Relay Coupler Module

Doc-Rev. 1.0 vom 31.05.2019
Hardware-Rev. 1.0 vom 23.06.2009

Table of contents

List of changes:

Rev.	Date	Na.	Change
1.0	31.05.2019	Ko	Initial Release

1 Safety and security

Danger!

Dangerous operating voltage!
Risk of death due to electric shock!
Before working on the device, switch off the power supply and secure it against being switched on again.

Danger!

Moisture and liquids from the environment can get inside the device.
Risk of death by electric shock if touched!
The device must not be used in wet or humid environments or in the immediate vicinity of water. Install the device in a dry place protected from water jets.

Danger!

Overvoltage, overcurrent.
Risk of fire!
Protect the device against overvoltage. Only use suitable fuses.

Warning!

Short-circuits and damage due to improper repairs and opening of maintenance areas.
Fire, functional failure and risk of injury!
Only trained personnel may open the device and carry out work.

2 General information

2.1 Handling

1. Please read this documentation carefully before unpacking the hardware and switching it on. You save time and avoid trial and error.
2. Please observe the precautionary measures when handling electrostatically sensitive hardware.
3. If the hardware contains batteries, do not place them on electrically conductive surfaces. The battery may be short-circuited and cause damage.
4. Please make sure that the specified temperature range is not exceeded.

2.2 Installation

1. Check if all jumpers are set according to your application.
2. Switch off the power supply of the external connections before making a connection.
3. When you are sure that all connections are correctly installed, switch on the power supply.

2.3 Declaration

We reserve the right to make changes to improve the circuit or the product without notice. Despite careful control no liability can be assumed for the correctness of the data, circuit diagrams, programs and descriptions given here. The suitability of the product for a certain purpose is not guaranteed.

2.4 Repairs

If the product is defective, please return it to us free of charge in suitable packaging with the following description:

- Error description
- Did the error only occur under certain conditions?
- What was connected?
- What did the connected signals look like?
- Warranty repair or not?

3 Technical data

3.1 Ambient conditions

Ambient temperature (operation)   0-50° C

Ambient temperature (storage)   -20-85° C

rel. Humidity   max. 95%, nicht kondensierend

Altitude   -300m bis +3000m

3.2 Mechanical dimensions

enclosure size   140 x 122 x 65 mm (L x B x H)

Ports

Protection level   IP00

3.3 Technical data

Supply voltage: 24 Volt DC, 0.1 A

Digital outputs: 8 Outputs optional:

- Relay changeover contact 230V / 5A
- Solid-State-Relais 230V / 2A zero voltage switch

4 Startup

4.1 View

4.2 Mounting

The module is snapped onto the DIN rail.

4.3 Assembly

The module can be equipped with relays or SSRs for each channel. Each of the 8 channels has independent connections.

4.3.1 Relais

When equipped with relays, a changeover contact is available which may be loaded with max. 230V / 5A. The max. inrush current is 10A, the single-phase motor load 185W. The permissible temperature range is between -40° - 85° C.

4.3.2 SSR

The solid-state relay provides a make contact with 230VAC / 2A. The max. inrush current is 40A. The SSR switches at zero crossing of the alternating voltage.

4.4 Fuses

Fuses must be installed according to the equipment, the SSR must be protected with nimble fuses.

4.5 Switches

One switch per channel is available for on/off/automatic operation. Each relay can therefore be switched on and off manually or operated in automatic mode.

4.5.1 Switch monitoring

A 2-pole connection is available for monitoring the switch position. If all switches are in the "Automatic" position, the contact is closed, if only one switch is in the on or off position, the contact is open.

4.6 <u>Indicators</u>

The green LED indicates the 24V supply voltage. Each channel has a yellow LED that lights when the relay is energized..

4.7 <u>Connectors</u>

4.7.1 Input

	PIN	PIN	
E1	1	2	E2
E3	3	4	E4
E5	5	6	E6
E7	7	8	E8
+24V	9	10	GND

4.7.2 Output

	PIN
R1 Normally open contact	1
R1 Center	2
R1 Normally closed contact	3
R2 Normally open contact	4
R2 Center	5
R2 Normally closed contact	6
R3 Normally open contact	7
R3 Center	8
R3 Normally closed contact	9
R4 Normally open contact	10
R4 Center	11
R4 Normally closed contact	12
R5 Normally open contact	13
R5 Center	14
R5 Normally closed contact	15
R6 Normally open contact	16
R6 Center	17
R6 Normally closed contact	18
R7 Normally open contact	19
R7 Center	20
R7 Normally closed contact	21
R8 Normally open contact	22
R8 Center	23
R8 Normally closed contact	24

A plug connector from Phoenix Contact type Combicon MSTBVA 2.5/24-G-5.08 is used.