

DC-DC Converter DCDC50-110-5

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	$U_E = 110$ VDC
Stat. Voltage Tolerance	$\pm 30\%$ (77 – 143 VDC)
Dyn. Voltage Tolerance	$\pm 40\%$ (66 – 154 VDC)
Ripple	15%

Output

Output Voltage	5 VDC, isolated, "floating"
Voltage Tolerance	$< \pm 1\%$
Dyn. Regulation Tol.	$< \pm 2\%$
Ripple	< 100 mV _{pp} (50 MHz 50 Ω)
Noise	< 200 mV _{pp} (200 MHz 50 Ω)
Start-up Delay time	< 200 ms
Output Current	$I_A = 0-10$ A
Current Limitation	$I_S = 1,1 \times I_{A \max.}$
Overload Characteristic	permanent short circuit secured
Parallel Operation	for Output Power Up-grade Possible with disconnected Sense Pin's
Output Power	50 W
Efficiency	$> 85\%$ @ U_{Nom}

Ambient Characteristic:

Ambient Temperature	-40 to +85 °C, Class TX according DIN EN50155
Relative Humidity	max. 95%, with timely condensing (in combination with Option: -1: Coating)
Cooling	Ext. Forced Cooling / e.g. Fan Level below Module Carrier
Derating	without external cooling from +50 °C / 2,5% per 1 °C
Protection	Input Current = Fuse 2 AT (high breaking capability); Reverse polarity protection at the Input; OVP at the Output = $U_A + Tol. +10\%$

EMC-Emission:

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

EMC-Immunity:

Transient / Surge	1,8 kV according DIN EN 50121-3-2	12 Ω
Burst	2 kV according DIN EN 50121-3-2	
Electro Magnetic Field	20 V/m according DIN EN 50121-3-2	

Insulation Test:

Input to Ground	1500 V _{eff} 1 min.
Output to Ground	1500 V _{eff} 1 min.
Input to Output	1500 V _{eff} 1 min.
Creeping distance	$> 2,5$ mm according DIN EN 50124 PD3

Shock- and Vibration:

Vibration reliability	acc. DIN EN 50155 and EN 61373
Frequency Range	5-150 Hz
Transfer Frequency	8 Hz
Amplitude Acceleration Below of the Transfer Frequency	2 mm
Amplitude Acceleration Above of the Transfer Frequency	5 m/s ²
Shock Reliability	50 m/s ² all 3 Axis acc. DIN EN 61373 (extended)
MTBF	> 750.000 h @ 40 °C

DC-DC Converter DCDC50-110-5

For Rail & Industrial Applications

Specification

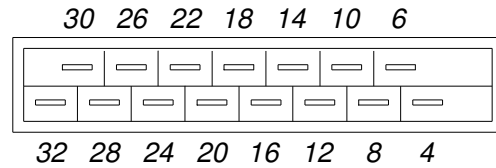
Signal:

Optical Signals LED's (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 2 mm Test Contacts at the Front panel

Pin Assignments:



Connection Characteristics:

Connector H15 DIN 61612; rear side

Pin Assignments see Table 1

Mechanical Characteristic:

Dimension 19"-Alu Cassette, 3U, 7 TE

Weight 385 g

Protection IP 20

Warranty Time

24 Month

Order Code

DCDC50-110-5

Options

-1 Formal Coating
add. Glued components

Table 1:

Pin	Function	Abbreviation
4	Not connected	N.C.
6	Sense positive	S+
8	Not connected	N.C.
10	Output Voltage positive	$U_A +$
12	Output Voltage positive	$U_A +$
14	Output Voltage negative	$U_A -$
16	Output Voltage negative	$U_A -$
18	Sense negative	S-
20	Remote ON/OFF	Inhibit E/A
22	Not connected	N.C.
24	Input Voltage negative	$U_E -$
26	Input Voltage negative	$U_E -$
28	Input Voltage positive	$U_E +$
30	Input Voltage positive	$U_E +$
32	Protective Earth	PE

