AUDIOVIDEOSUPPLY

MOOG

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

AUDIO VIDEO SUPPLY

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.

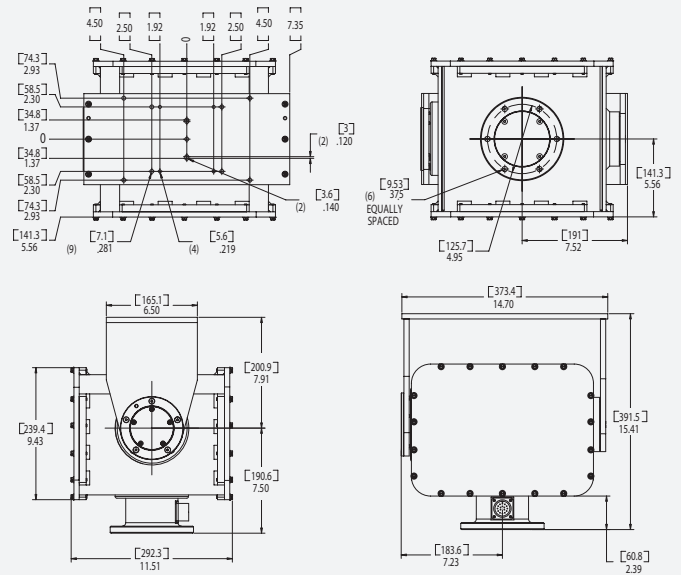## Architectural and Dimensional Drawings
Standard Housing
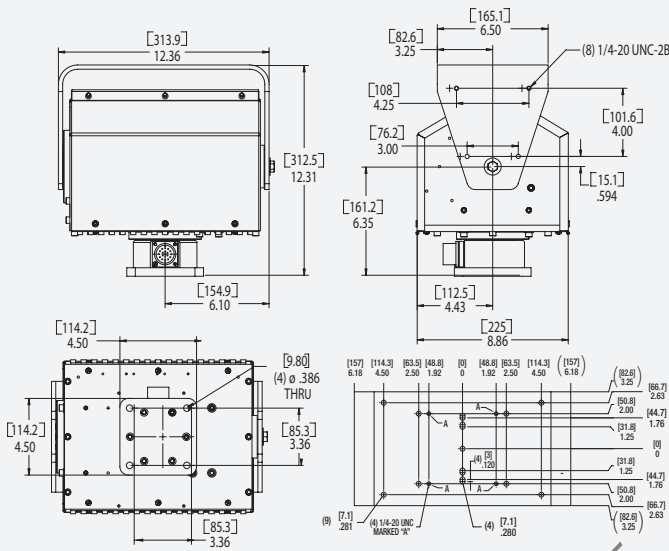
Dimensions are in Inches [mm]

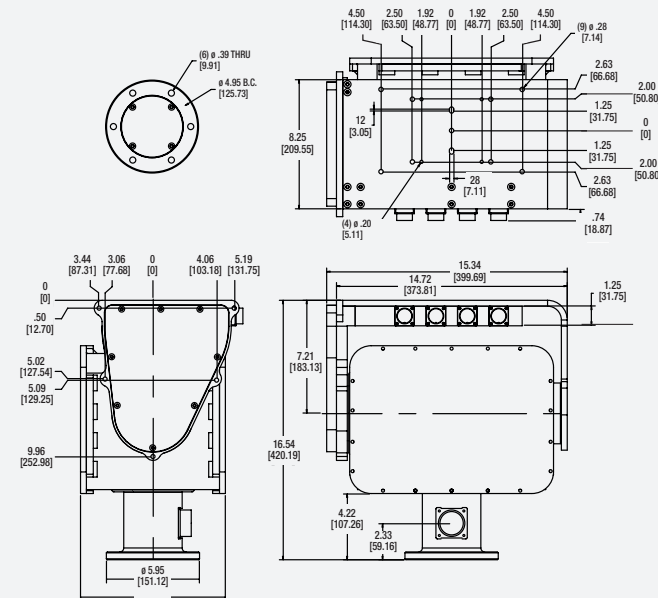## Architectural and Dimensional Drawings
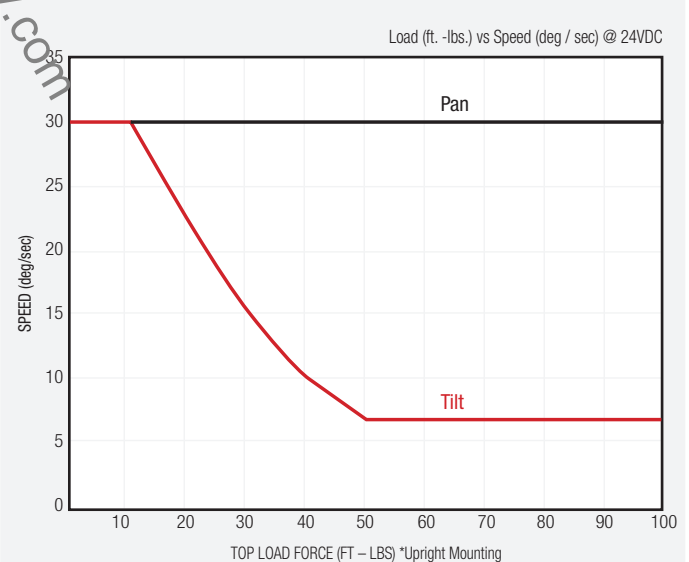### Marine Housing

Dimensions are in Inches [mm]

Architectural and Dimensional Drawings
Sentry Universal

Dimensions are in Inches [mm]

Sentry 90 Torque Curve

Load (ft. -lbs.) vs Speed (deg / sec) @ 24VDC

Pan

Tilt

SPEED (deg/sec)

TOP LOAD FORCE (FT – LBS) *Upright Mounting

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