

Model PTU-D48-DVE

Rugged Pan/Tilt Unit

Compliant with Driver's Vision Enhancer (DVE) and FADS Systems

Compact, Integrated Design

The PTU-D48-DVE is an integrated electric pan/tilt mechanism (EPTM) designed to be fully compliant with the Driver's Vision Enhancer Family of Systems (DVE-FOS) and Forward Activity Detection System (FADS) requirements for tactical wheeled vehicles. It provides a drop-in solution for the pan/tilt component in complete DVE and FADS sensor and display systems.



Key features include:

- Compact form factor with mil-standard ruggedness
- Full digital interface with speed/acceleration control and absolute positioning to meet current DVE/FADS requirements as well as future applications.
- Reliable worm-gear design; no belts/pulleys
- Solid and vibration-tolerant for vehicle-mounted applications
- High holding torque (no sag when powered off)
- Precise control of position, speed, and acceleration; slew-to-cue functionality
- Modular design adapts to future requirements and is compatible with other MCS pan/tilt units
- Payload capacity (10 lb, top)
- Integrated controller - no other electronics box required
- Flexible payload mounting (side and/or top)
- Simple control from host computer via RS-232/-485
- Fully sealed for outdoor/marine applications (IP67)
- CE Mark, FCC, RoHS certification

Applications

- Driver's Vision Enhancer (DVE / DVE-FOS)
- Forward Activity Detection Systems (FADS)
- Vehicle-mounted surveillance systems
- Force protection

Options

- Internal payload wire-through
- Side mount payload brackets
- Geo-Pointing Module (GPM)
- Ethernet/IP Interface Module
- Joystick/Controller per DVE-FOS/FADS Specification



Surveillance



Military



Remote Sensing



Robotics



Maritime



Antennas



Motion Control Systems

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Technical Specifications

Pan/Tilt Performance

	Top Mount
Max. Payload	10 lb
Max. Pan Speed ¹	100°/second
Max. Tilt Speed ¹	50°/second
Position Resolution - Pan	0.006°
Position Resolution - Tilt	0.003°
Speed Resolution	0.006°/second
Accuracy	< 0.25°
Repeatability	< 0.25°
Startup Time	< 3 minutes

¹ Unloaded. Maximum speed may depend on exact payload configuration and input voltage.

Pan/Tilt Features

Tilt Range	-30° to +10° (wider range optional)
Pan Range	+/- 70° (wider range optional)
Duty Cycle	Up to 100% duty cycle
Acceleration/Deceleration	Continuous, absolute speed commands; supports non-linear variable speed control requirement

Power Requirements

Input Voltage	Unregulated 16-32 VDC (26.5 VDC nominal)
Power Consumption (Measured at 30 VDC)	54 W continuous peak (high-power mode) 40 W continuous peak (default regular power mode) 1 W continuous peak (holding power off mode)
Voltage Surges	Per DVE-FOS/FADS Specifications
Hot Swap Protection	Per DVE-FOS/FADS Specifications

Connections & Communications

Base Connectors	PRIMARY: AMP (MS3122E14-19S) Includes: PTU-Power (3c) PTU-Control (4c) - RS-232 (3c) and RS-422 (4c) Reserved (6c)
Payload Signal Pass-Through	Power (2c): 32 VDC max. @ 3 A Video-1 (2c): NTSC/PAL/RS-170 Video-2 (2c): NTSC/PAL/RS-170 Other (3-6c): 30 VDC max. @ 1 A Connector: AMP (MIL-C-26482)
Control Protocols	DP (ASCII, Binary)

Mechanical

Weight	8.75 lb (9.25 lb with top bracket)
Dimensions	7.78"(h) × 5.35"(w) × 5.43"(d) (no payload connector)
Payload Mounting	Side and/or top
PTU Mounting	Pedestal
Material	Aluminum and steel

Packaging & Environmental

Standards	Designed to IP67 + DVE-FOS/FADS Specifications
Operating Temperature	-37°C to +70°C
Temperature Shock	Per DVE-FOS/FADS Specifications
Humidity	100% relative humidity, non-condensing
Dust/Sand (Operating)	Sustained exposure to blowing dust/sand
Water/Submersion	IP67 + Per DVE-FOS/FADS Specifications
Salt Fog	Per DVE-FOS/FADS Specifications
Color/Finish	Black anodized or paint/finish to suit
Shock & Vibe	Per DVE-FOS/FADS Specifications
EMI	CE Mark and FCC Part 15, Subpart B, Class A

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