Operating and Installation Manual

**EASYLAB Expansion module
EM-LIGHT**

Socket for fume cupboard lighting

D06 NO
TRF PE
TRF N
D06 C
TRF L

TROX® TECHNIK

The art of handling air

Contents

TROX GmbH

Heinrich-Trox-Platz
D-47504 Neukirchen-Vluyn

Phone   +49 (0) 28 45 20 20
Fax   +49 (0) 28 45 20 22 65

E-Mail trox@trox.de
www.troxtechnik.com

1   General information

This manual describes the EM-LIGHT expansion module for the connection of lighting to a wired socket on the EASYLAB TCU3 controller casing.

To ensure complete functioning of the expansion module it is essential to read this operating and installation manual before starting any work, and to comply with it. The manual must be given to the facilities manager when handing over the system. The facilities manager must include the manual with the system documentation.

The manufacturer does not accept any liability for any malfunction or damage resulting from non-compliance with these instructions or non-compliance with relevant statutory regulations.

Other applicable documentation

In addition to this manual, the following documents apply:

- Control Systems catalogue
  - EASYLAB EM-LIGHT expansion module
  - EASYLAB TCU3 controller
- EASYLAB TCU3 Controller Operating Manual (M375EV0)
- EASYLAB Configuration Software Operating Manual (M375EV1)
- EASYLAB EM-TRF, EM-TRF-USV Operating manual (M375EV5)
- Project-specific wiring documents

Symbols used in this manual

Danger!
Designates danger to life and limb due to electrical voltage.

Warning!
Designates danger to life and limb.

Important!
Designates danger that can cause minor personal injury or damage to property.

2 Safety and correct use

General information regarding safety

Only skilled qualified personnel are allowed to perform the described work on the expansion module. Only skilled qualified electricians are allowed to work on the electrical system.

For all work performed on EASYLAB components, the following regulations and guidelines must be complied with. This applies in particular to the following German country specific regulations or as appropriate in the country where the installation is taking place:

- Equipment and Product Safety Laws (GPSG)
- Industrial Health and Safety Regulations (BetrSichV)
- Accident Prevention Regulations (BGV A1, BGV A3)

General safety measures

- **Electrostatic charge**

  Electrostatic charge can damage the electronics. For this reason, first touch an equipotentially bonded metal surface, e.g. a water pipe, for electrical earthing before you remove the unit from its protective wrapping. Avoid skin contact with any components or printed circuits on the expansion module or the main PCB.

- **Foreign matter and liquids**

  If liquid gets into the expansion module, let the expansion module completely dry before commissioning. Remove foreign matter, if any.

  If the device emits a smell or smoke, have it checked by the manufacturer.

Correct use

The EM-LIGHT expansion module enables the simple plug-in connection of lighting (230 V AC) to the wired socket of an EASYLAB TCU3 controller.

- Use the expansion module only for an EASYLAB TCU3 controller in combination with the EM-TRF or EM-TRF-USV expansion module.
- Connect the expansion module only to the dedicated terminals on the TCU3 main PCB and on the EM-TRF or EM-TRF-USV expansion module.
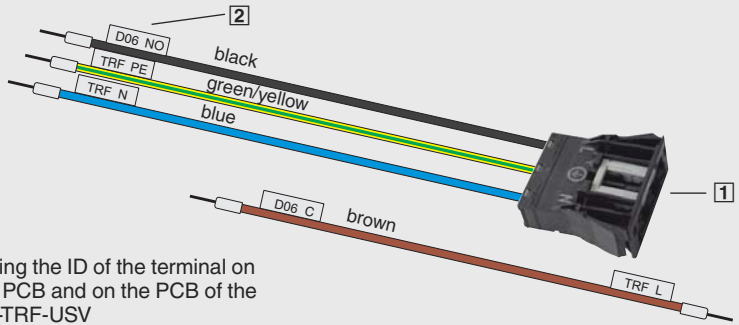- Observe the technical data for the expansion module.

Incorrect use

Do not use the expansion module outdoors, in wet areas, or in potentially explosive atmospheres.

3   Product description

Product overview, functional description, technical data

Product overview

[1] Socket
[2] Text label carrying the ID of the terminal on
   the TCU3 main PCB and on the PCB of the
   EM-TRF or EM-TRF-USV

Functional description

The EM-LIGHT expansion module provides a
socket (WAGO WINSTA Midi, 770 series) for the
connection of lighting using a plug-in cable. For
this purpose, the expansion module is connected
to the terminals of the EM-TRF or EM-TRF-USV
for 230 V AC and to a digital output of the
TCU3 controller.

The lighting can then be switched on/off using the
control panel.

Technical data	
Supply voltage	230 V AC, connection to EM-TRF or EM-TRF-USV
Switch rating	Rating of the TCU3 controller relay contact: 250 V 12 A; switch-on current 25 A max.
Acceptable temperature range	for storage −10 to +70 °C for operation 0 to +50 °C
Permissible humidity for storage and operation	90 % non-condensing
Protection level	IP 20

4   Transport, storage and packaging
5   Installation

Delivery check

Check delivered items immediately after arrival for transport damage and completeness. In case of any damage or an incomplete shipment, inform the shipping company and your TROX contact person immediately.

A complete shipment includes:

• Socket with three connected cables
• One extra cable (brown)
• Operating and installation manual

Transport on site

• If possible, take the expansion module in its transport packaging up to the installation location.
• Do not remove the protective wrapping until just before installation.

Storage

If you need to store the expansion module temporarily, make sure that the following conditions apply:

• Leave the unit in its packaging and do not expose it to the effects of weather.
• Store the unit in a dry place and away from direct sunlight.
• Temperature: –10°C to +70°C
  Maximum humidity: 90% (non-condensing)

Packaging

Properly dispose of packaging material.

For installation, wiring, and commissioning observe the recognised technical regulations, especially safety and accident prevention regulations.

For any wiring work follow the national and local regulations and guidelines for electrical installation.

⚡ **Danger!**
Danger of electric shock! Do not touch any live components! Electrical equipment carries a dangerous electrical voltage during operation.

• Only skilled qualified electricians are allowed to work on the electrical system.
• Switch off the power supply before working on any electrical equipment.

Installation

The expansion module is intended for fitting into the casing of a TCU3 controller. The EM-TRF or EM-TRF-USV expansion module must have been installed already.

Step 1

Preparing the controller casing

1. Interrupt the voltage supply to the TCU3 controller.
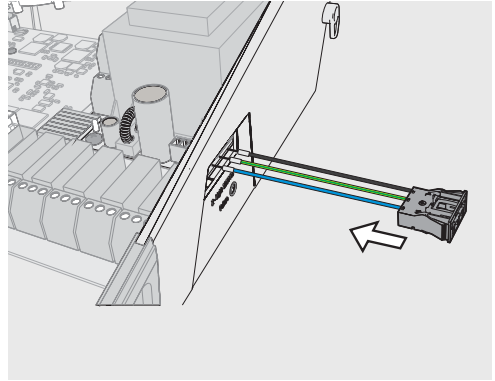2. Open the lid.
3. Remove the cap ❑1 by pushing it from the inside
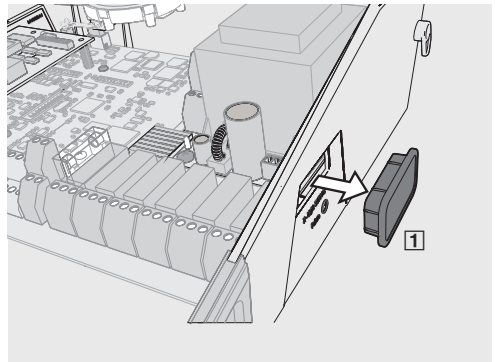
5 Installation
6 Wiring

Step 2

Installing the expansion module

1. Feed the ends of the connecting cables through the opening and into the casing.
2. Insert the socket into the opening.
3. Push the socket further into the opening until it locks into place.

⚠ **Danger!**

Danger of electric shock! Do not touch any live components! Electrical equipment carries a dangerous electrical voltage during operation.

- Only skilled qualified electricians are allowed to work on the electrical system.
- Switch off the power supply before working on any electrical equipment.

Wiring

The text labels on the cables indicate which cable has to be connected to which terminal. Connect the cables as follows:

- Yellow-green cable ☐1 to terminal PE of the EM-TRF(-USV) expansion module
- Blue cable ☐2 to terminal N of the expansion module
- Brown cable ☐3 to terminal L of the expansion module and to terminal DO6–C of the TCU3 controller
- Black cable ☐4 to terminal DO6–NO of the controller
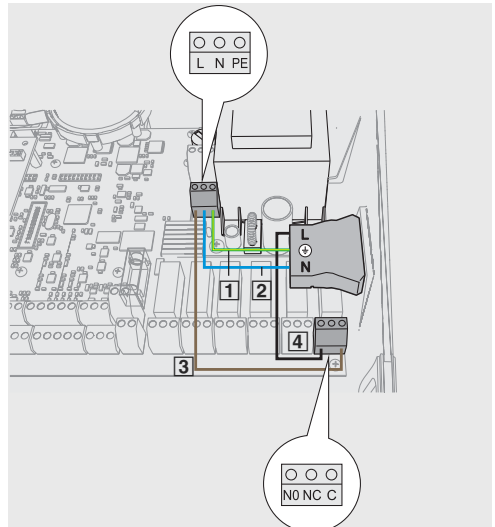
7 Commissioning
8 Maintenance

If the EM-LIGHT expansion module has been retrofitted, the lighting control is not automatically active.

Use the EasyConnect configuration software to activate the control panel button for the lighting.

Commissioning

The EasyConnect configuration software provides a commissioning wizard that guides users in making project-specific adjustments.

• Activate the lighting control 1 in the window for configuring a control panel

The function button on the BE-SEG-xx or BE-LCD-01 control panel becomes active and is highlighted in blue 2.

BE-LCD-01

BE-SEG-01
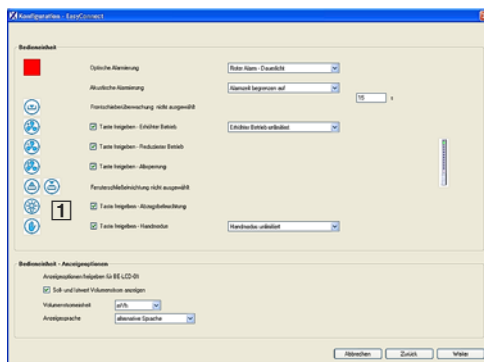
Maintenance
The EM-LIGHT expansion module is maintenance-free.