



PTU-D100-ISM E-SERIES

Midsize, Inertially Stabilized Pan/Tilt Unit

The PTU-D100-ISM E-Series integrates a powerful MEMs gyro to provide active inertially stabilized pointing with real-time control for payloads up to 20 pounds. Stabilization improves images while on the move and allows communications links to be maintained from air, ground, or sea platforms. The PTU-D100-ISM E-Series is an ideal OEM platform for a wide range of applications including slew-to-cue, video tracking, antenna tracking, and more.

The PTU-D100-ISM E Series has been proven in a wide range of mission-critical applications for positioning of cameras, lasers, antennas, or other instruments in both fixed and mobile environments. It is designed for high duty cycles and reliable operation 24/7 in harsh all-weather environments.

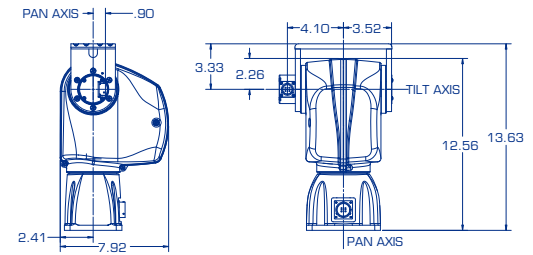
The latest evolution of FLIR pan-tilts incorporates a powerful 32-bit core electronics platform and real-time operating system to deliver superior motion control fidelity and improve performance.

KEY FEATURES INCLUDE:

- Smooth, repeatable motion and rigid design provide steady images in windy environments and excellent visual tracking
- Powerful command set supports absolute angle, relative angle, and velocity control with low latency and low jitter
- Extremely precise positioning (0.0075°) allows translating object positions to map coordinates accurately
- 3-axis strap-down gyro design
- Rigid worm gear design (no belts/pulleys)
- High holding torque (no sag when powered off)
- Solid and vibration-tolerant for vehicle-mounted applications
- Wide range of pan speeds (< 0.0075°/sec to 120°/sec)
- Integrated Ethernet and Web interfaces
- Increased command rates, reduced jitter
- Increased torque and speed
- Advanced microstep control

Specifications

Pan/Tilt Performance	Side Mount	Top Mount
Max. Payload ¹	20 lb (balanced)	12 lb
Pan Speed Range ²	0.0075°/sec – 120°/sec	0.0075°/sec – 120°/sec
Tilt Speed Range ²	0.0075°/sec – 120°/sec	0.0075°/sec – 120°/sec
Resolution – Pan	0.0075° (with microstep)	0.0075° (with microstep)
Resolution – Tilt	0.0075° (with microstep)	0.0075° (with microstep)
Pan/Tilt Features		
Tilt Range	+30° to -90° from level (120° range) (up to +/-90° with side mount if specified at time of order.)	
Pan Range	+/- 168° or 360° continuous	
Duty Cycle	Up to 100% duty cycle, or 3-5 million cycles	
Acceleration/Deceleration	On-the-fly speed and position changes	
Power Requirements		
Input Voltage	Unregulated 12-30 VDC (fastest performance & torque @ 30 VDC)	
Input Protection	Over-voltage/over-current protection meets MIL-STD-1275D	
Power Consumption (Measured at 30 VDC)	33.0W (Low move power mode), 45.0W (Regular move power mode) 63.0W (High move power mode), 3.3W (Hold power off mode)	
Connections & Communications		
Base Connectors	PRIMARY: 32-pin (MIL-C-26482). Includes: PTU-Power (3c) - 12-30 VDC + shield PTU-Control (7C) RS-232 (3c) & RS-485/422 (4c) Ethernet (4c) pan/tilt configuration/control Payload Pass-Through (9-12c)	
Payload Signal Pass-Through	Power (2c): 30 VDC max. @ 3 A Video-1 (2c): NTSC/PAL/RS-170 Video-2 (2c): NTSC/PAL/RS-170 High-Speed Pass-Through (4c): capable of 10baseT Other (3c): 30 VDC max. @ 1 A Connector: 19-pin (MIL-C-26402) Computer Controls RS-232, RS-485/422, Ethernet	
Control Protocols	DP (ASCII, Binary), Pelco-D (option), Nexus-compatible	
Mechanical		
PTU Weight	19 lb	
PTU Dimensions	Pan/Tilt only: 12.56" (h) x 8.2" (w) x 7.9" (d)	
Payload Mounting	Single/dual-side mount, top mount	
PTU Mounting	Pedestal	
Material	Machined aluminum, stainless fittings	
Packaging & Environmental		
Standards	IP67 Certified	
Operating Temperature ³	-30°C to 70°C (no heaters)	
Humidity	100% relative humidity, non-condensing	
Ice (Operating)	Sustained operation with 0.25" ice buildup	
Dust/Sand (Operating)	Sustained exposure to blowing dust/sand	
Wind/Rain/Fog	IP67	
Salt Spray	MIL-810G Salt Spray	
Color/Finish	Black anodized; custom colors/finishes available	
Shock/Vibration Certifications	MIL-STD-810G Method 514.6 Vibration, Method 516.6 Drop Test, Method 516.6 Shock	
EMI	CE Mark and FCC Part 15, Subpart B, Class A	



¹Over-the-top payload assumes COG < 6" from tilt axis; over the side payload assumes balanced COG.

²Maximum speed may depend on exact payload inertia and input voltage.

³Reduced speeds may be required for low temperature operation.

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