ELECTRONIC TEST & POWER SYSTEMS

CON-900-K3

DC-DC CONVERTER FOR CRITICAL APPLICATIONS

POSITIVE PROBLEM SOLVING

This wall mounting DC-DC Converter operates from a 24Vdc or 110Vdc input and provides an isolated and floating output at 24Vdc.

The unit has been designed to provide 24Vdc used in critical applications, where uncontrolled loss of output is not an option. The unit monitors the converter temperature, DC_{OUT} UVP, DC_{OUT} OVP and system output. If any of these parameters are outside of the set values it will be signaled via the volt free relay contact. The unit will restart automatically when the error parameter reaches the correct operating value.

- Extended Operating Temperature Range
- Monitoring & Control Software
- Volt Free Alarm Contacts
- Remote ON/OFF Option
- Rugged Construction
- Convection Cooled

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FURTHER DETAILS

A windows based monitoring program is also provided. This provides details of actual output values along with the preset thresholds. It also allows for the adjustment of the overvoltage protection, under voltage protection and current limit.

The units are protected to IP 54 and can operate in Ambient temperatures of -40°C to + 70°C. The converters can be further ruggedised 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.

SELECTION TABLE

Part Number	Input Voltage	Output Voltage	Output Current	Output Power
CON-900-24-30-K3	24Vdc ± 30%	24Vdc (20-30Vdc, Factory Set)	30A	900Wmax
CON-900-110-30-K3	110Vdc ± 30%	24Vdc (20-30Vdc, Factory Set)	30A	900Wmax

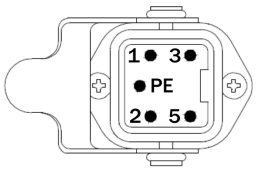
CONNECTION DATA

INPUT -X1	
1	Input voltage reference $0V_{IN}$
2	Input voltage reference $0V_{IN}$
3	Input voltage positive + V_{IN}
4	N.C.
5	Input voltage positive + V_{IN}
PE	Protective earth

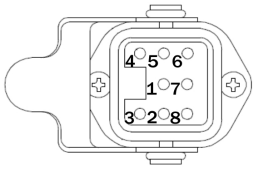
SIGNAL -X2	
1	Alarm common (C)
2	Measurement O/P V(reference $1/3V_{OUT}$, 0V VMESS)
3	Measurement O/P V(reference $1/3V_{OUT}$, +VMESS)
4	Optional: Remote ON/OFF (24VDC/<20mA) $+V_{REMOTE}$
5	Optional: Remote ON/OFF reference (24VDC/20mA) $0V_{REMOTE}$
6	Alarm normal open (NO)
7	Alarm normal close (NC)
8	N.C.

OUTPUT -X3	
1	Output voltage reference $0V_{OUT}$
2	Output voltage reference $+V_{OUT}$
PE	Protective earth

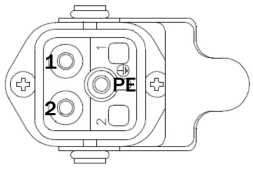
SIGNAL -X4	
1	N.C
2	RD (RX) receive data
3	TD (TX) transmit data
4	N.C.
5	GND logical ground
6	N.C.
7	N.C.
8	N.C.
9	N.C.



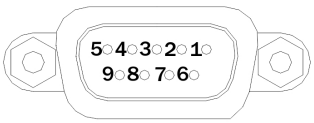
Input
-X1
Harting HANQ5, male
Ag 4mm²



Signal 1
-X2
Harting HAN8U, female
Au 0.75mm²



Output
-X3
HANQ2, female
Ag 4-6mm²



Signal 2
-X4
D-SUB, female
9-pin

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TECHNICAL DATA

OUTPUT	
Nominal Voltage	24VDC (can be factory set at 20-30VDC)
Stability	± 1%
Efficiency	>85%
Maximum Output Power	900W
Output Current	30A
Current Limitation	Constant current, without disconnection, but temperature limited
Overvoltage Protection	Two stage, redundant and variable DC_{OUT} OVP (via software) DC_{OUT} OVP 31V (hardware)

ENVIRONMENTAL CONDITIONS	
Ambient Temperature	-40°C to +70°C, according to EN 50155
Relative Humidity	<75% average per year
Shock & Vibration	According to EN 50155
EMC	According to EN 50121-3-2

ISOLATION	
Input	1500V
Output	500V
Input to Output	1500V

SIGNALS	
Measurement	1/3 output voltage (0-10V)
Alarm Contact	Potential free relay contact, power good
Remote ON/OFF	Bridge between pins 4 & 5 (external relay)
Interface	RS-232

MECHANICAL DATA	
Case Material	Stainless steel
Dimensions	270 x 115 x 255mm (W x H x D)
Weight	Approx. 6.5kg
Classification	IP54
Cooling	Convection via heat sink on wall side (cooling fins must run vertically for optimal air flow)
Connector Height	The extent of the connector plugs is 90mm + bending radius of the connecting cables
Grounding	An M6 x 25 ground bolt is provided on the case. A cable diameter of at least 4mm2 is recommended for the ground connection. The ground bolt is not connected to the -ve pole of this device. The input & output are isolated to chassis.

PROTECTION	
Input Undervoltage	24VDC in :16V disconnect, 17V restart; 110VDC in 75V disconnect, 77V restart
Input Overvoltage	24VDC in: 33V disconnect, 32V restart; 110VDC in: 145V disconnect, 143 restart
Output Undervoltage	14V factory set, 10-35V adjustable
Output Overvoltage	30.5V factory set, 10-35V adjustable
Current Limit	30A factory set, 10-30A adjustable
Hardware DC_{OUT} Over. Protection	31V factory set, not adjustable
Input and Signal Protection	Reverse connection and short-circuit protected

OTHER	
Input Current	50A max and is limited by an input power threshold
Electrical Safety	EN 60950, VDE 0805 (Overload & Shortcircuit protected)
Warranty	24 Months

Every effort is made to ensure that the information provided within this technical summary is accurate. However, ETPS Ltd must reserve the right to make changes to the published specifications without prior notice. Where certain operating parameters are critical for your application we advise that they be confirmed at the time of order. ETPS Ltd specialises in modifying its proven platforms to suit your needs. Please contact our office if your requirement is non-standard. Please note that your actual unit may differ from those shown.

“WE ARE POSITIVE PEOPLE”

ETPS engineer electronic power supply and testing systems. Our problem solving skills provide the spark of innovation to some of the world’s leading technology brands.

ETPS
ELECTRONIC TEST & POWER SYSTEMS

Tel: +44 (0) 1246 452909
Sales: 0800 612 95 75
sales@etps.co.uk
www.etps.co.uk

ETPS Ltd
Unit 14, The Bridge
Beresford Way, Chesterfield
S41 9FG

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