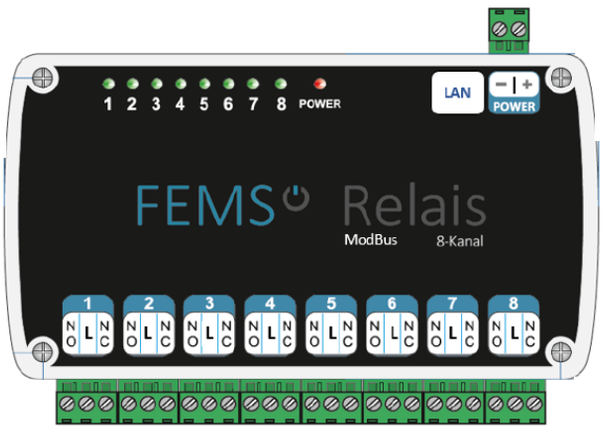

Installation and Configuration Manual — EMS TCP 8-Channel Relay Board

Version:2023.3.1

Table of Contents

1. Introduction

1.1. Legal provisions

The information provided in these documents is property of FENECON GmbH. Publication, in whole or in part, requires the written consent of FENECON GmbH.

Subject to changes and printing errors!

1.2. Qualification of the installer

A qualified installer is a person who has the following experience and training:

- Setting up, switching on, switching off, disconnecting, earthing, short-circuiting and repairing circuits and devices
- Standard maintenance and use of protective devices in accordance with current safety standards
- First aid/emergency care
- Current knowledge of local regulations, standards and guidelines

1.3. Symbols used

Before reading the manual, you should familiarize yourself with the different types of safety warnings. You should also familiarize yourself with the importance of the safety warnings.

	Danger
	Attention
	Important information

*If the devices are not connected according to the standard, this change must be communicated to Heckert Solar-Service (+49 (0) 9903 6280 0; service@fenecon.de). The configuration can then be changed according to your requirements *.

Follow the instructions for the respective device!

2. Product description

2.1. Scope of delivery

After you have received the delivery, check that all components have been included. Inspect the scope of delivery for damage. If anything is missing or damaged, please contact the supplier immediately. The following components are included in the delivery:

- Installation and Configuration Manual — EMS TCP 8-Channel Relay Board
- DIN rail power supply unit (12 V / 1.25 A)
- Installation instructions — Installation and Configuration Manual — EMS TCP 8-Channel Relay Board

2.2. Prerequisites

For the use of the Installation and Configuration Manual — EMS TCP 8-Channel Relay Board is required:

- FENECON Energy Management System (EMS)

EMS is being developed as an open source project under the name "OpenEMS" together with many other companies and institutes in the "OpenEMS Assocation e.V.". More information:

EMS: https://fenecon.de/fenecon-fems/

OpenEMS: https://www.openems.io

EMS is a product component of the integrated FENECON power storage systems and other product combinations of battery inverters and batteries. More information can be found at https://fenecon.de/.

3. Installation and Configuration Manual — EMS TCP 8-Channel Relay Board

3.1. Technical data

Logical control	Modbus/TCP via network
Power supply	9-24 VDC/1 A
Function	8 relays, each of which can be used as a normally closed or normally open contact.
Maximum switching capacities	• 12 VDC/15 A • 24 VDC/15 A • 125 VAC/15 A • 250 VAC/10 A
Assembly	DIN rail

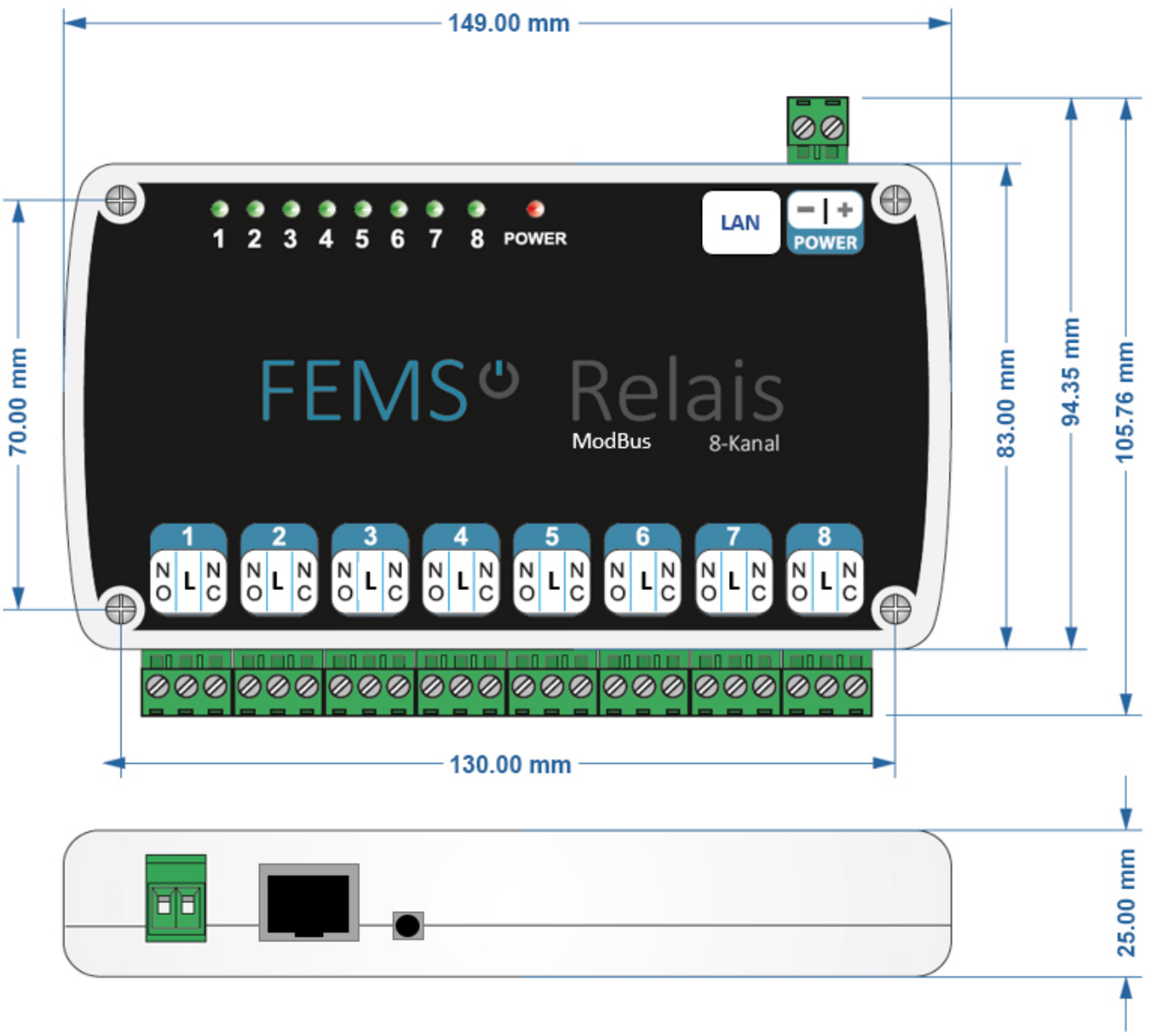

Figure 1. Dimensions — Installation and Configuration Manual — EMS TCP 8-Channel Relay Board

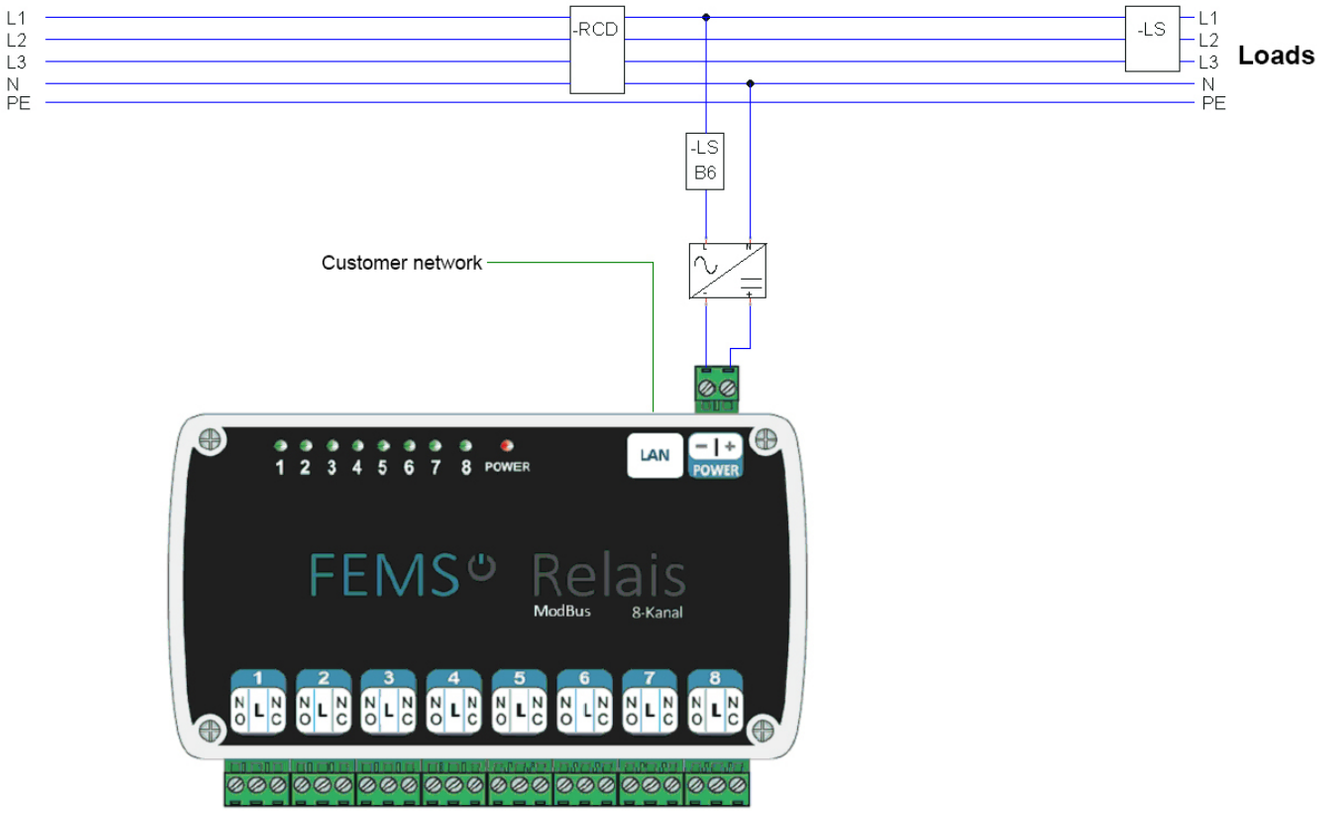

Figure 2. Overview — Installation and Configuration Manual — EMS TCP 8-Channel Relay Board

3.2. Standard assignment and connection: Combined heat and power plant (CHP)

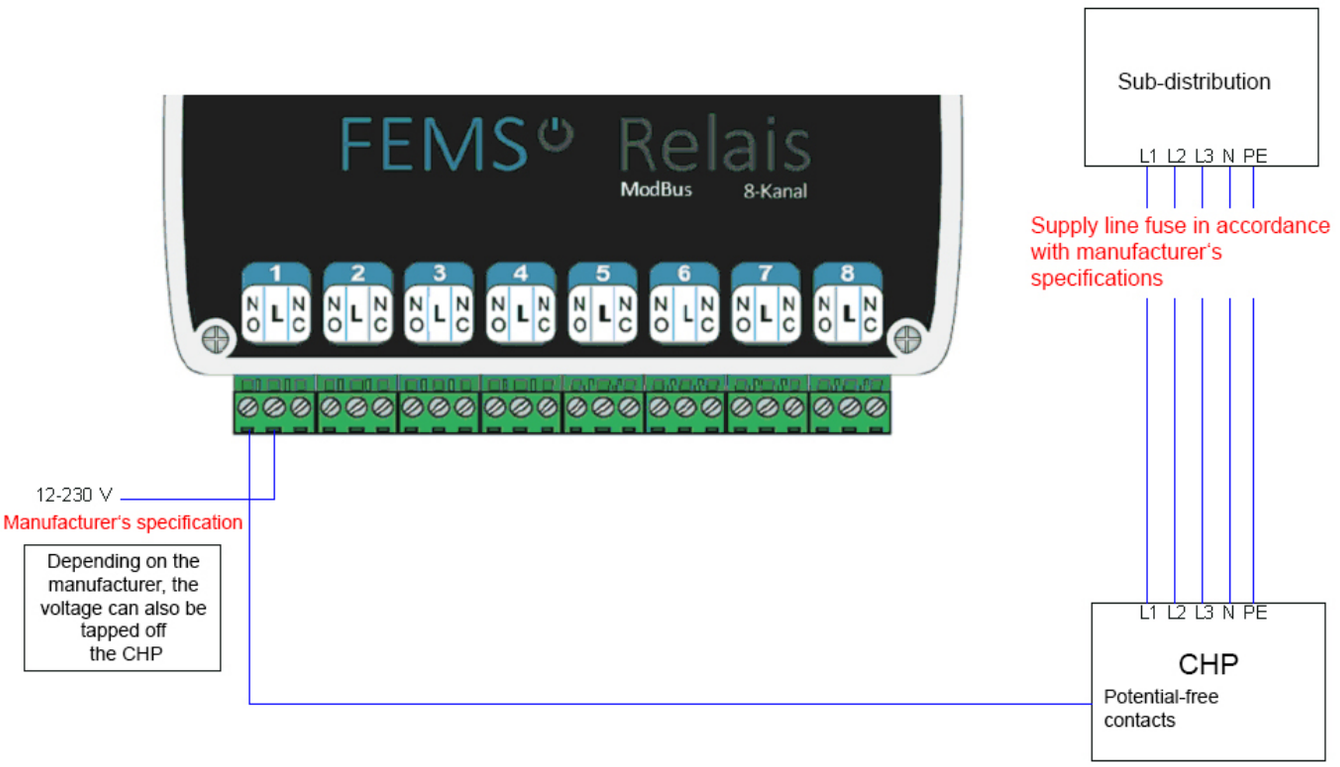

Figure 3. Connection overview: CHP

The CHP must be connected to channel 1 as standard.

3.3. Standard assignment and connection: SG-Ready heat pump

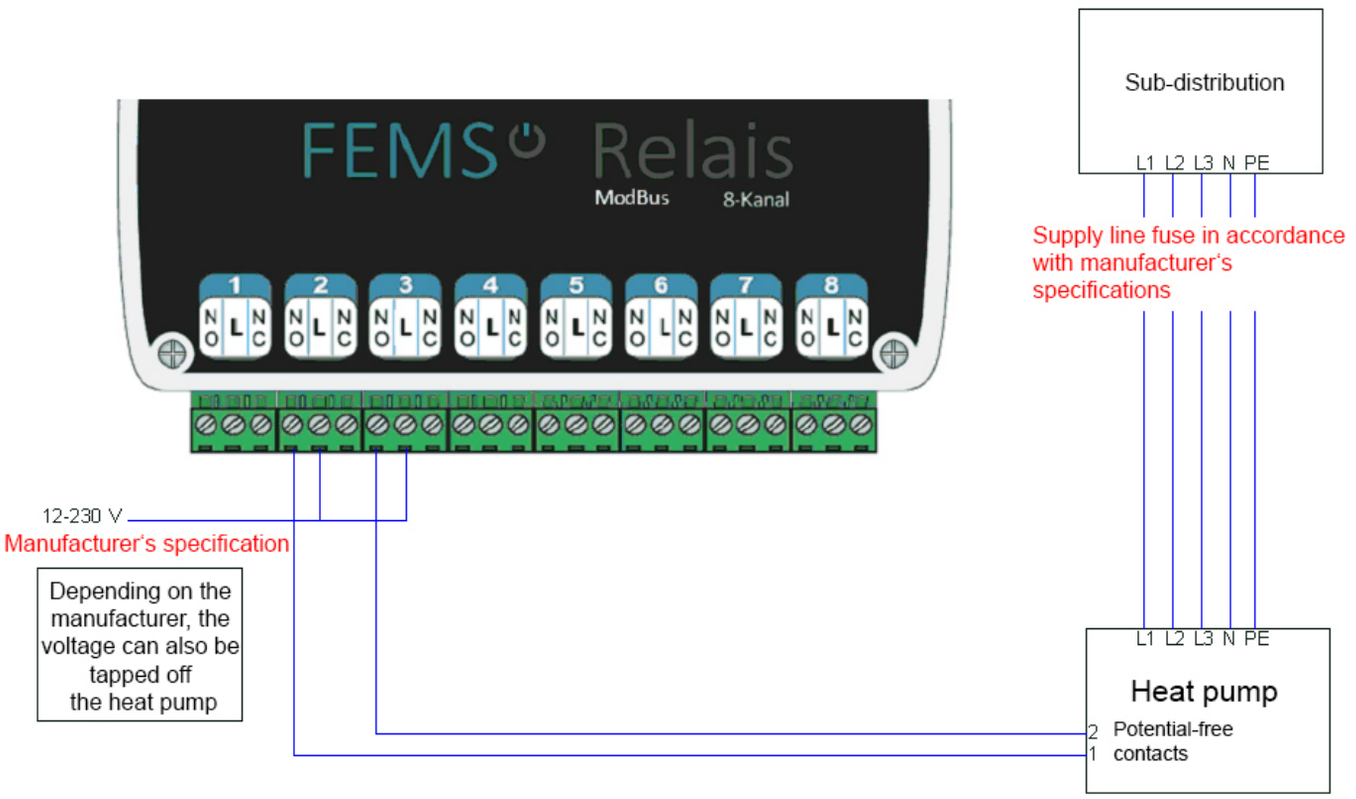

Figure 4. Connection overview: SG-Ready heat pump

The heat pump must be connected to channels 2 and 3 as standard.

3.4. Standard assignment and connection: Heating element 6 kW

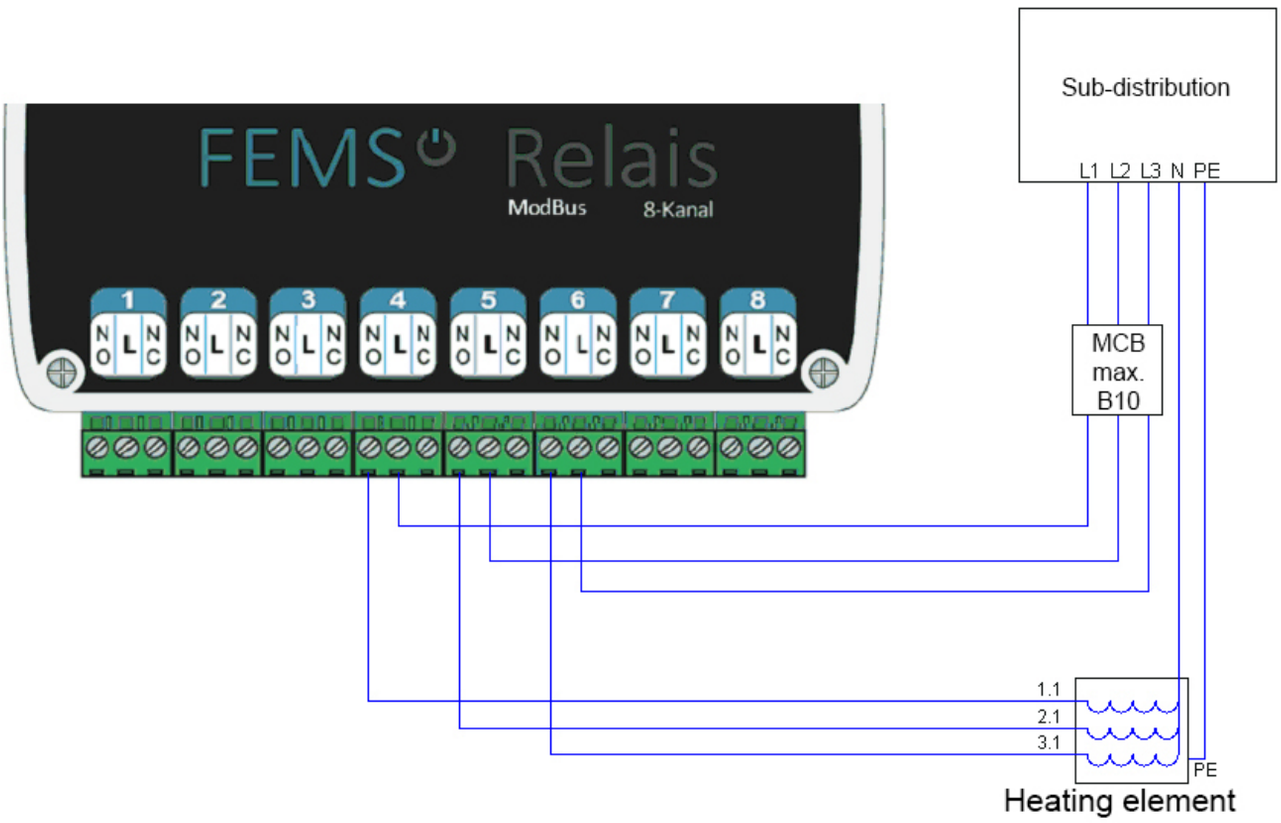

Figure 5. Overview connection: Heating element 6 kW

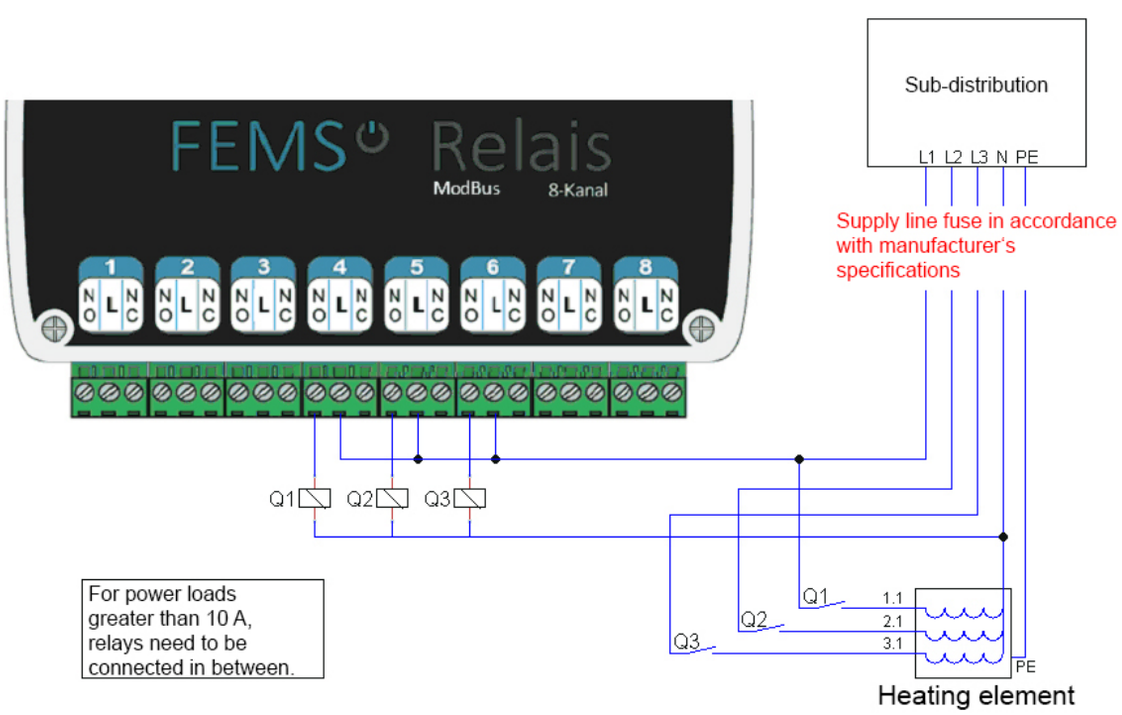

Figure 6. Connection overview: Heating element > 10 A

The heating element must be connected to channels 4, 5 & 6 as standard.

3.5. Standard assignment and connection: Consumer load for threshold value control

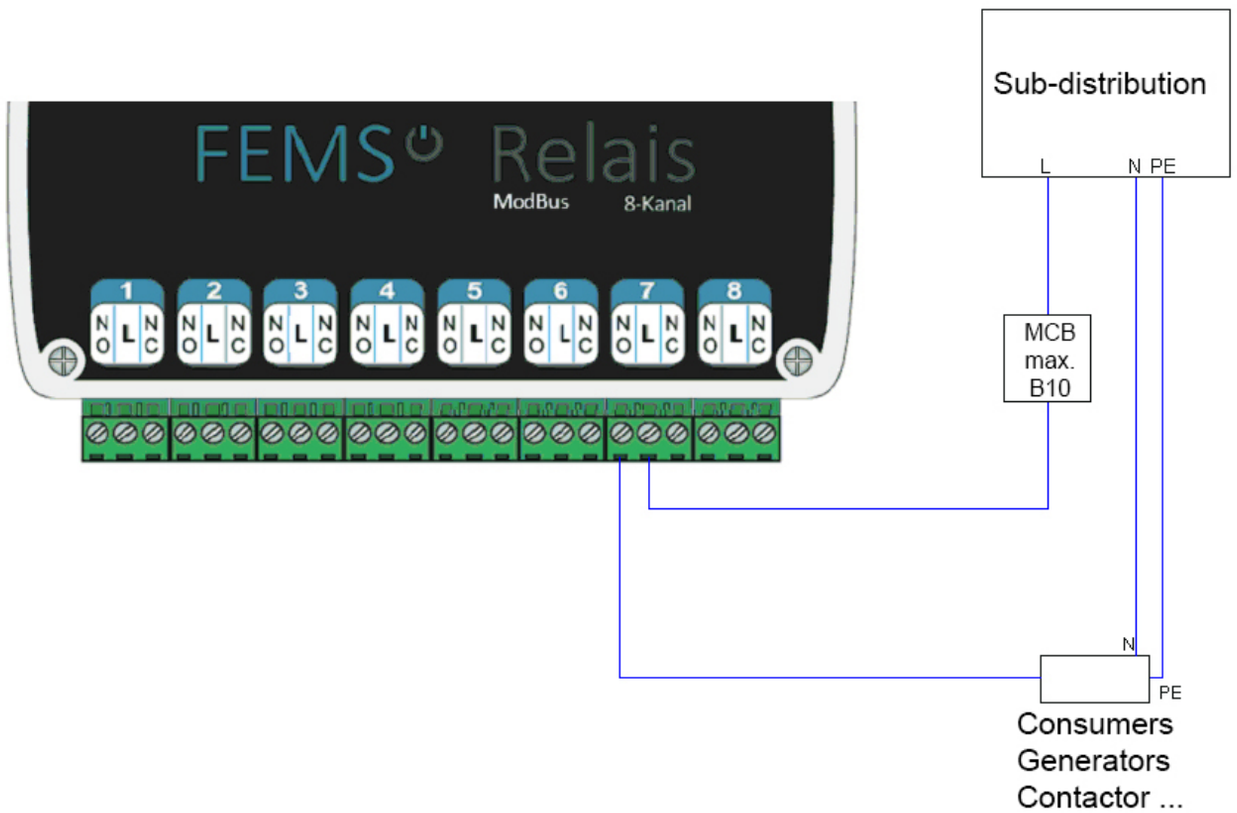

Figure 7. Connection overview: Consumer load for threshold value control

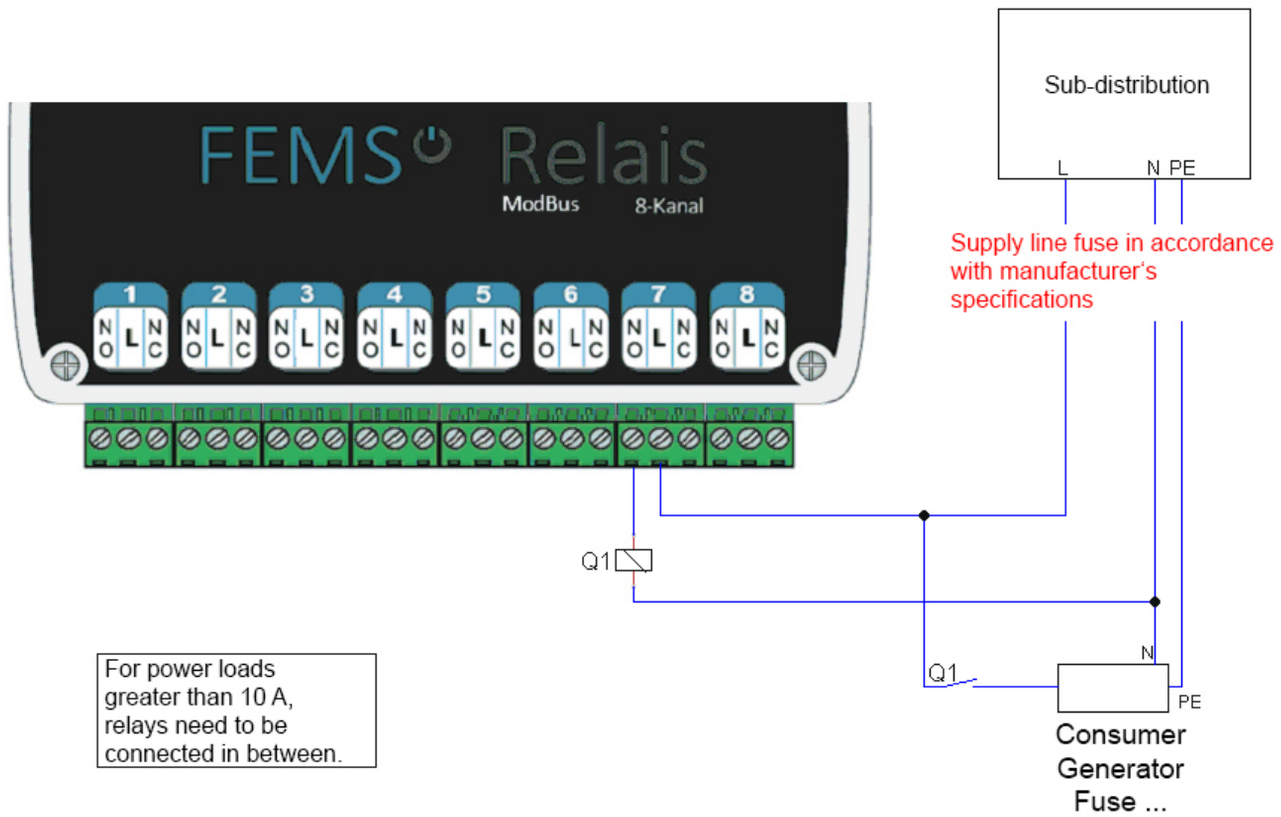

Figure 8. Connection overview: Consumer loads for threshold value control > 10 A

The consumer load for the threshold value control must be connected to channel 7 as standard.

3.6. Standard assignment and connection: Consumer load for manual relay control

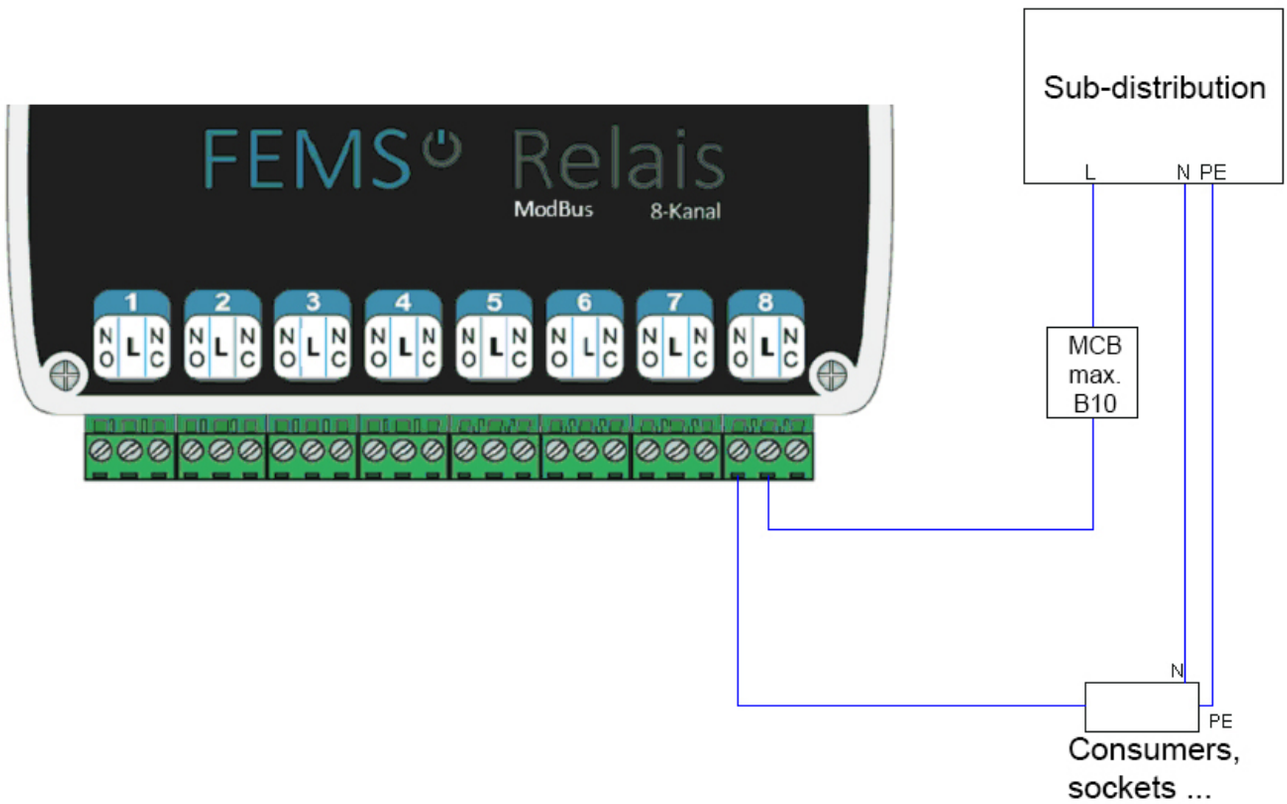

Figure 9. Connection overview: Consumer loads for manual relay control

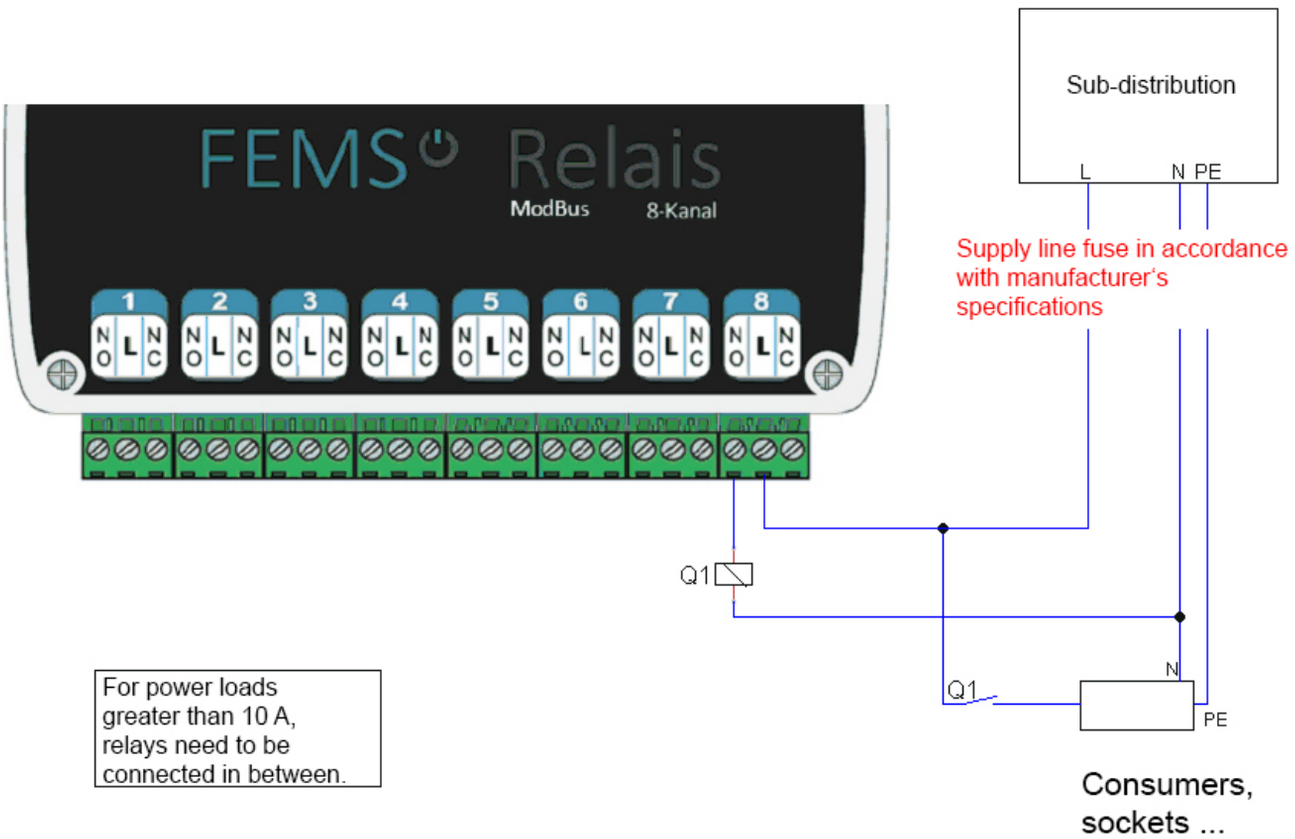

Figure 10. Connection overview: Consumer loads for manual relay control > 10 A

The consumer load for manual relay control must be connected to channel 8 as standard.

4. Contact

For support, please contact:

Symphon-E Service

Telephone service: +49 (0) 371 45 85 68 - 100

E-mail service: symphon-e@heckert-solar.com

5. Directories

5.1. List of illustrations