

Model PTU-D100-ISM

Intelligent Pan/Tilt Unit

Low-Cost Stabilized Pointing for Sea, Air, Ground

The PTU-D100-ISM integrates a powerful, low-cost MEMs gyro to provide active inertial stabilization of any type of payload. Stabilization improves images while on the move and allows communications links to be maintained from air, ground, or sea platforms. The PTU-D100-ISM is an ideal OEM platform for a wide range of applications including slew-to-cue, video tracking, antenna tracking, and more.

Key features include:

- Low cost
- 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 over 120°/sec)
- 360° continuous-pan option including pass-through for multiple cameras and other payload types (Video, IR, Laser)
- Flexible payload mounting (top or dual-side)
- Precise control of position, speed, and acceleration
- Simple control from host computer via RS-232/485
- Single connector for all video, control, power interfaces
- Fully sealed for outdoor/marine applications (IP67)
- CE Mark, FCC, RoHS certification

Options

- ISM starter kit (breakout cables, power supply)
- GPM option: Powerful command set supports real-time detection and tracking applications: absolute angle, relative angle, velocity control, and geo-pointing (lat/lon)
- Top payload bracket
- Side payload bracket(s)



Applications

- Maritime camera systems
- Airborne surveillance cameras
- Airborne antenna systems
- Satellite communications systems
- Wheeled vehicle camera systems
- Ship-to-shore/ship-to-ship communications
- Wheeled vehicle camera systems



Surveillance



Military



Remote Sensing



Robotics



Maritime



Antennas



Motion Control Systems

Model PTU-D100-ISM

Technical Specifications

Pan/Tilt Performance (Standard)

	Side Mount	Top Mount
Max. Payload ¹	20 lb (balanced)	12 lb
Max. Pan Speed ²	120°/second	120°/second
Max. Tilt Speed ²	120°/second	120°/second

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

² Maximum speed may depend on exact payload configuration and dynamics.

Pan/Tilt Features

Tilt Range	+30° to -90° from level (120° range) (up to +/-90 with side mount)
Pan Range	+/- 180° or 360° continuous (option)
Min. Pan Speed	0.0075°/second with microstep
Max. Pan Speed	120°/second
Min. Tilt Speed	.0075°/second
Max. Tilt Speed	120°/second
Pan Position Resolution	0.0075° (with microstep)
Tilt Position Resolution	0.0075° (with microstep)
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, no roll compensation)
Sine-wave Stability Error	<0.25° sine-wave test (see ISM data sheet)
Typical Stability Error	<1° under real platform motion
External Control	Accepts pan/tilt commands while stabilized

Power Requirements

Input Voltage	Unregulated 12-30 VDC (fastest performance & torque @ 30 VDC)
Power Consumption (Measured at 30 VDC)	60 W continuous peak (full power mode) 45 W continuous peak (default low power mode) 1 W continuous peak (holding power off mode)

Connections & Communications

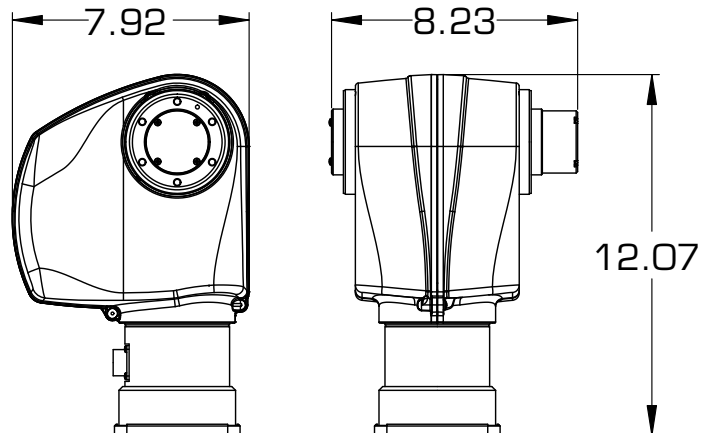
Base Connectors	PRIMARY: 19-pin AMP (MIL-C-26482). Includes: PTU-Power (3c) - 9-30 VDC + shield PTU-Control (7c) - RS-232/RS-485 Payload Signals (9-13c)
Payload Signal Pass-Through	Power (2c): 50 VDC max. @ 2 A max. Video (4c): 2x Video, or 1x Ethernet (10baseT) Serial/Aux (3-10c): RS-232/-422
Control Protocols	DP (Binary) to ISM (See ISM Datasheet)

Mechanical

Weight	19 lb
Dimensions	Pan/Tilt only: 12.1"(h) × 8.2"(w) × 7.9"(d)
Payload Mounting	Single/dual-side, top
PTU Mounting	Pedestal
Material	Machined aluminum, stainless fittings

Packaging & Environmental

Standards	Designed to IP67
Operating Temperature	-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	MIL-810F Salt Spray
Color/Finish	Black anodized; Custom colors/finishes available
EMI	CE Mark and FCC Part 15, Subpart B, Class A
Certifications	RoHS Compliant



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