QPT-RF™

PAN & TILT POSITIONERS

The QPT-RF series of Pan & Tilt Positioners employ RF Rotary Joint technology for management of radio frequency signals. These rugged antenna positioners support a wide range of antenna sizes, frequency bands and one or two isolated channels of RF pass-through signals. Auxiliary sensor loads, such as visible and/or thermal cameras, can be mounted alongside the antenna and are completely supported. Essential for applications including: UAV tracking/ telemetry, satellite communications, radar, GPS and many others.

All RF, video, power and control data cables are pass-through to eliminate cables in motion with the Pan & Tilt making cable management simple, neat, and safe. IP, RS-232 & RS-422, Pelco D Extended, Serial control of the Pan & Tilt and sensors are standard. Serial data and lens controls provide plug-and-play camera load interfaces.

KEY FEATURES

- Supports multiple antenna sizes, from man-portable up to 3-meters
- Multiple RF channel pass-through from DC up to 18 GHz
- 365/24/7 surveillance in challenging environments
- Auxiliary payload support (cameras, laser range finders, laser designator, GPS, etc.)
- Network ready

Sensor Integration

- Antennas (Parabolic/Dish/Patch/Grid)
- Multi-Spectrum cameras (Visible/NIR/SWIR)
- Thermal Imagers (LWIR/MWIR)
- IR and Visible Illuminators

QuickSet® Defense Technologies, LLC

QPT-RF™ SERIES

RF CHANNELS

	QPT-50 & QPT-90	QPT-50 & QPT-500	
Number of Channels	Single	Dual High Bandwidth	
Channel	Channel 1	Channel 1	Channel 2
Frequency	DC to 18 GHz	DC to 18 GHz	DC to 16 GHz
VSWR (max)	1.5 : 1	1.75 : 1	(D.C to 4) 2 : 1, (4 to 8) 3.25 : 1 (8 to 12) 3.5 : 1, (12 to 16) 5 : 1
VSWR WOW/360 (max)	0.05	0.05	(D.C to 4) 1.0, (4 to 12) 0.60, (12 to 16) 1.50
Insertion Loss (db max)	0.3	(D.C to 12) 1 (12 to 18) 1.5	(D.C to 4) 1.0, (4 to 12) 2.5, (12 to 16) 5.0
Insertion Loss WOW/360 (db max)	0.1	0.05	(DC to 4) 0.1, (4 to 12) 0.6, (12 to 16) 1.0
Isolation (Min db max)	N/A	50	
Peak Power	3 kW	1 kW	
Average Power	500 W at 1 GHz	30 W	10 W

PAN & TILT STANDARD PERFORMANCE

	QPT-50	QPT-90	QPT-500
Load Capacity	50 lb-ft (67.8 Nm) maximum	90 lb-ft (122 Nm) maximum	500 lb-ft (679 Nm) maximum
Operating Voltage Range	24 VDC (±4 VDC)	24 VDC (±4 VDC)	48 VDC (±4 VDC)
Total Power	5.0 A Peak <0.5 A Steady State	7.5 A Peak <0.8 A Steady State	6.0 A Peak <0.8 A Steady State
Pan-Axis Range	Continuous Rotation (slip ring)		
Pan-Axis Speed	0.005° to 50°/sec	0.005° to 25°/sec	0.001° to 20°/sec
Tilt-Axis Range	180° (±90°)		
Tilt-Axis Speed	0.005° to 12°/sec at 50 lb-ft	0.005° to 8°/sec at 90 lb-ft	0.001° to 4°/sec
Internal Heater	Included standard, thermostatically controlled 0°C (32°F) ON • 1.7°C (35°F) OFF		
Operating Temperature	-30° to 55°C (-22° to 131°F) (with heater)		
Rotational Limits	Adjustable tilt hard limit, adjustable soft limits on both axes		
Feedback	Optical Encoders (0.01° readout)		
Repeatability	Pan/Tilt ± .05°	Pan/Tilt ± .05°	Pan/Tilt ± .1°
Motor Type/Drive	Stepper Motor		
Communication to Pan & Tilt	RS232/422/485, IP Ethernet: 10/100 Base-T		
Communication to Sensors	RS232/422, Ethernet Pass-Through & Coax Video		
Control Protocol	QuickSet PTCR-96 or Pelco D		
Connector Specifications	Mil-Spec grade used on all configurations		
Load Connector Interfaces	1 Mil-Spec connector at tilt-axis		
RF Connector	N-Type Female Connector (50 Ohm) up to 18 GHz		
Materials	Housing 6061-T6 Aluminum, stainless steel hardware, permanently sealed radial ball bearings.		
Finish/Color	White powder coat paint over alodined chromate for corrosion resistance standard.		
Weight	36 lb (16.3 kg)	70 lb (32 kg)	175 lb (79 kg)
Dimensions	Please contact a sales representative		
Test Cable and Software	6 ft test cable and software included		
Duty Cycle	These positioners are designed for periodic movement. For applications requiring constant motion, please contact our team for solutions tailored to your use case and environment.		

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