CFB600-300 SERIES
600 WATT 2:1 INPUT
DC-DC CONVERTERS

FEATURES

* 600W Isolated Output
* Efficiency to 91%
* Fixed Switching Frequency
* Input Under-Voltage Protection
* Over Temperature Protection
* Over Voltage/Current Protection
* Remote On/Off
* Industry Full-Brick Package
* Safety Meets UL 60950-1
* Fully Isolated 3000VAC
* Off-Line Systems Using PFC Front-Ends

MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT		INPUT CURRENT		% Eff.	CAPACITIVE LOAD MAX.
			MIN.	MAX.	NO LOAD	FULL LOAD		
CFB600-300S12	180-425 VDC	12 VDC	0 mA	50 A	10 mA	2.24 A	89.5	10000uF
CFB600-300S24	180-425 VDC	24 VDC	0 mA	25 A	10 mA	2.21 A	90.5	10000uF
CFB600-300S48	180-425 VDC	48 VDC	0 mA	12.5 A	10 mA	2.20 A	91	8000uF

NOTE:

1. Nominal Input Voltage 300 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 ..... 300V 180-425V
Input Over Voltage Protection ..... Module on 480V
Module off 500V
Under Voltage Lockout ..... 300Vin Power Up 170V
300Vin Power Down 160V
Positive Logic Remote On/Off (note5&6)
Input Filter ..... Capacitive

OUTPUT SPECIFICATIONS:

Voltage Accuracy ..... ±1.5% max.
Transient Response:25% Step Load Change ..... <500μs
External Trim Adj. Range (note4) 60-110%
Load share Accuracy ..... ±10% at 50% to 100%Full Load
Auxiliary output voltage/current ..... 10±3Vdc/20mA max.
Ripple & Noise, 20MHz BW (note3)
12V ..... 75mV RMS max., 150mV pk-pk max.
24V ..... 150mV RMS max., 300mV pk-pk max.
48V ..... 200mV RMS max., 480mV pk-pk max.
Temperature Coefficient ..... ±0.03%/°C
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% -125% Nominal Output
Start up time ..... 40ms typ.

GENRAL SPECIFICATIONS:

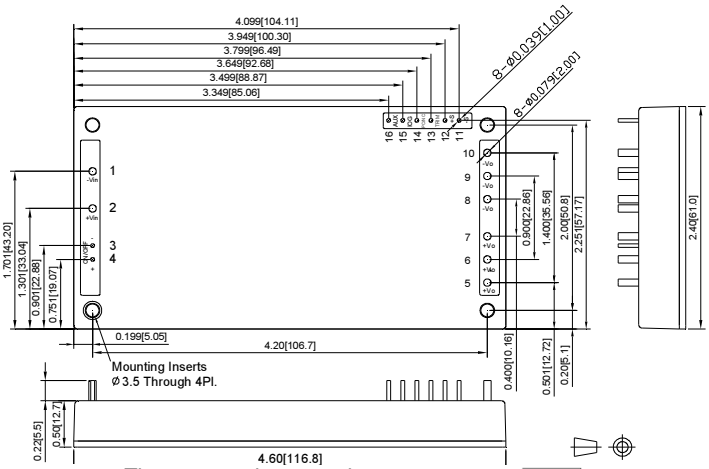
Efficiency ..... See Table
Isolation Voltage ..... Input/Output ..... 3000VAC min.
Input/Case ..... 2500VAC min.
Output/Case ..... 500VAC min.
Isolation Resistance ..... 10^7 ohm min.
Isolation Capacitance ..... 3100pF typ.
Switching Frequency ..... 200KHz typ.
Operating Case Temperature ..... -40℃ to 100℃
Storage Temperature ..... -55℃ to +105℃
Thermal Shutdown, Case Temp. ..... 105℃ typ.
Humidity ..... 95% RH max. Non condensing
MTBF ..... MIL-STD-217F, GB, 25℃, Full Load ..... 420Khrs typ.
Dimensions ..... 4.60×2.40 x0.50 inches (116.8x61.0x12.7 mm)
Case Material ..... Aluminum Baseplate with Plastic Case
Weight ..... 230g typ.

NOTE :

1. Measured from high line to low line.
2. Measured from full load to zero load.
3. Output ripple and noise measured with 1uF ceramic capacitor across output.
4. The output adjustment circuit and trim equations show as figure1 and figure2.
5. Logic compatibility ..... open collector refer to -Vin
   Module on ..... >3.5Vdc to 75Vdc or Open Circuit
   Module off ..... <1.2Vdc
6. Suffix "N" to the model number with negative logic remote on/off
   Module on ..... <1.2Vdc
   Module off ..... >3.5Vdc to 75Vdc or open circuit
7. An external input capacitor 330uF for all models are recommended to reduce input ripple voltage.

CASE FB

All Dimensions In Inches(mm) Pin DIA
Tolerances Inches: .XX±0.02 .XXX±0.010 ±0.004
Millimeters: .X±0.5 .XX±0.25 ±0.1



PIN CONNECTIONS	
PIN NUMBER	FUNCTION
1	-Vin
2	+Vin
3	-ON/OFF
4	+ON/OFF
5 - 7	+Vo
8 - 10	-Vo
11	-S
12	+S
13	TRIM
14	PC/NC
15	IOG
16	AUX

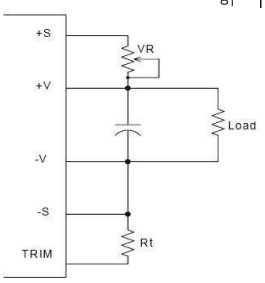


Figure1 The schematic of output voltage adjusted by using external resistor and/or variable resistor.

The output voltage can be determined by below equations:

$$Vf = \frac{1.24 \times (\frac{Rt \times 33}{Rt + 33})}{7.68 + \frac{Rt \times 33}{Rt + 33}}$$

$$Vout = (Vo + VR) \times Vf$$

Unit: KΩ
Vo: Nominal Output Voltage
Rt =6.8KΩ

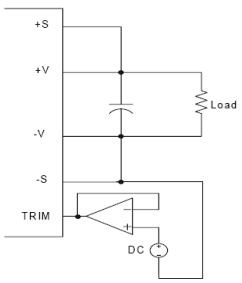


Figure 2 The schematic of output voltage adjusted by using external DC voltage.

Output Voltage = TRIM Terminal Voltage * Nominal Output Voltage

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Cincon:

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