ARTESYN AIF12W300 SERIES

600 Watts

Advanced Energy's Artesyn AIF series of high voltage DC-DC converters comprises six single output models offering voltages of 1.8 V, 3.3 V, 5.0 V, 12 V, 15 V or 24 V. Designed for use with power factor correction (PFC) modules, the converters accept a wide range input of 250 to 420 VDC. They have a 600 watt continuous power rating at baseplate temperatures from -20 to 100˚C and can start up from temperatures as low as -40˚C. The output voltage can be adjusted using an analog signal, external resistor or digital data – there is a built-in I2C interface. The output of the 1.8 V and 3.3 V converters can be adjusted from 50% to 110% of nominal, while the 5 V, 12 V, 15 V and 24 V converters can be adjusted from 80% to 120% of nominal. Overvoltage and overcurrent protection thresholds can also be set by analog or digital control.

AT A GLANCE

Total Power

600 Watts
(48 V @ 12.5 Amps)

Input Voltage

250 to 420 VDC

No. of Outputs

Single

RoHS 6/6 COMPLIANT

SPECIAL FEATURES

- 600 W continuous power at 100 °C baseplate temperature
- 108 W/in^3 (6.6 W/cm^3)
- High efficiency - 90% typical
- Low output ripple and noise
- Positive and Negative enable function
- Excellent transient response
- OVP, OCP, V Adj control with ALP™
- Paralleable with accurate current sharing
- Two year warranty

ENVIRONMENTAL

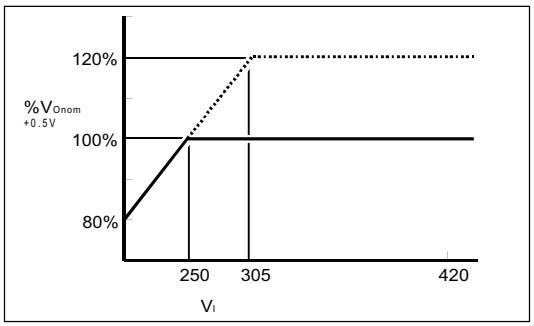
- Operating temperature: -20°C to +100°C (Case temperature)
- Start up temperature: -40°C to +100°C (Case temperature)
- Storage temperature: -40°C to +125°C
- Overtemperature protection: 110°C max

SAFETY

- UL cUL 60950 Recognized
- TUV EN62368-1
- CE and UKCA Mark

ELECTRICAL SPECIFICATIONS

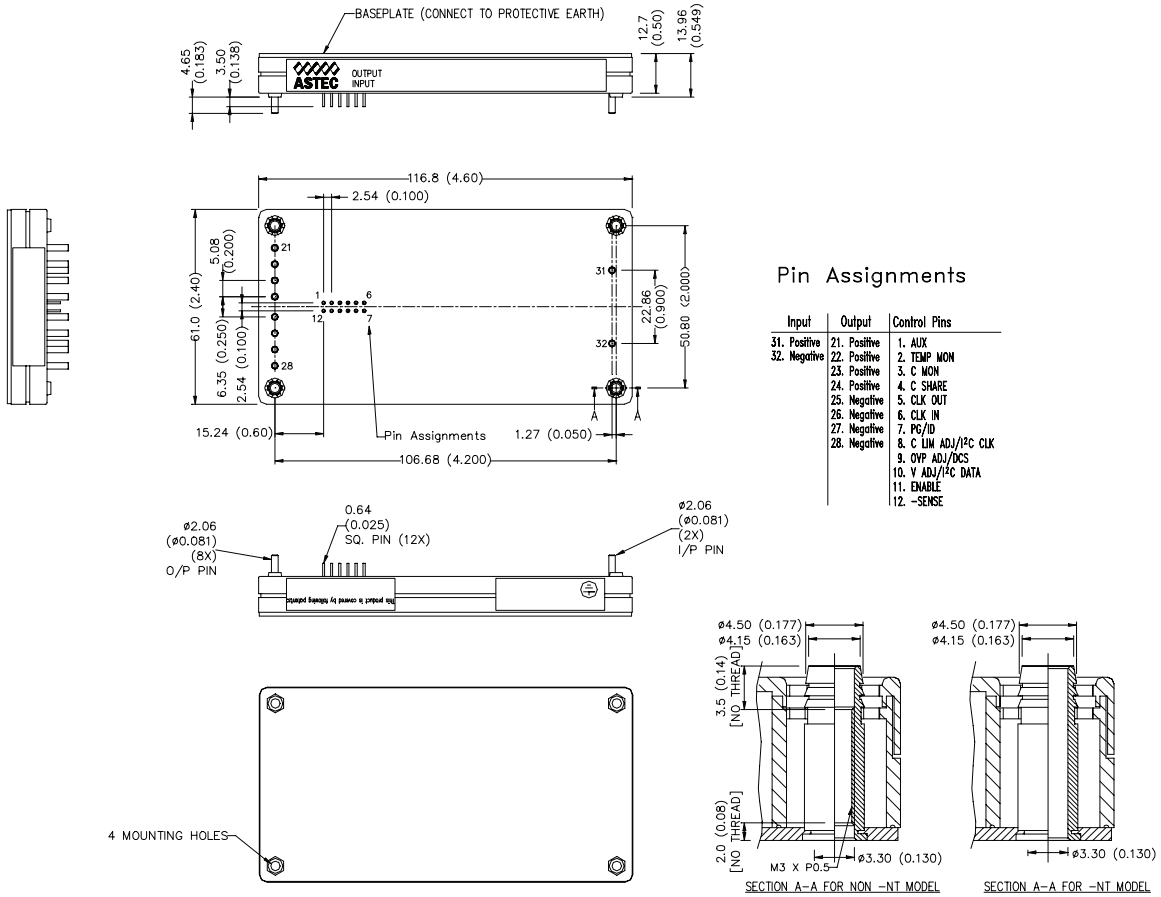
Input	
Input Range	250 to 420 VDC
Input Surge	500 VDC / 100 ms
Efficiency	90% typical
Output	
Load Regulation	400 mV typical down to no load
Line Regulation	200 mV typical
Noise / Ripple	480 mV typical
Transient Response	5% max, deviation with 25% to 75% full load, slew = 1 A/uS
Current Share Accuracy	3% typical, 5% max ([3] 80% of Io max)
Overvoltage Protection	125% +/-5% Vo (nominal) - latch up
Current Limit	105% 120% Io maximum - hiccup
Short Circuit Protection	150% maximum - hiccup
Control	
Voltage Adjust*	80 to 120% Vo linear programming
Enable	TTL compatible (positive & negative enable options)
Current Limit Adjust	20 to 100% Io linear programming
Clock Input (external sync)	3.3 to 5.5 Vp-p @ 800 KHz ± 10%
Clock Output (internal clock)	4.5 Vp-p typical @ 800 KHz ± 5%
Power Good Identification	High (Vo) = power good
Temperature Monitor Output	10 mV/°K (2.73 = 0 °C)
Current Monitor Output	0 to 1 mA (1 mA = 100% $I_{o\ rated}$) ± 0.1mA
Over Voltage Protection Adjust	120 to 150% Vo
Auxiliary power	1 2 V ± 1.5 V, 10 mA
Isolation	
I/O	3000 VAC (20 mA) for 1 min
I/B	2500 VAC
O/B	500 VDC for 1 min



ORDERING INFORMATION

Input Voltage	Output Voltage	Efficiency	Model Number	Notes
300 V	48 V @ 12.5 A	90% (Typ)	AIF12W300	Positive Enable
300 V	48 V @ 12.5 A	90% (Typ)	AIF12W300N	Negative Enable

MECHANICAL DRAWINGS



Notes

1. Astec reserves the right to make changes to the information contained herein without notice and assumes no liability of its use and application.
2. -SENSE pin has to be connected to -Vo in parallel application, and is recommended to be connected to -Vo in stand alone application.

ABOUT ADVANCED ENERGY

Advanced Energy (AE) has devoted more than three decades to perfecting power for its global customers. AE designs and manufactures highly engineered, precision power conversion, measurement and control solutions for mission-critical applications and processes.

Our products enable customer innovation in complex applications for a wide range of industries including semiconductor equipment, industrial, manufacturing, telecommunications, data center computing, and medical. With deep applications know-how and responsive service and support across the globe, we build collaborative partnerships to meet rapid technological developments, propel growth for our customers, and innovate the future of power.

PRECISION | POWER | PERFORMANCE

For international contact information,
visit advancedenergy.com.

powersales@aei.com (Sales Support)
productsupport.ep@aei.com (Technical Support)
+1 888 412 7832

ENG-AIF12W300-235-01 2.18