Rugged, Compact, Feature-rich

The PTU-D300 is a family of modular computer-controlled pan-tilt units designed for fast, accurate positioning of heavy payloads. It provides high torque rated for payloads up to 70 lbs while maintaining speed, precision, and a very small form-factor. It offers multiple mounting options and a single connection point. It is designed for demanding applications that require high duty-cycles and long-life in harsh all-weather environments. Key features include:

- Rigid design provides steady images in windy environments
- Solid and vibration-tolerant for vehicle-mounted applications.
- Large payload capacity (35 lbs. top-mount; 70 lbs. side-mount)
- Wide-range of pan speeds (< 0.00643°/sec. to 50°/sec.)
- Extremely precise positioning (0.00643°) allows translating object positions to global coordinates accurately
- 360° continuous-pan including pass-through for many payload types (Video, IR, Microwave, Laser).
- Single connector for all video, control, power
- Flexible payload mounting (top or side)
- Precise control of position, speed & acceleration
- Simple control from host computer via RS-232/485
- Fully sealed for outdoor/marine applications (IP67)

Applications:
- Long-range surveillance
- Antenna positioning systems
- Satellite communications systems
- Laser ranging systems
- Automated video detection & tracking systems
- Industrial automation
- Port security
- Vehicle & shipboard surveillance systems
Technical Specifications

General Features

- Rigid design
- Solid and vibration-tolerant
- 360° continuous-pan with pass-through for any payload
- Single connector for all video, control, power
- Flexible payload mounting (top or side)
- Precise control of position, speed & acceleration
- CE Mark certified; Mil-spec optional
- Single DC power input

Pan-Tilt Performance

<table>
<thead>
<tr>
<th>Side Mount</th>
<th>Top Mount</th>
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<tbody>
<tr>
<td>Max Payloada</td>
<td>70 lbs. (31.7 kg.)</td>
</tr>
<tr>
<td>Max. speedb</td>
<td>50°/second</td>
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</tbody>
</table>

a. Over-the-top payload assumes COG 6” from tilt-axis; over-the-side payload assumes balanced COG.
b. Max. speed may depend on exact payload configuration and dynamics.

Tilt Range (approx): -30° to +90° from upright (120° range)
Pan Range (approx): 360° continuous
Pan Speed Min: .00643° /sec
Pan Speed Max: 50° /sec
Tilt Speed Min: .00643° /sec
Tilt Speed Max: 50° /sec
Pan Position Resolution: +/- 0.00643° (with microstepping)
Tilt Position Resolution: +/- 0.00643° (with microstepping)
Duty Cycle: Up to 100% duty cycle, or 3-5 million cycles

Power Requirements

Input Voltage: unregulated 9-30VDC (fastest performance & torque @ 30VDC)
Power Consumption (measured at 30VDC):
- 49.2W avg, peak 2.25A (high power mode)
- 34.2W avg, peak 1.60A (regular power mode)
- 18.2W avg, peak 0.78A (low power mode(default))
- 1.6W (holding power off mode)

Connections & Communications

Base Connectors: PRIMARY: AMP (MIL-C-26482). Includes:
- PTU-Power (3c) - 9-30VDC + shield
- PTU-Control (7c) - RS-232/RS-485
- Payload Signals (9c)
SECONDARY: reserved

Payload Signal Pass Through:
- Power (2c): 50VDC max @ 3A max
- Video (4c):
  - Serial (8c): 2x Serial (CHA/CHB) from PTU-Controller
  - Other (3c): 50VDC max @ 1A max
- Microwave: (DC-18GHz) (OPTIONAL)
- Custom: various (OPTIONAL)

Computer Controls: RS-232 standard;
- Built-in multidrop RS-485 networking

Control Protocols: DP (ASCII, Binary)

Mechanical

Weight: 26 lb. (11.34 kg) (Standard bracket: 1.25 lb.)
Dimensions:
- Pan-tilt only: 11.61”H x 5.53” W x 8.53” D
- w/top mount bracket: 13.12” H
- w/side mount bracket: 13.16” W

Payload Mounting: side-mount, top-mount
PTU Mounting: Pedestal mount
Material: Machined aluminum

Packaging & Environmental

Standards: Designed to IP67
Operating Temperature: -30°C to 50°C
Non-operating Temperature: -30°C to 70°C
Humidity: 100% relative humidity, non-condensing
Ice (operating): sustain operation with 0.25” ice buildup
Dust/Sand (operating): sustain exposure to blowing dust/sand
Wind/Rain/Fog: IP67
Salt Spray: sustain operation in salt spray environments
Color/Finish: Black anodized
EMI: FCC Part 15, part B Class A

Options

- Microwave payload pass-through (rotary joint)
- Side mount or top-mount brackets
- Geo-Pointing Module
- Ethernet/IP Interface
- Stabilization Module

Specifications subject to change without notice.