Elektro-Automatik

Installation Guide

Cabinet

ELR Rack 42U: 33 130 326

Technical specifications

Type: Rittal TS8 42U

Dim (WxHxD): 600mm x approx. 2000mm x 1000mm

Model: front and rear doors, no wheels

AC input connection: L1+L2+L3+N+PE

AC input voltage: 230 V AC, +/-10%, 50/60 Hz

AC input current: max. 330 A

Feature overview

- Prepared to be equipped with 8x ELR 9750-66
- Prepared to be equipped with 1x PSI 8000 2U
- Share bus wiring
- ENS 2 automatic isolation unit installed

Shipping & Scope of delivery

The cabinet is shipped in disassembled state. Before you start to assemble the cabinet, please verify all contents of the shipped parts to be intact and in correct amount.

For later assembly on location, following items are to be included:

1x preconfigured cabinet 42U with side panels and doors

8x ELR 9750-66 electronic load device

1x PSI 8000 2U power supply device

1x Share bus cable

7x CAT5 Ethernet cable 0.5 m for master-slave

1x Set of front mounting screws for the devices

2x DC copper bar

1x Set if DC copper bar mounting bolts/nuts/washers

1x Set of lifting eyes for cabinet transportation

4x Plastic DC covers (numbered 1-4)

Read before use

⚠ Attention!

- **Always connect sources with correct polarity! The electronic loads do not have protection against false polarity and can even be damaged in switched-off state.**
- **The ENS2 unit, together with the contactors, switches the N conductor - do not use conductor N1 to connect the cabinet to AC supply!**
- **When connecting DC sources to the ELR units which can withstand up to 750 V, never connect the PSI 8000 power supply unit in parallel!**

Installation

Cabinet

The cabinet comes without wheels and can be moved to the installation location on the Euro palette it was delivered with or by using the included lift eyes (to be mounted on top) and a crane.

The AC input connection is done using screw terminals which are accessible from the rear side and mounted to the right side. Also see Figure 3 on page 6. The terminals to connect the AC supply for the cabinet to are labelled **L1, L2, L3, N** and **PE**.

AC supply specification:

• three-phase (120° phase angle)

• 230 V AC (L-N), max. 330 A (~ max. 110 A per phase)

• 50 / 60 Hz

For additional safety, every unit has a circuit breaker, which is accessible on the front of the cabinet and labelled with sticker to assign it to a certain unit.

Wiring to AC supply and external fusing has to be done according to general standards. We recommend to use **NH fuses** of **125 A rating** or 160 A (max.) and wiring with cross section of 25 mm² per conductor.

ELR units

The separately delivered ELR 9000 units are inserted to the cabinets and mounted with the front mounting screws. The arrangement is intended to be like shown in Figure 9 on page 9. With this, the master unit, which is labelled as “Master” is in the approximate vertical middle and easy to access. The AC supply connectors of the ELR units are preconfigured and just need to be plugged.

Power supply unit

The separately delivered power supply unit is inserted to the cabinet into the 2U high position according to Figure 9 on page 9. The AC supply connector is preconfigured and just needs to be plugged. There is no further wiring installed in the cabinet for this unit.

DC input copper bars

The DC input copper bars are tied inside the cabinet. It is recommended to install them only after all ELR units are correctly placed and mounted on the front.

The copper bars are intended to be mounted to the DC input terminals of the ELR units, as shown in the figure to the right. The M6 screw set (bolt, nut, washer) are included.

DC input connection to source

The connection to the DC source is recommended to be made as last step of installation. The lower end of the copper bars will have three drillings each for M8 screw connection of appropriate cables. M8 screw sets are included.

The DC cable cross section has be selected according to the maximum current the DC loads can take, in this case 8x 66 A = 528 A.

The traverse below the DC copper bars holder can be used as strain relief for the DC input cables.

Master-slave (MS)

The master-slave connection between the up to eight units of ELR 9000 (the power supply can not be included in the master-slave) can be installed by simply plugging the included CAT5 0.5 m cables into the MS sockets, as printed on the rear of the ELR units. Also see Figure 5 on page 7.

⚠ Attention!

The master-slave bus is RS485. Do not connect Ethernet network here!

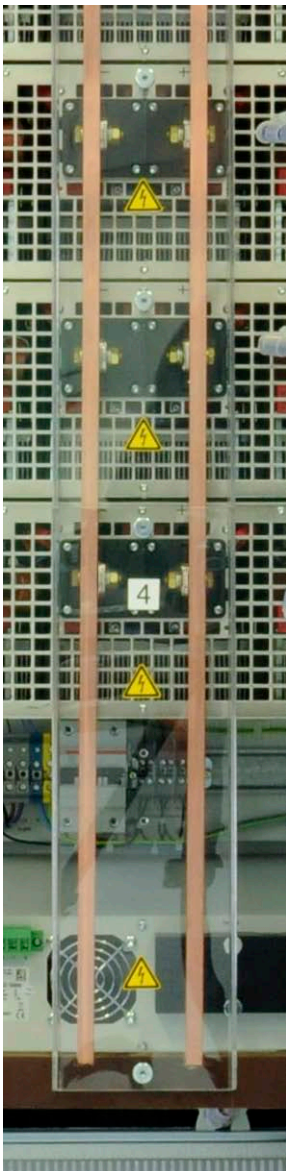
The MS must not be wired to have full functionality of the ELR units. It is only required to in case you want to have the units be one big 84 kW system.

Share bus

The Share bus connection, which is required for correct parallel operation of the ELR units, is recommended to be installed. Use the included and preconfigured Share bus cable (green plugs, red/blue wires) to connect all units. Also see Figure 5 on page 7.

DC cover

The plastic DC covers are intended to cover the DC copper bars and prevent touching the dangerous voltage there. They are mounted on several hexagon bolts. Due to the arrangement of ELR units 1 thru 8, from top to bottom, the covers can not be mounted to arbitrary position and are thus numbered 1-4. Mount them, as depicted in Figure 2 on page 5, from top (1) to bottom (4).



Operation

Handling of the electronic loads

See separate manual for ELR 9000 series.

Handling of the power supply

See separate manual for PSI 8000 2U series.

Handling of the ENS 2 unit

See separate manual for ENS 2.

Master-slave (MS)

The cabinet is wired for MS operation by default.

The MS wiring is done on the master-slave bus connectors of all ELR units that shall be included in the MS. For the master it doesn‘t matter if there is only 1 slave or 7.

Master-slave handling, setup and operation is described the ELR 9000 series manual.

Views

Figure 1 - Front

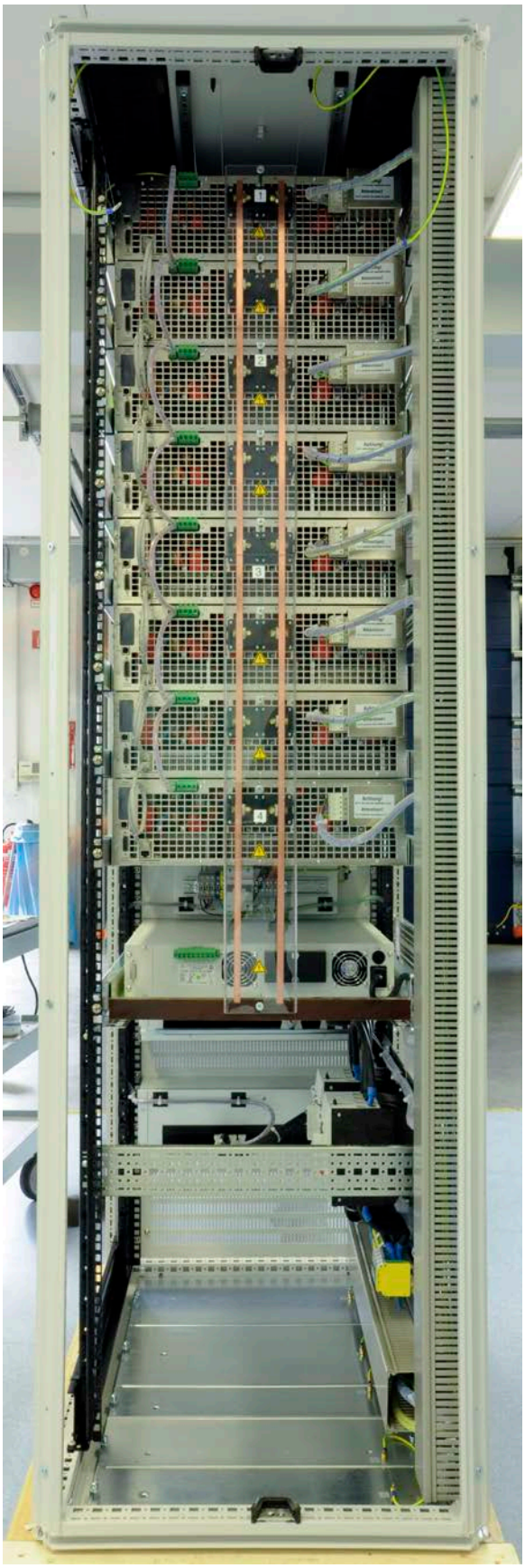


Figure 2 - Rear

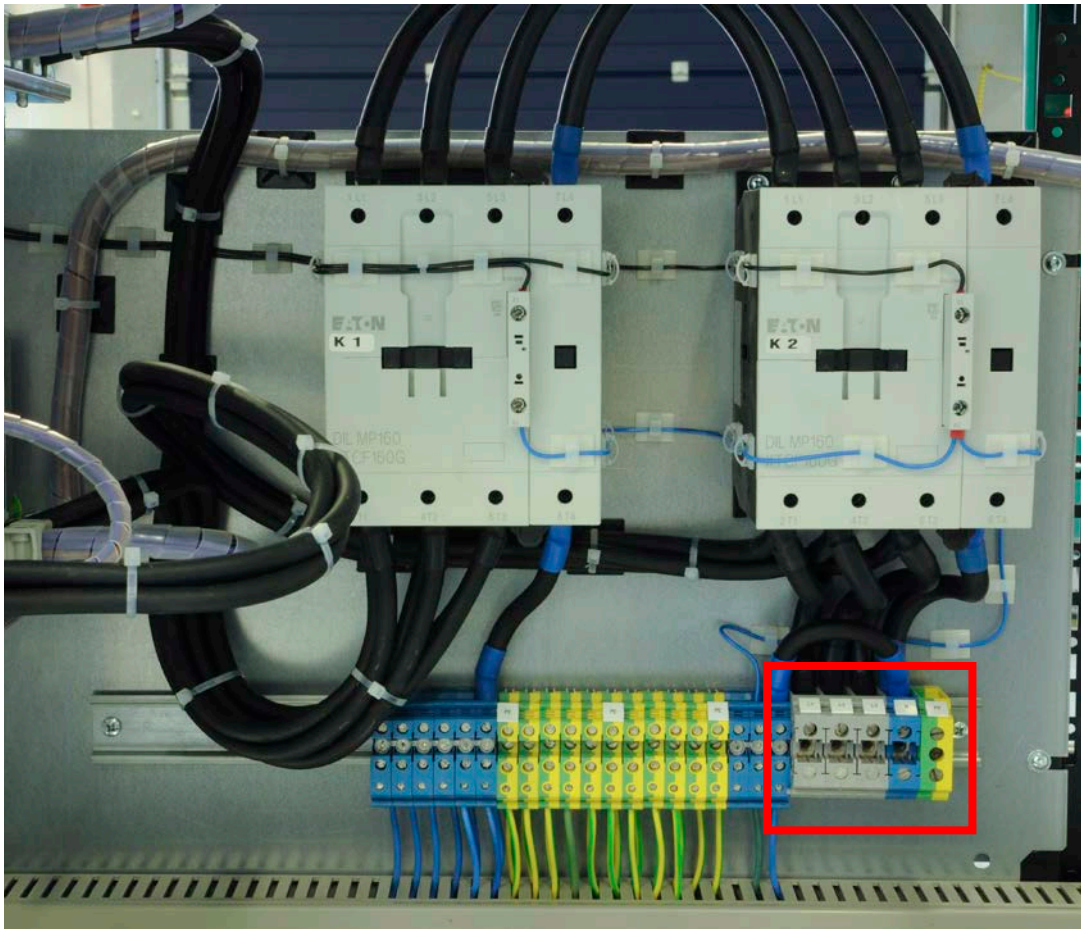


Figure 3 - AC input terminal of cabinet

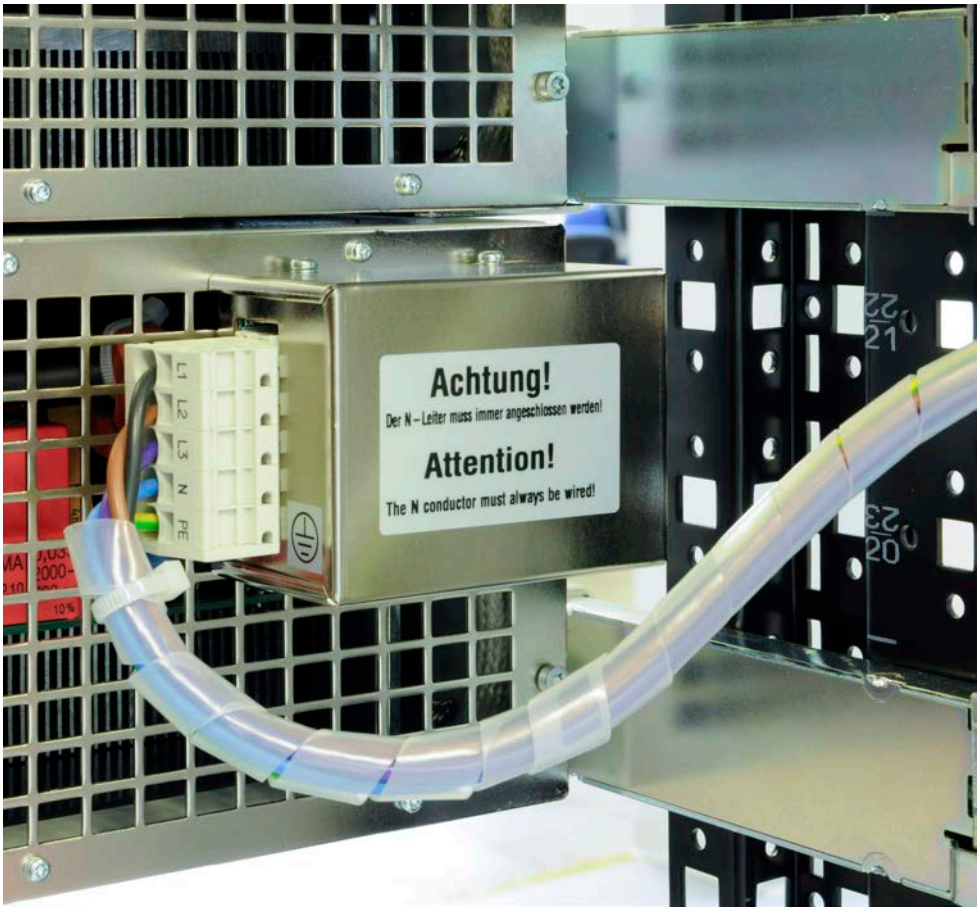


Figure 4 - AC input terminal of ELR units

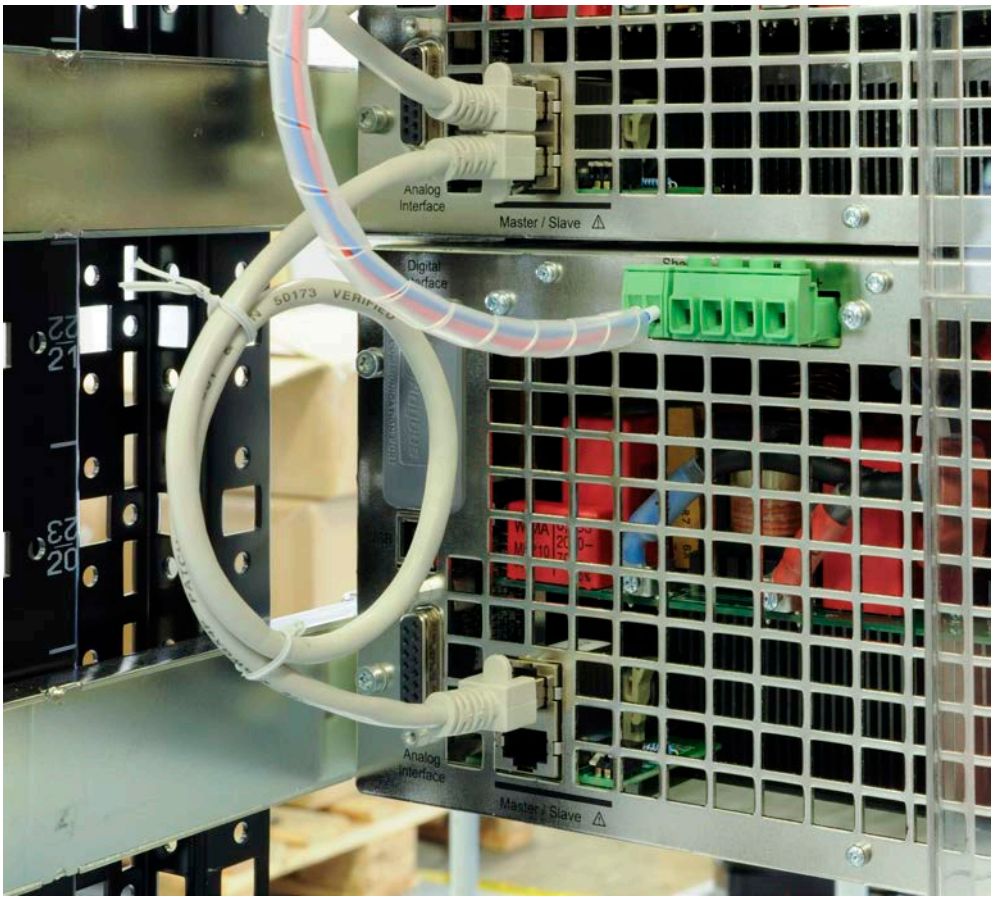


Figure 5 - Master-slave and Share bus wiring

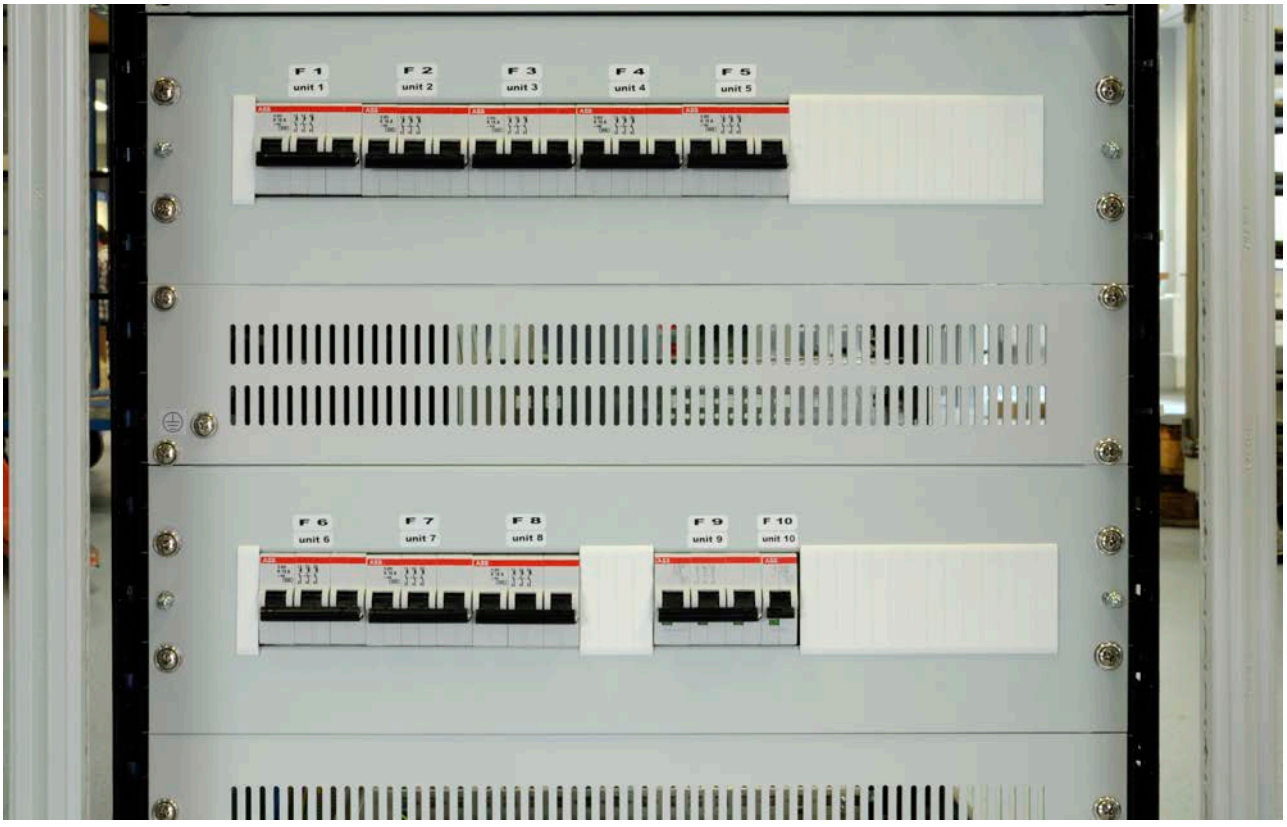


Figure 6 - Circuit breakers for ELR units (F1...F8), ENS2 unit (F9) and power supply (F10)

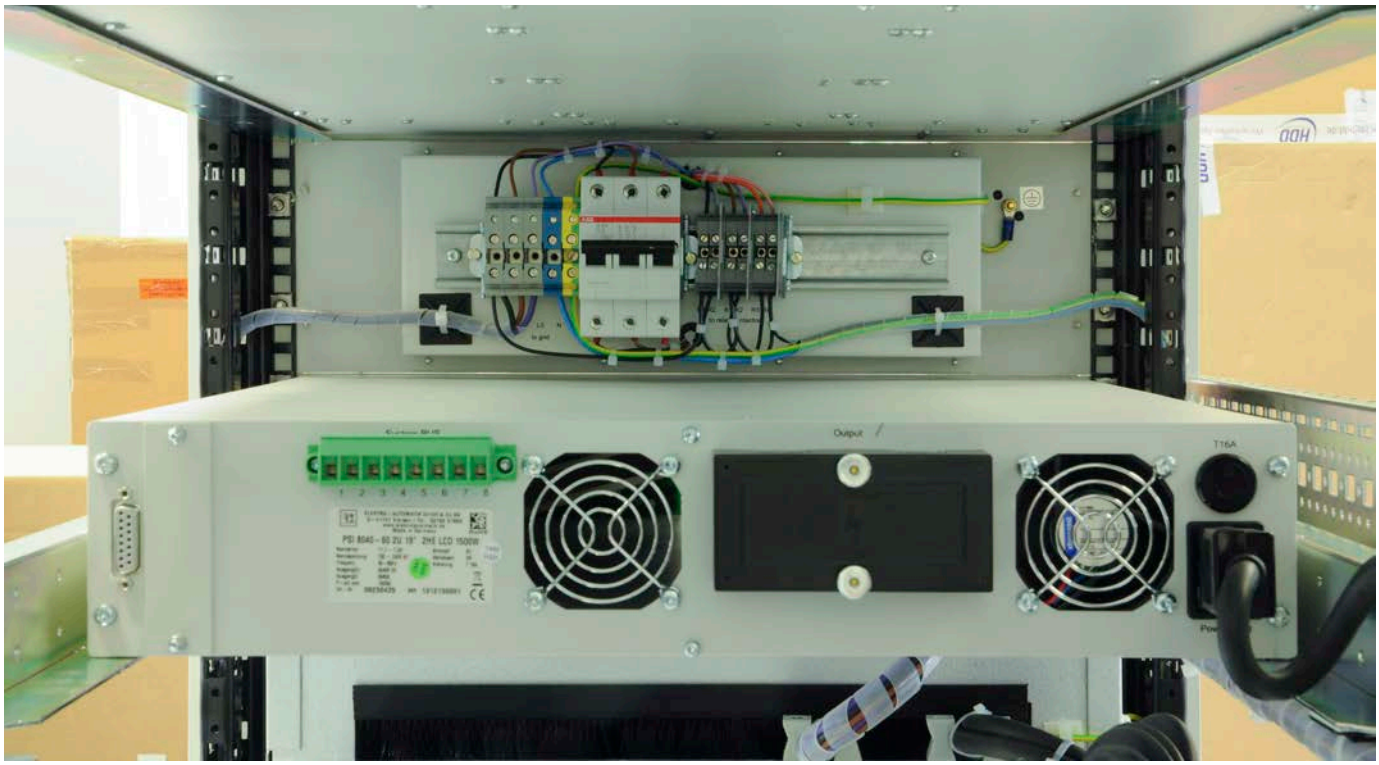


Figure 7 - Rear view of power supply unit and ENS2 unit

Figure 8 - Front control panel of ELR unit with unit numbering and master/slave numbering

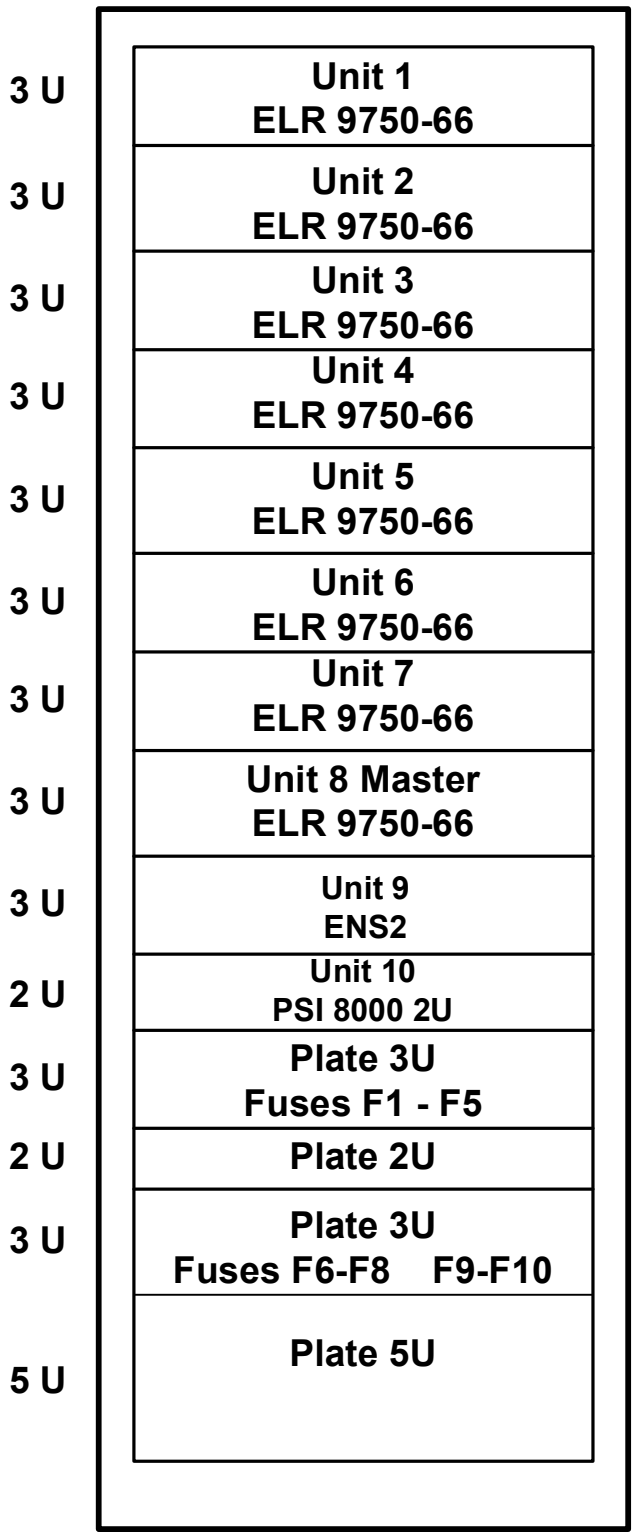


Figure 9 - Cabinet arrangement

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