CFB600W-110S SERIES
600 WATT
DC-DC CONVERTERS

E176177

Railway System

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)
* Meet UL60950-1 2nd (Basic Insulation)
* Fire & Smoke Meet EN45545-2

MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT		INPUT CURRENT		% EFF. (3)	CAPACITOR LOAD MAX.
			MIN.	MAX.	NO LOAD	FULL LOAD		
CFB600W-110S12	43-160 VDC	12 VDC	0 mA	50 A	25 mA	6.3 A	87	10000μF
CFB600W-110S24	43-160 VDC	24 VDC	0 mA	25 A	25 mA	6.2 A	88	10000μF
CFB600W-110S28	43-160 VDC	28 VDC	0 mA	21.4 A	25 mA	6.2 A	88	10000μF
CFB600W-110S48	43-160 VDC	48 VDC	0 mA	12.5 A	25 mA	6.2 A	88	10000μF

NOTE:

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.

SPECIFICATIONS

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

INPUT SPECIFICATIONS:

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 (note8)
Input Filter ..... PI Type

OUTPUT SPECIFICATIONS:

Voltage Accuracy ..... ±1.0% max.
Transient Response: 25% Step Load Change ..... <500us
External Trim Adj. Range ..... 60% - 110%
Ripple & Noise, 20MHz BW(note3)
12V ..... 60mV RMS, 120mV pk-pk max.
24V ..... 100 mV RMS, 240mV pk-pk max.
28V ..... 100 mV RMS, 280mV pk-pk max.
48V ..... 200 mV RMS, 480mV pk-pk max.
Temperature Coefficient ..... ±0.03%/°C max.
Short Circuit Protection ..... Continuous
Line Regulation (note1) ..... ±0.2% max.
Load Regulation (note2) ..... ±0.5% max.
Over Voltage Protection trip Range , % Vo nom. 115-140%
Current Limit ..... 105-140% Nominal Output
Auxiliary Output Voltage/Current ..... 10±3Vdc/20mA max.
Load Share Accuracy ..... ±10% at 50% to 100% Full Load
Start up time ..... 160ms typ.

GENRAL SPECIFICATIONS:

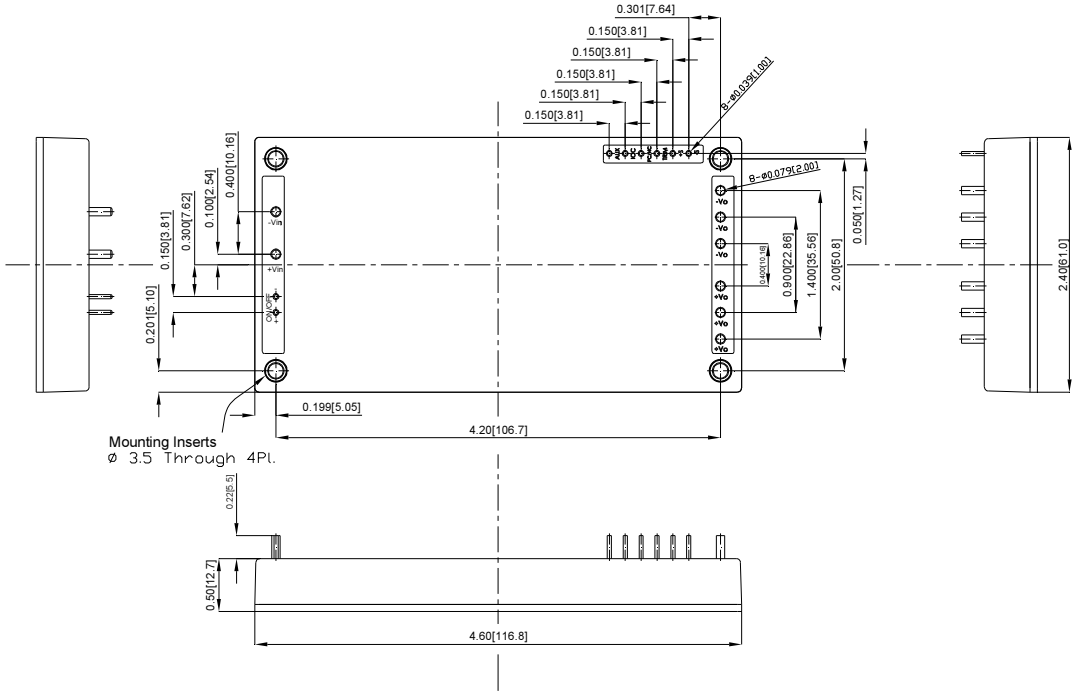
Efficiency ..... See Table
Isolation Voltage ..... Input/Output, Input/Case ..... 2250VDC min.
Output/Case ..... 1500VDC min.
Isolation Resistance ..... 10^7 ohm min.
Isolation Capacitance ..... 4000pF typ.
Switching Frequency ..... 250KHz typ.
Operating Case Temperature ..... -40℃ to 100℃
Storage Temperature ..... -55℃ to +105℃
Thermal Shutdown, Case Temp. ..... 110℃ typ.
Humidity ..... 95% RH max. Non condensing
Operating Altitude 2000m
MTBF ..... MIL-HDBK-217F, GB, 25℃, Full Load ..... 450Khrs typ.
Safety ..... UL60950-1 2nd(Basic insulation)
EMC (note5) ..... Meet EN50155(EN50121-3-2) with External Filter
Shock/Vibration ..... Meet EN50155(EN61373)
Environmental ..... Meet EN50155(EN60068-2-1)
Dimensions ..... 4.60×2.40x0.50 inches (116.8x61.0x12.7mm)
Case Material ..... Aluminum Baseplate with Plastic Case
Weight 220g

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.(48Vo: 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)

CASE FB

All Dimensions in Inches[mm] Pin
Tolerance Inches:x.xx=±0.02 , x.xxx=±0.01 ±0.004
Millimeters:x.x=±0.5 , x.xx=±0.25 ±0.1



PIN CONNECTION

PIN NUMBER	CONNECTION
1	-V Input
2	+V Input
3	-On/Off
4	+On/Off
5~7	+V Output
8~10	-V Output
11	-Sense
12	+Sense
13	TRIM
14	PC
15	IOC
16	AUX