Application

The mounting plate rack 560MPR01 accommodates up to 2 communication units (CMU) 560CMR01 or 560CMR02 and up to 8 peripheral modules in a RTU560 substation. One additional (extension) mounting plate rack can be connected to the 560MPR01 via the RTU560 serial peripheral bus (SPS).

Characteristics

A subrack, 3U high, to take single Europe format boards according to DIN 41494, is mounted on a printed circuit board with a height of 6U. The subrack has 9 slots for mounting one communication unit and up to 8 I/O modules. The power supply and power supervision, the watchdog and the input for the minute interrupt of a real time clock 560RTC0x are integrated and supported on the device. If a 560CMR02 is used, only power supervision is supported. To realize other functions a 560BCU02 is needed.

It is possible to direct connecting the process voltage of the input/output devices by using the integrated jumper field. Additionally the output supervision board 23BA23 can be directly connected to the command output devices 23BA20.

Another set of jumper is used to connect the minute interrupt of a real time clock 560RTC0x to the communication unit 560CMR01, if the clock is mounted in slot 2 (DIN 29).

A monitoring circuit on the mounting plate rack 560MPR01 checks the supply voltage of the boards (24 V DC, 5 V DC).

Allocation of the slots

- Slot 1 (DIN 34) for 560CMR01 (or empty)
- Slot 2 to 9 for max. 8 peripheral boards (DIN 29 to DIN 01)
- Slot 1/2 for one 560CMR02
- Slot 3/4 for two 560CMR02

Connections

The process signal cables are connected to plug-in sockets with screw terminals or to connection pins for Standard Termi Point. The process signals can therefore be disconnected from the plug-in socket block at any time. The connection point #17 (PE) is not connected any more.

In addition to the process signal connections, the following interface possibilities are located on the rear side of the printed circuit board:

- Interface to the serial peripheral bus (SPB)
- External input for minute interrupt
- Power source connection
- Relay contact for monitoring the internal voltages (24 V DC and 5 V DC)
- Relay contact for ‘Warnings’ (Set by software)
- Inputs for process voltages, for direct distribution to the input/output devices

Power Supply

The power supply unit 560PSU40 / 41 is used to supply the mounting plate rack 560MPR01 with 24 V DC. If another power supply is used, the device has to fulfill the following conditions:

- Over-voltage category II
- Safe separation to a SELV circuit, according to EN 60950
Figure 1: Mounting Plate Rack, Front view

Figure 2: Mounting Plate Rack, Side view
Technical data

In addition to the RTU500 series general technical data, the following applies:

### Rack
- 3 U, 9 slots according to DIN 41494; 1 slot = 20.32 mm

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
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<tbody>
<tr>
<td>With boards</td>
<td>198 mm (D)</td>
</tr>
<tr>
<td>With boards and front connectors</td>
<td>248 mm (D)</td>
</tr>
<tr>
<td>Weight</td>
<td>1.4 kg</td>
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### Connection Type
- CMU, I/O boards: Indirect, 48 pole, Type F DIN 41612
- Process signals: Plug-in terminal strip, 19 pole, 18 signals, shield not connected

### Serial Interface
- SPB I/O bus: RJ45 socket connector

### Connectors
- Minute interrupt (TSI): Plug-in terminal strip, 2 pole, 24 V DC
- Power supply: Plug-in terminal strip, 2 pole, 24 V DC, 20.4...28.8 V DC, Output (internally): 5 V DC, max. 5 A, 24 VDC direct connect from 24 VDC input
- Relay “Alarm”: Plug-in terminal strips, 2 * 2 pole, relay contact: 1 A / 60 V DC, 30 W
- Relay “Warning”: Plug-in terminal strip, 2 pole, relay contact: 1 A / 60 V DC, 30 W
- Process voltages: C1, C2 and –Up, Plug-in terminal strips, 2 * 2 pole, 60 V DC, max. 5 A
- Protection earth: 2 * Fasten 6,3 mm

### Protection
- Fuse, SMD type F1: SMT FUSE T 154 3820, 125 V 4 A (delayed), exchangeable, Manufacture: Little FUSE, Order code: 154004TDR

### Insulation tests
- AC test voltage: IEC 61000-4-16, IEC 60870-2-1 (class WW3)
  - 2.5 kV, 50 Hz
  - Test duration: 1 min

### Immunity test
- Electrostatic discharge: IEC 61000-4-2
  - 8 kV air / 6 kV contact (level 3)
  - Performance criteria A
- Radiated Radio-Frequency Electromagnetic Field: IEC 61000-4-3
  - 10 V/m (level 3)
  - Performance criteria A
- Electrical Fast Transient / Burst: IEC 61000-4-4
  - 4 kV (level X)
  - Performance criteria A
- Surge: IEC 61000-4-5
  - 4 kV (level 4)
  - Performance criteria A
- Conducted Disturbances, induced by Radio-Frequency Fields: IEC 61000-4-6
  - 10 V (level 3)
  - Performance criteria A
- Damped oscillatory wave: IEC 61000-4-18
  - 2.5 / 1 kV (level 3)
  - Performance criteria A

### Environmental conditions
- Nominal operating temperature range: 0°C...70°C
- Relative humidity: EN 60068-2-30, 5 ... 95 % (non condensing)

### Ordering information
- 560MPR01 R0001
  - 1KGT012500R0001

### Accessories ordering information
- 560BCU02 Bus connection unit for 560MPR01
  - 560BCU02 R0001
    - 1KGT007900R0001
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