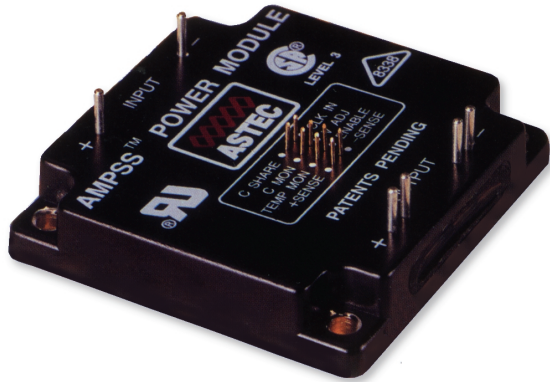


# 120 Watts

## AL60A

**Total Power:** 120 Watts  
**Input Voltages:** 12V, 24V or 48V  
**No. of Outputs:** Single, Dual



### Electrical Specs

#### Input

Input Range 180 to 400 VDC or 36 to 72 VDC  
 Efficiency 83% typical (5V @ 20A);  
 85% typical (12V @ 9A)

#### Output

Load Regulation 0.2% typical down to no load  
 Line Regulation 0.1% typical  
 Noise/Ripple 75 mV typical (output below 5V)  
 2% typical (output 5V and over)  
 Remote sense Up to 0.5V

Output Voltage ±10% of nominal output  
 Adjust Range 4% typical deviation with  
 Transient Response 250µs recovery (25-75% full load)  
 Current Share Accuracy 5% typical  
 Overvoltage Protection 125% nominal  $V_o$   
 Current Limit 110%  $I_o$  max

#### Control

Voltage Adjust 90 to 110%  $V_o$   
 Enable TTL compatible (low to enable)  
 Clock Input (external sync) 3.3 to 5.5Vp-p @ 1MHz ± 10%  
 Temperature Monitor Output 10 mV/°K (2.73V = 0°C)  
 Current Monitor Output 0 to 1mA (1mA = 100%  $I_o$  Rated)

### Special Features

- High efficiency - up to 86%
- 500 KHz fixed frequency
- 100°C baseplate operating temperature (with no derating)
- Low output ripple and noise
- Excellent transient response
- Safety isolated low voltage control and monitoring
- High reliability
- Wide input voltage range
- Parallelable with accurate current sharing
- Adjustable output voltage and current limit
- Regulation to zero load
- Temperature monitor output

### Environmental

Storage temperature: -40°C to +105°C  
 Overtemperature shutdown: 90°C typical  
 MTBF: > 1 million hours (50°C baseplate)

### Safety

UL	UL 1950	E182206 & E32002
CSA	CSA22.2-234 CSA22.2-950	LR53982C
VDE	IEC 950	20396-3336-1003 & 1009
EN	60950	
CE	CEMark (LVD)	

## Ordering Information

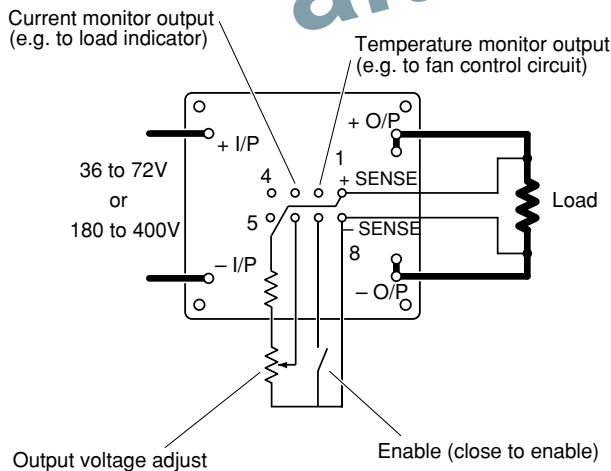
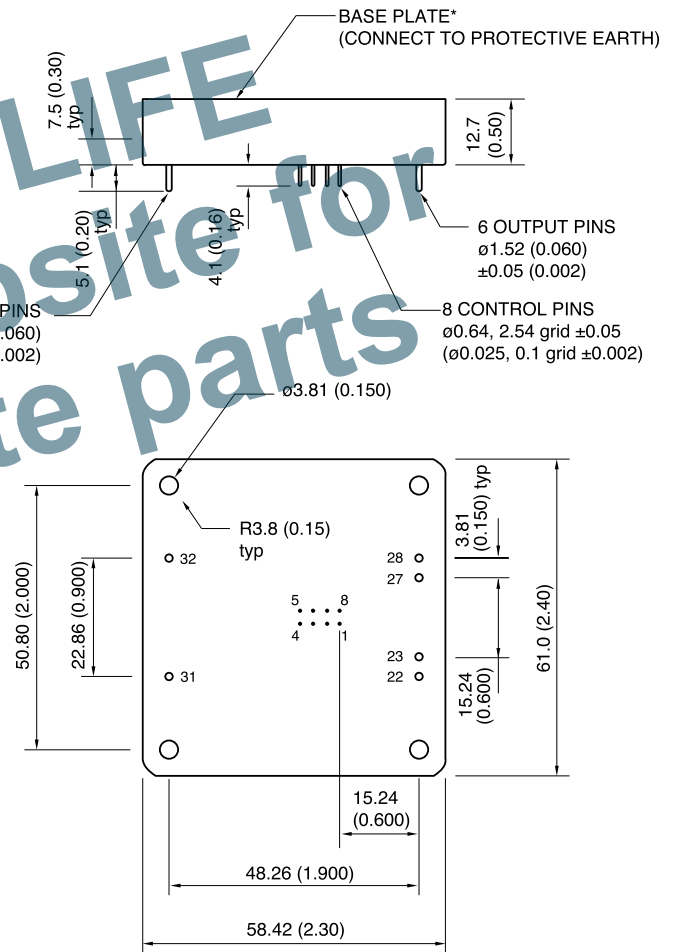
Input Voltage	Output Voltage	Output Current	Model Number	Input Voltage	Output Voltage	Output Current	Model Number
300V	2.0V	20A	AL60A-300L-020F20	48V	2.2V	30A	AL60A-048L-022F30
300V	3.3V	25A	AL60A-300L-033F25	48V	3.3V	25A	AL60A-048L-033F25
300V	5V	20A	AL60A-300L-050F20	48V	5V	10A	AL60A-048L-050F10
300V	12V	9A	AL60A-300L-120F09	48V	5V	20A	AL60A-048L-050F20
300V	15V	8A	AL60A-300L-150F08	48V	12V	6A	AL60A-048L-120F06
300V	24V	3A	AL60A-300L-240F03	48V	12V	9A	AL60A-048L-120F09
				48V	15V	8A	AL60A-048L-150F08

Please contact Astec for information on other output voltages, power ranges and configurations.

## Pin Assignments

Input	Output	Control Pins
31. +ve	22. +ve	1. +SENSE
32. -ve	23. +ve	2. TEMP MON
	27. -ve	3. C MON
	28. -ve	4. C SHARE
		5. CLK IN
		6. V ADJ
		7. ENABLE
		8. -SENSE

Secondary side controls



Notes:

1. All dimensions in mm and (inches)
2. Baseplate must be connected to protective earth
3. General tolerance: .X ±0.5 (0.02)  
.XX ±0.25 (0.010)
4. Surface Flatness: Concave 0.12mm max  
Convex 0.38mm max