



ROS PT10 Pan & Tilt Positioner

Computer controlled pan & tilt unit

Dual axis pan & tilt to remotely position camera systems, acoustic equipment, and other instrumentation.

The unparalleled reliability of the PT-10 is due in part to its rugged construction. Housings and machined components are made of corrosion resistant, hard-anodized aluminum. All external hardware is made of stainless steel, with oceanographic and nuclear applications in mind.

The PT-10 provides 13.56Nm / 10lb-ft of output torque on each axis and accommodates payloads up to 15 pounds. The drive train for each axis of the pan & tilt uses either a reversible synchronous motor or a brushless stepper motor coupled to low backlash harmonic gearing. The rugged design of the gear train allows stalling of either output shaft without damage to the gears or the motor.

With the choice of different AC or DC power configurations the PT-10 can be used in a wide array of varying environments and applications.



Applications

Underwater inspection
Equipment and tool placement
Target identification & classification
Monitoring operations

Features

13.56Nm / 10lb-ft of output torque on each axis and accommodates payloads up to 11.3kg / 25lbs
Available in either AC or DC power configurations
Corrosion-resistant housing is ideal for use in hazardous environment
RS-485 / RS-232 computer controlled for advanced features and control options
Real-time position feedback, variable rotation speed, variable braking, and networkability of multiple pan and tilts

In the box

ROS PT10 pan & tilt positioner
Operational tail
Operations and maintenance manual

ROS PT10 Pan & Tilt Positioner

Specifications



Operating range	24-28 VDC, 1.5amps (max) per axis @ 24 VDC
Braking mode	24 VDC, adjustable, 0 mA to 750 mA per axis
At rest (not braking)	<100 mA per axis
Torque	13.56Nm / 10lb-ft per axis, 0.5 to 15 degrees/second (0.08 to 2.5rpm) 10.85Nm / 8lb-ft per axis, 15 to 20 degrees/second (2.5 to 3.3rpm)
Rotation speed (88:1 gears)	Variable, 0.5 to 20 degrees/second (0.08 to 3.3rpm)
Harmonic gear backlash (88:1 gears)	0.6 degrees (36 arc minutes)
Scan range (both axes)	0 to 360 degrees when used with no external stop collar
Scan range with stop collar & optional yoke bracket	12 to 348 degrees pan axis, +/- 90 degrees tilt axis
Feedback potentiometer	Absolute position (1000 ohm wire-wound), 10 bit A/D
Resolution	+/- 0.5 degrees (30 arc minutes)
Control protocol	
Type	RS-485, 2-wire half duplex, 8 data bits, 1 stop bit, no parity, no hardware flow control
Command protocol	ROS document 21-30022
Supported baud rates	Factory set to 9.6 Kbaud, 19.2 Kbaud, or 57.6 Kbaud
Networkability	Up to 32 ROS RS-485 nodes sharing the same cable for power and communication
Housing material	Anodized 6061-T6 Aluminum
Height	236mm / 9.30in
Air-filled	179mm / 7.05in
Oil-filled with bellofram	219mm / 8.64in
Length without connector	94.0mm / 3.70in
Main body diameter	74.9mm / 2.95in
Output shaft diameter	25.4mm / 1.00in
Weight in air air-filled	3.7kg / 8.2lbs
Weight in air oil-filled	4.4kg / 9.6lbs
Weight in water air-filled	2.2kg / 4.8lbs
Weight in water oil-filled	4.2kg / 9.3lbs
Standard connector	LPMBH-4-MP
Housing mounting	Two 1/4-20 threaded holes in output pan shaft
Equipment mounting	Two 1/4-20 threaded holes in output tilt shaft
Mounts	ROS mounting plate and optional yoke bracket
External mechanical limits	ROS stop collar
Compensator (oil-filled units only)	Bellofram
Operating depth rating	
Air-filled	30m / 100ft
Oil-filled	3,000m / 10,000ft
Operating temperature	up to +50°C / 122°F
Storage temperature	-20°C to +60°C / -4°F to 140°F in air

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