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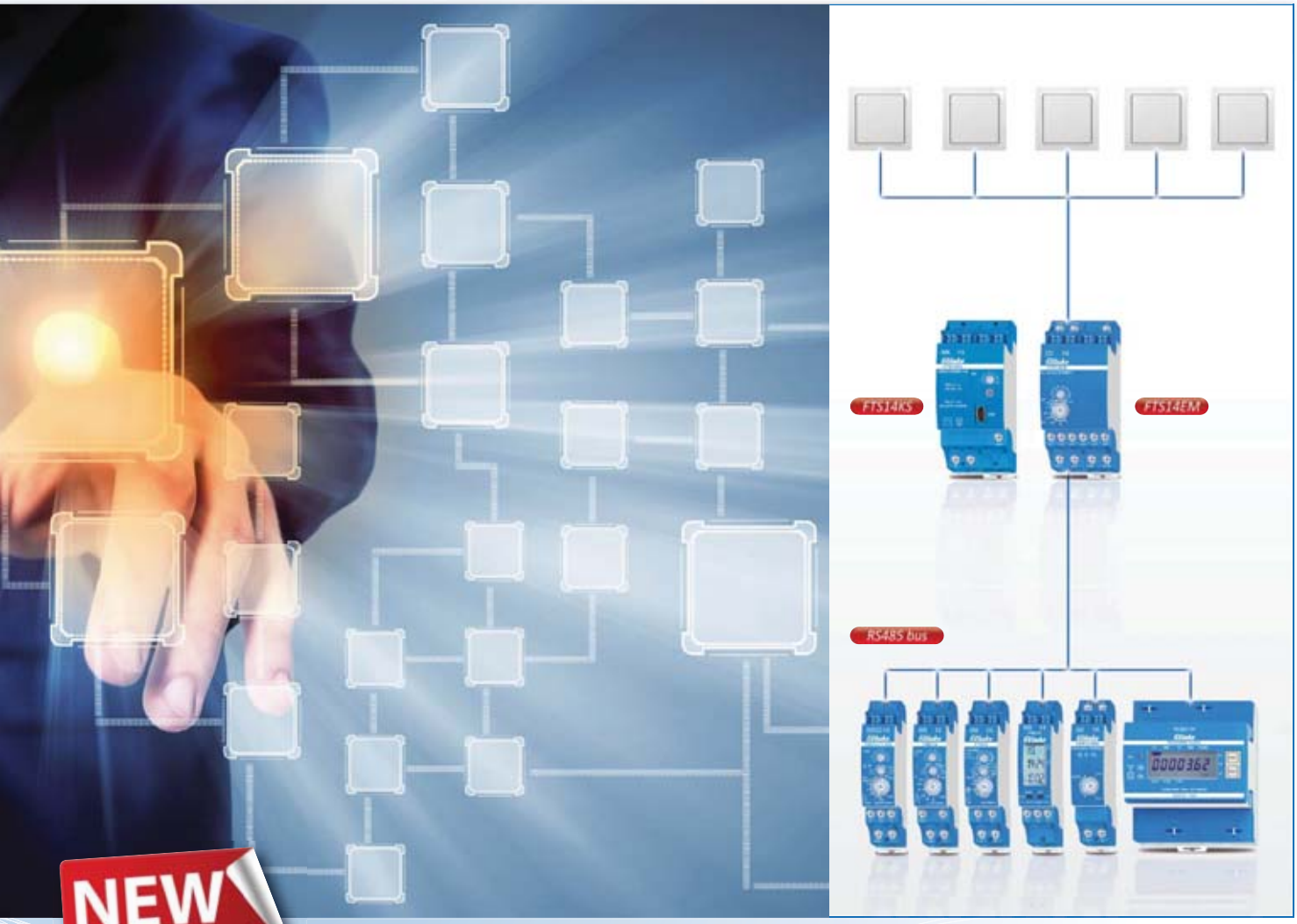
Eltako ELECTRONICS



NEW

The remote sensing system FTS14

Modular RS485 bus of the next generation

Combine devices and functions flexibly – use the new features offered by the Series 14

Always one click ahead!

PREISWERT · SICHER · KOMFORTABEL · ZUVERLÄSSIG

The Remote Sensing System FTS14 – Modular RS485 Bus of the Next Generation

The remote sensing system FTS14 uses the new features of our Series 14

The bus and power supply connections on the input module FTS14EM, communication interface FTS14KS and actuators as DIN rail mounted devices are very simply cross-wired by means of jumpers. A customary screened 4-wire telephone line acts as bus line to connect several distributors together.

The FTS14 bus and the input module FTS14EM use exactly the same telegram structure as the Wireless Building DIN rail mounted devices of the Series 14 and are therefore directly combinable with actuators and other components in the Series 14. All the necessary functions of current production are then immediately available.

The power supply in the FTS14KS decouples the electronics of all connected devices from the 230 V power supply grid. As a result, the devices are not exposed to voltage peaks and other faults which are becoming increasingly frequent on mains power supplies. This protection significantly increases the expected service life of the devices.

Every FTS14EM with only two pitches width has 10 inputs for either conventional pushbuttons, window/door-contacts or motion sensors. Thanks to the electrically isolated universal control voltage from 8 to 230 V UC, the inputs can be controlled either directly with the mains voltage or with low voltage. A separate switch mode power supply unit, e.g. the SNT12 which is only one pitch unit wide, must then be used for 12 V or 24 V. Control power requirement is only 0.05 or 0.2 watts per pushbutton when a pushbutton is operated. All input terminals (E1 to E10) are arranged in the lower terminal blocks and a terminal for the common pushbutton reference potential (-E) is located on the upper terminal block.

The FTS14EM can be configured by 2 rotary switches in such a way that **max. 50 FTS14EM devices** can be connected to **max. 500 pushbuttons in a bus installation**. In addition the pushbutton inputs of each FTS14EM are set by rotary switch either as universal pushbuttons or in pairs as direction pushbuttons. The telegram of each pushbutton input in the entire bus is available over the bus system simultaneously for all actuators connected. It is therefore possible to install central and group pushbuttons rapidly and using few wires. The related pushbuttons are simply taught-in in the required actuators on the bus.

The connected actuators can also be configured with the PC tool PCT14 via communication interface of the FTS14KS.

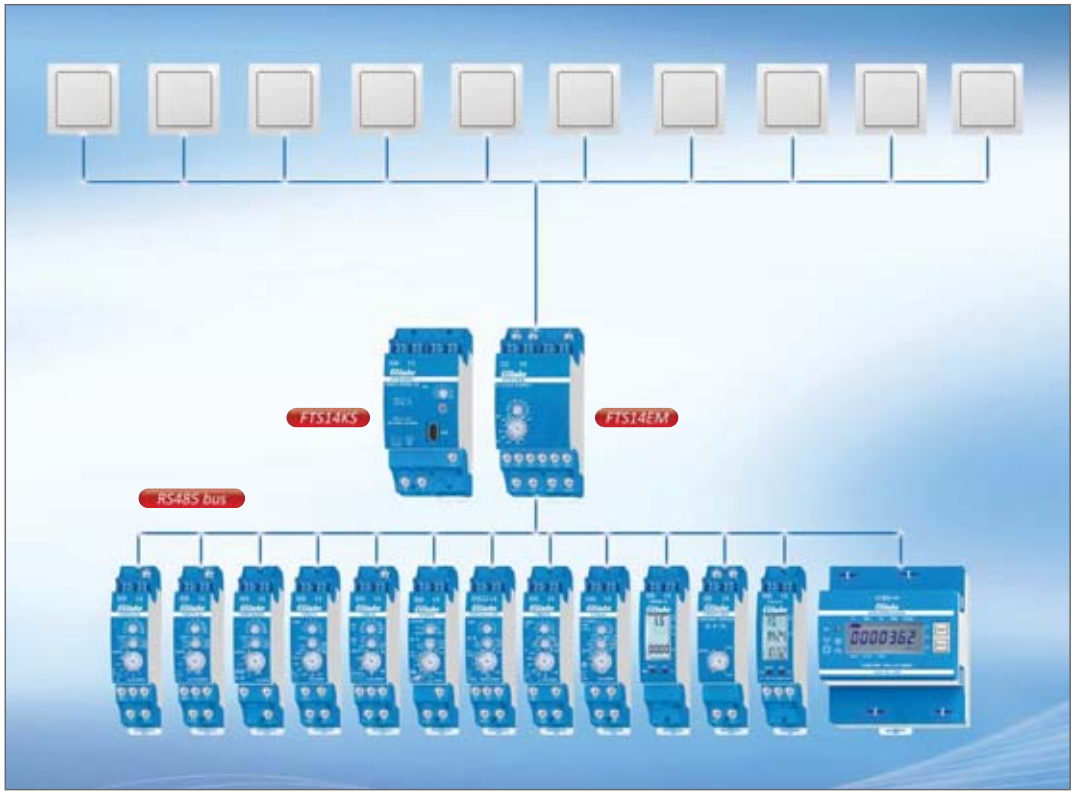
Optional: Instead of the FTS14KS a **wireless antenna module FAM14** (from the Wireless Building System), which is only two pitch units wide, can also be installed. Actuators can then be activated via the FTS14EM by wireless pushbuttons, hand-held transmitters and wireless sensors as well as conventional pushbuttons. The bidirectional FAM14 also permits a Smart Home central unit GFVS-SafeIV to evaluate feedback messages from the actuators transferred by wireless. Each actuator status is then displayed and can also be changed. Connecting the HOLD terminals of all devices regulates bus access and prevents collisions.

Optional: The pushbutton gateway FTS14TG, which is only two pitch units wide, can feed telegrams from the **4-way bus pushbuttons B4T65, B4FT65** and **pushbutton coupler FTS61BTK** connected by 2-wire pushbutton bus to conventional pushbuttons connected to the bus. Data transfer and power supply take place simultaneously over 2 wires only. This avoids many single pushbutton control lines. This avoids many single pushbutton control lines. An FTS14EM device is then not required.

Optional: Pushbutton telegrams on the bus can be sent directly to the Wireless Building system with a **wireless output module FTS14FA**, e.g. to control decentral actuators.

Optional: The multiple gateway FGW14, which is only one pitch unit wide, can set up connections to the Smart Home central unit GFVS-SafeIV, bus components of the previous Series 12 and an RS232 interface. In addition to this, two RS485 buses from Series 14 can be connected.

All optional possibilities can be combined as required: FTS14EM with actuators, the wireless antenna module FAM14, the pushbutton wireless output module FTS14FA and the pushbutton gateway FTS14TG for connection to pushbutton couplers FTS61BTK.



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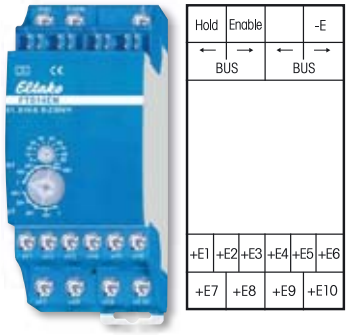
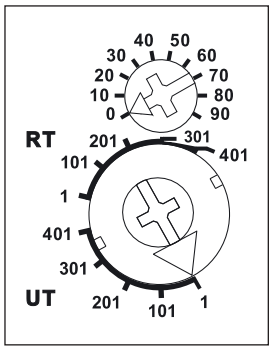


Function rotary switches



Standard setting ex works.

FTS14EM

min | UC 8-253 V AC 10-230 V DC | RS485

Input module for the Eltako RS485 bus, 10 control inputs for universal control voltage. Only 0.1 watt standby loss.

Modular device for DIN-EN 60715 TH35 railmounting.
2 modules = 36 mm wide, 58 mm deep.

Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper. Operation in conjunction with FTS14KS or FAM14.

10 control inputs +E1 to +E10/-E electrically isolated from the supply voltage.
Control voltage: 8..230 V UC.

From production week 44/15, the control inputs can be either activated for pushbuttons (delivery state), window-door contacts or motion detectors.

Control inputs for pushbuttons: telegrams of pushbuttons will be generated (e.g. 0x70). Each FTS14EM can be set to UT (= universal pushbutton) or RT (= direction pushbutton) on the lower rotary switch.

Control inputs for window-door contacts: telegrams of the window-door contact FTK are generated (EEP D5-00-01). If the input is driven by the contact with the control voltage to be applied externally, the telegram 'window open' is generated. If the contact is opened, the telegram 'window open' is generated. As with the wireless sensor FTK, the status telegram is repeated every 15 minutes.

Control inputs for motion detectors: telegrams of the wireless motion/brightness sensor FBH are generated (EEP A5-08-01), wherein the brightness value is always 0. If the input is driven by the contact with the control voltage to be applied externally, the telegram 'motion' is generated. If the contact is opened, the telegra 'no motion' will be generated. As with the wireless sensors FBH, the status telegram is repeated every 15 minutes.

Each telegram of a contact input has to be taught-in with an identification number (ID) into one or more actuators according to the operating instructions.

The lower rotary switch defines the group to which an FTS14EM belongs. A total of 5 groups are available (1, 101, 201, 301 and 401) each with 100 IDs.

The upper rotary switch (0 to 90) sets the ID within a group. The ID range within a group results from the combination of upper and lower rotary switches and must be set differently on each FTS14EM.

Maximum ten FTS14EMs form a group. Therefore, a total of 50 FTS14EMs comprising 500 pushbuttons or contacts are possible in one RS485 bus.

To generate the necessary **teach-in telegrams** for teaching-in into the actuators, the requested group has to be selected on the upper and lower rotary switch. For pushbuttons in the range UT or RT or for window-door contacts and motion sensors in the range RT. Then confirm the required control input.

In operation, the same group should be selected for window-door contacts and motion sensors in the range UT or RT for pushbutton or UT.

The LED below the upper rotary switch flashes briefly, when a connected contact is closed.

Optional: An FAM14 wireless antenna module (from Wireless Building System) which is only two modules wide can also be installed. Actuators can then be activated via the FTS14EM by wireless pushbuttons und Kontakten, hand-held transmitters and wireless sensors in addition to conventional buttons. As the FAM14 has an integrated switch mode power supply unit, the FTS14KS is no longer required for power supply in this configuration.

The bidirectional FAM14 also permits a Smart Home central unit SafeIV to evaluate feedback messages from the actuators transferred by wireless. Each actuator status is then displayed and can also be changed. Connecting the HOLD terminals of all devices regulates bus access and prevents collisions.

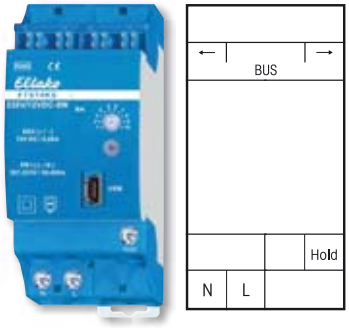
The telegrams of the FTS14EM can also be sent to the Eltako Wireless Building **with the optional wireless output module FTS14FA.**

Housing for operating instructions GBA14 page 43.

FTS14EM	Input module	EAN 4010312315071	**56,40 €/pc.**

Recommended retail prices excluding VAT.

FTS14 Communication Interface FTS14KS



FTS14KS

min

RS485

FTS14 communication interface for the Eltako RS485 bus with integrated power supply unit 12 V DC/8 W. Only 0.6 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.
2 module = 36 mm wide, 58 mm deep.
Supply voltage 230 V.
The delivery includes 2 terminators with printing Ω, 1/2 module, 3 jumpers 1 module (including 1 spare), 2 jumpers 1/2 module (including 1 spare) and 1 jumper installation tool SMW14.

Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper.
The attached second terminator should be plugged to **the last actuator**.

Mini USB to connect to a PC, to create an equipment list, to configurate the actuators using the PC tool PCT14 and for data backup. A legalization code to download the PCT14 from the Eltako homepage www.eltako.com is included in the FTS14KS.

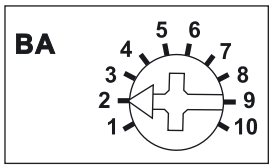
All FTS14EM and if needed gateways FGW14 will be connected to the terminal Hold when they connect a PC with a RS232 bus.

According to the operating manual 10 different operating modes can be set with the operating mode rotary switch BA.

The bottom LED lights up green if a connection from the PC tool PCT14 was created. When reading or writing date the LED flashes green. The green LED goes out if the connection from the PC tool PCT14 was terminated.

At a load of more than 50% of the rated capacity of 8 W a ventilation clearance of ½ module must be maintained with the spacer DS14 on the left side.

Mode switch



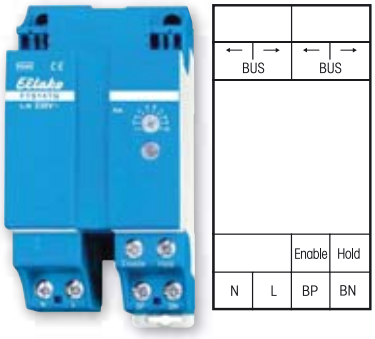
Standard setting ex works.

Housing for operating instructions GBA14 page 43.

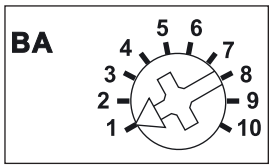
FTS14KS	FTS14 communication interface	EAN 4010312315651	**74,90 €/pc.**

Recommended retail prices excluding VAT.

Optional: Pushbutton Gateway FTS14TG and Bus Pushbutton B4T65, B4FT65



Mode switch



Standard setting ex works.

Description **FTS61BTK** and **FTS61BTKL** on page 5.

FTS14TG

min RS485

Optional: Pushbutton gateway for FTS14 systems. Only 1.3 watt standby loss.

Modular device for DIN-EN 60715 TH35 railmounting. 2 modules = 36 mm wide, 58 mm deep. To improve heat dissipation, provide a ventilation gap ½ a pitch unit wide on the left-hand side. Use the enclosed spacer DS14 for this purpose.

Power supply 230 V.

Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper. Operation in conjunction with FAM14 or FTS14KS.

Using up to **3 pushbutton gateways FTS14TG,** you can feed the telegrams of up to 90 **4-way bus switches B4T65** and **B4FT65** or **pushbutton bus couplers FTS61BTK and FTS61BTKL** connected over a 2-wire bus with conventional pushbuttons connected to them. Data transfer and power supply take place simultaneously over 2 wires only. This avoids a mass of single pushbutton control lines. An FTS14EM device is then not required.

Up to 30 B4T65, B4FT65, FTS61BTK and FTS61BTKL devices can be connected to an FTS14TG pushbutton gateway.

A voltage of 29 V DC is supplied to the connected devices over a 2-wire bus which is also used for data transfer.

Please use only conventional bus or telephone lines.

The 2-wire bus is electrically isolated from the Eltako RS485 bus.

The permitted maximum line length is 200 m. The RLC device enclosed with the FTS14TG must also be connected to the terminals BP and BN on the bus switch or pushbutton bus coupler furthest away.

Pushbutton telegrams from the connected devices are transmitted by an FTS14FA device over the Eltako RS485 bus and over the Eltako building wireless system.

RLC element	Range extension for FTS14TG	EAN 4010312907092	**3,80 €/pc.**
FTS14TG	Pushbutton gateway	EAN 4010312315088	**70,40 €/pc.**

Bus pushbutton with double rocker

Bus pushbutton with rocker

B4T65 und B4FT65

min

Bus switch 84x84 mm external for connection to FTS14TG pushbutton gateway by 2-wire pushbutton bus. Pure white, glossy. Only 0.2 watt standby loss.

B4FT65 bus 4-way flat pushbutton in E-design, only 11 mm high.
B4T65 bus 4-way pushbutton in E-design, only 16 mm high.

The scope of supply comprises the R1E resp. RF1E frame including snapped-on electronics, a flat rocker and a flat double rocker (all the same colour).

The double rocker permits entry of 4 evaluable signals, but the rocker allows only 2 signals.

At the rear, a 20 cm long red/black by pushbutton bus line is routed externally. Red terminal to BP, black to BN of a pushbutton gateway FTS14TG.

Up to 30 bus switches and/or FTS61BTK pushbutton bus couplers can be connected to terminals BP and BN of an FTS14TG pushbutton gateway.

The permitted maximum line length is 200 m. The RLC device enclosed with the FTS14TG must also be connected to the terminals BP and BN on the bus switch or pushbutton bus coupler furthest away.

A voltage of 29 V DC is supplied to the connected B4 over a 2-wire pushbutton bus which is also used for data transfer.

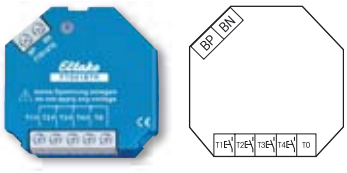
Please use only conventional bus or telephone lines.

Confirmation telegrams from actuators are displayed by 4 resp. 2 yellow LEDs when the actuator IDs are entered by the PCT14 in the ID table of the FTS14TG.

B4FT65-wg	Bus flat pushbutton	EAN 4010312315682	**40,90 €/pc.**
B4T65-wg	Bus pushbutton in E-Design	EAN 4010312315675	**40,90 €/pc.**
RLC-Glied	Range extension for B4T65/B4FT65	EAN 4010312907092	**3,80 €/pc.**

Typical connections on page 49 and 50.

Recommended retail prices excluding VAT.



FTS61BTK

min

Bus pushbutton coupler FTS61BTK for 4 conventional pushbuttons for connection to FTS14TG pushbutton gateways by 2-wire pushbutton bus. Only 0.2 watt standby loss.

For installation. 45 mm long, 45 mm wide, 18 mm deep.

Up to 30 bus pushbuttons and/or bus pushbutton couplers FTS61BTK devices can be connected to the BP and BN terminals of a pushbutton gateway FTS14TG. The permitted total line length is 200 m. The RLC device enclosed with the FTS14TG must also be connected to the terminals BP and BN on the bus switch or pushbutton bus coupler furthest away.

A voltage of 29 V DC is supplied to the connected FTS61BTK over a 2-wire pushbutton bus which is also used for data transfer.

Please use only conventional bus or telephone lines.

Up to four conventional pushbuttons can be connected to T1, T2, T3 and T4 by a maximum line length of 2 metres. Connect the opposite pole to the T0 terminal in each case.

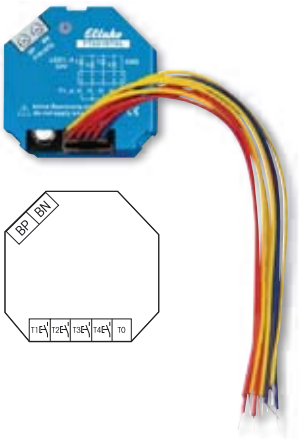
Caution: Do not apply any voltage.

The pairs T1/T3 and T2/T4 can be defined as direction pushbuttons.

Connect the bus to BP and BN. Make sure the polarity is correct.

Typical connections on page 2-12 and 2-13.

FTS61BTK	Bus pushbutton coupler	EAN 4010312315668	**40,30 €/pc.**



FTS61BTKL

min

Bus pushbutton coupler FTS61BTKL for 4 conventional pushbuttons with integrated 24 V LEDs for connection to FTS14TG pushbutton gateways by 2-wire pushbutton bus. Only 0.2 watt standby loss.

For installation. 45 mm long, 45 mm wide, 18 mm deep.

Up to 30 bus pushbuttons and/or bus pushbutton couplers FTS61BTKL devices can be connected to the BP and BN terminals of a pushbutton gateway FTS14TG. The permitted total line length is 200 m. The RLC device enclosed with the FTS14TG must also be connected to the terminals BP and BN on the bus switch or pushbutton bus coupler furthest away.

A voltage of 29 V DC is supplied to the connected FTS61BTKL over a 2-wire pushbutton bus which is also used for data transfer.

Please use only conventional bus or telephone lines.

Up to four conventional pushbuttons T1-T4 can be connected to the 15 cm long connecting cables. Each opposite pole is T0. The connecting cables can be extended up to 2 m. With the 24 V LEDs integrated in the pushbuttons, confirmation telegrams of actuators are displayed if the IDs of the actuators were registered into the ID table of the FTS14TG with PCT14.

Caution: Do not apply any voltage.

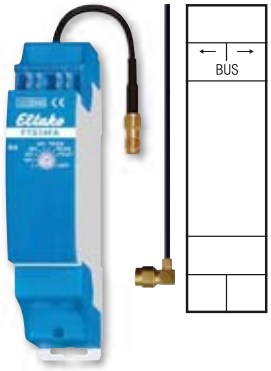
The pairs T1/T3 and T2/T4 can be defined as direction pushbuttons.

Connect the bus to BP and BN. Make sure the polarity is correct.

FTS61BTKL	Bus pushbutton coupler for feedback LED	EAN 4010312316801	**45,80 €/pc.**

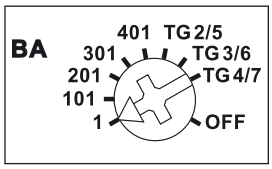
Recommended retail prices excluding VAT.

Optional:
Wireless Output Module FTS14FA



The enclosed small antenna can be replaced with a wireless antenna FA250 or if need be FA200 with magnetic base and cable.

Mode switch



Standard setting ex works.

FTS14FA

min RS485

Optional: Wireless output module pushbutton telegrams for FTS14 systems with FTS14EM and/or FTS14TG. Only 0.5 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.
1 module = 18 mm wide, 58 mm deep.

Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper. Operation in conjunction with FTS14KS with or without FAM14.

A rotary switch defines the FTS14EM or FTS14TG group to which an FTS14FA belongs. Therefore a maximum of 8 FTS14FAs can be connected to a bus. Every pushbutton telegram from an FTS14EM or FTS14TG is sent with its own ID to the Eltako building wireless system.

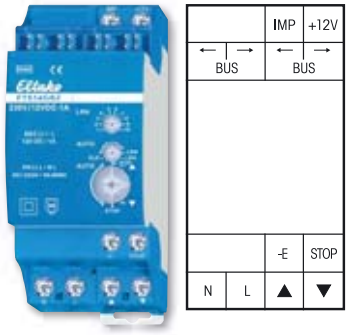
Rotary switch on the FTS14FA set to position 1: Sends telegrams of all FTS14EMs set to 1.
Rotary switch on the FTS14FA set to position 101: Sends telegrams of all FTS14EMs set to 101.
Rotary switch on the FTS14FA set to position 201: Sends telegrams of all FTS14EMs set to 201.
Rotary switch on the FTS14FA set to position 301: Sends telegrams of all FTS14EMs set to 301.
Rotary switch on the FTS14FA set to position 401: Sends telegrams of all FTS14EMs set to 401.
Rotary switch on the FTS14FA set to position TG2/5: Sends telegrams of all FTS14TG set to 2 or 5 .
Rotary switch on the FTS14FA set to position TG3/6: Sends telegrams of all FTS14TG set to 3 or 6.
Rotary switch on the FTS14FA set to position TG4/7: Sends telegrams of all FTS14TG set to 4 or 7.
Rotary switch on the FTS14FA set to position OFF: The FTS14FA is switched off.

The green LED under the rotary switch will flash shortly when a wireless telegram is sent.
Telegrams from an FAM14 are not sent by the FTS14FA.

Housing for operating instructions GBA14 page 43.

FTS14FA	Wireless output module	EAN 4010312315101	**87,30 €/pc.**

Recommended retail prices excluding VAT.



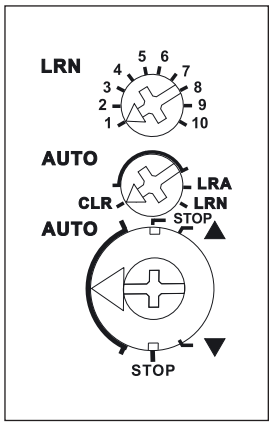
FTS14GBZ

min RS485

Gateway to central control with low voltage of impulse switch for shading elements and roller shutter ESB61ZK. Standby loss only 0.2 Watt.

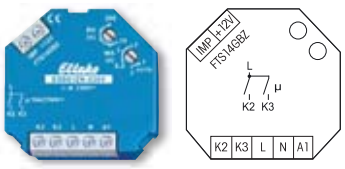
Modular device for DIN-EN 60715 TH35 rail mounting.
2 module = 36 mm wide, 58 mm deep.
Can be used as a single device or in conjunction with FTS14KS or FAM14. Then cross-link bus to jumper.
Power voltage 230 V to Terminals N and L.
Up to 100 ESB61ZK devices can be connected to the terminals IMP and +12 V.
As a single device the rotary switches have no function and control takes place at 8 to 230 V UC at the electrically isolated terminals ▲ (up), ▼ (down), STOP and the common terminal -E.
When operated with FTS14KS or FAM14 the upper rotary switch is only required for teach-in. The middle rotary switch is required for teach-in and is set to AUTO in normal mode. The lower rotary switch is for manual mode ▲ (up), ▼ (down), STOP with priority over wireless commands and is set to AUTO in normal mode.
Dynamic central control without priority: Central UP pushbutton: Switch position 'UP' is activated directly by a pulse signal. Central DOWN pushbutton: Switch position 'DOWN' is activated directly by a pulse signal. Stop pushbutton: Motion stopped immediately by pulse signal.
Static wireless direction pushbutton: Press top to activate switch position 'Up' directly. Motion stops when released. Press bottom to activate switch position 'Down' directly. Motion stops when released.
When controlled via the GFVS software, Up and Down move commands can be started at the precise move time specified. It is possible to block wireless pushbuttons.
The LED performs during the teach-in process according to the operation manual. It shows control commands by short flickering during operation.

Function rotary switches



Standard setting ex works.

FTS14GBZ	Gateway for ESB61ZK	EAN 4010312316399	**77,10 €/pc.**



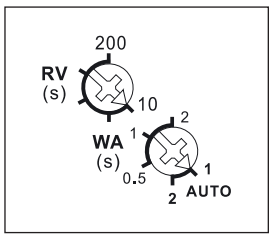
ESB61ZK-230V

min

Impulse switch for shading element and roller shutters with central control for low voltage in conjunction with FTS14GBZ gateway. 1+1 NO contact not potential free 10 A/250 V AC, for a 230 V AC motor. Standby loss only 0.4 watt.

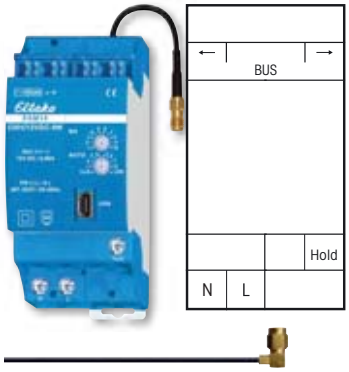
For installation. 45 mm long, 45 mm wide, **32 mm deep.**
This impulse switch converts low-voltage signals of the FTS14GBZ or the local 230 V pushbutton and switches a 230 V motor for a shading element or a roller shutter.
Supply and switching voltage 230 V. Up to 100 ESB61ZK devices can be connected to one FTS14GBZ. In the event of a power failure, the device is switched off in defined mode.
By using bistable relays coil power loss and heating is avoided even in the on mode.
After installation, wait for short automatic synchronisation before the switched consumer is connected to the mains.
The 'Up, Stop, Down, Stop' pulses are controlled by the control pushbutton at A1. The 'Central Up', 'Central Down' and 'Stop' commands are controlled by the FTS14GBZ Gateway by means of the additional control inputs IMP and +12 V.
The release delay is set by the **RV** rotary switch.
The automatic reversal function is controlled by the **WA** rotary switch: the automatic reversal function is switched on with a reversal time setting of 0.5 to 2 seconds.
AUTO 1: No automatic reversal function and no convenience reversal function. With A1 dynamic Up-Stop-Down-Stop.
AUTO 2: Automatic reversal function with 1s reversal time. In addition the local convenience reversal function for blinds is active at A1: a double pulse causes a slow turning in the opposite direction which is stopped by a further pulse. With A1 dynamic Up-Stop-Down-Stop.

Function rotary switches



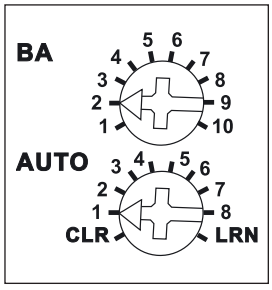
Standard setting ex works.

ESB61ZK-230V	1+1 NO contact 10A	EAN 4010312109588	**55,10 €/pc.**



The enclosed small antenna can be replaced with a wireless antenna FA250 or if need be FA200 with magnetic base and cable.

Function rotary switches



Standard setting ex works.

FAM14

Wireless antenna module for the Eltako RS485 bus with exchangeable antenna. With integrated power supply unit 12 V DC/8 W. Bidirectional. Encrypted wireless. Only 1 watt standby loss. If required, a wireless antenna FA250 or FA200 can be connected.

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

The delivery includes 2 terminators with printing Ω, 1/2 module, 3 jumpers 1 module (including 1 spare), 2 jumpers 1/2 module (including 1 spare) and 1 jumper installation tool SMW14.

The wireless antenna module FAM14 receives and tests all signals from wireless transmitters and repeaters within the receiving range. These are transmitted via an RS485 interface to RS485 bus switching actuators connected in series:

Up to 126 channels can be connected to the Eltako RS485 bus. Bus cross wiring and power supply with jumper.

The attached second terminator has to be plugged **to the last actuator.**

You can teach in up to 128 encrypted sensors.

Mini USB to connect to a PC, to create an equipment list, to configurate the actuators using the PC tool PCT14 and for data backup. A legalisation code to download the PCT14 from the Eltako website www.eltako.com is supplied with the FAM14.

Gateways FGW14 and FGW14-USB will be connected to the terminal Hold when they connect a PC with a RS232 bus and/or up to 3 wireless receiver modules FEM with a sub-bus RS485.

FTS14EM, FTS14TG and FWG14MS will be also connected to terminal Hold.

The lower rotary switch is required to teach in encrypted sensors and can be turned to AUTO 1 in operation. Unencrypted sensors need not be taught-in in the FAM14.

With the upper rotary switch BA 10 different operating modes can be set as described in the operating instructions.

The upper LED displays all perceived wireless commands in the reception area by short flickering.

The bottom LED lights up green if a connection from the PC tool PCT14 to the FAM14 was created. When reading or writing date the LED flashes green. The green LED goes out if the connection from the PC tool PCT14 to the FAM14 was terminated.

At a load of more than 50% of the rated capacity of 8 W a ventilation clearance of ½ module must be maintained with the spacer DS14 on the left side.

Housing for operating instructions GBA14 page 43.

FAM14	Wireless antenna module	EAN 4010312313695	**102,80 €/pc.**

FA250 and FA200

Wireless antennas with magnetic base

The small enclosed wireless antenna of the wireless antenna modules FAM14 can be replaced by a larger antenna to feed wireless signals into metallic switching cabinets. It is mounted on the magnetic base externally and the cable is routed inside the cabinet to the FAM14.

Height of the FA250 only 10 cm, height of the FA200 59 cm.

FA250	Wireless antenna with 250 cm cable, black	EAN 4010312300244	**21,10 €/pc.**
FA250-gw	Wireless antenna with 250 cm cable, grey white	EAN 4010312317051	**21,10 €/pc.**
FA200	High-performance receive antenna with 200 cm cable	EAN 4010312303306	**68,50 €/pc.**

FEM

min RS485

**Wireless receiver antenna module for the RS485 sub-bus.
Only 0.5 watt standby loss.**

SMA socket for small enclosed antenna. The reception range can be increased by placing a larger wireless antenna FA250 or FA200 in the optimised position.

Housing dimensions LxWxH: 78x40x22 mm.

Up to three wireless receiver modules in a separate mini-housing can be installed at any point in the building in addition to an FAM14 and connected via a Gateway FGW14 to the main bus by a 4-wire screened sub-bus line (e.g. telephone line).

Therefore connect the terminals RSA/RSB of the FEM with the terminals RSA2/RSB2 of the FGW14.

Also connect the terminals +12 V/GND of the FEM with the terminals +12 V/GND of the FGW14.

Wiring of several FEM should take place with a line in the form of a chain, as prescribed in RS485 bus systems.

A radial wiring with one line per FEM is not allowed.

In each of the three wireless receiver modules, the jumper must be plugged into a different position.

For this purpose, carefully open the housing on the narrow side with a screwdriver at the side provided. Blade width 6.5 mm, max. 1.5 mm thick.

WEEE registration number DE 30298319

FEM	Wireless receiver antenna module	EAN 4010312313848	**78,80 €/pc.**

FEM65-wg

min RS485

Wireless receiver antenna module for the RS485 sub-bus. In the housing for surface mounting 84x84x30 mm or mounting into the E-design switching system. Only 0.5 watt standby loss.

We recommend stainless-steel countersunk screws 2.9x25 mm, DIN 7982 C for screw fixing on 55 mm switch boxes.

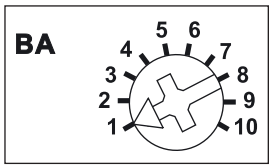
Set of 2 stainless-steel countersunk screws 2.9x25 mm and plugs 5x25 mm are enclosed.

Up to three wireless receiver modules FEM and/or FEM65 can be installed at any point in the building in addition to a FAM14 and connected via a gateway FGW14 to the main bus by a 4-wire screened sub-bus line (e.g. telephone line).

FEM65-wg	Wireless receiver antenna modulepure white glossy	EAN 40103123159 34	**83,40 €/pc.**

Recommended retail prices excluding VAT.

Mode switch



Standard setting ex works.

FGW14

min RS485

Multiple Gateway. Bidirectional. Only 0.5 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.
1 module = 18 mm wide, 58 mm deep.

The gateway is only 1 module wide but has multiple uses: For coupling of up to three FEM, for direct connection via the RS232 interface with the PC, for connection to the bus components of the older Series 12 or as a bus connector of two RS485 buses of Series 14.

Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper. Operation in conjunction with FAM14 or FTS14KS.

The Hold terminal is connected to the FAM14 or the FTS14KS.

Wireless receiver modules FEM are connected in parallel to the sub-bus terminals RSA2 and RSB2 as well as the power supply terminals GND and +12 V.

Up to 10 pushbutton input modules FTS12EM can be connected in series to the sub-bus terminals RSA2 and RSB2. If necessary in series with wireless receiver modules FEM.

The PC connection is via connection to the terminals Tx and Rx.

Series 12 actuators are connected to the sub-bus terminals RSA2 and RSB2. There is no Hold connection in this case.

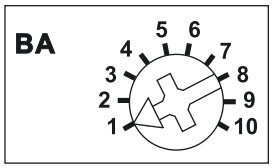
A second series 14 bus is fed into the terminals RSA2/RSB2.

The settings of the **operating mode rotary switch BA** are carried out as described in the operating instructions.

Housing for operating instructions GBA14 page 43.

FGW14	Multiple gateway	EAN 4010312313855	**56,60 €/pc.**

Operating mode rotary switch



Standard setting ex works.

FGW14-USB

min RS485

Gateway with USB-A connection. Bidirectional. Only 0.3 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting. 1 module = 18 mm wide, 58 mm deep.

The gateway is only 1 module wide but has multiple uses: To connect a Smart Home central unit SafeIV or PC via a USB interface, to couple up to three FEM devices, for connection to the bus components of the older Series 12 or as a bus connector of two RS485 buses of Series 14.

Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper. Operation in conjunction with FAM14 or FTS14KS.

The Hold terminal is connected to the FAM14 or the FTS14KS.

The PC is connected via a USB interface running at 9600 baud or 58 kbaud.

Wireless receiver modules FEM are connected in parallel to the sub-bus terminals RSA2 and RSB2 as well as the power supply terminals GND and +12 V.

Up to 10 pushbutton input modules FTS12EM can be connected in series to the sub-bus terminals RSA2 and RSB2. If necessary in series with wireless receiver modules FEM.

The SafeIV or PC connection is via connection to the terminals Tx and Rx.

Series 12 actuators are connected to the sub-bus terminals RSA2 and RSB2. There is no Hold connection in this case.

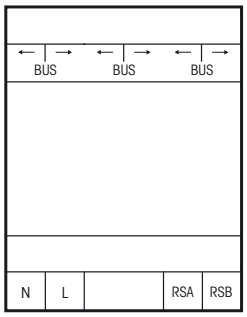
A second series 14 bus is fed into the terminals RSA2/RSB2.

The settings of the **operating mode rotary switch BA** are carried out as described in the operating instructions.

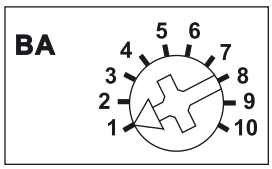
Housing for operating instructions GBA14 page 43.

FGW14-USB	Gateway with USB connection	EAN 4010312316054	**56,60 €/pc.**
USB extension cord	2m long, Type A, ST/BU	EAN 4010312907702	**11,00 €/pc.**

Recommended retail prices excluding VAT.



Mode switch



Standard setting ex works.

GSM antenna with 250 cm cable

FGSM14

Wireless GSM module for the Eltako RS485 bus. Bidirectional. Standby loss 0.9 watt. The GSM antenna is contained in the scope of supply.

DIN rail mounted device for fitting on mounting rail DIN-EN 60715 TH35.
3 modules = 54 mm wide, 58 mm deep.

When receiving and transmitting the power loss is about 2 watts.

Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper.

The GSM module links smartphones encrypted directly to the bus over the mobile radio network. Thereby up to 16 Series 14 switching points in the same RS485 bus can be very easily addressed encrypted by Eltako app. Multiple actuators can be addressed per switching point. The switching points report their status back. In addition, 8 other status messages, for example for temperatures and error messages, are possible.

A status overview takes place immediately when the app is activated in the smartphone.

Very simple and secure registration using **Eltako quickcon® technology.**

Now also with Push Function. It displays fault messages actively on smartphones. It is triggered by smoke alarms, water probes or window contacts, for example.

Download the app 'FGSM14' from the store of your iPhone or Android mobile system.

The configuration of the FGSM14 is done with the PC-Tool PCT14 at the FAM14 or FTS14KS.

Power is supplied by an integrated switch mode power supply unit independent from the bus power supply. Therefore, a 230 V supply voltage to L and N is required.

If the GSM receiver is not installed at the same place in a distributor containing Series 14 actuators, the bus is connected to a bus coupler FBA14 using a 2-wire screened bus line (e.g. telephone line). Then connect to the RSA and RSB terminals.

For the function of the GSM module FGSM14 it is necessary that a device address is assigned from the FAM14 or the FTS14KS as described in the operating instructions.

A data flat for 2 years is included in the price of the version for Germany.

Only one application form for commissioning must be completed and submitted. This is located in the package. The activation takes place on the next business day after receipt. Subsequent contracts are offered automatically.

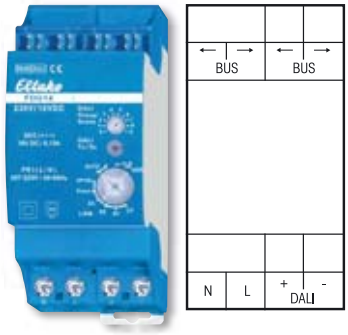
A data card is already inserted in the FGSM14. This can be replaced with the card of another provider after removing the middle front plate. No data card is included in the delivery of the FGSM14E.

FGSM14	Wireless GSM module Germany with dataflat for two years	EAN 4010312314098	**275,00 €/pc.***
FGSM14E	Wireless GSM module Export without data-flat	EAN 4010312315637	**205,00 €/pc.***
FGSM-Comm	Data communication packet M2M for the FGSM14E, flat for 2 years	EAN 4010312316795	**96,00 €/pc.***

Housing for operating instructions GBA14 page 43.

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

DALI Gateway FDG14 and RS485 Bus Weather Data Gateway FWG14MS



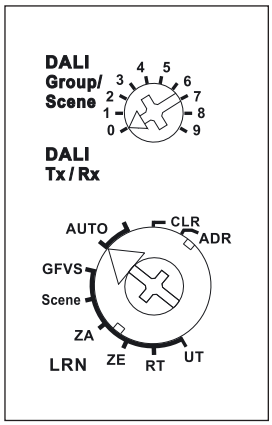
FDG14

min | RS485

DALI gateway, bidirectional. Only 1 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting. 2 modules = 36 mm wide, 58 mm deep.
Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper.
Operation in conjunction with FAM14.
Power supply 230V at terminals N and L.
130 mA can be connected to the DALI terminals +/- for up to 64 DALI devices.
The gateway FDG14 controls DALI devices with Enocean wireless transmitters.
As of production week 14/16 **Groups 0-15** can be controlled and the **broadcast command** can be sent. In addition **DALI scenes 0-15** can be recalled.
DALI installations, which are to be fully controlled with the FDG14, must be configured in groups 0-15.
The configuration software or control modules for it are offered from well-known manufacturers of DALI components (eg Tridonic DALI XC).
The FDG14 internally saves the dimming value for each of the groups 0-15 and supplies this value as feedback. The same feedback telegrams are generated as for an FUD14.
The FDG14 occupies 16 BR14 device addresses. The feedbacks of the device addresses correspond to the dimming values of the DALI groups 0-15 in ascending order.
Feedbacks can be converted by the PCT14 for each individual group of dimming value telegrams (%) to pushbutton telegrams (ON/OFF). Feedbacks can then control BR14 actuators.
The FDG14 fulfils the function of the DALI master and the DALI power supply.
The rotary switches can only teach in pushbuttons for groups 0-8 and DALI scenes 0-9. Activation telegrams for groups 9-15 and scenes 10-15 are only possible by entries in PCT14.
Important: Wireless pushbuttons always need to be double-clicked when they are taught-in manually in the FDG14. CLR only needs a single click.
A direction pushbutton or universal pushbutton with identical ID and identical pushbutton can be taught in several times in different groups. The group last selected is always valid. Therefore, a pushbutton can either switch only one group or broadcast to all groups.
One FBH per group can also be taught in. With a manual teach-in this always acts dependent on brightness. With PCT14 you can also set the brightness threshold.
The delay time for switch-off after no motion is detected can be set together in minutes (1 ... 60) for the FBH devices of all groups. The default is 3 minutes.

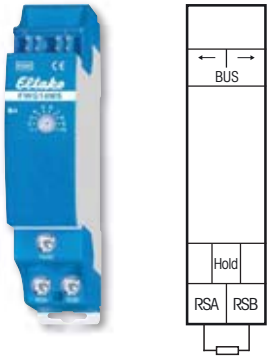
Function rotary switches



Standard setting ex works.

Housing for operating instructions GBA14 page 43.

FDG14	DALI gateway	EAN 4010312316085	**87,50 €/pc.**



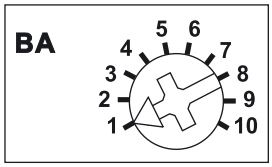
FWG14MS

min | RS485

Weather data gateway for multi sensor MS. Bidirectional. Only 0.3 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting. 1 modul = 18mm wide, 58mm deep.
A multisensor MS at the gateway is connected to terminals RSA and RSB. The information is received once per second and converted into bus telegrams.
However, several FWG14MS can be connected to a multisensor MS e.g. to control several Eltako RS485 buses with only one MS multisensor. Only at one FWG14MS must the end resistor connected. At additional FWG14MS, this resistor must be removed.
Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper.
Operation in conjunction with FAM14 or FTS14KS.
The Hold terminal is connected to the FAM14 or the FTS14KS. A maximum of two FWG14MS devices can be operated in one bus. The telegram duplicator FTD14 can also send telegrams over the Wireless Building System after the IDs of the FGW14MS are taught in the FTD14 or entered using the PTC14. Receiving devices can then be FSB14, FSB61NP, FSB71 and FWA65. If the multisensor MS signal is not received, an alarm telegram is sent. Using the PC Tool PCT14, 96 inputs can be AND or OR linked and up to 12 outputs can be output.
The **BA operating mode rotary switch** can be configured according to the operating instructions.

Operating mode rotary switch



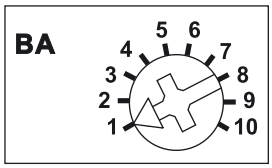
Standard setting ex works.

Further settings can be made using the PC Tool PCT14.

FWG14MS	Weather data gateway	EAN 4010312316887	**56,60 €/pc.**

Recommended retail prices excluding VAT.

Mode switch



Standard setting ex works.

BGW14

min | RS485

RS485 bus gateway. Bidirektional. Bidirectional. Only 0.3 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.
1 module = 18 mm wide, 58 mm deep.

Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper. Operation in conjunction with FAM14 or FTS14KS.

The Hold terminal is connected to the FAM14 or the FTS14KS.

Up to 16 RS485 sensors, e.g. BUTH65D/12 V DC, BBH65/12 V DC and BTR65H/12 V DC can be connected to the RSA/RSB terminals. See chapter 8, page 20. Standard telephone wire is sufficient as connecting lead: J-Y (ST) Y 2x2x0,8 mm^2 or equivalent.

The permitted maximum line length is 1000 m. The second 120 Ω terminal resistor must also be connected to the RSA/RSB terminals of the remotest sensor.

With up to 8 BGW14 devices, the data of up to 128 sensors can be fed to the RS485 bus.

Set the **operating mode rotary switch BA** according to the operating instrucstions.

Housing for operating instructions GBA14 page 43.

BGW14	RS485 bus gateway	EAN 4010312319062	**56,60 €/pc.**

FSM14-UC

min | UC 8-253 V AC 10-230 V DC

Wireless 4-fold transmitter module. With exchangeable antenna. If required, a wireless antenna FA250 can be connected. Only 0.1 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting. 1 module = 18 mm wide, 58 mm deep.

Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper. Alternatively, the power supply can be performed with a switching power supply unit 12 V DC at the terminals +12 V/GND.

This wireless transmitter module has four channels and, like a wireless 4-way pushbutton, it can transmit wireless telegrams into the Eltako wireless network. E1 initiates a wireless telegram like 'press rocker above' of a wireless pushbutton with one rocker, E2 like 'press rocker below', E3 like 'press left rocker above' of a wireless pushbutton with double rocker and E4 like 'press left rocker below' of a wireless pushbutton with double rocker.

The telegram on opening the control contacts is identical like 'release wireless pushbutton'.

Severel wireless transmitter modules must not be switched at the same time.

The universal control voltage at +En/-E processes control commands from 8 to 253 V AC or 10 to 230 V DC with a length of at least 0.2 seconds. Max. parallel capacitance (approx. length) of control lead at 230 V 0.9 µF. This corresponds to a length of approx. 3000 meters.

If the terminals E1 and E2 are connected with a bridge, the wireless telegram is transmitted from E2, as long as the conrol voltage is applied, e.g. for central commands with priority.

The rotary switch is required for the activation or deactivation of encryption and is set to AUTO in operation.

Activate encryption: Turn the rotary switch to the right stop (position key) and press once.

Deactivate encryption: Turn the rotary switch to the left stop (position crossed out key) and press once.

Housing for operating instructions GBA14 page 43.

FSM14-UC	Wireless 4-fold transmitter module	EAN 4010312316078	**58,00 €/pc.**

Recommended retail prices excluding VAT.

Scanner for Ferraris meter AFZ

F3Z14D

min RS485

Wireless meter concentrator for electricity, gas and water meters. For 3 S0 interfaces and/or 3 AFZ scanners, only 0.1 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.
1 modul = 18 mm wide, 58 mm deep.

Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper.

This meter concentrator concentrates the data of up to three electricity, data and water meters and supplies this data to the RS485 bus. Either for forwarding to an external computer or for sending over the Wireless Building System.

Hook-up is either by connection to the S0 interface of the meters or by use of an AFZ scanner on each Ferraris meter. The scanner is bonded above the rotary disc of the meter and connected by its connecting wire to one of the S01-S03/GND terminals. The F3Z14D detects automatically whether an S0 interface or an AFZ is connected.

The meter reading is entered into the display by two pushbuttons as well as the impulse rate (number of impulses or revolutions per kilowatt hour or cubic meter). The settings can be locked.

Meter readings can be entered and read out using the **PCT14 PC Tool.** In addition, impulse rates can be entered. The default display is selectable and operation of the device is interlocked.

The display is subdivided into 3 fields.

Field 1:
The default display is the unit of the meter reading currently displayed in Field 3, either in kilowatt hours kWh or megawatt hours MWh or cubic meter M^3 or cubic decametre DM^3

Field 2:
Momentary value of active power in watts and kilowatts or flow in centilitres and decilitres.
The arrow on the left in display field 1 indicates automatic switchover from 0-99 W or cl/s to 0.1 to 65 kW or dal/s. The display depends on the number of impulses of the meter.
The displayed minimum load is e.g. 10 watts at 2000 impulses per KWH and 2000 watts at 10 impulses per KWH

Field 3:
The meter reading is the default display. Every 4 seconds, the display alternates between 3 integer numbers and 1 decimal point (from 0 to 999.9) and an additional 1 or to 3 integer numbers (from 0 to 999).

Select meter in display:
Press MODE and then press MODE again to select the ***ANZ* function.** Press SET to select the meter number to be displayed as default. Press MODE to confirm.

Issue device address in the bus and send teach-in telegrams as described in the operating instructions.

All Eltako energy meters are fitted with an S0 interface and can therefore be connected to the energy meter concentrator F3Z14D. Only devices FWZ14-65A, DSZ14DRS-3x65A and DSZ14WDRS-3x5A are directly connected to the bus.

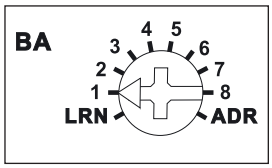
Housing for operating instructions GBA14 page 43.

Further settings can be made using the PC Tool PCT14.

F3Z14D	RS485 bus meter collector	EAN 4010312501528	**49,90 €/pc.**
AFZ	scanner for each Ferraris meter	EAN 4010312315576	**250,40 €/pc.**

Recommended retail prices excluding VAT.

Operating mode rotary switch



Standard setting ex works.

IR scanner for energy meters

FSDG14

min RS485

Wireless energy meter data gateway for meters equipped with an IEC 62056-21 IR interface. 2 channels. Only 0.4 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting. 1 module = 18 mm wide, 58 mm deep.

Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper.

This energy meter data gateway can provide the data of an electronic domestic supply meter (eHZ-EDL) with IR interface according to IEC 62056-21 and SML protocol version 1 to the RS485 bus. Either for forwarding to an external computer or the GFVS software.

Regular flashing of the **green LED** indicates that the FSDG14 is receiving data from the meter. Active power, up to 4 meter readings and the serial number are transferred. The serial number corresponds to the last 4 bytes (hex) of the server ID printed on the meter. The telegram is sent over the wireless building service by means of the wireless antenna module FAM14. Usage data are transmitted over channel 1 and delivery data over channel 2. It is therefore essential for the FAM14 to issue a device address. If there is a change in active power or a meter reading, the appropriate telegram is sent immediately and all telegrams including the serial number are sent cyclically every 10 minutes.

Also display with FEA65D.

The PCT14 PC tool can also read out the FSDG14.

Turn the rotary switch to select the following operating modes (OBIS codes according to IEC 62056-61):

1: Usage meter (1.8.0) and usage power on channel 1, delivery meter (2.8.0) and delivery power on Channel 2.
2: Usage tariff 1 (1.8.1) and tariff 2 (1.8.2) and usage power on channel 1, delivery tariff 1 (2.8.1) and tariff 2 (2.8.2) and delivery power on channel 2.
3: Usage tariff 1 (1.8.1) and tariff 2 (1.8.2) and usage power on channel 1, delivery meter (2.8.0) and delivery power on Channel 2.
4: Usage meter (1.8.0) and usage power on channel 1, delivery tariff 1 (2.8.1) and tariff 2 (2.8.2) and delivery power on channel 2.

The link is made by using an AIR IR scanner. The scanner is attached by its fixing magnets to the IR output of the meter and is connected by its connecting cable to terminals Tx, Rx, GND and +12 V.

FSDG14	RS485 bus energy meter data gateway	EAN 4010312316146	**45,10 €/pc.**
AIR	IR scanner for energy meters	EAN 4010312316153	**110,30 €/pc.**

Housing for operating instructions GBA14 page 43.

Recommended retail prices excluding VAT.

PCT14

The PC tool for Series 14 and Series 71

PCT14 is a PC-installed service program (PC Tool) to acquire, edit, save and reimport the settings of Eltako Series 14 and Series 71 actuators.

It belongs to the scope of supply of the FTS14KS as well as the FAM14 and must be downloaded from the download page of the Eltako website at www.eltako.com. The legalisation code is contained in the package.

Quick-start guide for Series 14; after downloading the installation folder:

1. Hook up PC and FTS14KS respectively FAM14

Use a USB cable to connect the PC to the mini-USB socket.

The driver, which is in the installation folder, may have to be installed.

When the connection is made, the used COM port is displayed in the status line.

2. Create device list; after installing the actuators

Right-click in the left window section to display the context menu.

Select the command 'Update device list and read device memory' from the context menu.

After the query for the RS485 bus, all the available devices are displayed.

Other actions can be carried out by executing context menu commands. Right-click to display the context menu. The status line is located at the lower border of the program window and contains information on the context menu commands.

Click on 'Help' for more information.

PCT14 PC Tool with export and import functions

PCT14 is capable of reading all sensor-actuator set-ups from Series 14 and Series 71 actuators fully automatically and exporting the data to the GFVS. The virtual pushbutton is generated here for GFVS and is then re-imported to Series 14 actuators.

Saved designations are also transferred. Overlaying the GFVS on a fully set-up Series-14 Wireless Building System is then a simple task for an electrician. For data exchange a Windows-PC/Notebook is needed.

Process of PCT14 – GFVS data exchange Tool Import / Export for PCT14 and GFVS 4.0

PCT14

1. Read out Series 14 actuator via FAM14, create configuration
2. Export PCT14 configuration file

Encrypted PCT14 configuration file on USB stick

Windows-PC / Notebook with PCT14 and USB connection FAM14

1. Mount USB stick in SafeIV/TouchIV
2. Start import / export using menu option in GFVS
3. Import PCT14 configuration file
4. Create functions, etc.
5. Save updated PCT14 configuration file on USB stick
6. Dismount USB stick

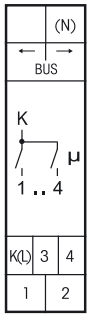
Encrypted PCT14 configuration file from USB stick

PCT14

1. Import PCT14 configuration file
2. Save new configuration in Series 14 actuators via FAM14

PCT14	PC tool for Series 14 and Series 71	Included in the scope of supply of the FAM14 and FTS14KS

Recommended retail prices excluding VAT.



FSR14-4x

min | central ON OFF | DX | RS485

4-channel impulse switch with integrated relay function, 1 NO contact per channel 4 A/250 V AC, incandescent lamps 1000 watts, potential free from the power supply, with DX technology. Bidirectional. Only 0.1 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.
1 module = 18 mm wide, 58 mm deep.

Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper.

Patented Eltako Duplex technology allows you to switch normally potential free contacts in zero passage switching when 230 V A/C voltage 50 Hz is switched. This drastically reduces wear. To achieve this, simply connect the N conductor to the terminal (N) and L to K(L). This results in an additional standby consumption of only 0.1 watt.

When all 4 relays of the FSR14-4x are switched on, a power of 0.7 watts is required.
If supply voltage fails, the device is switched off in defined mode.

The channels can be taught-in as ES and/or ER channel separately from each other.

Scene control:
Several channels of one or several FSR14-4x devices can be switched on or off in a scene by one of the four signals of a pushbutton with double rocker taught-in as a scene pushbutton.

Central commands on PC are sent using the Wireless Building Visualisation and Control Software GFVS. To do this, teach-in one or several FSR14-4x devices.

Use the rotary switches to teach-in the pushbuttons and test the 4 channels as required. For normal mode, the middle and lower rotary switches are then set to AUTO. With the upper rotary switch the EW time (0-120 seconds) is directly set for relays or the RV time (0-120 minutes) for impulse switches for all channels if necessary.

If **wireless motion/brightness sensors FBH (Master) and/or FBH (slave)** are taught-in, the switching threshold will be set with the upper rotary switch, separated for each channel, at which the lighting will be switched on or off. Settings of the upper rotary switch in accordance with operating manual.

When wireless brightness sensors FAH60 are taught-in, define the switching threshold separately for each channel using the top rotary switch. The switching threshold switches the lighting on or off depending on the brightness (from approx. 0lux in position 0 to approx. 50 lux in position 120). A hysteresis of approx. 300 lux is permanently set for switch on/off. An additionally set RV time is not taken into account.

Only one FBH (Master) or FAH can be taught-in per channel. However a FBH (Master) or FAH can be taught-in into several channels.

When wireless window/door contacts FTK or window handle sensors FFG7B-rw are taught-in, different functions can be set with the middle rotary switch in position AUTO 1 to AUTO 4 and linked to maximum 116 FTKs:
AUTO 1 = window closed then output active.
AUTO 2 = window open then output active.
In settings AUTO 3 and AUTO 4 the FTKs taught-in to a single channel are linked automatically.
With AUTO 3 all FTKs must be closed so that the N/O contact closes (e.g. for climate control).
With AUTO 4 one open FTK is sufficient to close the N/O contact (e.g. for an alarm signal or to switch on the power supply for an extractor hood).

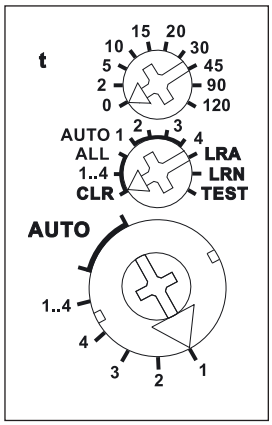
One or several FTKs can be taught-in in several channels to allow several simultaneous functions in each FTK.
After a power failure the link is restored by a new signal to the FTK and a signal on the next status message 15 minutes later.

An additionally set RV time is not taken into account.

Function with **wireless smoke alarm detectors FRW** or **water sensors** according to the operating instructions.

The LED below the upper function rotary switch performs during the teach-in process according to the operating instructions. It shows control commands by short flickering during operation.

Function rotary switches



Standard setting ex works.

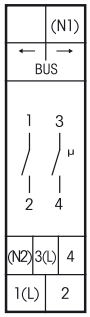
Connection example page 46.
Technical data, see page 44.

Housing for operating instructions GBA14 page 43.

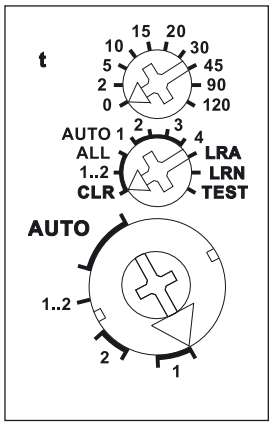
Further settings can be made using the PC Tool PCT14.

FSR14-4x	RS485 bus actuator Impulse switch with integr. relay function	EAN 4010312313701	**51,90 €/pc.**

Recommended retail prices excluding VAT.



Function rotary switches



Standard setting ex works.

FSR14-2x

min ⏻ | central ON OFF | DX | RS485

2-channel impulse switch with integrated relay function, 1+1 NO contacts potential free 16 A/250 V AC, incandescent lamps 2000 watts, with DX technology. Bidirectional. Only 0.1 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.
1 module = 18 mm wide, 58 mm deep.

Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper.

Patented Eltako Duplex technology allows you to switch normally potential free contacts in zero passage switching when 230 V A/C voltage 50 Hz is switched. This drastically reduces wear. To achieve this, simply connect the N conductor to the terminal (N1) and L to 1 (L) and/or N to (N2) and L to 3 (L). This results in an additional standby consumption of only 0.1 watt.

If supply voltage fails, the switching state is retained.
When power is restored, the device is switched off in defined mode.

The channels can be taught-in as ES and/or ER channel separately from each other.

Scene control:
Several channels of one or several FSR14-2x devices can be switched on or off in a scene by one of the four signals of a pushbutton with double rocker taught-in as a scene pushbutton.

Central commands on PC are sent using the Wireless Building Visualisation and Control Software GFVS. To do this, teach-in one or several FSR14-2x devices.

Use the rotary switches to teach-in the pushbuttons and test the 2 channels as required. For normal mode, the middle and lower rotary switches are then set to AUTO. With the upper rotary switch the EW time (0-120 seconds) is directly set for relays or the RV time (0-120 minutes) for impulse switches for all channels if necessary.

If **wireless motion/brightness sensors FBH (Master) and/or FBH (slave)** are taught-in, the switching threshold will be set with the upper rotary switch, separated for each channel, at which the lighting will be switched on or off. Settings of the upper rotary switch in accordance with operating instructions.

When wireless brightness sensors FAH60 are taught-in, define the switching threshold separately for each channel using the top rotary switch. The switching threshold switches the lighting on or off depending on the brightness (from approx. 0 lux in position 0 to approx. 50 lux in position 120). A hysteresis of approx. 300 lux is permanently set for switch on/off. An additionally set RV time is not taken into account.

Only one FBH (Master) or FAH can be taught-in per channel. However a FBH (Master) or FAH can be taught-in into several channels.

When wireless window/door contacts FTK or window handle sensors FFG7B-rw are taught-in, different functions can be set with the middle rotary switch in position AUTO 1 to AUTO 4 and linked to maximum 116 FTKs:
AUTO 1 = window closed then output active.
AUTO 2 = window open then output active.
In settings AUTO 3 and AUTO 4 the FTKs taught-in to a single channel are linked automatically.
With AUTO 3 all FTKs must be closed so that the N/O contact closes (e.g. for climate control).
With AUTO 4 one open FTK is sufficient to close the N/O contact (e.g. for an alarm signal or to switch on the power supply for an extractor hood).

One or several FTKs can be taught-in in several channels to allow several simultaneous functions in each FTK.
After a power failure the link is restored by a new signal to the FTK and a signal on the next status message 15 minutes later.

An additionally set RV time is not taken into account.

Function with **wireless smoke alarm detectors FRW** or **water sensors** according to the operating instructions.

The LED below the upper function rotary switch performs during the teach-in process according to the operating instructions. It shows control commands by short flickering during operation.

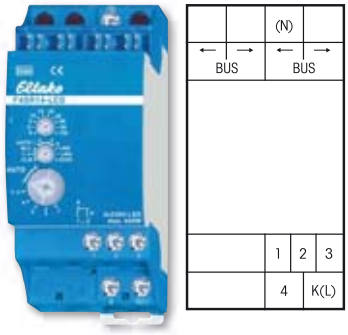
Connection example page 46.
Technical data, see page 44.

Housing for operating instructions GBA14 page 43.

Further settings can be made using the PC Tool PCT14.

FSR14-2x	RS485 bus actuator Impulse switch with integr. relay function	EAN 4010312313718	**53,50 €/pc.**

Recommended retail prices excluding VAT.



F4SR14-LED

min | central ON OFF | DX | RS485

4-channel impulse switch with integrated relay function, 1 NO contact per channel up to 400 W 230 V LED, incandescent lamps 1800 watts, potential free from the power supply, with DX technology. Bidirectional. Only 0.1 watt standby loss.

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

Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper.

230 V LED lamps can be switched up to 400 W and up to a maximum inrush current of 25 A/100 ms per NO contact.

Patented Eltako Duplex technology allows you to switch normally potential free contacts in zero passage switching when 230 V A/C voltage 50 Hz is switched. This drastically reduces wear. To achieve this, simply connect the N conductor to the terminal (N) and L to K(L). This results in an additional standby consumption of only 0.1 watt.

When all 4 relays of the F4SR14-LED are switched on, a power of 1 watt is required.
If supply voltage fails, the device is switched off in defined mode.

Maximum current as a sum of all 16 A contacts at 230 V.

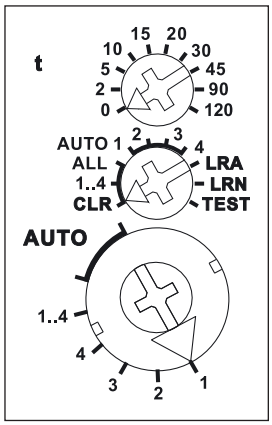
The channels can be taught-in as ES and/or ER channel separately from each other.

Scene control:
Several channels of one or several F4SR14-LED devices can be switched on or off in a scene by one of the four signals of a pushbutton with double rocker taught-in as a scene pushbutton.

Central commands on PC are sent using the Wireless Building Visualisation and Control Software GFVS. To do this, teach-in one or several F4SR14-LED devices.

Use the rotary switches to teach-in the pushbuttons and test the 4 channels as required. For normal mode, the middle and lower rotary switches are then set to AUTO. With the upper rotary switch the EW time (0-120 seconds) is directly set for relays or the RV time (0-120 minutes) for impulse switches for all channels if necessary.

Function rotary switches



Standard setting ex works.

If **wireless motion/brightness sensors FBH (Master) and/or FBH (slave)** are taught-in, the switching threshold will be set with the upper rotary switch, separated for each channel, at which the lighting will be switched on or off. Settings of the upper rotary switch in accordance with operating manual.

When wireless brightness sensors FAH60 are taught-in, define the switching threshold separately for each channel using the top rotary switch. The switching threshold switches the lighting on or off depending on the brightness (from approx. 0lux in position 0 to approx. 50 lux in position 120). A hysteresis of approx. 300 lux is permanently set for switch on/off.
An additionally set RV time is not taken into account.

Only one FBH (Master) or FAH can be taught-in per channel. However a FBH (Master) or FAH can be taught-in into several channels.

When wireless window/door contacts FTK or window handle sensors FFG7B-rw are taught-in, different functions can be set with the middle rotary switch in position AUTO 1 to AUTO 4 and linked to maximum 116 FTKs:
AUTO 1 = window closed then output active.
AUTO 2 = window open then output active.
In settings AUTO 3 and AUTO 4 the FTKs taught-in to a single channel are linked automatically. With AUTO 3 all FTKs must be closed so that the N/O contact closes (e.g. for climate control). With AUTO 4 one open FTK is sufficient to close the N/O contact (e.g. for an alarm signal or to switch on the power supply for an extractor hood).

One or several FTKs can be taught-in in several channels to allow several simultaneous functions in each FTK.
After a power failure the link is restored by a new signal to the FTK and a signal on the next status message 15 minutes later.

An additionally set RV time is not taken into account.

Function with **wireless smoke alarm detectors FRW** or **water sensors** according to the operating instructions.

The LED below the upper function rotary switch performs during the teach-in process according to the operating instructions. It shows control commands by short flickering during operation.

Connection example page 46.
Technical data, see page 44.

Housing for operating instructions
GBA14 page 43.

Further settings can be made using the PC Tool PCT14.

F4SR14-LED	RS485 bus actuator Impulse switch with integr. relay function	EAN 4010312317006	**66,50 €/pc.**

Recommended retail prices excluding VAT.

FSR14SSR

min | central ON OFF | SSR | RS485

Noiseless 2-channel impulse switch with integrated relay function, 400W. 2 solid state relays not potential free. Bidirectional. Only 0.1 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.
1 module = 18mm wide, 58mm deep.

Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper.

If both relays of the FSR14 are switched on, a power of 0.4 watts is required.

The rated switching capacity of 400W is applied for one contact and also for the sum of the two contacts. The parallel connection of multiple devices to increase power is allowed.

From manufacturing date 12/17 with automatic overtemperature shutdown.

With a load < 1W a GLE must be switched parallel to the load.

If supply voltage fails, the device is switched off in defined mode.

The channels can be taught-in as ES and/or ER channel separately from each other.

Scene control:
Several channels of one or several FSR14SSR devices can be switched on or off in a scene by one of the four signals of a pushbutton with double rocker taught-in as a scene pushbutton.

Central commands on PC are sent using the Wireless Building Visualisation and Control Software GFVS. To do this, teach-in one or several FSR14SSR devices.

Use the rotary switches to teach-in the pushbuttons and test the 2 channels as required. For normal mode, the middle and lower rotary switches are then set to AUTO. With the upper rotary switch the EW time (0-120 seconds) is directly set for relays or the RV time (0-120 minutes) for impulse switches for all channels if necessary.

If **wireless motion/brightness sensors FBH (Master) and/or FBH (slave)** are taught-in, the switching threshold will be set with the upper rotary switch, separated for each channel, at which the lighting will be switched on or off. Settings of the upper rotary switch in accordance with operating instructions.

When wireless brightness sensors FAH60 are taught-in, define the switching threshold separately for each channel using the top rotary switch. The switching threshold switches the lighting on or off depending on the brightness (from approx. 0lux in position 0 to approx. 50lux in position 120). A hysteresis of approx. 300lux is permanently set for switch on/off. An additionally set RV time is not taken into account.

Only one FBH (Master) or FAH can be taught-in per channel. However a FBH (Master) or FAH can be taught-in into several channels.

When wireless window/door contacts FTK or window handle sensors FFG7B-rw are taught-in, different functions can be set with the middle rotary switch in position AUTO 1 to AUTO 4 and linked to maximum 116 FTKs:
AUTO 1 = window closed then output active.
AUTO 2 = window open then output active.
In settings AUTO 3 and AUTO 4 the FTKs taught-in to a single channel are linked automatically.
With AUTO 3 all FTKs must be closed so that the N/O contact closes (e.g. for climate control).
With AUTO 4 one open FTK is sufficient to close the N/O contact (e.g. for an alarm signal or to switch on the power supply for an extractor hood).

One or several FTKs can be taught-in in several channels to allow several simultaneous functions in each FTK.

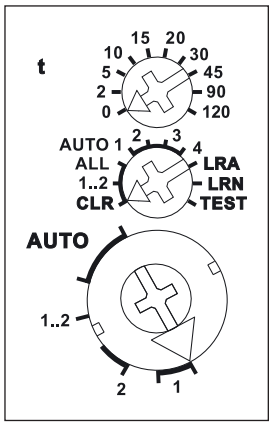
After a power failure the link is restored by a new signal to the FTK and a signal on the next status message 15 minutes later.

An additionally set RV time is not taken into account.

Function with **wireless smoke alarm detectors FRW** or **water sensors** according to the operating operating instructions.

The LED below the upper function rotary switch performs during the teach-in process according to the operating instructions. It shows control commands by short flickering during operation.

Function rotary switches



Standard setting ex works.

Connection example page 46.
Technical data, see page 44.

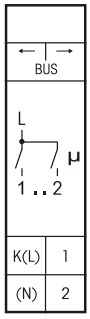
Housing for operating instructions GBA14 page 43.

Further settings can be made using the PC Tool PCT14.

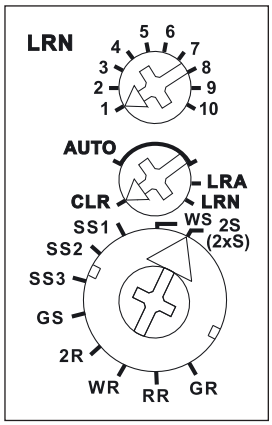
FSR14SSR	RS485 bus actuator Noiseless 2-channel impulse switch	EAN 4010312313893	**57,50 €/pc.**

Recommended retail prices excluding VAT.

RS485 Bus Actuator – Multifunction Impulse Switch with Integrated Relay Function FMS14



Function rotary switches



Standard setting ex works.

FMS14

min | central ON OFF | DX | RS485

Multifunction impulse switch with integrated relay function, 1+1 NO potential free 16 A/250 V AC, incandescent lamps 2000 W, with DX technology. Bidirectional. Only 0.1-0.6 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.
1 module = 18 mm wide, 58 mm deep.

Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper.

Patented Eltako Duplex technology allows you to switch normally potential free contacts in zero passage switching when 230 V A/C voltage 50 Hz is switched. This drastically reduces wear. To achieve this, simply connect the N conductor to the terminal (N) and L to K(L). This results in an additional standby consumption of only 0.1 watt.

Maximum current over both contacts 16 A for 230 V.
If supply voltage fails, the device is switched off in defined mode.
When both relays of the FMS14 are switched on, 0.6 watt are required.

The upper and the middle rotary switches are for teaching-in the sensors. In normal mode, the middle rotary switch is then set to AUTO and the bottom rotary switch to the required function:

2S = Impulse switch with 2 NO contacts
(2xS) = 2-way impulse switch each with one NO relay
WS = Impulse switch with 1 NO contact and 1 NC contact (0.3 watt standby loss)
SS1 = Impulse multi circuit switch 1+1 NO contacts for switching sequence 1
SS2 = Impulse multi circuit switch 1+1 NO contacts for switching sequence 2
SS3 = Impulse multi circuit switch 1+1 NO contacts for switching sequence 3
GS = Impulse group switch 1+1 NO contacts
2R = Switching relay with 2 NO contacts
WR = Switching relay with 1 NO contact and 1 NC contact (0.3 watt standby loss)
RR = Switching relay (closed-circuit current relay) with 2 NC contacts (0.5 watt standby loss)
GR = Group relay 1+1 NO contacts

Switching sequence SS1: 0 - contact 1 (K-1) - contact 2 (K-2) - contact 1 + 2
Switching sequence SS2: 0 - contact 1 - contact 1 + 2 - contact 2
Switching sequence SS3: 0 - contact 1 - contact 1 + 2
Switching sequence GS: 0 - contact 1 - 0 - contact 2
GR: Relay with alternating closing contacts.

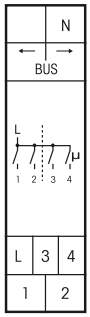
The LED below the upper function rotary switch performs during the teach-in process according to the operating instructions. It shows control commands by short flickering during operation.

Connection example page 46.
Technical data, see page 44.
Housing for operating instructions GBA14 page 43.

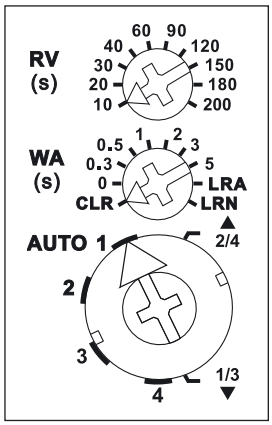
Further settings can be made using the PC Tool PCT14.

FMS14	RS485 bus actuator – Multifunction impulse switch with integrated relay function	EAN 4010312313725	**42,20 €/pc.**

Recommended retail prices excluding VAT.



Function rotary switches



Standard setting ex works.

FSB14

min | central up down | RS485

Switch actuator for shading elements and roller shutters with 2 channels for two 230 V motors. 2+2 NO contact 4 A/250 V AC, potential free from power supply 12 V. Bidirectional. Only 0.1 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting. 1 module = 18 mm wide, 58 mm deep.
Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper.
Zero passage switching to protect contacts and motors.
A motor is connected to 1, 2 and N; a second motor may be connected to 3, 4 and N.
If both relays of the FSB14 are switched on, a power of 0.4 watts is required.
If supply voltage fails, the device is switched off in defined mode.
The pushbuttons can be taught-in either as direction switches or universal switches:
Local control with universal pushbuttons: Each impulse causes the FSB14 to change its position in the UP-Stop-DOWN-Stop sequence.
Local control with direction pushbutton: A top impulse by pushbutton directly activates the 'UP' switch position. A bottom impulse by pushbutton directly activates the 'DOWN' switch position. A further impulse from one of the two pushbuttons stops the sequence immediately.
Central control dynamic without priority: A control signal from a pushbutton which was taught-in as a central control pushbutton without priority directly activates the switch position 'Up' with a scanning pulse up and the switch position 'Down' with a scanning pulse down. Without priority because this function can be overridden by other control signals.
Central control dynamic with priority: A control signal of min. 2 seconds from a pushbutton which was taught-in as a central control push-button with priority directly activates the switch position 'Up' (press top) and the switch position 'Down' (press bottom). With priority because these control signals cannot be overridden by other (local) control signals **until** the central control signal is cancelled by pressing again the central control pushbutton 'Up' or 'Down'.
The switch position 'up' or 'down' and the priority are specifically activated with a control signal, e.g. from a FSM61 taught-in with priority as a central pushbutton. With priority because these control signals cannot be overridden by other control signals **until** the central command is cancelled by the termination of the control signal
Shading scene control: With a control signal of a pushbutton with double rocker taught-in as a scene pushbutton or automatically by an additional taught-in wireless-outdoor-brightness sensor FAH60, up to 4 previously filed elapse times can be accessed.
With control via GFVS software, operating commands for up and down with the exact travel time information can be started. As the actuator reports the exact elapsed time after each activity, even when driving was triggered by a pushbutton, the position of the shading is always displayed correctly in the GFVS software. Upon reaching the end positions above and below the position is automatically synchronized.
Function rotary switch below
AUTO 1 = In this position, the **local advanced automatic reversing system for Venetian blinds** is activated. When a universal push-button or a direction pushbutton are used for control a double impulse activates a slow rotation in the opposite direction, which can be stopped with a further impulse. **AUTO 2** = In this position, the local advanced automatic reversing system for Venetian blinds is completely switched off. **AUTO 3** = In this position, the local pushbuttons act static at first, thus, allow **reversal of Venetian blinds** by operating pushbuttons. They only switch to dynamic after 0.7 seconds continuous operation. **AUTO 4** = In this position, the local pushbuttons act only static (ER function). The time delay RV (wiping time) of the upper rotary switch is active. Central control is not possible.
▲▼ = ▲ (UP) and ▼ (DOWN) of the lower rotary switch are the positions for manual control. Manual control has priority over all other control commands.
WA = **Automatic reversal** for Venetian blinds and awnings is controlled by the middle rotary switch. 0 = OFF, otherwise from 0.3 to 5 seconds ON with the selected reversal time. In this case, it is only for DOWN that the direction is reversed on time-out of the time lag selected by the top rotary switch, e.g. to extend awnings or set Venetian blinds to a defined position. A LED is located behind the RV-rotary switch to show the reversal time.
RV = The **time delay** (delay time RV) is set by the top rotary switch. If the FSB14 is in the UP or DOWN position the selected delay time runs (elapses); at time-out the device changes automatically to STOP. Therefore, the time delay must be chosen at least as long as the shading element or roller shutter will need to move from one limit position to the other.
The LED indication for the delay time RV is located behind the rotary switch RV.

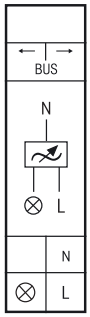
When one or several wireless window/door contacts FTK or window handle sensors FFG7B-rw are taught-in, a lock-out protection is set up while the door is open and disables a Central Down command.
The LED below the upper function rotary switch performs during the teach-in process according to the operating instructions. It shows control commands by short flickering during operation.

Connection example page 46.
Technical data, see page 44.
Housing for operating instructions GBA14 page 43.

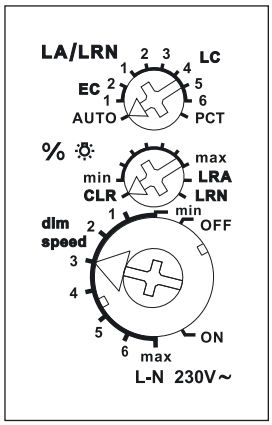
Further settings can be made using the PC Tool PCT14.

FSB14	RS485 bus actuator for shading elements and roller shutters	EAN 4010312313732	**53,20 €/pc.**

Recommended retail prices excluding VAT.



Function rotary switches



Standard setting ex works.

Connection example page 46.
Technical data, see page 44.

Housing for operating instructions GBA14 page 43.

Further settings can be made using the PC Tool PCT14.

FUD14

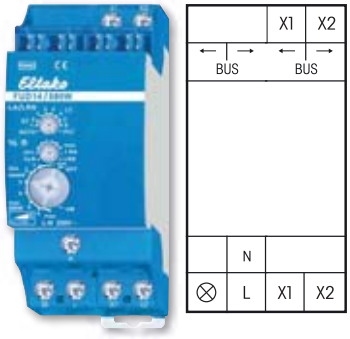
R, L, C, ESL LED | min | central ON OFF | RS485

Universal dimmer switch, Power MOSFET up to 400W. Automatic lamp detection. Bidirectional. Only 0.3 watt standby loss. With adjustable minimum brightness or maximum brightness and dimming speed. With switching operation for light alarm clocks, children's rooms and snooze function. Also with light scene control and constant light regulation.

Modular device for DIN-EN 60715 TH35 rail mounting. 1 module = 18mm wide, 58mm deep.
The delivery includes a spacer DS14, 1 short jumper 1 module (up to 200W load) and 1 long jumper 1.5 modules (from 200W load with DS14 on the left side).
Universal dimmer switch for lamps up to 400W, depending on ventilation conditions, dimmable energy saving lamps (ESL) and dimmable 230V LED lamps are also dependent on the lamp electronics.
Zero passage switching with soft ON and soft OFF to protect lamps.
Switching voltage 230V. No minimum load.
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.
Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper.
The upper rotary switch LA/LRN is first required for teach-in and defines in operation whether automatic lamp detection should be activated or special comfort positions:
AUTO allows all lamp types to be dimmed.
EC1 is a comfort position for energy saving lamps which must be switched on at high voltage due to their design so that they can be dimmed down and switched back on safely when cold.
EC2 is a comfort position for energy saving lamps which cannot be switched back on in dimmed-down position due to their design. Therefore the memory is switched off in this position.
LC1 is a comfort position for LED lamps which cannot be dimmed down far enough in AUTO (phase cut-off) due to their design.
LC2 and **LC3** are comfort positions for LED lamps like LC1 but with different dimming curves.
In positions EC1, EC2, LC1, LC2 and LC3, no inductive (wound) transformers may be used. In addition the maximum number of dimmable LED lamps may be lower than in AUTO position due to their design.
LC4, LC5 and **LC6** are comfort positions for LED lamps such as AUTO but with different dimming curves.
PCT is a position for special functions which are set up using the PC tool PCT14.
The minimum brightness (fully dimmed down) is adjustable **with the middle % ☼ rotary switch**.
The dimming speed is adjustable using the **bottom dimming speed rotary switch.**
The pushbuttons can be taught-in either as direction pushbuttons or universal pushbuttons: When installed as a direction pushbutton, one side is then 'switch on and dim up' and the other side is 'switch off and dim down'. A double-click on the switch-on side activates automatic dim-up to full brightness at dim speed. A double click on the switch-off side activates the snooze function. The children's room function is implemented on the switch-on side. **As a universal pushbutton,** change the direction by briefly releasing the pushbutton.
For light scene control, constant light regulation, light alarm circuit, children's room circuit and sleep timer, refer to the operating instructions.
When the pushbutton is taught in as a staircase pushbutton, it is possible to retrieve a resettable staircase time switch function with RV = 2 minutes. Individual light scene pushbuttons can be used to retrieve brightness settings carried out during teach-in. A taught-in FAH can be used to implement a twilight switch. Switch-on can take place using up to 4 FBHs depending on motion and brightness.
The LED performs during the teach-in process according to the operating instructions.
It shows control commands by short flickering during operation.

FUD14	RS485 bus universal dimmer switch	EAN 4010312313749	**61,00 €/pc.**

Recommended retail prices excluding VAT.

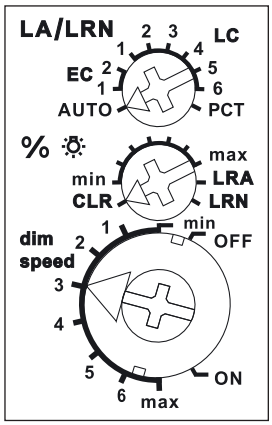


FUD14/800W

Universal dimmer switch, Power MOSFET up to 800W. Automatic lamp detection. Only 0.3 watt standby loss. With adjustable minimum brightness or maximum brightness and dimming speed. With switching operation for light alarm clocks, children's rooms and snooze function. Also with light scene control and constant light regulation.

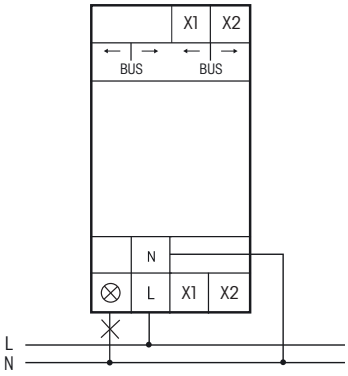
Modular device for DIN-EN 60715 TH35 rail mounting. 2 modules = 36mm wide, 58mm deep.
The delivery includes a spacer DS14, 2 short jumpers 1 module (up to 400W load) and 1 long jumper 1.5 modules (from 400W load with DS14 on the left side).
Universal dimmer switch for lamps up to 800W, depending on ventilation conditions, dimmable energy saving lamps (ESL) and dimmable 230V LED lamps are also dependent on the lamp electronics.
Up to 3600W with capacity enhancers FLUD14 at terminals X1 and X2.
Zero passage switching with soft ON and soft OFF to protect lamps.
Switching voltage 230V. No minimum load.
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.
Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper.
The upper rotary switch LA/LRN is first required for teach-in and defines in operation whether automatic lamp detection should be activated or special comfort positions:
AUTO allows all lamp types to be dimmed.
EC1 is a comfort position for energy saving lamps which must be switched on at high voltage due to their design so that they can be dimmed down and switched back on safely when cold.
EC2 is a comfort position for energy saving lamps which cannot be switched back on in dimmed-down position due to their design. Therefore the memory is switched off in this position.
LC1 is a comfort position for LED lamps which cannot be dimmed down far enough in AUTO (phase cut-off) due to their design.
LC2 and **LC3** are comfort positions for LED lamps like LC1 but with different dimming curves.
In positions EC1, EC2, LC1, LC2 and LC3, no inductive (wound) transformers may be used. In addition the maximum number of dimmable LED lamps may be lower than in AUTO position due to their design.
LC4, LC5 and **LC6** are comfort positions for LED lamps such as AUTO but with different dimming curves.
PCT is a position for special functions which are set up using the PC tool PCT14.
The minimum brightness (fully dimmed down) is adjustable **with the middle % rotary switch**.
The dimming speed is adjustable using the **bottom dimming speed rotary switch.**
The pushbuttons can be taught-in either as direction pushbuttons or universal pushbuttons:
When installed as a direction pushbutton, one side is then 'switch on and dim up' and the other side is 'switch off and dim down'. A double-click on the switch-on side activates automatic dim-up to full brightness at dim speed. A double click on the switch-off side activates the snooze function. The children's room function is implemented on the switch-on side.
As a universal pushbutton, change the direction by briefly releasing the pushbutton.
For light scene control, constant light regulation, light alarm circuit, children's room circuit and sleep timer, refer to the operating instructions.
When the pushbutton is taught in as a staircase pushbutton, it is possible to retrieve a resettable staircase time switch function with RV = 2 minutes. Individual light scene pushbuttons can be used to retrieve brightness settings carried out during teach-in. A taught-in FAH can be used to implement a twilight switch. Switch-on can take place using up to 4 FBHs depending on motion and brightness.
The LED performs during the teach-in process according to the operating instructions.
It shows control commands by short flickering during operation.

Function rotary switches



Standard setting ex works.

Typical connection



Connection example page 46.
Technical data, see page 44.

Housing for operating instructions GBA14 page 43.

Further settings can be made using the PC Tool PCT14.

FUD14/800W	RS485 bus universal dimmer switch	EAN 4010312313756	**87,50 €/pc.**

Recommended retail prices excluding VAT.

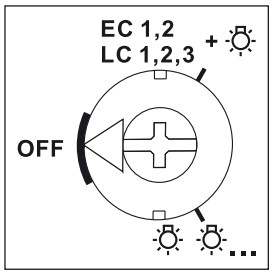
FLUD14

R, L, C, ESL LED | min

Capacity enhancer for universal dimmer switch FUD14/800W, Power MOSFET up to 400W. Standby loss 0.1 watt only.

Modular device for DIN EN 60715 TH35 rail mounting.
1 module = 18mm wide, 58mm deep.
Capacity enhancers FLUD14 can be connected to the universal dimming actuator FUD14/800W. By this the switching capacity **for one lamp** will be increased up to 200W or alternatively **for additional lamps** up to 400W per each capacity enhancer.
The two circuits to increase capacity can be created at the same time using several FLUD14s.
Supply voltage 230V. No minimum load.
Automatic electronic overload protection and over-temperature switch-off.
The lamp type of a capacity enhancer FLUD14 in the 'Capacity increase with additional lamps' may deviate from the lamp type of the universal dimmer switch FUD14/800W.
It is therefore possible to mix capacitive and inductive loads.

Function rotary switch

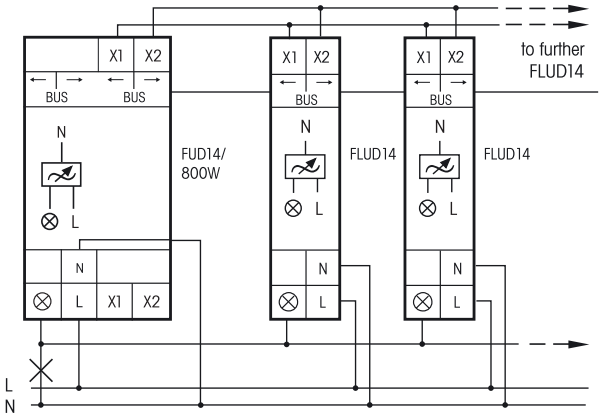


Standard setting ex factory.

The switching mode "one lamp"(☼) or "additional lamps" (☼☼) is set with a rotary switch on the front.

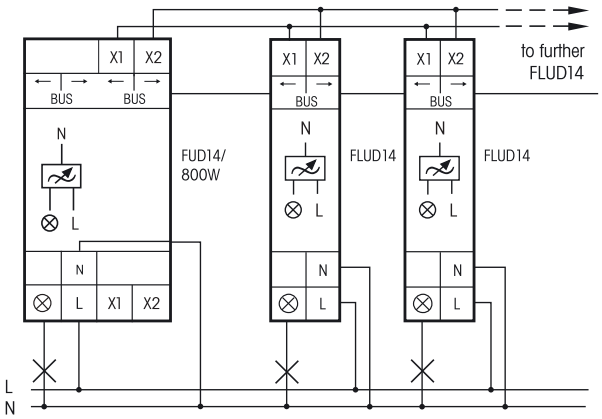
This setting must be same as the actual installation, otherwise there is a risk of destruction of the electronics.

Capacity increase for a lamp (☼) in dimmer switch operating modes AUTO, LC4, LC5 and LC6. For operating modes EC1, 2 and LC1, 2, 3, see next page.



FUD14/800W:
1.-8. FLUD14 + up to 200W each[1)]

Capacity increase for additional lamps (☼☼) in dimmer switch operating modes AUTO, LC4, LC5 and LC6. For operating modes EC1, 2 and LC1, 2, 3, see next page.



FUD14/800W:
1.-7. FLUD14 + up to 400W[1)]

[1)] Ventilation clearance of ½ module to adjacent devices must be maintained.

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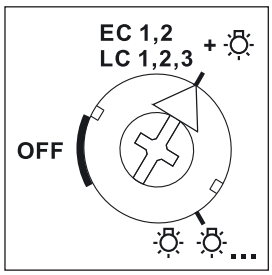
Technical data, see page 44.
Housing for operating instructions GBA14 page 43.

FLUD14	Capacity enhancer	EAN 4010312313763	**62,20 €/pc.**

This setting must be made on the front panel for ESL and 230 V LED lamps if the FUD14/800W is operated in comfort settings EC1, EC2, LC1, LC2 or LC3.

Function rotary switch

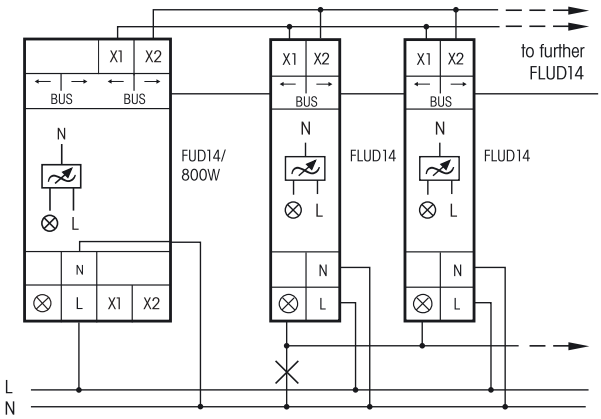


Capacity increase with capacity enhancers FLUD14 for dimmable energy saving lamps ESL and dimmable 230V LED lamps in comfort settings EC1, EC2, LC1, LC2 and LC3.

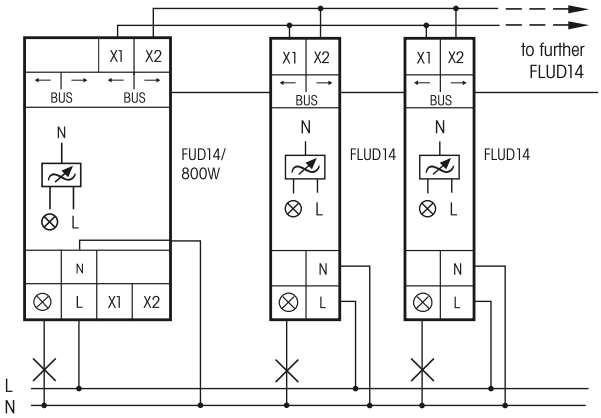
Also for capacity increase with additional lamps.

Otherwise there is a risk of destruction of the electronics.

Capacity increase of a lamp in settings EC1, 2 and LC1, 2, 3



Capacity increase with additional lamps in settings EC1, 2 and LC1, 2, 3.



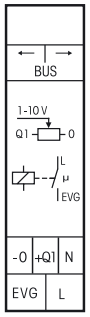
[1)] Ventilation clearance of ½ module to adjacent devices must be maintained.

Connection example page 46.
Technical data, see page 44.

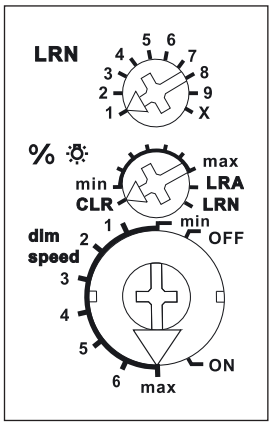
Housing for operating instructions GBA14 page 43.

FLUD14	Capacity enhancer	EAN 4010312313763	**62,20 €/pc.**

Recommended retail prices excluding VAT.

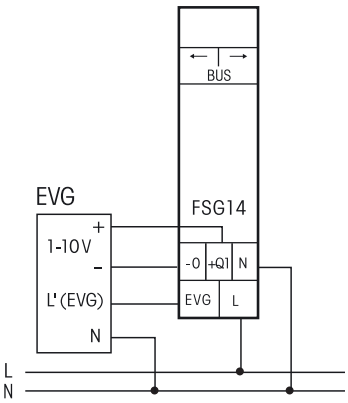


Function rotary switches



Standard setting ex works.

Typical connection



FSG14/1-10V

Dimmer switch controller for electronic ballast 1-10 V, 1 NO contact not potential free 600 VA and 1-10 V control output 40 mA. Bidirectional. Only 0.9 watt standby loss. With adjustable minimum brightness and dimming speed. With light scene control and constant light regulation.

Modular device for DIN-EN 60715 TH35 rail mounting.
1 modul = 18 mm wide, 58 mm deep.

State-of-the-art hybrid technology combines advantages of nonwearing electronic control.

Zero passage switching to protect contacts.

The power consumption of the 12 V DC power supply is only 0.1 W.

Also adapted for LED driver with 1-10 V passive interface, without voltage source up to 0.6 mA, above this value an additional voltage source is necessary.

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.

Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper.

The minimum brightness (fully dimmed) is adjustable **with the % rotary switch.**

The dimming speed is adjustable using the **dimming speed rotary switch.**

The load is switched on and off by a bistable relay at output EVG. Switching capacity for fluorescent lamps or LV halogen lamps with EGV 600 VA.

By using a bistable relay coil power loss and heating is avoided even in the on mode.

After installation, wait for short automatic synchronisation before the switched consumer is connected to the mains.

The pushbuttons can be taught-in either as direction pushbuttons or universal pushbuttons:
As a direction pushbutton, press up is brighter and press down is darker respectively above short pressing means switch ON and below short pressing switch OFF. A double click above activates automatic updimming until full brightness with dim speed. A double click below activates snooze function. The children's room function will be realized with the upper switch.
As a universal pushbutton, change the direction by briefly releasing the pushbutton.
With switching operation for children's rooms and snooze function.

Switching for light alarm clocks: A wireless signal of a time clock which was taught-in accordingly starts the wake up function by switching on the light at the lowest brightness level and dims up slowly until the maximum level is reached. The dimming process is stopped by tapping briefly (e.g. on a hand-held transmitter).

Switching operation for children's rooms: If the light is switched on by holding down the pushbutton (universal pushbutton or direction pushbutton above), it starts at the lowest brightness level after approx. 1 second and dims up slowly as long as the pushbutton is held down. The last saved brightness level is not modified.

Snooze function (universal pushbutton or direction pushbutton below): With a double impulse the lighting is dimmed down from the current dimming position to the minimum brightness level and switched off. The current dimming position as well as the adjustable minimum brightness level determine the dimming time (max. = 60 minutes) which can be reduced as required. It can be switched off at any time by short-time control commands during the lighting is dimmed down.

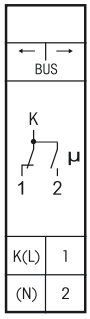
The LED below the upper function rotary switch performs during the teach-in process according to the operating instructions. It shows control commands by short flickering during operation.

Connection example page 46.
Technical data, see page 44.
Housing for operating instructions GBA14 page 43.

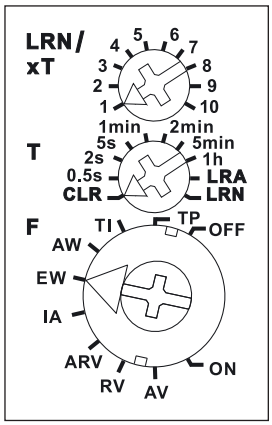
Further settings can be made using the PC Tool PCT14.

FSG14/1-10V	RS485 bus dimmer switch controller	EAN 4010312313770	**57,80 €/pc.**

Recommended retail prices excluding VAT.



Function rotary switches



Standard setting ex works.

FMZ14

min | central ON OFF | DX | RS485

Multifunction time relay with 10 functions, 1 CO contact potential free 10 A/250 V AC, incandescent lamps 2000 watts*, with DX technology. Bidirectional. Only 0.4 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.
1 modul = 18 mm wide, 58 mm deep.

Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper.

Wireless window contacts (FTK) at opened windows with the function NO or NC can be taught-in. If a direction switch is taught-in, a function (e.g. TI) can be started using the top switch (START) and stopped with the bottom switch (STOP).

Patented Eltako Duplex technology allows you to switch normally potential free contacts in zero passage switching when 230 V A/C voltage 50 Hz is switched. This drastically reduces wear. To achieve this, simply connect the N conductor to the terminal (N) and L to K(L). This results in an additional standby consumption of only 0.1 watt.

If supply voltage fails, the two contacts switch off. When power is restored, contact 1 closes.

Time setting between 0.5 second and 10 hours.

Teach-in takes place **using the top and middle rotary switches** and then the time is set.
T is the time base and xT the multiplier.

The function is selected **using the bottom rotary switch:**

RV = off delay
AV = operate delay
TI = clock generator starting with impulse
TP = clock generator starting with pause
IA = impulse controlled operate delay (e.g. automatic door opener)
EW = fleeting NO contact
AW = fleeting NC contact
ARV = operate and release delay
ON = Permanent ON
OFF = Permanent OFF

The LED below the upper function rotary switch performs during the teach-in process according to the operating instructions. It shows control commands by short flickering during operation.

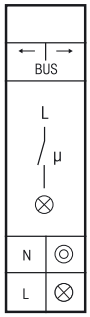
* The maximum load can be used starting at a delay time or clock cycle of 5 minutes. The maximum load will be reduced for shorter times as follows: up to 2 seconds 15%, up to 2 minutes 30%, up to 5 minutes 60%.

Connection example page 46.
Technical data, see page 44.
Housing for operating instructions GBA14 page 43.

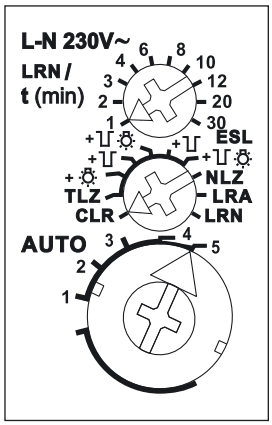
Further settings can be made using the PC Tool PCT14.

FMZ14	RS485 bus actuator Multifunction time relay	EAN 4010312313787	**40,60 €/pc.**

Recommended retail prices excluding VAT.



Function rotary switches



Standard setting ex works.

FTN14

Staircase off-delay timer, 1 NO contact not potential free 16 A/250 V AC, incandescent lamps up to 2000 watts, switch-off early warning and switchable pushbutton permanent light. Also for energy saving lamps ESL up to 200 Watt. Bidirectional. Only 0.2 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.
1 modul = 18 mm wide, 58 mm deep.

Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper.

Switching voltage 230 V.

Zero passage switching to protect contacts and consumers.

If a power failure occurs, the switching state is retained. The time lapse to switch off starts when the power supply is restored.

In addition to the bus control input, this staircase off-delay timer can also be controlled locally by a conventional 230 V control switch. Glow lamp current up to 5 mA, dependent on the ignition voltage of the glow lamps.

The upper rotary switch LRN is required for teach-in. Then the off-delay 1 to 30 minutes can be set.

Wireless pushbuttons and/or wireless motion-brightness sensors FBH will be taught-in **with the middle rotary switch** in the setting LRN, of which one or more are central control push-buttons. The required function of this staircase off-delay timer can then be selected:

NLZ = off-delay timer with adjustable operate delay

TLZ = staircase time switch

ESL = staircase time switch for energy saving lamps ESL

+ ☼ = with pushbutton permanent light (only TLZ)
+ ⎍ = with switch-off early warning (TLZ + ESL)
+ ⎍☼ = with pushbutton permanent light and switch-off early warning (TLZ + ESL)

If the permanent light function ☼ is switched on, the function can be activated by pressing the pushbutton for longer than 1 second. This function switches off automatically after 60 minutes or by pressing the pushbutton for longer than 2 seconds.

If the switch-off early warning ⎍ is switched on, the light starts to flicker approx. 30 seconds before time-out. This is repeated three times at decreasing time intervals.

If both switch-off early warning and pushbutton permanent light ⎍☼ are switched on, switch-off early warning is activated before automatic switch-off of the permanent light.

A response delay (AV delay) can be set **with the lower rotary switch** at setting NLZ or when controlled with a switch. Setting AUTO1 = 1 s, AUTO2 = 30 s, AUTO3 = 60 s, AUTO4 = 90 s and AUTO5 = 120 s (clockwise). Also permanent light function can be set manually.

But if you activate by pressing a button at NLZ, the device switches on when pressed once and the time lapse to switch-off starts when pressed twice.

When teaching-in **wireless motion/brightness sensors FBH,** the switching threshold is defined on the last FBH taught-in to switch the light on/off depending on the brightness – provided motion is detected. The off delay set on the FTN14 is prolonged by a setting of 1 minute fixed in the FBH.

When teaching-in **window/door contacts FTK,** a NC or NO can be taught-in as required. Accordingly, the timing period starts when opening or closing the window or the door.

If **switches for permanent operation** are taught-in, for example wireless transmitter modules or FTS12EM, it is switched on when pressing and the time will be started when releasing.

The LED below the upper function rotary switch performs during the teach-in process according to the operating instructions. It shows control commands by short flickering during operation.

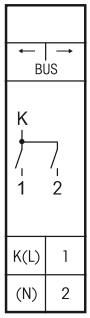
Connection example page 46.
Technical data, see page 44.

Housing for operating instructions GBA14 page 43.

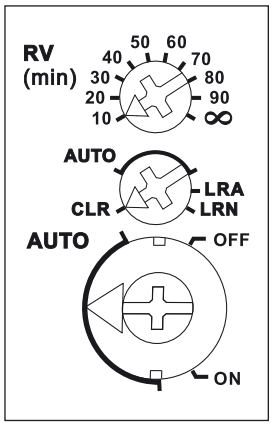
Further settings can be made using the PC Tool PCT14.

FTN14	RS485 bus actuator Staircase off-delay timer	EAN 4010312313794	**43,70 €/pc.**

Recommended retail prices excluding VAT.



Function rotary switches



Standard setting ex works.

FFR14

min | central ON OFF | DX | RS485

2-channel mains disconnection relay, 1+1 NO contacts potential free 16 A/250 V AC, incandescent lamps 2000 watts. Bidirectional. Only 0.1 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.
1 modul = 18 mm wide, 58 mm deep.

Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper.

State-of-the-art hybrid technology combines advantages of nonwearing electronic control with high capacity of special relays.

The mains disconnection relay FFR14 interrupts the power supply of 1 or 2 circuits and prevents interfering electromagnetic fields.

To enable zero passage switching in patented Eltako Duplex technology, L must be connected to K(L) and N to (N). This results in an additional standby consumption of only 0.1 watt. N may not be connected if a contactor is switched downstream for the purpose of increasing performance.

When both relays of the FFR14 are switched on, 0.6 watts are required.
If supply voltage fails, the device is switched off in defined mode.

Maximum current as the sum of both contacts 16 A at 230 V.

This mains disconnection relay is switched in the circuit distributor downstream of the 16 A circuit breaker which protects up to two circuits in the room to be protected by mains disconnection. For example, one circuit for the lighting and one circuit for the socket outlets.

The circuits are enabled and disabled manually using one or several stationary wireless push-buttons or hand-held wireless transmitters.

With the top rotary switch a time delay from 10 to 90 minutes can be set for the control with universal and direction pushbutton for contact 2. In position ∞ without delay.

The middle rotary switch is required for teaching-in and is set to AUTO in normal mode.

With the lower rotary switch it will be switched on at ON and switched off at OFF. It is set to AUTO in normal mode.

If a wireless pushbutton rocker is assigned to 'central ON' for the mains disconnection relay and to 'ON' for the lighting, the mains disconnection relay is automatically cancelled when the lighting is switched on.

If a wireless pushbutton rocker, e.g. a bedside light, is assigned with 'OFF' for the lamp and 'central OFF' for the mains disconnection relay, the mains disconnection is automatically activated when the bedside lamp is switched off.

10 teach-in positions of the FFR14 plus the switch-off delay give the user plenty of scope to define the settings the mains disconnection relay.

The LED below the upper function rotary switch performs during the teach-in process according to the operating instructions. It shows control commands by short flickering during operation.

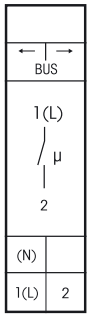
Connection example page 46.
Technical data, see page 44.

Housing for operating instructions GBA14 page 43.

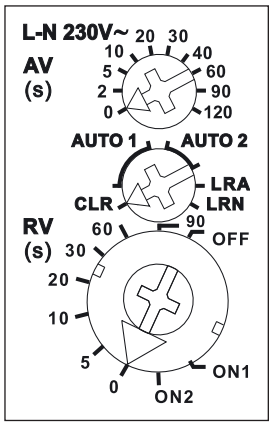
Further settings can be made using the PC Tool PCT14.

FFR14	RS485 bus actuator Mains disconnection relay	EAN 4010312313800	**43,40 €/pc.**

Recommended retail prices excluding VAT.



Function rotary switches



Standard setting ex works.

FZK14

Time relay for card switch or smoke alarm, 1 NO contact potential free 16 A/250 V AC, incandescent lamps up to 2000 watts. Off-delay and response delay are adjustable. Bidirectional. Only 0.1 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.
1 modul = 18 mm wide, 58 mm deep.

Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper.

Patented Eltako Duplex technology allows you to switch normally potential free contacts in zero passage switching when 230 V A/C voltage 50 Hz is switched. This drastically reduces wear. To achieve this, simply connect the N conductor to the terminal (N) and L to 1(L). This results in an additional standby consumption of only 0.1 watt.

N may not be connected if a contactor is switched downstream for the purpose of increasing performance.

The upper rotary switch AV is required for teach-in. Then set here the response lag time AV between 0 and 120 seconds for contact.

The middle rotary switch is required for teach-in. Then the device response after a power failure is defined here. In AUTO1 position the switching state is retained when power is restored; in AUTO2 position, the device is switched off in a defined mode.

The lower rotary switch RV sets the time-delay RV for the contact between 0 and 90 seconds in normal operation. Additionally specific confirmation telegrams can be sent to teach-in other actuators with the lower rotary switch.

Turn the rotary switch to ON1: confirmation telegrams (0x70) service card KCS was inserted
Turn the rotary switch to ON2: confirmation telegrams (0x30) guest card KCG was inserted
Turn the rotary switch to OFF: confirmation telegrams (0x50) card was removed

The confirmation telegrams will be taught-in into other acuators as 'central ON' (card inserted) and 'central OFF' (card removed), e.g. FSR14-4x.
In this application the contact of the FZK only connects the allocation of the controlled load circuits of the actuator connected to the confirmation telegrams.
This makes it possible to produce different lighting scenes for the service card KCS and the guest card KCG when inserting the according card.
Then the single channels of the actuator can be switched individually with the wireless pushbuttons.

The AV and RV times permit the simple control of lights and air conditioning systems with the wireless card switch FKF.

The response lag AV starts as soon as the card is inserted in the wireless card-operated door lock FKF and the time delay RV starts after the card is removed.

In addition to the wireless card switch FKF, wireless window/door contacts FTK, window handles and motion/brightness sensors FBH and FB65B can also be taught in.

Opening a monitored window also starts the RV time. When the RV time expires, contact opens. Closing all monitored windows starts the AV time. When the AV time expires, contact closes, if the card is inserted.

When motion/brightness sensors are used and the card is inserted, contact closes immediately motion is detected. If no motion is detected for 15 minutes the contact opens, even if the card is inserted.

For light control and additional climate control with wireless window door contact two FZK14 have to be used, otherwise not only the air conditioning, but also the light would be switched off when window is open.

Several wireless smoke alarms FRW-ws are logically linked with this switch actuator time relay so that the RV time only starts after all FRW-ws devices have signalled alarm end.

Card switches and smoke alarms can not be operated together with an FZK device.

The LED below the upper function rotary switch performs during the teach-in process according to the operating instructions. It shows control commands by short flickering during operation.

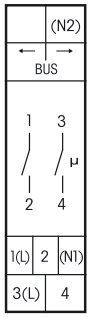
Connection example page 46.
Technical data, see page 44.

Housing for operating instructions GBA14 page 43.

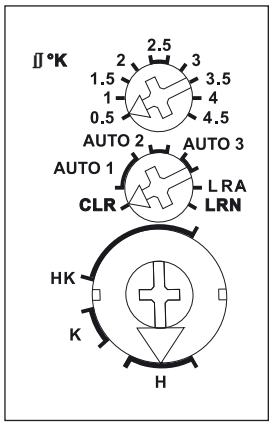
Further settings can be made using the PC Tool PCT14.

FZK14	RS485 bus actuator Time relay	EAN 4010312313817	**43,90 €/pc.**

Recommended retail prices excluding VAT.



Function rotary switches



Standard setting ex works.

FHK14

Heating/cooling relay, 1+1 NO contacts potential free 4 A/250 V AC, with DX technology. Bidirectional. Only 0.1 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.
1 modul = 18 mm wide, 58 mm deep.

Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper.

Patented Eltako Duplex technology allows you to switch normally potential free contacts in zero passage switching when 230 V A/C voltage 50 Hz is switched. This drastically reduces wear. To achieve this, simply connect the N conductor to the terminal (N1) and L to 1(L) and/or N to (N2) and L to 3(L). This results in an additional standby consumption of only 0.1 watt.

When both relays of the FHK14 are switched on, 0.4 watts are required.

If supply voltage fails, the device is switched off in defined mode.

This heating/cooling relay assesses information about wireless temperature controllers or sensors. Possibly supplemented by window/door contacts, motion detectors, window handle sensor FFG7B-rw and wireless pushbuttons.

As an alternative to a wireless temperature controller, the temperature information on the set and actual values can be obtained from the GFVS software.

It is also possible to specify the set temperature via GFVS software and thus limiting the setting range of the wireless temperature controller.

Top rotary switch for adjustable hysteresis:
Left stop: lowest hysteresis 0.5°. **Middle position:** hysteresis 2.5°.
Right stop: largest hysteresis 4.5°. Inbetween, divisions in steps of 0.5°.

Middle rotary switch for regulation types:
AUTO 1: With PWM control at T = 4 minutes. (PWM = pulse width modulation).
(suitable for valves with thermoelectric valve drive)
AUTO 2: With PWM control at T = 15 minutes.
(suitable for valves with motor-driven valve drive)
AUTO 3: With 2-point control.

Bottom rotary switch for operating modes:
H: heating mode (Contact 1-2 and Contact 3-4); **K:** cooling mode (Contact 1-2 and Contact 3-4);
HK: heating mode (Contact 3-4) and cooling mode (Contact 1-2);

In heating mode, the **frost protection function** is always enabled. As soon as the actual temperature drops below 8°C, the temperature is controlled in the selected operating mode to 8°C.

If one or several windows are open, the output remains off **provided the window/door contacts FTK or window handle sensors FFG7B-rw** are taught-in. In heating mode, however, the frost protection remains enabled.

As long as all taught-in **motion detectors FBH** detect no motion, the device is switched to setback mode. In heating mode, the reference temperature is set back by 2°; in cooling mode, it is raised by 2°. As soon as a motion detector signals movement again, the device is switched to normal mode.

When a **wireless pushbutton FT4** is taught-in, the assignment of the 4 keys is assigned with the following fixed functions: Top right: Normal mode (can also be enabled by timer). Bottom right: Night setback mode by 4°; in cooling mode, raised by 4° (can also be enabled by timer). Top left: Setback mode by 2°, in cooling mode, raised by 2°. Bottom left: Off (in heating mode, frost protection enabled; in cooling mode permanent off). If the motion detector and wireless pushbutton are taught-in at the same time, the last telegram received is always the one that is valid. A motion detector therefore switches off a setback mode selected by wireless pushbutton when a movement is detected.

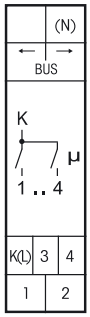
The LED below the upper function rotary switch performs during the teach-in process according to the operating instructions. It shows control commands by short flickering during operation.

Connection example page 46.
Technical data, see page 44.
Housing for operating instructions GBA14 page 43.

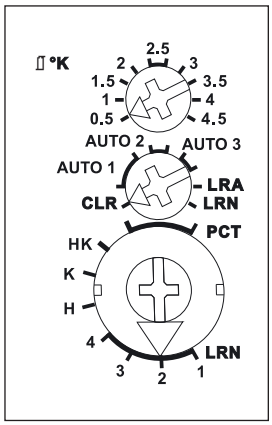
Further settings can be made using the PC Tool PCT14.

FHK14	RS485 bus actuator Heating/cooling relay	EAN 4010312313824	**43,40 €/pc.**

Recommended retail prices excluding VAT.



Function rotary switches



Standard setting ex works.

F4HK14

Heating/cooling relay with 4 channels, 1 NO contact per channel 4 A/250 V AC, potential free from the power supply, with DX technology. Bidirectional. Only 0.1 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.
1 modul = 18 mm wide, 58 mm deep.

Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper.

Patented Eltako Duplex technology allows you to switch normally potential free contacts in zero passage switching when 230 V A/C voltage 50 Hz is switched. This drastically reduces wear. To achieve this, simply connect the N conductor to the terminal (N) and L to K(L). This results in an additional standby consumption of only 0.1 watt.

When all 4 relays are switched on, a power of 0.7 watts is required.

If supply voltage fails, the device is switched off in defined mode.

This heating/cooling relay assesses information about wireless temperature controllers or sensors. Possibly supplemented by window/door contacts, motion detectors, window handle sensor FFG7B-rw and wireless pushbuttons.

As an alternative to a wireless temperature controller, the temperature information on the set and actual values can be obtained from the GFVS software.

It is also possible to specify the set temperature via GFVS software and thus limiting the setting range of the wireless temperature controller.

Top rotary switch for adjustable hysteresis:
Left stop: lowest hysteresis 0.5°. **Middle position:** hysteresis 2.5°.
Right stop: largest hysteresis 4.5°. Inbetween, divisions in steps of 0.5°.

Middle rotary switch for regulation types:
AUTO 1: With PWM control at T = 4 minutes. (PWM = pulse width modulation).
(suitable for valves with thermoelectric valve drive)
AUTO 2: With PWM control at T = 15 minutes.
(suitable for valves with motor-driven valve drive)
AUTO 3: With 2-point control.

Bottom rotary switch for operating modes:
H: heating mode (Contacts 1 to 4); **K:** cooling mode (Contacts 1 to 4);
HK: heating mode (Contact 3 and 4) and cooling mode (Contact 1 and 2);

In heating mode, the **frost protection function** is always enabled. As soon as the actual temperature drops below 8°C, the temperature is controlled in the selected operating mode to 8°C.

If one or several windows are open, the output remains off **provided the window/door contacts FTK or window handle sensors FFG7B-rw** are taught-in. In heating mode, however, the frost protection remains enabled.

As long as all taught-in **motion detectors FBH** detect no motion, the device is switched to setback mode. In heating mode, the reference temperature is set back by 2°; in cooling mode, it is raised by 2°. As soon as a motion detector signals movement again, the device is switched to normal mode.

When a **wireless pushbutton FT4** is taught-in, the assignment of the 4 keys is assigned with the following fixed functions: Top right: Normal mode (can also be enabled by timer). Bottom right: Night setback mode by 4°; in cooling mode, raised by 4° (can also be enabled by timer). Top left: Setback mode by 2°, in cooling mode, raised by 2°. Bottom left: Off (in heating mode, frost protection enabled; in cooling mode permanent off). If the motion detector and wireless pushbutton are taught-in at the same time, the last telegram received is always the one that is valid. A motion detector therefore switches off a setback mode selected by wireless pushbutton when a movement is detected.

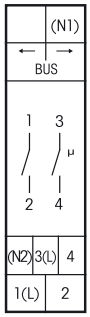
The LED below the upper function rotary switch performs during the teach-in process according to the operating instructions. It shows control commands by short flickering during operation.

Connection example page 46.
Technical data, see page 44.
Housing for operating instructions GBA14 page 43.

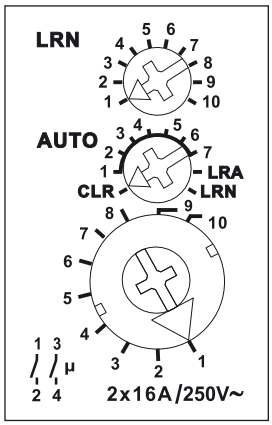
Further settings can be made using the PC Tool PCT14.

F4HK14	RS485 bus actuator Heating/cooling relay	EAN 4010312314982	**51,90 €/pc.**

Recommended retail prices excluding VAT.



Function rotary switches



Standard setting ex works.

F2L14

2-speed fan relay, 1+1 NO contacts potential free 16A/250V AC, with DX technology. Bidirectional. Only 0.1 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting. 1 modul = 18mm wide, 58mm deep.

Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper. Patented Eltako Duplex technology allows you to switch normally potential free contacts in zero passage switching when 230V A/C voltage 50Hz is switched. This drastically reduces wear. To achieve this, simply connect the N conductor to the terminal (N1) and L to 1(L) and/or N to (N2) and L to 3(L). This results in an additional standby consumption of only 0.1 watt.

If supply voltage fails, the switching state is retained. When supply voltage is restored, the device is switched off in defined mode.

This fan relay evaluates the information of up to 23 passive sensors, e.g. wireless push-buttons, window/door contacts, window handle sensors FFG7B-rw or wireless transmitter modules. Active sensors for CO_2, humidity and temperature are also evaluated.

Several active sensors can be linked by the PCT14 PC Tool.

When the two contacts are switched in parallel, the 2-speed actuator for 2 fan speeds becomes an actuator for one fan.

The middle rotary switch must be set to position LRN for teach-in. Set the required operating mode when the fan actuator is in operation.

During the teach-in process, adjust **the upper rotary switch** to set the sensor type. A wireless pushbutton **(exclusive)** with double rocker is taught-in in rotary switch position 1. Double rockers are assigned automatically: top left Stage 1 (only Contact 1-2 closed), top right Stage 2 (only Contact 3-4 closed). Bottom left and bottom right OFF: both contacts open.

A wireless pushbutton (adding) with double rocker is taught-in in rotary switch position 2. Double rockers are assigned automatically: top left Stage 1 (Contact 1-2 closed), top right Stage 2 (Contacts 1-2 and 3-4 closed). Bottom left and bottom right OFF: both contacts open.

If you switch the two contacts in parallel, one wireless pushbutton and 1 rocker are sufficient. In this case, top is ON and bottom is OFF

In rotary switch position 3, teach in ON/OFF switch with double rocker (all rockers are assigned automatically) and wireless transmitter modules When you teach in an FTK device, window handle sensor FFG7B-rw or active sensor, there is no need to take the teach-in position into account.

When operated with an active sensor, set the switch-in threshold on **the lower rotary switch.** When the threshold is reached, Stage 1 (Contact 1-2) is switched on. At **the upper rotary switch,** set the addition value at which Stage 2 (Contact 3-4). Turn **the middle rotary switch** to set one of the operating modes AUTO1 to AUTO7.

AUTO1 for manual mode of a 2-stage fan by means of a double rocker wireless pushbutton. Each contact is closed separately (exclusive) or contact 3-4 cuts in to switch stage 2 (accumulative). This is determined when teaching-in.

Passive sensors, such as wireless pushbuttons and transmitter modules, which are taught-in as a off-switches, cause opening of both contacts. As long as the control voltage is applied to transmitter modules or a window monitored by an FTK or window handle sensor FFG7B-rw is open, the contacts are open and can not be switched on manually.

AUTO2: Activating with wireless CO_2 sensor. The switch-on thresholds are set by the lower and upper rotary switches. The contacts close 'exclusively'.

AUTO3: Activating with wireless CO_2 sensor. The switch-on thresholds are set by the lower and upper rotary switches. The contacts close 'exclusively'. **AUTO4:** Same as AUTO2, but activated by the wireless temperature sensor. **AUTO5:** Same as AUTO2, but the contacts close 'adding'. **AUTO6:** Same as AUTO3, but the contacts close 'adding'. **AUTO7:** Same as AUTO4, but the contacts close 'adding'.

Overview of switch-on thresholds (lower rotary switch):
CO_2 (ppm): 1 = 700ppm; 2 = 800ppm; 3 = 900ppm; 4 = 1000ppm; 5 = 1200ppm; 6 = 1400ppm; 7 = 1600ppm; 8 = 1800ppm, 9 = 2000ppm und 10 = 2200ppm.
Humidity (%): 1 = 10%, 2 = 20%, ... 10 = 100%.
Temperature (°C): 1 = 20°C, 2 = 22°C, 3 = 24°C, ... 10 = 38°C.

Overview of addition values (upper rotary switch):
CO_2 difference: 1 = 50ppm, 2 = 100ppm, 3 = 150ppm, ... 10 = 500ppm. Fixed hysteresis: 50ppm.
Humidity difference: 1 = 5%, 2 = 10%, 3 = 15%, ... 10 = 50%. Fixed hysteresis: 5%.
Temperature difference (K): 1 = 1K, 2 = 2K, 3 = 3K, ... 10 = 10K. Fixed hysteresis: 1K.
The LED below the upper function rotary switch performs during the teach-in process according to the operating instructions. It shows control commands by short flickering during operation.

Connection example page 46.
Technical data, see page 44.
Housing for operating instructions GBA14 page 43.

Further settings can be made using the PC Tool PCT14.

F2L14	RS485 bus actuator Impulse switch with integr. relay function	EAN 4010312316160	**54,90 €/pc.**

Recommended retail prices excluding VAT.

FSU14

min RS485

Display timer with 8 channels for the Eltako RS485 bus. With "astro" function. Only 0.1 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting.
1 modul = 18 mm wide, 58 mm deep.

Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper.

For the function of the timer FSU14 it is necessary that the wireless antenna module FAM14 assigns a device address, please see the operating instructions.

The switching commands of the channels can be taught-in into bus actuators and wireless actuators.

Up to 60 timer memory locations are freely assigned to the channels. With date and automatic summer/winter time changeover. Ca. 20 days power reserve without battery.

Each memory location can either be used with astro function (automatic turn on after sunrise or sunset) or the time function. The astro switch-on and -off time can be shifted ±2 hours and in addition, an influence of the solstices time lag of up to ±2 hours can be entered.

The timer is set using the MODE and SET buttons and the settings can be interlocked.

Set language: Every time the power supply is applied, press SET within 10 seconds to set the language and press MODE to confirm. D = German, GB = English, F = French, IT = Italian and ES = Spanish. The normal display then appears: weekday, time, day and month.

Rapid scroll: In the following settings, the numerals scroll rapidly when you press and hold down Enter. Release then press and hold down to change the scroll direction.

Set clock: Press MODE and search for the **function CLK** with SET and select with MODE. Press MODE to set. In H, press SET to select the hour and press MODE to confirm. In M proceed in the same way to set the minute.

Set date: Press MODE and search for the **function DAT** with SET ans select with MODE. Press MODE to select. At Y, press SET to select the year and press MODE to confirm. Proceed in the same way at M to set the month and at D to set the day. The last setting in the sequence is MO (weekday) blinking. Press SET to set it.

From production week 08/17 the emission every minute from a **timer telegram** (hour & minute) + the day of the week can be activated.

Wireless pushbuttons for central ON/OFF, automatic off and random mode on can be taught-in.

Set position coordinates (if the astro function is required): Press MODE and search for the **function POS** with SET and select with MODE. For LAT press SET to select the latitude and press MODE to confirm. Repeat this procedure for LON to select the longitude and press MODE to confirm. Select the time zone at GMT with SET and confirm with MODE. If desired, a time lag of up to ±2 hours for all channels can now be entered at WS (winter solstice) and SS (summer solstice).

Summer/winter time changeover: Press MODE and search for the **function SWT** with SET and select with MODE. Now press SET to switch between ON and OFF. If you select ON, changeover is automatic.

Switch random mode on/off: Press MODE and search for the **function RND** with SET and select with MODE. Press SET to set to ON (RND+) or OFF (RND) and press MODE to confirm. When random mode is switched on, all switch-on time points of all channels are shifted at random by up to 15 minutes. Switch-on times are switched earlier and switch-off times are switched later.

Lock settings: Briefly press MODE and SET together and at LCK, press SET to lock. This is displayed by an arrow next to the lock symbol.

Unlock settings: Press MODE and SET together for 2 seconds and at UNL press SET to unlock.

Wired central control: At the terminals T1/T2 and T3/T2 switches can be connected for central control.

Set operating mode: Press MODE, search the **function INT** with SET and select with MODE. Select the channel with SET at CH and confirm with MODE. You can switch between CIA (Automatic with central control), AUT (Automatic), ON (with priority) or OFF (with priority) with SET. If you confirm ON or OFF with MODE, the correspondent telegram will be sent immediately. If the switching state should automatically change if a time program will be active, the channel must be set to CIA or AUT again.
If MODE is pressed longer than 2 seconds, the normal display appears.

Teach-in channels in wireless actuators: Press MODE and search for the **function LRN** with SET and select with MODE. Select the channel at CH with SET and confirm with MODE. It can be switched between ON and OFF with SET. If ON is confirmed with MODE, LRN+ flashes and the function ON will be taught-in in the learning actuator with SET. Likewise it will be taught-in at OFF. See the operating instructions for more information.

Enter switching programs: press MODE and select one of the 60 memory locations from P01 to P60 with MODE and SET at the **function PRG.** See the operating instructions for more information.

When **random mode** is switched on, all switching times of all channels are shifted incidentally by up to 15 minutes. Power-on times to previous and power-off times to future. For more information please see operating manual.

Connection example page 46.

Housing for operating instructions GBA14 page 43.

FSU14	Display timer	EAN 4010312313831	**55,70 €/pc.**

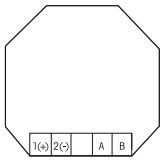
FMSR14

min RS485

Multifunction sensor relay with display and 5 channels (brightness, twilight, wind, rain and frost) for the Eltako RS485 bus. Only 0.1 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting. 1 modul = 18 mm wide, 58 mm deep. **Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper.** This multifunction sensor relay evaluates the wireless telegrams of the **wireless weather data transmitter module FWS61** and, dependent on the setting, issues switching commands directly to the RS485 bus and also to the wireless network in the display by means of the MODE and SET buttons. This also allows control over wireless actuators installed at decentralised positions. If only centrally installed actuators need to be addressed to control shading elements from the FWS61, it is sufficient to teach-in the FSB14s in these actuators using the PC Tool PCT14. An FMSR14 is then not required.
For the function of the sensor relay FMSR14 it is necessary that a device address is assigned from the wireless antenna module FAM14, according to the manual.

FMSR14	Multifunction sensor relay	EAN 4010312314111	**55,70 €/pc.**



FWS61-24 V DC

min

Wireless weather data transmitter module for the seven weather items sent by the multisensor MS. With internal antenna. Only 0.3 watt standby loss.

For installation. 45 mm long, 45 mm wide, 18 mm deep.
Power (24 V DC) is supplied by the switch mode power supply unit SNT61-230 V/24 V DC-0,25 A (33 mm deep, 45 mm long, 45 mm wide). This switching power supply unit simultaneously supplys the multisensor MS including the heating of the rain sensor.
It is possible to use a deep UP box for the two devices.
This weather data transmitter module receives the seven momentary readings of the weather items: brightness (from three cardinal points), twilight, wind, rain and ambient temperature by cable J-Y (ST) Y 2x2x0,8 from the multisensor MS attached to the outside of the building. The readings are sent in the form of wireless telegrams over the Eltako wireless network with the priorities listed below. Evaluation is carried out by the Wireless Building Visualisation and Control Software GFVS, the wireless multifunction sensor relay FMSR14, the actuators FSB14 and FSB71 as well as the wireless weather data display FWA65D.
When the supply voltage is applied, a teach-in telegram is sent immediately and two status telegrams containing the momentary values are sent approx. 60 seconds later. At least every 10 minutes, but also:
Brightness values West, South and East each from 0 to 99 kLux if a change of minimum 10% occurs.
Twilight values from 0 to 999 Lux if a change of minimum 10% occurs.
Wind speeds from 0 to 70m/s. From 4m/s to 16m/s, the momentary values are sent immediately 3 times at intervals of 1 second. After that, further value increases are sent within 20 seconds. Dropping wind speeds are sent progressively delayed by 20 seconds.
Rain values at the start are sent immediately 3 times. After the rain stops, a telegram is sent within 20 seconds.
Temperature values from -40.0°C to +80.0°C are sent every 10 minutes together with all the other values in a status telegram.
Monitoring multisensor function and line break. If the weather data message from multisensor MS is not sent for 5 seconds, the FWS61 immediately sends an alarm telegram which is repeated every 30 seconds. The alarm telegram can be taught-in as a switch telegram in an actuator to initiate further action as required. In addition, the two status telegrams containing the values brightness 0 Lux, twilight 0 Lux, temperature -40°C (frost), wind 70 m/s and rain are sent.
When a message is again detected from the multisensor MS, the alarm stops automatically.

FWS61-24V DC	Wireless weather data transmitter module	EAN 4010312301937	**65,10 €/pc.**

Multisensor MS

The MS multi sensor sends the current weather details, including brightness (from three points of the compass), wind, rain and frost, to the weather data transmitter module FWS61 connected in series once per second. A standard telephone wire is sufficient as connecting lead: J-Y(ST)Y 2x2x0.8 or equivalent. 100 m line length is permitted. Solid plastic housing, LxWxH = 118x96x77 mm. Degree of protection IP44. Temperature at mounting location -30°C to +50°C.
A power supply unit SNT61-230 V/24 V DC-0,25 A is required for the power supply, including heating of the rain sensor. This simultaneously supplys the wireless weather data transmitter module FWS61-24 V DC.

FWS61-24V DC	Wireless weather data transmitter module	EAN 4010312301937	**246,60 €/pc.**

Recommended retail prices excluding VAT.

FWZ14-65A

min RS485

Wireless single-phase energy meter transmitter module, maximum current 65A. Only 0.5 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting. 1 module = 18mm wide, 58mm deep.

Accuracy class B (1%). With RS485 interface.

Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper.

The meter reading, the current power and the serial number will be handed over to the bus – eg for forwarding to an external computer, the software GFVS 4.0 or GFVS-Energy – and also to the wireless network via FAM14. For this it is necessary that a device address is assigned from the wireless antenna module FAM14, according to the manual.

Also display with FEA65D.

It measures active energy by means of the current between input and output. The internal power consumption of 0.5 watt active power is not metered.

Like all meters without declaration of conformity (e.g. MID), this meter is not permitted for billing.

1 phase conductor with a max. current up to 65A can be connected.

The inrush current is 40mA. In operation the rotary switch must be set to AUTO.

Power consumption is indicated using a LED.

If the L input and the L output were interchanged when hooked up, a normal rate (HT)/off-peak (NT) switchover telegram is transmitted to indicate the hook-up error.

If the anticipated load exceeds 50%, maintain an air gap of ½ pitch unit to the devices mounted adjacently. Thereto included are 2 spacers DS14, a short jumper and two long jumpers.

Connection example page 46.

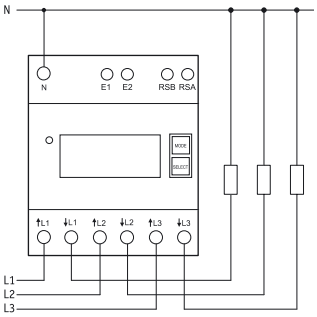
Housing for operating instructions GBA14 page 43.

Further settings can be made using the PC Tool PCT14.

FWZ14-65A	Wireless single-phase energy meter transmitter module 65A	EAN 4010312501511	**61,10 €/pc.**

Recommended retail prices excluding VAT.

Typical connection
4-wire-connection 3x230/400V



DSZ14DRS-3x80A MID

RS485 bus wireless three-phase energy meter. Maximum current 3x80 A. Standby loss 0.8 W at L1 and only 0.5 W at L2 and L3 each.

Modulair device for DIN-EN 60715 TH35 rail mounting in distribution cabinets with IP51 protection class. 4 modules = 70 mm wide and 58 mm deep.

Accuracy class B (1%). With RS485 interface.

It measures active energy by means of the current between input and output. The internal power consumption of 0.8 W or 0.5 W active power per path is neither metered nor indicated.

1, 2 or 3 phase conductors with max. currents up to 80 A can be connected.
The inrush current is 40 mA.

The terminals ↑L1 and N must always be connected.

Connection to the Eltako RS485 bus via a FBA14 by means of a 2-wire screened bus line (e.g. telephone line). The meter reading and the momentary capacity are transferred to the bus – e.g. for transfer to an external computer of the GFVS 4.0 Software – and is also transferred to the wireless network via the FAM14. For this it is necessary that a device address is assigned from the wireless antenna module FAM14, according to the operating instructions.

Also display with FEA65D.

The 7 segment LC display is also legible twice within a period of 2 weeks without power supply.

The power consumption is displayed with a LED flashing 1000 times per kWh next to the display.

Designed as standard for using as double-tariff meter: Switch over to a second tariff by applying 230 V to terminals E1/E2.

On the right next to the display are the keys MODE and SELECT. Press them to scroll through the menu according to the operation manual. First the **background lighting** switches on. The display then shows the total active energy per tariff, the active energy per resettable memory RS1 or RS2, and the instantaneous values of consumption, voltage and current per phase.

Error message (false)
When the phase conductor is missing or the current direction is wrong 'false' and the corresponding phase conductor are indicated on the display.

Connection example page 46.
Technical data, see page 44.
Housing for operating instructions GBA14 page 43.

DSZ14DRS-3x80A	RS485 bus wireless three-phase energy meter, MID approval	EAN 4010312501733	**165,00 €/pc.**

Recommended retail prices excluding VAT.

DSZ14WDRS-3x5A MID

Two-way three-phase energy meter with settable CT ratio and MID. Maximum current 3x5A. Standby loss 0.8W at L1 and only 0.5W at L2 and L3 each.

Modulair device for DIN-EN 60715 TH35 rail mounting in distribution cabinets with IP51 protection class. 4 modules = 70mm wide and 58mm deep.

Accuracy class B (1%). With RS485 interface.

This three-phase energy meter measures active energy by means of the current between input and output. The internal power consumption of 0.8W or 0.5W active power per path is neither metered nor indicated.

1, 2 or 3 phase conductors with max. currents up to 5A can be connected.
The inrush current is 10mA.

The terminals ↑L1 and N must always be connected.

Connection to the Eltako RS485 bus via a FBA14 by means of a 2-wire screened bus line (e.g. telephone line). The meter reading and the momentary capacity are transferred to the bus – e.g. for transfer to an external computer of the GFVS 4.0 Software – and is also transferred to the wireless network via the FAM14. For this it is necessary that a device address is assigned from the wireless antenna module FAM14, according to the operating instructions.

Also display with FEA65D.

The 7 segment LC display is also legible twice within a period of 2 weeks without power supply.

The power consumption is displayed with a LED flashing 10 times per kWh next to the display.

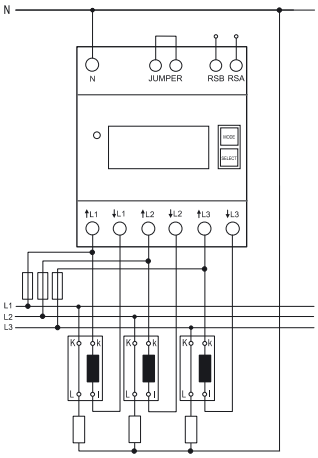
On the right next to the display are the keys MODE and SELECT. Press them to scroll through the menu. First the **background lighting** switches on. The display then shows the total active energy, the active energy of the resettable memory as well as the instantaneous values of consumption, voltage and current per phase

The CT ratio can also be set. It is set to 5:5 at the factory and blocked with a bridge over the terminals which are marked with 'JUMPER'. To adjust the CT ratio to the installed transformer remove the bridge and reset the energy meter according to the operation manual. Then block it again with the bridge. Adjustable current transformer ratios: 5:5, 50:5, 100:5, 150:5, 200:5, 250:5, 300:5, 400:5, 500:5, 600:5, 750:5, 1000:5, 1250:5 and 1500:5.

Error message (false)
When the phase conductor is missing or the current direction is wrong 'false' and the corresponding phase conductor are indicated on the display.

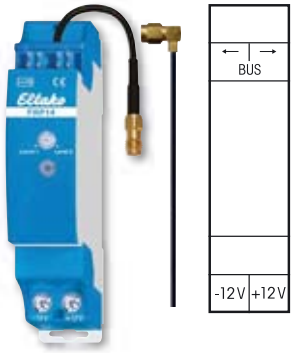
Important! Before working on the current transformers disconnect the voltage paths of the energy meters.

Typical connection
4-wire-connection 3x230/400V



Connection example page 46.
Technical data, see page 44.
Housing for operating instructions GBA14 page 43.

DSZ14WDRS-3x5A	RS485 bus wireless three-phase two-way energy meter, MID approval	EAN 4010312501450	**172,00 €/pc.**



FRP14

1 and 2 level wireless repeater with small antenna. Only 0.6 watt standby loss. If required, a wireless antenna FA250 can be connected.

Modular device for DIN-EN 60715 TH35 rail mounting.
1 modul = 18 mm wide, 58 mm deep.

This repeater is only needed if the building conditions prevent undisturbed reception or the distance between the wireless pushbutton and receiver is too great.

Antenna FA250 with a 250 cm cable can be connected instead of the enclosed small antenna. When positioned in the optimal location, it can increase range considerably.

The 1-level mode is activated ex works. Only the signals from sensors and actuators are received, tested and retransmitted at full transmit power. Wireless signals from other repeaters are ignored to reduce the data volume.

In de-energized state it can be switched to 2-level mode with a rotary switch. After switching on the supply voltage, the wireless signals of another 1-level repeater are now being processed. A signal can then be received and amplified maximum 2 times.

Wireless repeaters need not be taught-in. They receive and amplify signals from all wireless sensors within their reception area.

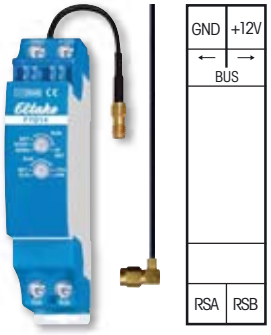
The LEDs under the rotary switch indicate all the wireless signals detected by briefly flashing.

The wireless repeater FRP14 can be installed either as a single device in a subdistributor panel. It then requires a 12 V power supply from a switch mode power supply unit SNT12-230V/12V DC-1A. Or it is installed together with remote Series 14 wireless actuators and cross-wiring requires a jumper. There is no connection to the bus. It is only looped through.

Housing for operating instructions GBA14 page 43.

FRP14	Wireless repeater	EAN 4010312313879	**83,10 €/pc.**

Recommended retail prices excluding VAT.



FTD14

min RS485

Telegram duplicator for the Eltako RS485 bus with exchangeable antenna. Only 0.5 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting. 1 module = 18 mm wide, 58 mm deep.

Connection to the Eltako-RS485 bus. Bus cross wiring and power supply with jumper. Operation in conjunction with FAM14 or FTS14KS.

The telegrams of taught-in IDs are duplicated and directly sent into the Eltako wireless network with a new output ID. These wireless telegrams can be specifically taught-in in decentralized actuators.

A total of 120 memory locations are available.

The upper rotary switch is used to selectively transmitting a wireless telegram. In normal operation, it is set to RUN.

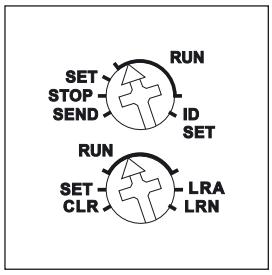
The bottom rotary switch is used for teaching-in and deleting IDs. In normal operation, it is set to RUN.

The red LED below the upper rotary switch performs during the teaching-in process.

The green LED below the lower rotary switch lights up briefly when a wireless telegram is transmitted.

The enclosed small antenna can be replaced with a wireless antenna FA250 with magnetic base and cable.

Function rotary switches



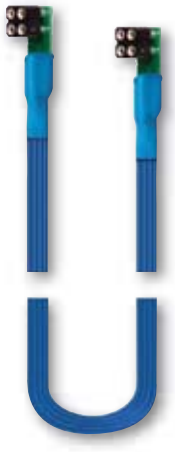
Standard setting ex works.

Housing for operating instructions GBA14 page 43.

Further settings can be made using the PC Tool PCT14.

FTD14	RS485 telegram duplicator	EAN 4010312315705	**84,80 €/pc.**

Recommended retail prices excluding VAT.



BBV14

RS485

Bus jumper connector for wired connections of the bus and power supply jumpers Series 14, length of 45 cm. 4-core wire with soldered plugs on both sides.

The bus jumper connector BBV14 can connect bus parts on different rails.
To connect DIN-Rail devices of Series 14 with cross-wiring and bus power supply with jumpers on different rails in a cabinet or distributor with minimum space, bus jumper connectors can be plugged at the end and the beginning of the next device series.
If longer connections are required, FBA14 bus coupler should be used.

BBV14	Bus jumper connector	EAN 4010312315248	**22,40 €/pc.**

FBA14

RS485

Bus coupler for wire connections of bus and power supply jumpers Series 14.

Modular device for DIN-EN 60715 TH35 rail mounting.
1 module = 18 mm wide, 58 mm deep.

Bus cross wiring and power supply with jumper.

Bus coupler FBA14 can connect various bus parts as well as feed power supplies.
Bus parts on different DIN rails or in other distributors or switch cabinets are each connected to an FBA14 and a 4-wire screened bus line, e.g. a telephone line. The total length of all connecting lines should not exceed 100 m. A 9 mm wide second terminating resistor (supplied with the FAM14 respectively FTS14KS) must be plugged into the last actuator.
The bus coupler may be positioned at any point in a Series 14 device row. The 4 wires of the bus line are connected to the -12 V, +12 V, RSA and RSB terminals of the two FBA14s. The jumper plugged in ex works to the lower terminal block must remain fitted to ◄–+12V–►.
This jumper also remains fitted if a switch mode power supply unit FSNT12-12 V/12 W is connected to the +12 V and -12 V terminals to produce power supply redundancy.
If the power supply of the switch mode power supply unit in the FAM14 or FTS14KS is insufficient to power the entire RS485 bus, a switch mode power supply unit SNT12-230V/12V DC-1A can be connected to the -12 V and +12 V terminals of the bus coupler to increase capacity. In this case the jumper must be removed. Actuators to the left of the bus coupler are powered by the FAM14 or FTS14KS, actuators to the right are powered by the switch mode power supply unit.

FBA14	Bus coupler	EAN 4010312313862	**22,40 €/pc.**

Recommended retail prices excluding VAT.

disconnecting link TB14

FSNT14-12V/12W

min

Switching power supply unit rated capacity 12W. Standby loss 0.2 watt only.

Modular devices for DIN 60715 TH35 rail mounting.
1 module = 18mm wide, 58mm deep.

If the total power demand of a Series 14 bus system is higher than 8W, other switching power supply units FSNT14-12V/12W are required. This may not be connected in parallel, but each are supplying a group of actuators, which are separated with a disconnecting link on the FSNT14.

The scope of delivery includes 1 disconnecting link TB14 1 module, 1 jumper 1.5 module and a spacer DS14.

At a load of more than 50% of the rated capacity and always if there are adjacent switching power supply units and dimmers a ventilation clearance of 1/2 module must be maintained with the spacers DS14. Therefore, this and a long jumper are included to the dimmers.

Input voltage 230V (-20% bis +10%). Efficiency 83%.

Stabilised output voltage ±1%, low residual ripple. Short-circuit proof.

Overload protection and over-temperature switch-off by means of swichting off with automatic switching-on after fault clearance (autorecovery function).

FSNT14-12V/12W	Power supply unit	EAN 4010312315095	**46,90 €/pc.**

Spacer DS14

1/2 module wide = 9mm, to produce and maintain a ventilation clearance for modular devices dissipating much heat, e.g. dimmers and switching power supply units.

DS14		EAN 4010312907016	**1,00 €/pc.**

Housing for operating instructions GBA14

Modular device for DIN-EN 60715 TH35 rail mounting.
1 module = 18mm wide, 55mm deep.
Housing without front panel to insert operating instructions.

GBA14	Housing for operating instr., white-blue	EAN 4010312906422	**2,10 €/pc.**

Recommended retail prices excluding VAT.

	FSR14-4x, FSB14, FHK14, F4HK14	FUD14, FUD14/800W [7]	FSG14/1-10V [b]	FSR14-2x[b], FASR14-LED, FMS14, FTN14[b] FFR14, FMZ14, FZK14[b], F2L14[b]	FSR14SSR
Contacts					
Contact material/contact gap	$AgSnO_2$/0.5 mm	Power MOSFET	$AgSnO_2$/0.5 mm	$AgSnO_2$/0.5 mm	Opto-Triac
Test voltage control connections/contact	–	–	–	2000 V	4000 V
Rated switching capacity each contact	4 A/250 V AC	–	600 VA [5]	16 A/250 V AC; FMZ14: 10 A/250 V AC F4SR14: 8 A/250 V AC	up to 400 W [6]
incandescent lamps and halogen lamp load 230 V [2]	1000 W I on ≤ 10 A/10 ms	up to 400 W; FUD14/800W: up to 800 W [1] [3] [4]	–	2000 W F4SR14: 1800 W I on ≤ 70 A/10 ms	up to 400 W [6]
Fluorescent lamp load with KVG* in lead-lag circuit or non compensated	500 VA	–	–	1000 VA	–
Fluorescent lamp load with KVG* shunt-compensated or with EVG*	250 VA, I on ≤ 10 A/10 ms	–	600 VA [5]	500 VA	up to 400 VA [6]
Compact fluorescent lamps with EVG* and energy saving lamps ESL	up to 200 W [9]	up to 400 W [9] [1]	–	up to 400 W [9]	up to 400 W [6] [9]
Inductive load cos φ = 0,6/230 V AC inrush current ≤ 35 A	650 W [8]	–	–	650 W [8]	–
230 V LED lamps	up to 200 W [9]	up to 400 W [9] [1]	–	up to 400 W [9]	up to 400 W [6] [9]
Max. switching current DC1: 12 V/24 V DC	4 A	–	–	8 A (not FTN14 and FZK14)	–
Life at rated load, cos φ = 1 or for incandescent lamps 500 W at 100/h	$>10^5$	–	$>10^5$	$>10^5$	∞
Service life at rated load, cos φ = 0,6 at 100/h	$>4x10^4$	–	$>4x10^4$	$>4x10^4$	∞
Max. operating cyles	10^3/h	–	10^3/h	10^3/h	10^3/h
Maximum conductor cross-section (3-fold terminal)	6 mm^2 (4 mm^2)	6 mm^2 (4 mm^2)	6 mm^2 (4 mm^2)	6 mm^2 (4 mm^2)	6 mm^2
Two conductors of same cross-section (3-fold terminal)	2.5 mm^2 (1.5 mm^2)	2.5 mm^2 (1.5 mm^2)	2.5 mm^2 (1.5 mm^2)	2.5 mm^2 (1.5 mm^2)	2.5 mm^2 (1.5 mm^2)
Screw head	slotted/crosshead, pozidriv	slotted/crosshead, pozidriv	slotted/crosshead, pozidriv	slotted/crosshead, pozidriv	slotted/crosshead, pozidriv
Type of enclosure/terminals	IP50/IP20	IP50/IP20	IP50/IP20	IP50/IP20	IP50/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)	0.1 W	0.3 W	0.9 W	0.05-0.5 W	0.1 W
Local control current at 230 V control input	–	–	–	5 mA	–
Max. parallel capacitance (approx. length) of local control lead at 230 V AC	–	–	–	FTN14: 0.3µF (1000 m)	–

* EVG = electronic ballast units; KVG = conventional ballast units

[b] Bistable relay as relay contact. After installation, wait for short automatic synchronisation before teaching-in the wireless pushbuttons. [1] If the load exceeds 200 W, a ventilation clearance of 1/2 pitch unit to adjacent devices must be maintained. [2] Applies to lamps of max. 150 W. [3] Per dimmer or capacity enhancer it is only allowed to use max. 2 inductive (wound) transformers of the same type, furthermore no-load operation on the secondary part is not permitted. The dimmer might be destroyed. Therefore do not permit load breaking on the secondary part. Operation in parallel of inductive (wound) and capacative (electronic) transformers is not permitted! [4] When calculating the load a loss of 20% for inductive (wound) transformers and a loss of 5% for capacitive (electronic) transformers must be considered in addition to the lamp load. [5] Fluorescent lamps or LV halogen lamps with electronic ballast. [6] Applies to one contact and the sum of both contacts. [7] Capacity increase for all dimmable lamp types with Capacity Enhancer FLUD14. [8] All actuators with 2 contacts: Inductive load cos φ = 0.6 as sum of both contacts 1000 W max. [9] Generally applies to energy saving lamps (ESL) and 230 V 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 dimmer switch comfort settings EC1, EC2, LC1, LC2 and LC3 optimise the dimming range, however, the maximum power is then only up to 100 W. In these comfort settings, no inductive (wound) transformers may be dimmed.

The second terminating resistor has to be plugged to the last actuator included in the FAM14 respectively FSNT14 scope of supply.

Eltako Wireless is based on the EnOcean wireless standard for 868 MHz, frequency 868.3 MHz, data rate 125 kbps, modulation mode ASK, max. transmit power 7 dBm (<10 mW).

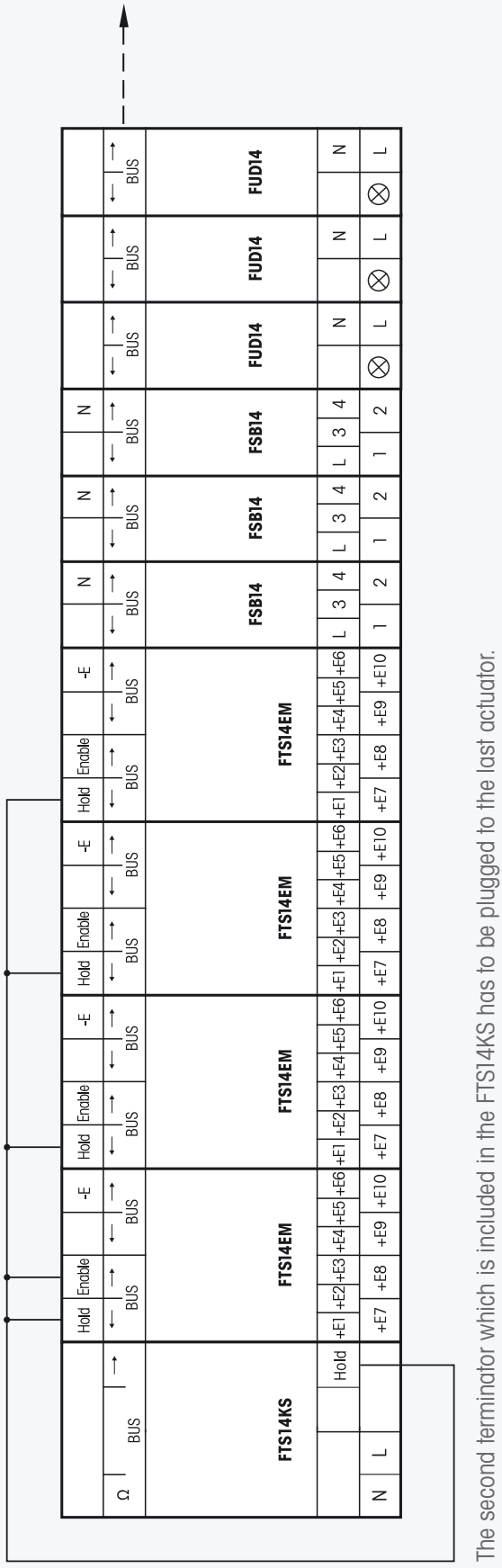
To comply with DIN VDE 0100-443 and DIN VDE 0100-534, a Type 2 or Type 3 surge protection device (SPD) must be installed.

Power requirement of the 12 V DC power supply of Series 14

The switching power supply unit in the FAM14 resp. FTS14KS provides 12 V DC/**8 W***.
The maximum power consumption of each connected device must be added to calculate the total power consumption of the 12 V DC power supply.

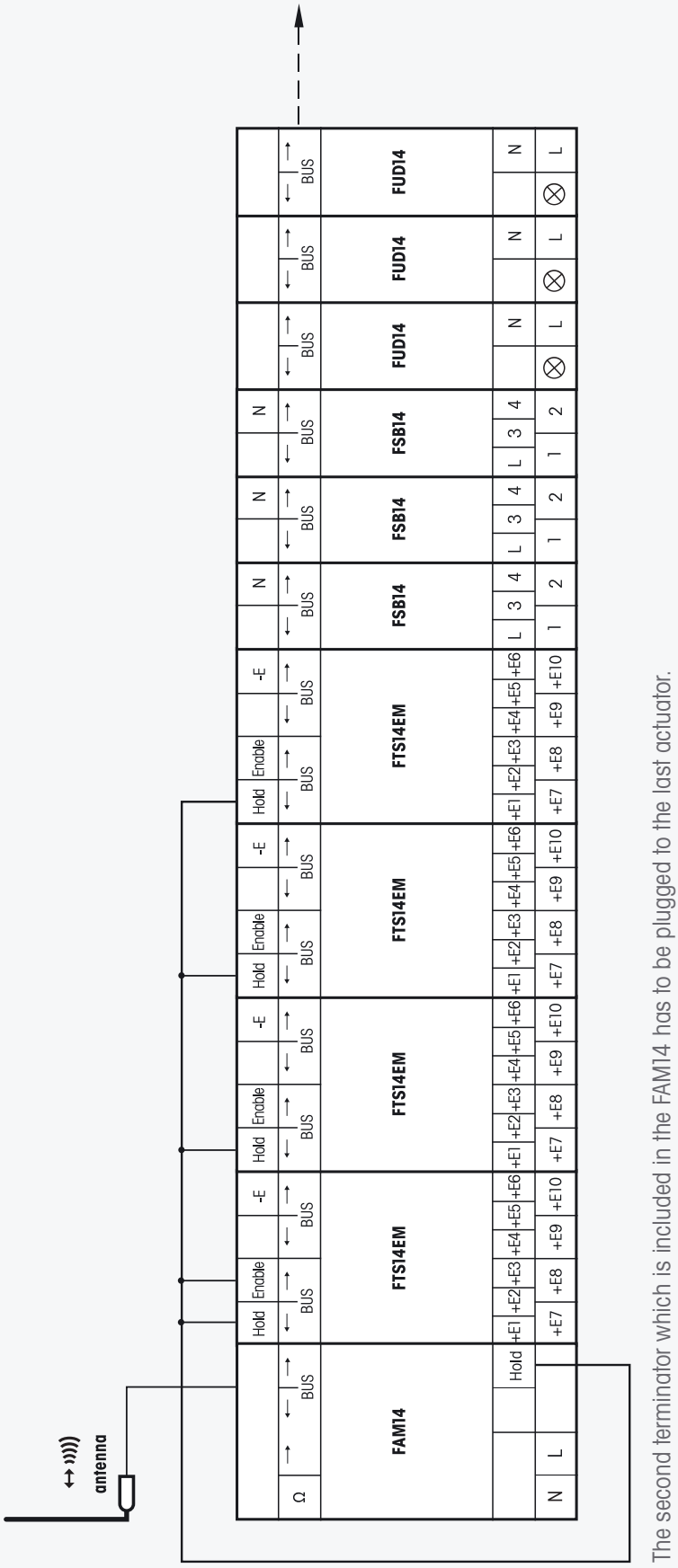
Device	Maximum power requirement (existing relay energized)
F2L14	**0.14 W**
F3Z14D	**0.10 W**
F4HK14	**0.70 W**
F4SR14-LED	**1.00 W**
FAE14LPR	**0.42 W**
FAE14SSR	**0.40 W**
FBA14	–
FDG14	**0.40 W**
FFR14	**0.63 W**
FGSM14	**0.20 W**
FGW14	**0.50 W**
FGW14-USB	**0.30 W**
FHK14	**0.42 W**
FLUD14	–
FMS14	**0.63 W**
FMSR14	**0.10 W**
FMZ14	**0.40 W**
FPLG14	**0.40 W**
FPLT14	**0.40 W**
FRP14	**0.50 W**
FSB14	**0.42 W**
FSDG14	**0.40 W**
FSG14/1-10V	**0.20 W**
FSM14	**0.10 W**
FSR14-2x	**0.14 W**
FSR14-4x	**0.70 W**
FSR14SSR	**0.40 W**
FSU14	**0.14 W**
FTD14	**0.53 W**
FTN14	**0.14 W**
FTS14EM	**0.13 W**
FTS14FA	**0.50 W**
FTS14GBZ	**0.10 W**
FTS14TG	**0.42 W**
FUD14	**0.20 W**
FUD14/800W	**0.20 W**
FWG14MS	**0.30 W**
FWZ14-65A	**0.10 W**
FZK14	**0.14 W**
STE14	–

*If the power requirement is greater, a switching power supply unit FSNT14-12V/12W should be used for each **12 watts** of more power.
Furthermore a disconnecting link TB14 has to be attached instead of a normal jumper to separate the additionally powered group.

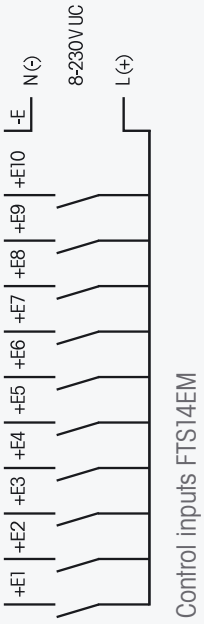


The second terminator which is included in the FTS14KS has to be plugged to the last actuator.

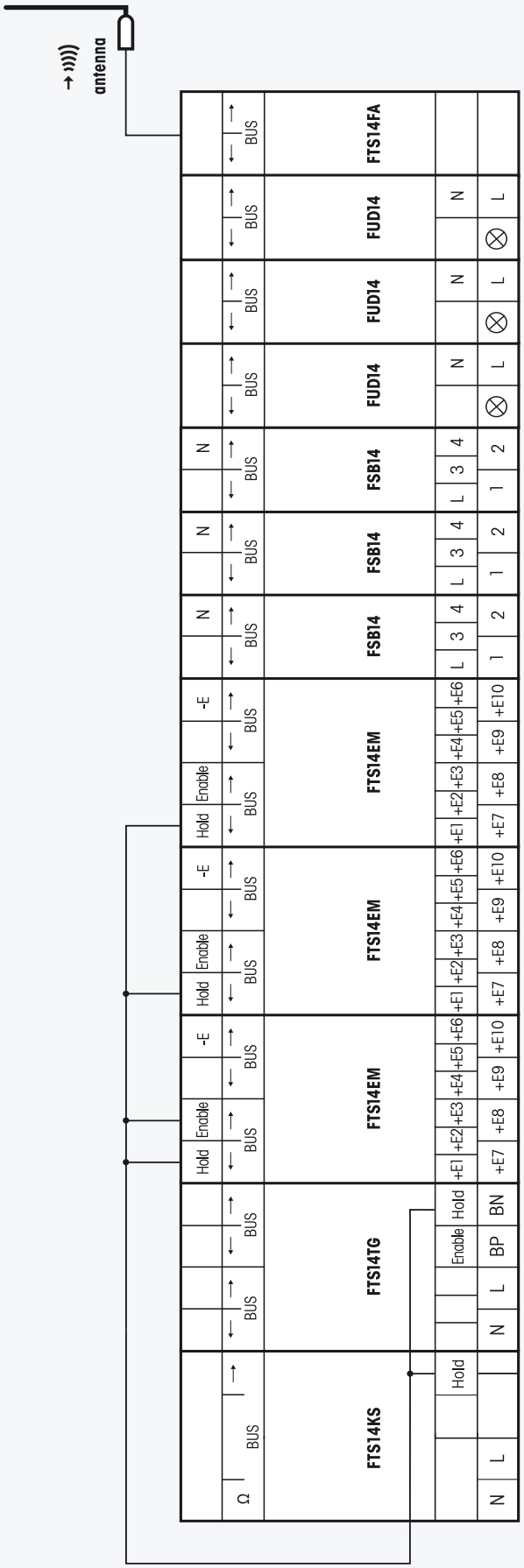
Control inputs FTS14EM



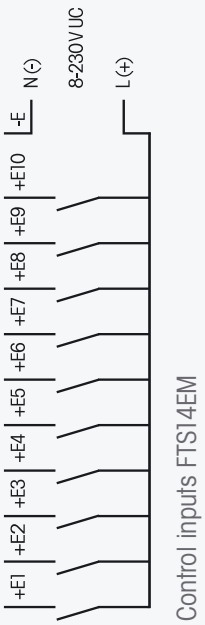
The second terminator which is included in the FAM14 has to be plugged to the last actuator.



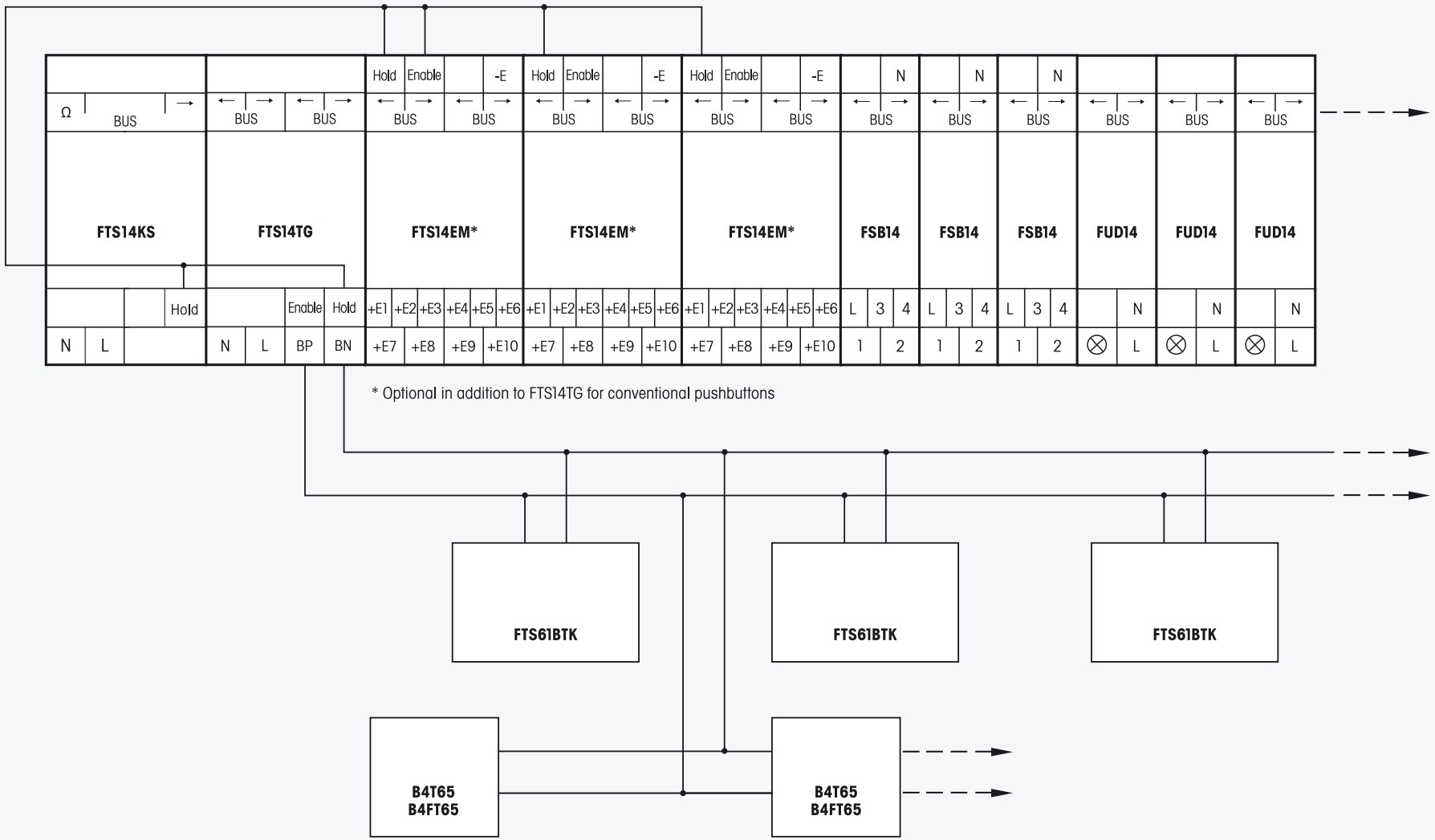
Control inputs FTS14EM



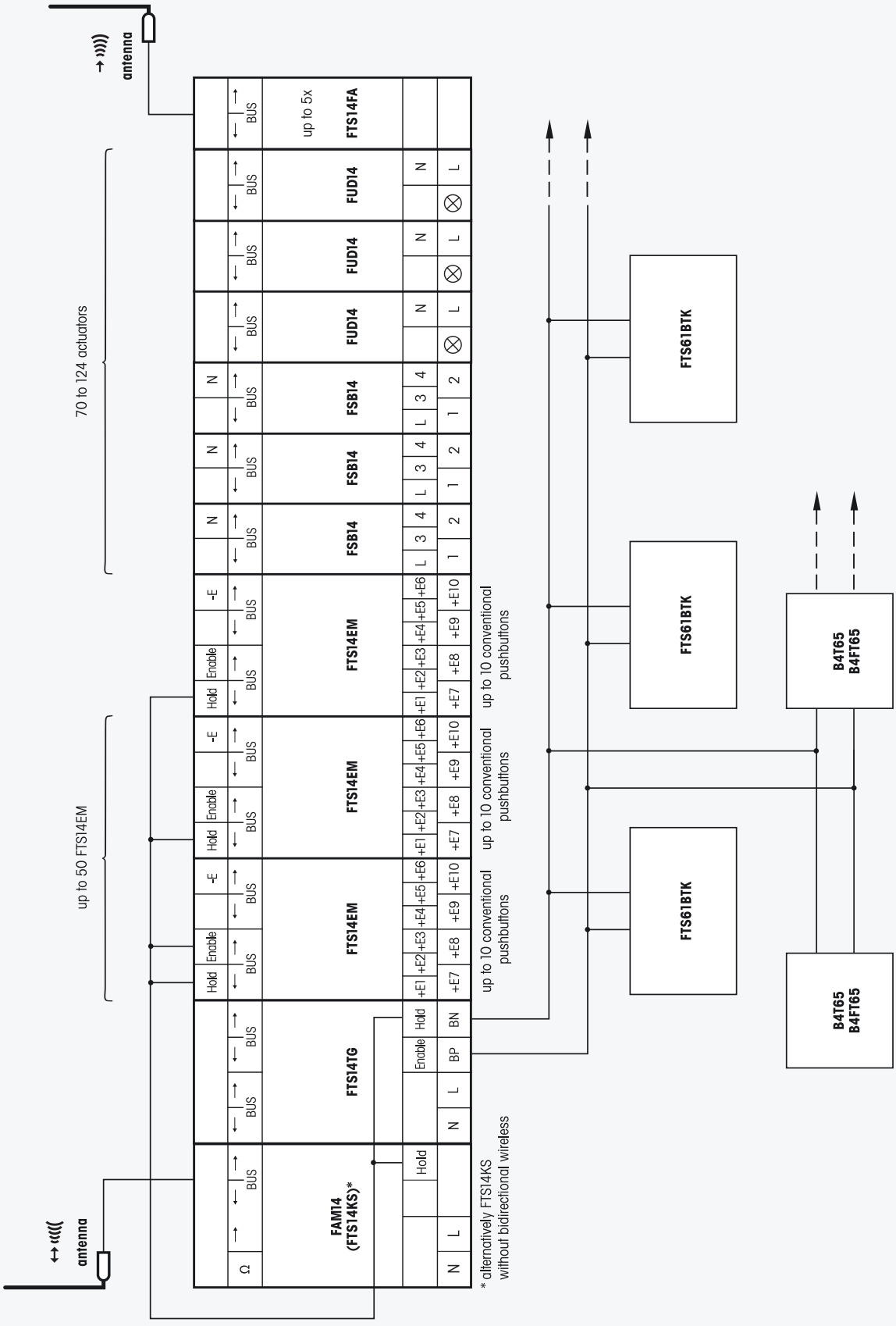
The second terminating resistor supplied with the FTS14KS must be plugged into the last bus user.
Every FTS14FA generates wireless telegrams from up to 5 FTS14EM pushbutton input modules and up to 3 FTS14TG pushbutton gateways.



Control inputs FTS14EM



The second terminator which is included in the FTS14KS has to be plugged to the last actuator. Up to 30 Bus pushbuttons B4T65 or B4FT65 and de-centralised bus pushbutton couplers FTS61BTK with 4 pushbutton inputs for conventional pushbuttons can be connected with a pushbutton gateway FTS14TG.
A simple 2-wire circuit supplies the bus pushbutton coupler with power and also pushbutton information will be transmitted.
The topology of the 2-wire connection can be chosen arbitrarily here.



The second terminator which is included in the FAM14 respectively FTS14KS has to be plugged to the last bus participant. Additional actuator setting options with the PCT14 PC tool for conventional pushbuttons. Up to 30 bus pushbuttons B4T65 or B4FT65 and decentralised bus pushbutton couplers FTS61BTK with 4 pushbutton inputs can be connected with a pushbutton gateway FTS14TG. A simple 2-wire circuit supplies the bus pushbutton coupler with power and also pushbutton information will be transmitted. The topology of the 2-wire connection can be chosen arbitrarily here.

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