

DC-DC Converter DCDC30 Series

For Rail & Industrial Applications

Specification



Picture may differ from actual device

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 50Ω)
Noise <200 mV_{PP} (200MHz 50Ω)

Start-up delay time <200ms

Output current I_A = 0-6A
Current limitation I_S = 1,1 x 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, 12Ω

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/s²

Shock reliability 50m/s² all 3 axes according to DIN EN 61373 (extended)

MTBF >750.000h at 40°C

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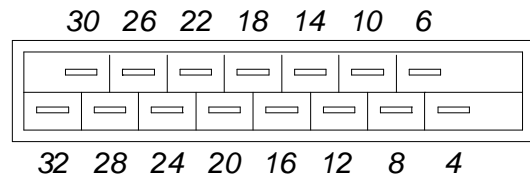
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Signal

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

Pin Assignment



Connection Characteristics

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

Mechanical Characteristic

Dimensions	19"-alu cassette, 3U, 7 TE
Weight	385g

Protection	IP 20
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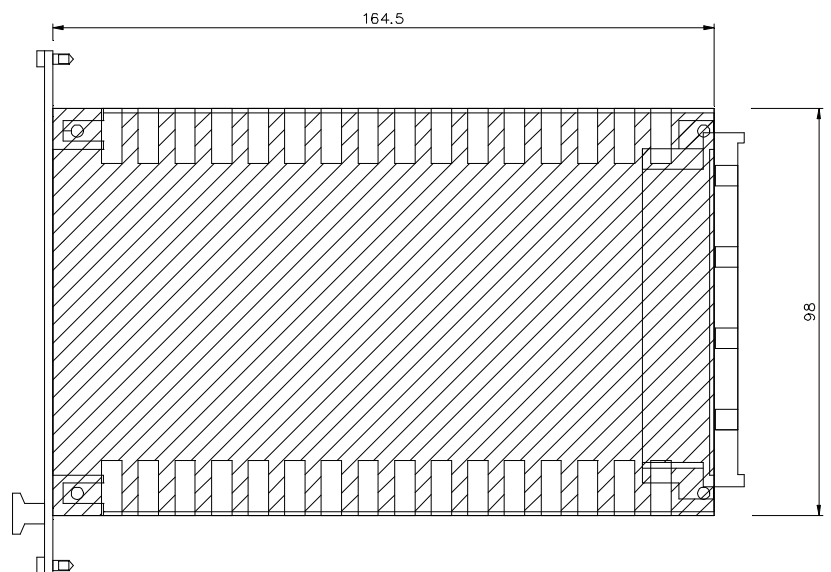
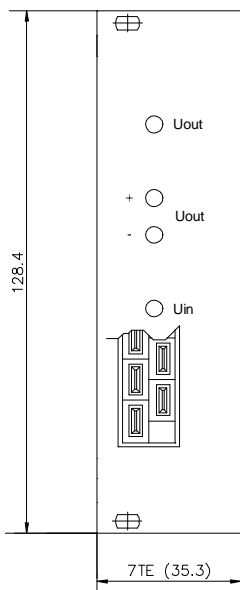
Warranty Time	24 months
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Order Code	DCDC30-24-5 DCDC30-110-5
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(Optional formal coating and add. glued components.)

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



All dimensions in mm