Eltako
ELECTRONICS

Input module
FTS14EM

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 21/19 (see bottom side of housing)

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 = 36mm wide, 58mm deep.

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

A 12V DC voltage is supplied from a switching power supply unit FSNT14-12V/12W which has a width of only 1 module.

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

The control inputs can be either activated for pushbuttons (delivery state), window-door contacts or motion detectors.

From the production week 21/19 the signals of the control inputs can be inverted.

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 windows-door 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 motion-detectors-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.

Function rotary switches
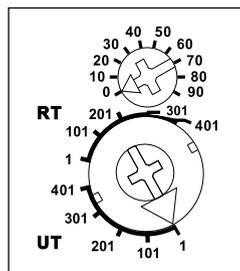
The lower rotary switch defines the group to which an FTS14EM belongs.
A total of 5 groups are available (1, 101, 201, 301 and 401) each with 100 IDs.
The upper rotary switch (0 to 90) sets the ID within a group. The ID range within a group results from the combination of upper and lower rotary switches 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 GFVS-Safe II 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 and FTS14KEM can also be sent to the Eltako Wireless Building with the optional **wireless output module FTS14FA**.

All hold terminals of the FTS14EM must be connected to the hold terminal of the FTS14KS or FAM14.

When 1 to 10 FTS14EMs are used, the HOLD terminal on <u>one</u> **FTS14EM must be connected to the Enable terminal.**

When 11 to 20 FTS14EMs are used, the HOLD terminal on <u>two</u> **FTS14EMs must be connected to the Enable terminal.**

When 21 to 30 FTS14EMs are used, the HOLD terminal on <u>three</u> **FTS14EMs must be connected to the Enable terminal.**

When 31 to 40 FTS14EMs are used, the HOLD terminal on <u>four</u> **FTS14EMs must be connected to the Enable terminal.**

When 41 to 50 FTS14EMs are used, the HOLD terminal on <u>five</u> **FTS14EMs must be connected to the Enable terminal.**

Activate the inputs for pushbuttons (factory setting):
turn the lower rotary switch within 3 seconds 5 times to the left stop, the LED goes on during 2 seconds.

Activate the inputs for window/door contacts:
turn the upper rotary switch within 3 seconds 5 times to the left stop, the LED goes on during 4 seconds.

Activate the inputs for motion sensors:
turn the upper rotary switch within 3 seconds 5 times to the right stop, the LED goes on during 6 seconds.

Invert the signals of the control inputs:
Turn the bottom rotary switch within 3 seconds 5 times to the right, the LED lights up for 2 seconds.

By activating the control inputs for buttons, window-door contacts or motion detector the inversion is cancelled.

10 control inputs = 10 universal pushbuttons UT:
E1 = 0x70 (FT4- top right)
E2 = 0x50 (FT4- bottom right)
E3 = 0x30 (FT4- top left)
E4 = 0x10 (FT4- bottom left)
E5 = 0x70
E6 = 0x50
E7 = 0x30
E8 = 0x10
E9 = 0x70
E10 = 0x50

10 control inputs = 5 direction pushbuttons RT:
E1/E2 send 70/50 (= pushbutton right side top/bottom)
E3/E4 send 30/10 (= pushbutton left side top/bottom)
E5/E6 send 70/50
E7/E8 send 30/10
E9/E10 send 70/50

IDs are generated in "quasi-decimal" numbering in order to make it easier to convert terminal numbering to the button IDs to be entered in PCT14.

The ID numbers are therefore identical to the input numbers. You only need to add 1000.

Lower rotary switch on UT:
Each input has a separate ID.
IDs of first group:

0x1001..0x1010 (pushbutton 1..10)
0x1011..0x1020
0x1021..0x1030
0x1031..0x1040
0x1041..0x1050 (pushbutton 41..50)
0x1051..0x1060
0x1061..0x1070
0x1071..0x1080
0x1081..0x1090
0x1091..0x1100 (pushbutton 91..100)
IDs of second group:
0x1101..0x1110 (pushbutton 101..110)
0x1111..0x1120
0x1121..0x1130
0x1131..0x1140
0x1141..0x1150 (pushbutton 141..150)
0x1151..0x1160
0x1161..0x1170
0x1171..0x1180
0x1181..0x1190
0x1191..0x1200 (pushbutton 191..200)
..etc.. until group 5

Lower rotary switch on RT:
IDs are combined in pairs. There are no odd numbers. Numbering (in steps of 2) is simpler with even numbers than with odd numbers.

Pushbutton 1..10
E1 und E2 = 0x1002
E3 und E4 = 0x1004
E5 und E6 = 0x1006
E7 und E8 = 0x1008
E9 und E10 = 0x1010
Pushbutton 11..20
E1 und E2 = 0x1012
E3 und E4 = 0x1014
E5 und E6 = 0x1016
E7 und E8 = 0x1018
E9 und E10 = 0x1020
..etc.

⚠ **Attention: if several inputs for switches, window/door contacts or motion sensors are used, the control voltage must be ≥ 24V.**

Technical data

Control voltage:	Control current:
8 V AC/DC	1.4 mA/2.5 mA
12 V AC/DC	2.3 mA/4.0 mA
24 V AC/DC	5.0 mA/9.0 mA
230 V AC/DC	5(100) mA/5(100) mA
(< 5 s)	
Parallel capacitance (approx. length) control lead at 230V	0.9 µF (3000m)
Standby loss	0.1W

Typical connection
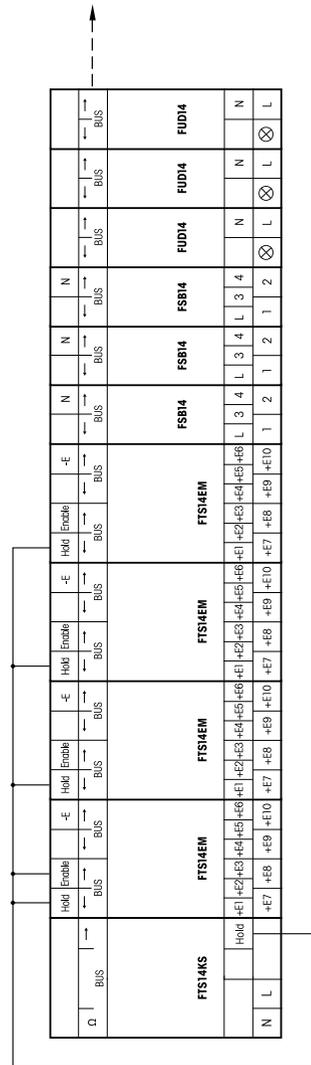
The second terminator which is included in the FST14KS has to be plugged to the last actuator.
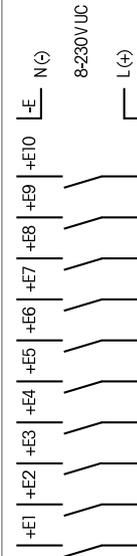
Control inputs FTS14EM

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