Power Innovation
Stromversorgungstechnik GmbH

Let's talk!

DC-DC Converter DCDC30 Series

For Rail & Industrial Applications

Picture may differ from actual device

Specification

General

Safety	DIN EN 60950, VDE 0805 Overload- and short-circuit protected

Electrical Characteristics

Input

Input voltage nominal	$24V_{DC}$ $110V_{DC}$
Stat. voltage tolerance	± 30% (16,8-31,2V_{DC}, 77-143V_{DC})
Dyn. voltage tolerance	± 40% (14,4-33,6V_{DC}, 66-154V_{DC})
Ripple	15%

Output

Output voltage nominal	$5V_{DC}$
Output voltage	isolated, "floating"
Voltage tolerance	< ± 1%
Dyn. regulation tol.	< ± 2%
Ripple	<100mV_{PP} (50MHz 50 Ω)
Noise	<200 mV_{PP} (200MHz 50 Ω)
Start-up delay time	<200ms
Output current	I_A = 0-6A
Current limitation	$I_S = 1,1 \times I_{A\,MAX}$
Overload characteristic	permanently short-circuit-proof
Parallel operation	possible with disconnected sense pins for output power upgrade
Output power	30W
Efficiency	>85% at U_{NOM}

Ambient Characteristic

Ambient temperature	-40 to +85°C, class TX according to DIN EN50155
Relative humidity	max. 95%, condensation tolerable from time to time (with optional coating)
Cooling	external forced cooling / e.g. fan section below module carrier
Derating	without external cooling from +50°C / 2,5% per 1°C
Protection	input current 6,3 AT fuse at $24V_{DC}$ 2,0 AT fuse at $110V_{DC}$ reverse polarity protection at the input; OVP at the output = U_A + tol. +10%

EMC-Emission

Conductive	according to DIN EN 50121-3-2
Radiated	according to DIN EN 50121-3-2

EMC-Immunity

Transient/Surge	1,8kV according to DIN EN 50121-3-2, 12 Ω
Burst	2kV according to DIN EN 50121-3-2
Electromagnetic field	20V/m according to DIN EN 50121-3-2

Insulation Test

Input to ground	$1500V_{EFF}$ 1min.
Output to ground	$1500V_{EFF}$ 1min.
Input to output	$1500V_{EFF}$ 1min.
Creepage distance	>2,5mm according to DIN EN 50124 PD3

Shock and Vibration

Vibration reliability	according to DIN EN 50155 and EN 61373
Frequency range	5-150Hz
Transfer frequency	8Hz
Amplitude acceleration below the transfer frequency	2mm
Amplitude acceleration above the transfer frequency	$5m/s^2$
Shock reliability	$50m/s^2$ all 3 axes according to DIN EN 61373 (extended)
MTBF	>750.000h at 40°C

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Signal

Optical signals	LEDs (green) for U_E; U_A
Remote ON/OFF	inhibit ON >13V to U_N or open; OFF <5V to 0V
Test point for U_A	2mm test jacks at the front panel

Connection Characteristics

Connector	H15 DIN 41612; rear side
Pin assignment	see table 1

Mechanical Characteristic

Dimensions	19"-alu cassette, 3U, 7 TE
Weight	approx. 0.7 kg
Protection	IP 20

Warranty Time	24 months
Order Code	DCDC30-24-5 DCDC30-110-5

(Optional formal coating and add. glued components.)

Pin Assignment

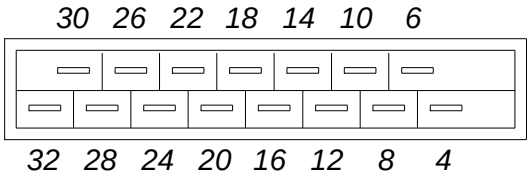
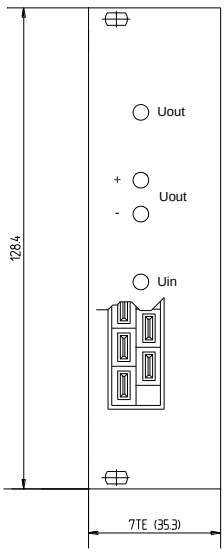
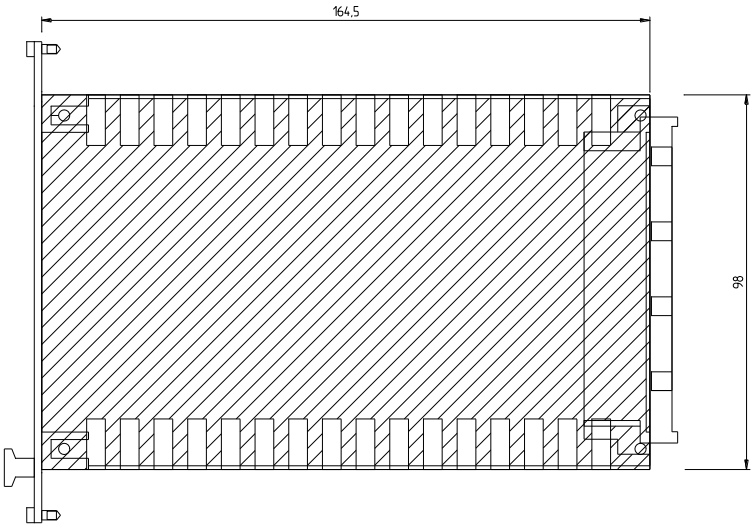


Table 1

Pin	Function	Abbreviation
4	Not connected	n.c.
6	Sense positive	+ U_S
8	Not connected	n.c.
10	Output voltage positive	+ U_A
12	Output voltage positive	+ U_A
14	Output voltage reference	0V U_A
16	Output voltage reference	0V U_A
18	Sense reference	0V U_S
20	Remote ON/OFF	Inhibit E/A
22	Not connected	n.c.
24	Input voltage reference	0V U_E
26	Input voltage reference	0V U_E
28	Input voltage positive	+ U_E
30	Input voltage positive	+ U_E
32	Protective earth	PE





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