



### 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 and 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 systems for any DVE-compliant sensor and display system.

The PTU-D48-DVE offers several advantages over other pan-tilt units for DVE/FADS systems including:

- Compact form factor
- Full digital interface with speed/acceleration control and absolute positioning - to meet current DVE/FADS requirements as well as future applications.
- Precise, slew-to-cue functionality
- Solid and vibration-tolerant for vehicle applications
- Reliable worm-gear design - no belts/pulleys
- Flexible payload mounting (top and/or side)
- Integrated controller - no other electronics box required
- Option for internal payload wire through
- Compatibility with other Directed Perception pan-tilt units



#### Applications

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



## General Features

- Full compliance with DVE-FOS and FADS Requirements
- Rigid worm gear design. No belts/pulleys.
- Mil-standard ruggedness
- High holding torque (no sag when powered off)
- Modular design adapts to future requirements
- Integrated controller - no external box
- Precise control of position, speed & acceleration
- FCC, CE Mark, and RoHS certified
- Single DC power input

## Options

- Side-mount payload brackets
- Geo-Pointing Module (Part# PTU-DGPM)
- Ethernet/IP Interface Module (Part# PTU-DGPM)
- Payload pass-through wiring
- Joystick/Controller per DVE-FOS/FADS Specification

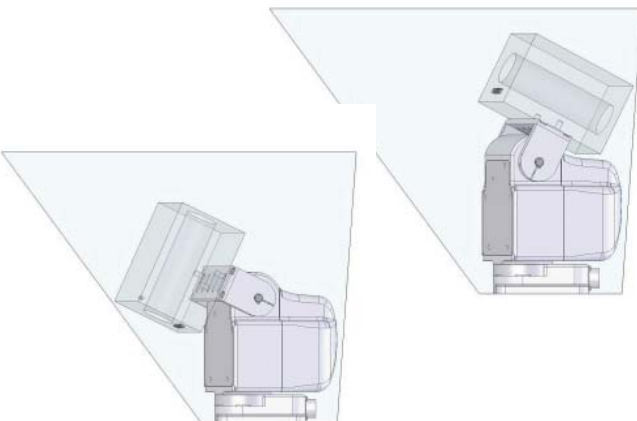
## Pan-Tilt Performance

	Top Mount
Max Payload	10 lbs
Max Pan Speed <sup>a</sup>	100°/second
Max Tilt Speed <sup>a</sup>	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

<sup>a</sup> Unloaded. Max 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
Speed Control	continuous, absolute speed commands - supports Non-linear variable speed control requirement



Operates within DVE/FADS Envelope

## Power Requirements

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

## Connections & Communications

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

## Mechanical

Weight	8.75 lbs. (9.25 lbs. with top bracket)
Dimensions	7.7" H x 5.1" W x 5.6" D (no payload connector)
Payload Mounting	Side and/or Top
PTU Mounting	Pedestal mount
Material	Aluminum & Steel

## Packaging & Environmental

Standards	Designed to IP67 + DVE-FOS/FADS Specifications
Operating Temperature	-37°C to +70°C
Non-Operating Temperature	-46°C to +71°C
Temperature Shock	Per DVE-FOS/FADS Specifications
Humidity	100% relative humidity, non-condensing
Dust/Sand (Operating)	Per DVE-FOS/FADS Specifications
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	Per DVE-FOS/FADS Specifications

Specifications subject to change without notice. Minimum quantity purchase may apply.



# Directed Perception

Advanced and Innovative products for the control and positioning of sensors and precision instruments

890C Cowan Road Burlingame, California 94010

Office 650-692-3900 | Fax 650-692-3930

sales@DPerception.com | www.DPerception.com