

AWG HIGH SPEED PULSE CONVERTER

2KW SECONDARY SIDE SYNCHRONOUS POST REGULATOR

Astrodyne TDI's High Speed Pulse Converter (HSPC) provides industrial-grade, pulsed DC power regulation for applications requiring exceptionally precise control. This DC/DC converter is the ideal choice for applications demanding high power, frequency, and slew rates. Operating from a DC input, this product is compatible with any of ATDI's AC/DC front end rectifiers. The HSPC can be standalone or installed in a compact 1U high chassis, reliability is assured through our rigorous design process.

MAIN CHARACTERISTICS:

- ✓ Programmable output voltage, current, and frequency
- ✓ Variable or fixed modes
- ✓ Modular/scalable product, can be paralleled or in series
- ✓ Compatible with all Astrodyne TDI AC/DC power supplies
- ✓ High Reliability: 100% HASS Tested
- ✓ 1U / 19" Rack Compatible
- ✓ Remote control and monitoring via High-speed CAN Bus
- ✓ 0-10V analog control
- ✓ Designed to NAVSO P 3641A

BENEFITS

REDUCED SYSTEM COMPLEXITY AND TIME TO MARKET

Wide range of models with fully adjustable outputs. Multiple control modes provide ultimate application flexibility.

HIGH RELIABILITY FOR CRITICAL APPLICATIONS

Housed in a compact 1U high chassis, reliability is assured through our rigorous design process, component de-rating in accordance with NAVSO P-3641A, and 100% Highly Accelerated Stress Screening (HASS) test as part of their production process.



FEATURES

DC INPUT

60VDC for 45V Module
250V for 200V Module

WIDE RANGE OUTPUTS

-45 to +45V | -50 to 50A
-200 to +200V | -20 to 20A

FAST SLEW RATE

>300V/ms, >200A/ms

OUTPUT PULSE FREQUENCY

Up to 5kHz

OPERATING MODES

Constant Voltage / Constant Current

OUTPUT POLARITY

Forward or Reverse Pulsing

VARIABLE SPEED FAN CONTROL

Minimizes audible noise and maximizes fan life

AGENCY COMPLIANCE

EMC:

Designed to meet radiated and conducted emissions FCC Part 15, Subpart A class A, and EN55022, Class A

ISOLATION:

Input to Output: N.A.
Input to Ground: 1kVDC
Output to Ground: 1kVDC

REV. 06182025 SPECIFICATIONS ARE SUBJECT TO CHANGE

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INPUT SPECIFICATIONS

45V BRICK

200V BRICK

Input DC	60VDC	250VDC
Input Current	50A max	20A

OUTPUT SPECIFICATIONS

Output Voltage	Adjustable from -45 to +45V	Adjustable from -200 to +200V
Output Current	-50A to +50A	-20A to 20A
Output Power	2,000W Maximum	
Operating Modes	User selectable Constant Voltage (CV), Constant Current (CC), or Direct Drive	
Analog Output Programming	Output V or I instantaneous value can be programmed via a 0-10V signal, or in near real time (<1ms latency) via a digital interface, or a time varying script can be loaded and executed upon command.	
Digital Output Programming	Near real time (<1ms latency) via a digital CANbus interface, or a time varying script can be loaded and executed upon command.	
Program Resolution	Current Mode: 20mA per bit Voltage Mode: 25mV per bit	
Output Ripple	Less than 0.25Vpk-pk, 100mV(rms) – 20MHz measurement bandwidth	
Output Pulse Mode	Output can be programmed in CC mode at currents between -Io(max) and +Io(max) at frequencies ≥5kHz	
Operating Modes	User selectable Constant Voltage (CV), Constant Current (CC), or Direct Drive	
Analog Output Programming	Output V or I instantaneous value can be programmed via a 0-10V signal, or in near real time (<1ms latency) via a digital interface, or a time varying script can be loaded and executed upon command.	
Digital Output Programming	CANbus interface	

ISOLATION

Input To Output	n/a
Input To Earth	1,000VDC
Output To Earth	1,000VDC

MECHANICAL

Dimensions	Module: 5.6in x 1.59in x 12.21in (142 x 40.4 x 310mm)
Weight	3.5lbs
Vibration	Office Vibration Test Method of Bellcore NEBS, Paragraph 5.5.9, Test 3

AGENCY COMPLIANCE

EMC	Designed to meet when integrated with AstrodyneTDI power supplies: Radiated and conducted emissions per FCC Part 15, Subpart A Class A EN55022, Class A
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AWG MODULE OUTLINE

