

POL2500WAB

Powered by **Polarity**[®]

A Global Leader in Power Solutions



AS 9100:2009 REV C

2500 Watt Airborne TWT Power Supply

High Efficiency Airborne Power Supply

Ideally suited for mission-critical military applications. These TWT power supplies are specifically designed for ultra low phase distortion while meeting the high altitude and high operating temperatures of military aerospace.

Power Supply

- 2500W Output
- Scalable, 1 to 4 collectors
- Grid and FE fine tuning
- Pulse and CW operation

Built-in protection

- 3 μ s electronic crowbar
- Fast average/peak body fault
- Collector to GND protection
- Reverse power detection input

Additional Options

- PFC input module
- External converter sync
- High speed modulator
- Liquid/Conduction cooled

Guaranteed Reliability

- Polarity has delivered more than 350 high voltage airborne power supplies with industry leading reliability.
- Airborne proven potting and encapsulation processes.
- Critical component designs have accumulated more than an estimated 100,000 hours of airborne operation.

The POL2500WAB is specifically designed to meet high altitude airborne applications greater than 70,000. Polarity offers models suited for all major airborne platforms where size, weight, and performance are critical.

Outstanding thermal design ensures reliable operation to base plate temperatures of +85deg C. The POL2500WAB offers a design with industry leading reliability and a design that ensures rugged performance that is unmatched.

High efficiency modern user multi-collector designs meet the demands of today's complex systems and offer the ability to effectively power manage increasingly challenging requirements for airborne communication and radar systems.

Optional features are a ultra high frequency grid modulator (500KHz), FE control switch, ultra low noise EMI/EMC, pulse droop compensation, ultra low pulse to pulse distortion, and a smaller lighter enclosure. Higher output power can be provided through optional liquid cooling. The communication protocol can be either serial RS485 or discrete control.

POL2500WAB — Industry Leading Performance — Affordable — Proven Reliability

Performance Specifications :

Electrical

Output Power:	2500W load
Cathode voltage:	5KV to 17KV (Optional post regulator and droop compensation)
Collectors:	1, 2, 3, 4
Grid/FE Modulator:	500V to 3KV swing 100Hz to 500KHz PRF -100V to +500V Pulse top voltage Current source and sink capability
Heater Supply:	50W maximum
Line Input:	115VAC/200VAC, 400Hz
Power Consumption:	2850 VA (max)
Power Factor:	0.95 (min)

Protection

Built-in electronic crowbar, <3us response time
1w fast average fault
1w peak fault
Eg OC, Htr OC, Ek OV, Ek Arc

Environmental

Operating Temperature	-54 deg C to +85deg C
Non-Operating	-62 deg C to +125 deg C
Relative Humidity	100% condensing
Altitude	
Operating	70,000 ft
Non-Operating	100,000 ft
Shock	30 g peak, 11 msec, 1/2 sine
Vibration	2.1 grms, 5Hz to 500Hz
Thermal	Conduction cooled

Mechanical

Dimensions	4.8" H x 6.5" W x 17.20" Lin
Weight	22 lb
Mounting Brackets	Base plate perimeter

Interface

Remote	RS-232 /422/485 and Discrete
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Mechanical Outline

