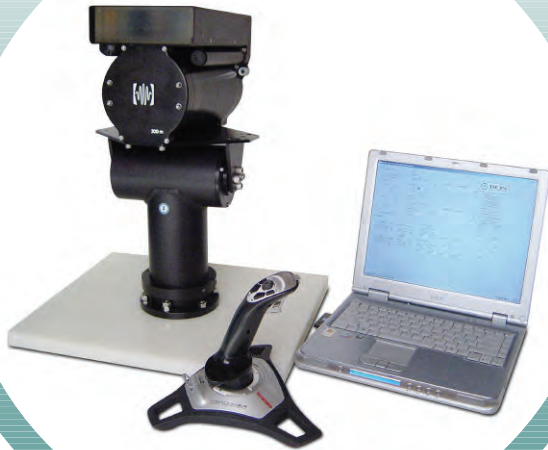


PT-25-FB RS-485

COMPUTER CONTROLLED HEAVY DUTY PAN & TILT



RS-485 / RS-232 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

45 lb-ft (61 N-m) of output torque on each axis and accommodates payloads up to 100 lbs (45 kg)



ROS has been manufacturing an array of harsh environment cameras, lights, positioners, and specialized systems designed for oceanographic, nuclear, industrial, and military applications for over 35 years.

Rugged pan and tilt unit with RS-485 / RS-232 computer control to remotely orient camera systems, acoustic equipment, antennas, and other instrumentation

The PT-25-FB RS-485 pan and tilt provides 45 lb-ft (61 N-m) of output torque on each axis. Heavy-duty ball bearings supporting the output shaft allow it to accommodate heavy payloads up to 100 lbs (45 kg). 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/RS-232 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 features such as: absolute position moves, variable rotation speed, real-time position feedback, variable braking, adjustable user limits, as well as networkability of multiple ROS pan and tilts sharing the same cable. A total of only four wires (two for power; two for communication) are needed to operate the RS-485/RS-232 pan and tilts.

Using RS-485 control provides several advantages over RS-232. RS-485 allows communications over longer lengths of cable (1000 feet) and enables the ability for networking multiple nodes. A typical computer has the capability of RS-232 communication through its serial COM ports. Inexpensive devices are readily available for converting RS-232 to RS-485, USB to RS-485, or Ethernet to RS-485. The unit may also be controlled by an external joystick.

The PT-25-FB 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.

PT-25-FB RS-485 Computer Controlled Heavy Duty Pan & Tilt

PERFORMANCE

Power:	24 - 28 VDC, 1.7 amps (max) per axis @ 24 VDC
Operating Range:	24 VDC, adjustable, 0 mA to 1.2 amps per axis
Braking Mode:	< 100 mA per axis
At Rest (not braking):	
Torque:	45 lb-ft (61.0 N-m) minimum @5 degrees/second
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 1.67 RPM)
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 (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 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

MECHANICAL

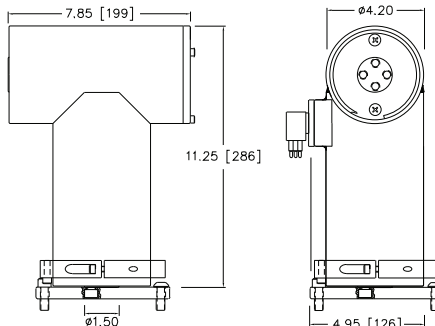
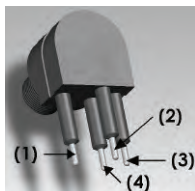
Housing Material:	Anodized 6061-T6 Aluminum	Electropolished 316 Stainless Steel
Height:	286 mm (11.25 in)	286 mm (11.25 in)
Width:		
Air-filled:	199 mm (7.85 in)	199 mm (7.85 in)
Oil-filled with bellofram:	243 mm (9.55 in)	243 mm (9.55 in)
Length without connector:	126 mm (4.95 in)	126 mm (4.95 in)
Main Body Diameter:	107 mm (4.20 in)	107 mm (4.20 in)
Output Shaft Diameter:	38.1 mm (1.50 in)	38.1 mm (1.50 in)
Weight in Air:		
Air-filled:	8.7 kg (19.2 lbs)	10.5 kg (23.2 lbs)
Oil-filled:	9.8 kg (21.5 lbs)	11.6 kg (25.5 lbs)
Weight in Water:		
Air-filled:	4.6 kg (10.2 lbs)	9.3 kg (20.6 lbs)
Oil-filled:	5.7 kg (12.5 lbs)	10.8 kg (23.9 lbs)
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 optional yoke bracket	
External Mechanical Limits:	ROS stop collar	
Compensator (oil-filled units only):	Bellofram	

ENVIRONMENTAL

Operating Depth Rating:	
Air-filled:	30 m (100 ft)
Oil-filled:	3,000 m (10,000 ft)
Operating Temperature:	up to +50°C (122°F)
Storage Temperature:	-20°C to +60°C (-4°F to 140°F) in air

ROS STANDARD PIN-OUT

- 1 - DC COMMON
- 2 - +24 VDC
- 3 - RS-485 A
- 4 - RS-485 B



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Specifications subject to change without notice