Midsize, Programmable, Rugged Pan/Tilt Unit

The PTU-D100 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-D100 E Series is an open platform that provides the flexibility needed while minimizing your development and integration effort.

The PTU-D100 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. The real-time command interface supports advanced applications such as video tracking.

It is designed for high duty cycles and reliable operation 24/7 in harsh all-weather environments. The low parts count, and highly integrated design provides unsurpassed system reliability.

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 to 25 Lbs
- Extremely precise positioning (to 0.0075° with microstep)
- Wide range of pan speeds 0.0075°/sec to 120° for smooth, precise control
- 360-continuous pan
- Precise, real-time control of position, speed and acceleration
- Rigid worm gear design (no belts/pulleys) provides steady positioning in windy environments
- Solid and vibration-tolerant for vehicle-mounted applications
- Integrated Ethernet and Web interfaces
- Increased command rates, reduced jitter
- Advanced microstep control

**OPTIONS**

- Payload brackets (top, side)
- Alternate colors/finishes
- Inertial stabilization
- Geo-pointing built in
### Specifications

#### Pan/Tilt Performance

<table>
<thead>
<tr>
<th>Side Mount</th>
<th>Top Mount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Payload</td>
<td>25 lb</td>
</tr>
<tr>
<td>Pan Speed Range</td>
<td>0.0075°/sec – 120°/sec</td>
</tr>
<tr>
<td>Tilt Speed Range</td>
<td>0.0075°/sec – 120°/sec</td>
</tr>
<tr>
<td>Resolution – Pan</td>
<td>0.0075° (with microstep)</td>
</tr>
<tr>
<td>Resolution – Tilt</td>
<td>0.0075° (with microstep)</td>
</tr>
</tbody>
</table>

#### Pan/Tilt Features

- **Tilt Range**: Programmable up to +30° to -90° from level (120° range) (up to +/-90° with side mount if specified at time of order)
- **Pan Range**: Programmable up to +/-180° or 360° continuous
- **100% Duty Cycle**: High duty-cycle, or 3-5 million cycles
- **Acceleration/Deceleration**: Programmable, 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) - 9-30 VDC + shield
  - PTU-Control RS-232/-422/-485/Ethernet (4c) pan/tilt configuration/control Payload Signals (9-13c)
- **Payload Signal Pass-Through**: 19-pin (MIL-C-26482) includes:
  - Power (2c): 50 VDC max @ 3 A max
  - Video (4c): 2x Video, Serial/Aux (3-6c): RS-232/-422/-485
  - High-Speed Pass-Through (4c): capable of 10baseT:Custom: various (optional)
- **Computer Controls**: RS-232, RS-485/422, Ethernet
- **Control Protocols**: DP (ASCII, Binary), Pelco-D (option), Nexus-compatible

#### Mechanical

- **PTU Weight**: < 20 lb (with top bracket)
- **PTU Dimensions**: Pan/Tilt Only: 12.56” (h) × 7.92” (w) × 8.2” (d) (without bracket)
- **Payload Mounting**: Single/dual-side mount, top mount
- **PTU Mounting**: Pedestal
- **Material**: Machined & cast aluminum

#### Packaging & Environmental

- **Standards**: IP67 Certified
- **Operating Temperature**: -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

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

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

*Reduced speeds may be required for low temperature operation.