



# PTU-D300-ISM E-SERIES

## Stabilized Heavy-Duty Pan/Tilt Unit

The PTU-D300-ISM E-Series supports any type of single or multi-part payload through a flexible bracketing system of top and/or side mounting. It has been designed to be simple to integrate. The PTU-D300-ISM E Series is an open platform to provide flexibility while minimizing development and integration effort.

The PTU-D300-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.

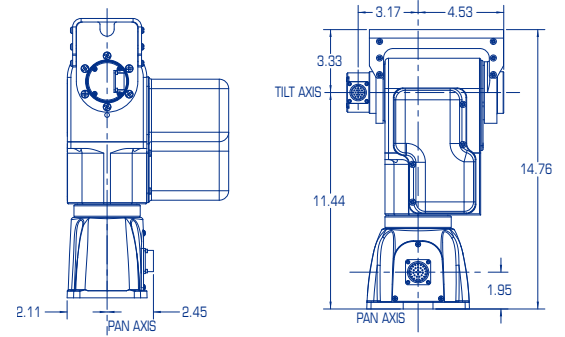
The latest evolution of FLIR pan/tilts incorporates a powerful 32-bit core electronics platform and real-time operating system to deliver superior motion control fidelity and improve performance.

### KEY FEATURES INCLUDE:

- Large payload capacity (20 lb top-mount; 40 lb side-mount)
- Rigid worm gear design (no belts/pulleys) provides steady images in windy environments
- Solid and vibration-tolerant for vehicle-mounted applications
- High holding torque (no sag when powered off)
- Integrated controller—no external box
- Wide range of pan speeds (<math>0.0064^\circ/\text{sec}</math> to  $50^\circ/\text{sec}</math>)$
- Extremely precise positioning ( $0.0064^\circ$  with microstep) allows translating object positions to global coordinates accurately
- Integrated Ethernet and Web interfaces
- Increased command rates, reduced jitter
- Advanced microstep control

## Specifications

Pan/Tilt Performance	Side Mount	Top Mount
Max. Payload <sup>1</sup>	40 lb (18.1 kg)	20 lb (9.0 kg)
Pan Speed Range <sup>2</sup>	0.0064°/sec – 50°/sec	0.0064°/sec – 50°/sec
Tilt Speed Range <sup>2</sup>	0.0064°/sec – 50°/sec	0.0064°/sec – 50°/sec
Resolution – Pan	0.0064° (with microstep)	0.0064° (with microstep)
Resolution – Tilt	0.0064° (with microstep)	0.0064° (with microstep)
Pan/Tilt Features		
Tilt Range	+30° to -90° from upright (120° range) (up to +/-90° with single side mount, if specified at time of order.)	
Pan Range	360° continuous	
Duty Cycle	Up to 100% Duty Cycle, or 3-5 million cycles	
Acceleration/Deceleration	On-the-fly speed and position changes	
Stabilization		
Type	2 Axis (3-axis, strap-down gyro, 2 stabilized axes)	
Range	Full pan/tilt range of motion	
Sine-wave Stability Error	<0.25° per axis @ 1 Hz (unloaded)	
Slew Rate	Up to pan/tilt maximum	
External Control	Accepts pan/tilt move commands while stabilized	
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)	27.6.0W (Low move power mode), 37.5W (Regular move power mode) 60.0W (High move power mode), 3.3W (Hold power off mode)	
Connections & Communications		
Base Connectors	PRIMARY: Connector: 32-pin (MIL-C-26482) Includes: PTU-Power (3c) - 12-30 VDC + shield PTU-Control (7c) - RS-232 (3c) and 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	28 lb (12.7 kg) (Standard bracket: 1.25 lb)	
PTU Dimensions	Pan/Tilt Only: 14.76"(h) × 7.07"(w) × 8.53"(d) (including top brackets)	
Payload Mounting	Side, top, dual-side+top	
PTU Mounting	Pedestal	
Material	Machined Aluminum	
Packaging & Environmental		
Standards	IP67 Certified	
Operating Temperature <sup>3</sup>	-30°C to 70°C	
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	Sustained operation in salt spray environments	
Color/Finish	Black anodized	
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	



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

<sup>2</sup>Maximum speed may depend on exact payload inertia and input voltage.

<sup>3</sup>Reduced speeds may be required for low temperature operation.



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