



Railway Power Series

xHB300W-110S SERIES

198-300 WATT 4:1 INPUT

DC-DC CONVERTERS



FEATURES

- * 198-300W Isolated Output
- * Efficiency to 91%
- * Low No Load Power Consumption
- * Fixed Switching Frequency
- * 4:1 Input Range
- * Regulated Outputs
- * Input Under-Voltage Protection
- * Over Temperature Protection
- * Over Voltage/Current Protection
- * Remote On/Off
- * Half-Brick Size Meet Industrial Standard
- * UL60950-1 2nd (Basic Insulation) Approval (Except 3.3Vout)
- * CB Test Certificate IEC60950-1 (Except 3.3Vout)
- * Meet EN50155 With External Circuits
- * Shock & Vibration Meet EN50155 (EN61373)
- * Fire & Smoke Meet EN45545-2
- * 5000m Operating Altitude



MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT		INPUT CURRENT		% EFF. (2)	CAPACITOR LOAD MAX.
			MIN.	MAX.	NO LOAD	FULL LOAD		
xHB300W-110S3V3	43-160 VDC	3.3VDC	0 mA	60 A	10 mA	2093 mA	86	60000uF
xHB300W-110S05	43-160 VDC	5 VDC	0 mA	60 A	10 mA	3099 mA	88	60000uF
xHB300W-110S12	43-160 VDC	12 VDC	0 mA	25 A	10 mA	3030 mA	90	25000uF
xHB300W-110S24	43-160 VDC	24 VDC	0 mA	12.5 A	10 mA	3064 mA	89	12500uF
xHB300W-110S28	43-160 VDC	28 VDC	0 mA	10.7 A	10 mA	3064 mA	89	10700uF
xHB300W-110S48	43-160 VDC	48 VDC	0 mA	6.25 A	10 mA	2997 mA	91	4700uF

NOTE:

1. Nominal Input Voltage 110 VDC.
2. Measure at Nominal Input Voltage.

SPECIFICATIONS

All Specifications Typical At Nominal Line, Full Load, and 25°C Unless Otherwise Noted

INPUT SPECIFICATIONS:

Input Voltage Range	110V	43-160V
Input Surge Voltage (100ms max.)	110V	200Vdc max.
Under Voltage Lockout	110Vin Power Up	42V
	110Vin Power Down	39V
Positive Logic Remote ON/OFF (see note 4&5)		
Input Filter		Pi Type

OUTPUT SPECIFICATIONS:

Voltage Accuracy	±1.0% max.
Transient Response:25% Step Load Change	
Recover Time	<250µs
External Trim Adj. Range	±10%
Ripple & Noise, 20MHz BW (note3)	
3.3& 5V	60mV RMS, 120mV pk-pk max.
12V	80mV RMS, 150mV pk-pk max.
24V	120mV RMS, 240mV pk-pk max.
28V	140mV RMS, 280mV pk-pk max.
48V	220mV RMS, 480mV pk-pk max.
Temperature Coefficient	±0.02%/°C max.
Short Circuit Protection	Continuous
Line Regulation (note1)	±0.2% max.
Load Regulation (note2)	±0.2% max.
Over Voltage Protection Trip Range, % Vo nom.	115 - 140%
Current Limit	110%-160% Nominal Output
Start up time	35ms typ.

GENERAL SPECIFICATIONS:

Efficiency	See Table
Isolation Voltage	Input/Output, Input/Case 3000VDC min. Output/Case 500VAC min.
Isolation Resistance	10 ⁸ ohm min.
Isolation Capacitance	3000pF typ.
Switching Frequency	3.3V 250KHz typ. Others 300KHz typ.
Operating Case Temperature	-40°C to 100°C
Storage Temperature	-55°C to +125°C
Thermal Shutdown Case Temp.	110°C typ.
Humidity	95% RH max. Non condensing.
MTBF... MIL-HDBK-217F, GB,25°C, Full Load	48V... 900Khrs typ. Others 600Khrs typ.
Safety	UL60950-1 2 nd (Basic Insulation).
EMC (note7)	EN50155(EN50121-3-2) with External Filter.
Shock/Vibration	EN50155(EN61373).
Environmental	EN50155(EN60068-2-1,2,30).
Fire & Smoke	Meet EN45545-2
Dimensions	2.28×2.40×0.50 inches (57.9×61.0×12.7 mm)
Case Material	Aluminum Baseplate with Plastic Case.
Weight	114g

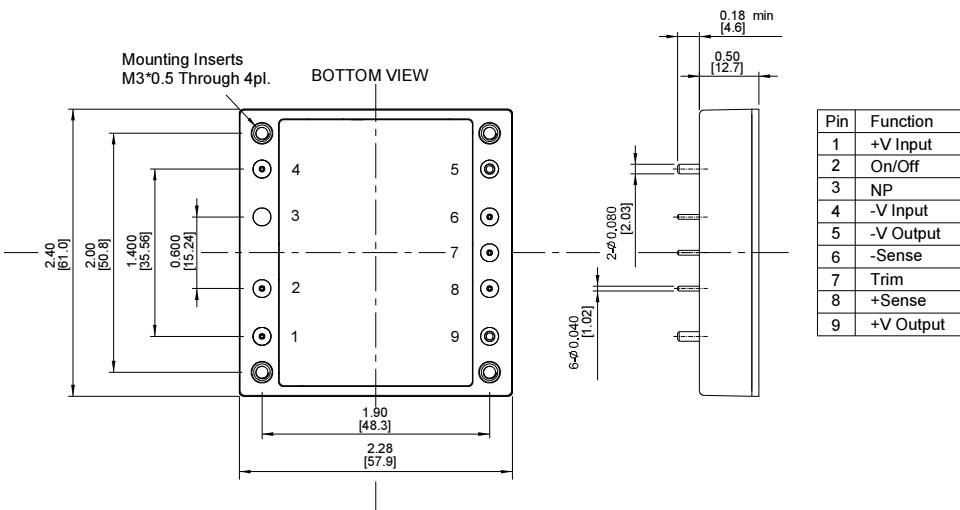
NOTE:

1. Measured from high line to low line.
2. Measured from full load to zero load.
3. Output ripple and noise measured with 10µF aluminum solid capacitor and 1µF ceramic capacitor across output. (3.3V&5V: 47µF polymer tantalum capacitor and 1µF ceramic capacitor across output).
- 4.Logic compatibility open collector ref to -Input
Module on >3.5Vdc to 160Vdc or open circuit
Module off 0 to <1.2Vdc
5. Suffix "N" to the model number with negative logic remote on/off
Module on 0 to <1.2Vdc
Module off >3.5Vdc to 160Vdc or open circuit
6. An external input capacitor 220µF for all models are recommended to reduce input ripple voltage.
7. For information about EN50155 and RIA12, refer to application note.
8. Suffix "-C" to the model number with clear mounting insert. (3.2mm DIA).

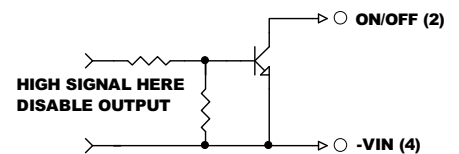
CASE HB

All Dimensions In Inches(mm)

Tolerances: Inches: X.XX = ±0.02 , X.XXX = ±0.010 Millimeters: X.X = ±0.5 , X.XX = ±0.25



Remote On/Off Control



External Output Trim

