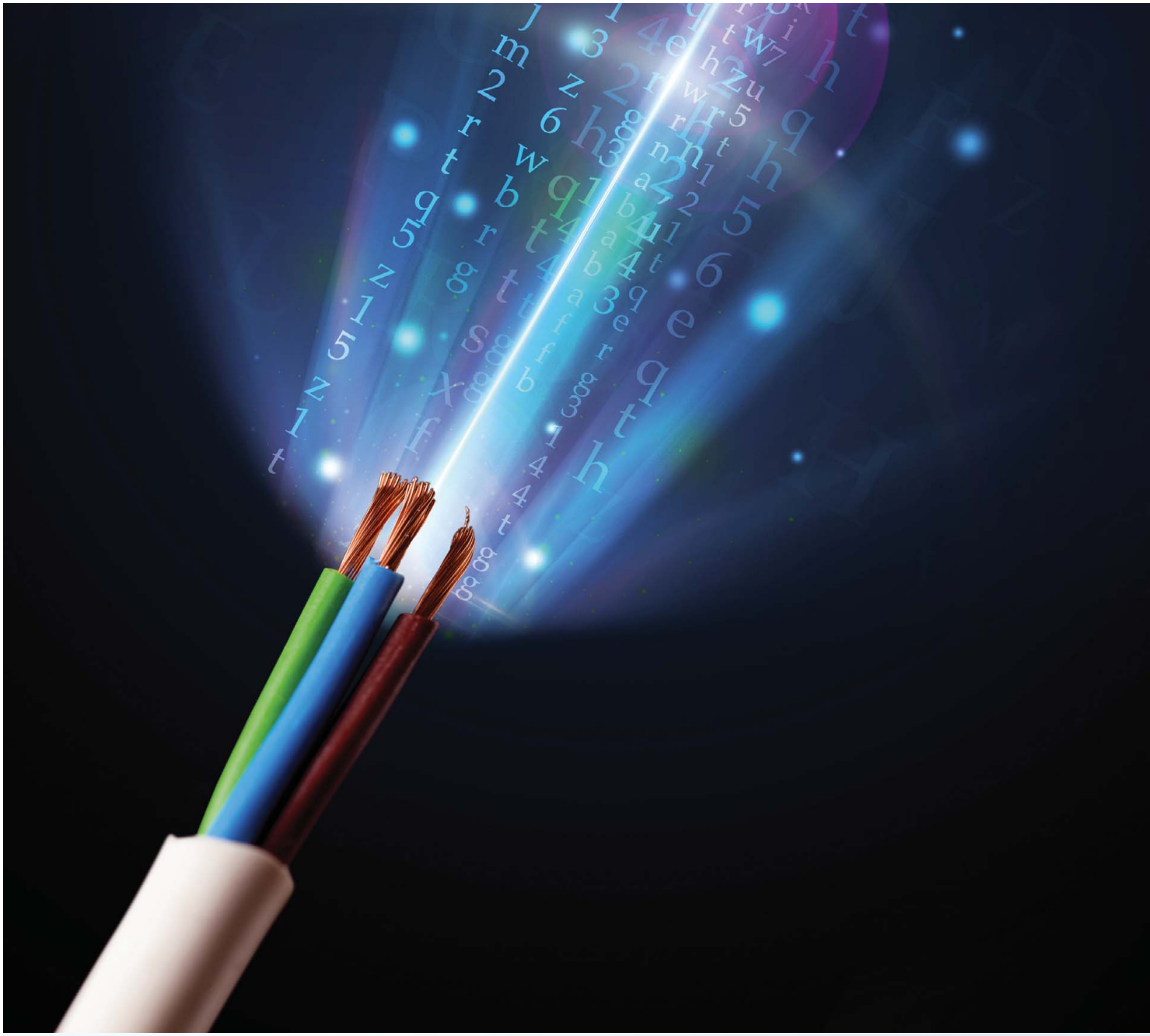

Eltako Powerline – The ideal supplement to the Eltako Wireless Building System with EnOcean

4

Eltako Powerline

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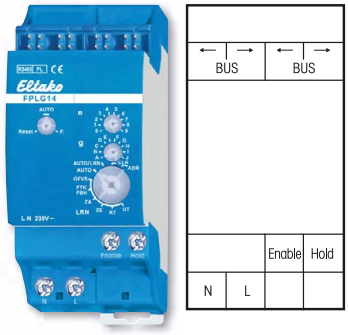
The electricity wiring in buildings acts as the Eltako Powerline bus. Now you can transmit sensor data and telegrams to actuators over the existing electricity wiring instead of broadcasting wireless telegrams – that is the basic difference between the two technologies.



FPLG14

min RS485

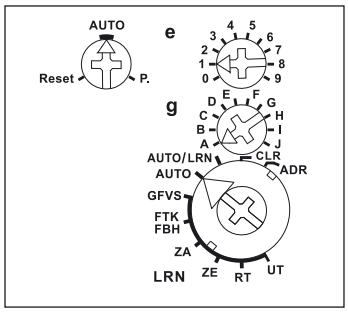
Wireless Powerline gateway. Bidirectional. Standby loss only 0.4 watt.

Modular device for DIN-EN 60715 TH35 rail mounting.
2 module = 36 mm wide, 58 mm deep.
Supply voltage 230 V.

Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper.
This gateway translates wireless and Powerline telegrams in both directions.
Operation in conjunction with FAM14 or FTS14KS.

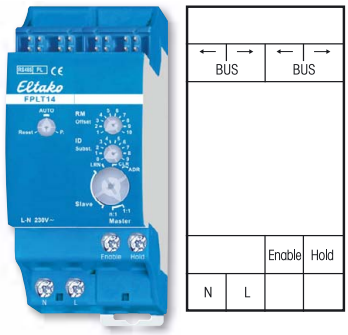
All Powerline telegrams from the electricity wiring system are automatically translated into RS485 bus telegrams and may also be sent as wireless telegrams by connected FTD14 devices.
Only wireless and RS485 bus telegrams taught into the FPLG14 are translated into Powerline telegrams and modulated onto the electricity wiring system. Up to 120 different addresses. Teach-in takes place by means of rotary switches on the front of the devices or using the PCT14 as described in the user's manual.
GFVS control functions for dimming, heating and shading are also possible.

Function rotary switches



Standard setting ex works.

FPLG14	Wireless Powerline gateway	EAN 4010312316771	**91,60 €/pc.**



FPLT14

min RS485

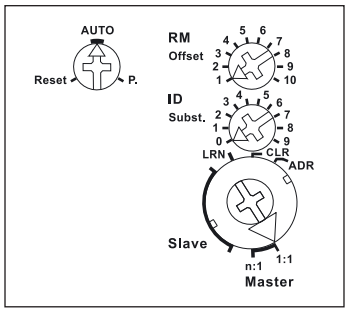
Wireless powerline tunnel gateway. Mono and bidirectional. Only 0.4 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.
2 modules = 36 mm wide, 58 mm deep.
Supply voltage 230 V.

Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper.
This gateway transmits RS485 BUS telegrams over powerline with large distance over the electrical net. Minimum 2 pcs FPLT14 are required.

Up to 10 FPLT14 can be installed monodirectional from an FAM14/FTS14KS to send over power-line the telegrams to another FAM14/FTS14KS installation with FPLT14.
Up to 120 telegram IDs can be taught in according to the manual, also with PCT14.
For a bidirectional installation, 2 pcs FPLT14 from 2 pcs FAM14/FTS14KS can communicate over powerline together. Up to 120 telegram IDs can be taught in according to the manual, also with PCT14. Because of the communication delay are short clic signals for FUD and FSB not safe transmitted.

Function rotary switches



Standard setting ex works.

FPLT14	Wireless powerline tunnel gateway	EAN 4010312317723	**91,60 €/pc.**

Recommended retail prices excluding VAT.

PL-FTGW

min

Bidirectional Powerline pushbutton gateway. Bidirectional. 53x43 mm, 40 mm deep for mounting in 58 mm switch boxes. Standby loss 1.1 watt.

Supply voltage 230 V. Power consumption in operation 1.1 Watt.

Powerline telegrams from the grid taught-in into the gateway are automatically transformed and sent into Eltako-wireless telegrams.

Wireless telegrams taught-in into the gateway are transformed into powerline telegrams and modulated to the power supply grid.

By pressing the reset button, the PL-FTGW will be put into the teaching-in mode. The rotary switch selects, whether wireless or powerline telegrams should be taught-in.

One being taught powerline sensor is automatically assigned by operating in the learning mode, a free radio channel.

A free wireless channel is automatically assigned to a taught-in powerline sensor with confirmation in teaching-in mode.

Up to 80 Powerline sensors or feedbacks can be taught-in. The function as a universal, direction or central pushbutton for a taught-in wireless sensor is assigned via slide switch of the PL-FTGW. The Powerline address is set via rotary switch g and e which should be addressed with the wireless sensor. In addition to wireless switches also Eltako wireless sensors such as window contacts and motion detectors can be taught-in. GFVS control functions for dimming, heating and shading are also possible. The implementation into practical Powerline telegrams für PL actuators is done automatically. Up to 100 different wireless sensor can be taught-in.

All records and configurations can be accessed via Sienna-Professional software and power supply. Other functions can then be selected which are not available through the direct teaching-in via rotary switch.

In addition, the gateway can be set into the learn and deletion mode, so that a manual teaching-in can be carried out without direct access to the device.

The PL-FTGW also serves as a relay station for communication between the temperature controller PL-SAMTEMP with EnOcean actuators FKS-MD1 and FKS-E. Up to 20 actuators and PL-SAMTEMP are managed here.

PL-FTGW	Powerline pushbutton gateway	EAN 4010312316986	**166,40 €/pc.**

PL-SAM1L

Powerline actuator with 1 channel. 53x43 mm, 25 mm deep, for mounting in 58 mm switch boxes. Used as impulse switch or relay. 1 NO contact not potential free 10 A/250 V AC, incandescent lamps 2000 watts. Sensor input 230 V. Standby loss only 0,5 watt. To control and switch at the same place.

Two rotary switches are located on the front for address assignment:
The left rotary switch defines the group address g with 16 alphabetical values from A to P.
The right rotary switch defines the element address e with 16 numerical values from 0 to 15.
Above it is a slide switch which acts **as a configuration switch with positions 0, 1 and 2.**
Position 0: Sensor input functions as pushbutton (impulse switch).
Position 1: Sensor input functions as NO contact (relay).
Position 2: A change-over switch is evaluated as a pushbutton.
To the left of the rotary switches is a red LED which indicates all activities.
Next to it is a reset pushbutton and to the right of that is a service pin. For functions, please refer to the operating instructions.
The terminals located above are plug-in terminals for conductor cross-sections of 0.2 mm² to 1.5 mm².

Typical connections on page 4-12.

PL-SAM1L	Powerline actuator 1 channel with sensor input 230 V	EAN 4010312316665	**103,70 €/pc.**

PL-SAM2L

Powerline actuator with 2 channels. 53x43 mm, 25 mm deep for mounting in 58 mm switch boxes. Used as impulse switch or relay. 1+1 NO contacts not potential free 5 A/250 V AC, incandescent lamps 1000 watts. 2 sensor inputs with internal low voltage. Standby loss only 0,5 watt. To control and switch at the same place.

Use only potential free switching elements. Internal low voltage applied to the sensor inputs.
Two rotary switches are located on the front for address assignment:
The left rotary switch defines the group address g with 16 alphabetical values from A to P.
The right rotary switch defines the element address e with 16 numerical values from 0 to 15.
Above it is a slide switch which acts **as a configuration switch with positions 0, 1 and 2.**
Position 0: Sensor inputs function as pushbuttons (impulse switches).
Position 1: Sensor input functions as NC contact (relay).
Position 2: A change-over switch is evaluated as a pushbutton.
To the left of the rotary switches is a red LED which indicates all activities.
Next to it is a reset pushbutton and to the right of that is a service pin. For functions, please refer to the operating instructions.
The terminals located above are plug-in terminals for conductor cross-sections of 0.2 mm² to 1.5 mm². Next to them are three wires with wire end-sleeves for the two control inputs with internal low voltage.

Typical connections on page 4-12.

PL-SAM2L	Powerline actuator 2 channels with 2 sensor inputs	EAN 4010312316672	**105,40 €/pc.**

PL-SAM2

min

Powerline Venetian blind actuator for 1 motor. 53x43 mm, 25 mm deep for mounting in 58 mm switch boxes. 1+1 NO contact for motors up to 3 A. 2 sensor inputs with internal low voltage. Standby loss only 0,5 watt. To control and switch at the same place.

Use only potential free switching elements. Internal low voltage applied to the sensor inputs. The control inputs can be used for a Venetian blind pushbutton or a Venetian blind switch. The runtime is preset to 120 seconds. This can be changed using the SIENNA-Professional installation software.

Two rotary switches are located on the front for address assignment:

The left rotary switch defines the group address g with 16 alphabetical values from A to P.

The right rotary switch defines the element address e with 16 numerical values from 0 to 15.

Above it is a slide switch which acts **as a configuration switch with positions 0, 1 and 2.**

Position 0: Start and stop by pressing Venetian blind pushbutton. Auto stop at end.

Position 1: Comfort switch for Venetian blind slat adjustment. Tip briefly to adjust slats. >1 second same as position 0.

Position 2: Tip pushbutton to operate, release to stop. Auto stop at end.

To the left of the rotary switches is a red LED which indicates all activities.

Next to it is a reset pushbutton and to the right of that is a service pin. For functions, please refer to the operating instructions.

The terminals located above are plug-in terminals for conductor cross-sections of 0.2 mm² to 1.5 mm². Next to them are three wires with wire end-sleeves for the two control inputs with internal low voltage.

4-5

Typical connections on page 4-12.

PL-SAM2	Powerline Venetian blind actuator for 1 motor	EAN 4010312316689	**105,40 €/pc.**

PL-SAMDU

Powerline universal dimmer actuator. 53x43 mm, 40 mm deep for mounting in 58 mm switch boxes. Power MOSFET up to 300 W. Automatic lamp detection. Sensor input 230 V. Standby loss only 0,6 Watt. To control and dim at the same place.

Universal dimmer switch for lamps up to 300 W, dependent on ventilation conditions. Dimmable energy saving lamps ESL and dimmable 230 V-LED lamps, additionally dependent on the lamps electronics. No minimum load.

Zero passage switching with soft ON and soft OFF to protect lamps.

Short-time control commands switch on/off, permanent control varies the brightness to the maximum level.

A interruption of control changes the direction of dimming.

The brightness level is stored on switch-off (memory).

In case of a power failure the switch position and the brightness stage are stored and may be switched on when the power supply is restored.

Automatic electronic overload protection and overtemperature switch-off.

Two rotary switches are located on the front for address assignment:

The left rotary switch defines the group address g with 16 alphabetical values from A to P.

The right rotary switch defines the element address e with 16 numerical values from 0 to 15.

Above it is a slide switch which acts **as a configuration switch:**

The position AUTO1 allows the dimming of all types of lamps up to 300 watts.

The position LC1 is a comfort position for LED lamps up to 150 watts which are not being dimmed down enough when set to AUTO (trailing phase angle) dependent on the construction and must therefore be forced to leading phase angle.

The position AUTO2 allows the dimming of all types of lamps up to 300 watts. Increased minimum brightness compared to AUTO1.

In position LC1 no inductive (wound) transformers should be used. In addition, the maximum number of dimmable LED lamps can be lower than in the AUTO position dependent on the construction.

Mixing of L loads (inductive loads, e.g. wound transformers) and C loads (capacitive loads, e.g. electronic transformers) is not permitted. R loads (ohmic loads, e.g. 230 V incandescent lamps and halogen lamps) may be added anytime.

To the left of the rotary switches is a red LED which indicates all activities.

Next to it is a reset pushbutton and to the right of that is a service pin. For functions, please refer to the operating instructions.

The terminals located above are plug-in terminals for conductor cross-sections of 0.2 mm^2 to 1.5 mm^2.

Typical connections on page 4-12.

PL-SAMDU	Powerline universal dimmer actuator 1 channel with sensor input 230 V	EAN 4010312316870	**119,60 €/pc.**

PL-AMD10V

Powerline dimmer actuator 1-10 V. 53 x 43 mm, 25 mm deep, for mounting in 58 mm switch boxes. To switch and/or dim via a 1-10 V interface. 1 NO non-floating contact 600 VA. Standby loss only 0,5 watt. To activate and dim at different places.

Current sink of max. 30 mA for active and passive electronic ballasts.
A Powerline sensor input is required for activation.
Two rotary switches are located on the front for address assignment:
The left rotary switch defines the group address g with 16 alphabetical values from A to P.
The right rotary switch defines the element address e with 16 numerical values from 0 to 15.
Above it is a slide switch which has no function here.
To the left of the rotary switches is a red LED which indicates all activities. Next to it is a reset pushbutton and to the right of that is a service pin. For functions, please refer to the operating instructions.
The terminals located above are plug-in terminals for conductor cross-sections of 0.2 mm² to 1.5 mm².

Typical connections on page 4-12.

PL-AMD10V	Powerline dimmer actuator 1-10V	EAN 4010312316726	**105,40 €/pc.**

Decentralised TLZ Actuator with Sensor Input and Decentralised Sensor Input 230 V

PL-SAM1LT

min

Powerline TLZ (staircase time switch) actuator with 1 channel. 53x43 mm, 25 mm deep for mounting in 58 mm switch boxes. Off delay settable from 1 minute to 120 minutes. Switch-off early warning settable. 1 NO contact not potential free 10 A/250 V AC, incandescent lamps 2000 watts. Sensor input 230 V. Standby loss only 0,5 watt. To control and switch at the same place.

Two rotary switches are located on the front for address assignment:
The left rotary switch defines the group address g with 16 alphabetical values from A to P.
The right rotary switch determines the off-delay time.
Above it is a slide switch which acts **as a configuration switch with positions 0, 1 and 2.**
Position 0: Pushbutton at sensor input with subsequent switching.
Position 1: Same as Position 0 but with switch-off early warning.
Position 2: A change-over switch is evaluated as a pushbutton.
To the left of the rotary switches is a red LED which indicates all activities.
Next to it is a reset pushbutton and to the right of that is a service pin. For functions, please refer to the operating instructions.
The terminals located above are plug-in terminals for conductor cross-sections of 0.2 mm² to 1.5 mm².

Typical connections on page 4-12.

PL-SAM1LT	Powerline TLZ actuator 1 channel with sensor input 230 V	EAN 4010312316702	**105,40 €/pc.**

PL-SM1L

min

Powerline sensor input with 1 channel. 53x43 mm, 25 mm deep for mounting in 58 mm switch boxes. Sensor input 230 V. Standby loss only 0,5 watt. To control and switch at different places.

When pressed, the sensor input acts on all actuators with the same address or as a central pushbutton if element address 0 is used.
Two rotary switches are located on the front for address assignment:
The left rotary switch defines the group address g with 16 alphabetical values from A to P.
The right rotary switch defines the element address e with 16 numerical values from 0 to 15.
Above it is a slide switch which acts **as a configuration switch with positions 0, 1 and 2.**
Position 0: Sensor input with reset function as pushbutton.
Position 1: Sensor input functions as NO contact.
Position 2: A change-over switch is evaluated as a pushbutton.
To the left of the rotary switches is a red LED which indicates all activities.
Next to it is a reset pushbutton and to the right of that is a service pin. For functions, please refer to the operating instructions.
The terminals located above are plug-in terminals for conductor cross-sections of 0.2 mm² to 1.5 mm².

Typical connections on page 4-12.

PL-SM1L	Powerline sensor input 230 V	EAN 4010312316740	**99,90 €/pc.**

Recommended retail prices excluding VAT.

PL-SM8

min

Powerline sensor input with 8 channels. 53x43 mm, 25 mm deep for mounting in 58 mm switch boxes. 8 sensor inputs with internal low voltage. Standby loss only 0,5 watt. To control and switch at different places.

Use only potential free switching elements. Internal low voltage applied to the sensor inputs.
Two rotary switches are located on the front for address assignment:
The left rotary switch defines the group address g with 16 alphabetical values from A to P.
The right rotary switch defines the element address e with 16 numerical values from 0 to 15.
Above them is a slide switch which functions **as a configuration switch.**
Position 0: 2 adjacent inputs as direction pushbuttons for UP/DOWN or ON/OFF.
Position 1: All sensor inputs function separately as NO contacts.
Position 2: All sensor inputs function separately as pushbuttons.
To the left of the rotary switches is a red LED which indicates all activities.
Next to it is a reset pushbutton and to the right of that is a service pin. For functions, please refer to the operating instructions.
The terminals located above are plug-in terminals for conductor cross-sections of 0.2 mm² to 1.5 mm².
The addresses of the 8 inputs can also be freely assigned if necessary using the SIENNA-Professional software.
The socket strip located above this has 9 plug-in wires with wire end-sleeves.
8 control inputs with internal low voltage.

PL-SM8	Powerline sensor inputs, 8 channels, internal low voltage	EAN 4010312316719	**105,40 €/pc.**

Typical connections on page 4-12.

PL-SAMTEMP

min

Powerline temperature controller with display, white, 55x55 mm, for mounting in switch systems. In addition a floating control contact 3 A/250 V AC for direct connection of heaters and coolers. Standby loss only 0,5 watt.

The scope of supply comprises a frame R1E and an intermediate frame ZR65/55 for the E-Design, the temperature controller upper part and a bottom part for attachment in 58 mm flush-mounted boxes.
In normal mode the current room temperature is indicated in the display as well as icons for 'present' or 'absent' and for 'heating on' or 'cooling active'.
Press the pushbuttons (absent) and (present) to activate the associated setpoint.
In setup mode as described in the user's manual, press pushbuttons ▲ and ▼ to display the setpoint and actual temperatures and change the setpoints.
Control heating or cooling with Powerline actuators PL-SAM1L or PL-SAM2L.

PL-SAMTEMP	Powerline Temperature controller for heating and cooling	EAN 4010312316733	**198,90 €/pc.**

Typical connections on page 4-12.

Recommended retail prices excluding VAT.

Coupling Element PL-SW-PROF for Software SIENNA®-Professional

PL-SW-PROF

The coupling element with USB cable and 230 V power supply unit is included in the scope of supply. The software for installation and configuration of the powerline devices PL is available for download under eltako.com.

PL-SW-PROF is a Windows-based program for installing and configuring all PL and SIENNA components and is designed for electricians.

Powerline systems can either be installed or configured using a screwdriver or a PC/laptop. All changes can be made from the PC. Existing installations in a building can also be read and detected.

The bus is coupled using a USB port on the PC. Thanks to Powerline technology, the nearest electric socket becomes a bus coupler.

Download in accordance with the included installation instructions from the homepage eltako.com/en -> Software -> Powerline. The operating instructions are available for download at the bottom of the page under Operating Instructions/SIENNA Professional.

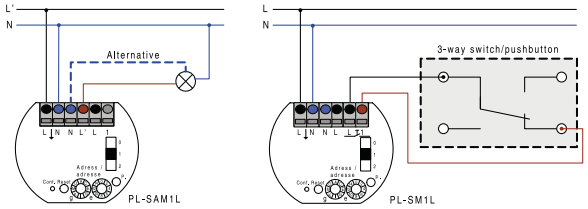
System requirements, Laptop/PC	
Processor	Intel® Pentium® III 366MHz or higher
Operating system	Server 2003, Windows XP, Vista (32 Bit), Windows 7 (32 Bit), Windows 8 (32 Bit and 64 Bit), Windows 10
Programming environment	Microsoft .NET Framework 3.5 SP1 or higher
Hard disc memory	32 MB free space on hard disc
RAM memory	128 MB RAM
Screen resolution	1024 x 768
Interface	USB 1.1, 2.0 or 3.0

Technical data Echelon-Koppelelement PL-20	
Technology	Powerline communication on B/C tape (5Kb/s); acc. to FCC, CENELEC EN50065-1 and LONWORKS® protocol
Bus coupler	Fused safety socket, 230V~/50Hz
PC coupler	USB 1.1 or 2.0
Current draw	Mains plug/power supply unit: maximum 250mA at 18V DC voltage. USB: maximum 50mA at 5V DC voltage
Processor type	Neuron processor integrated in Powerline Smart Transceiver PL 3120
Temperature range	-25°C to +70°C

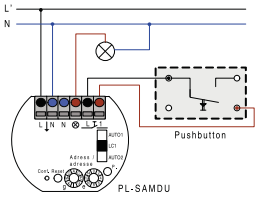
PL-SW-PROF	Software PL-SW-PROF	EAN 4010312316856	**333,40 €/pc.***

Recommended retail prices excluding VAT. * The software part is not discountable.

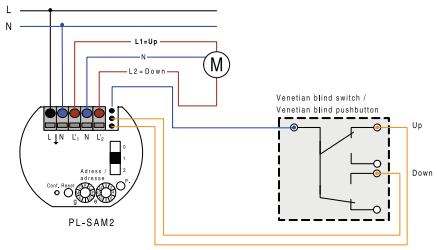
Typical connection PL-SAM1L
Additional switching point for an existing consumer



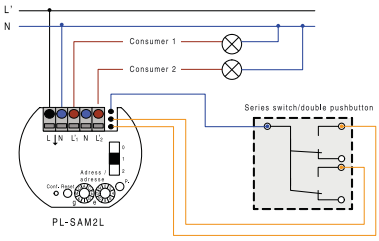
Typical connection PL-SAMDU



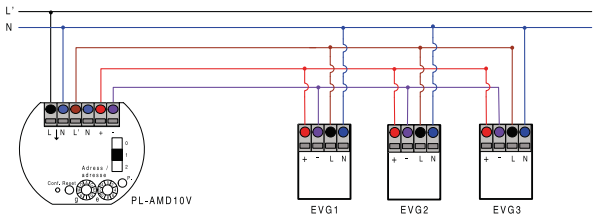
Typical connection PL-SAM2



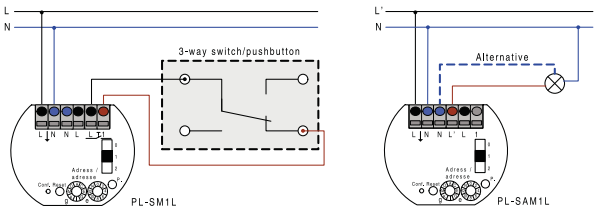
Typical connection PL-SAM2L



Typical connection PL-AMD10V

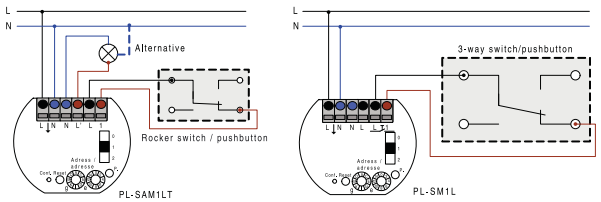


Typical connection PL-SM1
Switch an additional consumer



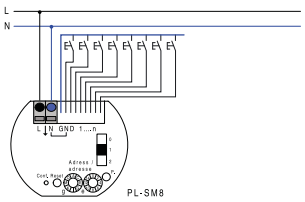
(e.g. mirror light in bathroom, socket in living room, outside light)

Typical connection PL-SAM1LT
Delayed switch-off



(e.g. staircase time switch or circulation pump)
SAM1LT switches itself and associated actuators off after a preset time.

Typical connection PL-SM8



	PL-SAMDU	PL-AMD10V	PL-SAM1L PL-SAM1LT	PL-SAM2L	PL-SAM2
Contacts					
Contact material/contact gap	Power MOSFET	$AgSnO_2$/0.5 mm	$AgSnO_2$/0.5 mm	$AgSnO_2$/0.5 mm	$AgSnO_2$/0.5 mm
Spacing of control connections/contact	–	–	3 mm	3 mm	3 mm
Test voltage control connections/contact	–	–	2000 V	2000 V	2000 V
Rated switching capacity each contact	–	600 VA [4]	10 A/250 V AC	5 A/250 V AC	3 A/250 V AC
Incandescent lamp and halogen lamp load [1] 230V, I on ≤ 70 A/10 ms	up to 300 W [2]	–	2000 W	1000 W	–
Inductive laod cos φ = 0.6/230 V AC inrush current ≤ 35 A	up to 300 W [6]	–	650 W	650 W [5]	650 W [5]
Fluorescent lamp load with KVG* in lead-lag circuit or non compensated	–	–	1000 VA	500 VA	–
Fluorescent lamp load with KVG* shunt-compensated or with EVG*	–	600 VA [4]	500 VA	250 VA	–
Compact fluorescent lamps with EVG* and energy saving lamps	–	–	up to 400 W	–	–
Dimmable 230 V LED lamps	up to 300 W [3]	–	up to 400 W	–	–
Service life at rated load, cos φ = 1 or incandescent lamps 500 W at 100/h	–	> 10^5	> 10^5	> 10^5	> 10^5
Service life at rated load, cos φ = 0.6 at 100/h	–	> 4 x 10^4	> 4 x 10^4	> 4 x 10^4	> 4 x 10^4
Max. operating cyles	–	10^3/h	10^3/h	10^3/h	10^3/h
Connection type	Plug-in terminals	Plug-in terminals	Plug-in terminals	Plug-in terminals	Plug-in terminals
Minimum conductor cross-section	0.2 mm^2	0.2 mm^2	0.2 mm^2	0.2 mm^2	0.2 mm^2
Maximum conductor cross-section	1.5 mm^2	1.5 mm^2	1.5 mm^2	1.5 mm^2	1.5 mm^2
Conductor stripping	8-9 mm	8-9 mm	8-9 mm	8-9 mm	8-9 mm
Type of enclosure/terminals	IP30/IP20	IP30/IP20	IP30/IP20	IP30/IP20	IP30/IP20
Electronics					
Time on	100 %	100 %	100 %	100 %	100 %
Max./min. temperature at mounting location	+50°C/-20°C	+50°C/-20°C	+50°C/-20°C	+50°C/-20°C	+50°C/-20°C
Standby loss (active power)	0.6 W	0.5 W	0.5 W	0.5 W	0.5 W
Local control current at 230 V control input	0.4 mA	–	0.4 mA	0.4 mA	0.4 mA
Max. parallel capacitance (approx. length) of local control lead at 230 V AC	3 nF (10 m)	–	3 nF (10 m)	3 nF (10 m)	3 nF (10 m)

[1] Applies to lamps of max. 150 W.
[2] Also transformers electronically (C load).
[3] Generally applies to 230V LED lamps. Due to different lamp electronics, switch on/off problems and a restriction in the maximum number of lamps, however, the dimming ranges may be limited depending on the manufacturer; in particular when the connected load is very low (e.g. with 5 W LEDs). The comfort position LC1 at SAMDU optimizes the dimming range, which however results in a maximum capacity of only up to 150 W. In this comfort position, no wound (inductive) transformers should be dimmed.
[4] Fluorescent lamps or LV halogen lamps with electronic ballast.
[5] All actuators with 2 contacts: Inductive load cos φ = 0.6 as sum of both contacts 1000 W max.
[6] A maximum of 2 transformers of the same type.
* EVG = electronic ballast units; KVG = conventional ballast units

Powerline communication in the B/C-Band (5 kb/s) corresponds to FCC, CENELEC EN 50065-1 and LONWORKS protocol

Compliance with: EN 61000-6-3, EN 61000-6-1, EN 50065-1 and EN 60669