

MPT-RF™

PAN & TILT POSITIONERS



The MPT-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, and utilize integrated dual isolated channels of RF pass-through signals. Auxiliary sensor loads, such as visible and/or thermal cameras, can be mounted with the antenna and are completely supported. Typical applications include UAV tracking/telemetry, satellite communications, radar, GPS and many others.

MPT Positioners are equipped with an integrated Health and Usage Monitoring System (HUMS). This provides intelligence to users regarding the condition of payloads, allowing for preventative maintenance to extend the life of critical equipment. An embedded web server enables easy discovery and control of all positioners and integrated components on a network thereby eliminating the need for 3rd party software. Expanded velocity control offers the MPT finer resolution of speed and acceleration control, ultimately improving tracking and scaling applications. Users will enjoy the capacity of multiple configurable communication ports for convenient payload integration and communication.

KEY FEATURES

- Supports multiple antenna sizes, from man-portable up to 3-meters
 - Embedded web server
 - Serial or serial over IP control
 - Health and usage monitoring
 - 10-bit linear response velocity control
 - GPS capability
- Sensor Integration**
- Antennas (Parabolic/Dish/Patch/Grid)
 - Multi-Spectrum cameras (Visible/NIR/SWIR)
 - Thermal Imagers (LWIR/MWIR)
 - IR and Visible Illuminators



MPT-RF™ SERIES

ROTARY JOINT PERFORMANCE

MPT-50/90

Number of Channels	Dual High Bandwidth	
	Channel 1	Channel 2
Channel	Channel 1	Channel 2
Frequency	DC to 8 GHz	DC to 8 GHz
VSWR (max)	1.75 : 1	(DC to 4.5) 1.5 : 1, (4.5 to 8) 2.5 : 1
VSWR WOW/360 (max)	(DC to 4.5) 0.05, (4.5 to 8) 0.1	(DC to 4.5) 0.2, (4.5 to 8) 0.4
Insertion Loss (db max)	(D.C to 12) 1, (12 to 18) 1.5	(DC to 4.5) 0.5, (4.5 to 8) 1.0
Insertion Loss WOW/360 (db max)	(DC to 8) 0.05	(DC to 4.5) 0.15, (4.5 to 8) 0.35
Isolation (Min db max)	50	
Peak Power	1 kW	
RF Channel Power (Average)	(D.C to 2.0) 100 W, (2.0 to 4.5) 60 W, (4.5 to 8.0) 35 W	10 W
Maximum DC Power	0.5 A (48 VDC, Full RF AVG) 2.0 A (48 VDC, 5W RF)	0.5 A (24 VDC, Full RF AVG)

PAN & TILT STANDARD PERFORMANCE

MPT-50

MPT-90

Load Capacity	50 lb-ft (67.8 Nm) maximum	90 lb-ft (122 Nm) maximum
Operating Voltage Range	24 VDC (±4 VDC)	
Total Power	< 5.0 A Peak, < 4.0 A Continuous	
Pan-Axis Range	Continuous Rotation (slip ring)	
Pan-Axis Speed	0.005° to 50°/sec	0.005° to 25°/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
Internal Heater	Included standard, thermostatically controlled 0°C (32°F) ON • 1.7°C (35°F) OFF	
Operating Temperature	-32° to 55°C (-26° to 131°F) at 100% Relative Humidity	
Rotational Limits	Adjustable tilt hard limit, adjustable soft limits on both axes	
Feedback	9k Position Encoders	
Repeatability	Pan/Tilt ± .05°	
Motor Type/Drive	Stepper Motors, Hardened Steel Worm Drive	
Communication to Pan & Tilt	RS232/422/485, IP Ethernet: 10/100 Base-T	
Communication to Sensors	Ethernet Pass-through, RS-232/422/485, Analog Video	
Control Protocol	Moog PTZ or Pelco D (Limited)	
Connector Specifications	Mil-Spec grade used on all configurations	
Load Connector Interfaces	2 Mil Spec connectors at tilt-axis	
RF Connector	TNC-Type Female Connector (50 Ohm) up to 18 GHz	
Materials	Housing 356-T6 Aluminum, stainless steel hardware, permanently sealed radial ball bearings.	
Finish/Color	White powder coat paint over alodined chromate for corrosion resistance standard. Other colors available upon request.	
Weight	32.5 lb (14.8 kg)	73 lb (33.1 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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