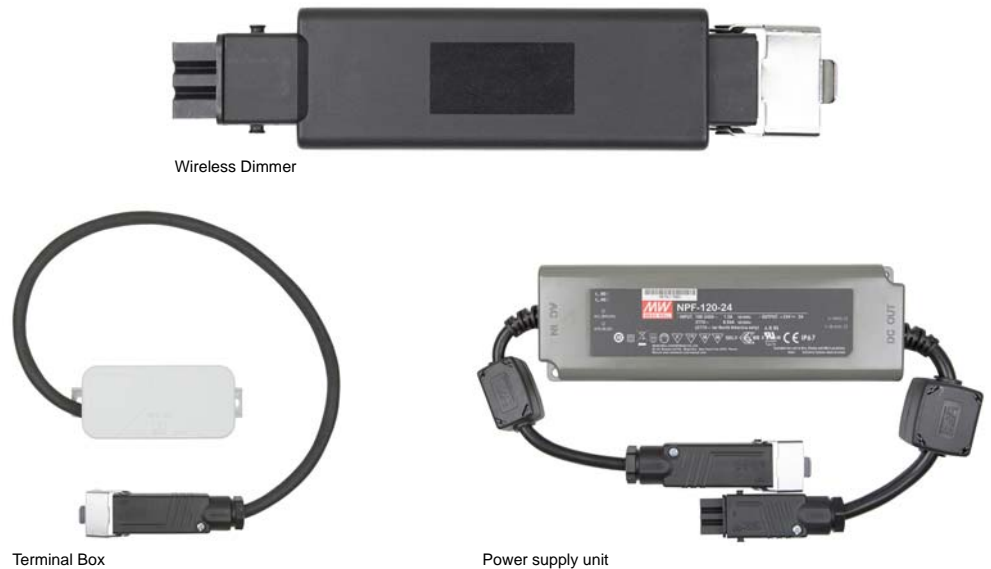


RF-L PWM-ST

Wireless Dimmer

Technical Data and Installation Instructions

Item numbers  
60549 (set with dimmer, terminal box and power supply)  
60548 (dimmer with terminal box)  
60528 (power supply)



1. Description

**RF-L PWM-ST** is a wireless dimmer for LED lighting strips. The LED strips are connected to the terminal box provided (4 terminals). The power supply is provided by a suitable power supply unit (the set includes a power supply unit for a maximum of 5 A in the scope of delivery). A light connected to the **Wireless Dimmer RF-L PWM-ST** can also be operated directly using Elsner’s remote control Remo 8 or Remo pro via the RF-B2-UP button interface or the solar radio button Corlo P RF. The wireless dimmer is also suitable for operation together with Elsner’s WS1 and WS1000 Color and Style controllers and for the Solexa II wireless system. It is programmed to a wireless channel of the control system, receiving automatic and manual commands from it.

Functions:

- Dimmer with pulse width modulation (PWM), max. load 5 A
- For 24 V LED lighting strips
- Dimming in 1% steps
- STAS3/STAK3 terminals
- Reception of the wireless control signal
- Suitable for: WS1 Color, WS1 Style, WS1000 Color, WS1000 Style, KNX WS1000 Style (each from software version 1.8). Solexa II. Remo 8 (from version 0.1), Remo pro, RF-B2-UP, Corlo P1 RF, Corlo P2 RF.

1.0.1. Deliverables

Set 60549:

- Wireless dimmer
- Terminal box
- Power supply unit – 24 V DC, max. 5 A

Dimmer 60548:

- Wireless dimmer
- Terminal box

Power Supply Unit 60528:

- Power supply unit – 24 V DC, max. 5 A

1.1. Technical Data

1.1.1. Dimmer

Housing	Plastic
Protection category	IP 54*
Dimensions	approx. 149 x 36 x 25 (W x H x D, mm)
Weight	approx. 140 g
Ambient temperature	Operation -20...+55 °C, storage -55...+90°C
Ambient humidity	max. 95% RH, avoid condensation
Operating voltage	12...24 V DC
Input	STAS3 plug (24 V DC)
Output	STAK3 coupling, load up to 5 A
Radio frequency	868,2 MHz (Elsner RF)

\*These **Wireless Dimmer RF-L PWM-ST** should be installed in a protected area despite a high protection category because water can enter in via the connectors. Please observe the instructions in Chapter *Connection*, Seite 1.

The product conforms with the provisions of EU directives.

1.1.2. Terminal box

Housing	Plastic
Protection category	IP 55

Dimensions	approx. 109 x 39 x 44 (W x H x D, mm), Cable length aprox. 47 cm plus plug
Weight	approx. 140 g
Ambient temperature	Operation -20...+70 °C, storage -55...+90°C
Ambient humidity	max. 95% RH, avoid condensation
Input	STAS3 plug (24 V DC)
Output	+/- terminals with 4 points each

The product conforms with the provisions of EU directives.

1.1.3. Power supply unit NPF-120-24

Housing	Plastic
Protection category	IP 67
Dimensions	approx. 194 x 37 x 64 (W x H x D, mm), Cable length approx. 14 cm plus plug on both ends
Weight	approx. 950 g
Ambient temperature	Operation: -40...+70 °C at 2.5 A -40...+45 °C at 5 A Storage: -40...+80 °C
Ambient humidity	max. 95% RH, avoid condensation
Input	STAS3 plug (100-240 V AC, 50/60 Hz, 1,5 A)
Output	STAK3 coupling (24 V DC, 5A)

The product conforms with the provisions of EU directives.

2. Installation and start-up

2.1. Installation notes

Installation, testing, operational start-up and troubleshooting should only be performed by an electrician.

**DANGER!**  
**Risk to life from live voltage (mains voltage)!**  
There are unprotected live components within the device.

- VDE regulations and national regulations are to be followed.
- Ensure that all lines to be assembled are free of voltage and take precautions against accidental switching on.
- Do not use the device if it is damaged.
- Take the device or system out of service and secure it against unintentional use, if it can be assumed, that risk-free operation is no longer guaranteed.

The device is only to be used for its intended purpose. Any improper modification or failure to follow the operating instructions voids any and all warranty and guarantee claims.

After unpacking the device, check it immediately for possible mechanical damage. If it has been damaged in transport, inform the supplier immediately.

The device may only be used as a fixed-site installation; that means only when assembled and after conclusion of all installation and operational start-up tasks and only in the surroundings designated for it.

Elsner Elektronik is not liable for any changes in norms and standards which may occur after publication of these operating instructions.

2.2. Notes on wireless equipment

When planning facilities with devices that communicate via radio, adequate radio reception must be guaranteed. The range of wireless control will be limited by legal regulation and structural circumstances. Avoid sources of interference and obstacles between receiver and transmitter, that could disturb the wireless communication. Those would be for example:

- Walls and ceilings (especially concrete and solar protection glazing).
- Metal surfaces next to the wireless participants (e. g. aluminium construction of a conservatory).
- Other wireless devices and powerful local transmitters (e.g. wireless headphones), which transmit on the same frequency (868,2 MHz). Please maintain a minimum distance of 30 cm between wireless transmitters for that reason.

Metal profile

RF-L PWM-ST

The antenna symbol on the housing shows the position of the antenna in **RF-L PWM-ST**. This side must not be positioned directly on metal surfaces or objects. Otherwise, the

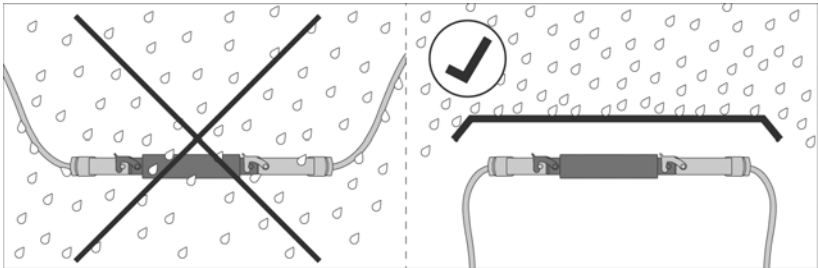
2.3. Connection

The wireless module is inserted between the terminal box with the consumer and the voltage supply (power supply unit). It may only be connected to flexible lines using STAK/STAS connectors. The connectors must be locked using the locking bow.

**Do not expose to continuous sun radiation** to avoid overheating. The housing is not UV-resistant.

Wireless Dimmer RF-L PWM-ST • Version: 24.08.2017 • Technical changes and errors excepted. • Elsner Elektronik GmbH • Sohlengrund 16 • 75395 Ostelsheim • Germany • www.elsner-elektronik.de • Technical Service: +49 (0) 7033 / 30945-250

 **No water may run along the supply line and device.**

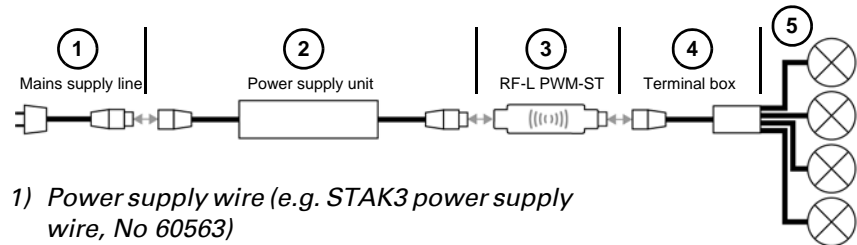


- Assemble the device in a protected area (e. g. in the box for the blinds/marquee/shutters in a construction profile beneath the roof tiles or in a housing).
- Lay the supply lines out and down from the device.

 **No vibrations!**

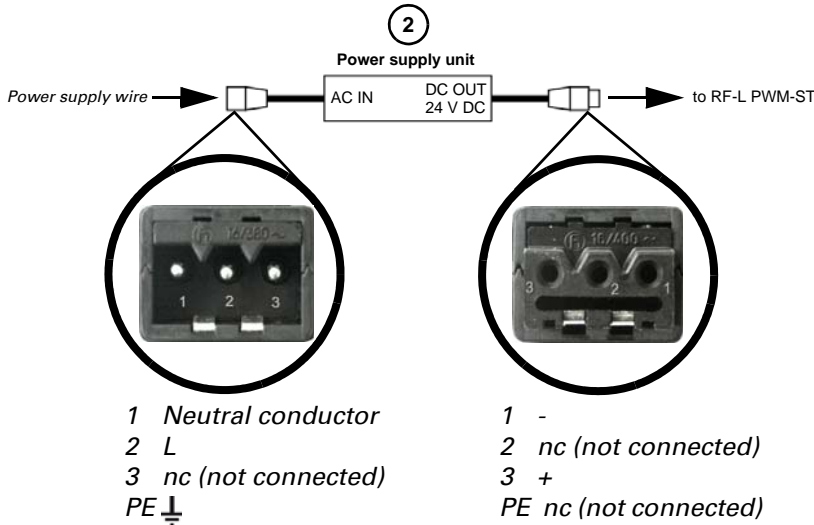
- Assemble the device in a place that is free of vibrations.

2.3.1. Connection overview

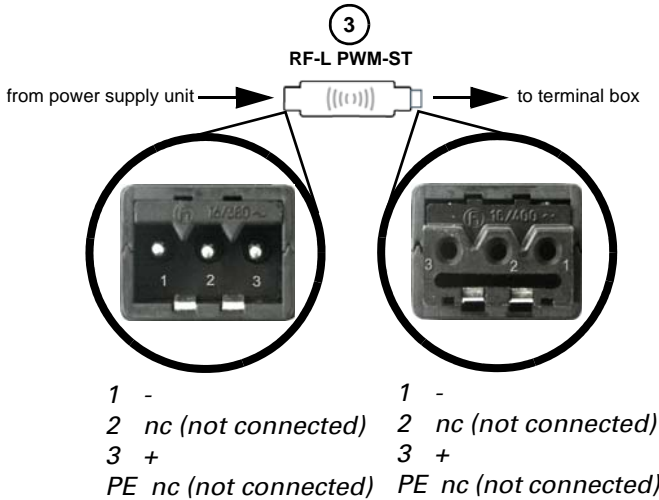


- 1) Power supply wire (e.g. STAK3 power supply wire, No 60563)
- 2) Power Supply 24 V DC (e.g. No 60528 or in set No 60549)
- 3) RF-L PWM-ST wireless dimmer
- 4) Terminal box
- 5) Consumer (up to 4 LED strips)

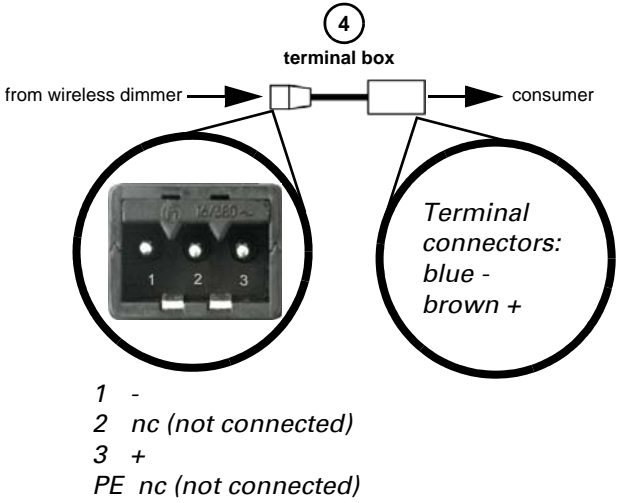
2.3.2. Power supply unit



2.3.3. Wireless dimmer



2.3.4. Consumers at the terminal box



2.4. Establishing a wireless connection

1. Set the control unit and/or remote control or the button to teaching mode (observe the corresponding manual/data sheet).
2. Switch on the dimmer voltage supply or briefly shut it off if the unit is already supplied with power.
3. For 5 minutes after connecting the voltage, the dimmer will send a "Learn" telegram every 10 seconds.
4. The wireless connection will be established automatically. For building control systems, the display will display "Device is learning".
5. The RF-L PWM-ST will stop sending "Learn" telegrams once the reply "Learned" (for a learning process) or a control command is received (in the event of a power interruption during operation).

2.5. Notes on mounting and commissioning

Device must not be exposed to water (rain). This could result in the electronic being damaged. A relative air humidity of 95% must not be exceeded. Avoid bedewing.