

## Description

The **Power-D-Box®** based on a printed circuit board is a compact power distribution system, designed as a 19" 2U rack made of aluminium profiles with anodised front plate. It accommodates the plug-in type thermal-magnetic circuit breakers type 2216 as well as the electronic circuit protectors type REF16. 30 single pole ways are available as a redundant or non-redundant system. The integral group signalling works as series connection of the make contacts. The entire internal circuitry is designed as a printed circuit board. The unprotected pole is also being patched in the distribution. Connection is by means of terminals directly on the circuit board or via additional terminals on a rear-side symmetrical rail. Status indication (green LED) coupled with one relay output per group is available as an option. Upon request it is also possible to add the junction of two redundant entry lines via decoupling diodes.

## Order numbering code

<b>Type No.</b>	<b>PDB-P-L</b> 19" <b>Power-D-Box®</b> with pcb, positive pole protected
<b>Suitable types</b>	
<b>2216</b>	thermal-magnetic circuit breaker
<b>REF16</b>	electronic overcurrent protector (DC 24 V only)
<b>Supply and load terminals on pcb</b>	
<b>30A0</b>	1 x 30 types, non-redundant
<b>30R0</b>	2 x 15 types, redundant
<b>Supply and load terminals on pcb</b>	
<b>30A3SW</b>	1 x 30 types, non-redundant
<b>30R3SW</b>	2 x 15 types, redundant
<b>Signalling, terminals on pcb</b>	
<b>B1</b>	make contacts connected in series
<b>B7</b>	make contacts connected in series, with voltage monitoring (DC 24 V only)
<b>Signalling, terminals on symmetrical rail</b>	
<b>B1GR</b>	make contacts connected in series
<b>B7GR</b>	make contacts connected in series, with voltage monitoring (DC 24 V only)
<b>Options</b>	
<b>D</b>	de-coupling diodes (version R3) available on request
<b>PDB-P-L- 2216- 30R4SW - B1GR-D</b>	ordering example



**Power-D-Box® for 2216 and REF16**

## Technical Data

<b>19" Power-D-Box®</b>	length: 84 HP (426.72 mm) height: 2 U (88.90 mm) depth: 150 mm version A0/R0 250 mm version A3/R3
<b>Material:</b>	aluminium, partly anodised
<b>Rated voltage:</b>	AC 50 V; DC 50 V; DC 24 V with REF16
<b>Supply:</b>	M6 terminal studs for ring cable lug (version A0 / R0) spring-loaded terminal 35 mm <sup>2</sup> (version A3/R3) max. 50 A per group
<b>Load terminals:</b>	30 ways 1-pole protected (version A0 / A3) 2 x 15 ways 1-pole protected (version R0 / R3) spring-loaded terminals 2.5 mm <sup>2</sup> $I_{max} = 16$ A (depending on circuit breaker rating, please observe derating factor)
<b>Group signalling:</b>	Make contacts connected in series (all versions) per group spring-loaded terminal 2.5 mm <sup>2</sup> , $I_{max} = 0.5$ A
<b>Grounding of enclosure:</b>	via M6 terminal studs on inner housing side in the event of redundancy (R0 / R3) doubled
<b>Ambient temperature range:</b>	0 ... 50 °C

## Benefits

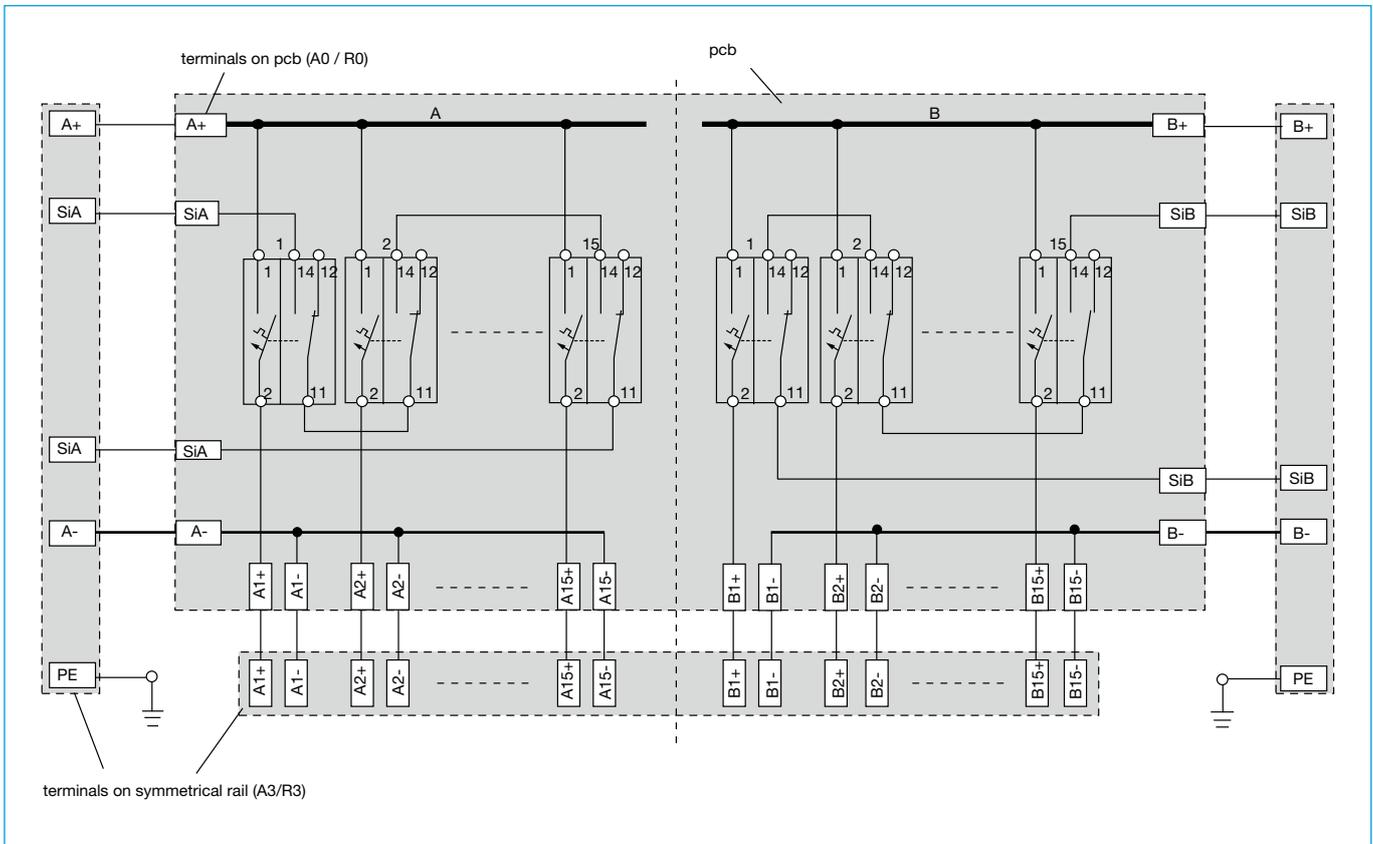
- Reduced wiring time through printed circuit board design
- Small installation depth of 150 mm or 250 mm for the use in small-sized installation sites
- Removeable front plate with captive screw technology and printed-on marking
- 30 slots for thermal-magnetic circuit breakers or electronic overcurrent protectors in a **Power-D-Box®**
- Redundant design optional with 2 x 15 ways
- Circuit breakers can be plugged in later (also with the system live)
- Screw terminals directly on pc board (plus and minus pole), additional terminals optionally on a rear-side rail.
- Line entry for cables up to 35 mm<sup>2</sup> (16 mm<sup>2</sup> when redundant)
- Line entry up to 2 x 50 A (redundant)
- Load terminals for cables up to 2.5 mm<sup>2</sup>
- Load terminals up to 16 A (10 A with electronic protection)
- Group signalling through integral potential-free auxiliary contacts, make contacts connected in series
- Signalling available separately per group in the event of redundancy
- Integral cable grip rail behind the terminals
- Cover against live parts by means of a perforated sheet on top
- Interchangeable flanges for 19" or ETSI mounting
- Blanking piece for empty slots enclosed (30 pcs)
- Customer-specific versions, e.g. with back-up fuses, de-coupling diodes, separate circuits, AC and/or DC, customised marking etc., are available upon request.

**Versions and terminal designs**

Version for	terminals on	supply terminals		load terminals		signalling	
		cable size	tightening torque	cable size	tightening torque	cable size	tightening torque
<b>Circuit Breaker Type 2216</b>							
PDB-P-L-2216-30A0-B1	printed circuit board	M6	3.7 – 4.3 Nm	2.5 mm <sup>2</sup>	spring force	2.5 mm <sup>2</sup>	spring force
PDB-P-L-2216-30R0-B1	printed circuit board	M6	3.7 – 4.3 Nm	2.5 mm <sup>2</sup>	spring force	2.5 mm <sup>2</sup>	spring force
PDB-P-L-2216-30A3SW-B1GR	symmetrical rail	35 mm <sup>2</sup>	spring force	2.5 mm <sup>2</sup>	spring force	2.5 mm <sup>2</sup>	spring force
PDB-P-L-2216-30R3SW-B1GR	symmetrical rail	35 mm <sup>2</sup>	spring force	2.5 mm <sup>2</sup>	spring force	2.5 mm <sup>2</sup>	spring force
<b>Overcurrent Protector Type REF16</b>							
PDB-P-L-REF16-30A0-B1	printed circuit board	M6	3.7 – 4.3 Nm	2.5 mm <sup>2</sup>	spring force	2.5 mm <sup>2</sup>	spring force
PDB-P-L-REF16-30R0-B1	printed circuit board	M6	3.7 – 4.3 Nm	2.5 mm <sup>2</sup>	spring force	2.5 mm <sup>2</sup>	spring force
PDB-P-L-REF16-30A3SW-B1GR	symmetrical rail	35 mm <sup>2</sup>	spring force	2.5 mm <sup>2</sup>	spring force	2.5 mm <sup>2</sup>	spring force
PDB-P-L-REF16-30R3SW-B1GR	symmetrical rail	35 mm <sup>2</sup>	spring force	2.5 mm <sup>2</sup>	spring force	2.5 mm <sup>2</sup>	spring force

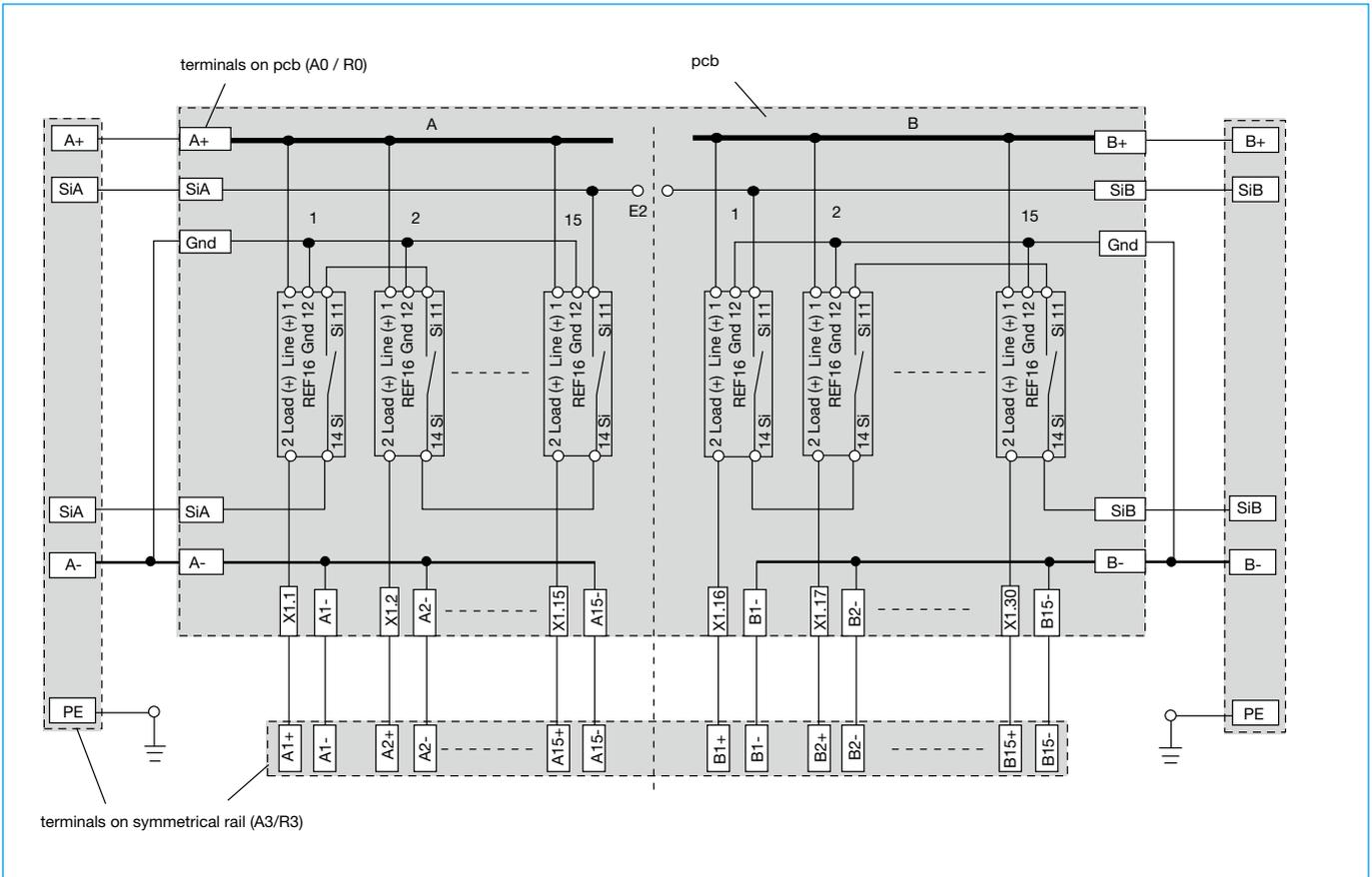
Ground studs M6 3.7 - 4.3 Nm

**Schematic diagram for version with 2216**



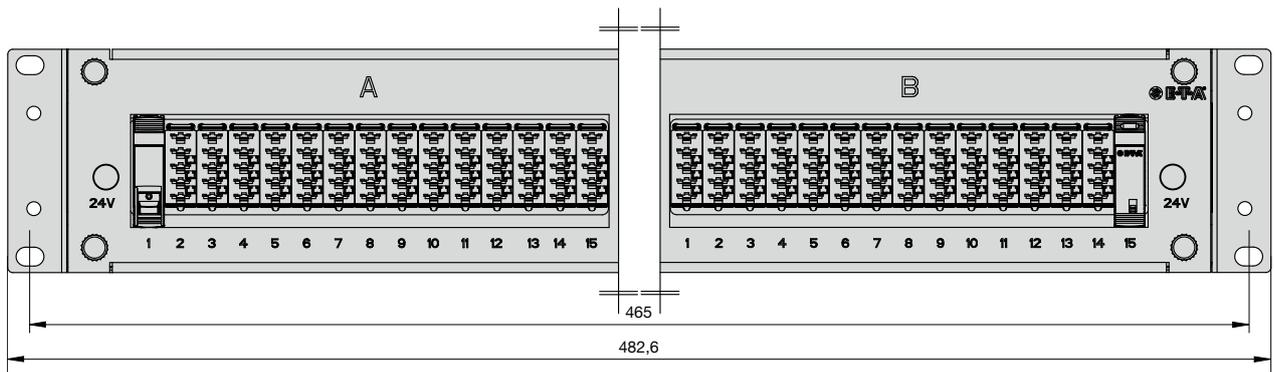
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**Schematic diagram for REF16**



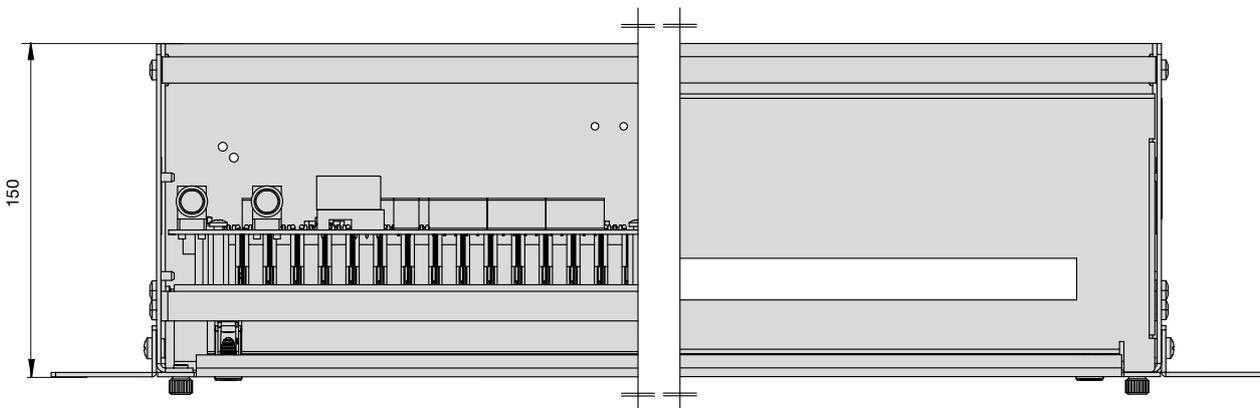
**Dimensions**

**Views / Dimensions: front view all versions**

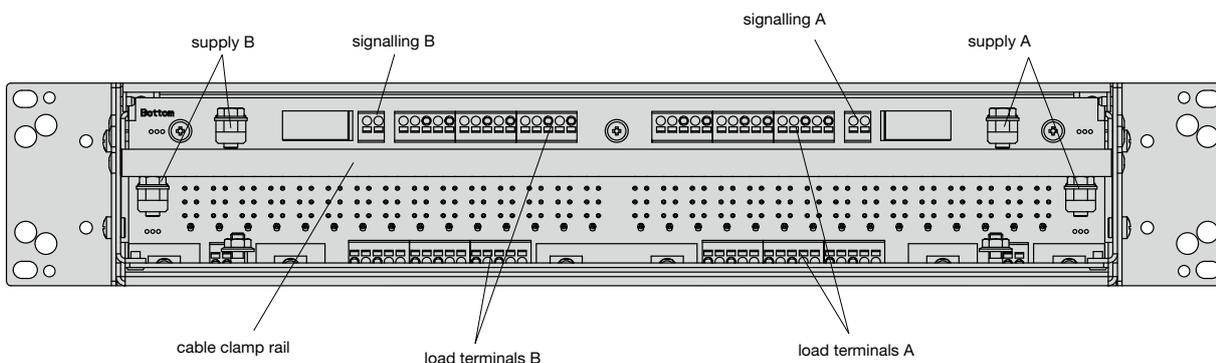


**Dimensions of pcb**

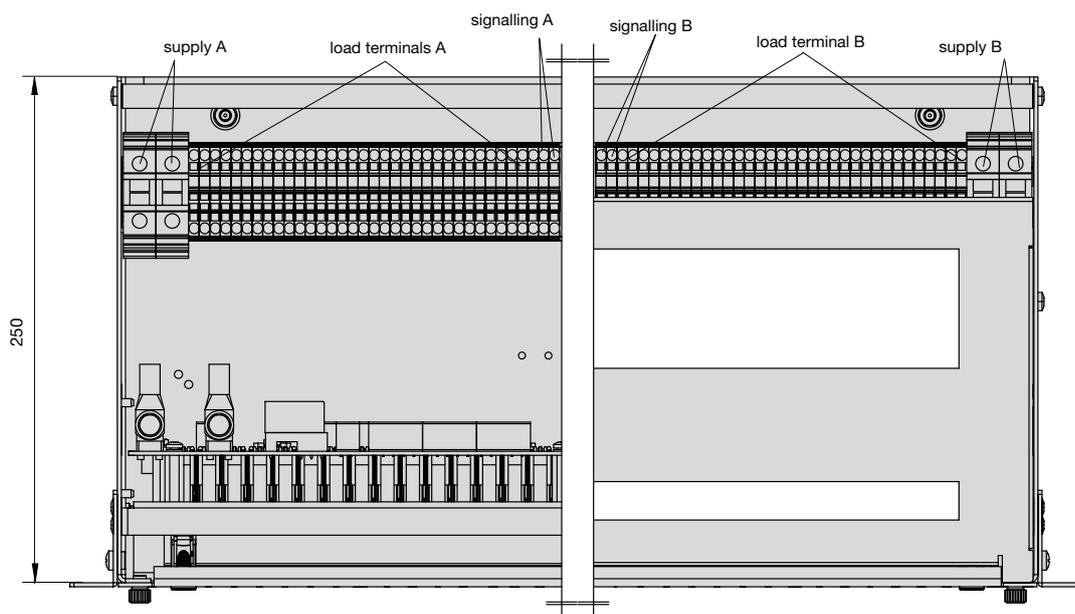
**Top view** (mounting flanges in position ETSI): version A0/R0



**Rear view** version A0/R0



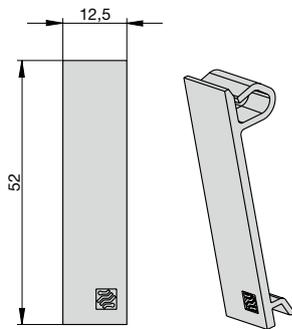
**Top view** (internal wiring not shown) version A3/R3



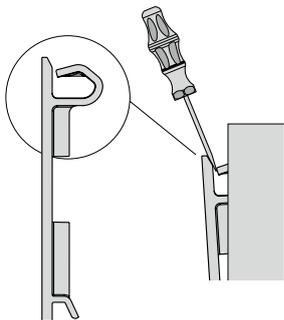
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Accessories

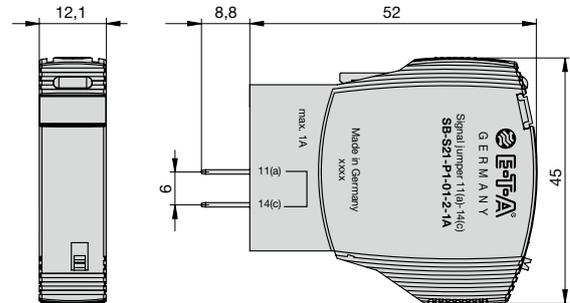
**Blanking piece for Power-D-Box**  
 (types 2216, REF16)  
**Y 308 563 01**



**For removing the blanking piece:**  
 push in the screwdriver as shown below



**Jumper:**  
 for insertion in empty slots instead of circuit breakers for bridging  
 the looped-through auxiliary contacts (series connection)  
**SB-S21-P1-01-2-1A**



All dimensions without tolerances are for reference only. E-T-A reserves the right change specifications at any time in the interest of improved design, performance and cost effectiveness, the right to make changes in these specifications without notice is reserved. Product markings may not be exactly as the ordering codes. Errors and omissions excepted.

