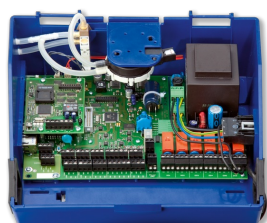
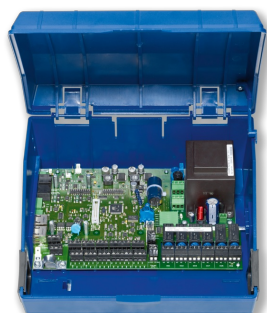


EXPANSION MODULE EM-  
TRF



EASYLAB CONTROLLER  
TCU3



EASYLAB ADAPTER  
MODULE TAM



## EM-TRF

**FOR CONNECTING TROX UNIVERSAL CONTROLLERS  
AS WELL AS EASYLAB CONTROLLERS AND TAM  
ADAPTER MODULES TO THE MAINS SUPPLY**

Extension module enables direct connection to a 230 V AC mains supply without additional power supply units

- Double connection terminals for supply voltage 230 V AC
- Electric plug connection to the main PCB
- Extension module is integrated into the housing of the EASYLAB or TROX UNIVERSAL controller

## General information

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### Application

- Enables direct connection of the TCU3 controller board to a 230 V AC mains supply without additional power supply units for the following components:
- EASYLAB controller and its adapter module TAM
- TROX UNIVERSAL controller
- Power supply of the TCU3 including connected modules, actuators and control units
- Suitable for factory installation or retrofitting

### Special features

- Ready-to-install and matched to the fixing points in the basic housing
- Double connection terminals for supply voltage 230 V AC
- Simple electrical connection of extension module and TCU3 controller board with connector plug
- Simple wiring of switchable fume cupboard lighting in conjunction with the EM-LIGHT extension module for EASYLAB fume cupboard controller

### Parts and characteristics

- Mains transformer 230 V AC (primary), 24 V AC (secondary)
- Board connector plug for connection to the TCU3 controller board
- Safety latch for controller housing TCU3

### Construction features

- Dimensions and fixing suitable for the controller housing of an EASYLAB or TROX UNIVERSAL controller or EASYLAB TAM
- Fixing with screws
- Double connection terminals for easy wiring of the supply voltage 230 V AC

### Commissioning

- When ordering a flow rate control unit with EASYLAB, TROX UNIVERSAL controller or EASYLAB TAM - specifying order option T: EM-TRF installed, connected and ready for operation
- For retrofitting: Installation required

**Important:** After installation of the EM-TRF, the TCU3 controller board must no longer be supplied with 24 V

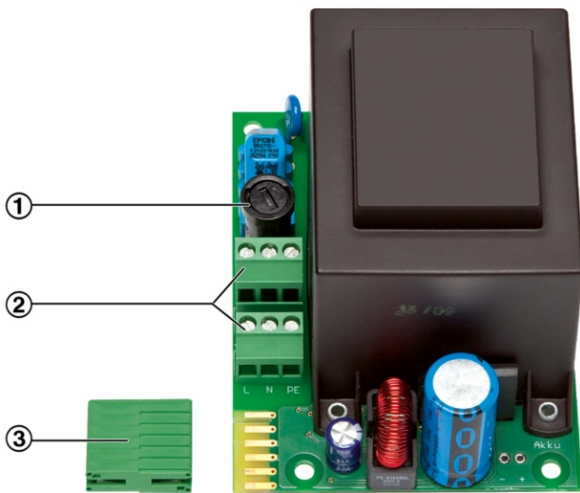
## TECHNICAL INFORMATION

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Function, Technical data, Specification text, Order code, Related products



## EM-TRF



- ① Primary fuse
- ② Connection terminals for supply voltage
- ③ PCB connector plugs for connection to the TCU3 controller board

Supply voltage	230 V AC $\pm 10\%$ , 50/60 Hz
Power consumption	depending on the equipment of the respective control component and in particular the type of actuator used on the TROX UNIVERSAL or EASYLAB controller <ul style="list-style-type: none"> <li>• Up to 9 VA for EASYLAB adapter module</li> <li>• Up to 29 VA for individual or room controller without control panel</li> <li>• Up to 33 VA for room controller with control panel</li> <li>• Up to 35 VA for fume cupboard controller with control panel</li> <li>• Up to 40 VA for controllers with all extensions</li> </ul>
Primary fuse	50 mA slow-blow, 250 V
Double-stack terminal blocks	Cable cross section up to 2.5 mm <sup>2</sup>
Operating temperature	0 – 50 °C
IEC protection class	I (protective grounding)
Protection level	IP 20
EC conformity	EMC according to 2014/30/EU, low voltage 2014/35/EU with TCU3 controller, RoHS according to 2011/65/EU
Storage temperature	-10 °C - +70 °C, humidity max. 90 % (non-condensing)
Weight	1.3 kg

This specification text describes the general properties of the product. Texts for variants can be generated with our Easy Product Finder design programme.

Extension module for EASYLAB and TROX UNIVERSAL controllers as well as EASYLAB adapter module TAM. Enables direct connection of the TCU3 controller PCB to a supply voltage of 230 V AC. The extension module contains a transformer whose secondary voltage (extra-low voltage 24 V) corresponds to the supply voltage of the controllers and connected modules.

#### Special features

- Ready-to-install and matched to the fixing points in the basic housing
- Double connection terminals for supply voltage 230 V AC
- Simple electrical connection of extension module and controller board TCU3 by means of connector plug
- Simple wiring of switchable fume cupboard lighting in conjunction with the EM-LIGHT extension module for EASYLAB fume cupboard controller

#### Technical data

- Supply voltage: 230 V AC  $\pm 10\%$ , 50/60 Hz
- Power consumption depending on the equipment of the respective control component and in particular the type of actuator used on the TROX UNIVERSAL or EASYLAB controller
- Up to 9 VA for EASYLAB adapter module
- Up to 29 VA for individual or room controller without control unit
- Up to 33 VA for room controller with control unit
- Up to 35 VA for fume cupboard controller with control panel
- Up to 40 VA for controllers with all extensions
- Double connection terminals: Power cross-section up to 2.5 mm<sup>2</sup>
- Protection level: IP 20

#### 1 Product

**EM-TRF** Extension module for 230 V AC mains supply

#### Note:

This is the order code for retrofitting the expansion module into a VAV terminal unit with EASYLAB or TROX UNIVERSAL control component or a TROX adapter module TAM.

Generally, the extension module is ordered with the VAV terminal unit via the order code of the basic unit under the section **Expansion modules** with the order code **T** set.

**EM-TRF**  
↓  
**1**

### Important note

If the EM-TRF extension module is installed, the TCU3 controller board must not longer be supplied with 24 V.

### Commissioning with factory preparation

When ordering the EASYLAB or TROX UNIVERSAL controller with EM-TRF extension module, the module is factory-fitted, connected and immediately ready for operation.

### Installation and commissioning for retrofitting

- Disconnect the EASYLAB or TROX UNIVERSAL controller from the power supply
- Disconnect 24 V supply
- Install the EM-TRF extension module in the controller housing and connect it to the TCU3 controller board
- Mounting the safety latch on the outside of the controller housing
- Connecting the 230 V mains supply
- Extension module is automatically recognised the next time it is switched on



Volume flow controller TVR with EASYLAB control component 1 Controller TCU3 in housing 2 EM-TRF 3 Volume flow control unit