

Motor control insert, DC 24 V
Art.-No.: 224 ME

Operationsmanual

1 Safety instructions

Electrical equipment may only be installed and fitted by electrically skilled persons.

Failure to observe the instructions may cause damage to the device and result in fire and other hazards.

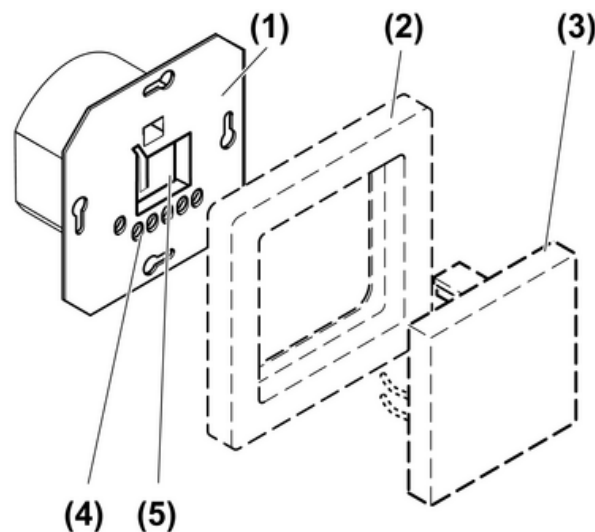
To supply the insert and to control the extension inputs it is necessary to use a power supply unit that provides DC 24 V SELV. This ensures reliable isolation between the primary and secondary sides.

Risk of injury. Use the device only for controlling Venetian blind and roller shutter motors or awnings. Do not use it to switch other loads.

Use only Venetian blind drives with mechanical or electronic limit switches. Check the limit switches for correct adjustment. Observe the specifications of the motor manufacturers. Device can be damaged.

These instructions are an integral part of the product, and must remain with the end customer.

2 Device components



picture 1

- (1) 24 V insert
- (2) Frame
- (3) Shutter cover
- (4) Terminals
- (5) Space for sensor terminal block

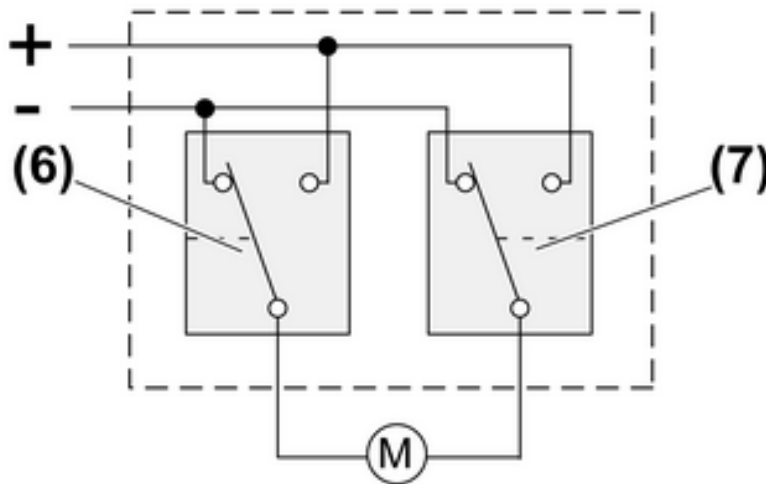
3 Function

Intended use

- Control of electrically-driven Venetian blinds, shutters and awnings that are operated with DC 24 V SELV
- Operation with suitable shutter cover
- Installation in appliance box acc. to DIN 49073

Product characteristics

- Integration into groups or master control via extension units with additional 24 V inserts
- Operation as a main device or extension unit
- Supports sensor functions of the cover
- Several motors can be connected in parallel
- The direction of rotation of the shutter motor is determined by switching the polarity of the motor outputs "pole-changing principle" (picture 2)



picture 2: Control of the shutter motor

- (6) Relay contacts for moving up
- (7) Relay contacts for moving down

4 Operation

Moving the blind/shutter

- Press top or bottom of cover for longer than one second.
The Venetian blind moves in the desired direction to the end position or stops when the button is pressed again.

Adjusting the slats

- Press top or bottom of cover for shorter than one second.
The slat position changes in the desired direction for as long as the button is pressed.

Moving the blind/shutter via a mechanical extension

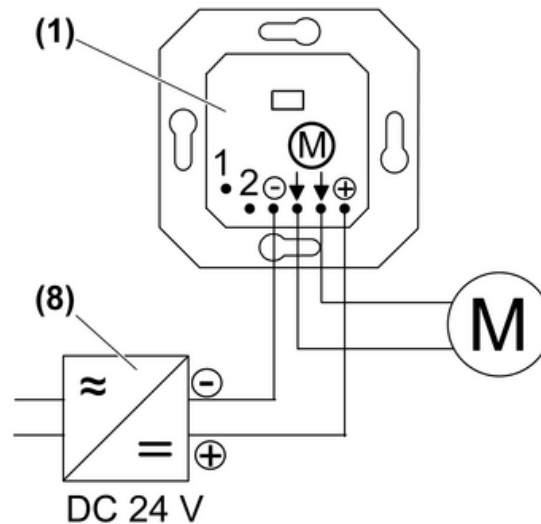
- Press the button for moving up or down until the blind/shutter has reached the desired position.

5 Information for electrically skilled persons

5.1 Fitting and electrical connection

Connecting and mounting the insert

Operate the insert only with a DC 24 V SELV power supply unit.



picture 3: Connection diagram for insert

- Connect the shutter motor and power supply unit (8) to the insert (1) according to the connection diagram (picture 3).
- For a shutter cover with sensor evaluation, install the sensor cable in accordance with (picture 8) or (picture 9) (Installing the sensor cable).
- If necessary connect extension (picture 4).
- Install insert in appliance box, terminals must be at the bottom.
- Attach the frame and the cover.
- Check function. If the blind/shutter moves in the wrong direction, exchange the connections.

Connecting an extension

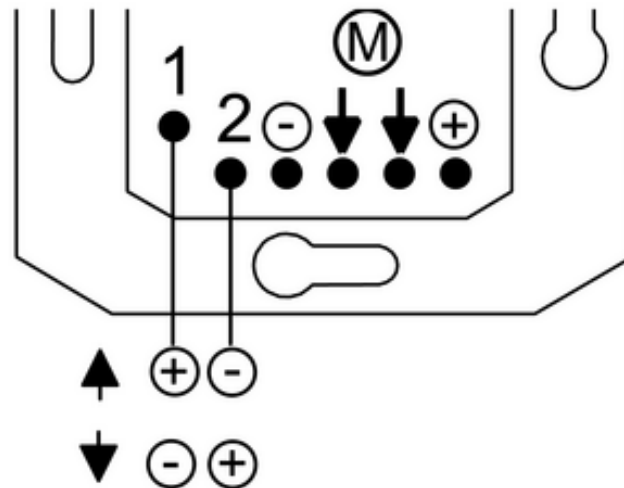


DANGER!

**Danger of electrical shock when 230 V is connected to the extension inputs!
Electrical shocks can be fatal.**

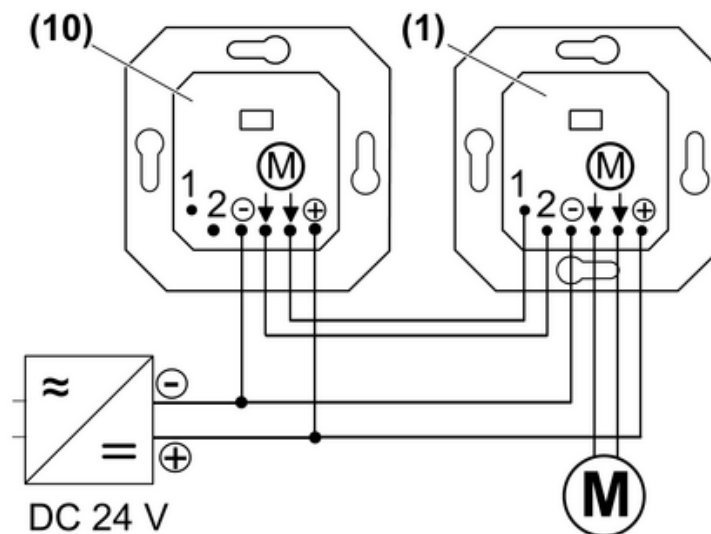
Do not connect the extension inputs with 230 V extensions or other 230 V components.

The extension inputs "1" and "2" may only be connected to DC 24 V SELV.

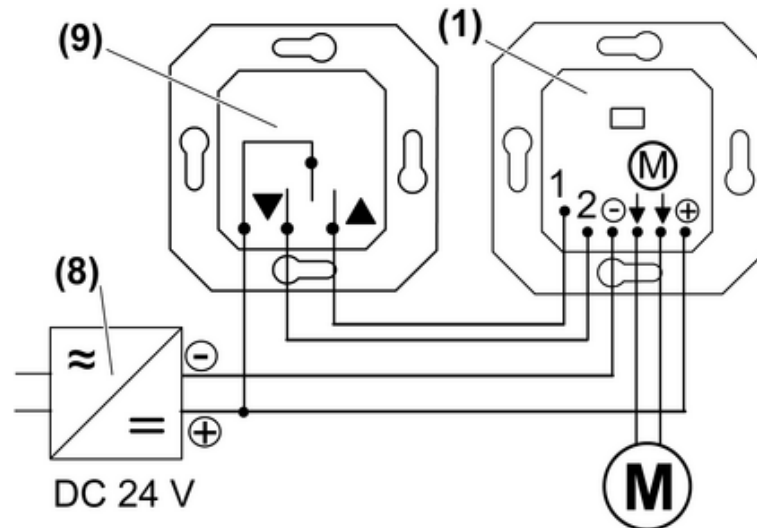


picture 4: Connection assignment of extension inputs for the corresponding directions of motion

The direction of rotation of the shutter motor is determined by the polarity of the two extension inputs. Connection illustration (picture 4) shows the direction of motion of the blind/shutter for the depicted connection assignments.



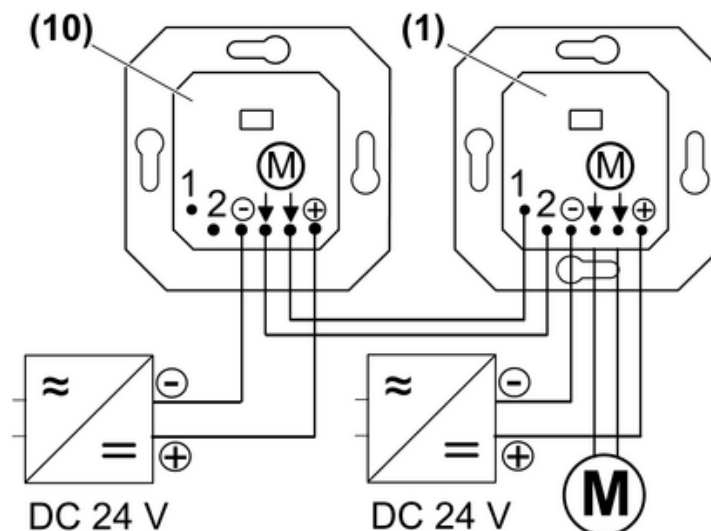
picture 5: Insert with an additional 24 V insert as an extension



picture 6: Connection diagram for insert with mechanical extension

The insert can only be operated with a mechanical extension if the insert and the extension are supplied by the same power supply unit. The insert and extension then have the same "-" potential, and it is sufficient to connect the "+" potential via the extension.

If the extension is supplied via another power supply unit, an additional 24 V insert (10) must be used that connects both extension inputs.



picture 7: Connection diagram for two inserts supplied via two power supply units

- Connect extension according to connection diagram (picture 5), (picture 6) or (picture 7).

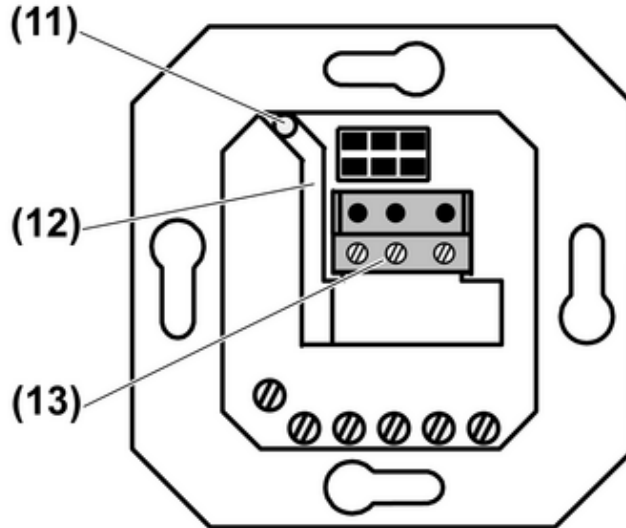
Installing the sensor cable for covers with sensor evaluation

- i The sensor cable carries safety extra-low voltage (SELV). Observe fitting instructions according to VDE 0100.

The sensor cable can be installed in three different ways. In-wall routing (picture 8), surface-mounted routing (picture 9), and with appropriate covers plugging the sensor cable into the cover (picture 11).

- i** The sensor cable must not be too long, because otherwise interference from other loads and cables may occur. This may result in malfunctions. Therefore use only shielded cables, and connect the shielding to earth. The total length must not exceed 20 m; avoid proximity to other electrical facilities.

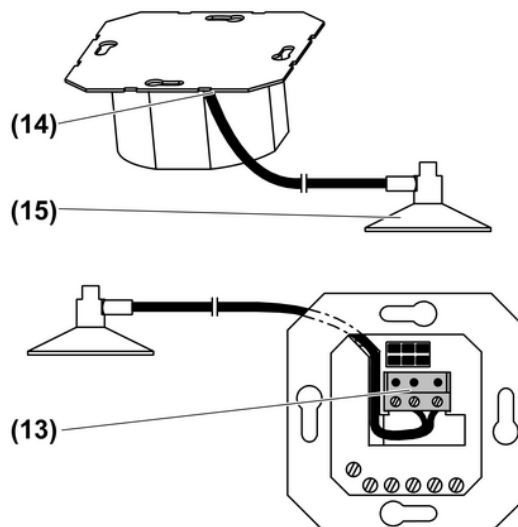
Routing the sensor cable in-wall



picture 8: In-wall routing of the sensor cable

- i** For in-wall routing of the sensor cable, use only shielded cables. Recommendation: J-Y (ST)Y 2x2x0.6 mm.
 - Insert the cable through the hole (11) in the insert and route it through the cable duct (12) to the terminal block (13) (picture 8).
- i** The terminal block is included with the covers with sensor evaluation.
 - Connect the cable (see "Connecting sensors to terminal block")

Routing the sensor cable with surface-mounting

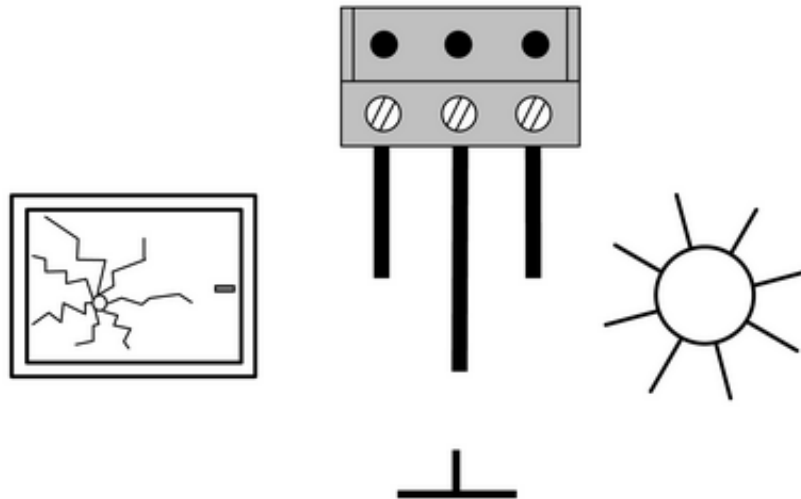


picture 9: Surface-mounted routing of the sensor cable

- For surface-mounted routing of the indoor sensor (15), cut off the plug.

- Route the sensor cable behind the supporting plate (14) and through the cable duct to the connecting terminal (13) (picture 9).
- Connect the cable (see "Connecting sensors to terminal block")

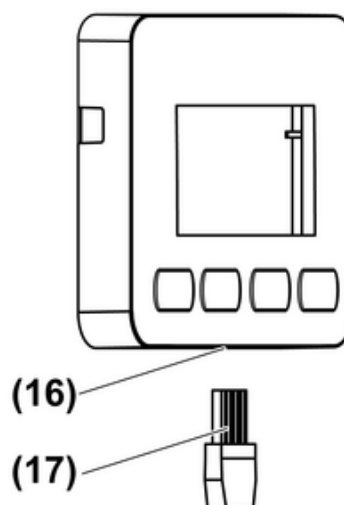
Connecting sensors to terminal block



picture 10: Connection to the terminal block

- Connect sensors as shown in connection illustration (picture 10). The sensor cables are identified as follows:
For the sensors, the "earth" is identified.
For the adapter and the extension cable, the "sun" is identified. The "earth" is the middle cable.
- i** Interchanging the connections will result in malfunctions.
- i** If the sun and glass break sensor are used at the same time, an adapter must be used. The adapter is connected to a cover with sensor evaluation or to the insert via the 3-pole terminal block. The adapter has two sockets for connecting the sensor plug.

Plugging the sensor cable into the cover



picture 11: Sun sensor on the cover

It is only possible to connect the sun sensor to the cover if a corresponding socket is present. This is not the case for all covers with sensor evaluation.

- Insert plug (17) into the socket of the insert (16) (picture 11).

6 Appendix

6.1 Technical data

| | |
|----------------------------|---------------------------------|
| Rated voltage | DC 24 V (incl. ripple) |
| Power loss | approx. 2,4 W |
| Standby power | approx. 0,7 W |
| Switching current | max. 3 A |
| Contact type | μ contact, 2 change-over relays |
| Length of the sensor cable | max. 20 m |
| Connection | |
| Single stranded | max. 2.5 mm ² |

6.2 Warranty

We reserve the right to make technical and formal changes to the product in the interest of technical progress.

We provide a warranty as provided for by law.

Please send the unit postage-free with a description of the defect to our central customer service office:

ALBRECHT JUNG GMBH & CO. KG

Service Center
Kupferstr. 17-19
D-44532 Lünen
Service-Line: +49 (0) 23 55 . 80 65 51
Telefax: +49 (0) 23 55 . 80 61 89
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KNX equipment

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