



## HE1 Series Finger joystick



### Features

- Over 20 handle options and 6 mounting options
- With contactless hall effect sensor technology
- Compact design (under 25mm below panel depth)
- Available in 1, 2 or 3 axis configurations
- Protection up to IP67 grade
- Pre-programmed proportional analog output or USB
- Cable included with mating connector & pigtail wires

### Applications

- Chest controllers
- CCTV systems
- Medical instruments
- Material handling equipment
- Robot operations
- Crane operations

### Description

This all-purpose finger-operated joystick comes with many different mounting and handle options to choose from. The operating principle is based on contactless hall effect technology which has a long life expectancy due to the absence of mechanical contacts. The HE1 joystick has an excellent return to centre accuracy and many pre-programmed electrical output options, including analog voltage, USB and Cursor Control. It is perfect for applications where the below panel space is limited due to its shallow profile and has an optional metal threading for easy mounting. Depending on the handle, the environmental protection is tested up to IP67.

The USB output option is installed by plug & play and can operate as a standard USB 1.1 HID-compliant device without the need to install additional software. Cursor Control is also available, which is achieved by the joystick's microprocessor.

### Specification

MECHANICAL (X & Y AXIS)	
Angle Of Movement	40° (20° Each Direction)
Expected Cycle Life	5 Million
Centering	Spring Return
Max. Vertical Load	333 N (75 lbf)
Max. Horizontal Load	133 N (30 lbf) *
Material	Glass/Mineral Filled Nylon

\* Measured 44,5 mm (1.75") Above Panel Surface

MECHANICAL (Z AXIS)	
Angle	90° (45° Each Direction)
Centering	Spring Return
Max. Applied Torque	1,58 Nm (14 lbfIn)

**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.	-10VDC

**ENVIRONMENTAL**

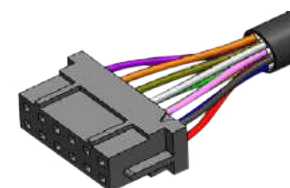
Operating Temperature	-20°C to 60°C (0°F to 140°F)
Storage Temperature	-40°C to 60°C (-40°F to 160°F)
IP Sealing Above Flange	Up to IP67**
Emc Immunity Level	EN61000-4-3 *Compliance To 30A/m
Emc Emissions Level	EN61000-6-3
Esd Immunity Level	EN61000-4-2
Vibration Testing	Per SAE J1455 Section 4.9 & MIL-STD810G 514.6
Mechanical Shock	Per SAE J1455 Section 4.10 & MIL-STD-202G

**HIROSE DF11-12DP-2DS(24) CONNECTOR (ANALOG)**

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

**\*\*HANDLE IP RATING**

HANDLE OPTION	IP RATING
20	IP54
21	IP50
22	IP50
23	IP50
24	IP67
25	IP67
30	IP54
31	IP50
32	IP50
40	IP54
41	IP50
42	IP50
50	IP54
51	IP50



10" CABLE PROVIDED, ANALOG VERSION

\* Extended Testing Levels

**HE1 ELECTRICAL SPECIFICATIONS (USB VERSION)**

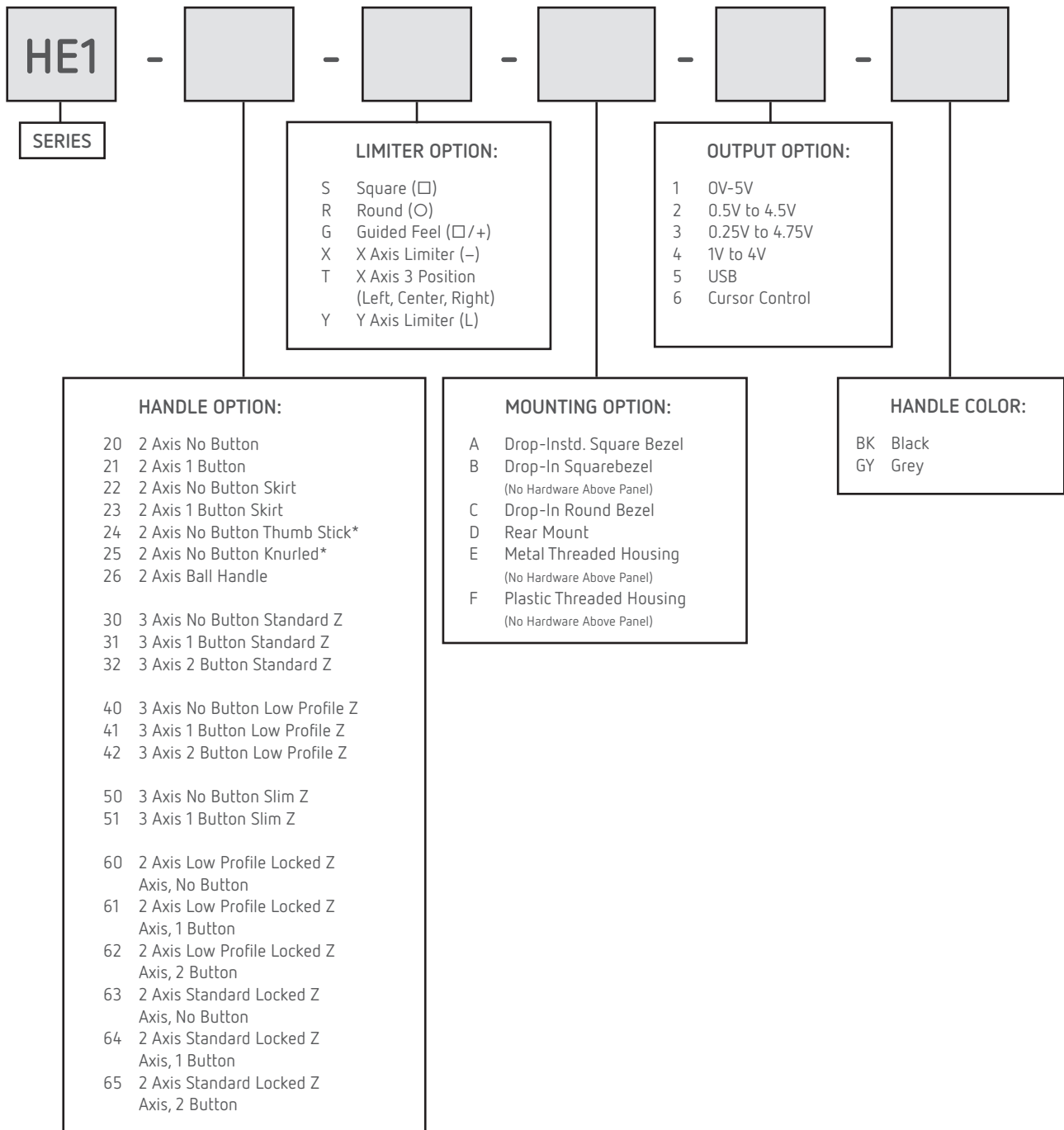
Resolution	10 Bit
Supply Voltage	5VDC via USB Cable
System Support	Windows (All), OSX, Linux
Supported Protocols	USB HID 1.1 Game Controller Standard Directx HID Drivers Joystick: 2 or 3 HID Axis Pushbuttons: Up to 2 HID Button
Cable	USB Male Type A to Right Angle Mini B 1,50 m (5Ft) Length (Mini B to 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 1,50 m (5Ft) Length (Mini B to Joystick)
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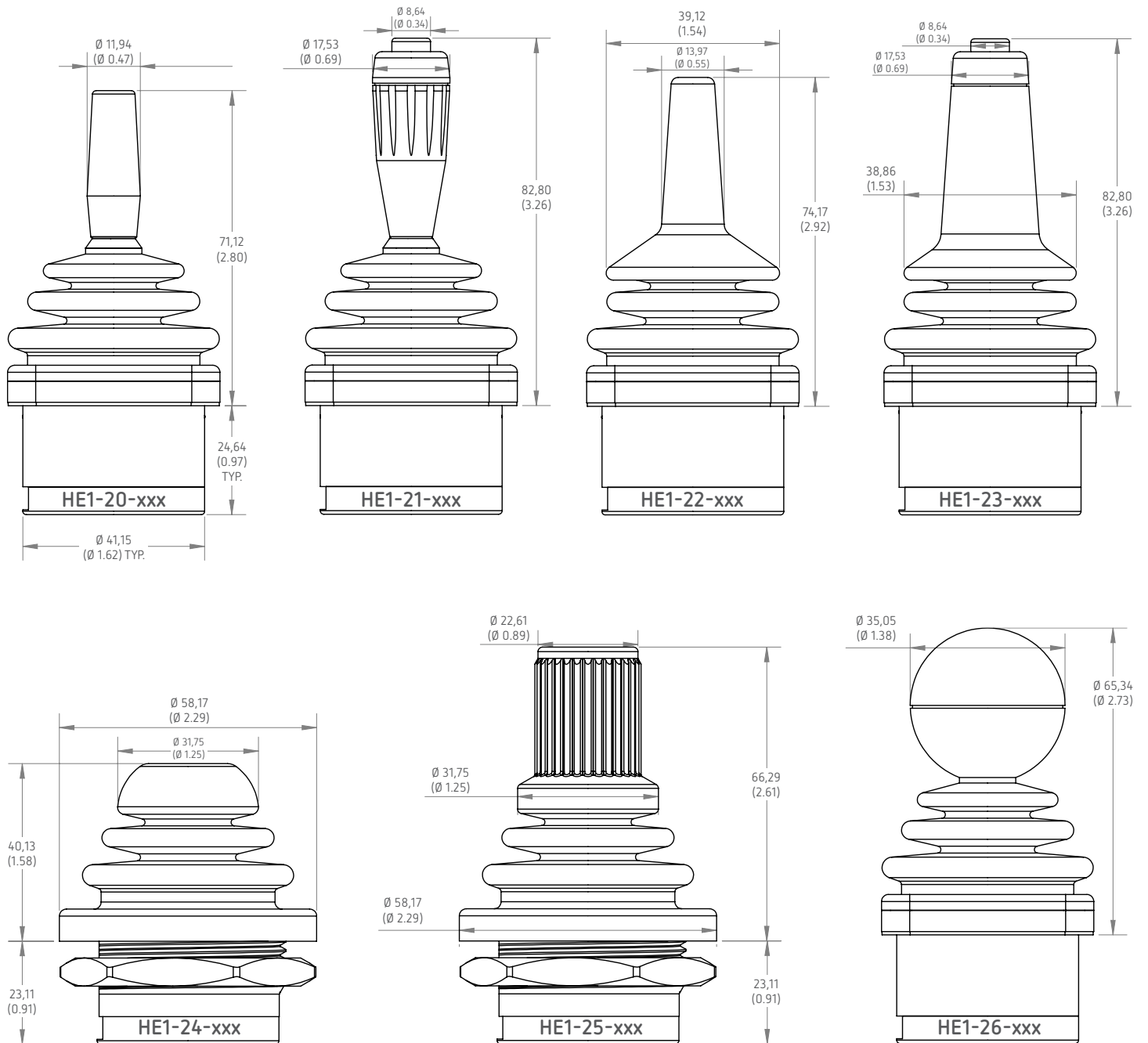
■ Product Configuration Guide



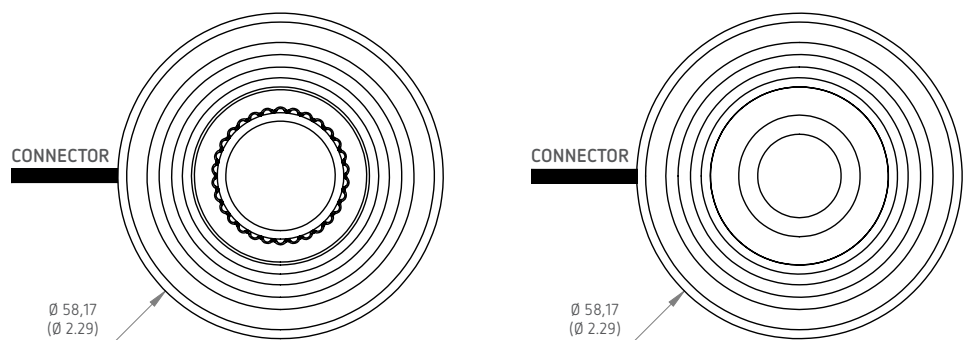
\* Handle options "24" & "25" only available with threaded housing mounting option "E" or "F".

**Handle Options: 2 Axis**

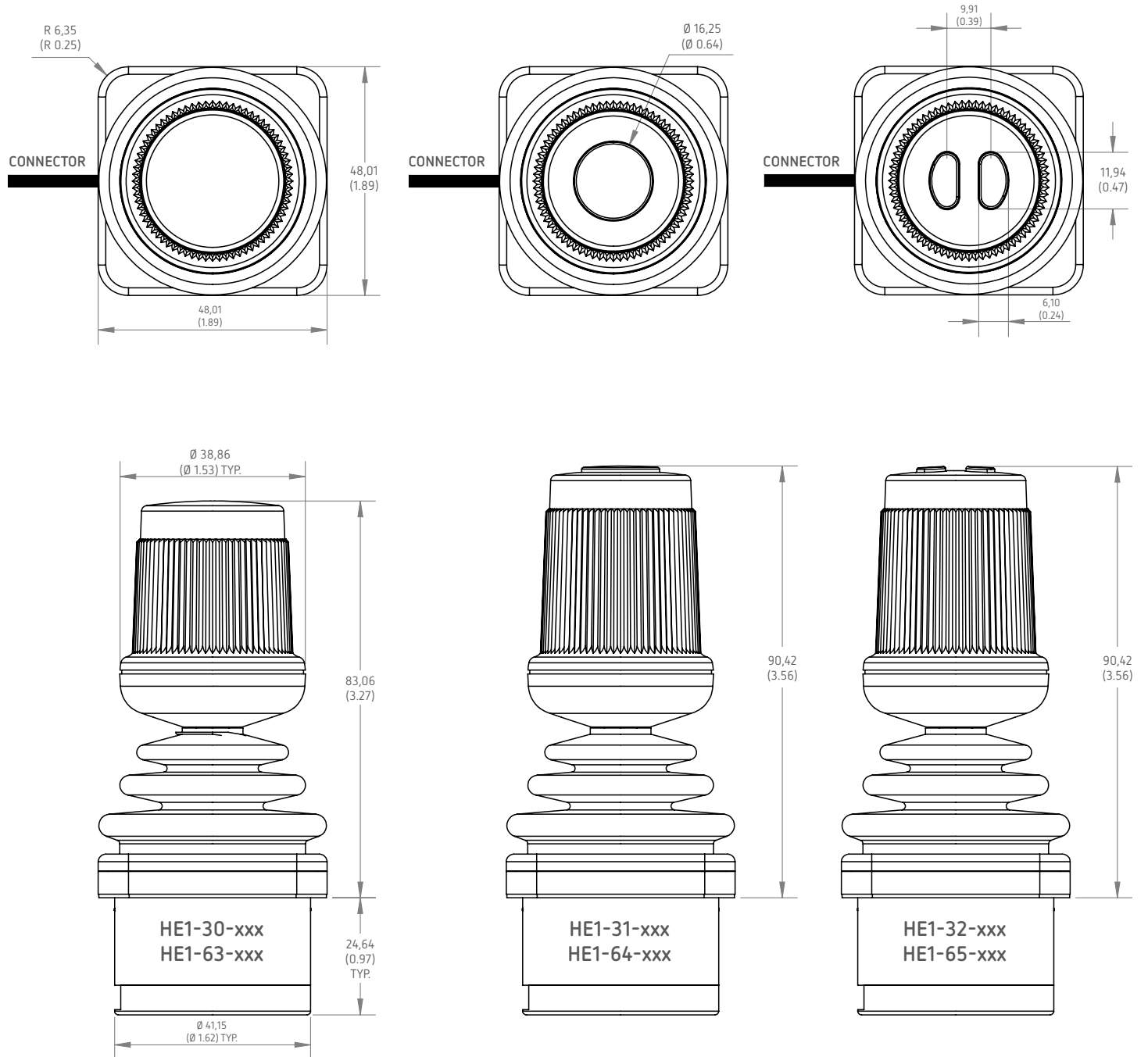
All handles available with any mounting option unless otherwise specified.



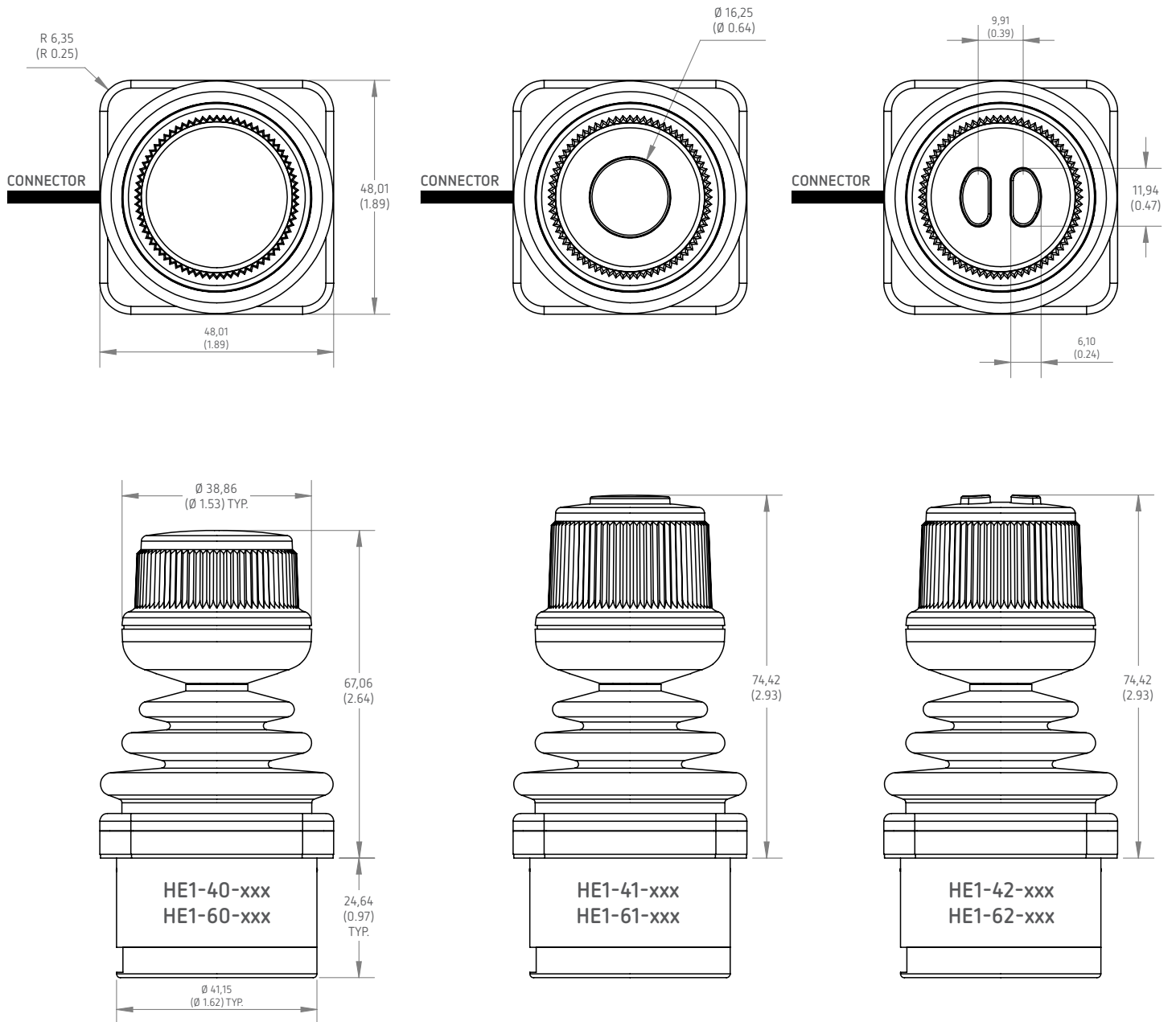
\* Handle Options "24" & "25" Fit Threaded Housings Only (Housing Options "E" Or "F").



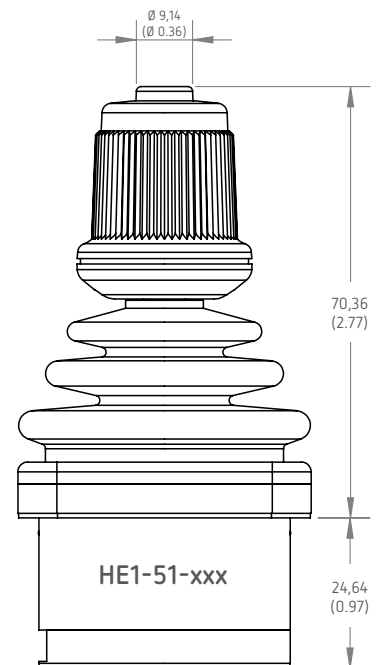
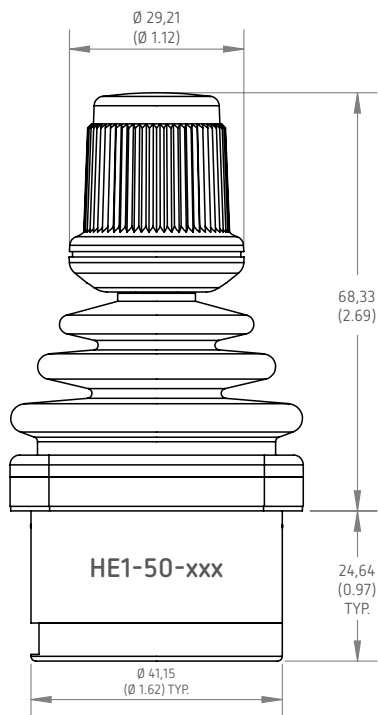
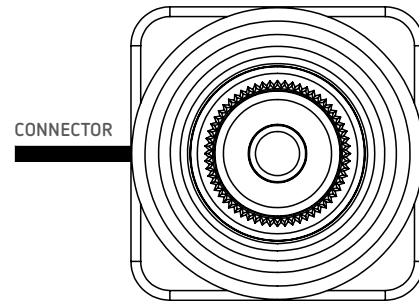
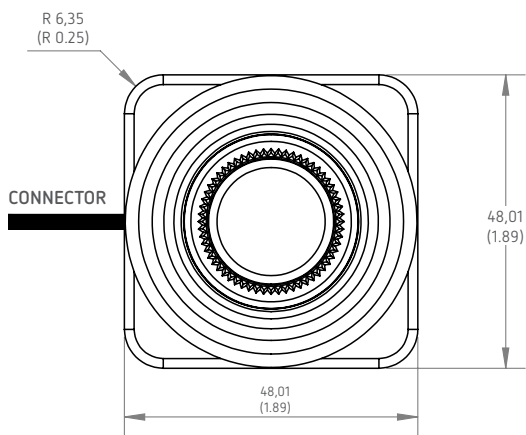
■ Handle Options: 3 Axis (Standard Z Axis) & 2 Axis with locked Z handle



■ Handle Options: 3 Axis (Low Profile Z Axis) & 2 Axis with locked Z handle

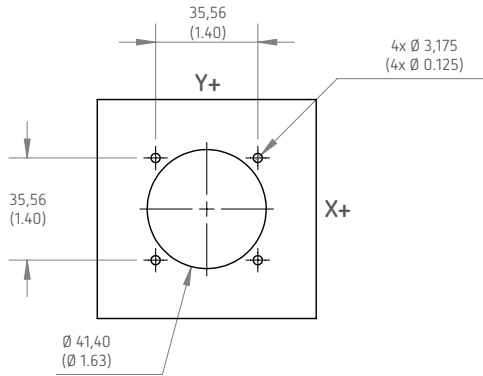


■ Handle Options: 3 Axis, Slim Z Axis

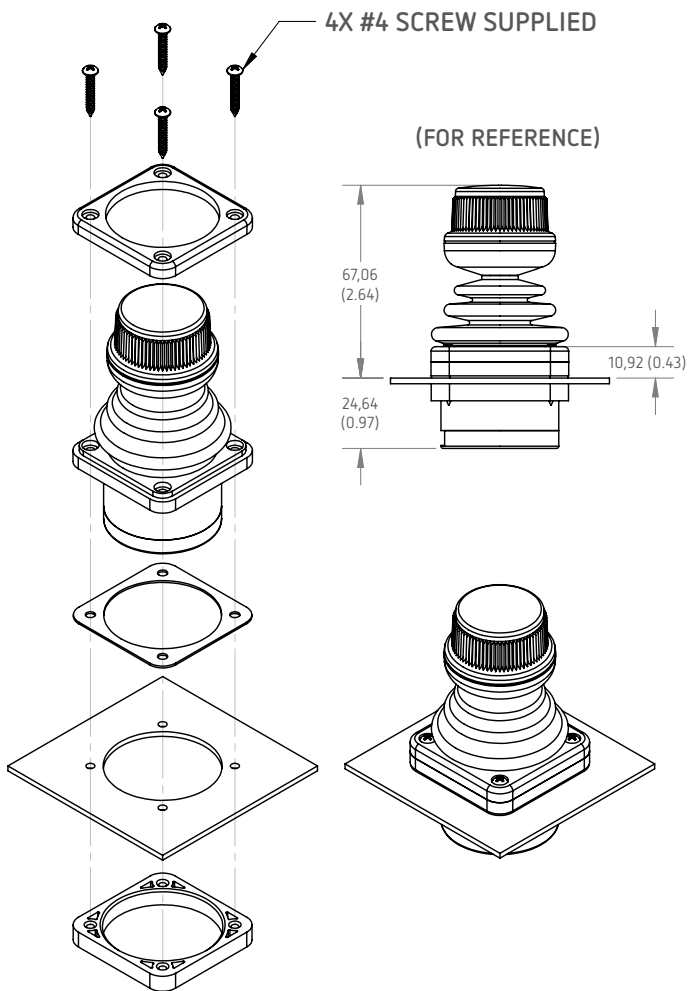
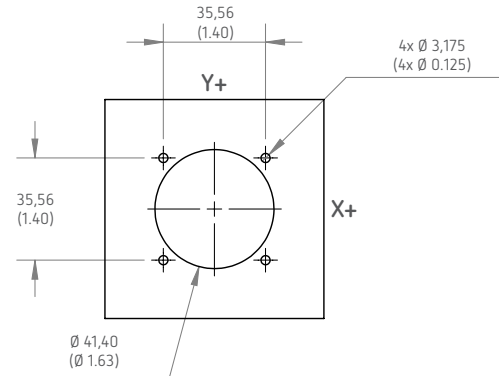


■ Mounting Options

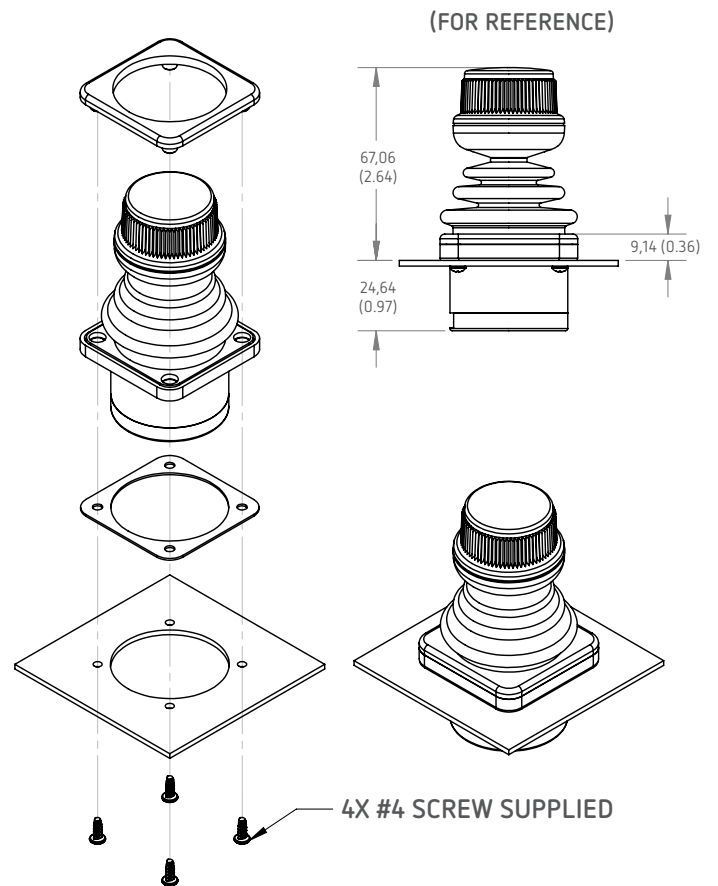
DROP-IN SQUARE PANEL DIMENSIONS (OPTION A)



DROP-IN SQUARE PANEL DIMENSIONS (OPTION B)



DROP-IN STANDARD SQUARE BEZEL

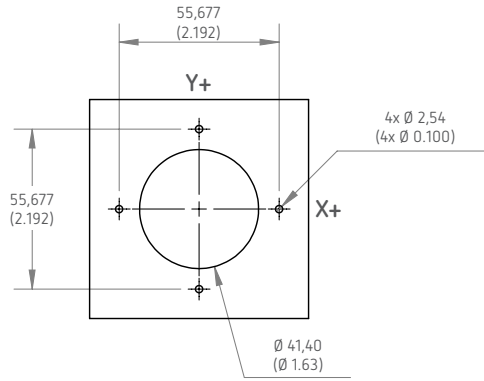


DROP-IN SQUARE BEZEL, UNDER PANEL SCREWS

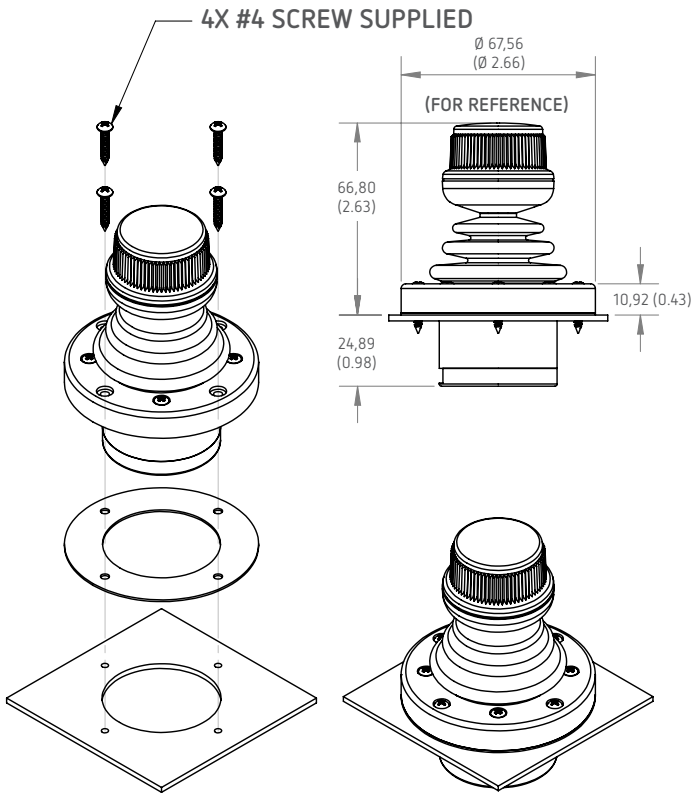
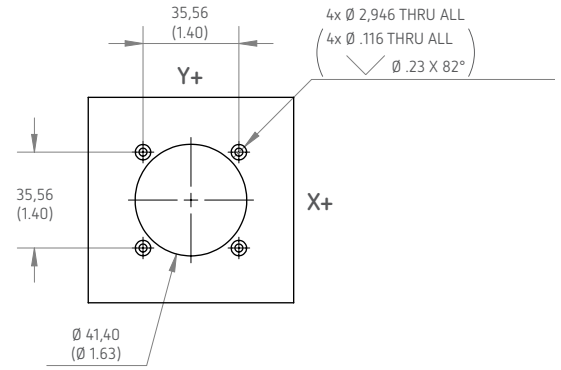


■ Mounting Options

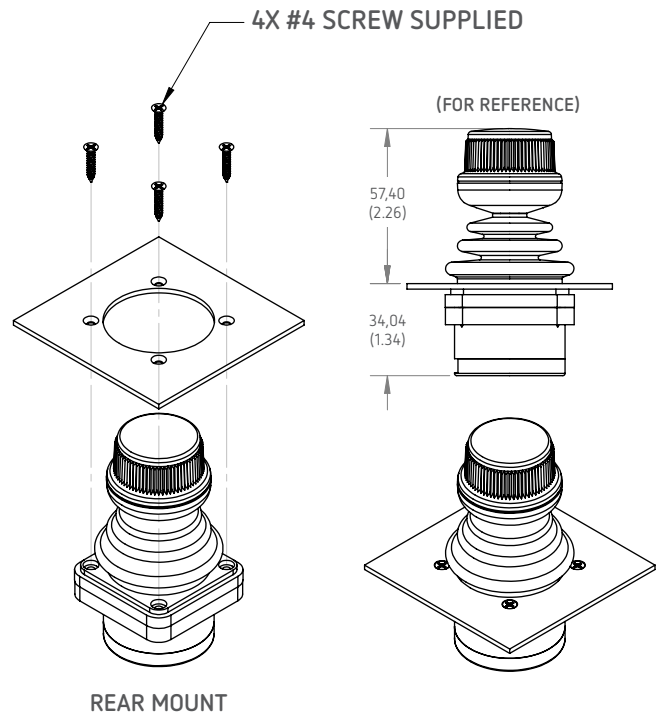
DROP-IN ROUND PANEL DIMENSIONS (OPTION C)



REAR MOUNT PANEL DIMENSIONS (OPTION D)

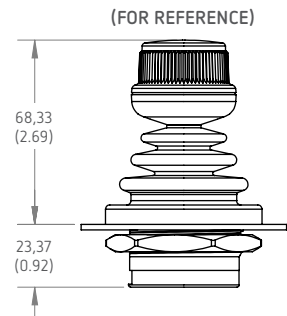
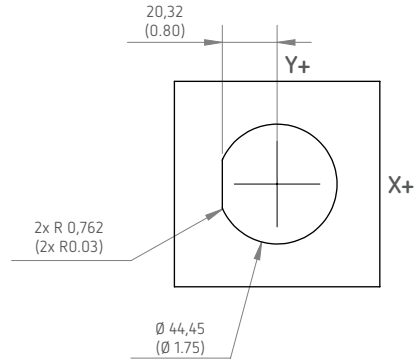


DROP-IN ROUND BEZEL

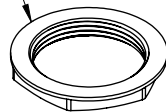


■ Mounting Options

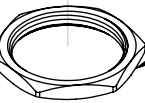
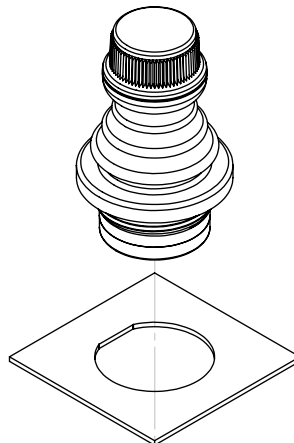
METAL OR PLASTIC THREADED HOUSING PANEL DIMENSIONS (OPTION F / OPTION E)



PLASTIC NUT SUPPLIED



PLASTIC THREADED HOUSING (OPTION F)



ALUMINUM NUT SUPPLIED

METAL THREADED HOUSING (OPTION E)