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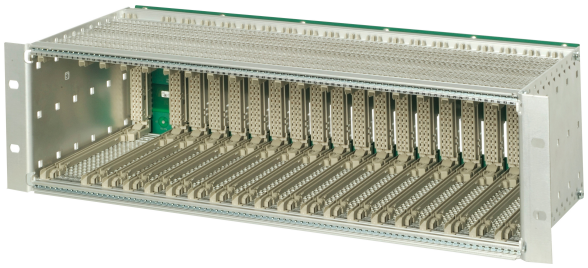
Remote Terminal Units - Data sheet

# Rack 560SFR02

## RTU560 product line



19” Swing frame rack for optional redundant power supply and flexible configuration for I/O, CMU and power supply.

### Application

The 560SFR02 rack is designed to be used with or without redundant power supply. Therefore, it has 2 slots for redundant power supply units (PSU). Up to 18 slots can be used for I/O boards, communication units (CMU) or a mixture of both. It is interfaced to other racks via the RTU560 serial peripheral bus. Up to 7 560SFR02 racks can be connected to an I/O bus segment. By using the bus connection unit 560BCU05, the 560SFR02 becomes a rack with up to 8 communication units (560CMR01/ 560CMR02). Also for some functions the usage of 560BCU05 is required, even if only one CMU is inserted it is installed in a swing frame cabinet or in a frame.

Only in slot 19 the second PSU can be inserted and will be operated. It is not allowed to put in other modules. Slot 18 is available, when the option of the second PSU is not used.

### Characteristics

The 19“ rack has a height of 3 HE for single Euro-card format boards (DIN 41494). There are 20 slots available for the installation of boards.

Each power supply unit has a predefined slot allocated to it (slot 21 and slot 19). A second redundant PSU must be operated in slots 18 and 19. These slots can be used only with PSU modules.

Slot 1 to 17 can be used for I/O modules and/or CMU modules. If no redundant power supply is used, slot 18 can be used for an additional I/O module.

### Allocation of the slots

Two slots for:

- 1 or 2 power supply units (each 2 slots wide)

17 slots for:

- Up to 8 communication units
- Up to 17 I/O modules (with redundant power supply)
- Up to 18 I/O modules (if only one PSU is used)

For the physical interfacing of boards edge connectors of type F (DIN 41612) are used. Rows 2 to 20 of the edge connectors connect the RTU560 system bus and are soldered directly to the printed circuit board. The connection of the process signals is done via the rows 22 to 32 by means of sub-connectors. The sub-connector is clipped into a cut-out in the edge connector. The connection of the signal wires is made by means of crimp clips using snap-in fixing. In addition to the use of prefabricated cables it is also possible to attach individual wires during commissioning.

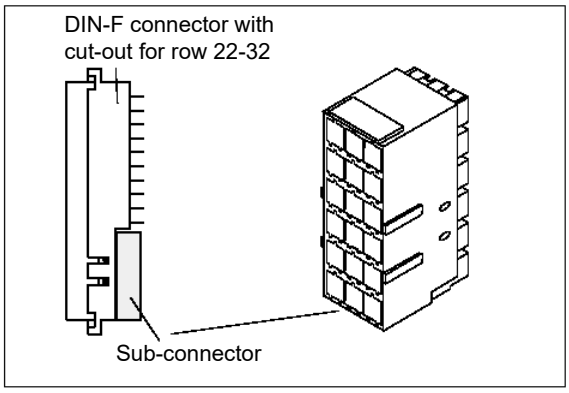



Figure 1: Connector design

This interface technology minimizes the number of cable connectors as well as the space required in the rack 560SFR02.

A monitoring circuit on the rack 560SFR02 checks the supply voltages of the board (24 V DC, 5 V DC). Supply voltage failure is indicated by a status relay contact.

Besides 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

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- Status relay contact for monitoring the internal voltages (24 V DC and 5 V DC) and status of PSU´s.
- Interface and supply power for the 560BCU05

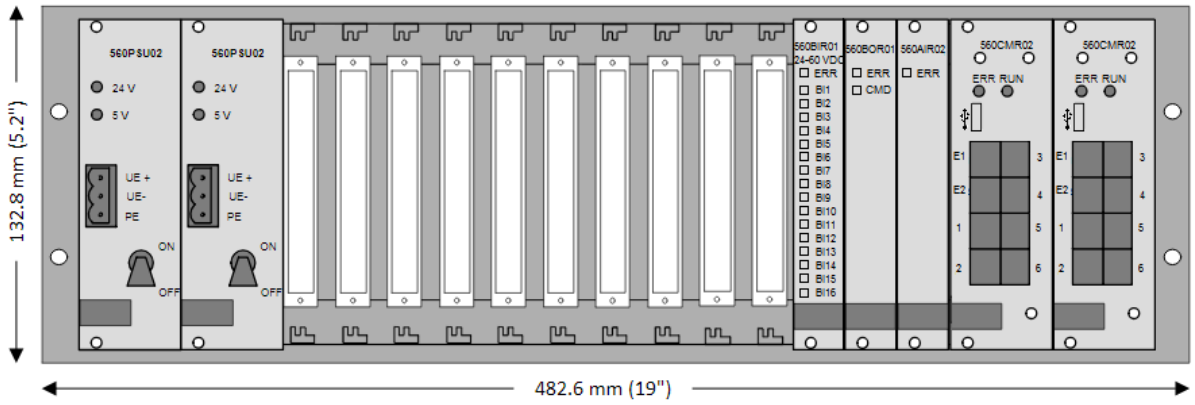


Figure 2: Configuration example (Redundant power supply, two 560CMR02, three I/Os)

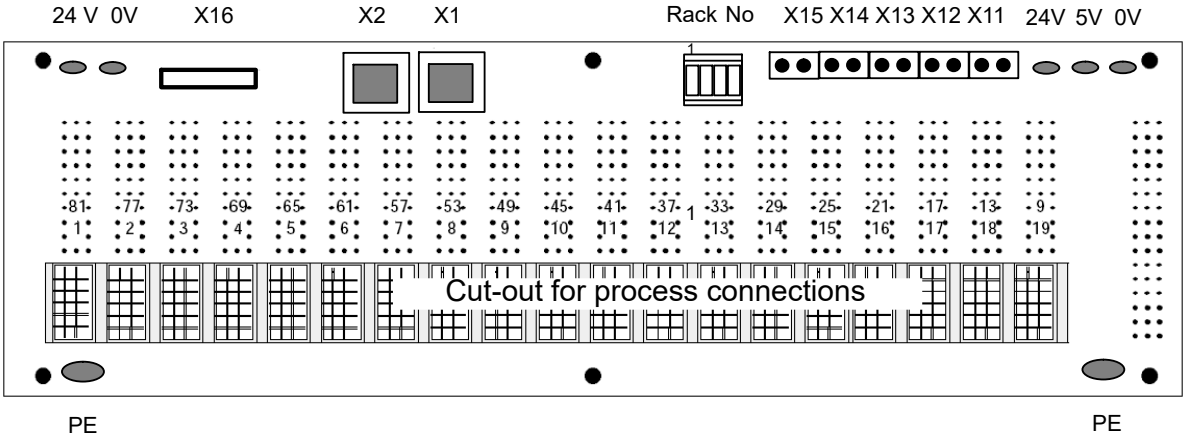


Figure 3: Rear view (Backplane)

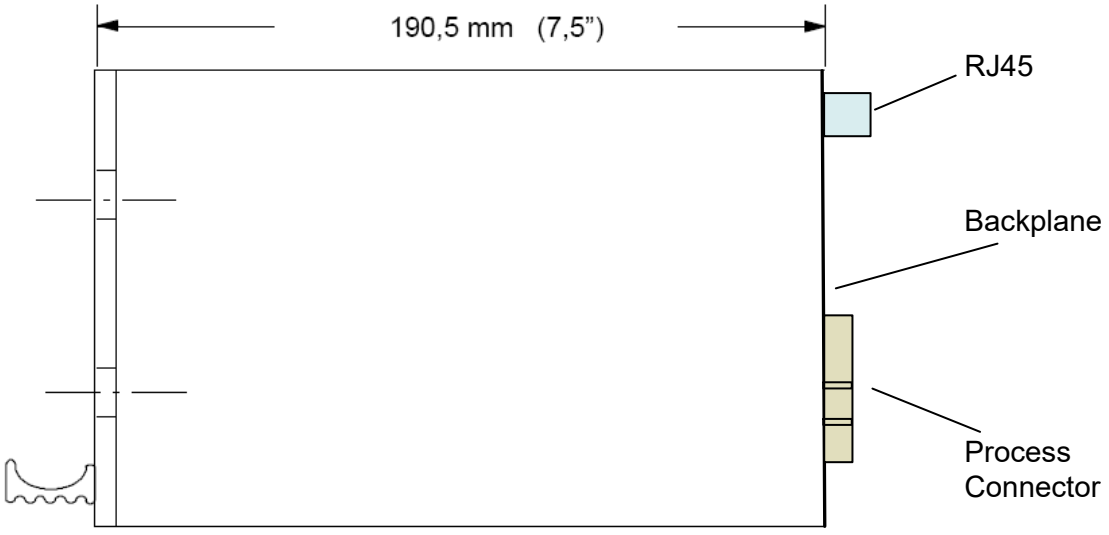


Figure 4: Side view

## Technical data

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

| Rack | |
|---|---|
| | 19“, 3 U, 20 slots according to DIN 41494; 1 slot = 20.32 mm |
| Dimensions | 132,8 x 482,6 x 210 mm (H x W x D) |
| With boards | 232 mm (D) |
| With boards and connector | 280 mm (D) |
| Weight | 2.6 kg |

| Printed circuit board | |
|---|---|
| Dimensions | 433,7 x 132,8 mm (W x H) |

| Type of connection | |
|---|---|
| Peripheral boards | Indirect, 48 pole, Type F DIN 41612 with cut-out for sub-connector |
| Process signal connection | 18 pole sub-connector with crimp clips<br><br>23XS40R1001<br><br>23XS40R2001 |

| Serial Interfaces | |
|---|---|
| SPB I/O bus (X1, X2) | 2x RJ45 jack |

| Compliances | |
|---|---|
| EMC | EN550011, EN61000 |
| Environmental | EN60255, IEC60870 |
| Safety | EN60950 |

| Redundant power supply monitoring | |
|---|---|
| X13, X14, X15 | Plug-in terminal strip, 2-pole each |
| Relay contact | Normal closed contact 1 A / 60 V DC / 30 W |

| Power supply 5V, 24V monitoring | |
|---|---|
| X11, X12 | Plug-in terminal strip, 2-pole each |
| Relay contact | Normal closed contact 1 A / 60 V DC / 30 W |

| Protection Earth | |
|---|---|
| PE | 2 * Fasten 6,3 mm |

| Environmental conditions - climatic | |
|---|---|
| Operating temperature EN 60068-2-14 | -25 °C ... 70 °C |
| Start up EN 60068-2-1 | -40 °C |
| Max. operating temperature, max. 96h EN 60068-2-2 | +85 °C |
| Relative humidity EN 60068-2-30 | 5 ... 95 % (non condensing) |

| Ordering information | |
|---|---|
| 560SFR02 R0001 | 1KGT022200R0001 |

| Accessories ordering information<br>560BCU05 Bus connection unit for 560SFR02 | |
|---|---|
| 560BCU05 R0001<br><br>Basic module and 2 connector cables | 1KGT022400R0001 |
| 560BCU05 R1002<br><br>Additional connector cable, 10 pcs per package | 1KGT022400R1002 |
| 560BCU05 R0003<br><br>Termination connector, 1 pc | 1KGT022400R0003 |

| Accessories ordering information<br>23XS40 Process connector | |
|---|---|
| 23XS40 R3001<br><br>18 pole connector housing, 100 pcs | 1KGN00758R3001 |
| 23XS40 R4001<br><br>Crimp clips, 500 pcs | 1KGN00758R4001 |

| Accessories ordering information<br>23XS41 Hand tool for 23XS40 crimp clips | |
|---|---|
| 23XS41 R0001 | 1KGN000797R0001 |

| Accessories ordering information<br>23XS42 Removal tool for 23XS40 crimp clips | |
|---|---|
| 23XS42 R0001 | 1KGN000798R0001 |

| Accessories ordering information<br>23XS43 Removal tool for 23XS40 process connector housing | |
|---|---|
| 23XS43 R0001 | 1KGN000799R0001 |

| Accessories ordering information<br>560FPR01 Blanking front plate | |
|---|---|
| 560FPR01 R1002<br><br>100 pcs | 1KGT007700R1002 |

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