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.

### 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.

<table>
<thead>
<tr>
<th>Power Supply</th>
<th>Built-in protection</th>
<th>Additional Options</th>
</tr>
</thead>
</table>
| • 2500W Output
• Scalable, 1 to 4 collectors
• Grid and FE fine tuning
• Pulse and CW operation | • 3us electronic crowbar
• Fast average/peak body fault
• Collector to GND protection
• Reverse power detection input | • 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.

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**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  
Iw fast average fault  
Iw peak fault  
Eg OC, Htr OC, Ek OV, Ek Arc

#### Environmental

**Operating Temperature** -54 deg C to +85 deg 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, ½ 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

![Mechanical Outline Diagram](image-url)