

HiTRON

16.6-160VDC INPUT RANGE DC-DC CONVERTER SINGLE OUTPUT 100 WATTS RAILWAY SWITCHING POWER SUPPLIES HDR100-110J SERIES



FEATURES:

- 100W METAL BOX FORMAT
- 16.6-160VDC 10:1 WIDE INPUT RANGE
- DESIGN TO MEET EN50155 RAILWAY STANDARD
- WIDE OPERATING TEMPERATURE RANGE OF -40°C TO +85 °C
- FREE AIR CONVECTION
- USING 125°C LONG LIFE SOLID CAP.
- CE MARKING Level 3 COMPLIANCE

SPECIFICATION

INPUT SPECIFICATION

Input Voltage: Typ. 16.6-160Vdc, nominal input 110Vdc.
Input Connector: M-T MA412-500M2B.
Inrush Current: Peak 27A at nominal 110Vdc.
Input Current: F-L: 4.65A at 24Vdc, 1.0A at 110Vdc.
 No-Load: 0.08A at 24Vdc, 0.03A at 110Vdc.
Soft Start: Installed.
Under-Voltage Protection (UVP): Installed.
Input Reverse Voltage Protection: Installed.
Dielectric Withstand: Meet IEC 60950-1 regulation.
 I/P-O/P: 3000Vac, I/P-GND: 1500Vac, O/P-GND: 1000Vac.
EMI: Meet EN 55022 FCC Class B.
Radiated Susceptibility: EN61000-4-3 Level X (20V/m).
Surge: Meet EN61000-4-5 Level 3, L-L 2KV, L-G 2KV.
Conducted Disturbance: EN61000-4-6 Level X (20V/m)..
Thermal Protection (OTP): By thermostat.

OUTPUT SPECIFICATION

Output Voltage: See Ratings Chart.
Output Current: See Ratings Chart.
Output Wattage: Typ. 100W(Fanless).
Output Connector: M-T MA412-500M2B.
Line Regulation: Typ. 0.2%.
Load Regulation: Typ. ±1%.
Total Regulation: Typ. 2%.
Noise & Ripple: Typ. 1% Peak.-Peak.
OVP: Built-in at all outputs (Latch).
Adjustability: Factory Set.
Output Trim: Available.
Over Current Protection (OCP): Installed.
Overload Protection (OLP): Fully protected against output overload or short circuit. Typical 130% max. load. Consult the factory for special OLP setting.

GENERAL SPECIFICATION

Efficiency: Typ. 86.6% at 16.6Vdc
 Typ. 90.5% at 48Vdc.
 Typ. 90.6% at 110Vdc
Switching Frequency: 110K Hz at nominal I/P 110Vdc.
Circuit Topology: Resonant ZVS & Fix-Flyback circuit.
Transient Response: Peak transient less than 300mV and recovers within 3mS for 25% load-change.
Vibration: Six degree-of-freedom random, 10Hz-150Hz, 10G. **Safety Standard:** IEC 60950-1 Class I.
Operating Temperature: -40 °C to +85 °C with de-rating. (Please refer to de-rating chart).
Storage Temperature: -45°C to +90 °C.
Cooling: Convection air (Fanless).
Power Density: 3.75Watts/ Cubic Inch.
CE Standard: Meet Level 3 Criteria A.
Conformal Coating.

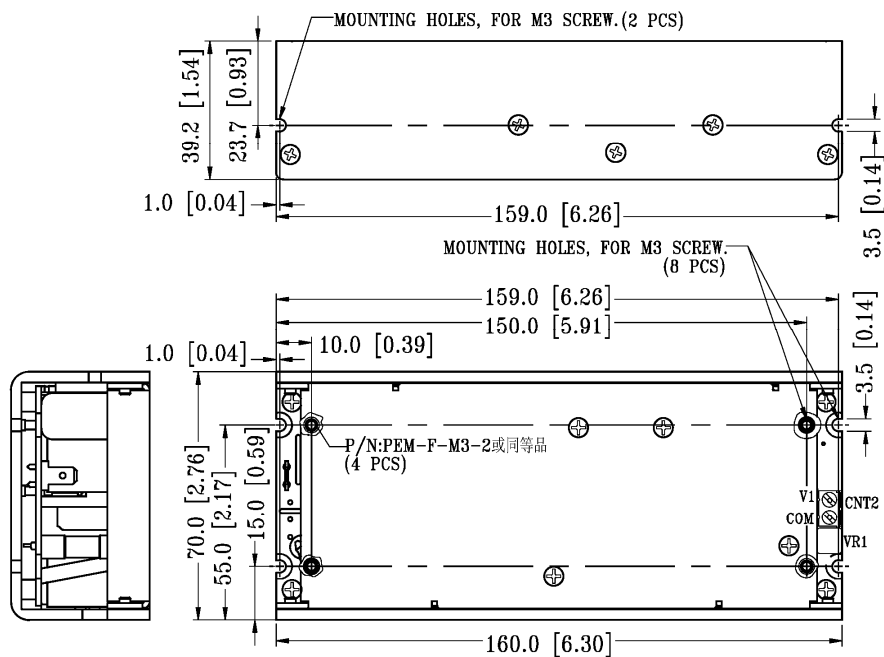
NOTE: (1)All measurement are at nominal input, full load and +25°C unless otherwise specifications.
 (2)Due to requests in market and advances in technology, specifications subject to change without notification.
 (3)A warm-up time 10 minutes is required after cold start at temperature from -40 °C to +0°C.
 (5)125 Degree C OS-Con long life Solid capacitors are installed in the secondary side.

OUTPUT VOLTAGE / CURRENT RATINGS CHART

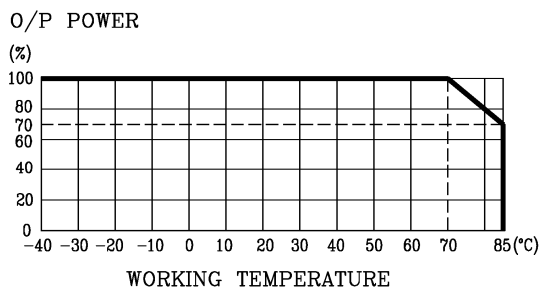
SINGLE OUTPUT

MODEL NO.	MAIN VO1				
	Min.	Volt.	Typ.	Max.	Peak
HDR100-110J-120083	0A	12Vdc	8.3A	8.3A	10.00A
HDR100-110J-240042	0A	24Vdc	4.2A	4.2A	5.50A
HDR100-110J-480021	0A	48Vdc	2.1A	2.1A	2.75A

MECHANICAL DIMENSIONS: MM [INCHES]



DERATING CHART



IMMUNITY TO ENVIRONMENTAL CONDITIONS

Condition	Standard	EN5015512.2.1 & 12.2.6	EN5015512.2.4
I/P: 16.6-110Vdc O/P: 100W(Fanless)		Pass Class S2 & Class C2	Pass Class TX & Column 3

INPUT & OUTPUT CONNECTORS PIN ASSIGNMENT

Assignment	-Vin	+Vin	GND	V1	DC COM
Pin #	CNT1-1	CNT1-2	GND	CNT2-1	CNT2-2