

Description

The flexible **Power-D-Box®** system is a sophisticatedly designed power distribution system in a 19" rack with only 2 HE for DC applications. Thanks to its many configuration options, the respective version can be perfectly matched to your application. You can choose between the pluggable 2210 thermal-magnetic circuit breaker (1 pole or 2 poles) or the ESS30 electronic circuit protector. For optimum utilisation of the available installation space, different group signalling and terminal connection options are available, as well as an optional, freely configurable system redundancy.



Flexible Power-D-Box® DC

Features

- 19" power distribution system, made of aluminium
- For 30 or 2 x 15 pluggable 2210 circuit breakers or ESS30 circuit protectors, more upon request
- Optional 2-pole protection
- Redundant or non-redundant set-up
- Supply current up to 2 x 100 A
- Rated voltage up to DC 65 V
- Max. load current up to 16 A
- Connection via screw terminals
- Group signalling

Your benefits

- Compact, space-saving, clear design through efficient utilisation of installation space and PCB technology
- Increased machine uptime through resettable circuit breakers
- Increased operational availability through group signalling
- Significantly reduced number of individual components through pre-assembly
- Facilitated system extension through pluggable circuit protectors even during operation
- Optional additional terminals on the back of the DIN rail for more convenient connection and transparency
- No additional installation space for min. bending radius of the connection cables required

Preferred types – for details regarding all product versions please see ordering number code

Preferred types are E-T-A products which are most frequently used by our customers. They feature a beneficial price and shorter lead times.

Preferred types	Short description
PDB-P-2210-2P-28R-B4-Z	2210 2-pole, redundant, series/parallel connection signalling, additional terminals
PDB-P-2210-2P-30E-B4-Z	2210 2-pole, non-redundant, series/parallel connection signalling, additional terminals
PDB-P-2210-30E-B4	2210 1-pole, non-redundant, series/parallel connection signalling, no additional terminals
PDB-P-ESS30-30E-B1-Z	ESS30, non-redundant, series connection signalling, additional terminals
PDB-P-ESS30-30R-B1-Z	ESS30, redundant, series connection signalling, additional terminals

Compliance



Instructions

You will find the current installation instructions for each possible version via QR code on the last page.

Technical data

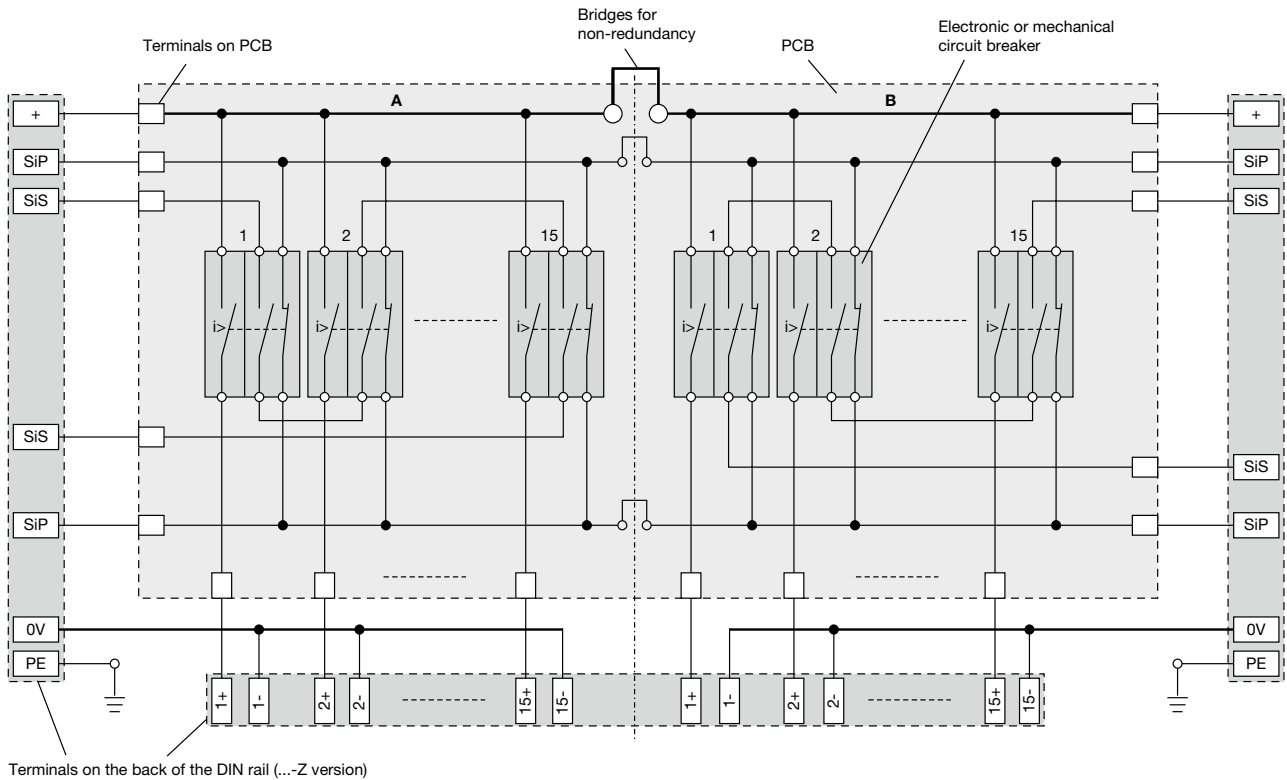
General data	
Voltage ratings	DC 24 V (DC 10...65 V depending on version)
Protected pole	Plus pole or 2-pole
Circuit breakers/ circuit protectors	Plug-in type 2210-S circuit breakers (1- & 2-pole), ESS30, more upon request
Number of loads	Up to 30
Redundancy	Optional according to ordering number code
Compliance	According to EN 62368-1
Operating temperature range	0 ... 50 °C
Mechanical data	
Dimensions	Width: 482.6 mm (19" mounting) Height: 88.90 mm (2 HE) Depth: 205 mm – 256 mm
Material	Aluminium
Grounded housing	Available for each supply input
Cable grip	Pre-mounted
Total weight	3.18 kg – 4.75 kg
Supply	
Total current per supply	Max. 100 A (1-pole) Max. 50 A (2-pole)
Terminals / Terminals on PCB / Cable cross section	M6 thread for cable lug / up to 25 mm ²
Terminals / Additional terminals on DIN rail / Cable cross section	Screw terminals / up to 35 mm ²
Loads	
Current rating per load channel	max. 16 A
Terminals / Terminals on PCB / Cable cross section	Screw terminals / up to 4 mm ²
Terminals / Additional terminals on DIN rail / Cable cross section	Screw terminals / up to 4 mm ²
Group signalling	
Series connection	Make contacts of the auxiliary contacts are connected in series. Max. 0.5 A, max. 1.5 mm ²
Parallel connection	Break contacts of the auxiliary contacts are connected in parallel, via decoupling relay. Max. 0.5 A, max. 1.5 mm ²

Ordering number code

PDB Power Distribution Box	
P	Plus pole protected DC system
Device types	
2210	Thermal-magnetic circuit breakers
2210-2P	Thermal-magnetic circuit breakers, 2-pole
ESS30	Electronic circuit breaker
Number of loads and design version	
30E	1 x 30 load circuit (1-pole protected), non-redundant
30R	2 x 15 load circuits (1-pole protected), redundant
30E	1 x 15 load circuits (2-pole protected), non-redundant (only with -Z)
28R	2 x 7 load circuits (2-pole protected), redundant (only with -Z)
Signalling	
B1	Make contact connected in series (only for ESS30)
B4	Make contact connected in series and break contact connected in parallel
Additional options	
Z	Additional terminals on the back of the DIN rail (mounting rail)
PDB-P-2210 - 28R-B4-Z Ordering example	

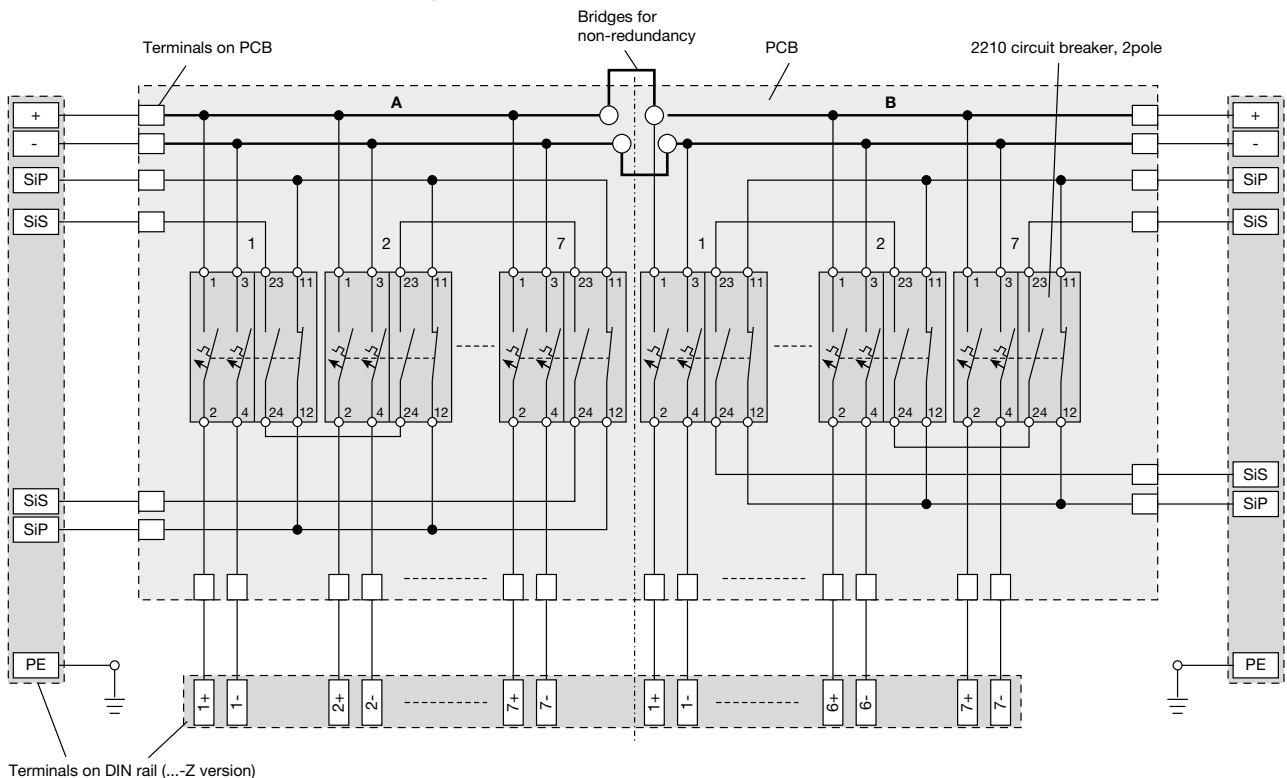
Schematic diagrams

Flexible Power-D-Box® DC schematic diagram (1pole)



Note: Depending on the version, the schematic diagram may vary in detail. This diagram shows the general options. You can find further information for version-specific installation instructions at the end of the document.

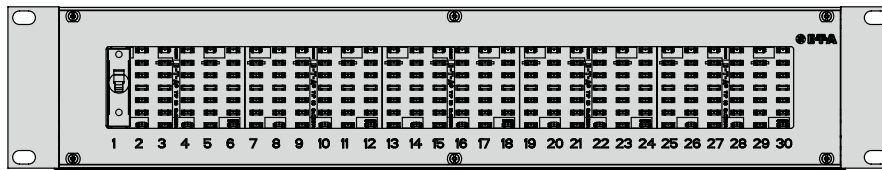
Flexible Power-D-Box® DC schematic diagram (2pole)



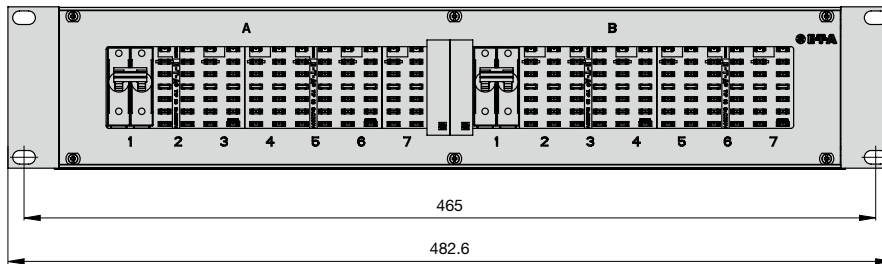
Note: Depending on the version, the schematic diagram may vary in detail. This diagram shows the general options. You can find further information for version-specific installation instructions at the end of the document.

Dimensions

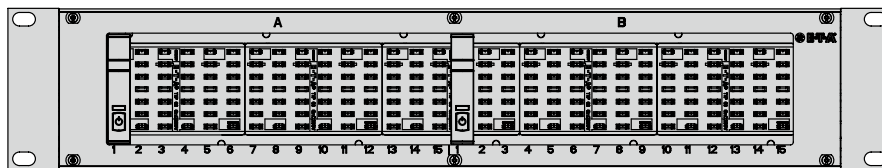
Front view/example: 2210, 1pole, non-redundant



Front view/example: 2210, 2pole, redundant



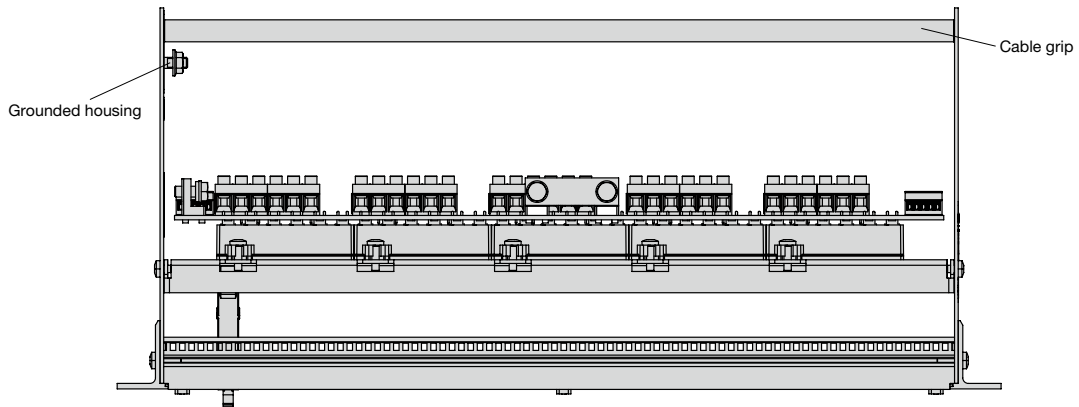
Front view/example: ESS30, 1pole, redundant



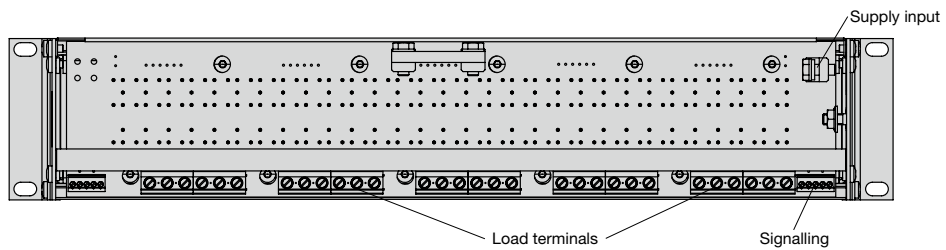
Dimensions

Example: PDB-P-2210-30E-B4

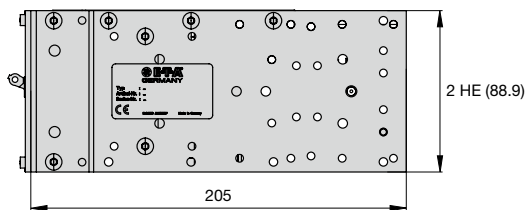
Top view (open cover) / example: no additional terminals on DIN rail, supply terminals on PCB



Rear view/example: no additional terminals on DIN rail, supply terminals on PCB



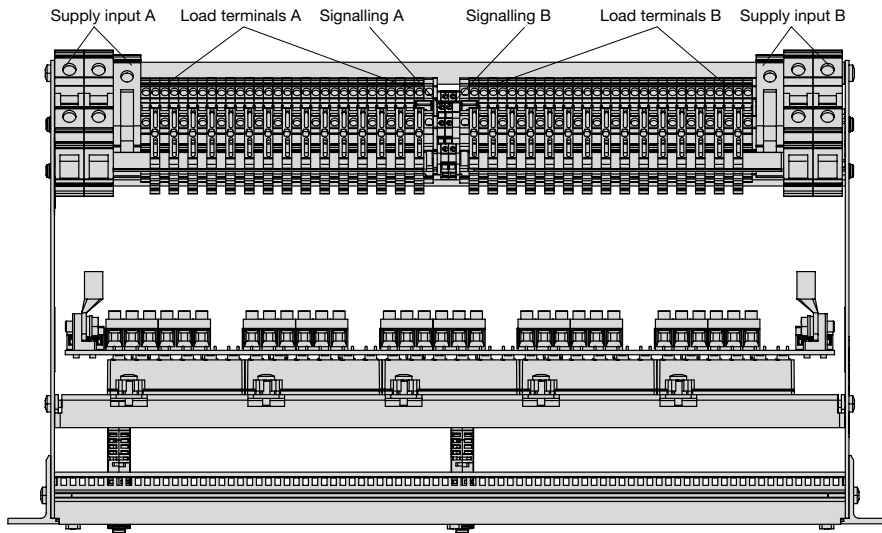
Side view/example: no additional terminals on DIN rail, supply terminals on PCB



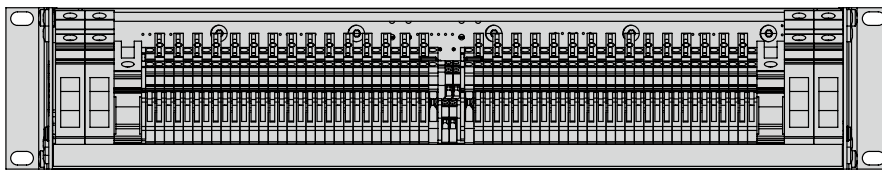
Dimensions

Example: PDB-P-ESS30-30R-B1

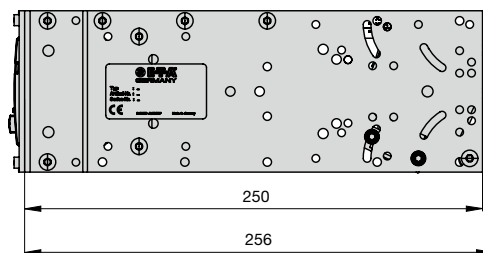
Top view (open cover)/example: additional terminals on DIN rail



Rear view/example: additional terminals on DIN rail



Side view/example: additional terminals on DIN rail

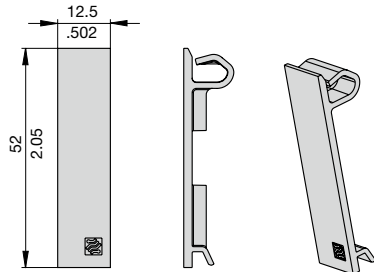


All information and data given on our products are accurate and reliable to the best of our knowledge, but E-T-A does not accept any responsibility for the use in applications which are not in accordance with the present specification. E-T-A reserves the right to change specifications at any time in the interest of improved design, performance and cost effectiveness. Dimensions are subject to change without notice. Please enquire for the latest dimensional drawing with tolerances if required. All dimensions, data, pictures and descriptions are for information only and are not binding. Amendments, errors and omissions excepted. Ordering codes of the products may differ from their marking.

Accessories

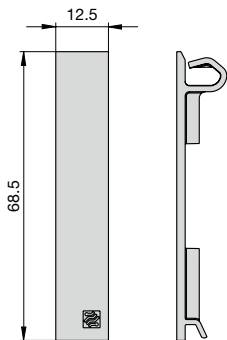
2210 / 3600 circuit breakers

Blind cover for Power-D-Box
(circuit breaker types 3600/3900, 2210)
Y 308 563 01



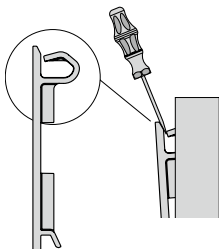
ESS30 / ESX10 circuit breakers

Blind cover for Power-D-Box®
(ESS20/ESX10 device types)
Part no. Y 308 563 41



Removal of the blind cover:

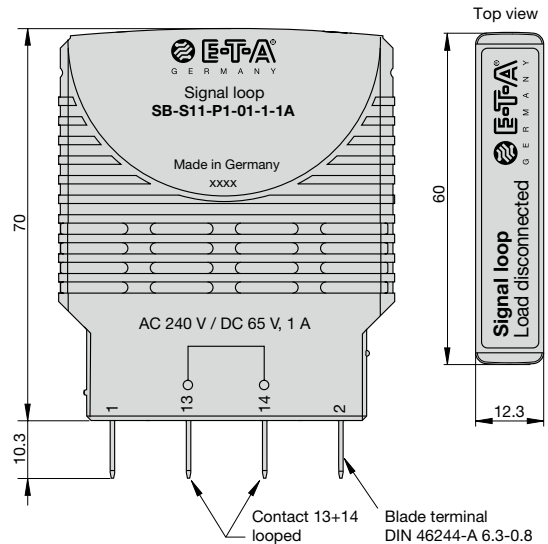
Use the screw driver to snap off at the lever edge



Accessories

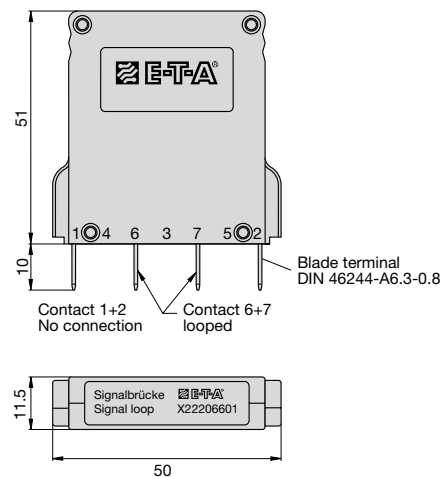
ESS30 / ESX10 circuit breakers

Signal loop
Part no. SB-S11-P1-01-1-1A



2210 / 3600 circuit breakers

Signal loop
Part no. X 222 066 01



Installation instruction

For more details:

Follow the QR code for the current installation instruction of your „Flexible Power-D-Box®“. You will find detailed information using the selected ordering number code.

Installation instruction:

Flexible Power-D-Box®
for the ESS30
electronic circuit breaker



Installation instruction:

Flexible Power-D-Box®
for 2210 (positive pole
protected) & 2210-2P
mechanical circuit breakers

