

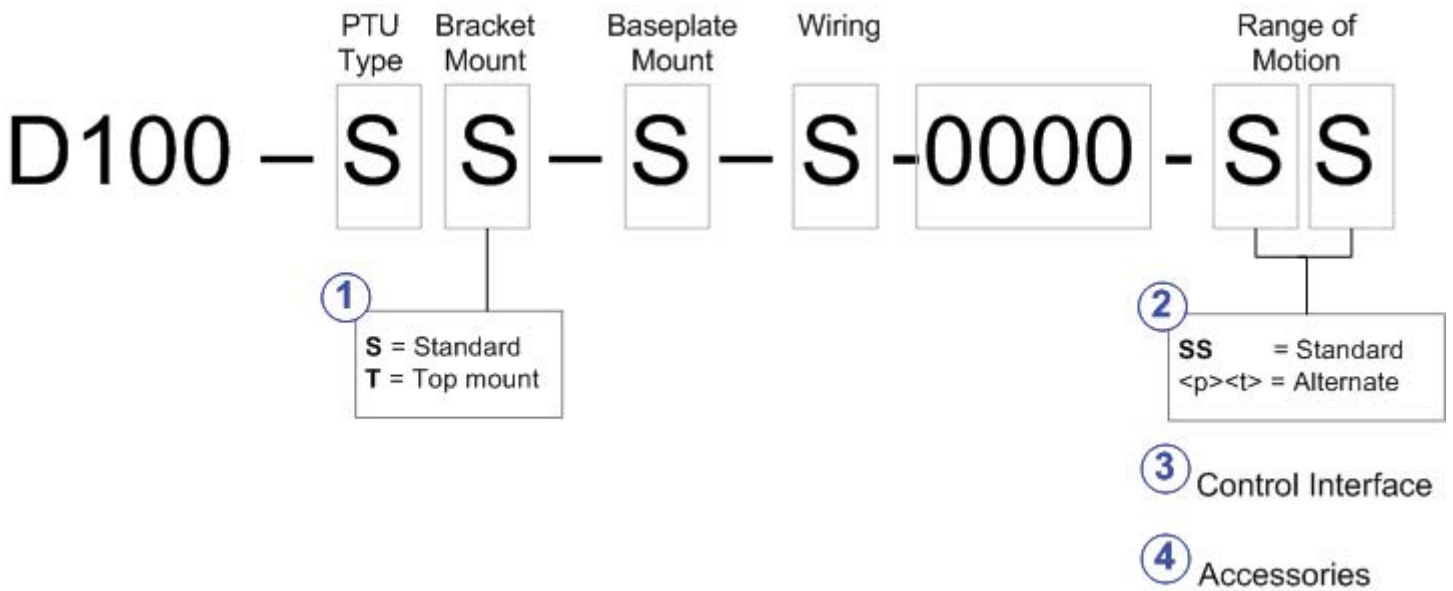


PTU-D100-ISM: Quick Configuration Guide



This guide includes details on configuration options and accessories for the model PTU-D100-ISM pan-tilt units. This guide will walk you through the configuration. Other relevant documents include:

- PTU-D100-ISM Datasheet
- PTU-D100 User Manual
- ISM User Manual
- Pan-Tilt Unit Command Reference Manual



The following are the configuration choices and accessories available for this model:

- 1 Payloads can be mounted on the top or side. A number of bracket options are available to suit each application.
- 2 The pan-tilt can be ordered with standard ranges of motion or with alternate ranges of motion.
- 3 Pan-tilt control options include binary command set, Ethernet connection, and gamepad.
- 4 Available accessories include cables and converters, power supplies, and starter kits.

1 Bracket Mount

Payloads can be mounted on the top or the side. Side mounting has a higher payload rating than top mount as it reduces the amount of torque on the tilt axis. The PTU-D100-ISM itself can be mounted in any orientation. When mounting in non-vertical orientation, consideration should be given to gravity effects, depending on payload mounting orientation and balance.

Select among the following options for payload mounting bracket configurations.

No Bracket: D100- **S** **S** - S - S -0000 -S S

The PTU-D100-ISM comes without brackets. Side or Top mount can be added (see below). Order this configuration if you are providing your own bracketing.

Ordering:

D100-__**S**-G-G-0000-__-__ No brackets.



No Bracket

Top Mount: D100- **S** **T** - G - G -0000 -S S

The PTU-D100-ISM is available with top mount configuration.

Ordering:

D100-__**T**-G-G-0000-__-__ Top mount only.



Top Mount Bracket

Side Mount: D100- **S** **S** - S - S -0000 -S S

The PTU-D100-ISM can be ordered with no top mount bracket, which allows installation of one or two side mount brackets (**D100AC-Bkt-Lstd**).

Ordering:

D100-__**S**-G-G-0000-__-__ Hubs on both sides, no bracket.

D100AC-Bkt-Lstd Qty 1-2 side bracket



Dual-Side Brackets

Side + Top Mount: D100- **S** **T** - G - G -0000 -S S

The PTU-D100-ISM can be configured with top + side brackets to allow 3-part payload systems to be mounted.

Ordering:

D100-__**T**-G-G-0000-__-__ Top mount.

D100AC-Bkt-S Qty 1-2 side bracket that mates with top

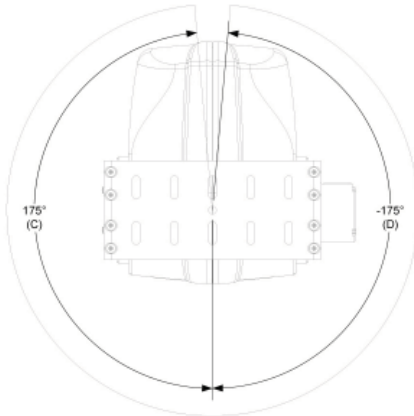
(Not Shown)

Dual-Side plus top brackets

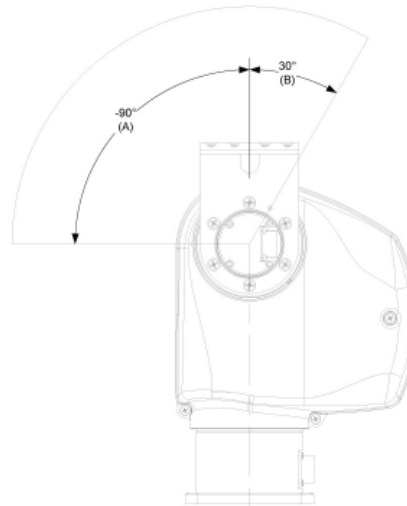
(D100 shown for illustrative purposes.. D100-ISM is taller)

2 Ranges of Motion

The PTU-D100-ISM calibrates automatically on power-up using an internal precision limit detection system. In order for the unit to calibrate successfully, it must explore the full range of motion in both axes. If this calibration sequence may potentially interfere with surrounding equipment, modified pan and tilt ranges can be specified at time of order. The calibration sequence can be software controlled, and suppressed at power up. However the sequence must be executed before absolute position commands will be accepted. Range of motion limits must be set at the factory and cannot be changed by the user. All PTU-D100-ISM configurations include a slip-ring for continuous pan rotation. Continuous pan mode is enabled with a software command. When not enabled, the pan ranges per below apply.



Pan axis
+/- 175°



Tilt axis
+30° to -90°

(D100 shown for illustrative purposes.. D100-ISM is taller). See User Manual for complete dimension information.

Pan Range Options

Ordering:

D100-___-G-G-0000-_*__ <* see below>

Example: D100-SS-G-G-0000-AS = +005/-005 Pan

Available Pan Range Values

S	+175 / -175 (plus continous) (standard)
A	+005 / -005 Pan
B	+010/-010 Pan
C	+025 / -025 Pan
E	+035 / -035 Pan
F	+090 / -090 Pan
Z	Custom Pan (specify, requires engineering approval)

Tilt Range Options

Ordering:

D100-___-G-G-0000-_*__ <* see below>

Example: D100-SS-G-G-0000-SC = +025/-025 Tilt

Available Tilt Range Values

S	+030 / -090 (standard)
A	+005 / -005 Tilt
B	+010/-010 Tilt
C	+025 / -025 Tilt
E	+035 / -035 Tilt
F	+090 / -090 Tilt (** not compatible with top mount)
G	+000 / -040 Tilt
Z	Custom Tilt (specify, requires engineering approval)

If the standard ranges of motion are acceptable, but a different orientation or center point is desired, the mounting bracket may be differently positioned or rotated in 60 degree increments (may not apply to some top mount configurations). The home or zero position can be changed with a firmware command to correspond with physical orientation of payload.

3 Control Interface

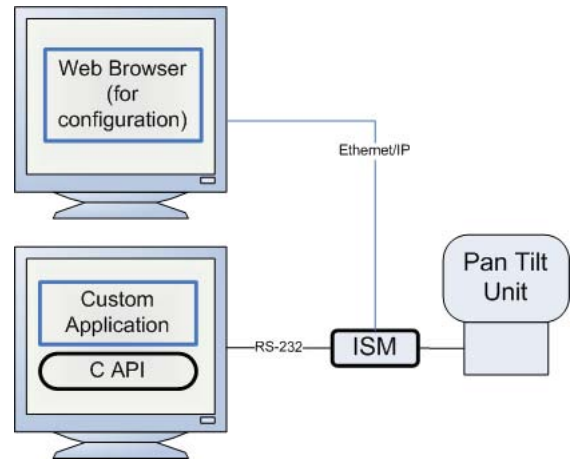
The PTU-D100-ISM supports serial and ethernet interfaces enabling a wide range of system control architectures. Options are described below.

Binary Command Set (C API)

The PTU-D100-ISM interface includes both RS-232 and Ethernet. The Ethernet interface is used to configure the ISM. The RS-232 interface to the ISM module accepts binary forms of the DP command protocol. These binary formats are supported via our C Language Interface library (PTU-CPI) which is provided as ANSI C Source Code which can be compiled into your application on most any computing platform (CPU/OS). The binary command format supports over 60 commands/second and is included with the D100AC-Kit-Starter-ISM.

Ordering:

D100AC-Kit-Starter-ISM "Starter Kit for ISM..."

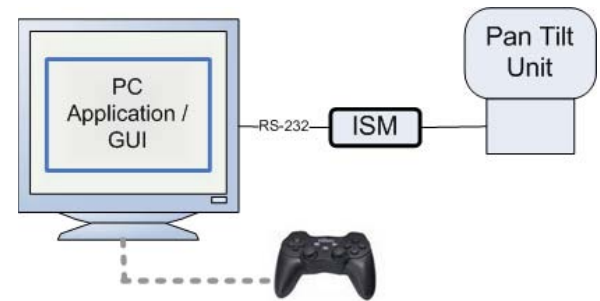


Gamepad + PC Application

The D100AC-Kit-Starter-ISM includes a gamepad and PC application to allow control and operation of the PTU-D100-ISM out of the box with no custom application programming.

Ordering:

D100AC-Kit-Starter-ISM "Starter Kit for ISM..."



4 Accessories

The D100-ISM is available with several optional accessories to simplify prototyping and fielding of systems. These accessories are described below.

Breakout Cable

Connects to mil-style (MIL-C-26482) base connector of pan-tilt unit and terminates to standard connectors for power, serial communication, payload signals. Terminating connectors are: Power (DIN), 2x video (composite), RS-232 (DB-9, female), RS-485 (RJ11),. Length: 25 feet. Material: _____

Ordering:

PTU-AC-CAB-25BO "Cable harness..."

Power Supply

AC/DC, 110/220VAC input, 30VDC output power source for the pan-tilt unit. 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.)

Ordering:

PTU-AC-APS-30V "AC/DC International power supply..."

Starter Kit

Includes one power supply (PTU-AC-APS-30V) and one breakout cable (PTU-AC-CAB-25BO), gamepad controller and software (PT-PSC and PT-AS-01).

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

Ordering:

D100AC-Kit-Starter-ISM "Includes (1) PTU-AC-APS-30V, (1) PTU-AC-CAB-25BO..."

Extension Cables

Extends length of breakout cable. Male connector on one end, female connector on the other. Available in 50' and 100' lengths.

Ordering:

PTU-AC-CAB-Ext-50 "50' extension cable..."

PTU-AC-CAB-Ext-100 "100' extension cable..."

Mating Connector

Mating connector for Base and Payload pan-tilt connectors (MIL-C-26482). Can be used to make custom cables for pan-tilt and/or payload.

Ordering:

PTU-AC-cable01-19PmilC "Mating connector..."

RS-485 to RS-232 converter

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

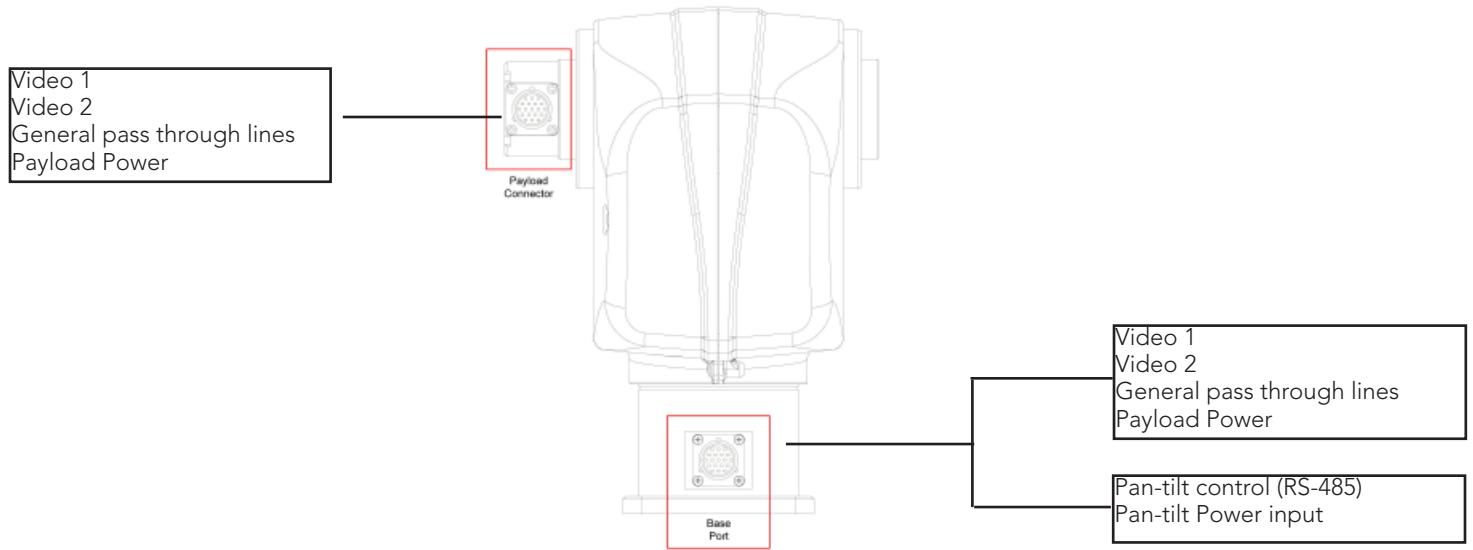
Ordering:

PTU-AC-Conv-RS485C "RS232/485 converter..."



Payload Wiring

The D100-ISM is available with internal pass through wiring and slip-ring for continuous pan rotation. This option provides a 19-pin MIL style connector at the top of the pan-tilt unit near the payload location, which will accept video, power, and other signals. (The mating connector is provided to facilitate cable construction if needed.) These signals then pass through the pan-tilt unit, into the connector at the base of the unit, and the cable harness (if purchased). This option means you can reduce the amount of external cables and eliminate potential damage to external cables.



PL05 wiring

Allows you to route signals to the equipment mounted on the unit as shown in the table at the right. PL05 gives you 9 pass-through conductors dedicated to the payload. Includes mating connector for construction of payload cable. This configuration includes a slip-ring for 360-continuous pan operation.

Ordering:

D100-___-G-G-0000-__-__ PL05 payload pass-through wiring

D100-ISM Payload Wiring Options

PL05	
# of conductors	
Passed Through	
Power	2
Video	4
General	3
Total	9
Signals at Payload	
TTL Outputs	3
PTU Host Control	0
CHA/CHB Serial	2
Base Connector	
RS-232 Host Control	YES
RS-485 Host Control	YES