

Description

The flexible **Power-D-Module (PDM)** with pcb is a compact power distribution system, especially adapted to the requirements of plants in the chemical industry, the pharmaceutical industry and the oil and gas industry. It is designed as a power distribution system for DC 24 V for installation in a control cabinet (mounting plate) or as a 19" rack with 3 RU. It has 30 channels for plug-in type ESS30 electronic circuit breakers. Power input is either redundant or non-redundant via integral de-coupling diodes. The integral group signalisation functions via a quiescent current-excited relay, which drops out when a circuit breaker is tripped or manually switched off. An empty slot will not provoke a signal. The entire internal circuitry is designed as a printed circuit board. A digital total current indication and a cable management (1RU) with cable grip lugs can optionally be added.



Features

- Compact set-up with 3 RU (4 RU with cable management)
- Mounting in control cabinet or 19" rack
- Internal wiring: by means of printed circuit board for 30 plug-in type ESS30 circuit breakers
- Redundant or non-redundant supply
- Integral de-coupling diodes
- Supply current up to 2 x 80A
- Rated voltage DC 24 V
- Max. load current up to 12 A
- Connection via spring loaded terminals
- Group signalling without jumpers
- Option: digital total current display
- Option: cable management system fitted

Your benefits

- High-density, space-saving and tidied up through printed circuit board
- No »internal« wiring required
- Time-saving connection via spring-loaded terminals
- High availability through resettable circuit breakers
- Selective trip even with long cable lengths through electronic circuit breakers
- Powerful for total currents up to 80 A
- Suitable for use at DC 24 V
- Increased operability through group signalling
- Clear reduction of single parts through pre-assembly
- Information on operating conditions through current display
- Quick and clear connection through pre-fitted cable organisers

Preferred types

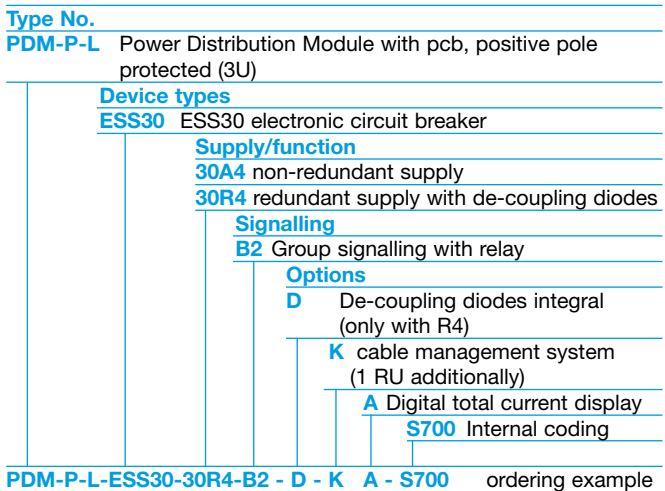
Preferred types are those E-T-A products that are most frequently used by our customers. We manufacture these preferred types in substantial quantities.

Preferred types	Short description
PDM-P-L-ESS30-30A4-B2-KA-S700	Non-redundant with current display and cable management
PDM-P-L-ESS30-30R4-B2-DKA-S700	Redundant with de-coupling diodes, current display and cable management

Technical data	
Power Distribution Module	width: 84 HP (486.72 mm) height: 3 RU (133,32mm) depth: 212 mm (incl. ESS30) 248 mm (R4 at 19" installation) 198 mm (A4 at 19" installation) material: aluminium, passivated
Voltage ratings	DC 24 V (19 ... 32 V) max. voltage drop at de-coupling diodes 0.6 V
Supply	2 x screw-type terminals up to 25 mm ² (version A4) 4 x screw-type terminals up to 25 mm ² (version R4) tightening torque 4.0 ... 4.5 Nm max. 80 A total current (2 x 40 A / 1 x 80 A) grounding M6 studs, tightening torque 4.0 ... 4.5 Nm
Load outputs	30 channels, positive pole protected spring-loaded terminals up to 4 mm ² with wire end ferrule
Group signalling	break contacts connected in parallel, relay excited via quiescent current with change-over contact, signal current max. 0.05 A (gold-flush contacts), in the event of excess the gold plating will be destroyed then max. 0.5 A
Terminals	Push-in terminals 2.5 mm ² , with wire end ferrule
Temperature range (operation)	0 ... 50 °C
Mass	approx. 3.8 kg (version PDM-P-L-ESS30-30A4-B2-KA-S700) approx. 6.1 kg (version PDM-P-L-ESS30-30R4-B2-DKA-S700)

- ### Benefits
- Adapted to requirements of the power distribution DC 24 V for extensive plants with long lines, typical in chemical or pharmaceutical plants, oil & gas industry
 - Reduced wiring time through printed circuit board design in 3 RU enclosure
 - Small installation depth of 212 mm to 248 mm for the use in small-sized installation sites
 - Mounting in control cabinet (on mounting plate) or as 19" rack (by twisting the flanges)
 - 30 slots for single pole electronic circuit breakers in a Power-D-Box
 - Redundant supply with integral de-coupling diodes up to 2 x 80 A
 - Circuit breakers can be plugged in later (also with the system live)
 - Spring-loaded terminals directly below the circuit breakers, assigned for plus and minus
 - Line entry for cables via screw terminals up to 25 mm²
 - Supply up to 2 x 40 A (redundant) or 1 x 80 A non-redundant
 - Load terminals by means of spring-loaded terminals for cables up to 4 mm²
 - Load terminals up to 12 A
 - Group signalling through integral potential-free auxiliary contacts, break contacts connected in parallel, decoupling relay energised with quiescent current and change-over contact (no jumpers required), connection via spring-loaded push-in terminals up to 2.5 m² cable cross-section
 - Red LED indication for signalling »tripped«
 - Green LED lighted to indicate operating voltage applied per supply line
 - Optional with digital total current display 0.0 to 80.0 A (red LED indication)
 - Optional cable management system with organiser lugs at the same height as the load terminals (additionally 1 RU)
 - All-side cover of live parts

Order numbering code

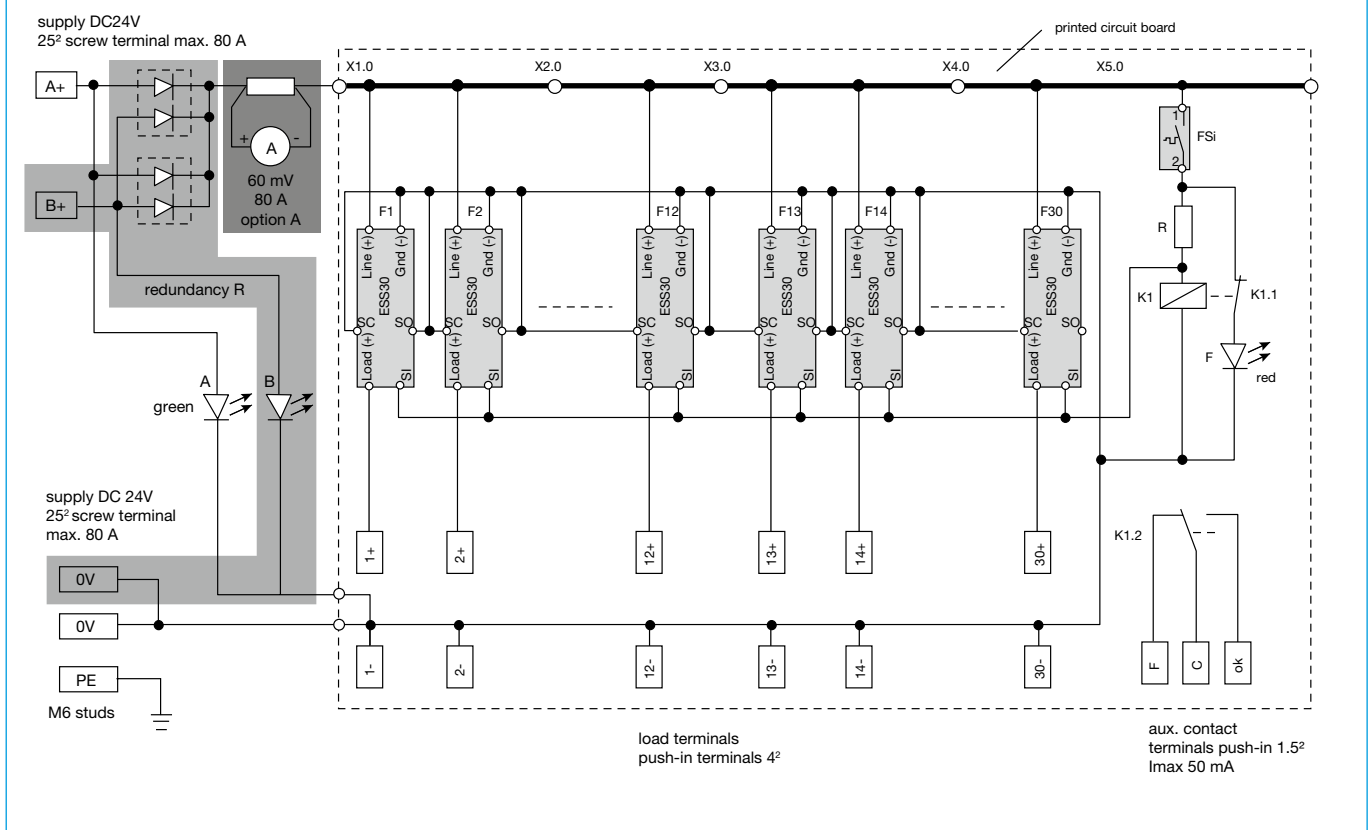


Overview of terminal designs

Version for	terminals on	supply terminals		load terminals		signalling	
		cross section	tightening torque	cross section	wire stripping length	cross section	wire stripping length
ESS30 circuit breaker 1-pole							
PDM-P-L-ESS30-30A4-B2-xx-S700	printed circuit board	4 – 25 mm ²	4.0 – 4.5 Nm	0.25 – 4 mm ²	15 mm	0.25 – 1.5 mm ²	10 mm
PDM-P-L-ESS30-30R4-B2-Dxx-S700	printed circuit board	4 – 25 mm ²	4.0 – 4.5 Nm	0.25 – 4 mm ²	15 mm	0.25 – 1.5 mm ²	10 mm
Ground studs	front plate	M6	4.0 – 4.5 Nm				

Schematic diagrams

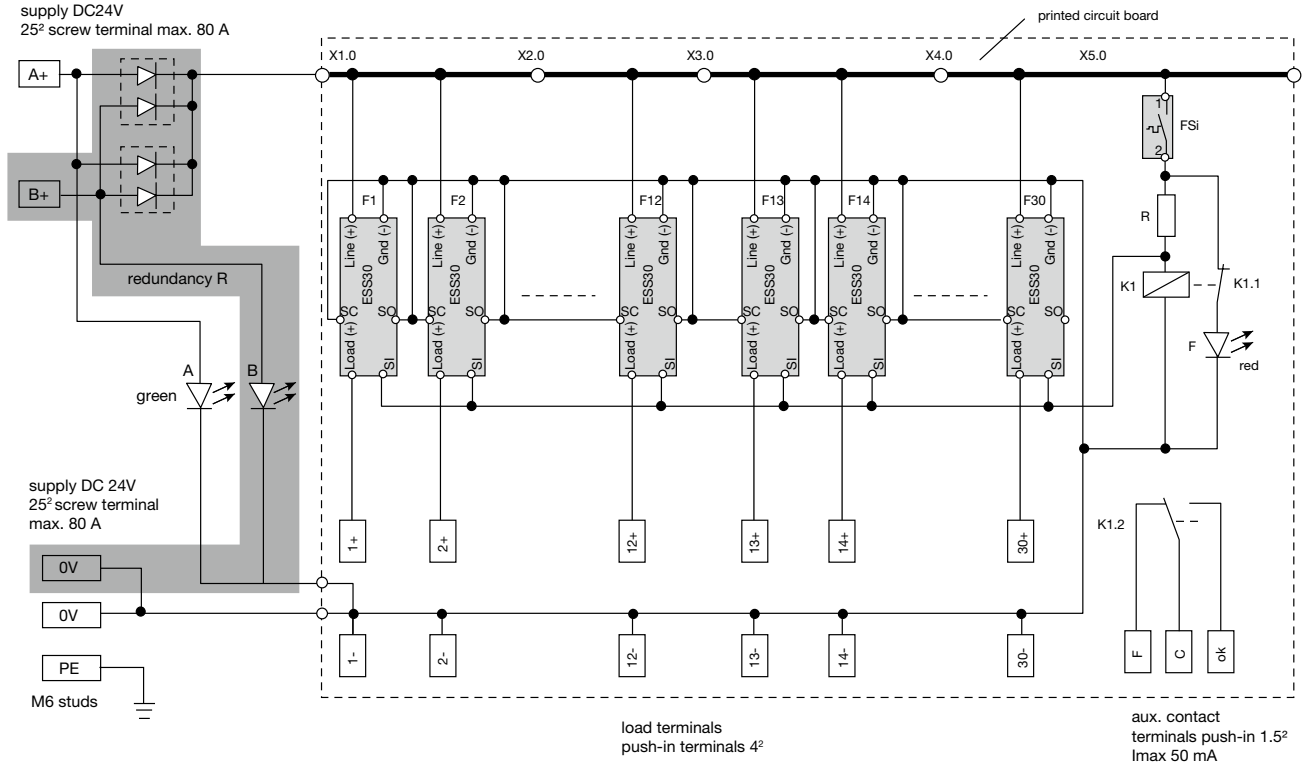
Version: Redundant supply, decoupling diodes, total current display, PDM-P-L-ESS30-30R4-B2-DxA-S700



Schematic diagrams

Version: Redundant supply, decoupling diodes, PDM-P-L-ESS30-30R4-B2-Dx-S700

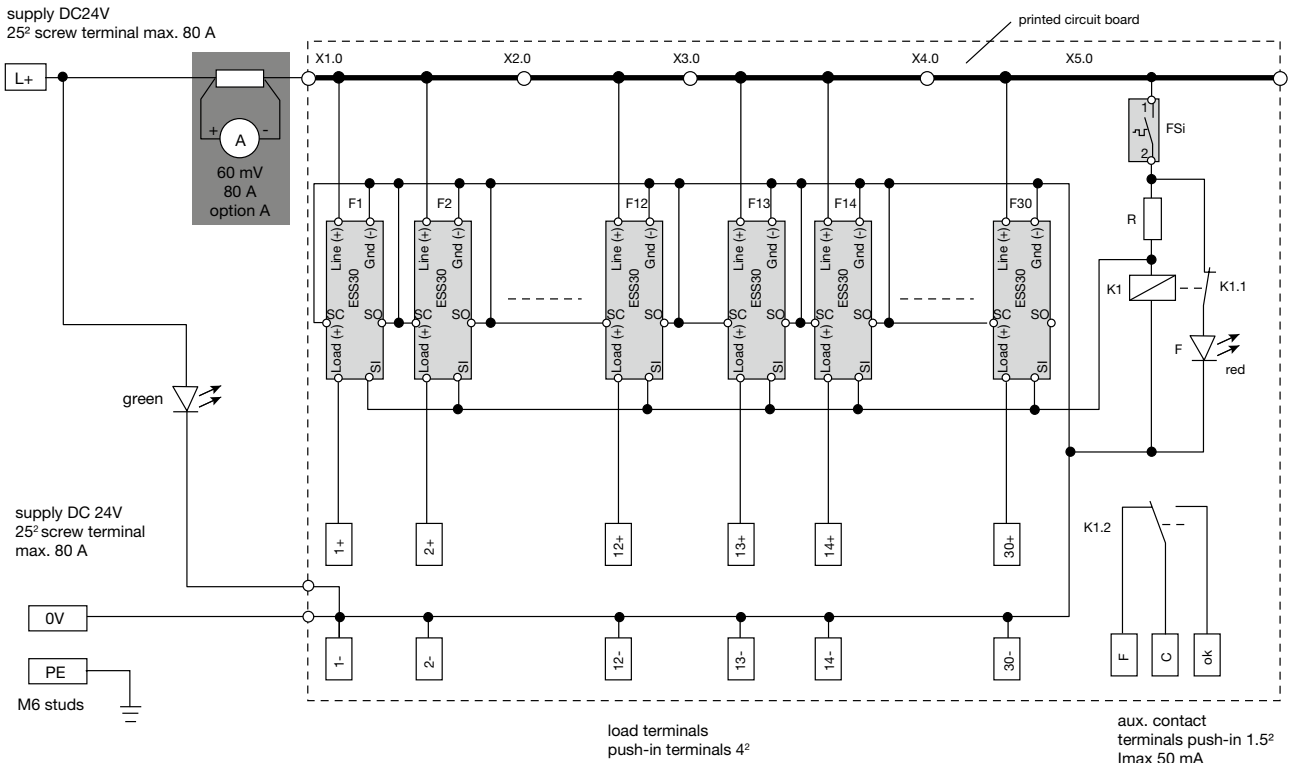
supply DC24V
25² screw terminal max. 80 A



Schematic diagrams

Version: Non-redundant supply, total current display, PDM-P-L-ESS30-30A4-B2- xA-S700

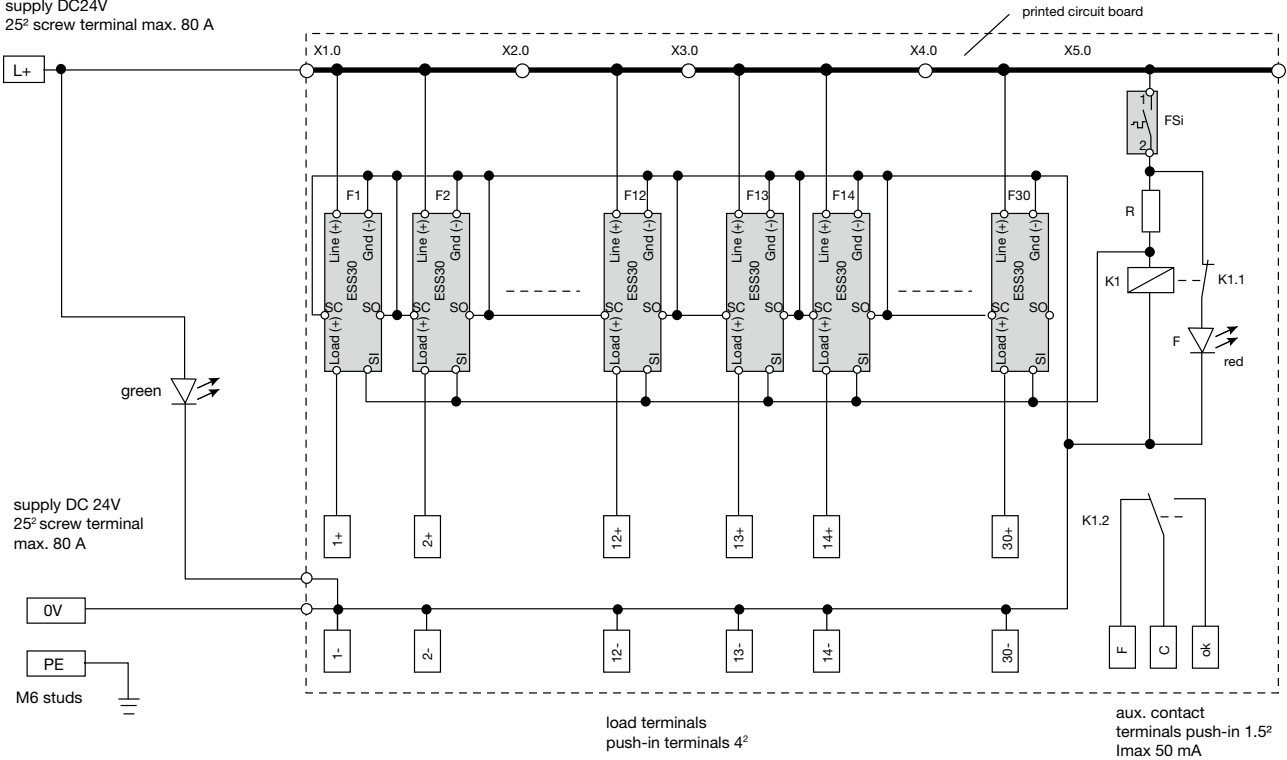
supply DC24V
25² screw terminal max. 80 A



Schematic diagrams

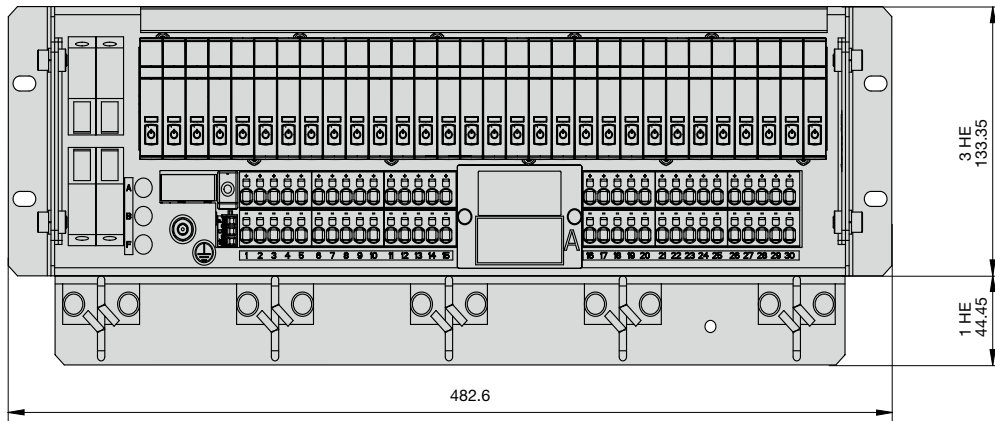
Version: Non-redundant supply, PDM-P-L-ESS30-30A4-B2-x-S700

supply DC 24V
25² screw terminal max. 80 A

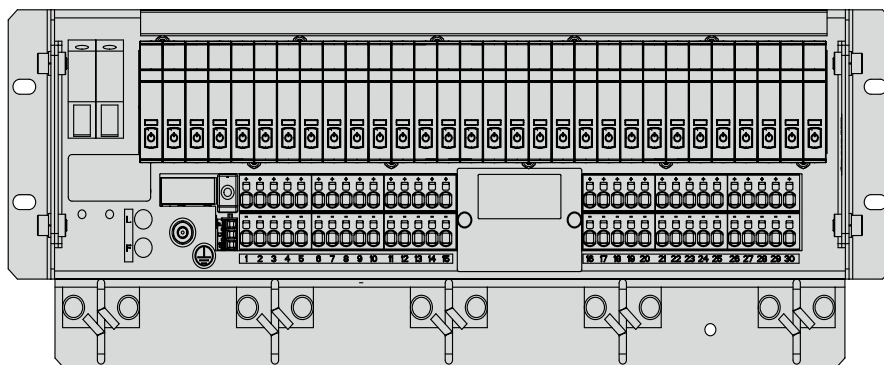


Dimensions

Front view: Redundant version, total current display, cable management, PDM-P-L-ESS30-30R4-B2-DKA-S700



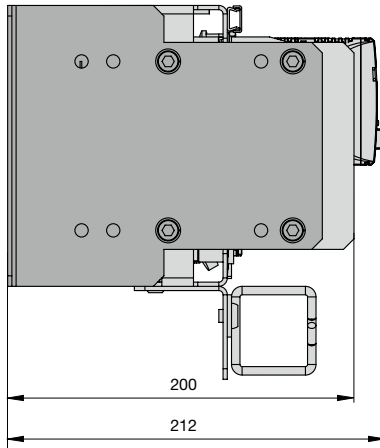
Front view: Non-redundant version, cable management, PDM-P-L-ESS30-30A4-K-S700



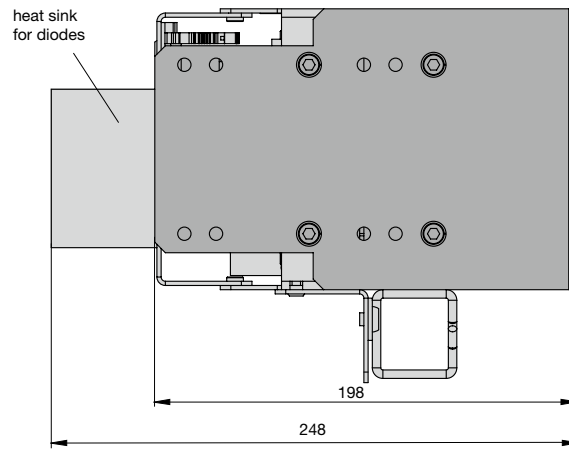
Dimensions

Side view/dimensions: Redundant version (with diodes), cable management, PDM-P-L-ESS30-30R4-B2-DKx-S700

rear wall mounted in control cabinet

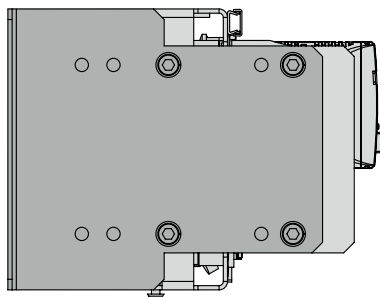


mounted as 19" plug-in module



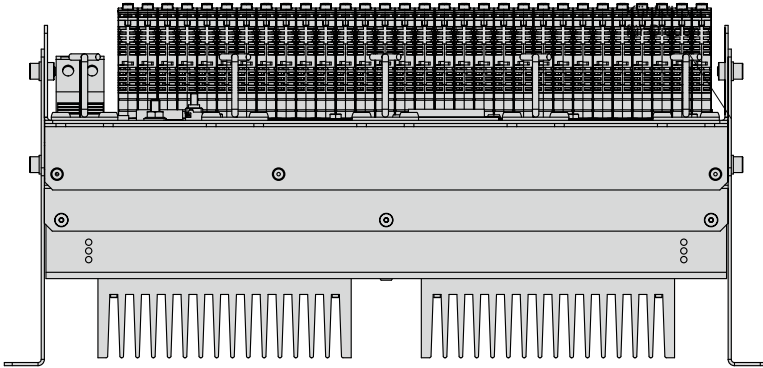
Side view: Version without cable management, PDM-P-L-ESS30-30x4-B2-xx-S700

rear wall mounted in control cabinet

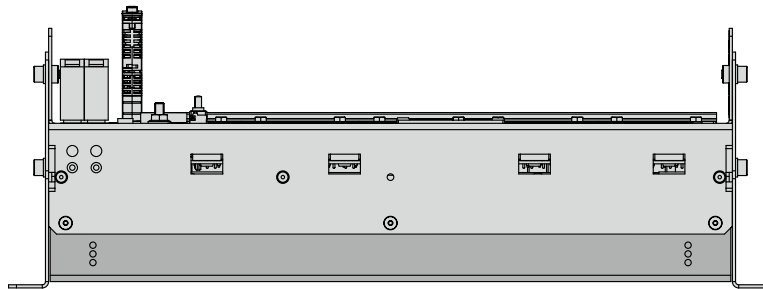


Dimensions

View from the below: Redundant version, cable management, rear wall mounting, PDM-P-L-ESS30-30R4-B2-DKx-S700



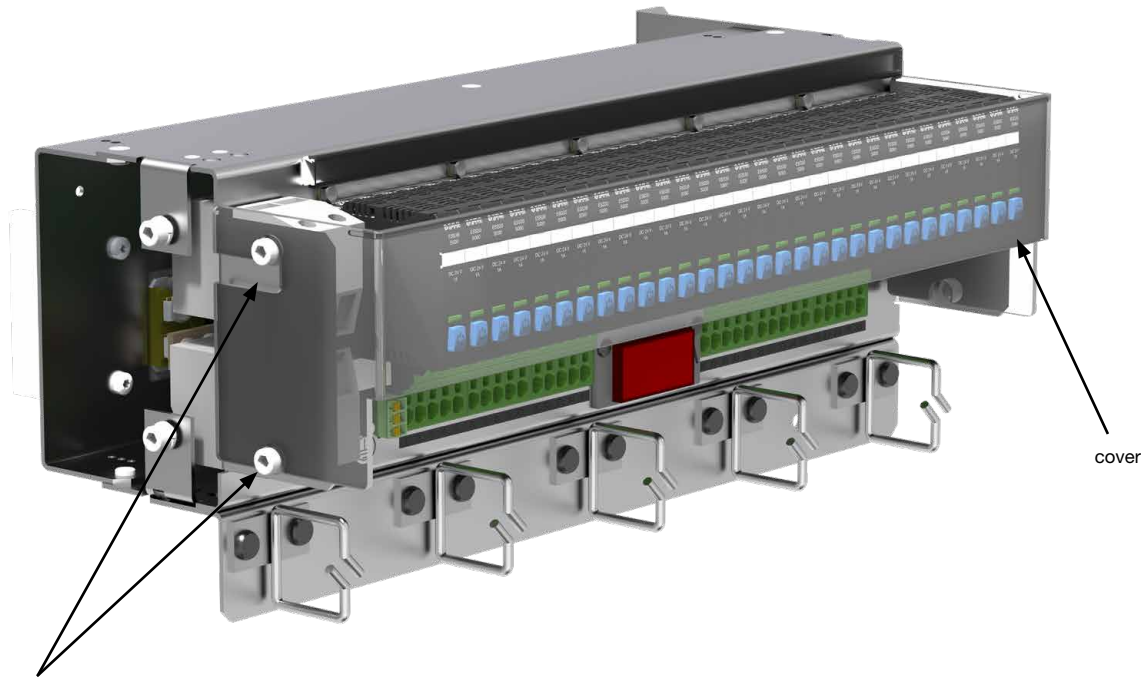
View from the below: Non-redundant version, PDM-P-L-ESS30-30A4-B2-x-S700



Accessories

Translucent cover/actuator guard

part number: Y 312 835 01



The cover is pushed over the upper flange fixtures (left and right) from the front and then »latched on« downwards. This allows later mounting even with distribution lines already in place.