

TST RFUxIO-E

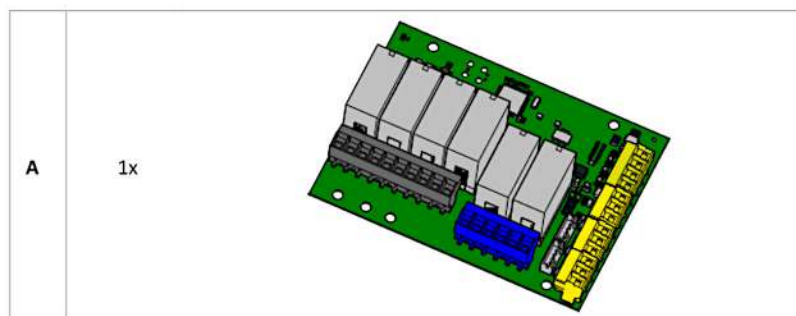


Abb./Fig. 1: TST RFUxIO-E Expansion board

B	4x M3x8		F	1x 120 mm	
C	2x M2,5x8		G	2x 10 mm	
D	4x 25 mm		H	2x 18 mm	
E	4x 40 mm		I	1x 25 mm (TST FU3H)	

Tab. 1: Scope of delivery

B	Screw for distancer 25 mm und 40 mm
C	Screw for distancer 18 mm
D	Distancer for FUH2, FU3F Series

E	Distancer for TST FUZ2 Series
F	Connection cable, 5-pole for connection X30a
G	Distancer for FUH2, FU3F Series + TST RFUxFCOM
H	Distancer for TST FUxF series + real text display
I	Distancer for TST FU3H

Tab. 2: Beschreibung des Lieferumfangs/Description of the scope of delivery/Description de l'étendue de la livraison

2 Montage / Assembly / Montage

2.1 Für TST FUZ2 Serie/For TST FUZ2 Series/Pour Série TST FUZ2

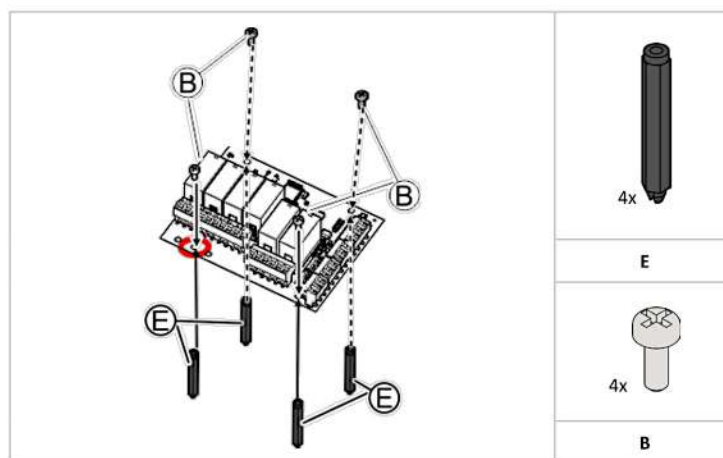


Abb./Fig. 2: Assembly using the example of the TST RFUxIO-E



2.2 For TST FUZ2 series + plain text display

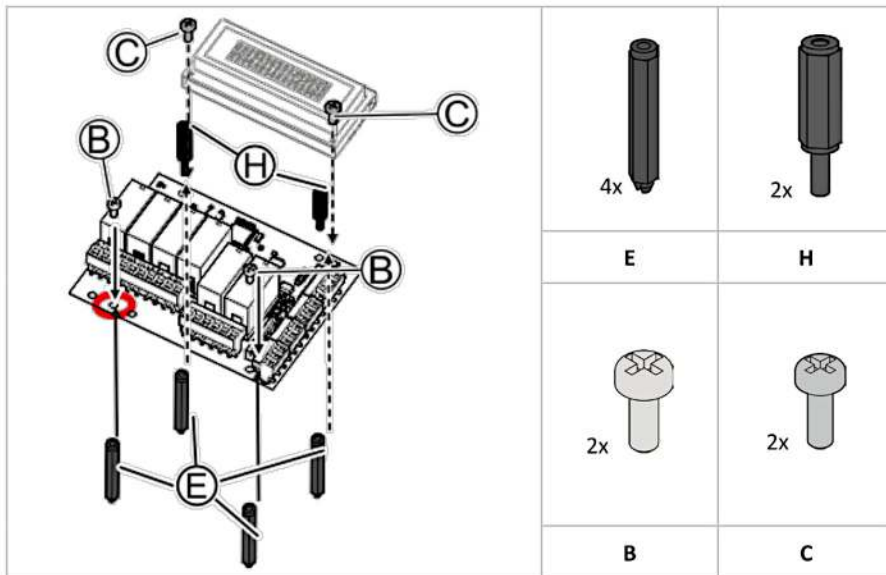
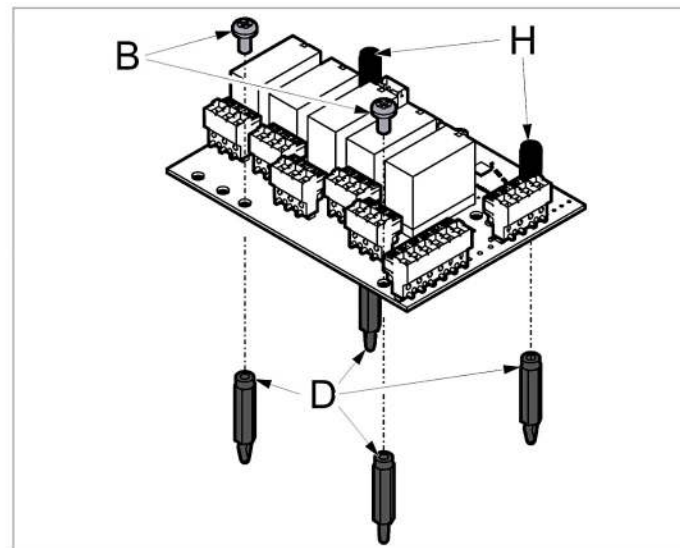


Abb./Fig. 3: Assembly using the example of the TST RFUxIO-E

Abb./Fig. 4: Assembly using the example of the TST RFUxIO-E

2.4 For TST EWA4 series



2.3 For TST FUH2, TST FU3F series, TST FU3H

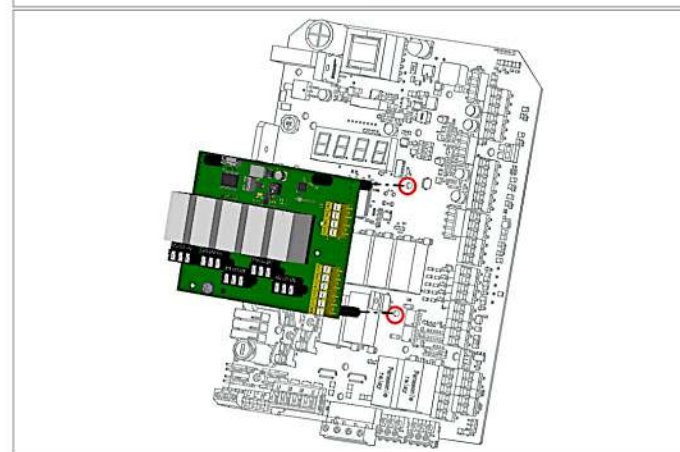
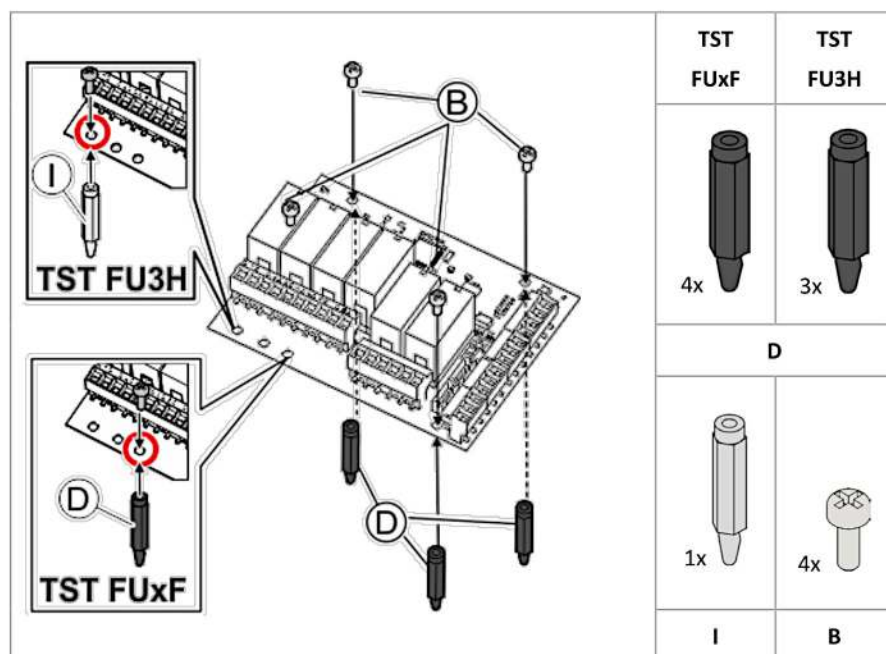


Abb./Fig. 5: Assembly using the example of the TST RFUxIOC-D



2.5 For TST FUF2, TST FU3F series with TST RFUxFCOM

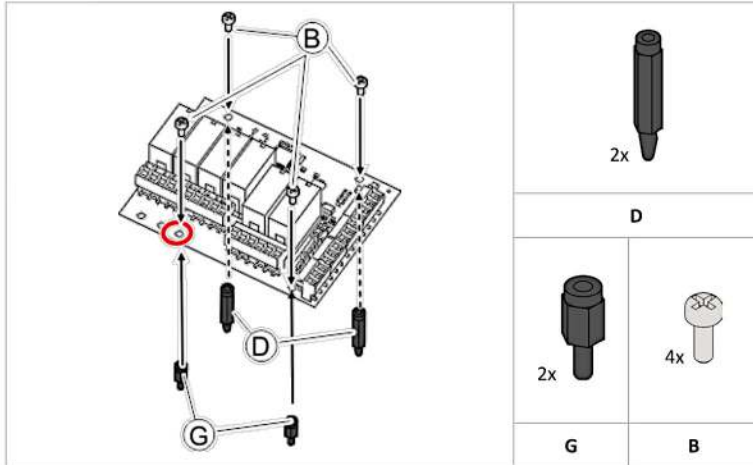


Abb./Fig. 6: Assembly using the example of the TST RFUxIO-E

3 Connections

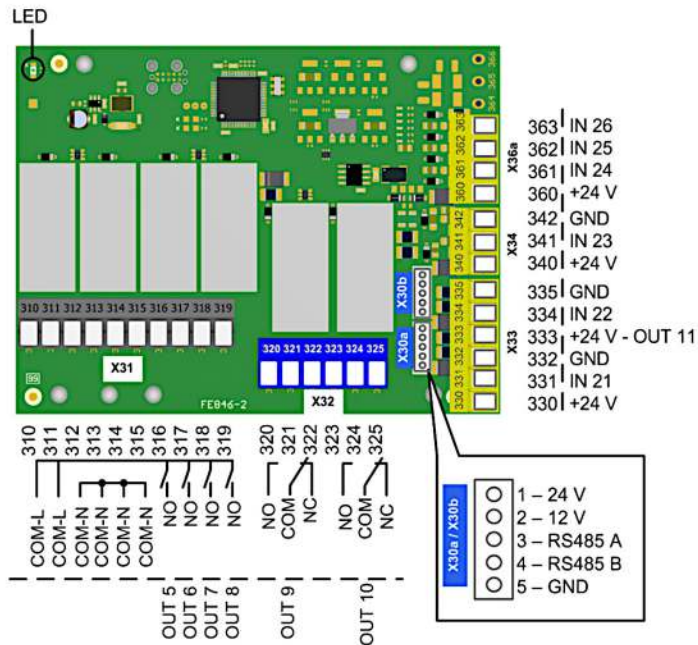
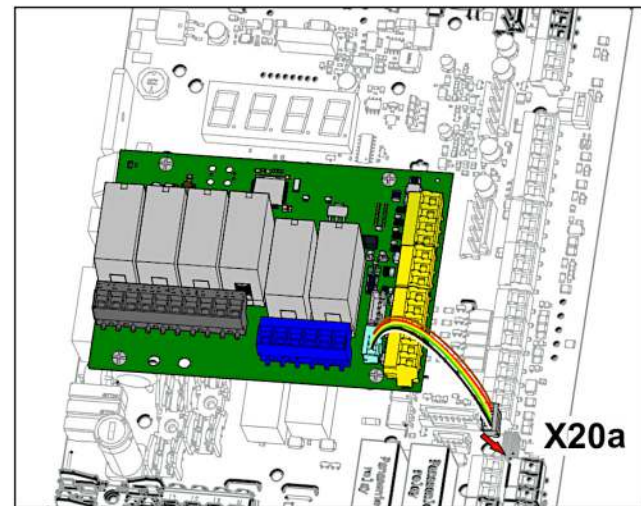


Abb./Fig. 7: pin assignment

3.1 Anschluss für TST EWA4



3.2 Connecting cable

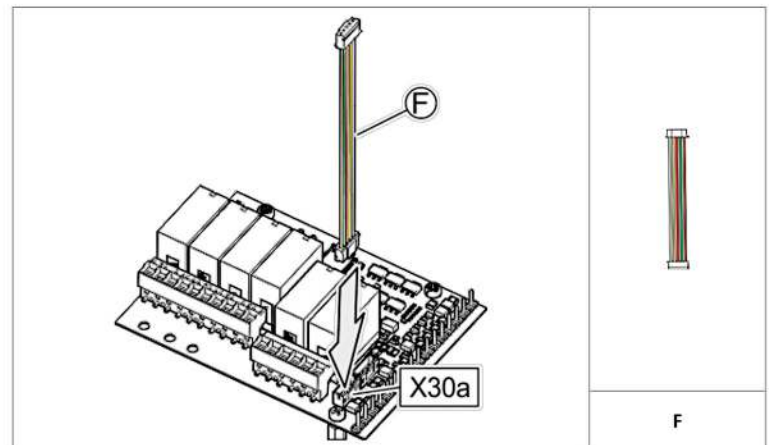


Abb./Fig. 8: Assembly using the example of the TST RFUxIO-E



4 EN – Installation instructions

4.1 Safety instructions



Follow the instructions for installation!

Follow all instructions for the products used!
Incorrect installation can lead to electric shock and serious injury!
Improper use can damage the device!

NOTE

Original language and translation

The language of the original document is German. All other languages are translations.

Use The extension board TST RFUXIO-E only for the intended purpose with controllers from FEIG ELECTRONIC GmbH!

The installation, commissioning and replacement of the product may only be carried out by qualified personnel with accident prevention training.

Product disposal



At the end of its service life, dispose of the product in accordance with the valid legal specifications.

Abb./Fig.	Figure
Tab.	Table
Controller (TST)	Door and barrier control with integrated frequency converter or reversing contactor for controlling a motor.
Qualified specialist	The qualified specialist has been trained in working with electrical work equipment and has been informed of the possible hazards caused by improper handling. The qualified specialist has knowledge of the necessary protective measures and protective equipment. Furthermore, as a result of professional training and experience, as well as recent professional activity, they have the required specialist knowledge to inspect the tools.

4.2 Product specification

The TST RFUXIO-E is an accessory of the company FEIG ELECTRONIC GmbH and provides the following functions:

- Output of power signals (e.g. traffic light control).
- All functions are adjustable by parameter via the controller.

4.2.1 Intended use

Operation is only permitted with the following door controllers:

CE	UL
TST FUF2-A,-C,-F Series TST FU3F-A,-C,-F Series TST FUH2-C Series TST FU3H-F Series TST FU22-A, -B, -C Series TST FU22-CX, -G, -L, -P, -S Series TST EWA4 Series	TST FU3F-AU, -CU, -FU Series TST FU3H-FU Series

4.3 Technical data for Europe

All inputs must be connected potential-free or:



- < 4 V: inactive → logical 0
- >16 V: active → logical 1
- min. duration of input control commands: > 100 ms

Dimensions (LxBxH)		112 x 83 x 30 mm
Temperature	Operation	-20 °C to +65 °C
	Storage	-20 °C to +70 °C
Humidity		<80% non-condensing
Weight		ca. 150 g
Device type		Input and output expansion board
Protection category		IP 00
Protection Class		--
Supply voltage		24 VDC ± 20 %
Power consumption		(without relays and outputs) max. 2 W
Current load rating		max. 1.8 A
Connection/interface		X30a and X30b: System interface (internal connection to door controller) 1x RS-485 as external interface 1x RS-485 as external interface parallel to X30a e.g. for connection of a diagnostic tool
Battery		--
Miscellaneous		1 LED (see chapter LED display)
Inputs		
X33 (IN 21 und IN 22), X34 (IN 23), X36 (IN 24 – IN 26)		24 VDC / typ.15 mA, max. 26 VDC / 20 mA
Outputs		



The 24 V outputs and transistor outputs are electronically fused and may be loaded with max. 1.1 A (@23 °C) (resistive loads only)!

Relays OUT 5 – OUT 8	Normally open contact with common COM port. Max. 230 VAC / 3 A in total are allowed.
Relays OUT 9 – OUT 10	Changeover contact free of potential. The same switching voltage must be used for both relays!
Relay contact (general)	max. 240 VAC/3 A, min. 10 mA
Digital output	OUT 11: 1 x 24 V / min. 10 mA / max. 100 mA, normally open, +24 V switching!

+24 V	24 VDC Power supply output
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Connection		Cable size		Tightening torque
		rigid	flexible with wire end ferrule	
X31	310-319	0,2 - 2,5 mm ²	0,25 - 1,5 mm ²	0,35 - 0,4 Nm
X32	320-325			
X33	330-335	0,2 - 2,5 mm ²	0,25 - 1,5 mm ²	0,35 - 0,4 Nm
X34	340-342			
X36a	360-363			



EC Declaration of Conformity

Machinery Directive: 2006/42/EC
EMV: 2014/30/EU
Applied harmonized standards:
EN 60335-1:2012 / AC:2014
Section: Chapters 7, 10, 11,14,19, 22, 23, 24, 29
EN 60335-2-103:2015
Section: Chapters 7, 10, 11,14,19, 22, 23, 24, 29
EN 61000-6-1:2007
Section: Table 1 item 1.5, Table 2, Table 4 items 4.4 + 4.5
EN 61000-6-2:2005 / AC:2005
Section: Table 1 item 1.5, Table 2, Table 4 items 4.4 + 4.5
Applied national technical specifications:
EN 12453:2017 Section 5.3

4.4 UL-Ratings

Supply	24 VDC / max. 1.8 A, Class 2 (X30a)
Class 2 output	24 VDC / max. 700 mA
Maximum surrounding air temperature	65 °C
Degree of pollution	For use in an environment with pollution degree 2.
Battery	--
X30a	Supply input; 24 VDC / max. 1.8 A, Class 2 (and internal RS485 bus)
X30b	RS-485 and power interface for diagnostics, Class 2
X33	Input 21, 22; 24 VDC each / max. 20 mA, Class 2 2x digital output (OUT 11/2F); 24 VDC / max. 200 mA, Class 2
X34	Input 23; 24 VDC each / max. 20 mA, Class 2
X36 (3x out) X36a (1x out) ¹	Input 24, 25, 26; 24 VDC each / max. 20 mA, Class 2 3x digital output (OUT 2C/2D/2E); 24 VDC each, 200 mA, Class 2

¹ Note: The maximum load of all Class 2 outputs shall not exceed 0.7 A in any combination.

X31 Relays Outputs ² (OUT 5, OUT 6, OUT 7, OUT 8)

Maximum load for each single output:

250 VAC, max. 3 A G.P.
30 VDC, 3 A G.P.
C300, R150 (Pilot Duty)

Maximum total load at all four outputs:

250 VAC, max. 3 A G.P.
30 VDC, 3 A G.P.
120 / 240 VAC, 180 VA (Pilot Duty)
125 / 250 VDC, 28 VA (Pilot Duty)

X32 Relays Outputs ² (OUT 9, OUT 10)

Maximum load for each single output:

250 VAC, max. 3 A G.P.
30 VDC, 3 A G.P.
C300, R150 (Pilot Duty)

² The relay terminals X31 and X32 can be connected either to the mains voltage, low voltage or class 2 circuits. Mixing different voltage circuits within one terminal is not permitted.

The changeover contacts (OUT9/OUT10) on terminal X32 are also intended for connection to the same voltage circuits. The connection of different voltage circuits is not permitted. For voltages above 150 V, it is necessary that the "COMMON" terminals of OUT9 and OUT10 have the same voltage potential.

NOTE

The interconnection of Class 2 outputs is prohibited.

Connection		Cable size		Tightening torque		NEC wiring
		AWG	(mm ²)	Lb-in	(Nm)	
X31	310-319	24 - 12	(0,2 - 3,3)	3,5	(0,4)	Class 1
X32	320-325					
X33	330-335	24 - 12	(0,2 - 3,3)	3,5	(0,4)	Class 2
X34	340-342					
X36a	360-363					

In the field-wiring area, provisions for wiring for Class 2 and Class 3 circuits must meet the requirements for separation from Class 1 circuits in accordance with Section 725 of the National Electrical Code, ANSI/NFPA 70 and Section 16 of the Canadian Electrical Code. Separation from power and lighting circuits is required for Class 2 by one of the following means:

- a permanent barrier shall be provided to separate the field installed Class 2 conductors of secondary circuits from all other circuits or;
- provisions need to be made to route the Class 1 or power circuit conductors in order to maintain a minimum 1/4-in (6.35 mm) separation from the conductors of the Class 2 circuits.



TST FU3F-AU,-CU,-FU Series
TST FU3H-FU Series



4.5 Assembly and connection

See chapter 2 "Montage / Assembly / Montage" on page 1.

DANGER

Risk of electric shock!

Before connecting the accessory: Switch off the power supply for the door controller!

- Do not switch on the power supply for the door controller again until the installation of the accessory has been completed, the door controller is covered and no live parts can be touched.

ATTENTION!

Disconnect the connection terminals, connect lines and then connect to the plug strip of the controller! Only thus is it possible to ensure a safe contact of the connection terminals to the plug connectors.

CAUTION

To avoid mechanical damage of the PCB from the ferrite core, place the connection cable around the display spacer bolt as shown above and secure it to it with the enclosed cable tie.

NOTE

Use only 75 °C copper cable to connect to the expansion board.



The connection to the door controller is described in the installation instructions for the door controller in question.

Additionally required tools

Cross screwdriver PH 1



4.6 Mounting and Connecting for the TST EWA4 Series

1. Mount the 4 spacers (E) on the expansion board using the 4 screws (B). (See chapter 2.4 "Für TST EWA4 Serie/For TST EWA4 series/Pour série TST EWA4" on page 2.)
2. Plug the expansion board into the controller.
3. Connect the expansion board to the X20a connection on the controller. (see chapter 3.1 "Connection for TST EWA4", page 2).
4. Connect the cable (F) to the connection X30a (see chapter 3.2 "Leitung anschließen/Connecting cable/Connecter le câble ", page 2).
5. Activate the expansion board via the controller: set parameter P.800 to 8.

4.7 Mounting for the TSTFU22 Series

See chapter 2.1 "Für TST FU22 Serie/For TST FU22 Series/Pour Série TST FU22" on page 1.

1. Mount the 4 spacers (E) on the expansion board using the 4 screws (B).
2. Connect the cable (F) to the connection X30a (See chapter 3.2 "Leitung anschließen/Connecting cable/Connecter le câble " on page 2.).
3. Connect the expansion board to the controller (see installation instructions for the controller, chapter "Mounting TST RFUXIO").
4. Activate the expansion board via the controller: set parameter P.800 to 8.

4.8 Mounting for TSTFU22 series with LCD display

See chapter 2.2 "Für TST FU22 Serie + Klartextdisplay/For TST FU22 series + plain text display/Pour série TST FU22 + affichage en texte clair" on page 1.

1. Mount 2 spacers (E) on one side of the expansion board using the 2 screws (B) (see round marking).
2. For the display, mount the 2 spacers (E) on the other side of the expansion board using with the 2 spacer bolts (H).
3. Place the display on the spacers (H) and mount it using the 2 screws (C).
4. Connect the cable (F) to the connection X30a (See chapter 3.2 "Leitung anschließen/Connecting cable/Connecter le câble " on page 2.).
5. Connect the expansion board to the controller (see installation instructions for the controller, chapter "Mounting TST RFUXIO").
6. Activate the expansion board via the controller: set parameter P.800 to 8.

4.9 Mounting for TST FUF2, TST FU3F, TST FUH2, TST FU3H series

TST FU2F, TST FU3F:

1. Mount the 4 spacers (D) on the expansion board using the 4 screws (B). Detail picture TST FUxF: the assembly is done at the third opening.

TST FUH2, TST FU3H:

1. Mount the 3 spacers (D) and spacer (I) on the expansion board using the 4 screws (B). Detail figure TST FU3H: the assembly is done at the first opening.
2. Connect the cable (F) to the connection plug X30a (See chapter 3.2 "Leitung anschließen/Connecting cable/Connecter le câble " on page 2.).
3. Connect the expansion board to the controller (see installation instructions for the controller, chapter "Mounting TST RFUXIO").
4. Activate the expansion board via the controller: set parameter P.800 to 8.

4.10 Mounting for TST FUxF with the expansion board TST RFUXFCOM

See chapter 2.5 "Für TST FUF2, TST FU3F Serie mit TST RFUXFCOM/For TST FUF2, TST FU3F series with TST RFUXFCOM/Pour série TST FUF2, TST FU3F avec TST RFUXFCOM" on page 2.

1. Mount the 2 spacers (D) on one side of the expansion board using the 2 screws (B).
2. Mount the 2 spacers (G) on the other side of the expansion board using the 2 screws (B) (see round marking).
3. Connect the cable (F) to connection X30a (See chapter 3.2 "Leitung anschließen/Connecting cable/Connecter le câble " on page 2.).
4. Connect the expansion board to the controller (see installation instructions for the controller, chapter "Mounting TST RFUXIO").
5. Activate the expansion board via the controller: set parameter P.800 to 8.

4.11 LED status indicator

LED status	Description
OFF	No power supply
Slow flashing at 0.5 Hz	No bus connection available No communication partner found
Flashing at 1 Hz	Expansion card is ready for operation
Faster flashing at 2 Hz	Bootloader mode

