PAN & TILT
POSITIONERS_

MOOG

QPT-200 and QPT-500 Series

Pan & Tilt Positioners

The QPT-200 and QPT-500 Series of Pan & Tilt Positioners are designed for a wide variety of applications. They are rugged and durable enough for virtually any environment. The QPT-200 and QPT-500 can handle payloads up to 200 or 500 lb-ft of torque respectively, making each suitable for a wide range of sensors. Multiple models are available to fit your needs. Integrated Control (IC) units can communicate via networked PC or separate controller. Analog units are cost-effective solutions where simple command and control are required without a PC. The Sentry line includes integrated Stepper Motors for higher accuracy and speed control.

Available Features

- Payloads up to 500 lb-ft (678 Nm)
- Analog driven or Digital Serial Integrated Controller (IC) models
- Internal wire table top for pass-through or IC sensor wiring on certain models
- Fixed, Inverted or Mobile Installations
- Mil-Spec Connectors
- Tough metal housing and gearing for durability in harsh environments
- Marine configuration that meets IP67 standards
- RF pass-through connectivity (RF rotary joint, 1-3 channels)

Sensor Integration

- Multi-Spectrum Cameras (Visible / NIR / SWIR)
- Thermal Imagers (LWIR)
- IR and Visible Illuminators
- Laser Range Finders
- Communication Antennas
- Acoustic Devices

QPT-200 and QPT-500 Series

Serial IP Features
Available with DC brush or stepper motors
Microprocessor control
Software controlled with status feedback
Serial Communication: RS232 / 422 / 485 and IP
Control Protocols: Moog QuickSet and Pelco D
2 programmable tours and 32 presets

Analog Features
Simple command and control with one controller for one positioner
Azimuth / Elevation position feedback output
Power supply integrated into controller

Pan & Tilt Standard Performance	
Load Capacity:	QTP-200 – 200 lb-ft (271 Nm) maximum • QTP-500 – 500 lb-ft (679 Nm) maximum
Operating Voltage Range:	QTP-200 – 24VDC (±4VDC) • QTP-500 – 48VDC (±4VDC)
Pan-Axis Range:	350° (±175°) (non-slip ring)
Pan-Axis Speed:	0.005° - 8.0°/sec
Tilt-Axis Range:	180° (±90°)
Tilt-Axis Speed:	0.005° – 3.5°
Internal Heater:	Thermostatically controlled 0°C (32°F) ON • 1.7°C (35°F) OFF
Operating Temperature:	Without Heater: -15°C to 55°C (5°F to 131°F) • With Heater: -30°C to 55°C (-22°F to 131°F)
Rotational Limits:	Fixed tilt hard limit, adjustable soft limits on both axes
Feedback:	Optical Encoders (0.01° readout)
Repeatability:	0.25° (Pan - 0.05°, Tilt - 0.1° on Sentry models)
Duty Cycle:	20%
Motor Type / Drive:	Stepper (Sentry) and DC Brush
Communication to Pan & Tilt:	RS232 / 422 / 485, IP Ethernet: 10 / 100 Base-T
Communication to Sensors:	RS232 / 422
Control Protocol:	Moog QuickSet or Pelco D
Connector Specifications:	Mil-Spec grade used on all configurations
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. Other colors and CARC available upon request
Weight:	117 lbs (80.45 kg) to 122 lbs (55.45 kg) depending on modelon model
Dimensions:	See page 4
Test Cable and Software:	6 ft test cable and software included with all IC and Sentry configurations

Note: Test software compatible with Windows-95 SP2, 98, ME, 2000 and XP version. Not compatible with NT. Moog control protocol documentation supplied. Different models may vary.

Standard Housing

Serial / IP Configuration				
	DC Brush-Type Motor Configurations		Stepper Motor Configurations (Sentry)	
	QPT-200 – 24 VDC	QPT-500 – 24 VDC	QPT-200 – 24 VDC	QPT-200 – 48 VDC
Pan Speed Range (deg/sec):	0.005° – 8°	0.005° – 8°	0.005° – 8°	0.005° – 10.5°
Tilt Speed Range (deg/sec):	0.005° – 3°	0.005° – 3°	0.005° – 3°	0.005° – 3.5°
Weight:	117 lbs (80.45 kg)	122 lbs (55.45 kg)	117 lbs (80.45 kg)	122 lbs (55.45 kg)

Note: Speed ranges in pan and tilt axis due to various gear ratio and payload configuration - contact factory for details

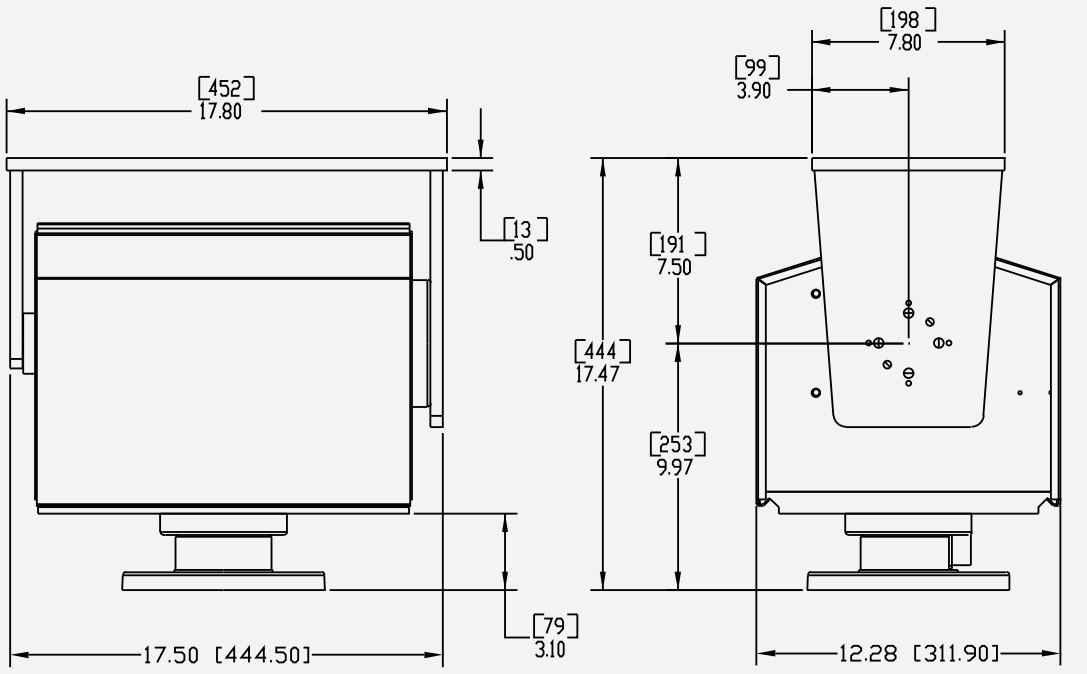
Analog Configuration		
	QPT-200	QPT-500
	115 VDC	115 VDC
Pan Speed Range (deg / sec):	0.4° – 10°	0.4° – 10°
Tilt Speed Range (deg / sec):	0.2° – 0.3°	0.2° – 3°
Motor Type:	DC Brush	DC Brush
Weight:	117 lbs (53.18 kg)	122 lbs (55.45 kg)

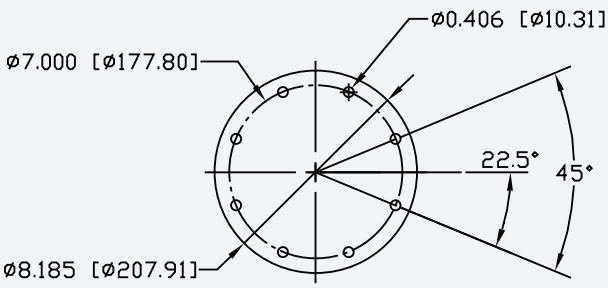
Note: Speed ranges in pan and tilt axis due to various gear ratio and payload configuration - contact factory for details

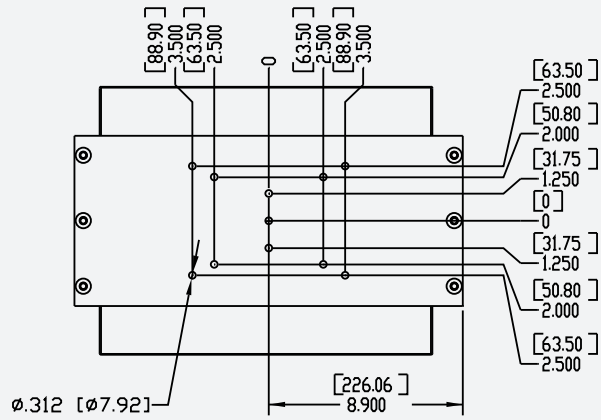
QPT-200 and QPT-500 Series

Architectural and Dimensional Drawings

Standard Housing







TOP LOAD FORCE (FT-LBS) *Upright Mounting

Dimensions are in Inches (mm)

MOOG

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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

MOOG

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		

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PAN & TILT
POSITIONERS_

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QPT-35 Series

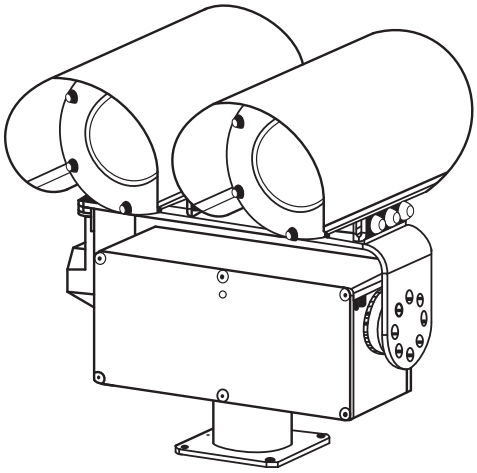
Pan & Tilt Positioners

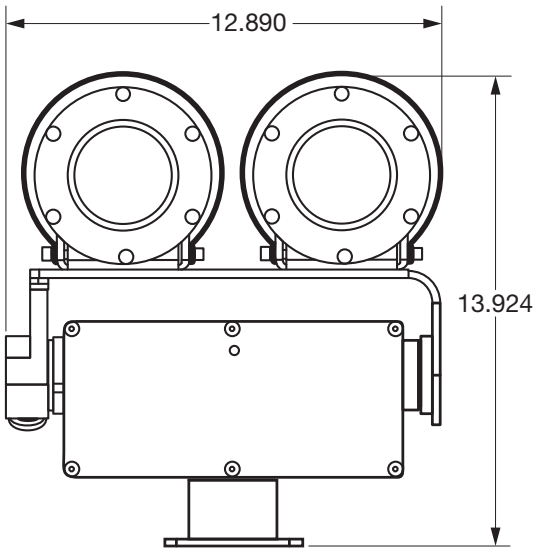
The QPT-35 provides rugged, durable performance for short to mid-range imaging applications. It is also ideal for positioning smaller antennae in almost any environment. The QPT-35 excels in operations where situational awareness is the key to success.

The QPT-35 can support both single and dual payloads. Its high payload to positioner weight ratio of more than 3:1 for fixed installation optimizes the efficiency of fielding a system. It delivers great pointing repeatability to less than 0.05 degrees. The QPT-35 is also designed and tested for mobile use making it a well rounded product.

QUICKSET

QPT-35 Series





Standard Performance	
Weight:	12.2 lbs
Load Torque:	35 lb-ft
Operating Voltage:	24VDC (±2 VDC)
Pan-Axis Range:	Continuous Rotation
Pan-Axis Speed:	0.005° – 25°/sec (faster with lighter loads)
Tilt-Axis Range:	180° (±90°)
Tilt-Axis Speed:	0.005° – 7°/sec (faster with lighter loads)
Repeatability:	<0.05° (Pan / Tilt)
Operating Temperature:	-32˚C to 55˚C

Tilt Connector Features	
Port A	Port B
Full featured serial control of single sensor	Serial pass-through
Motor drivers for camera lens zoom and focus control	Wired for power and video
One auxiliary relay control for wiper, illuminator	

Serial IP Features
Microprocessor Control
Software controlled with status feedback
Serial Communication: (RS232 / 422 / 485) and IP
Control Protocols: QuickSet and Pelco D
2 programmable tours and 32 presets
Mil-Spec Shock & Vibration
Passed Shock: MIL-STD-810F Meth.516.5
Passed Vibration: MIL-PRF-49256A

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Form 500-850 102113

PAN & TILT
POSITIONERS_

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QPT-50 Series

Pan & Tilt Positioners

The QPT-50 Series of Pan & Tilt positioners are designed for a wide variety of applications. They are rugged and durable for virtually any harsh environment. The QPT-50 can handle payloads up to 50 lb-ft of torque making it suitable for a wide range of sensors.

Multiple models are available to fit your needs. Integrated Control (IC) units communicate via networked PC or through a separate controller. IC units feature integrated dual sensor serial control, lens drive and power supply interface making sensor integration quick and easy. Analog units provide effective solutions where simple command and control are required without a PC. The Sentry line utilizes Stepper Motor technology for more precise accuracy and broader speed control.

Available Features

- Payloads up to 50 lb-ft (67.8 Nm)
- Analog driven or Digital Serial Integrated Controller (IC) models
- Mounting platforms include plain formed table top, table top with single tilt-axis connector, and 4 connector Universal models
- Internal wire table top for pass-through or IC sensor wiring on certain models
- Fixed, Inverted or Mobile Installations
- Mil-Spec Connectors
- Tough metal housing and gearing for durability in harsh environments
- Marine configuration that meets IP-67 standards
- RF pass-through connectivity (RF rotary joint, 1 and 2 channels)
- Pressurized housing available

Sensor Integration

- Multi-Spectrum Cameras (Visible / NIR / SWIR)
- Thermal Imagers (LWIR)
- IR and Visible Illuminators
- Laser Range Finders
- Communication Antennas
- Acoustic Devices

QUICKSET

QPT-50 Series

Serial IP Features

Available with DC brush or stepper motors
Microprocessor control
Software controlled with status feedback
Serial Communication: RS232 / 422 / 485 and IP
Control Protocols: Moog QuickSet and Pelco D
2 programmable tours and 32 presets

Universal Features

Pass-through wiring
Full feature serial control of sensors
Motor drivers for camera lens zoom and focus control
2 Auxiliary relay controls for wipers, illuminators, laser range finders, etc.

Analog Features

Simple command and control with one controller for one positioner
Azimuth / Elevation position feedback output
Power supply integrated into controller

Standard Performance

Load Capacity:	50 lb-ft (67.8 Nm) maximum
Operating Voltage Range:	24VDC (±4VDC)
Total Power:	Pan & Tilt Axes: 6.5A pk, 2.5A continuous at 24VDC • Heater: 2.7A at 24VDC • Standby: <0.7A at 24VDC (no heater current)
Pan-Axis Range:	360° continuous rotation (slip ring) • 435° (±217.5°) (non-slip ring)
Pan-Axis Speed:	0.005° – 50°/sec
Tilt-Axis Range:	180° (±90°)
Tilt-Axis Speed:	0.005° – 12°/sec at 50 lb-ft
Internal Heater:	Thermostatically controlled 0°C (32°F) ON • 1.7°C (35°F) OFF
Operating Temperature:	Without Heater: -15°C to 55°C (5°F to 131°F) • With Heater: -30°C to 55°C -22°F to 131°F
Rotational Limits:	Fixed tilt hard limit, adjustable soft limits on both axes
Feedback:	Optical Encoders (0.01° readout)
Repeatability:	0.25° (Pan - 0.05°, Tilt - 0.05° on Sentry models)
Duty Cycle:	20%
Motor Type / Drive:	Stepper (Sentry) and DC Brush
Communication to Pan & Tilt:	RS232 / 422 / 485, IP Ethernet: 10/100 Base-T
Communication to Sensors:	RS232 / 422, Ethernet Pass-Through
Control Protocol:	Moog QuickSet or Pelco D
Connector Specifications:	Mil-Spec grade used on all configurations
Load Connector Interfaces:	1 Mil-Spec connector at tilt axis (certain models) • 4 Mil-Spec connectors on Universal tilt table top
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. Other colors and CARC available upon request
Weight:	26 lbs (11.8 kg) to 36 lbs (16.3 kg) depending on model
Dimensions:	See page 4
Test Cable and Software:	6 ft test cable and software included with all IC and Sentry configurations

Note: Test software compatible with Windows-95 SP2, 98, ME, 2000 and XP version. Not compatible with NT. Moog control protocol documentation supplied. Different models may vary.

Sentry Universal
4-Port Payload Connectivity*

Formed Table (FT)
Tilt A/B Payload Connectivity**

Formed Table (FT)

Serial/IP Configuration			
	DC Brush-Type Motor Configuration		Stepper Motor Configurations (Sentry)
	24 VDC	24 VAC	24 VDC
Pan Speed Range (deg / sec):	1° – 25°	1° – 25°	0.005° – 50°
Tilt Speed Range (deg / sec):	0.3° – 7°	0.3° – 7°	0.005° – 12°
Weight:	26 lbs (11.8 kg) to 36 lbs (16.3 kg)	26 lbs (11.8 kg) to 36 lbs (16.3 kg)	26 lbs (11.8 kg) to 36 lbs (16.3 kg)

Analog Configuration		
	12 VDC	24 VDC
Pan Speed Range (deg / sec):	1° – 8°	0.5 – 9°
Tilt Speed Range (deg / sec):	1° – 3°	0.1 – 3°
Weight:	26 lbs (11.8 kg)	26 lbs (11.8 kg)

Note: Speed ranges dependent on model, weight and payload configuration - contact factory for details

* 4-Port Payload Connectivity
* 2-Channel: Internal processor payload serial control, camera lens drivers / feedback input, Ethernet, payload power supply, video coax to base connector wiring.
* 2-Channel: Payload pass-through wiring for customer supplied payload interfacing including Ethernet, power, serial control, video coax to base connector wiring, and more. (See details in Moog Universal Pan / Tilt data sheet)

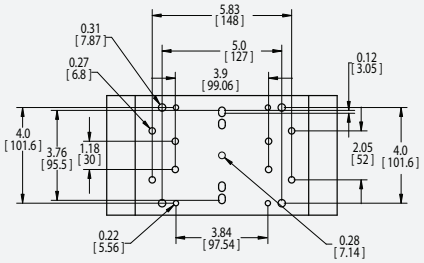
** **Tilt A**, Single Channel Payload Connectivity:
Internal processor payload serial control, camera lens drivers / feedback input, Ethernet, payload power supply.

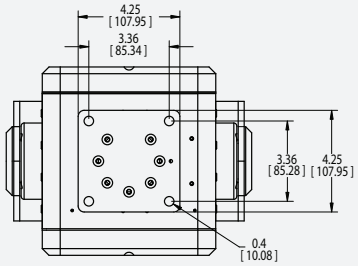
** **Tilt B**, Single Channel Payload Connectivity:
Payload pass-through wiring for customer supplied payload interfacing. Includes base to tilt connector wiring for Ethernet, power, serial control, video coax to base connector wiring, and more.

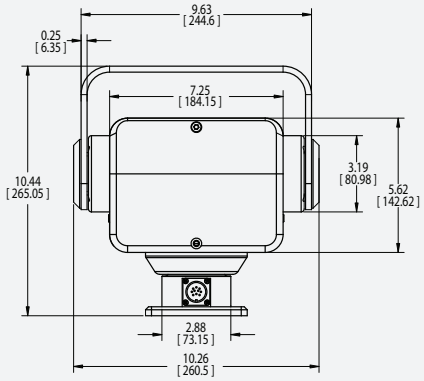
QPT-50 Series

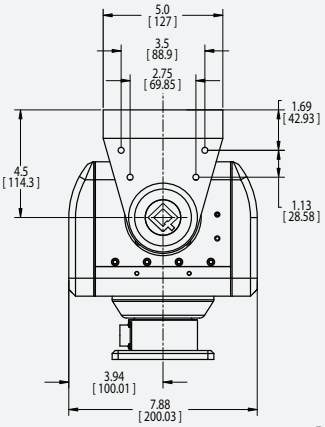
Dimensions / Architectural Drawings

Standard Housing





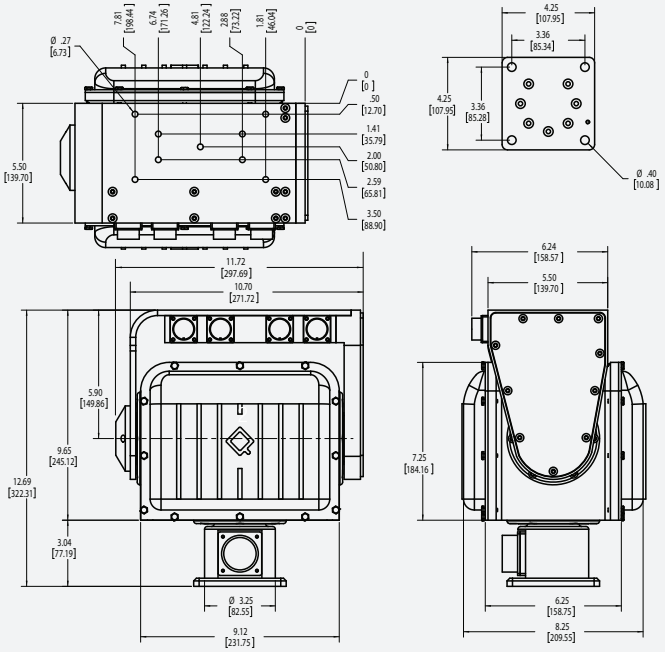




Dimensions are in Inches [mm]

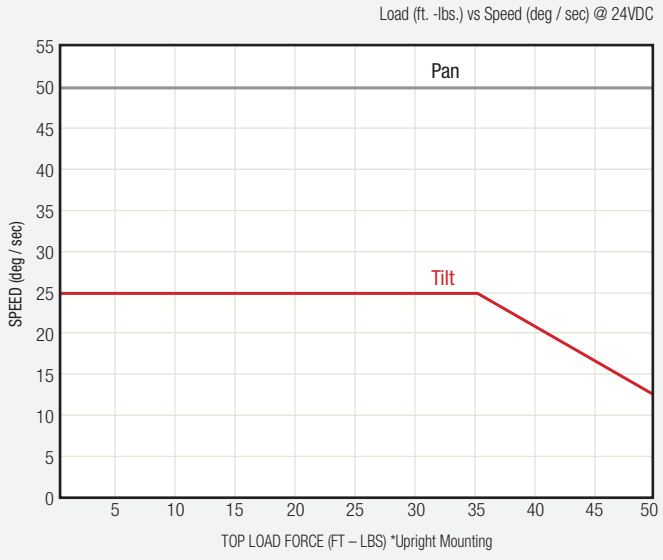
Dimensions / Architectural Drawings

Sentry Universal



Dimensions are in Inches [mm]

Sentry 50 Torque Curve



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PAN & TILT
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QPT-90 Series

Pan & Tilt Positioners

The QPT-90 Series of Pan & Tilt Positioners is a high performance and versatile platform designed for a wide variety of positioning and sensor support applications. The QPT-90 supports payloads requiring 90 foot pounds of torque.

Multiple models are available for specific requirements. Integrated control processor (IC) units feature dual sensor serial control, lens drive and power supply interfaces making sensor integrations quick and easy. Serial IP units communicate via networked communications or dedicated joystick controller (Unicom™ controller). Analog units are effective solutions where simple command and control are required without a PC. The Sentry line integrates stepper motors for higher precision movements and broader speed control. Universal configurations provide internal and external payload interfacing. RF units provide one to three pass-through channels for up to 18GHz bandwidth performance.

Key Features

- Payloads up to 90 lb-ft (122 Nm)
- Analog driven or Digital Serial Integrated Controller (IC) models
- Mounting platforms include plain formed table top, table top with single tilt-axis connector and 4 connector Universal models
- Internal wire table top for IC or pass-through sensor wiring
- Fixed, Inverted or Mobile Installations
- Mil-Spec Connectors
- Tough metal housing and gearing for durability in harsh environments
- Marine configuration meets IP-67 standards
- RF pass-through connectivity (RF rotary joint, 1-3 channels)
- Thermostatically controlled heaters standard

Sensor Integration

- Multi-Spectrum Cameras (Visible / NIR / SWIR)
- Thermal Imagers
- IR and Visible Illuminators
- Laser Range Finders
- Communication Antennas
- Acoustic Devices

QUICKSET

QPT-90 Series

Serial IP Features
Available with DC brush or stepper motors
Microprocessor control
Software controlled with status feedback
Serial Communication: RS232 / 422 / 485 and IP
Control Protocols: Moog QuickSet and Pelco D
2 programmable tours and 32 presets

Universal Features
Pass-through wiring
Full feature serial control of sensors
Motor drivers for camera lens zoom and focus control
2 Auxiliary relay controls for wipers, illuminators, laser range finders, etc.

Analog Features
Simple command and control with one controller for one positioner
Azimuth / Elevation position feedback output
Power supply integrated into controller

Standard Performance	
Load Capacity:	90 lb-ft (122 Nm) maximum
Operating Voltage Range:	24VDC (±4VDC)
Total Power:	Pan & Tilt Axes: 7.5A pk, 2.0A continuous at 24VDC • Heater: 4.4A at 24VDC • Standby: <0.8A at 24VDC (no heater current)
Pan-Axis Range:	360° continuous rotation (slip ring) • 435° (±217.5°) (non-slip ring)
Pan-Axis Speed:	0.005° – 25°/sec
Tilt-Axis Range:	180° (±90°)
Tilt-Axis Speed:	0.005° – 8°/sec at 90 lb-ft
Internal Heater:	Thermostatically controlled 0°C (32°F) ON • 1.7°C (35°F) OFF
Operating Temperature:	Without Heater: -15°C to 55°C (5°F to 131°F) • With Heater: -30°C to 55°C (-22°F to 131°F)
Rotational Limits:	Fixed tilt hard limit, adjustable soft limits on both axes
Feedback:	Optical Encoders (0.01° readout)
Repeatability:	0.25° (0.05° on Sentry models)
Duty Cycle	20%
Motor Type / Drive:	Stepper (Sentry) and DC Brush
Communication to Pan & Tilt:	RS232 / 422 / 485, IP Ethernet: 10 / 100 Base-T
Communication to Sensors:	RS232 / 422, Ethernet Pass-Through
Control Protocol:	Moog QuickSet or Pelco D
Connector Specifications:	Mil-Spec grade used on all configurations
Load Connector Interfaces:	1 Mil-Spec connector at tilt axis (certain models) • 4 Mil-Spec connectors on Universal tilt table top
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. Other colors and CARC available upon request
Weight:	37 lbs (16.8 kg) to 75 lbs (34 kg) depending on model
Dimensions:	See page 4
Test Cable and Software:	6 ft test cable and software included with all IC and Sentry configurations

Note: Test software compatible with Windows-95 SP2, 98, ME, 2000 and XP version. Not compatible with NT. Moog control protocol documentation supplied. Different models may vary.

QPT-90 Sentry Universal 4-Port Payload Connectivity*

QPT-90 Marine Tilt A/B Payload Connectivity**

Standard Housing (FT)

Serial / IP Configuration

	DC Brush-Type Motor Configurations		Stepper Motor Configurations (Sentry)	
	12 VDC	24 VDC	24 VDC	48 VDC
Pan Speed Range (deg / sec):	1° – 10°	.25° – 8°	0.005° – 30°	0.005° – 45°
Tilt Speed Range (deg / sec):	1° – 3°	.1° – 3°	0.005° – 8°	0.005° – 20°
Weight:	37 lbs (16.8 kg) standard configuration, 75 lbs (34 kg) marine configuration		75 lbs (34 kg)	75 lbs (34 kg)
Number of Connectors:	1 or 4 - depending on model		4	4

Note: Speed ranges dependent on model, weight and payload configuration - contact factory for details

Analog Configuration

	12 VDC	24 VDC	115 VDC	24 VAC	115 VAC
Pan Speed Range (deg / sec):	0.5° – 10°	0.3° – 8°	0.3° – 8°	8°	8°
Tilt Speed Range (deg / sec):	0.1° – 3°	0.1° – 3.5°	0.1° – 3°	3°	3°
Motor Type:	DC Brush	DC Brush	DC Brush	AC Brush	AC Brush
Weight:	37 lbs (16.8 kg)				

Note: Speed ranges dependent on model, weight and payload configuration - contact factory for details

* 4-Port Payload Connectivity
* 2-Channel: Internal processor payload serial control, camera lens drivers / feedback input, Ethernet, payload power supply, video coax to base connector wiring.
* 2-Channel: Payload pass-through wiring for customer supplied payload interfacing including Ethernet, power, serial control, video coax to base connector wiring, and more. (See details in Moog Universal Pan / Tilt data sheet)

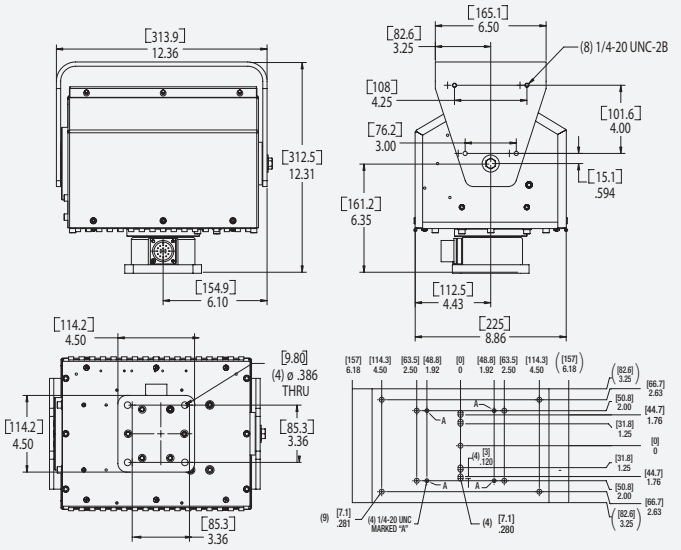
** **Tilt A**, Single Channel Payload Connectivity:
Internal processor payload serial control, camera lens drivers / feedback input, Ethernet, payload power supply.

** **Tilt B**, Single Channel Payload Connectivity:
Payload pass-through wiring for customer supplied payload interfacing. Includes base to tilt connector wiring for Ethernet, power, serial control, video coax to base connector wiring, and more.

QPT-90 Series

Architectural and Dimensional Drawings

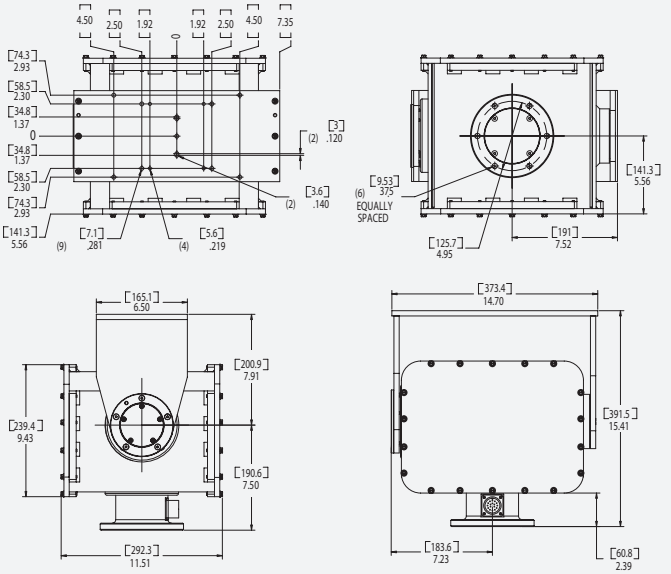
Standard Housing



Dimensions are in Inches [mm]

Architectural and Dimensional Drawings

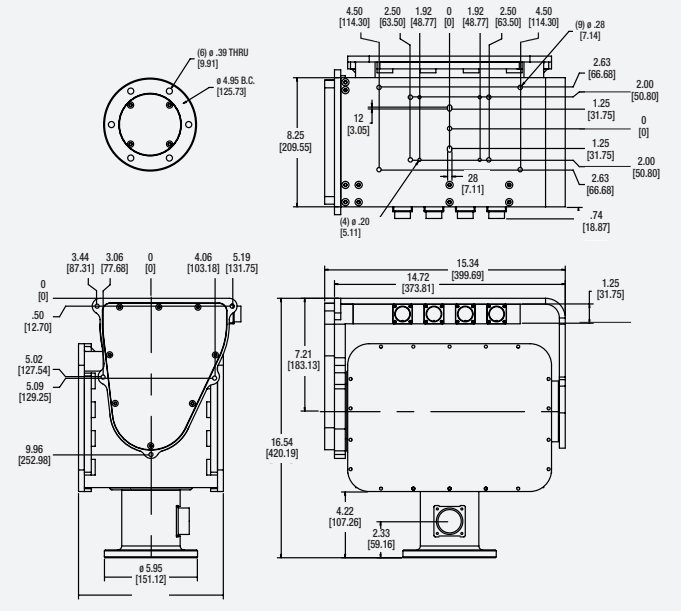
Marine Housing



Dimensions are in Inches [mm]

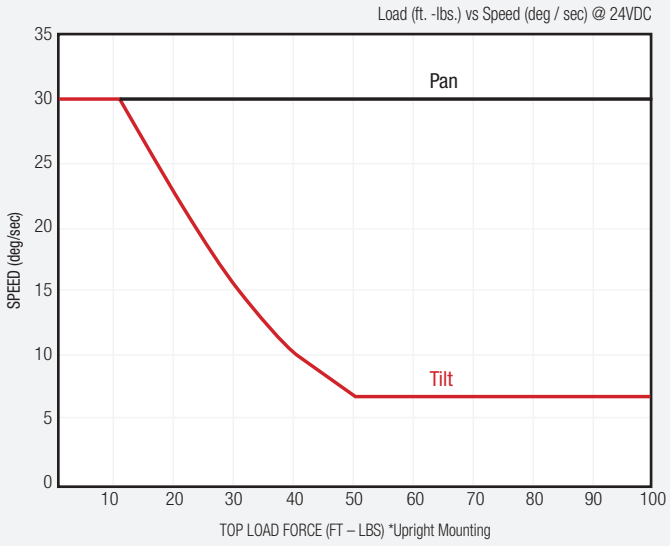
Architectural and Dimensional Drawings

Sentry Universal



Dimensions are in Inches [mm]

Sentry 90 Torque Curve



MOOG

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PAN & TILT
POSITIONERS_

MOOG

QPT-130 Series

Pan & Tilt Positioners

The QPT-130 Series of Pan & Tilt Positioners is designed for a wide variety of applications. They are rugged and durable enough for virtually any environment. The QPT-130 can handle payloads up to 130 lb-ft making it suitable for a wide range of sensors. Multiple models are available to fit your needs. Integrated Control (IC) units can communicate via networked PC or separate controller. Analog units are cost-effective solutions for simple command and control without a PC.

Available Features

- Payloads up to 130 lb-ft
- Analog driven or Digital Serial Integrated Controller (IC) models
- Internal wire table top for pass-through or IC sensor wiring on certain models
- Fixed, Inverted or Mobile Installations
- Mil-Spec Connectors
- Tough metal housing and gearing for durability in harsh environments
- RF pass-through connectivity (RF rotary joint, 1-3 channels)
- Thermostatically controlled heaters standard

Sensor Integration

- Multi-Spectrum Cameras (Visible / NIR / SWIR)
- IR and Visible Illuminators
- Laser Range Finders
- Communication Antennas
- Acoustic Devices

QUICKSET

QPT-130 Series

Serial IP Features
Microprocessor control
Software controlled with status feedback
Serial Communication: RS232 / 422 / 485 and IP
Control Protocols: Moog QuickSet and Pelco D
2 programmable tours and 32 presets

Analog Features
Simple command and control with one controller for one positioner
Azimuth / Elevation position feedback output
Power supply integrated into controller

Standard Performance	
Load Capacity:	130 lb-ft (176 Nm) maximum
Operating Voltage Range:	24VDC (±4VDC)
Pan-Axis Range:	360° continuous rotation (slip ring) • 435° (±217.5°) (non-slip ring)
Pan-Axis Speed:	1° - 8°/sec
Tilt-Axis Range:	180° (±90°)
Tilt-Axis Speed:	1° – 4.5°
Internal Heater:	Thermostatically controlled 0°C (32°F) ON • 1.7°C (35°F) OFF
Operating Temperature:	Without Heater: -15°C to 55°C (5°F to 131°F) • With Heater: -30°C to 55°C (-22°F to 131°F)
Rotational Limits:	Fixed tilt hard limit, adjustable soft limits on both axes
Feedback:	Resolvers (0.01° readout)
Repeatability:	0.25°
Duty Cycle:	20%
Motor Type / Drive:	DC Brush
Communication to Pan & Tilt:	RS232 / 422 / 485, IP Ethernet: 10/100 Base-T
Communication to Sensors:	RS232 / 422, Ethernet Pass-Through
Control Protocol:	Moog QuickSet or Pelco D
Connector Specifications:	Mil-Spec grade used on all configurations
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. Other colors and CARC available upon request
Weight:	22 lbs (10 kg) to 36 lbs (16.3 kg) depending on model
Dimensions:	See page 4
Test Cable and Software:	6 ft test cable and software included with all IC and Sentry configurations

Note: Test software compatible with Windows-95 SP2, 98, ME, 2000 and XP version. Not compatible with NT. Moog control protocol documentation supplied. Different models may vary.

Standard Housing

Serial / IP Configuration	
	DC Brush-Type Motor Configuration
	24 VDC
Pan Speed Range (deg / sec):	1° – 8°
Tilt Speed Range (deg / sec):	1° – 4.5°
Weight:	44 lbs (19.96 kg)

Note: Speed ranges dependent on model, weight and payload configuration – contact factory for details

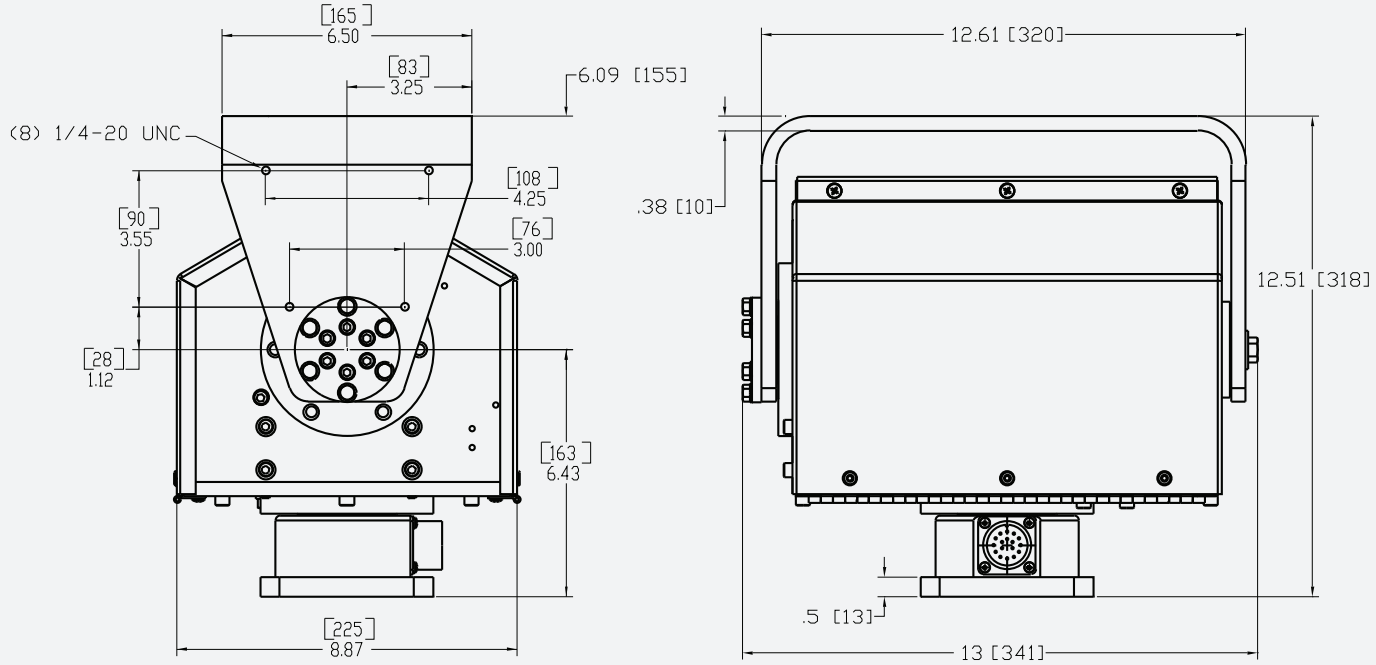
Analog Configuration	
	DC Brush-Type Motor Configuration
	115 VDC
Pan Speed Range (deg / sec):	0.5° – 8.5°
Tilt Speed Range (deg / sec):	0.1° – 3°
Weight:	44 lbs (19.96 kg)

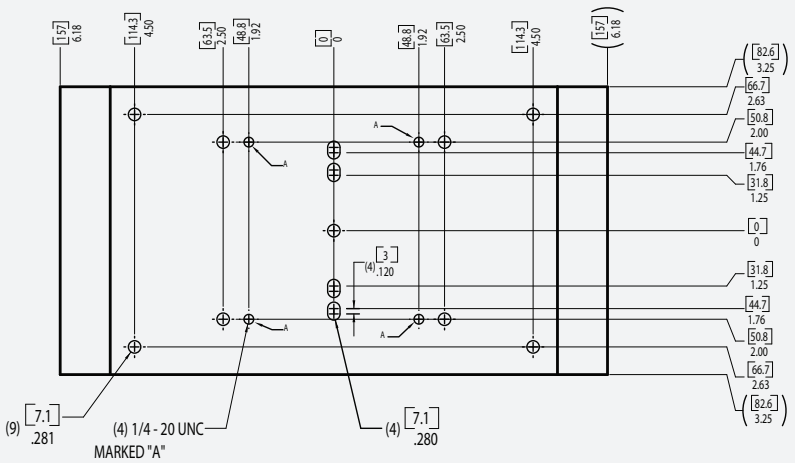
Note: Speed ranges dependent on model, weight and payload configuration – contact factory for details

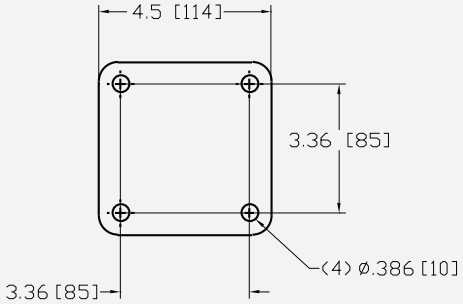
QPT-130 Series

Dimensions / Architectural Drawings

Standard Housing







Dimensions are in Inches [mm]

MOOG