



TS1 Series Mini joystick



Features

- 1 or 2 axis thumb controller
- Contactless Hall effect technology
- Threaded, drop-in, or rear mount
- 4 actuator options
- Standard IP67 above panel
- Proportional analog output or USB

Applications

- Maritime and offshore deck machinery
- Agricultural machines
- Lifting equipment
- Industrial remote controllers
- Armrest control panels

Description

This 2-axis miniature thumb controller uses contactless Hall effect sensors that provide a precision proportional output with an exceptional return to center characteristics. This joystick has an elastomer actuator available in different shapes and it has standard IP67 seal above panel. The various mounting options make this joystick very easy to integrate into all kinds of heavy-duty machinery. The TS1 offers several output options and is supplied with 28AWG cable.

Specification

MECHANICAL (X & Y AXIS)	
Angle Of Movement	45° (22.5° Each Direction)
Expected Cycle Life	2.5 Million
Centering	Spring Return
Max. Vertical Load	300 N (67.5 lbf)
Max. Horizontal Load	220 N (50 lbf)*
* Measured 15,75 mm (0,62")	
ELECTRICAL	
Sensor Type	Hall Effect
Resolution	12 Bit
Supply Voltage	5VDC ± 0.01VDC
Output Voltage	See Options
Center Voltage	± 50mV
Overvoltage Max.	20VDC
Reverse Polarity Max.	-10VDC
PUSHBUTTON SWITCH	
Electrical Life	300,000 Cycles
Rating	50mA, 12VDC
Actuation Force	5 N (1.15 lbf)
ENVIRONMENTAL	
Operating Temperature	-40°C to 85°C (-40°F to 185°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
IP Sealing Above Flange	IP67
EMC Immunity Level	EN61000-4-3 *Compliance To 30A/m
EMC Emissions Level	EN61000-6-3
ESD Immunity Level	EN61000-4-2 *Compliance To ±15kV/±8kV
Vibration Testing	Per SAE J1455 Section 4.9 & MIL-STD810G 514.6
Mechanical Shock	Per SAE J1455 Section 4.10 & MIL-STD-202G

* Extended Testing Levels

Specification

MOLEX 5304-80510 CONNECTOR (ANALOG)

PIN #	WIRE COLOR	DESCRIPTION
1	Red	Power (+5V)
2	Black	Ground
3	Blue	X Axis Sensor
4	Yellow	Y Axis Sensor
5	Orange	Pushbutton**

** Optional



10" CABLE PROVIDED, ANALOG VERSION

MATERIALS

Plastic Housing	Mineral & Glass Filled Nylon
Metal Housing	Gold Anodized Aluminium
Boot & Actuators	Silicone

IP RATING: IP67 (ABOVE PANEL, ALL CONFIGURATIONS)

* Extended Testing Levels

TS1 ELECTRICAL SPECIFICATIONS (USB VERSION)

Resolution	10 Bit
Supply Voltage	5VDC via USB Cable
System Support	Windows (All), OSX, Linux
Supported Protocols	USB HID 1.1 Game Controller Standard Directx HID Drivers Joystick: 2 HID Axis Pushbuttons: Up to 1 HID Button

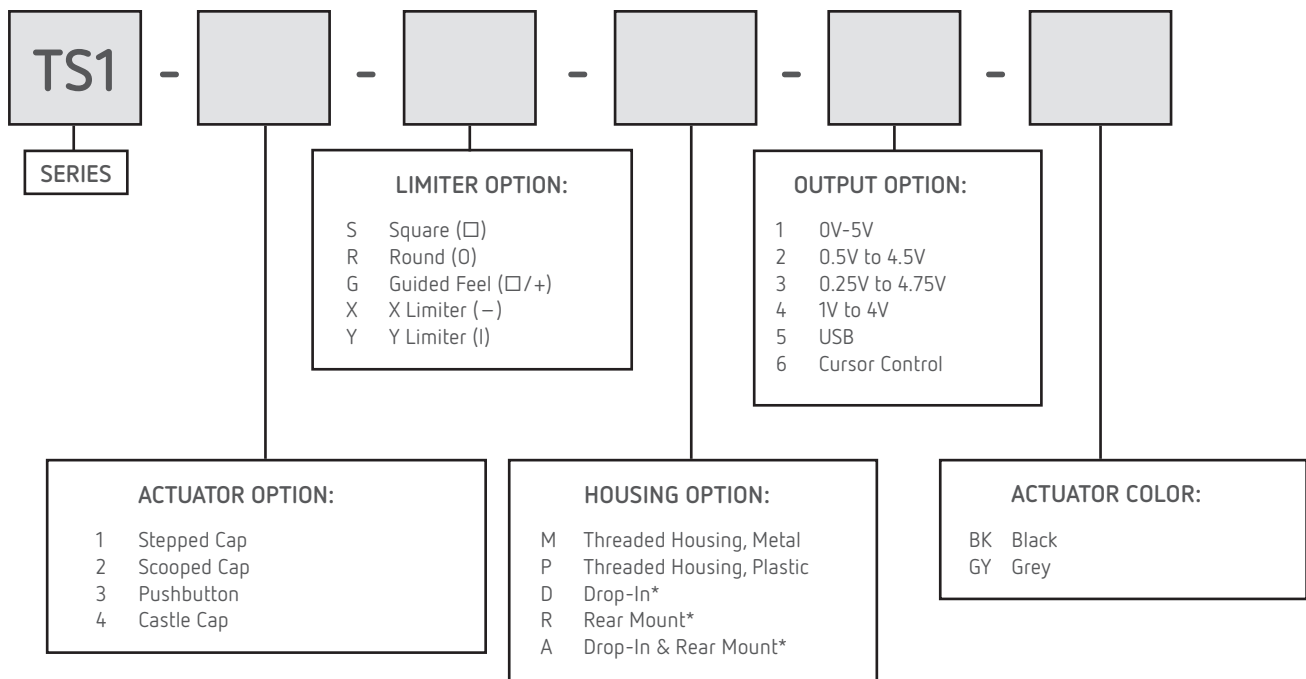
Cable USB Male Type A to Right Angle Mini B
150cm (60") Length (Mini B to Joystick)

CURSOR CONTROL OUTPUT OPTION:

The Cursor Control output option converts the analog joystick output into a USB cursor control device. This is achieved by the joystick's microprocessor converting the absolute position of the joystick into a cursor velocity or mouse position.

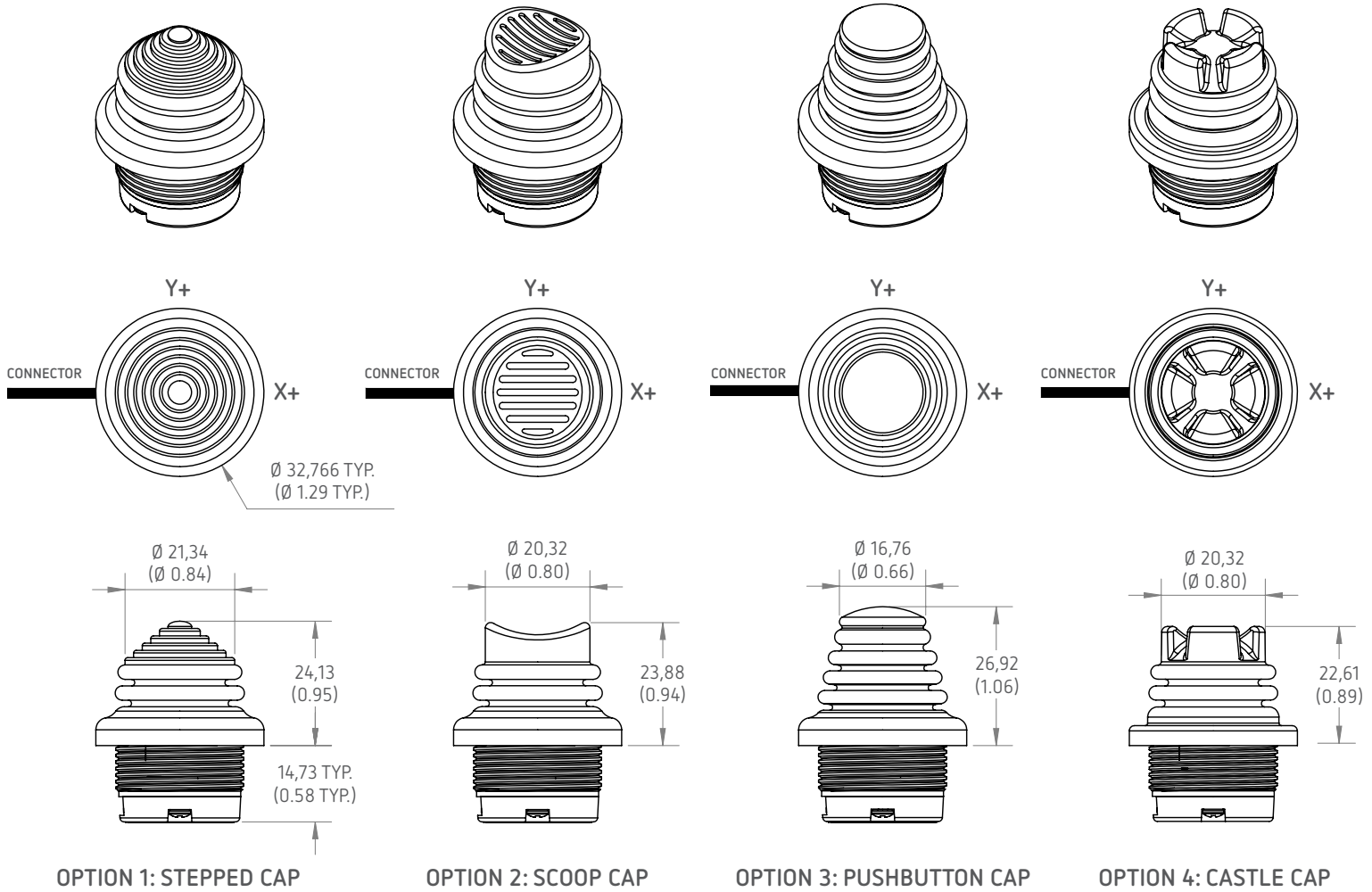
Cable USB Male Type A to Right Angle Mini B
150cm (60") Length (Mini B to Joystick)

Product Configuration Guide



* Available with Castle Cap or Stepped Cap actuators only.

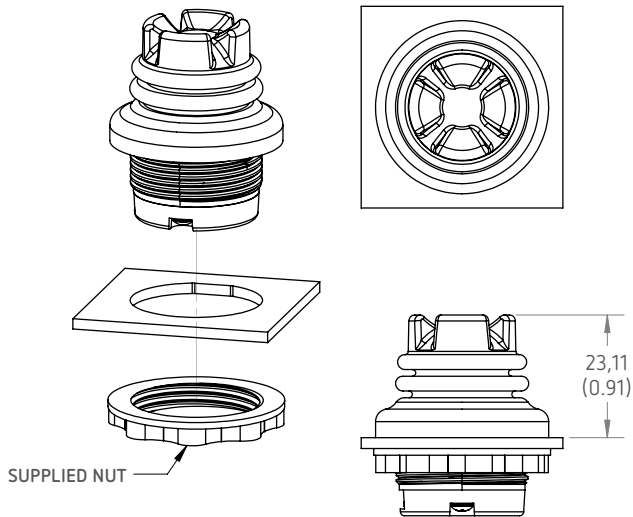
■ Actuator Options



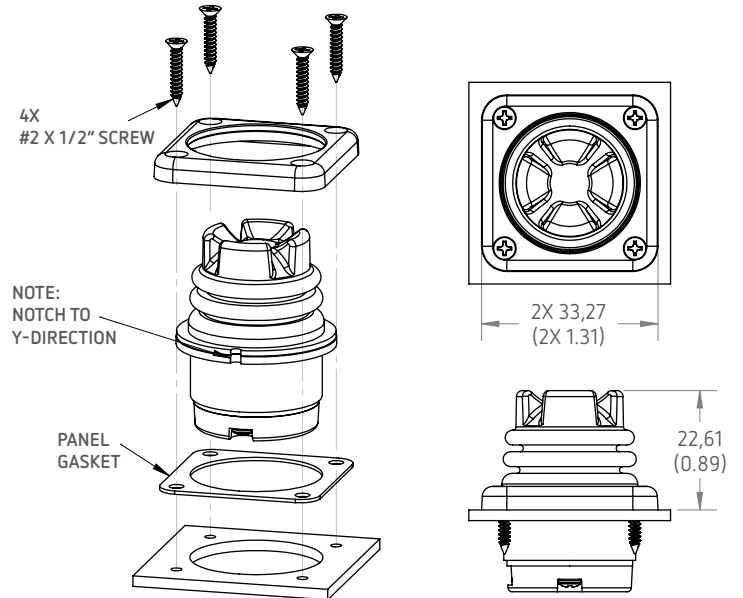
* Note: Actuator options shown with threaded housing mount. Additional drop-in and rear mount options available.

■ Panel Mounting

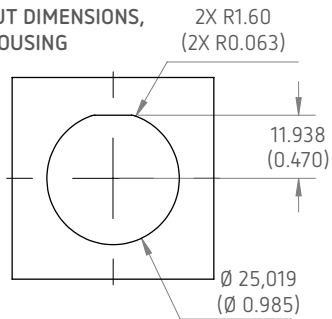
THREADED HOUSING



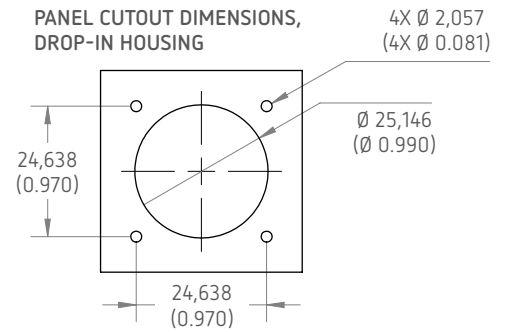
DROP-IN MOUNT



PANEL CUTOUT DIMENSIONS,
THREADED HOUSING

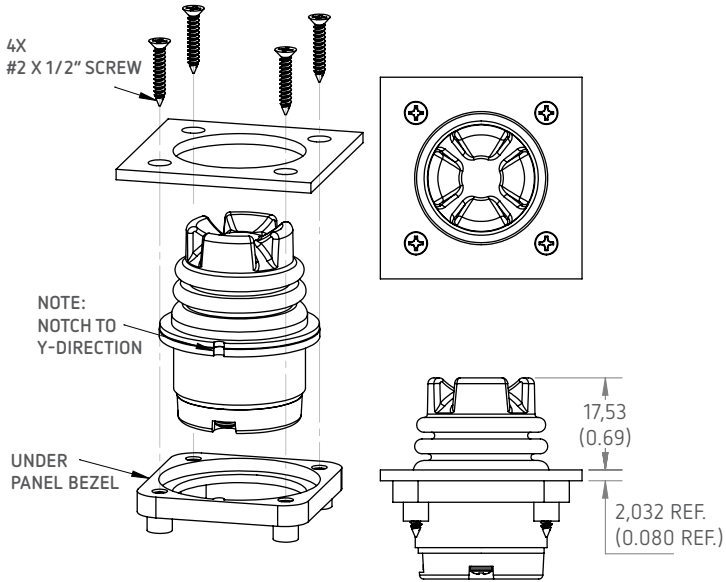


PANEL CUTOUT DIMENSIONS,
DROP-IN HOUSING

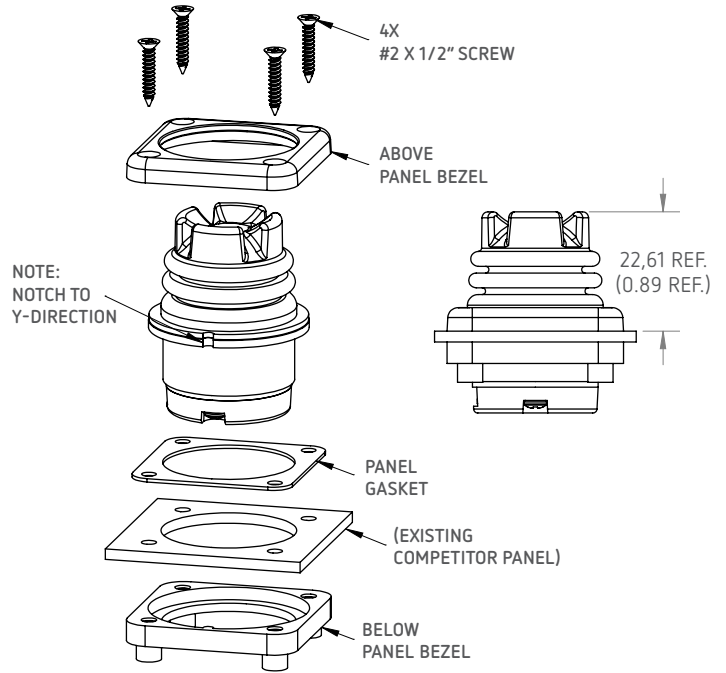


■ Panel Mounting

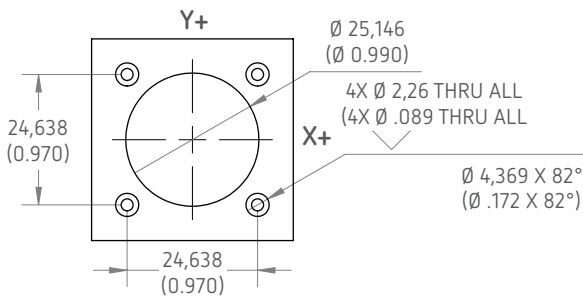
REAR MOUNT



REPLACING TS1 SERIES
DROP-IN MOUNT IN
EXISTING COMPETITOR
PANEL CUTOUT



PANEL CUTOUT DIMENSIONS,
REAR MOUNT HOUSING



COMPETITOR PANEL DIMENSIONS

