Elektro-Automatik

Operating Guide
Cabinet

6 x PS 81500-30
1500V
180A
90kW

PSI Rack 34U: 09 114 608

Technical specifications

Type: Rittal TS8 34U

Dimensions (WxHxD): 600mm x 1600mm x 800mm

Version: no front door, no backdoor

AC input: 3-phase terminal (L1+L2+L3+PE)

AC input voltage: 340...460V AC

Features:

- For up to 6 units of PS 81500-30 3U with Ethernet interface
- Share bus wired between two units each for parallel operation of 30kW blocks
- 3-phase circuit breakers
- 3x DC output on copper bars
- Emergency off switch on the front

Important notes

- *Do not change the internal wiring or replace wires with ones with less 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 20-30cm space behind the cabinet.

The AC supply connection is done on the input terminal inside the cabinet, which is located in the lower part. A three-phase supply with PE (earth) is required. The AC input terminal can be accessed when removing the lower 6U dummy panel (see cabinet layout drawing below). For the assignment of the phases see the labelling on the input terminal.

Equipping the units

The cabinet is prepared for up to six units of 3U power supplies (PSI 8000 3U or similar). 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 connection has been made properly, as described below. After the units have been equipped, connected and mounted correctly, you can reconnect the Share Bus connection (only if used) and any other connections, for example to a PC.

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 line breakers.

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

Note

In order to achieve a current balance in the three-phase supply, it is recommended to install and always operate three or a multiple of three power supply units.

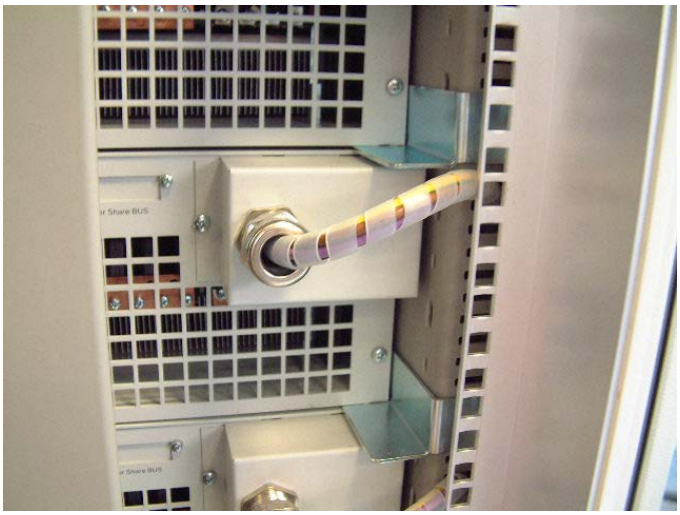


Figure 1: AC input connection of the single units

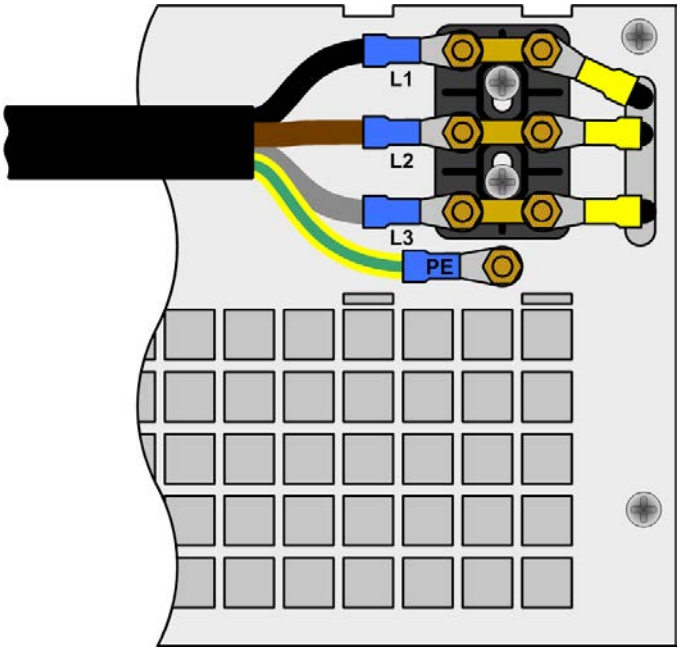


Figure 2: Unit AC input terminal

Grid connection

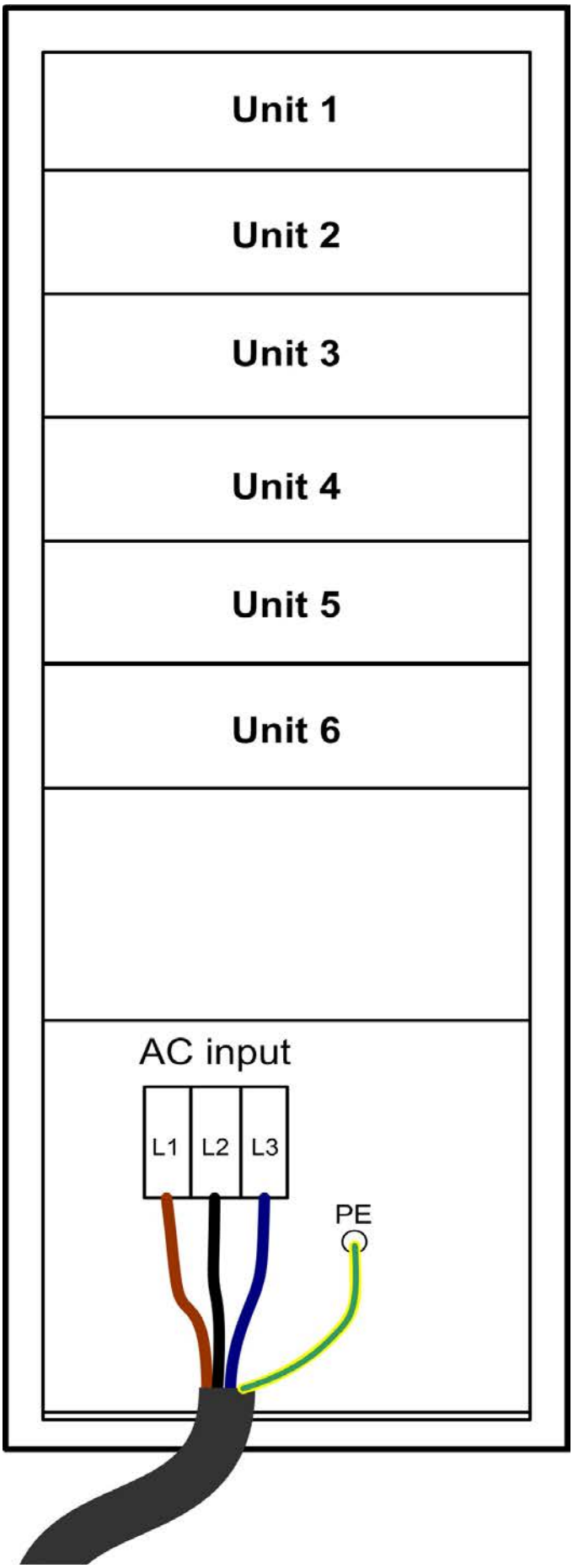


Figure 3

DC output

The DC outputs of the power supplies are already internally wired to copperbars (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 three DC outputs can deliver up to 1500V and up to 60A, while providing max. 30kW each. By default, the three outputs are connected to have all units running in parallel and providing up to 90kW power. If required, they can be seperated again.

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 M8 connection terminals on the DC copper bars.

Note

Use 8mm 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 disconnected 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!

Share bus wiring

Two units each are connected with their Share bus and DC output in order to have them working in parallel, while the Share bus ensures a balanced output current.

For Share bus parallel operation applies:

- No master-slave characteristics
- The unit with the highest output voltage (as adjusted) determines the output voltage of the parallel connection
- In case a unit fails due to overheating or defect, the remaining unit(s) in the parallel connection will continue to provide power (after a short interrupt of a few seconds), but the total power will be less.
- If one or multiple units of a parallel connection are connected with their DC outputs, but not with their Share bus, the output current will not be balanced amongst the units and the unit without Share bus connection may not provide power at all.

Operation

Emergency off

The cabinet has a built-in emergency off feature. In case of an emergency, either hit the red breaker contact on the front of the cabinet or use an external breaker contact which can be connected to the corresponding terminal (see cabinet wiring schematic below) on the front of the cabinet. The AC supply of all units in the cabinet is then cut off.

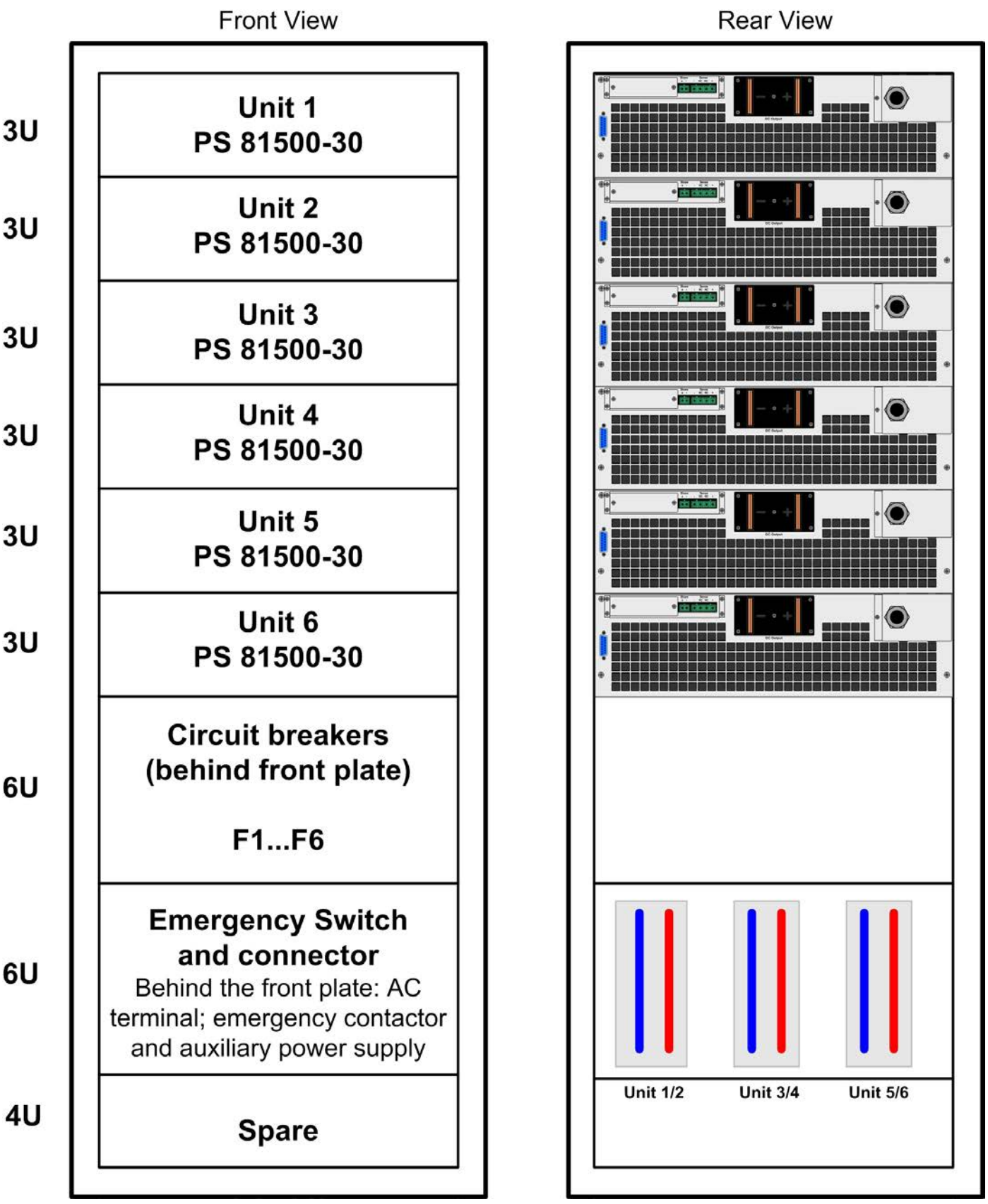
Danger!

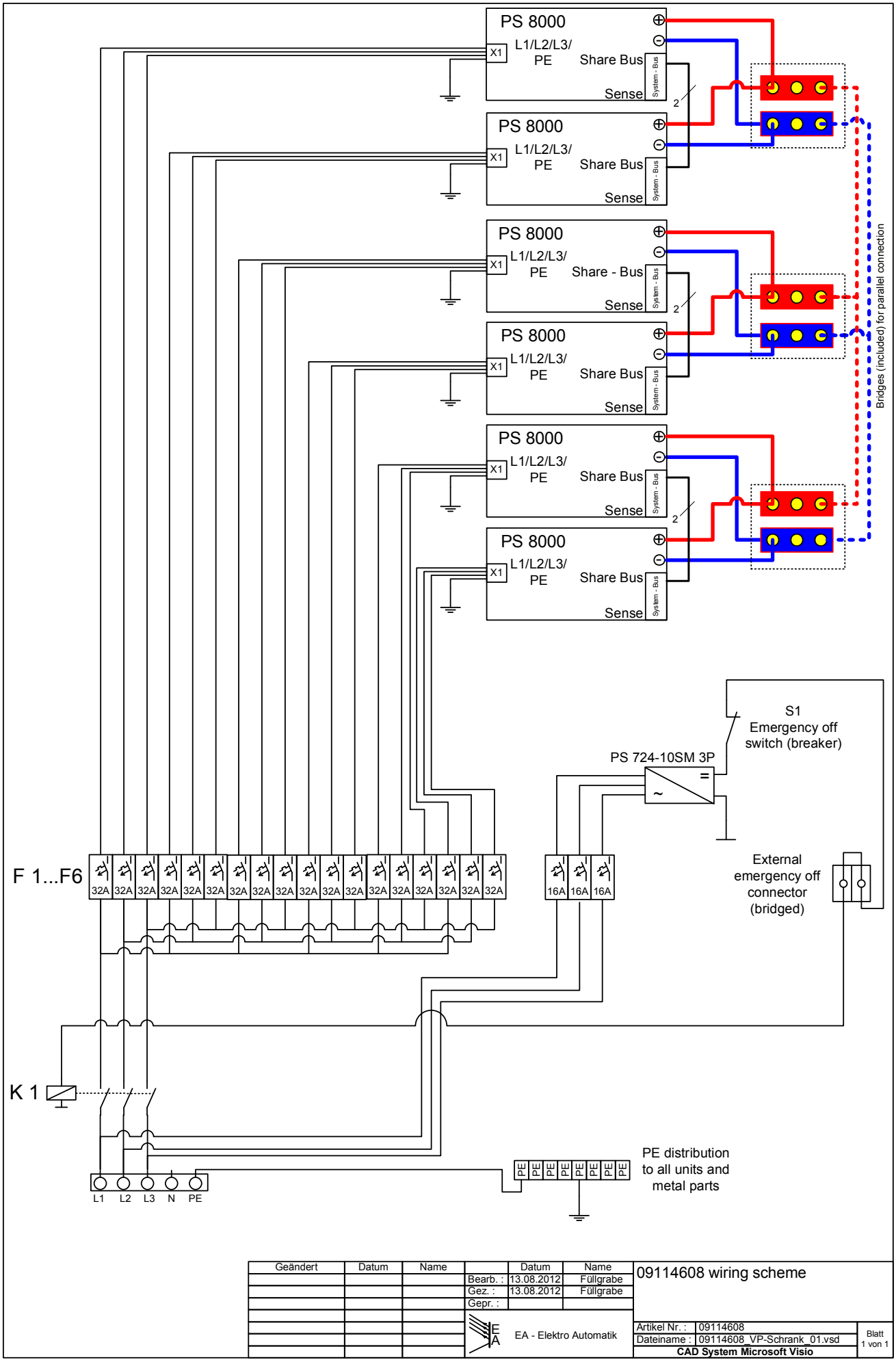
Risk of electric shock

When switching the cabinet off due to an emergency, there still can be dangerous voltage present on the DC output.

Before any work on the DC output/input terminal make sure that the cabinet is not supplying power anymore.

Views





Geändert	Datum	Name		Datum	Name	09114608 wiring scheme
			Bearb. :	13.08.2012	Füllgrabe	
			Gez. :	13.08.2012	Füllgrabe	
			Gepr. :			
			EA - Elektro Automatik			Artikel Nr. : 09114608
						Dateiname : 09114608_VP-Schrank_01.vsd
						CAD System Microsoft Visio

Blatt 1 von 1

EA-Elektro-Automatik GmbH & Co. KG
Development - Production - Sales

Helmholtzstraße 31-33
41747 Viersen
Germany

Telefon: +49 2162 / 37 85-0
Telefax: +49 2162 / 16 230
ea1974@elektroautomatik.de
www.elektroautomatik.cn