

Elektro-Automatik



Operating Guide **Cabinet**

Technical specifications

- Type: Rittal TS8 42U
- Dimensions (WxHxD): 600 mm x 2150 mm x 800 mm
- Version: front door, backdoor, wheels
- AC input: 3-phase terminal (L1+L2+L3+PE)
- AC input voltage: 340...460 V AC
- AC input current: 3x 280 A max.
- Features:
 - For 10 units of PS/PSI 8240-170 3U
 - Share bus connection wired
 - 3-phase circuit breakers (one for each unit)
 - 1x DC output on copper bars



Important notes

- Do not change the internal wiring or replace wires with ones with lesser cross section!
- Series operation of the power supplies not allowed!
- The power grid connection has to be fused externally.

Installation of the cabinet

In order to ensure sufficient airflow, it is required to leave at least 30 cm space behind the cabinet.

The AC supply connection is done on the input terminal inside the cabinet, which is located on the bottom plate. A three-phase supply with PE (earth) is required. The AC input terminal can be accessed from the rear of the cabinet, after removing the plexi glass cover of the DC output (see cabinet layout drawing below) or when removing any of the cabinet's side walls. For the assignment of the phases see the labelling on the input terminal.

Equipping the units

The cabinet is prepared for ten units of 3U power supplies (PSI 8240-170 3U or similar model with lower current).



Danger!

Because of the DC output wiring being preconfigured for 170 A per unit (70 mm² cables), it is not allowed to equip models with higher output current.

In order to equip the devices, they're simply inserted or removed while sliding on top of the mounting rails. Before mounting the units finally by tightening the mounting screws on the front make sure the AC input and DC output connections have been made properly, as described below. After the units have been equipped, connected and mounted correctly, you can reconnect the Share bus connection (2-wire cable, green plugs) between the units, then any other connection (analog, interfaces etc.).

AC input connection of the units

In case of first installation or adding additional units, the AC input should be wired first. When adding a unit, first disconnect the cabinet from the power grid. For safety reasons, it is not sufficient to just switch off the circuit breakers.

Details about AC input connection can be found in the power supply operating guide.



Figure 1: AC input connection of the single units

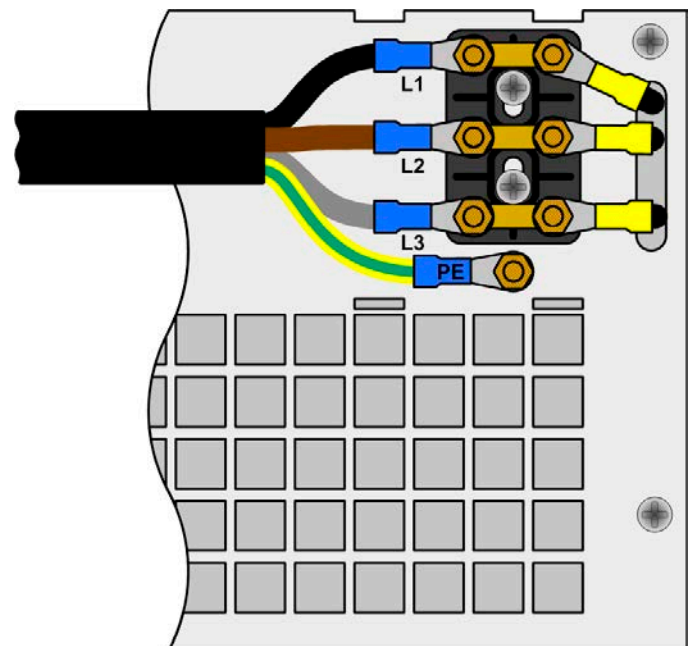


Figure 2: Unit AC input terminal

AC supply

The cabinet requires an AC supply with three phases (L1, L2, L3) plus PE. The input connector is located on the bottom of the cabinet. Due to the max. input current of 280 A per phase, cables with appropriate cross section have to be used. External fusing is required. We recommend NH fuses (size C2) with 315 A.

The input terminal requires a torque of min. 25 Nm when fixing the cables.

DC output

The DC outputs of the power supplies are internally wired to copper bars (see scheme below). The DC connection to the outside is done on the DC connection terminal on the lower part of the cabinet, accessible from the rear side.

The DC output can deliver up to 240 V and up to 1700 A, while providing max. 150 kW total power.



Note

For the DC connection to any outside sink, make sure to use cables with proper cross section, according to max. current.

The DC load cables are directly screwed to the M12 connection terminals on the DC copper bars.



Note

Use 12mm ring lugs on the load cable ends to connect to the DC terminal.



Danger!

- Risk of electric shock

Make sure to switch off the devices or even disconnect them from AC supply before connecting any DC sink. Remove the plastic cover on the DC copper bars cautiously!

After the DC connection is done, mount the plastic cover again!

Operation

Manual control

The ten units are preconfigured for Share bus parallel operation. Refer to the manual of the power supplies for more information about Share bus and parallel operation.

Remote control

Remote control of all units or one unit which is picked to be master is possible. You can either use the analog interface or a digital interface card (separately available). Refer to the manual of the power supplies for more information about remote control via analog or digital interface.

Layout

3 U

**Unit 1
PS 8240-170**

3 U

**Unit 2
PS 8240-170**

3 U

**Unit 3
PS 8240-170**

3 U

**Unit 4
PS 8240-170**

3 U

**Unit 5
PS 8240-170**

3 U

**Unit 6
PS 8240-170**

3 U

**Unit 7
PS 8240-170**

3 U

**Unit 8
PS 8240-170**

3 U

**Unit 9
PS 8240-170**

3 U

**Unit 10
PS 8240-170**

6 U

**Plate 6U
behind: breakers F1-F5**

6 U

**Plate 6U
behind: breakers F6-F10**

Figure 3: Cabinet layout

Views

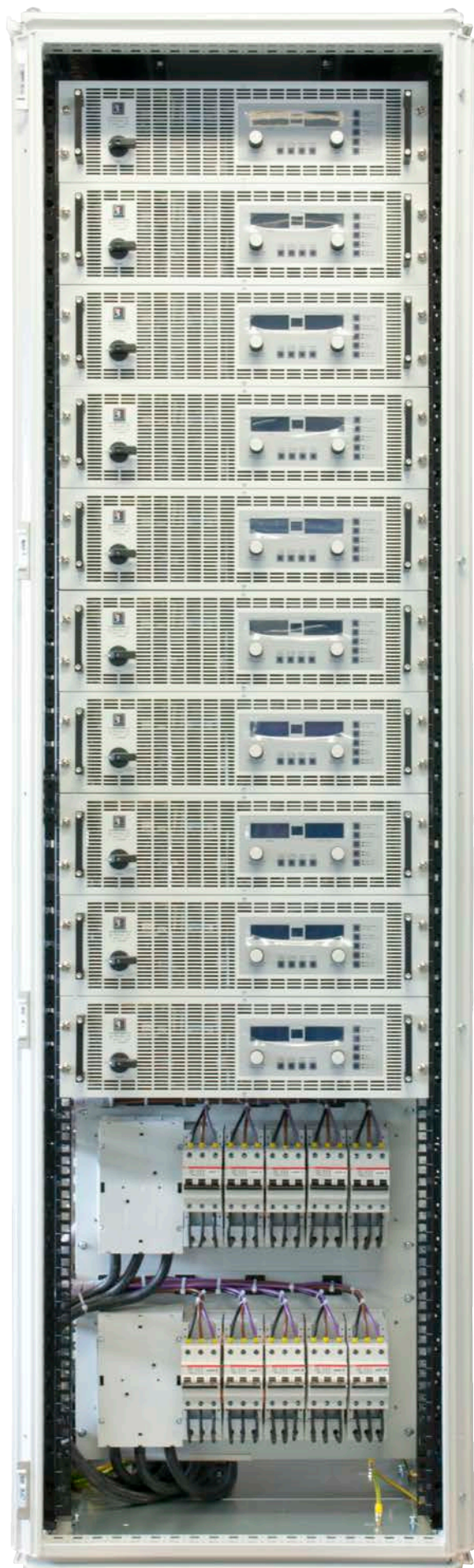


Figure 4: Front view (doors detached)



Figure 5: Rear view (doors detached)

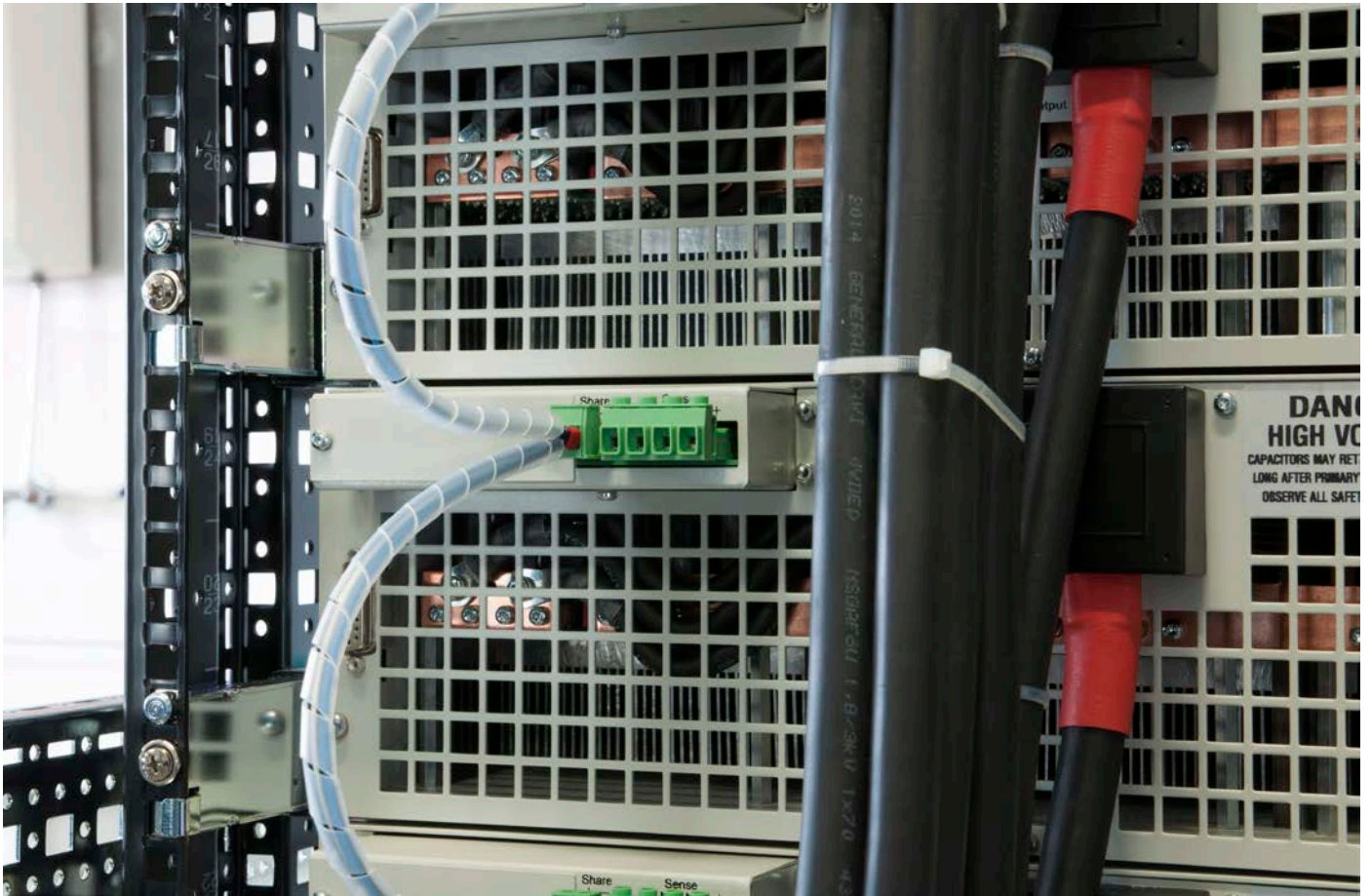


Figure 5: Share bus wiring

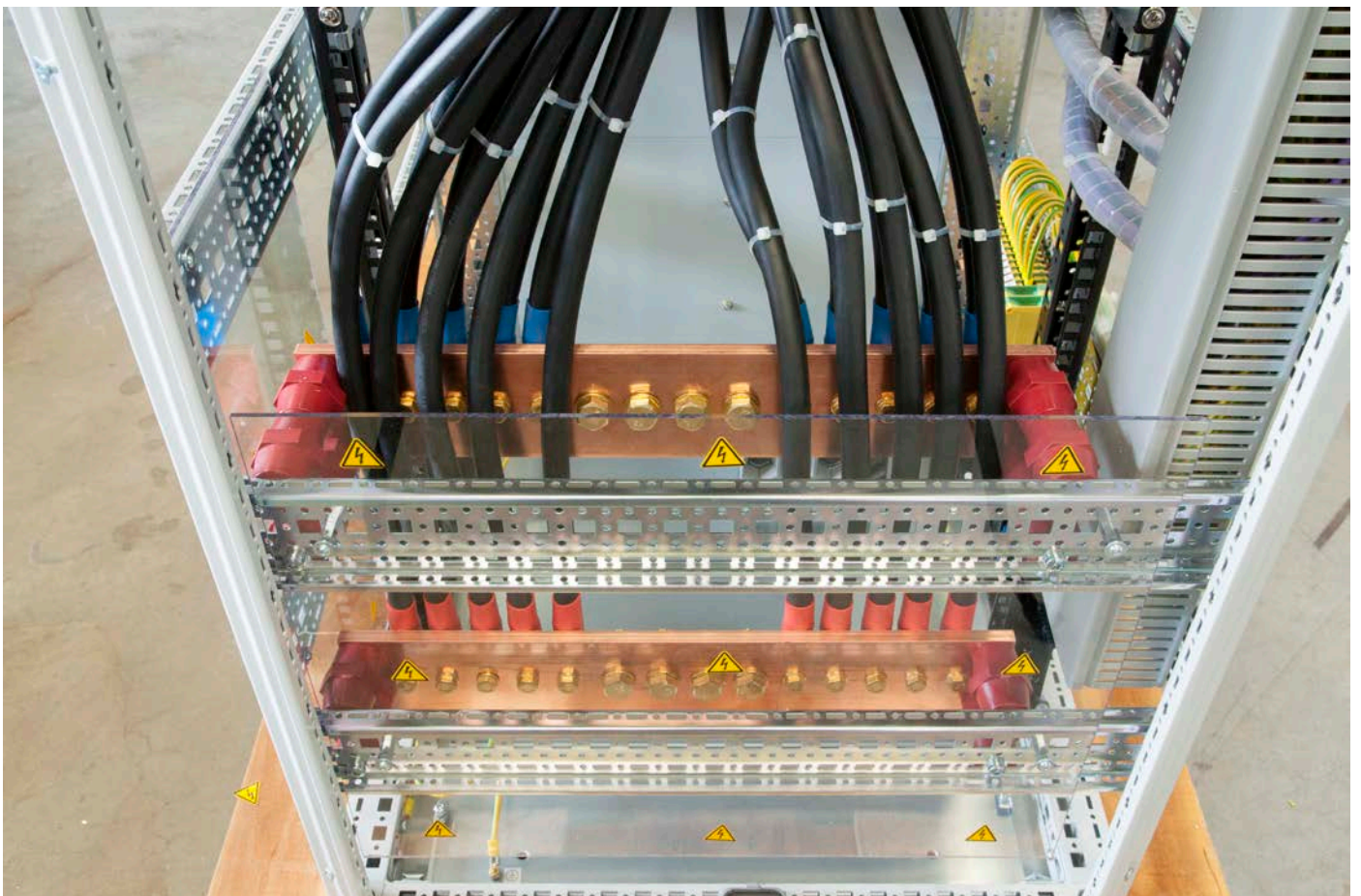


Figure 6: DC output terminal

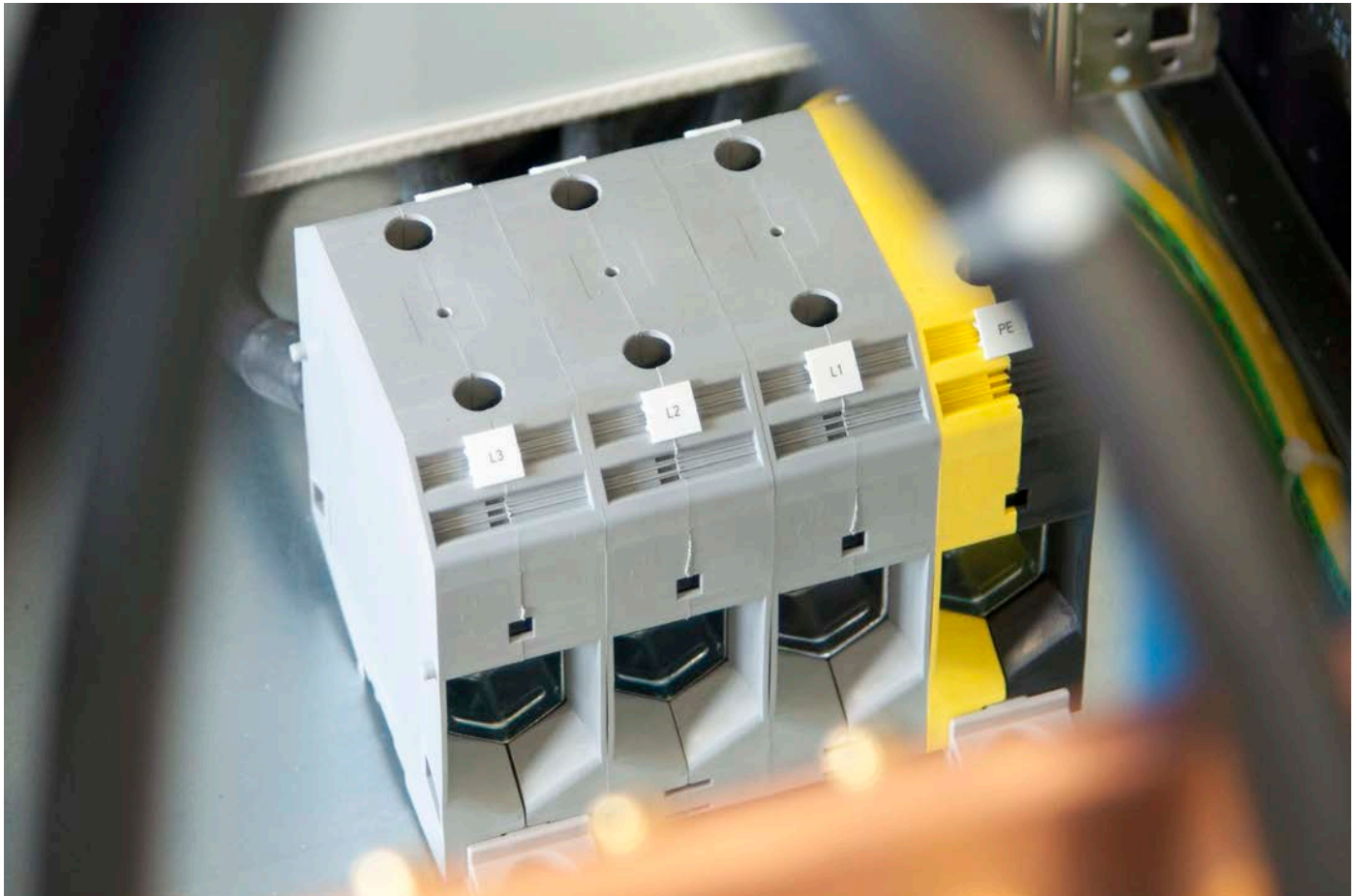


Figure 7: AC input terminal



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