



PTU-D300-RF

Precision Pan/Tilt Unit

Computer-Controlled Positioning of Antennas

The PTU-D300-RF provides fast, accurate positioning of antennas and other payloads. It features a DC-18GHz RF rotary joint and slip-ring to provide continuous pan rotation including pass-through for DC-18 GHz RF, power, and serial/control lines. Real-time control capabilities make the D300-RF ideal for tracking applications. The durability of the D300-RF makes it ideal for demanding harsh, all-weather environments such as air, ground, or sea vehicles and for applications that require high duty-cycles.

Key features include:

- Flexible payload mounting for all antenna types
- Solid and vibration-tolerant for vehicle-mounted applications
- Rigid worm gear design (no belts/pulleys) provides steady images in windy environments
- High holding torque (no sag when powered off)
- Large payload capacity (35 lb top; 70 lb side)
- Wide range of pan speeds (< 0.0064°/sec to 50°/sec)
- Extremely precise positioning (0.0064° with microstep)
- 360° continuous-pan including pass-through for DC-18 GHz RF and serial/control lines
- Single connector for all control, power interfaces
- Precise control of position, speed, and acceleration
- Simple control from host computer via RS-232/-485
- Fully sealed for outdoor/marine applications (IP67)
- CE Mark, FCC, RoHS certification

Options:

- Alternate ranges of motion
- Heavy-duty side mount brackets
- Inertial Stabilization Module (ISM)

Applications

- Air and ground communications
- Shipboard communications
- Electronic surveillance
- Scientific and R&D

Specifications



Pan/Tilt Performance (Standard)	Side Mount	Top Mount
Max. Payload¹	70 lb (31.8 kg.)	35 lb (15.9 kg.)
Max. Speed²	50°/second	50°/second

Pan/Tilt Features	
Approx. Tilt Range	+30° to -90° from upright (120° range) (up to +/-90° with single side mount)
Approx. Pan Range	360° continuous
Min. Pan Speed	.0064°/second
Min. Tilt Speed	.0064°/second
Pan Position Resolution	.0064° (with microstepping)
Tilt Position Resolution	.0064° (with microstepping)
Duty Cycle	Up to 100% duty cycle, or 3-5 million cycles
Acceleration/Deceleration	On-the-fly speed and position changes

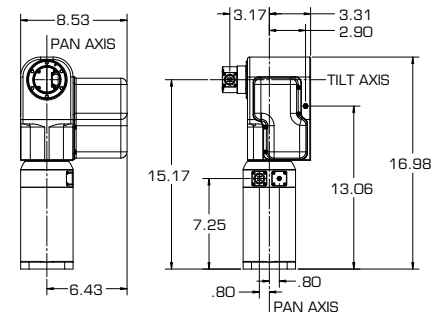
Power Requirements	
Input Voltage	Unregulated 12-30 VDC (fastest performance & torque @ 30 VDC)
Power Consumption (Measured at 30 VDC)	49.2 W avg., peak 2.25 A (high power mode) 34.2 W avg., peak 1.60 A (regular power mode) 18.2 W avg., peak 0.78 A (low power mode(default)) 1.6 W (holding power off mode)

Connections & Communications	
Base Connectors	PRIMARY: AMP (MIL-C-26482). Includes: PTU-Power (3c) - 9-30 VDC + shield PTU-Control (7c) - RS-232/RS-485 Payload Signals (8c)
Payload Signal Pass-Through	Power (2c): 30 VDC max. @ 3 A max. Video (4c): 2x Video or 1x Ethernet (10baseT) Other (2c): 30 VDC max. @ 1 A max.
RF Pass Through	DC-18GHz via precision SMA on base and near payload
Computer Controls	RS-232/485
Control Protocols	DP (ASCII, Binary)

Mechanical	
Weight	32 lb (14.5 kg) (Standard bracket: 1.25 lb)
Dimensions	Pan/Tilt Only: 16.98" (h) x 5.53" (w) x 8.53" (d)
Payload Mounting	Top plus single/dual-side
PTU Mounting	Pedestal
Material	Machined aluminum

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	Sustained operation in salt spray environments
Color/Finish	Black anodized
EMI	CE Mark and FCC Part 15, Subpart B, Class A
Certifications	RoHS Compliant

Camera Dimensions



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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.