

# e D H F B 6 0 0

S E R I E S



## 600 Watts Full Brick Type 2:1 High Input Voltage Isolated DC - DC Converters

### FEATURES

- ◆ Industry Full-Brick Package
- ◆ 3000VAC I/O Isolation / Regulated Outputs
- ◆ Fixed 200KHz Switching Frequency
- ◆ Over Voltage / Current / Temperature Protection
- ◆ Input Under Voltage Protection
- ◆ Remote On/Off & Single Wire Parallel

### SPECIFICATIONS

Input Voltage Range.....300V(Range 180-425V)  
 Under Voltage Lockout..... power up: 170V / power down: 160V  
 Positive Logic Remote On/Off Logic.....See note  
 Input Filter ..... Capacitive  
 Voltage Accuracy.....±1% max.  
 External Load Capacitance.....See Model Number Table  
 External Trim Adj. Range.....60~110%  
 Load Share Accuracy.....±10% at 50% to 100% Full Load  
 Auxiliary Output Voltage/Current.....10±3Vdc/20mA max.  
 R & N (20MHz BW).....12V: 75mV RMS, 150mVpK-pK max.  
 24V: 120mV RMS, 240mVpK-pK max.  
 48V: 200mV RMS, 480mVpK-pK max.  
 Temperature Coefficient.....± 0.03%/°C max.  
 Short Circuit Protection.....Continuous  
 Line Regulation (High Line † Low Line).....± 0.2% max  
 Load Regulation (Full Load to Zero Load).....± 0.5% max  
 OVP Trip Range, % Vo Nom.....115~140%  
 Current Limit.....105%~125% Nominal Output  
 Isolation Voltage.....Input to Output.....3000Vac  
 Input to Case.....2500Vac  
 Output to Case.....500Vac  
 Isolation Resistance.....10M Ω min  
 Operating Case Temperature.....-40°C To +100°C  
 Storage Temperature Range.....-55°C To +105°C  
 Thermal Shutdown case Temperature.....105°C  
 Case Material.....Aluminum Baseplate w/plastic Case



Model Number	Input Voltage (VDC)	Output Voltage (VDC)	Output Current (A)	No Load Input Current	EFF. Typ. %	Capacitor Load Max.
eDHF600-C2	180-425	12	50.0	10mA	89.5	10000µF
eDHF600-C9	180-425	24	25.0	10mA	90.5	10000µF
eDHF600-C9B	180-425	48	12.5	10mA	91.0	8000µF
eDHF600-C2N	180-425	12	50.0	10mA	89.5	10000µF
eDHF600-C9N	180-425	24	25.0	10mA	90.5	10000µF
eDHF600-C9BN	180-425	48	12.5	10mA	91.0	8000µF

Note:

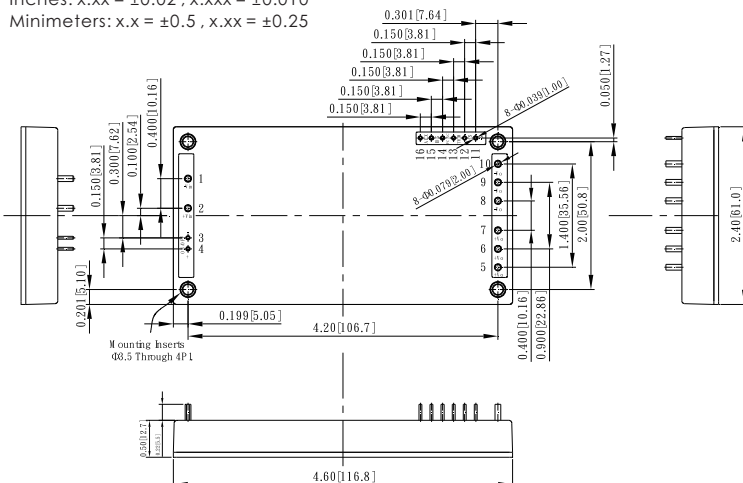
- 1: All Specifications Typical at Nominal Line, Full Load, and 25°C. Unless Otherwise Noted.
2. Nominal Input Voltage 300 VDC.
3. Output Ripple & Noise Measured with Min. Capacitor 470µF & 1µF Ceramic Capacitor Across Output
4. The Output Adjustment Circuit and Trim Equations as Figure 1 and Figure 2.
5. An External Input Capacitor 300µF for All Models Are Recommended to Reduce Input Ripple Voltage.
6. Remote ON/OFF Logic Compatibility.....Open collector Ref. To -V Pin

Suffix = Blank, Positive Remote Logic.  
 Module ON..... >3.5Vdc to 75Vdc or Open circuit  
 Module OFF..... 0 to < 1.2Vdc

Suffix = N, Negative Remote Logic.  
 Module ON..... 0 to < 1.2Vdc  
 Module OFF..... >3.5Vdc to 75Vdc or Open circuit

### MECHANICAL DRAWING (Unit: inch(mm))

Note:  
 All Dimensions in Inches [mm]  
 Tolerance  
 Inches: x.xx = ±0.02, x.xxx = ±0.010  
 Millimeters: x.x = ±0.5, x.xx = ±0.25



The output voltage can be determined by below equations:

$$V_f = \frac{1.24 \times \left( \frac{R_t \times 33}{R_t + 33} \right)}{7.68 + \frac{R_t}{R_t + 33}}$$

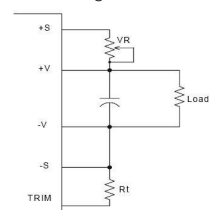
$V_{out} = (V_o + V_R) \times V_f$   
 Unit: KΩ  
 $V_o$ : Nominal output voltage  
 $R_t = 6.8K\Omega$

Output voltage = TRIM  
 Terminal voltage \* Nominal output voltage

#### Pin Connection

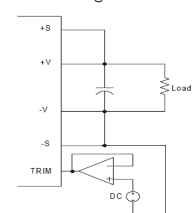
Pin Number	Connection
1	- V Input
2	+ V Input
3	- On / Off
4	+ On / Off
5-7	+ V Output
8-10	- V Output
11	- Sense
12	+ Sense
13	Trim
14	PC
15	IOG
16	AUX

Figure 1.



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

Figure 2.



The schematic of output voltage adjusted by using external DC voltage