

DC-DC Converter DCDC150-24-48

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 | $U_E = 24 \text{ VDC}$ |
| Stat. Voltage Tolerance | $\pm 30\%$ (16,8 – 31,2 VDC) |
| Dyn. Voltage Tolerance | $\pm 40\%$ (14,4 – 33,6 VDC) |
| Ripple | 15% |

Output

| | |
|-------------------------|------------------------------------------------|
| Output Voltage | 48 VDC, isolated, "floating" |
| Voltage Tolerance | $< \pm 1\%$ |
| Dyn. Regulation Tol. | $< \pm 2\%$ |
| Ripple | $< 100 \text{ mV}_{pp}$ (50 MHz 50 Ω) |
| Noise | $< 200 \text{ mV}_{pp}$ (200 MHz 50 Ω) |
| Start-up Delay time | $< 200 \text{ ms}$ |
| Output Current | $I_A = 0-3,1 \text{ A}$ |
| Current Limitation | $I_S = 1,2 \times I_{A \text{ max.}}$ |
| Overload Characteristic | permanent short circuit secured |
| Parallel Operation | for Output Power Up-grade possible |
| Output Power | 150 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 16 AT; Reverse polarity protection at the Input; OVP at the Output = $U_A + \text{Tol.} + 10\%$ |

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 | $> 2,5 \text{ mm}$ 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 | $> 750.000 \text{ h}$ @ 40°C |

Let's talk!

DC-DC Converter DCDC150-24-48

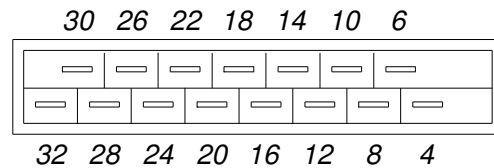
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Signal

| | |
|-------------------------------|----------------------------------------------------------|
| Alarm contact | Optocoupler Signal contact for Output Voltage o.k. |
| 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, 10 TE |
| Weight | 570 g |
| Protection | IP 20 |

Warranty Time

24 Month

Order Code

DCDC150-24-48

Options:

-1

Formal Coating
add. Glued components

Table 1:

| Pin | Function | Abbreviation |
|-----|--------------------------------|-------------------------|
| 4 | Output Voltage positive | U _A + |
| 6 | Output Voltage positive | U _A + |
| 8 | Output Voltage negative | U _A - |
| 10 | Output Voltage negative | U _A - |
| 12 | Not connected / Sense positive | N.C. / S+ |
| 14 | Not connected / Sense negative | N.C. / S- |
| 16 | Signal Contact Emitter | U _A o.k. / E |
| 18 | Signal Contact Collector | U _A o.k. / C |
| 20 | Not connected. | N.C. |
| 22 | Remote ON/OFF | Inhibit E/A |
| 24 | Protective Earth | PE |
| 26 | Input Voltage positive | U _E + |
| 28 | Input Voltage positive | U _E + |
| 30 | Input Voltage negative | U _E - |
| 32 | Input Voltage negative | U _E - |

