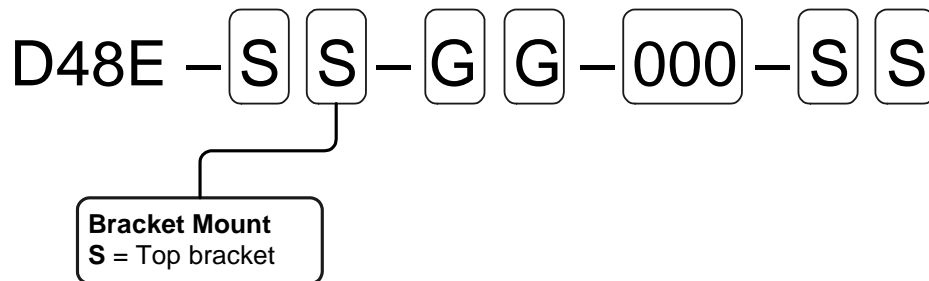


This *Configuration Guide* lists the configuration options and accessories for the PTU-D48 E Series pan-tilt units with the optional ISM manufactured by FLIR Motion Control Systems, Inc. Additional information and instructions for PTU-D48 E Series with ISM are available in the following documents:

- PTU-D48 E Series *Datasheet*
- PTU-D48 E Series *User Manual*
- *Pan-Tilt Unit (E Series) Command Reference Manual*
- *ISM User Manual*

Model Numbers



Available Options

The following configuration and options are available for the PTU-D48 E Series with ISM:

- **Bracket Mount:** Payloads can be mounted on the top and/or side. A number of bracket options are available to suit each application. Page 2.
- **Slip Ring:** The PTU-D48 E Series with ISM includes a slip ring for continuous 360° panning. Page 3.
- **Wiring:** E Series PTUs with ISM include PL02 wiring. Page 3.
- **Range of Motion:** If needed, you may request special limits. Page 4.
- **Pan-Tilt Controls:** The PTU-D48 E Series with ISM can be controlled using an ASCII command set, Ethernet/web connection, or external joystick. Page 5.
- **Accessories:** Available accessories include cables, converters, power supplies, and starter kits. Page 6.

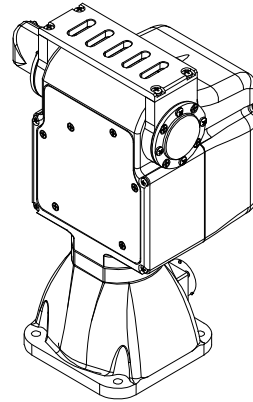
Bracket Mount

The PTU-D48 accepts payloads using a top or side. Side mounting offer the higher payload rating because it reduces tilt axis torque. The PTU-D48 itself can be mounted in any orientation; however, consideration should be given to gravity and torque effects depending on PTU-D48 orientation and payload mounting orientation and balance.

Top Mount

The PTU-D48 comes standard with a top-mount configuration and included top bracket.

Part number: D48E-SS-GG-000-__

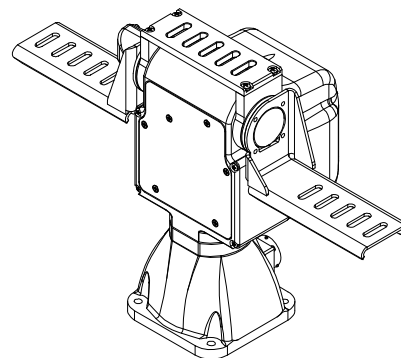
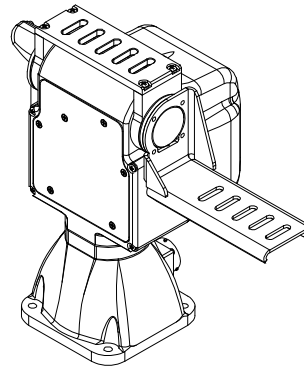


Side Mount

In addition to the PTU-D48 with standard top bracket, you may order one or two optional side-mount brackets.

Part Number: D48AC-BKT-LSTD

- **To order a PTU-D48 with one side-mount bracket:**
Order the PTU (D48E-SS-GG-000-__)
plus
one bracket (D48AC-BKT-LSTD).
- **To order a PTU-D48 with two side-mount brackets:**
Order the PTU (D48E-SS-GG-000-__)
plus two brackets
(D48AC-BKT-LSTD).



Note: You may special order a PTU-D48 without a top bracket. Please contact FLIR Motion Control Systems, Inc. for assistance.

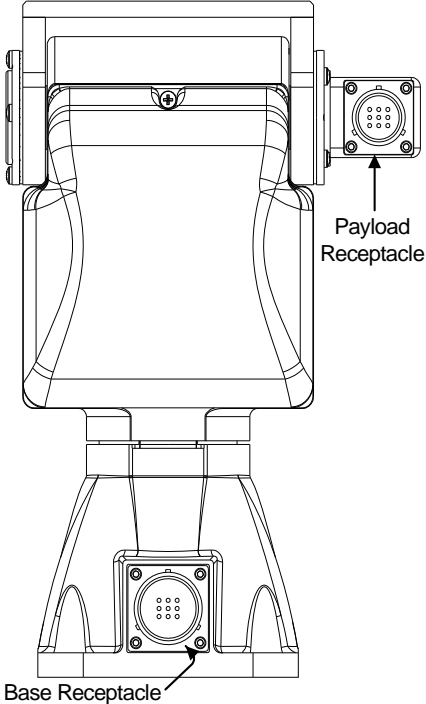
Slip Ring

PTU-D48 units with ISM include a slip ring that allows continuous 360° pan rotation.

Payload Wiring

PTU-D48 units equipped with an internal slip ring are available with internal pass-through wiring, which provides a 19-pin MIL-C-26402 female receptacle at the top of the PTU near the payload location to connect video, power, and other signals. (The mating connector is provided to facilitate cable construction if needed.) These signals then pass through the PTU, into the connector at the base of the unit, and the cable harness (if purchased). This option allows you to reduce the amount of external cables and eliminate potential damage to external cables.

- The payload receptacle contains lines for Video 1, Video 2, payload power, and general pass-through lines.
- The base receptacle contains lines for Video 1, Video 2, payload power, general pass-through lines, PTU control (RS-232, RS-485), and PTU power.



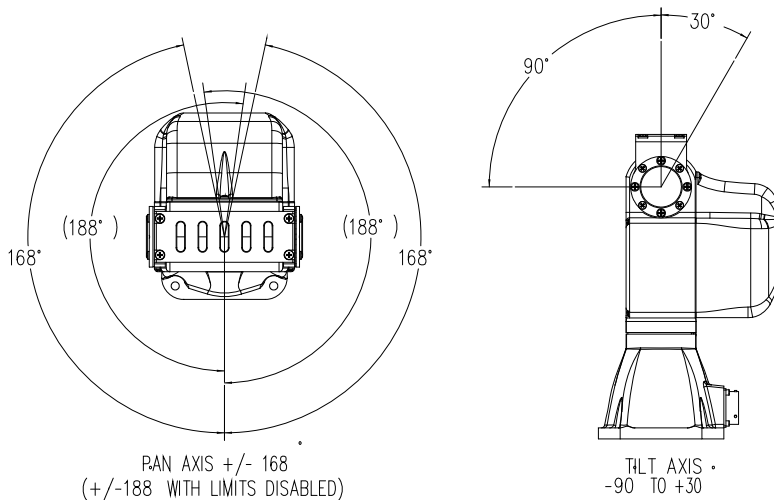
PL02 Wiring

PL02 allows you to route signals to the payload as shown in the table via 13 dedicated conductors. A mating connector for cable construction is included.

Pass Through Conductors	PL02
Power	3
Video	4
General	6
Total	13
Signals at Payload	
TTL Outputs	3
PTU Host Control	3
CHA/CHB Serial	8
Base Connector	
RS-232 Host Control	NO
RS-485 Host Control	YES
Ethernet/Web	YES

Range of Motion

The PTU-D48 has the following standard factory pan and tilt axis limits. Factory limits define the range of motion allowed for an axis when limits are enabled, and that axis cannot travel beyond those limits. The built-in slip ring allows continuous 360° pan-axis movement (see Page 2).



ISM: ISM-equipped PTUs have a tilt range of +30°/-85° when stabilization is enabled. Disabling stabilization provides the full range of motion listed above.



Note: You may special order a PTU-D48 with custom hard stops installed and/or with custom bracket positioning, factory ranges of motion, etc. Please contact FLIR Motion Control Systems, Inc. for assistance.

Pan Range Options

Part number: D48E-__-GG-000-*_

Tilt Range Options

Part number: D48E-__-GG-000-_*

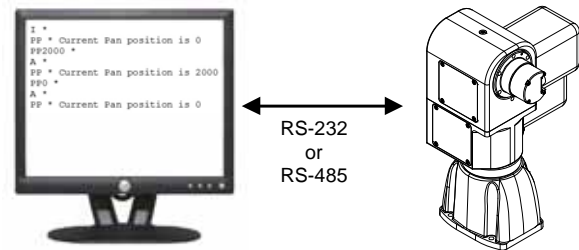
The part number on your PTU-D48 with ISM may vary as shown here to reflect any special-ordered custom limits, stops, etc.

Pan-Tilt Control

The PTU-D300 supports serial, Ethernet/web, binary, and joystick control interfaces that provide a wide range of system control architectures. The following options are available:

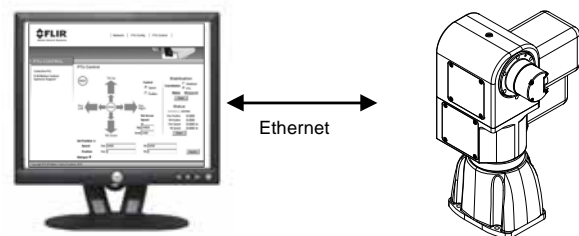
ASCII Command Set

The PTU-D300 can be controlled via the standard built-in serial port (RS-232 or RS-485) using simple ASCII commands. (See the E Series Command Reference Manual.) This can be done using a terminal program or a custom application.



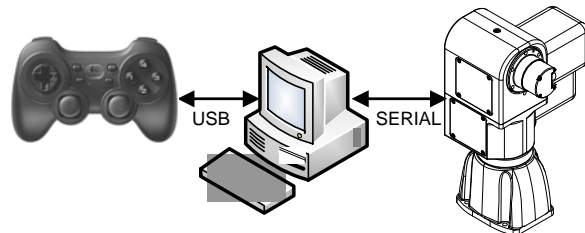
Ethernet/Web Interface

The PTU-D300 can be controlled via the standard built-in Ethernet port and web interface. The intuitive interface makes configuration and direct control easy using a mouse and direct text entry.



Gamepad Joystick

A USB gamepad controller is available to control a single PTU and up to two VISCA-compatible cameras that are connected to a host computer via a serial connection. The PTU Joystick Control utility is included with E Series PTUs.



Part numbers: PT-PSC (Gamepad Controller)



Note: Cameras should be connected to the host PC using a dedicated serial connection for each camera.

Accessories

The following accessories may be ordered for the PTU-D300. These accessories simplify system prototyping and fielding.

25' Breakout Cable

The breakout cable connects to the 32-pin base connector (MIL-C-26482) on the PTU-D300 and terminates to standard connectors for power, serial communication, Ethernet, and payload signals. The terminating connectors are:

Power (DIN), 2x video (composite), RS-232 (DB-9, female), RS-485 (RJ11), Ethernet (RJ45), and payload pass-through conductors.



Part number: [PTU-CAB-E-25BO](#)

Power Supply

PTU power supply unit. 30VDC output, 110/220VAC input.

Dimensions: 3.44"W x2.01"Hx7.61"L.



Note: Input voltages under 30V can reduce the maximum speed of the unit by an amount that is proportional to the voltage difference.



Part number: [PTU-AC-APS-30V](#)

Starter Kit

The PTU starter kit includes one power supply (PTU-AC-APS-30V), one 25' breakout cable (PTU-AC-CAB-25BO), and one RS-485 to RS-232 converter (PTU-CONV-RS485C).



Note: Input voltages under 30V can reduce the maximum speed of the unit.

Part number: [PTU-KIT-E-STR](#)

Extension Cables

An extension cable extends the length of the breakout cable. There is a male connector on one end and a female connector on the other. Available in 50' and 100' lengths.

Part numbers: [PTU-CAB-E-EXT-50](#) (50') or
[PTU-CAB-E-EXT-100](#) (100')



Mating Connector

Mating connector for the 32-pin base (MIL-C-26482) and 19-pin payload (IL-C-26402) PTU connectors. Use this to make custom PTU and/or payload cables.

Part numbers: [PTU-CABLE01-19PMILC](#) (19-pin payload) or
[PTU-CABLE03-32PMILC](#) (32-pin base)



RS-485 to RS-232 Converter

Bi-directional module that converts signals from RS-232 to RS-485. Includes power supply, coupler, and cable.

Part number: [PTU-CONV-RS485C](#)



Rugged Joystick and Cable

This rugged joystick allows PTU control without a host computer. Cable ordered separately.

Part numbers: [PT-DCJ](#) (joystick) and
[PTU-DCJE-CABLE](#) (25' DCJ connection cable)



E Series PL01/PL02 Adapter Cable

These cables allow you to connect an E series PTU to an existing D series setup without rewiring, except that the Ethernet/web connection will not be available. Make sure to order the correct cable for your wiring setup (PL01 or PL02).

Part numbers: [PTU-CAB-E-AD-PL01](#) (PL01) or
[PTU-CAB-E-AD-PL02](#) (PL02)

