



ROS PT25 Pan & Tilt Positioner

Computer controlled heavy duty pan & tilt

Rugged pan and tilt unit with RS-485 Computer control to remotely orient camera systems, acoustic equipment, antennas, and other instrumentation.

Each axis includes a DC brushless stepper motor coupled to very low backlash harmonic gearing. It is designed to allow stalling of the output shafts without damage to the gears, the motors, or control electronics.

The RS-485 control enables the pan and tilts to be highly configurable and precision controllable. By using either the ROS positioner GUI (graphical user interface) or the ROS communication protocol for custom software integration, you have access to many features.

The PT-25 (DC) RS-485 pan and tilt is available in two versions: air-filled or oil-filled. Oil-filled units are used for deep water applications up to 3,000 meters depth. Air-filled units are used for shallow water applications up to 30 meters depth and are excellent for above water applications where rain, humidity and dust are issues.



Applications

Subsea & ROV
Oceanographic research
Nuclear
Military

Features

RS-485 computer controlled for advanced features and control options
Absolute position moves, real-time position feedback, variable rotation speed and braking, and networkability of multiple pan and tilts
61Nm / 45lb-ft of output torque on each axis
RS-485 allows communication over longer lengths of cable (01,000 feet) and enables multiple-node networking
A total of only four wires (two for power, two for communication) are needed to operate
The unit may also be controlled by an external joystick

In the box

ROS PT25 pan & tilt positioner
Operational tail
Operations and maintenance manual

ROS PT25 Pan & Tilt Positioner

Specifications



Power	24-28 VDC, 1.7amps (max) per axis @ 24 VDC
Braking mode	24 VDC, adjustable, 0 mA to 1.2amps per axis
At rest (not braking)	<100 mA per axis
Torque	61.0Nm / 45lb-ft minimum @ 5 degrees / second
Payload (max)	45.2kg / 100lbs max (calculated with COG at 5.4" from center of tilt axis)
Absolute position moves	+/-1 degree (including feedback resolution)
Acceleration settings	2, 4, 6, 8 and 10 degrees/second ²
Rotation speed (160:1 gears)	Variable, 0.5 to 10 degrees/second (0.08 to 1.67rpm)
Harmonic gear backlash	1 arc minute (0.016 degrees)
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 (1,000ohm wire-wound), 10 bit A/D
Resolution	+/-0.5 degrees (30 arc minutes)
Type	RS-485, 2-wire half duplex, 8 bit data, 1 stop bit, no parity, no hardware flow control
Flow control	Character echo, adjustable communication delay
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
Safety mechanism	Slip/stall detection
Housing material	Anodized 6061-T6 aluminum
Height	286mm / 11.25in
Width air-filled	199mm / 7.85in
Width oil-filled with bellofram	243mm / 9.55in
Length without connector	126mm / 4.95in
Main body diameter	107mm / 4.20in
Output shaft diameter	38.1mm / 1.50in
Weight in - air air-filled	8.7kg / 19.2lbs
Weight in - air oil-filled	9.8kg / 21.5lbs
Weight in - water air-filled	4.6kg / 10.2lbs
Weight in - water oil-filled	5.7kg / 12.5lbs
Standard connectors	LPMBH-4-MP
Housing mounting	Four 3/8" - 16 threaded holes in output pan shaft
Equipment mounting	Four 3/8" - 16 threaded holes in output tilt shaft
Mounts	ROS mounting plate and yoke bracket optional
External mechanical limits	ROS stop collar optional
Compensator (oil-filled units only)	Bellofram
Operating depth - air filled	30m / 100ft
Operating depth - oil filled	3,000m / 10,000ft standard
Operating temperature	up to +50°C / 122°F
Storage temperature	-20°C to +60°C / -4°F to 140°F in air

Aberdeen
+44 (0)1224 771888

Abu Dhabi
+971 2 650 7710

Houston
+1 281 398 9533

Singapore
+65 6545 9350