

DP500IP/3-24

Power Supply

Primary switched power supply



Abbildung ähnlich / device similar to figure



DP500IP/3-24-derivate table

Type	Input voltage	Output voltage	Output current		Cat. No.
	Nom.	Nom.	Continuous	Boost	
DP500IP/3-24*	3AC 380 - 500 VAC	24 VDC	20 A	30 A	109514

*UL 508 Listed (E204957)

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1 Input

Input voltage AC	Nom. 3x 380 - 500 VAC	tolerance: 320-545 VAC TN-S, TN-C, TT system, not for IT- and delta three phase systems, 2-phase operation possible for short time
Input frequency	50 - 60 Hz	tolerance: 45 - 65 Hz
Input voltage DC	450 - 700 VDC	tolerance: 400-770 VDC
Inrush current	No Inrush current	active regulated limitation (The charging current into EMI suppression capacitors is disregarded in the first microseconds after switch-on.)
Input fuse	-	External circuit breaker 3-pole LS, 16 Amps (B-type)
Input current	nom. 1,3A	-
No load power	≤ 3,5 W	-
Power factor	≤ 0,93	-
Hold up time	typ. 10 ms	-
Current harmonics	EN 61000-3-2	-
Transient over voltage protection	Varistor (4,5kA / 120J)	-

2 Output

Output voltage U_{nom}	nom. 24 VDC	adjust to: 24,6 VDC – voltage drop at outputcable
Tolerance	± 2,0%	over all
Max. continuous output current I_{nom}	20 A	-
Max. boost output current I_{boost}	30 A	overload reserve for 5s
Max. continuous output power P_{nom}	≤ 480 W	-
Turn on delay	≤ 1 s	turn on after mains connection
Short circuit overload protection		Locking protection cut off after 20s; Reset: separation from main supply (30s)
Load regulation static (10 - 90% P_{nom})	≤ 0,6% U_{nom}	-
Load regulation dynamic (10 - 90% P_{nom})	≤ 5% U_{nom}	-
Recovery time	≤ 6 ms	Load step, after this time the output voltage is within the permissible tolerances.

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Line regulation (min. - max. U_{in})	$\leq 0,2\% U_{nom}$	typ. $0,02\% U_{nom}$
Temperature drift (-25°C ... +70°C)	$\leq 0,5\%$	-
Rise time U_{out} (10 - 90%)	≤ 60 ms ≤ 100 ms	no load full load
Ripple & Noise	≤ 200 mVpp	measurement bandwidth 20 MHz
Over voltage protection	TVS-diode (5KP22A)	overvoltage limitation at the output at inductive feedback

3 EMC (Electromagnetic Compatibility)

RF-emission	EN55011	class B
Immunity	EN61000-6-2	-

4 Environment

Working temperature (environment)	-28°C ... +40°C	-
Cooling		Cooling via contact to mounting surface. For safe operating, a good thermal connection between mounting surface and the heat sink (application) have to be provided.
Overtemperature protection		Protective power reduction, self-reset after cool down
Storage temperature	-28°C ... +85°C	on request: -40°C ... +85°C
Humidity	< 100%	potted unit
Condensation	allowed	-
Max. mounting height	2500 m	-
Pollution degree	3	acc. to EN 50178
Climatic category	3K3	acc. to EN 60721-3
Degree of protection	IP67	acc. to EN 60529

5 General data

Electrical safety	EN61204-7, UL508, CAN/CSA C22.2 No. 107.1-01, EN50178 (IEC62103)	-
Protective system	Class 1	with PE connection
Over voltage category	III	acc. to IEC 60664-1

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Insulation voltage	3 kVAC	each unit tested input / output+enclosure
Output circuit		GND-output connected to enclosure
Efficiency	typ. 93%	-
MTBF	>1.000.000h	IEC 1709 (SN 29 500)
Dimensions (WxDxH)	185 x 134 x 56 mm	see fig. 8.1
Weight	approx. 2,6 kg	without connections cables

6 Connections

Input	Cable without connector plug (length 2m) 4-pole [brown (L1), grey (L2), black (L3), green/yellow (PE)] Conductor cross section AWG16 Bending (singular – 123,2mm, more times – 277,2mm)
Output	Cable without connector plug (length 2m) 2-pole, [black (GND), white (+)] Conductor cross section AWG 12 (3,3mm ²) Bending (singular – 104mm, more times – 187,2mm)

7 signalling

LED	Condition	Description
Continuous	DC - O.K.	$U_{out} = 90\% \dots 110\% U_{nom}$
Blinking (300 ms on / 300 ms off)	DC - not O.K.	U_{out} out of tolerance
Flashing (50 ms on / 850 ms off)	DC OFF	locked "off" condition (snap-in)

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8 Dimensions

All dimensions are given in millimetres and have a general tolerance according to DIN ISO 2768 - m.

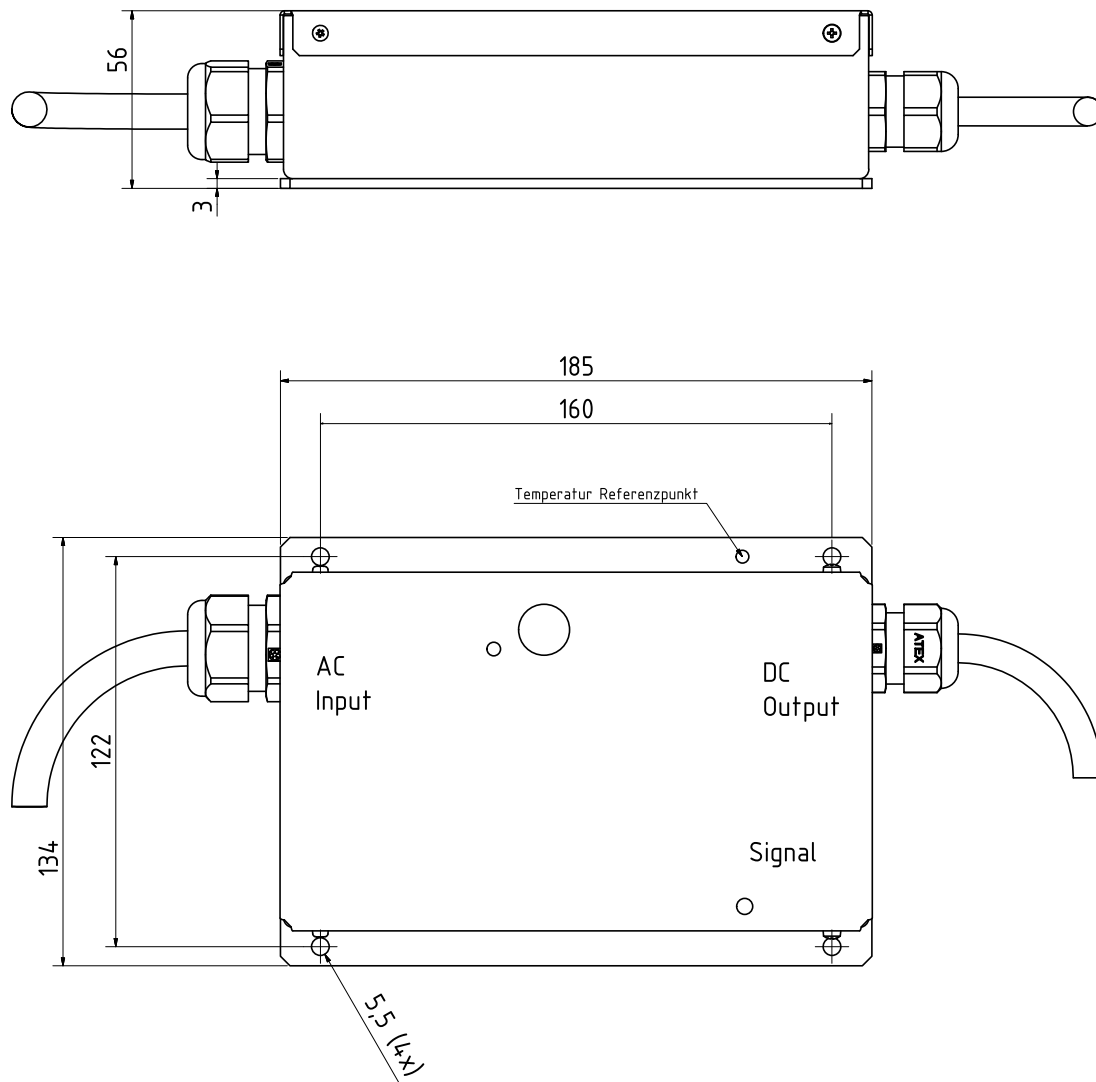


Figure 8.1: Dimensions

9 Installation and safety instructions

Generally it is recommended to use by Deutronic released equipment, only. Because only in this way an appropriate technical suitability and an adequate dimensioning can be ensured for professional use. Equipment and accessories have to be selected and installed in accordance with the requirements and under attention of the existing safety guidelines. Moreover pay attention of a safety interlocksystem at the respective device to ensure the operational safety and to avoid damages. If worn, the cables must be replaced immediately!

Please observe the safety instructions in the manual for this device. You can find these under: www.deutronic.com

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