Eltako
ELECTRONICS

RS485 bus display timer
FSU14

CE

Only skilled electricians may install this electrical equipment otherwise there is the risk of fire or electric shock!

Temperature at mounting location:
-20°C up to +50°C.
Storage temperature: -25°C up to +70°C.
Relative humidity:
annual average value <75%.

valid for devices from production week 11/14 (see bottom side of housing)

! Note: Select English language !*

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 module = 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, as described further below.

The channel switch commands can be taught-in in 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 and 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 11/14 the FSU14 sends every minute a **clock telegram** with the current time (hour and minute) and the day of the week.

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 ran-dom 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.

Assign device address for the FSU14: The rotary switch on the FAM14 is set to position 1, its lower LED flashes red. Press MODE at the FSU14 and then search the **function *LRN*** with SET and select with MODE, now *CH* flashes. After the address oft he FAM14 has been assigned, its LED lights up green for 5 seconds and at the FSU14 the normal display appears.

Delete device address:
Press MODE and search for the **function *DA*** with SET and select with MODE. It can be switched between device address and *OOO* with SET. If *OOO* is confirmed with MODE, the device address will be deleted and the normal display appears.

Set operation mode:
press MODE and search for the **function *INT*** with SET and select with MODE. Select the channel at *CH* with SET and confirm with MODE. Now, using SET, it can be selected between *AUT* (Automatic), *ON* (with priority), *OFF* (with priority) or *CIA* (with automatic line-based central control system with priority). After confirming with MODE the switch position of the controlled actuator possibly changes and *CH* is flashing again. If the switching state should change automatically when a time program becomes active, the channel has to be set again to AUTO or CIA. If MODE will be pressed longer than 2 seconds the normal display appears.

Teach-in channels into bus actuators of Series 14:
The rotary switch on the FAM14 is set to position 10, the LED flashes green. Set the rotary switch on the bus actuator to LRA, the LED flashes nervously. Press MODE at the FSU14 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 bus actuator with SET. Likewise it will be taught-in at *OFF.* If a **clock-teaching-in telegram** should be sent, press SET at *CH* to select *clock.* If *clock* is confirmed with MODE, *LRN+* flashes and a time teaching-in telegram is sent. If MODE will be pressed longer than 2 seconds the normal display appears. In order that the bus actuators can receive the commands from the FSU14, the wireless antenna module FAM14 has to be operated in position 2 to 7; please see operating manual from FAM14.

Teach-in channels into external wireless actuators:
Set the rotary switch on the FAM14 to position 9. Set the rotary switch on the wireless actuator to **LRN,** the LED flashes nervously. Press MODE on the FSU14 and select the **function *LRN*** with SET and then select with MODE. Select the channel with SET on *CH* and confirm with MODE. Now you can between *ON* and *OFF* with SET. If *ON* is confirmed with MODE *LRN+* is flashing and the function *ON* will be taught-in into the wireless actuator with SET. It will also be taught-in at *OFF.* If a **clock-teaching-in telegram** should be sent, press SET at *CH* to select *clock.* If *clock* is confirmed with MODE, *LRN+* flashes and a time teaching-in telegram is sent. If MODE is pressed longer than 2 seconds the normal display appears. In order that the extrenal wireless actuators can receive the switching commands from the FSU14, the wireless antenna module FAM14 has to be operated in position 2 or 5.

Enter switching programs: Press MODE and select the **function *PRG*** with MODE. Press SET and select one of the 60 memory locations from *P01* to *P60* and confirm with MODE. Occupied ones can be disabled by using SET with *ACT+*

switched to *ACT* and press MODE to confirm. If *ACT+* is confirmed by MODE, it can be selected between *ON, OFF, CON* (central on), *COF* (central off), *ENC* (central end) with SET. The central commands can have priority for some actuators when the teaching-in telegram has been programmed accordingly. To cancel this priority again, *ENC* will be selected. After confirming with MODE the channel number *CH 1* to *CH 8* is selected with SET. After confirming with MODE it will be selected between *TIM,* sunset *SS* or sunrise *SR* with SET. If *TIM* is selected, the hours *H* will be set with SET and after confirmation with MODE the minutes *M* will be entered. If *SS* or *SR* is selected, a time shift (+2/-2 hours) can be set with SET. After confirming with MODE the active days of the week are selected with SET and confirmed with MODE. After you confirm *SU,* the memory location is fully entered. If you press MODE for longer than 2 seconds at any confirmation, the changed values are saved and the screen returns to normal display.

20 seconds after the last operation of MODE or SET, the program returns automatically to normal display. An incomplete memory location input is not saved.

When using the timer in conjunction with a shutter control with FSB14 the timer will be taught-in as a central control pushbutton, where *ON* corresponds to 'central up' and *OFF* corresponds to 'central down'.

If a combination of a time (*TIM*) and astro time (*SR* or *SS*) are being entered for one channel on the same day, then two adjacent memory locations and then the first memory location of it should be used for *ON.* Then a validation check will be carried out.

The supply voltage must be switched off and on to immediately carry out input programs retrospectively.

Clear all memory locations: press and hold down MODE and SET simultaneously for 2 seconds and press SET to confirm *RES* in the display.

Configure FSU14:
The following points can be configured with the PC tool PCT14:

- operation mode per channel
- time zone
- position coordinates
- switching programs
- lock or unlock device operation
- summer winter time change
- run switching programs at random times
- language in the display

CAUTION! Don't forget 'disconnect FAM' in the PC tool. While the connection from the PC tool to the FAM14 exists, no wireless commands are executed.

Program examples:
P01/ON/CH1/TIM/7:50/MO+:
The light on Channel 1 switches on at 7:50 on Mondays.

P02/OFF/CH1/TIM/8:50/MO+:
The light on Channel 1 switches off at 8:50 on Mondays.

P03/ON/CH1/TIM/20:00/MO+:
The light on Channel 1 switches on at 20:00 on Mondays.

P04/OFF/CH1/TIM/21:00/MO+:
The light on Channel 1 switches off at 21:00 on Mondays.

P05/ON/CH2/TIM/10:00/SU+:
The light on Channel 2 switches on at 10.00 on Sundays.

P06/OFF/CH2/TIM/12:00/SU+:
The light on Channel 2 switches off at 12.00 on Sundays.

P07/ON/CH3/TIM/6:00/WE+/TH+:
The light on Channel 3 switches on at 6.00 on Wednesdays and Thursdays.

P08/OFF/CH3/TIM/6:30/WE+/TH+:
The light on Channel 3 switches off at 6.30 on Wednesdays and Thursdays.

P09/ON/CH4/TIM/9:15/MO+/TU+/WE+/TH+/FR+/SA+/SU+:
The light on Channel 4 switches on at 9.15 every day.

P10/OFF/CH4/TIM/9:45/MO+/TU+/WE+/TH+/FR+/SA+/SU+:
The light on Channel 4 switches off at 9.45 every day.

P11/ON/CH5/SS/TH+:
The light on channel 5 switches on every Thursday at sunset.

P12/OFF/CH5/TIM/21:00/TH+:
The light on channel 5 switches off every Thursday at 09:00 p.m.

P13/ON/CH5/TIM/5:00/FR+:
The light on channel 5 switches on every Friday at 05:00 a.m.

P14/OFF/CH5/SS/FR+:
The light on channel 5 switches off every Friday at sunrise

P15/ON/CH6/TIM/6:00/MO+/TU+/WE+/TH+/FR+/SA+/SU+:
The roller shutter on channel 6 opens daily at 6:00 a.m.

P16/OFF/CH6/TIM/22:00/MO+/TU+/WE+/TH+/FR+/SA+/SU+:
The roller shutter on channel 6 closes daily at 10:00 p.m.

Latitude *(LAT)* and longitude *(LON)* in Germany
time zone (*GMT*): +1, summer time: +2

	LAT	LON
Berlin	52	13
Bremen	53	9
Dresden	51	14
Düsseldorf	51	7
Erfurt	51	11
Hamburg	53	10
Hanover	52	10
Kiel	54	10
Magdeburg	52	12
Mainz	50	8
Munich	48	11
Potsdam	52	13
Saarbrücken	49	7
Schwerin	54	11
Stuttgart	49	9
Wiesbaden	50	8

more places on www.maps.google.de

Typical connection
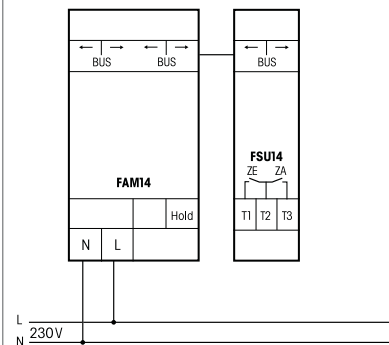
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