

Powered by **Polarity**[®]

POL500Ka - P

A Global Leader in Power Solutions



AS 9100:2009 REV C

500 Watt Ka Band Transmitter

Ka Band Radar

Ideally suited for demanding performance in next generation Ka band radar systems. Meeting international standards for safety and EMI/EMC.

RF Performance

- Frequency: 32-36GHz
- RF Output Power: 500W, 57dBm, pk
- Gain 60 dB - adjustable
- Temperature range: -40C to +60C

Built-in protection

- High speed fault detection, <1us
- Output arc detector
- Input/output isolator
- Reverse power detection/c'bar

Additional Options

- <9.5 lbs light weight enclosure
- Airborne certified
- High speed modulator , 1MHz
- Liquid/Conduction cooled

Guaranteed Reliability

- Military proven high viscosity coatings for dust and humidity control.
- Critical component designs have accumulated more than 1 million hours of operation.
- Data logging and analysis for cost effective maintenance

Polarity's 500W peak Ka band pulsed amplifier is ideally suited for demanding performance in next generation Ka band radar systems. This high efficiency, conduction cooled transmitter is densely packaged for light weight airborne applications and has RF modulation rates up to 1MHz.

Outstanding thermal design ensures reliable operation from ambient temperatures of -40C to +85deg C. The POL500KaP offers a design with industry leading reliability and its power supply design ensures rugged performance that is unmatched. High efficiency multi-collector designs meet the demands of today's complex airborne pulsed, shipboard, and ground mobile microwave power systems.

Optional features: A proven control protocol provides serial RS232/422/485, ethernet, and advanced user friendly communication to provide data logging for cost effective maintenance and troubleshooting.

POL500Ka-P — Industry Leading Performance — Affordable — Proven Reliability

Performance Specifications : POL500Ka-P

Electrical

Frequency	32 - 36GHz - TWT band
Output Power	
TWT	500W (57.0 dBm)
HPA Flange	450W (56.5 dBm) min
Gain	60 dB (min), adjustable
Output Power Variation	0.1 dB p-p 35GHz to 36GHz
Input VSWR	1.3:1 max
Output VSWR	1.5:1 max
Spurious (max)	-70dBc, 1KHz PRF/2
Phase Noise	100Hz: < -95dBc/Hz 500Hz: < -100dBc/Hz 1000Hz: < -100dBc/Hz
Phase Droop	<2.5 degrees/us
Beam on Noise Power Density	< -30dBm/MHz
Modulation Rates	Single shot to 1MHz

Prime Power

Line Input	80 to 120VDC 270VDC and 115/200VAC 400Hz options
Input Power	600VA
Power Factor	0.95 (min)

Environmental

Operating Temperature	-40 deg C to +70deg C
Non-Operating	-40 deg C to +85 deg C
Relative Humidity	100% non-condensing
Altitude	
Operating	40,000 ft
Non-Operating	50,000 ft
Shock	MIL-STD-810G Method 516.6
Vibration	MIL-STD-810G 514.6
Acoustic Noise	na
Thermal	Conduction cooled

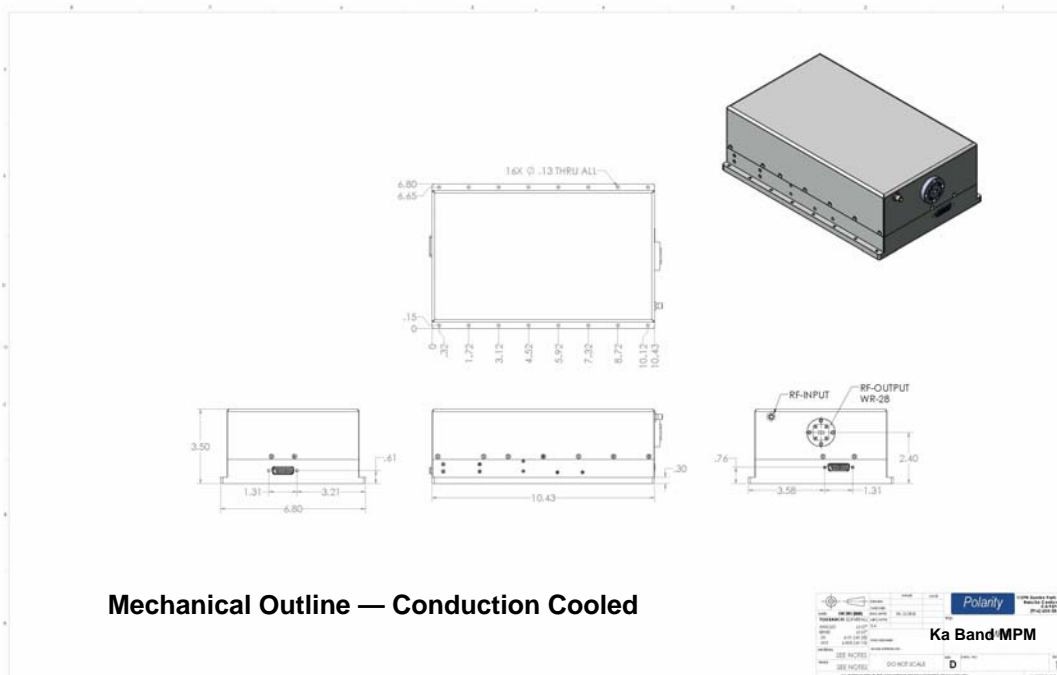
Mechanical

RF Input	2.92mm, K type
RF Output	WR-28
RF Output Monitor	2.92 mm , female 50dB coupling (nom)
Dimensions (W x H x L)	10.5"L x 7"W x 3"H in (267 x 178 x 76) mm
Weight	9.5 lbs
Mounting Brackets	Side mount fasteners

Interface

	RS-232 /422/485 Ethernet
Remote/Local Control	Status, Transmit, RF Inhibit, Fault Status Attenuator Control Internal data logging Discrete Status Summary fault

Mechanical Outline



Mechanical Outline — Conduction Cooled