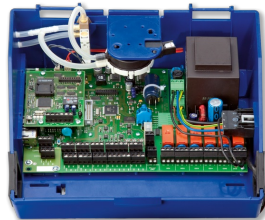
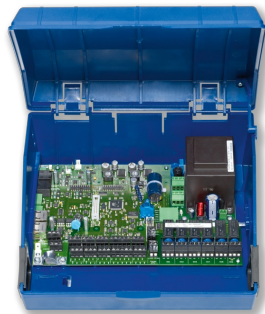




EXPANSION MODULE EM-TRF-USV



EASYPAC CONTROLLER  
TCU3



EASYPAC ADAPTER  
MODULE TAM

## TYPE EM-TRF-USV

### FOR THE CONNECTION OF EASYPAC TO THE 230 V MAINS AND FOR UNINTERRUPTIBLE POWER SUPPLY

Expansion module for the direct connection of EASYPAC controllers Type TCU3 and adapter modules Type TAM to the 230 V mains, including uninterruptible power supply

- Double-stack terminal blocks for 230 V supply voltage connection
- Electric plug connection to the main PCB
- The expansion module is fitted into the casing with the EASYPAC base component
- Uninterruptible power supply for the connected modules
- Integral battery charging electronics with charge status indicator
- Power failure is signalled to the EASYPAC control panels
- Controller action in case of a power failure can be defined

## Application

### Application

- Expansion module Type EM-TRF-USV for the EASYPAC system
- For the connection of EASYPAC base components (controller TCU3 or adapter module TAM) to the 230 V AC supply voltage (mains)
- Power supply for the base component and the connected modules
- Battery pack ensures uninterrupted power supply even in case of a mains power failure
- Control and/or alarm signalling even in case of a power failure
- Factory mounted or for retrofitting into the EASYPAC base component casing

### Special characteristics

- Ready for installation, can be easily connected to the main PCB
- Double-stack terminal blocks for 230 V AC supply voltage connection
- Simple electrical connection of expansion module and EASYPAC main PCB using a connection plug
- Simple wiring of switch-operated fume cupboard lighting in combination with the EM-LIGHT expansion module
- Intelligent charge control with trickle charging, deep discharge protection, and reverse voltage protection
- Operating state indicator light
- Controlled response in case of a power failure can be defined (EASYPAC TCU3 with expansion module EM-TRF-USV)
- In case of a power failure: Optical signal on the control panel; configurable alarm signalling



## Description

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### Parts and characteristics

- Mains transformer 230 V AC (primary), 24 V AC (secondary)
- Intelligent charge control with trickle charging, deep discharge protection, and reverse voltage protection
- Operating state indicator light
- PCB plug connector to connect the module to the EASYLAB main PCB

### Useful additions

- EasyConnect: Configuration software for the commissioning and diagnosis of EASYLAB components

### Construction features

- PCB dimensions and fixing points correspond to the EASYLAB main PCB and the casing
- Fixing with screws
- Double-stack terminal blocks for simply 230 V supply voltage connection

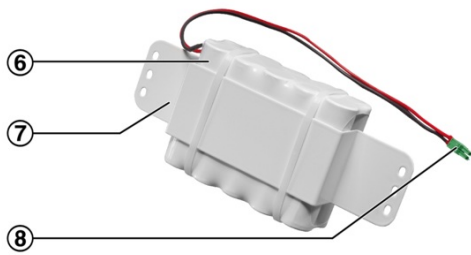
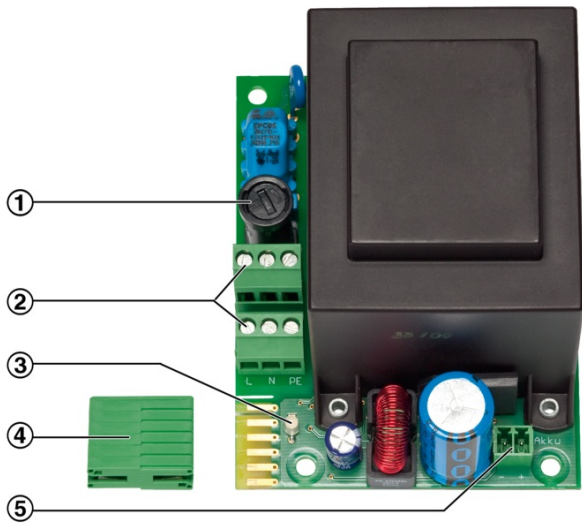
## TECHNICAL INFORMATION

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

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EM-TRF-USV



- ① Primary fuse
- ② Connection terminals for supply voltage
- ③ Operating state indicator light
- ④ PCB plug connector to connect the module to the main PCB
- ⑤ Socket for battery pack
- ⑥ Battery pack
- ⑦ Mounting bracket
- ⑧ Connecting cable

Supply voltage	230 V AC $\pm$ 10 %, 50/60 Hz
Primary fuse	50 mA slow blow, 250 V
Power consumption	up to 40 VA for a controller with all expansion modules; up to 35 VA for a fume cupboard controller with control panel; up to 33 VA for a room controller with control panel; up to 29 VA for a room controller without control panel; up to 9 VA for an EASYLAB adapter module TAM
Operation in case of a power failure	One controller (TCU3 or TAM) with control panel, standard operation will be maintained for approx. 4.5 h, defined damper blade positions and power failure signalling will be maintained for approx. 6 h
Battery pack charging	1500 mAh
Battery life	up to 4 years; when stored without trickle charging, 6 months
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 earth)
Protection level	IP 20
EC conformity	EMC to 2004/108/EU, low voltage to 2006/95/EU
Weight	2.4 kg (including 1.1 kg for battery pack)

Expansion module for the EASYLAB base component (controller TCU3 or adapter module TAM) that can be directly connected to a 230 V AC supply voltage. The expansion module includes a transformer whose secondary voltage (24 V) is equal to the supply voltage for the controller and the expansion modules connected to it.

Uninterruptible power supply (UPS) by means of a battery pack that maintains defined functions in case of a power failure.

#### Special characteristics

- Ready for installation, can be easily connected to the main PCB
- Double-stack terminal blocks for 230 V AC supply voltage connection
- Simple electrical connection of expansion module and EASYLAB main PCB using a connection plug
- Simple wiring of switch-operated fume cupboard lighting in combination with the EM-LIGHT expansion module
- Intelligent charge control with trickle charging, deep discharge protection, and reverse voltage protection
- Operating state indicator light
- Controlled response in case of a power failure can be defined (EASYLAB TCU3 with expansion module EM-TRF-USV)
- In case of a power failure: Optical signal on the control panel; configurable alarm signalling

#### Technical data

- Supply voltage: 230 V AC  $\pm$  10 %, 50/60 Hz
- Power consumption: up to 40 VA for a controller with all expansion modules; up to 35 VA for a fume cupboard controller with control panel; up to 33 VA for a room controller with control panel; up to 29 VA for a room controller without control panel; up to 9 VA for an EASYLAB adapter module TAM
- Operation in case of a power failure: One controller (TCU3 or TAM) with control panel, standard operation will be maintained for approx. 4.5 h, defined damper blade positions and power failure signalling will be maintained for approx. 6 h
- Battery pack charging: 1500 mA
- Battery life: up to 4 years
- Double-stack terminal blocks: Cable cross-section up to 2.5 mm<sup>2</sup>
- Protection level: IP 20

- Any attachments are to be defined with the order code of the VAV terminal unit.
- Retrofit possible

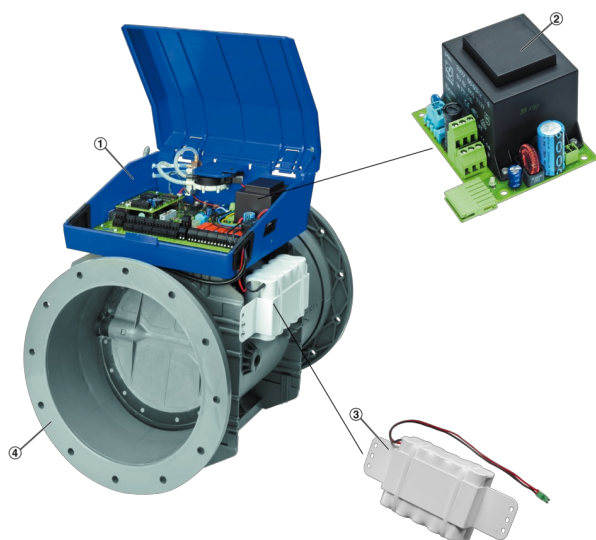
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# EM-TRF-USV

Product details



Base component TCU3 with expansion module EM-TRF-USV



- ① EASYLAB base component, e.g. controller TCU3
- ② Expansion module EM-TRF-USV
- ③ Battery pack (UPS)
- ④ Air terminal unit, e.g. TVLK

## Installation details



### Installation and commissioning

- As attachment for the EASYLAB base component: factory mounted
- For retrofitting: Mount the expansion module into the base casing, fix battery pack and connect it to the expansion module
- The EASYLAB controller TCU3 or the adapter module TAM identifies the expansion module automatically
- If necessary, adjust the response action and alarm behaviour required in case of a power failure using the EasyConnect configuration software

### TROX GmbH



Heinrich-Trox-Platz  
D-47504 Neukirchen-Vluyn  
Tel.: +49 (0)2845 202-0  
Fax: +49 (0)2845 202-265

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