach the blind to the shaft. Do not drill holes near the drive area.

## Connecting cable pluggable 0,27 m



Connection from the drive to the power supply (battery pack and solar panel or mains/charger device) with cable flag and DC note. Additional adapters Y-cable Type A or Type B available to expand the system (see Solar-Bundle DC).



- ① Mini Plug for the drive
- ② Drive adapter for solar panel
- ③ Connector for power supply (battery pack / mains/charger)

## Commissioning in 5 steps

Commissioning takes place in this order:

1. Installation of the drive in the system (profile or round tube).
2. Wiring first with solar panel and then with battery pack.  
Caution: When the plug connections are made, the drive is live and ready for use.  
See 13 207.0001 instructions for the elero Solar-Bundle DC.
3. Programming a suitable elero radio transmitter (see Accessories) on the drive (radio receiver) and assigning the running directions. Step 3.a) or 3.b).
4. Deleting the end positions (not necessary for initial commissioning) and setting the end positions up and down.
5. Optional: Define additional blind positions.

### Step 3: Program radio transmitter

#### 3.a) Asynchronous programming mode (standard)

Asynchronous programming mode is suitable for programming

- Of the first radio transmitter
- Of an additional radio transmitter
- Of individual radio receivers if several radio receivers are ready to be programmed

	Operating procedure	Result
1	<b>Activate asynchronous programming standby:</b> Connect battery pack to Rol-Solar M-868 DC again or on an already programmed radio transmitter, press buttons [UP ▲] + [DOWN ▼] + [P] simultaneously for 3 seconds.	The radio receiver changes to asynchronous <i>programming standby</i> for 5 minutes. Ready to receive the programming button [P].
2	<b>Start programming mode:</b> On the radio transmitter to be programmed (in the required channel), press and hold the programming button for approx. 1 second [ P ] (prerequisite: voltage interruption within the last 5 minutes).	The radio receiver changes to asynchronous <i>programming mode</i> and starts cyclical up and down travel (a 2-second time delay is possible).
3	<b>Setting the first hit:</b> <b>Immediately</b> after motion commences, press the [OPEN ▲] or [DOWN ▼] button. <ul style="list-style-type: none"> <li>• In case of upward motion, press the [UP ▲] button.</li> <li>• In case of downward motion, press the [DOWN ▼] button.</li> </ul>	<b>Hit successful:</b> Radio receiver <b>briefly interrupts</b> ongoing travel. <b>Hit failed:</b> Radio receiver <b>does not interrupt</b> ongoing travel. → Repeat „Set first hit“ action!
4	<b>Set second hit:</b> <b>Prerequisite:</b> First hit has been set. <b>Immediately</b> after motion in the opposite direction commences, press the [OPEN ▲] or [DOWN ▼] button. <ul style="list-style-type: none"> <li>• In case of upward motion, press the [UP ▲] button.</li> <li>• In case of downward motion, press the [DOWN ▼] button.</li> </ul>	<b>Hit successful:</b> Radio receiver <b>stops</b> ongoing travel and signals completion of programming. <b>Hit failed:</b> Radio receiver <b>does not stop</b> ongoing travel. → Repeat „Set second hit“ action!

### 3.b) Synchronous programming mode

Synchronous programming mode is suitable for

- Programming an additional radio transmitter.
- Simultaneously programming several radio receivers to one radio transmitter or channel.

	Operating procedure	Result
1	<b>Activate synchronous programming standby:</b> Press the buttons [DOWN ▼]+[P] simultaneously on a radio transmitter that is already programmed and hold them down for at least 3 seconds.	The radio receiver changes to synchronous programming standby for 5 minutes. Ready to receive the programming button [P].
2	<b>Start programming mode:</b> On the radio transmitter to be programmed (in the required channel), press and hold the [P] programming button for approx. 1 second.	The radio receiver changes to synchronous programming mode and starts cyclical up and down travel.
3	<b>Setting the first hit:</b> <b>Immediately</b> after motion commences, press the [OPEN ▲] or [DOWN ▼] button. • In case of upward motion, press the [UP ▲] button. • In case of downward motion, press the [DOWN ▼] button.	<b>Hit successful:</b> Radio receiver <b>briefly interrupts</b> ongoing travel. <b>Hit failed:</b> Radio receiver does not interrupt ongoing travel. → Repeat „Set first hit“ action!
4	<b>Set second hit:</b> <b>Prerequisite:</b> First hit has been set. <b>Immediately</b> after motion in the opposite direction commences, press the [OPEN ▲] or [DOWN ▼] button. • In case of upward motion, press the [UP ▲] button. • In case of downward motion, press the [DOWN ▼] button.	<b>Hit successful:</b> Radio receiver <b>stops</b> ongoing travel and signals completion of programming. <b>Hit failed:</b> Radio receiver does <b>not stop</b> ongoing travel. → Repeat „Set second hit“ action.

The following applies to both programming modes:

- Programming can only ever be performed in one selected channel.
- When programming is complete or after 5 minutes have passed, the radio receiver will revert to normal operation.
- Programming mode can be stopped by pressing the [STOP ■] button for at least 6 seconds.
- Several radio receivers can be programmed to one channel.
- If the blind moves in the wrong direction, delete the radio transmitter and program it again.

### Delete the radio transmitter

To delete the radio connection between the radio transmitter and radio receiver, there are 2 operating procedures available, each of which trigger a specific action in the radio transmitter and radio receiver.

Operating procedure	Result
Simultaneously press the [STOP]+[P] buttons for at least 6 seconds until the status LED lights up red and goes out.	<b>In the radio transmitter:</b> The selected channels are deleted entirely. <b>In the radio receiver:</b> The individual radio transmitter only is deleted from the radio receiver.
Simultaneously press the [UP ▲] + [DOWN ▼] + [STOP ■] + [P] buttons for at least 6 seconds until the status LED lights up red and goes out.	<b>In the radio transmitter:</b> The selected channels are deleted entirely. <b>In the radio receiver:</b> All radio transmitters are deleted from the radio receiver.

For details, see also the elero operating instructions for the radio transmitter used.

### Step 4: Deleting and setting the end positions

**Requirements for setting the end positions :**

1. Radio transmitter has been taught into the radio receiver.
2. The blind is in a middle position.
3. Establish readiness for end position setting: Simultaneously press buttons [UP ▲] + [DOWN ▼] + [P] for at least 6 seconds.

The drive remains in programming mode for 5 minutes. The end positions can only be reset if the previous end position settings have been deleted (not applicable for initial commissioning the radio receiver/drive).

It is not possible to correct a single end position as both end positions must always be set up.

#### Types of end position settings

Different combinations of end position settings are possible. These can be clearly selected according to the technical requirements of the blind.

End position settings	possible with
End position freely adjustable	T-strap, belts, tape
Fixed upper stop (can be switched off to torque or with release)	End stopper, angle bar
Fixed lower stop (can be switched off to torque or with release)	Anti push-up device, rigid shaft connectors

#### Deletion of end positions

Operating procedure	Result
Starting from a central position of the blind, simultaneously press the [UP ▲] + [DOWN ▼] buttons with a programmed radio transmitter until the drive briefly travels up and down.	The adjusted end positions have been deleted. The end positions may be readjusted.

It is not possible to delete a single end position as both end positions are always deleted.

#### Setting the end positions

Operating procedure	Result
<b>Set upper end position:</b> Press the [ON ▲] button until the blind has reached the required upper end position * or stops at the upper stop. * You can make corrections using the [UP ▲] and [DOWN ▼] buttons.	The drive begins to travel, briefly stops and travels further (for as long as the [UP ▲] button remains pressed).
Press the [DOWN ▼] button until the drive stops automatically.	The upper end position has been set.
<b>Set lower end position:</b> Press the [DOWN ▼] button until the blind has reached the required lower end position * or stops at the lower stop. * You can make corrections using the [UP ▲] and [DOWN ▼] buttons.	The drive begins to travel, briefly stops and travels further (for as long as the [DOWN ▼] button remains pressed).
Press the [UP ▲] button until the drive stops automatically.	The lower end position has been set.
Adjustment of the end positions is complete.	

**Step 5: Further blind positions**

**Intermediate position:** Place blind in any position between the upper and lower end positions

Define in the receiver	Approach	Delete
<p>Prerequisite: The blind is in the upper end position.</p> <p>1. Press the <b>[DOWN ▼]</b> button until the required intermediate position is reached.</p> <p>2. Then press the <b>[STOP ■]</b> button for 1 second. The blind will stop. The status LED lights up briefly.</p> <p>The intermediate position is now stored.</p>	<p>Double click the <b>[DOWN ▼]</b> button (in quick succession): Blind moves to the saved intermediate position. If no intermediate position has been defined, the blind moves to the lower end position.</p>	<p>Simultaneously press and hold the <b>[DOWN ▼]</b> + <b>[STOP ■]</b> buttons for approx. 3 seconds. The intermediate position is now deleted. The status LED lights up briefly.</p>

**Ventilation position:** E.g. the ventilation gaps on the roller shutter open

Define in the receiver	Approach	Delete
<p>Requirement: Blind is in the lower end position.</p> <p>1. Press the <b>[UP ▲]</b> button until the ventilation gaps open.</p> <p>2. Then press and hold the <b>[STOP ■]</b> button for 1 second.</p> <p>The blind will stop. The position of the ventilation is now saved.</p>	<p>Double click the <b>[UP ▲]</b> button: The blind travels to the saved position. If no ventilation position is defined, the blind moves to the upper end position.</p>	<p>Simultaneously press and hold the <b>[UP ▲]</b> + <b>[STOP ■]</b> buttons for approx. 3 seconds. The position of the ventilation is now deleted.</p>

Problem	Possible cause	Remedial action
Radio programming mode does not start	<ul style="list-style-type: none"> <li>Faulty connection</li> <li>Time frame already expired (5 min.)</li> <li>Battery in radio transmitter is used up</li> </ul>	<ul style="list-style-type: none"> <li>Check connection</li> <li>Activate programming standby or briefly interrupt the power supply for programming via a radio transmitter that has already been programmed</li> <li>Check the radio transmitter (LED must be illuminated)</li> </ul>
Radio transmitter not in programming mode	<ul style="list-style-type: none"> <li>The <b>[UP ▲]</b> or <b>[DOWN ▼]</b> button was pressed too late</li> </ul>	<ul style="list-style-type: none"> <li>Start radio programming mode again and observe the time window (1 second)</li> </ul>
Drive stops after a short travel time and/or no longer responds	<ul style="list-style-type: none"> <li>Battery pack capacity is too low / battery low</li> <li>Blind difficult to move</li> <li>End position is not saved</li> </ul>	<ul style="list-style-type: none"> <li>Charge the battery pack with the mains/charger device (accessory) or replace with a new one</li> <li>Check the smooth running of the blind</li> <li>Reset the end position</li> </ul>
End positions cannot be taught in to the drive	<ul style="list-style-type: none"> <li>Travel to end position / limit stop too short</li> </ul>	<ul style="list-style-type: none"> <li>Bring the blind to the middle position, delete the end positions and reset them</li> </ul>

**Manufacturer's address      Service**

elero GmbH  
73278 Schlierbach  
GERMANY  
www.elero.com

If malfunctions occur or the device is damaged despite correct handling, contact your contractor or dealer.

**EU Conformity**

elero hereby declares that this product is in compliance with the essential requirements and other relevant provisions of European directives that are applicable in Europe. A declaration of conformity is available at the website [www.elero.com/downloads-service](http://www.elero.com/downloads-service).

**Disposal / Notes on environmental protection**

Electrical and electronic devices may not be disposed of with household waste. The consumer is legally obligated to return electrical and electronic equipment as well as batteries/battery packs to the designated public collection points or to the retailer at the end of their service life. The applicable regulations are governed by the relevant local laws. The symbol on the product, the instruction manual or the package indicates the applicable regulations. After using the unit for the final time, protect the battery pack against short circuits. By recycling or reusing old units/batteries, you are making an important contribution to protecting our environment.



## Technical data and dimensions

The technical data specified is subject to tolerance factors (according to applicable standards) and refer to an ambient temperature of 20 °C.

RoISolar	M10 -868 DC	M20 -868 DC	M1,5/90 -868 DC RH	M3/60 -868 DC RH
Rated voltage [V]	12 (DC)	12 (DC)	12 (DC)	12 (DC)
Rated torque [Nm]	10	20	1,5	3
Rated speed (rpm)	16	16	90	60
Rated current [A]	4.0	6.0	4,0	4,2
Rated power consumption [W]	48	72	48	50
Radio frequency band [MHz]	868,0 to 868,6   869,4 to 869,65			
Radio transmission power [dBm]	max10	max10	max 10	max 10
Shaft diameter [mm]	50	50	50	50
Protection class (IP)	44	44	44	44
Limit switch range (revolutions)	40	40	40	40
Operating time (min S2)	10	10	10	10
Length C [mm]	446	471	446	471
Length D [mm]	429	454	429	454
Length E [mm] elero head, round head, star head	14   12   19	14   12   19	-   12   -	-   12   -
Weight [kg]	1.70	2.20	1,00	1,60
Ambient operating temperature [°C]	-20 to 60	-20 to 60	-20 to 60	-20 to 60
Protection class III	■	■	■	■
Item number (elero head, RH round head, SH star head)	34 220.0001 38 220.0001 39 220.0001	34 230.0001 38 230.0001 39 230.0001	38 360.0001	38 370.0001

