Unit 111, Dunston Innovation Centre
Chesterfield, S41 8NG, U.K.
Tel: + 44 (0) 1246 452909
Fax: + 44 (0) 1246 452942
Web: www.etps.co.uk
Email: sales@etps.co.uk
Sales: 0800 612 95 75

CON-EURO

DC-DC Converter

Description

This range of 19" plugs in DC/DC converters are available with either 110VDC or 24VDC input and provides isolated and floating outputs of 5V.24V, 48V, and 110V. The series have been designed for applications that demand high reliability when subjected to harsh operating conditions. The units have a >750,000 hour MTBF at 40°C and can operate in ambient temperatures of -40°C to +85°C. The converters can be further ruggerdized with the addition of conformal coating and the securing of the larger components. The units are suitable for many applications including Rail, Industrial and Telecom.

- Extended operating temperature range
- Wide DC input voltage range
- Reverse polarity protected
- Rugged construction
- Zero load operation
- Remote ON/OFF
- High MTBF

Selection Table

Part Number	Input Voltage	Output Voltage	Current	Maximum Power	Dimensions/ Weight
CON-50 24-5	24VDC ±30% (±40% Dyn)	5VDC	10A	50W	3U x 7HP / 385g
CON-150 24-48	24VDC ±30% (±40% Dyn)	48VDC	3.1A	150W	3U x 10HP / 570g
CON-150 24-110	24VDC ±30% (±40% Dyn)	110VDC	1.35A	150W	3U x 10HP / 570g
CON-300 24-24	24VDC ±20%	24VDC	12.5A	300W	3U x 14HP / 1kg
CON-50 110-5	110VDC ±30% (±40% Dyn)	5VDC	10A	50W	3U x 7HP / 385g
CON-50 110-24	110VDC ±30% (±40% Dyn)	24VDC	2.1A	50W	3U x 7HP / 385g
CON-150 110-48	110VDC ±30% (±40% Dyn)	48VDC	3.1A	150W	3U x 10HP / 570g
CON-300 110-110	110VDC ±30% (±40% Dyn)	110VDC	2.7A	300W	3U x 14HP / 935g

General Information

Protection	IP20
Connector	H15 DIN 61612; rear side
Optical Signals	LEDs (green) for V_{IN}:V_{OUT}
Remote ON/OFF	Inhibit ON > 13V to V_{IN} or Open; OFF < 5V to 0V
Test Point for U_A	2mm test contacts at the front panel
Warranty	2 Years

made for experts

sales@etps.co.uk
0800 612 95 75

Technical Data

General

Electrical Safety	DIN EN 60950, VDE 0805 Overload and short circuit protected
Input Ripple	15%
Input Protection	Reverse polarity protected
Input Protection	2AT: 50-110-5, 50-110-24 3.15AT: 150-110-48 6.3AT: 50-24-5, 300-110-110 16AT: 150-24-48, 150-24-110 20AT: 300-24-24

Output

Voltage Tolerance	< ±1%, < ±2% 300-24-24
Voltage Protection	VOUT + +10%
Dynamic Regulation Tolerance	< ±2%
Ripple	< 100mVpp (50MHz 50Ω)
Noise	< 200mVpp (200MHz 50Ω)
Start-up Delay Time	< 200ms, 3 Secs 300-24-24
Output Current	I_A = 0 - 10A
Current Limit	1.05I_{OMAX} (300-24-24), 1.1I_{OMAX} (50-24-5, 50-110-5), 1.2I_{OMAX} (All other units)
Overload Characteristic	Permanent short circuit operation
Parallel Operation	Yes for higher output power units
Redundant Operation	300-24-24
Efficiency	> 85% @ V_{NOM}

Ambient Characteristics

Ambient Temperature	- 40 to +85°C (+60°C 300-24-24), class TX according DIN En50155
Relative Humidity	Maximum 95%, non-condensing (option /CC for conformal coating)
Cooling	External forced cooling (e.g. Fan level below module carrier) (Internal fan for 300-24-24)
Derating	Without external cooling from +50°C/2.5% per 1°C

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
Electro Magnetic Field	20V/m according to DIN EN 50121-3-2

Insulation Test

Input to Ground	1500 V_{eff} 1min, 500V 300-24-24
Output to Ground	1500 V_{eff} 1min, 500V 300-24-24
Input to Output	1500 V_{eff} 1min, 500V 300-24-24
Creeping Distance	> 2.5mm according to DIN EN 50124 PD3

Shock & Vibration

Vibration Reliability	According to DIN EN 50155 and EN 61373
Frequency Range	5 - 150Hz
Transfer Frequency	8Hz
Amplitude Acceleration below trans. freq.	2mm
Amplitude Acceleration below trans. freq.	5m/s^2
Shock Reliability	50m/s^2 all 3 axis according toDIN EN 61373 (extended)
MTBF	> 750,000 hours @ 40°C

Options Table

Code	Description
/CC	Conformal coating and additional fixing of components

made for experts

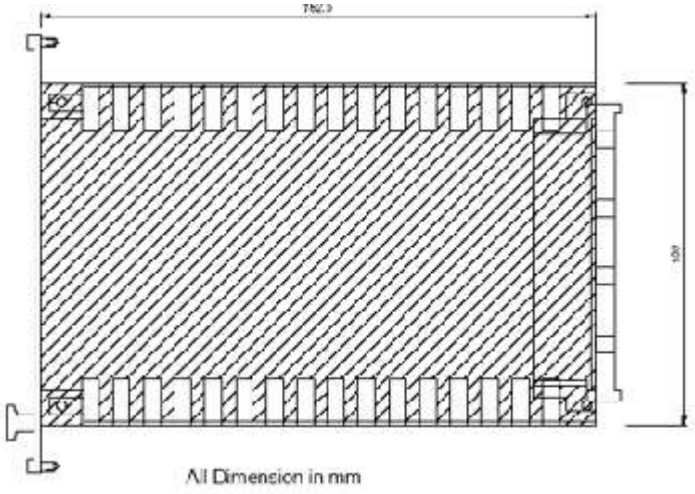
sales@etps.co.uk
0800 612 95 75

Pin Assignments

50W Units		150W/300W Units		300-24-24 Unit	
4	NC	4	+Vout	4	+Vout
6	+Vsense	6	+Vout	6	+Vout
8	NC	8	OV Vout	8	OV Vout
10	+Vout	10	OV Vouy	10	OV Vout
12	+Vout	12	NC	12	+LS
14	0Vout	14	NC	14	OV LS
16	0Vout	16	Vout ok/E	16	NC
18	0Vsense	18	Vout ok/C	18	COM
20	Inhibit	20	NC	20	NCL
22	NC	22	Inhibit	22	NOP
24	0V Vinput	24	PE	24	PE
26	0V Vinput	26	+Vinput	26	+Vinput
28	+Vinput	28	+Vinput	28	+Vinput
30	+Vinput	30	OV Vinput	30	OV Vinput
32	PE	32	OV Vinput	32	OV Vinput

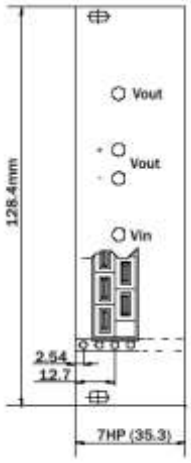
Description of abbreviations

+Vout	Output voltage positive
OV Vout	Output voltage reference
NC	Not Connected
+LS	Load share
OV LS	Load share reference
Vout ok/E	Signal contact emitter
Vout ok/C	Signal contact collector
COM	Common contact
NCL	Normally closed contact
NOP	Normally open contact
+Vsense	Positive sense
Ovsense	Sense reference
Inhibit	Remote on/off
PE	Protective earth
+Vinput	Input voltage positive
OV Vinput	Input voltage reference

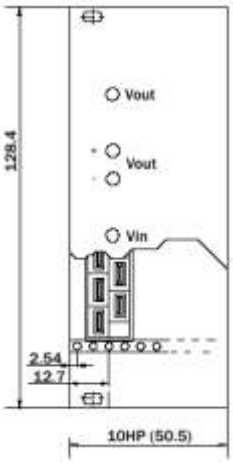


Dimensions

50W Units



150W Units



300W Units