



**HE3 Series**  
Finger joystick



**Features**

- Delivery within 2 weeks
- Suitable for harsh environments (all configurations are IP67 sealed)
- Dual independent electrical outputs per axis for safety-critical applications
- Robust stainless steel shaft and brass X/Y mechanism
- With contactless hall effect sensor technology
- Pre-programmed proportional analog output or USB
- Available in 1, 2 or 3 axis configurations
- Cable included with mating connector & pigtail wires

**Applications**

- Marine and offshore control
- Mobile hydraulics
- Chest controllers
- Industrial vehicles
- Robot operations
- Crane operations

**Description**

This is the most reliable finger-operated joystick in our HE series. It is developed for safety-critical applications with dual independent hall effect sensors implemented on each axis. All models are minimum IP67 sealed and give the peace of mind necessary to get the job done. Just like the HE2 series, the mechanism is constructed from a robust stainless steel shaft and brass X/Y mechanism. The electrical analog output options and configurable to your liking and applicable mounting hardware and electrical cable are supplied with each unit.

**Specification**

MECHANICAL (X & Y AXIS)	
Angle Of Movement	40° (20° Each Direction)
Expected Cycle Life	5 Million
Centering	Spring Return
Max. Applied Force	667 N (150 lbf)
Material	Glass / Mineral Filled Nylon
MECHANICAL (Z AXIS)	
Angle	90° (45° Each Direction)
Centering	Spring Return
Max. Applied Torque	1,58 Nm (14 lbf·in)

**Specification**

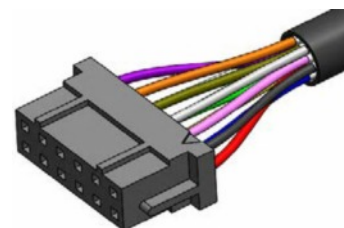
**ELECTRICAL**

Sensor Type	Hall Effect
Resolution	12 Bit
Supply Voltage	5VDC ± 0.01VDC
Output Voltage	See Options
Return To Center Voltage	± 50MV
Overvoltage Max.	20VDC
Reverse Polarity Max.	-25VDC

**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 Panel	IP67 Standard
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

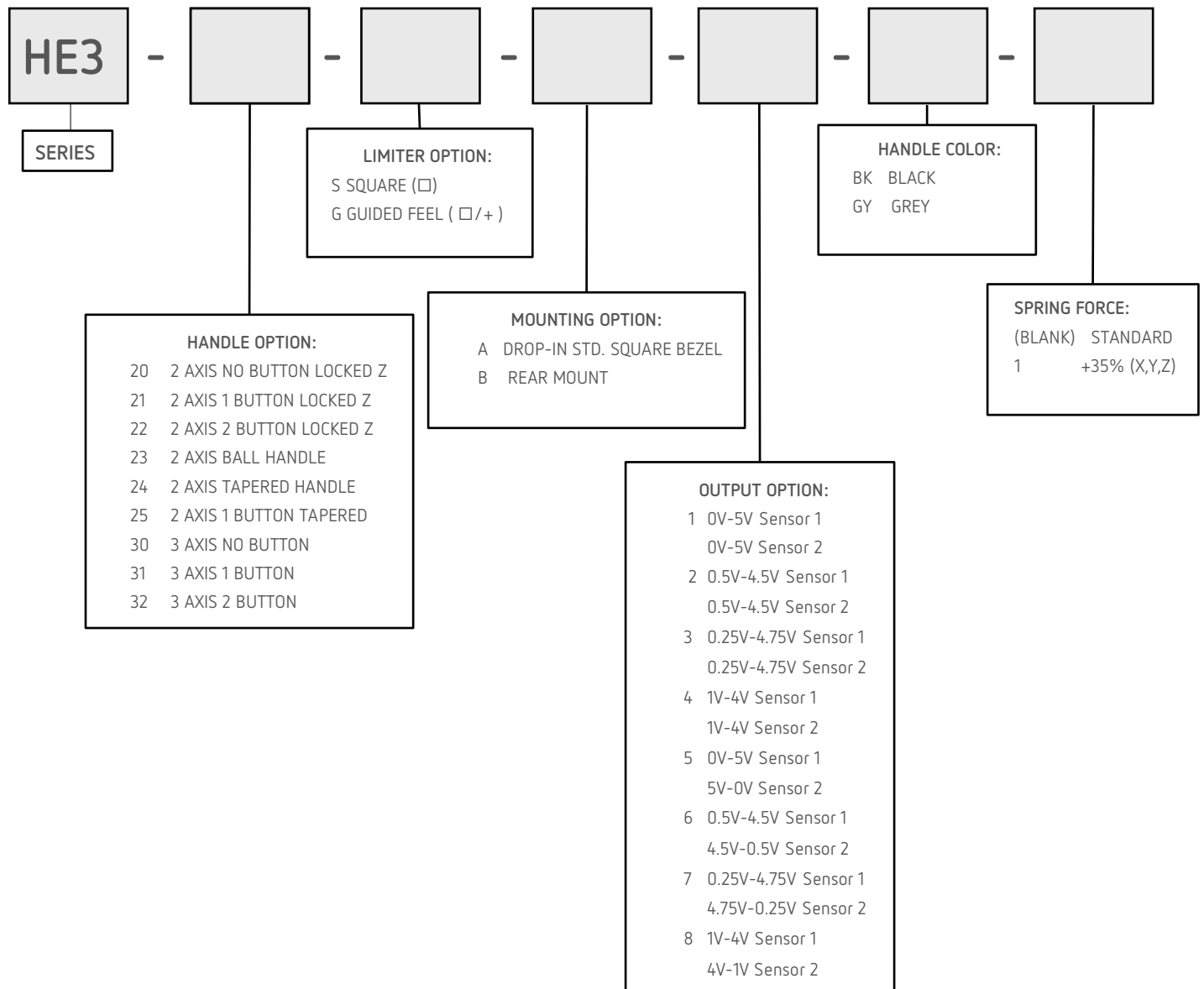
PIN #	WIRE COLOR	DESCRIPTION
1	Black	Ground
2	Red	+5V sensor A
3	Pink	X Axis Sensor B
4	Blue	X Axis Sensor A
5	Grey	Y Axis Sensor B
6	Yellow	Y Axis Sensor A
7	Brown	Z Axis Sensor B
8	Green	Z Axis Sensor A
9	Orange	Button 1
10	White	Button Common
11	Violet	Button 2
12	Yellow/white	+5V sensor B



254mm (10") CABLE PROVIDED

\*Extended Testing Levels

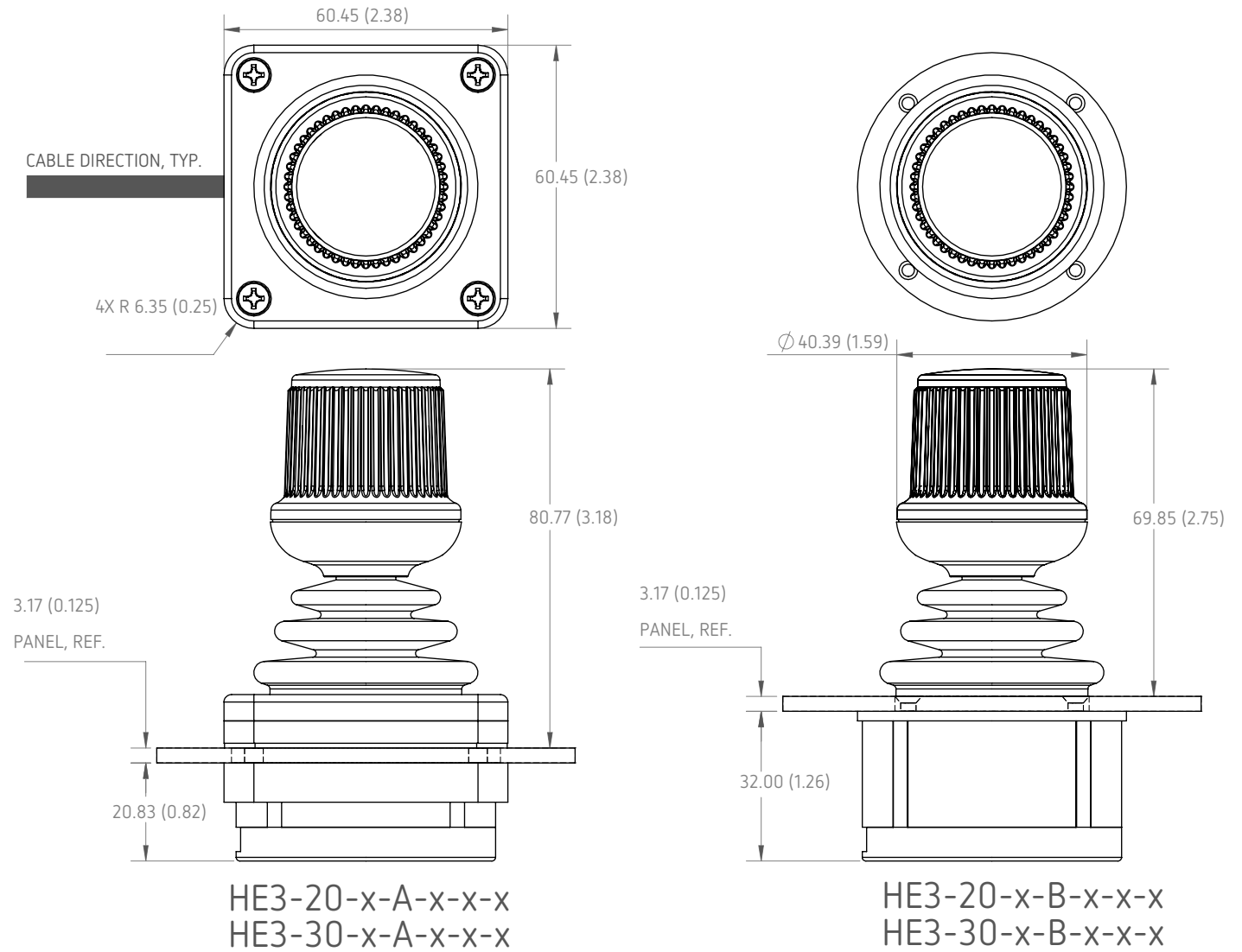
■ Product Configuration Guide



**Handle Options: No button handle**

All handles available with any mounting option unless otherwise specified.

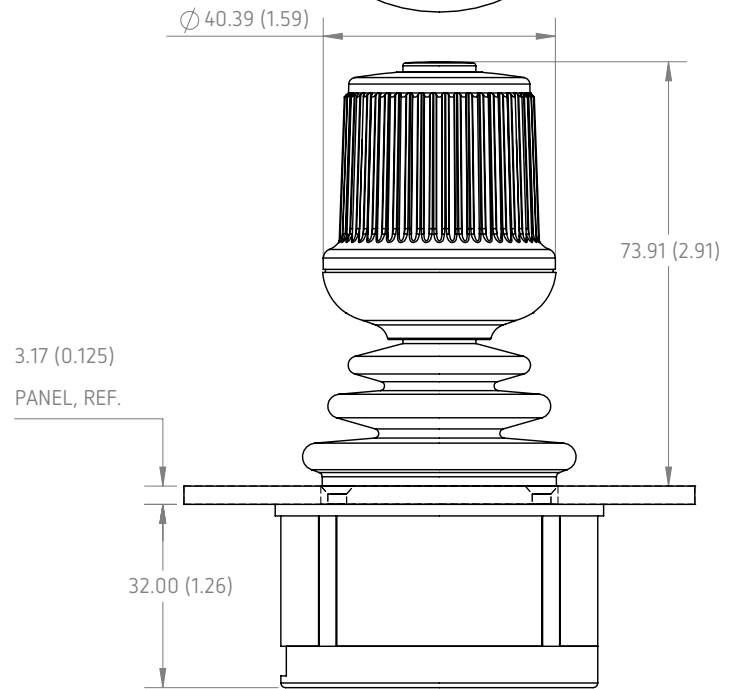
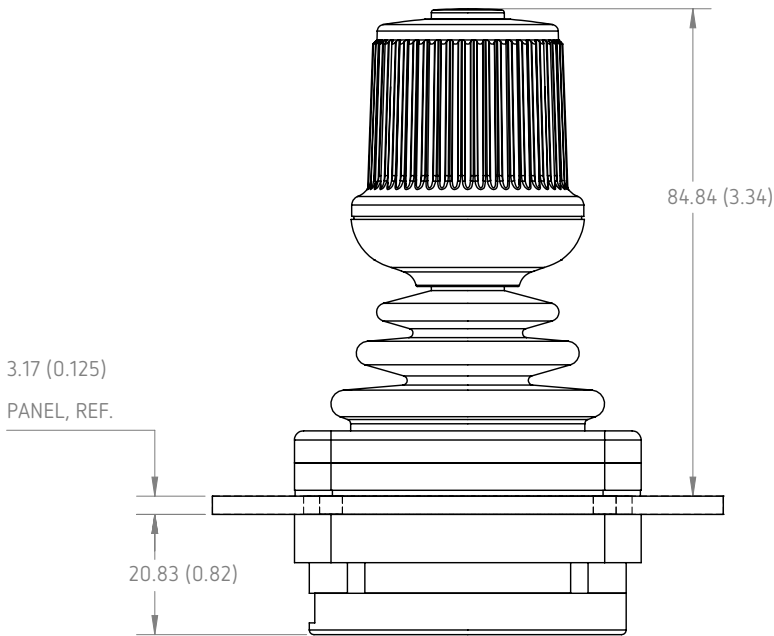
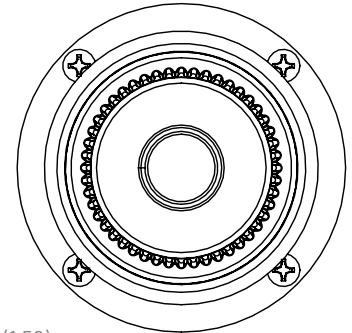
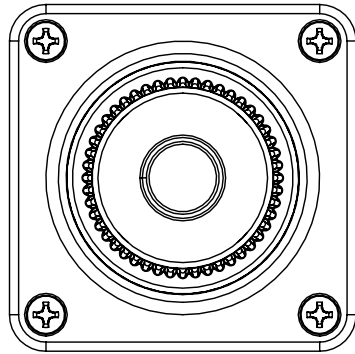
Dimensions in millimeters (inches).



**Handle Options: 1 button handle**

All handles available with any mounting option unless otherwise specified.

Dimensions in millimeters (inches).



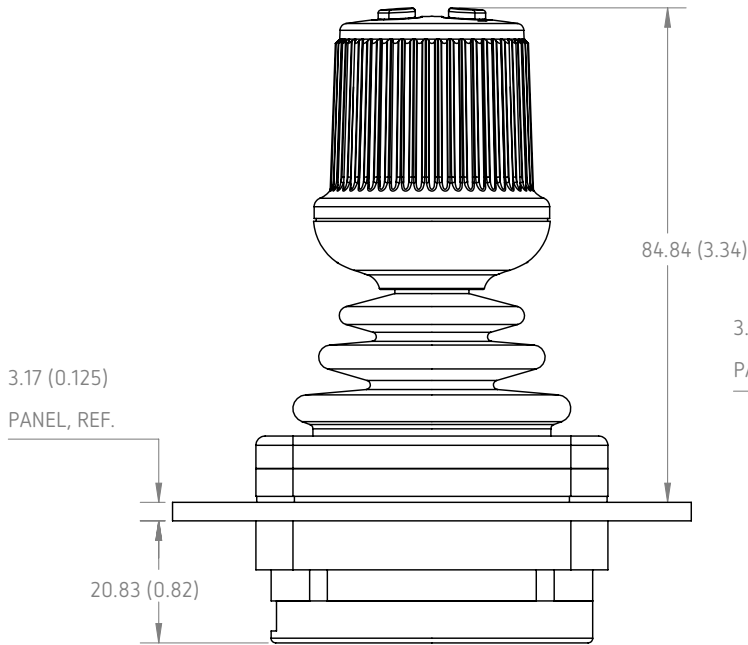
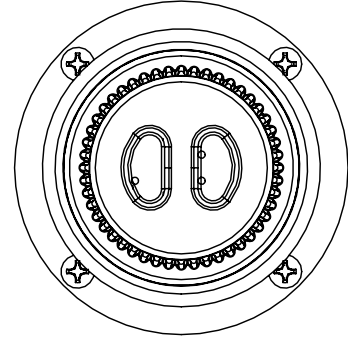
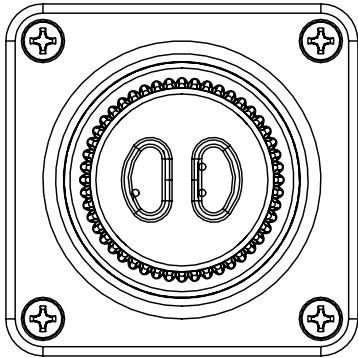
HE3-21-x-A-x-x-x  
HE3-31-x-A-x-x-x

HE3-21-x-B-x-x-x  
HE3-31-x-B-x-x-x

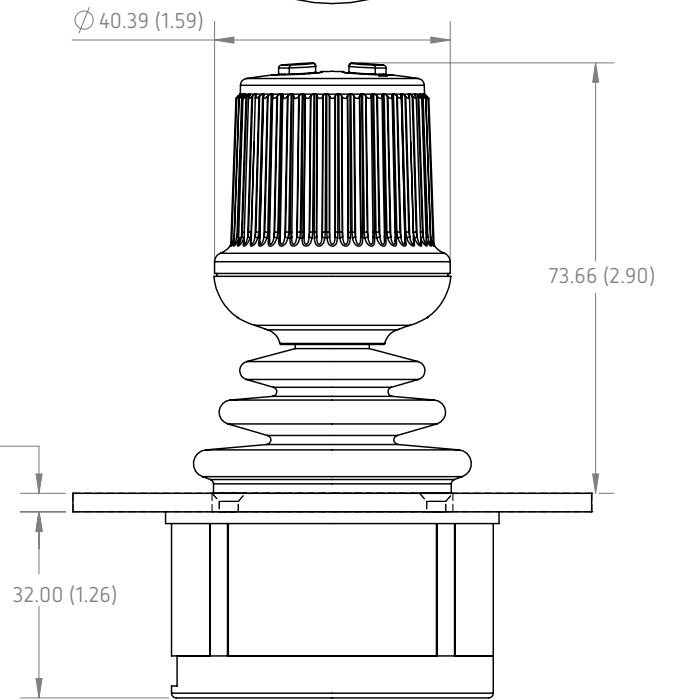
**Handle Options: 2 button handle**

All handles available with any mounting option unless otherwise specified.

Dimensions in millimeters (inches).



HE3-22-x-A-x-x-x  
HE3-32-x-A-x-x-x

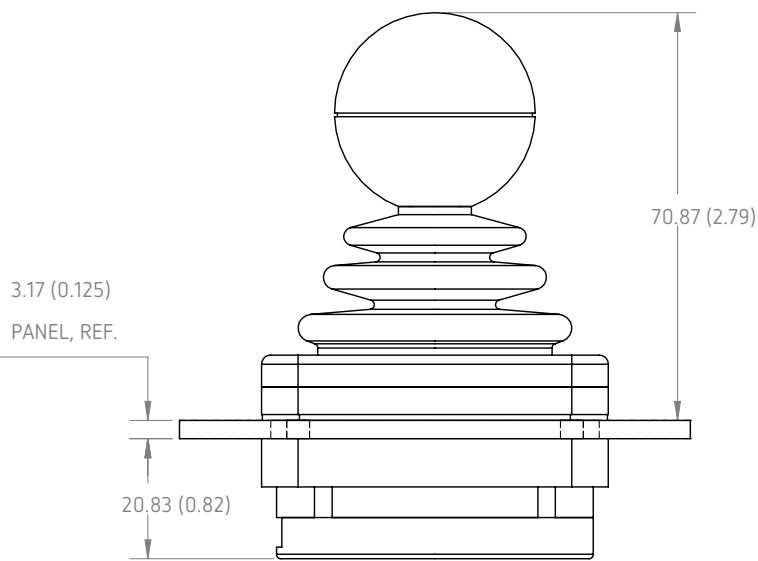
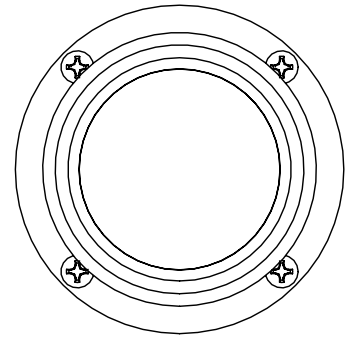
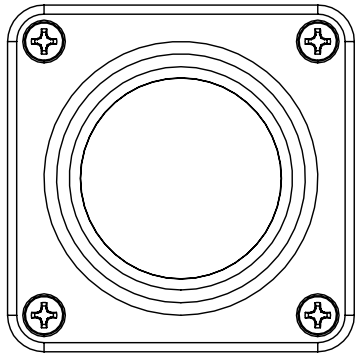


HE3-22-x-B-x-x-x  
HE3-32-x-B-x-x-x

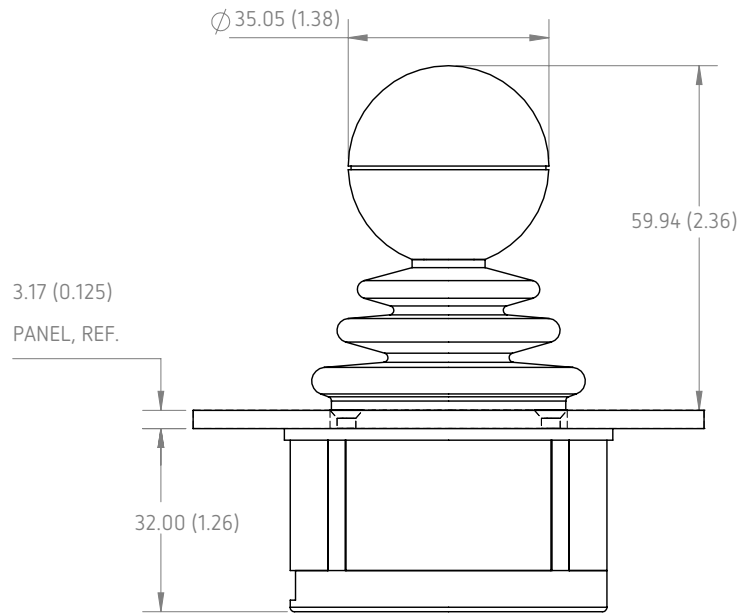
**Handle Options: Ball handle, no button**

All handles available with any mounting option unless otherwise specified.

Dimensions in millimeters (inches).



HE3-23-x-A-x-x-x

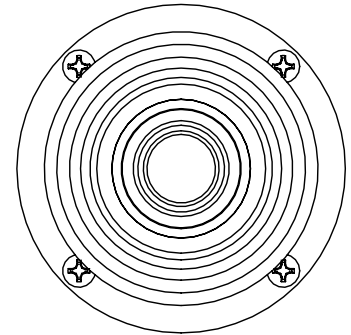
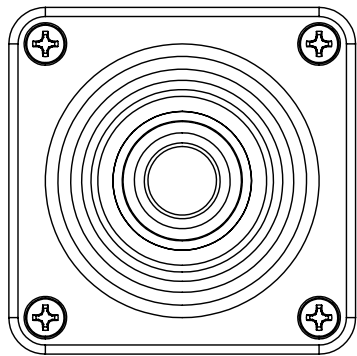


HE3-23-x-B-x-x-x

**Handle Options: Axis tapered handle, 1 button**

All handles available with any mounting option unless otherwise specified.

Dimensions in millimeters (inches).



OTTO P9 SWITCH

OTTO P9 SWITCH

89.41 (3.52)

78.23 (3.08)

3.17 (0.125)  
PANEL, REF.

3.17 (0.125)  
PANEL, REF.

20.83 (0.82)

32.00 (1.26)

Ø 24.13 (0.95)

HE3-25-x-A-x-x-x

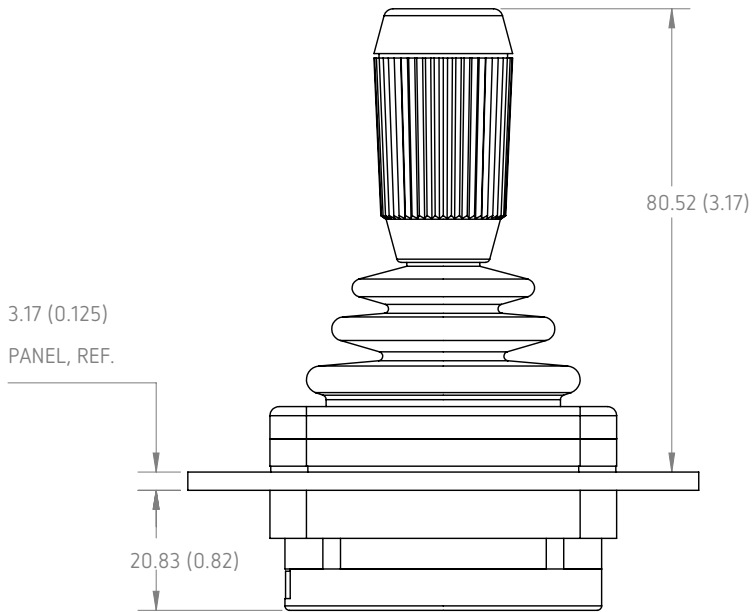
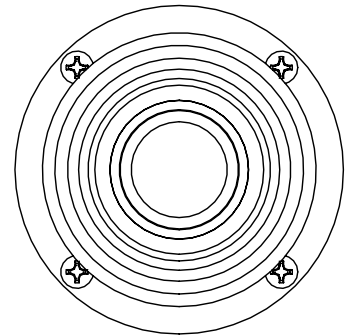
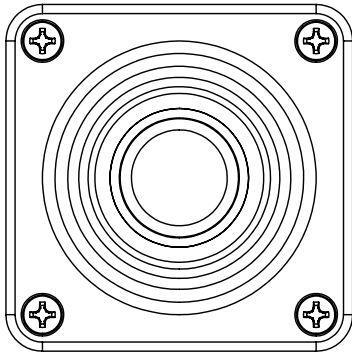
HE3-25-x-B-x-x-x



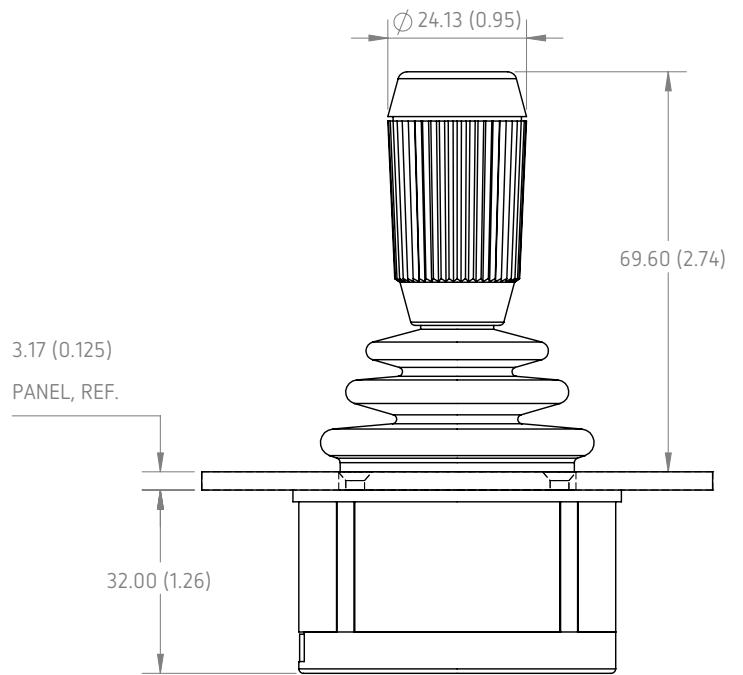
■ **Handle Options: 2 axis tapered handle, no button**

All handles available with any mounting option unless otherwise specified.

Dimensions in millimeters (inches).



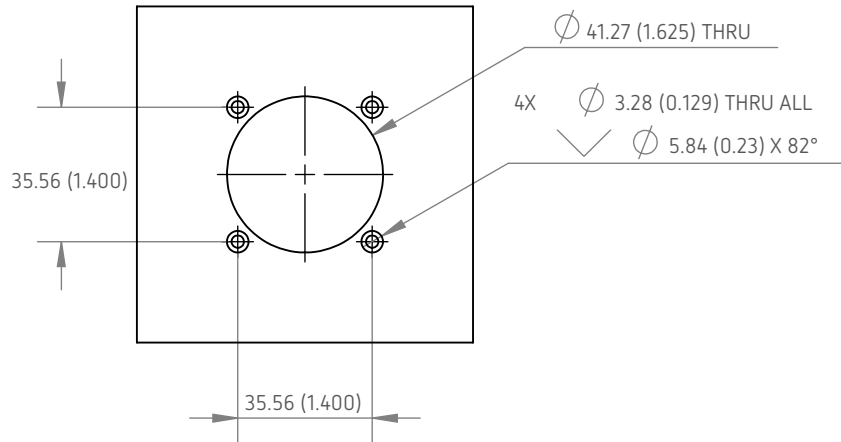
HE3-24-x-A-x-x-x



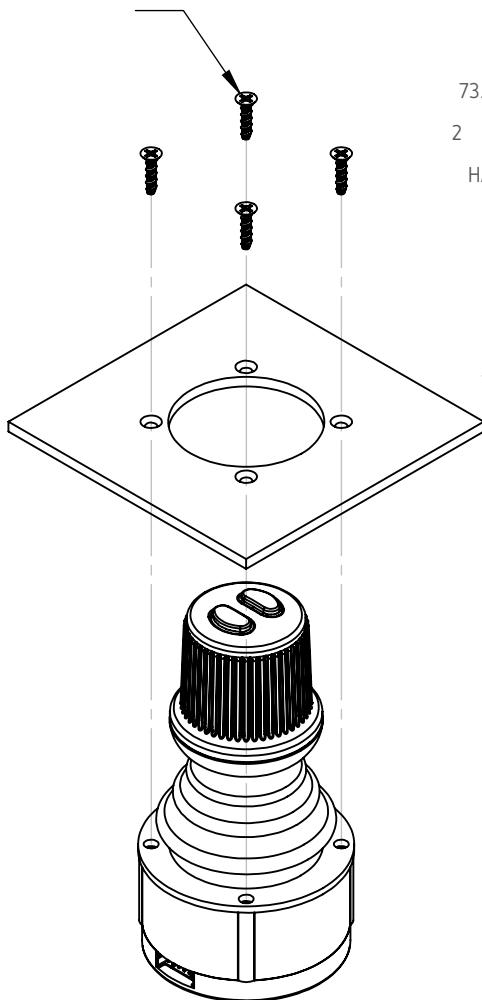
HE3-24-x-B-x-x-x

**Mounting Options**  
*Dimensions in millimeters (inches).*

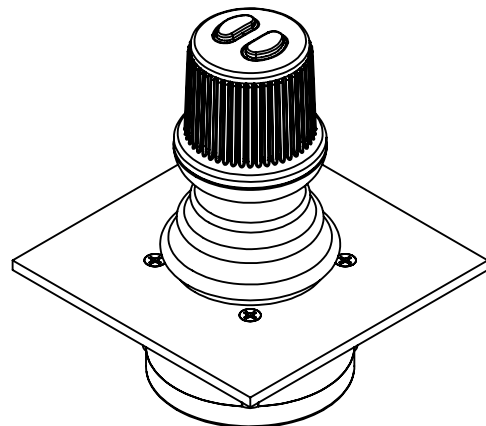
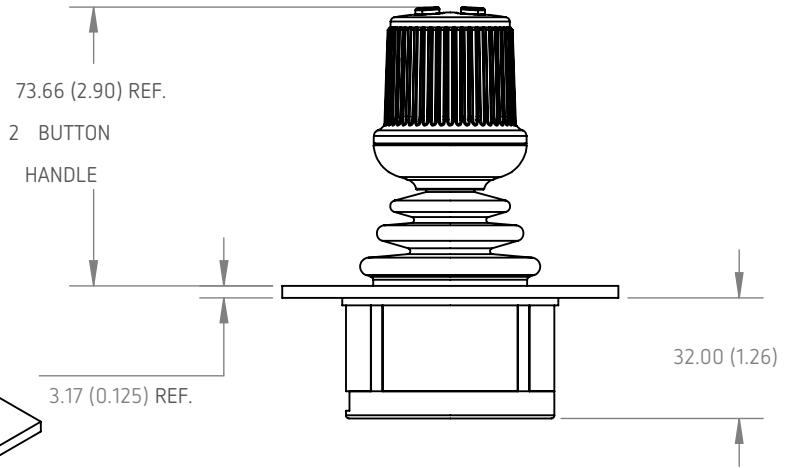
**REAR MOUNT PANEL DIMENSIONS**



4X #4 FLAT HEAD  
SCREW, SUPPLIED



(FOR REFERENCE)



**REAR MOUNT OPTION**

■ Mounting Options

DROP-IN PANEL DIMENSIONS

