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POWERBOX Industrial Line PFB600W-110S Series 600W Single Output DC/DC Converter

Features

600W isolated output
Efficiency to 88%
Regulated outputs
Isolated remote ON/OFF
Over temperature protection
Over voltage/current protection
Continuous short circuit protection
Full-brick size meet industry standard
Meet EN50155 with external circuits
Shock & vibration meet EN50155 (EN61373)
UL60950-1 2nd (basic insulation)

Input

Voltage range	110V	43 - 160V
Input surge voltage	(100ms max)	180VDC max
Under voltage lockout	Power up	42V
	Power down	40V
Opto isolated remote ON/OFF (note 8)		
Input filter	Pi type.	

Output

Voltage accuracy	±1.0% max.	
Transient response	<500u sec.	
External trim adj. range	60-110%.	
Ripple and noise ³	12V: 60mV rms max, 120mV pk-pk max	
	20MHz BW	24V: 100mV rms max, 240mV pk-pk max
		28V: 100mV rms max, 280mV pk-pk max
		48V: 200mV rms max, 480mV pk-pk max
Temperature coefficient	±0.03%/°C max.	
Short circuit protection	Continuous.	
Line regulation ¹	±0.2% max.	
Load regulation ²	±0.5% max.	
Overvoltage protection	115-140%, trip range, % Vo nom.	
Current limit	105-140% nominal output.	
Auxiliary voltage/current	10±3VDC/ 20mA max.	
Load share accuracy	±10% at 50% to 100% full load.	
Start up time	160ms typ.	



Environmental

Operating case temp.	-40°C to +100°C.
Storage temperature	-55°C to +105°C.
Thermal shutdown	Case temperature 110°C typ.
Humidity	95% RH max. Non-condensing.

General

Efficiency	See table.	
Isolation voltage	Input/output, input/case	2250VDC min
	Output/case	1500VDC min
Isolation resistance	10 ⁷ ohms, min.	
Isolation capacitance	4000pF typ.	
Switching frequency	250KHz typ.	
Operating altitude	2000m.	
MTBF	MIL-STD-217F, GB, 25°C 450Khrs typ	
Dimensions	116.8 x 61.0 x 12.7 mm.	
Case material	Aluminum baseplate with plastic case.	
Weight	220 g.	

Standards

Safety standards	UL60950-1 2nd (Basic insulation).
EMC ⁵	Meet EN50155 (EN50121-3-2)
	with external filter.
Shock/vibration	Meet EN50155 (EN61373).
Environmental	Meet EN50155 (EN60068-2-1).

Standards

Safety standards	UL60950-1 approval.
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Note:

1. Measured from high line to low line.
2. Measured from full load to zero load.
3. Output ripple and noise measured with 10uF tantalum capacitor and 1uF ceramic capacitor across output.(48V: 10uF aluminum capacitor and 1.0uF ceramic capacitors)
4. An external input capacitor 220uF for all models are recommended to reduce input ripple voltage.
5. For information about EN50155 and RIA12, refer to application note.
6. Trim-up: connect a resistor between trim pin and +sense.
Trim-down: connect a resistor between trim pin and -sense.
7. Suffix "-C0" to the model number with threaded mounting holes (M3x0.5)
8. Standard model is negative logic, suffix "P" to the model number with positive logic. (refer application note)

POWERBOX Industrial Line
PFB600W-110S Series
600W Single Output
DC/DC Converter

Model Number	Input Voltage	Output Voltage	Output Current		Input Current		Efficiency	Capacitive Load Max
			Min	Max	No Load	Full Load		
PFB600W-110S12	43-160 VDC	12 VDC	0mA	50 A	25mA	6.3A	87 %	10000µF
PFB600W-110S24	43-160 VDC	24 VDC	0mA	25 A	25mA	6.2A	88 %	10000µF
PFB600W-110S28	43-160 VDC	28 VDC	0mA	21.4 A	25mA	6.2A	88 %	10000µF
PFB600W-110S48	43-160 VDC	48 VDC	0mA	12.5A	25mA	6.2A	88 %	10000µF

Notes:

1. Nominal Input Voltage 110 VDC.
2. The output terminal required a minimum capacitor 470uF to maintain specified regulation.
3. Measure at Nominal Input Voltage.

Mechanical

