

# HE2 Series Specifications

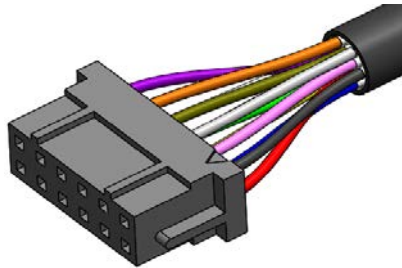
MECHANICAL (X & Y AXES)	
ANGLE OF MOVEMENT	40° (20° EACH DIRECTION)
EXPECTED CYCLE LIFE	5 MILLION
CENTERING	SPRING RETURN
<b>MAX. APPLIED FORCE</b>	<b>150 lbf</b>
MATERIAL	GLASS/MINERAL FILLED NYLON

MECHANICAL (Z AXIS)	
ANGLE	90° (45° EACH DIRECTION)
CENTERING	SPRING RETURN
MAX. APPLIED TORQUE	14 lbfIn

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	
<b>OPERATING TEMPERATURE</b>	<b>-40°F TO 185°F</b>
STORAGE TEMPERATURE	-40°F TO 185°F
<b>IP SEALING ABOVE PANEL</b>	<b>IP67 STANDARD</b>
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

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



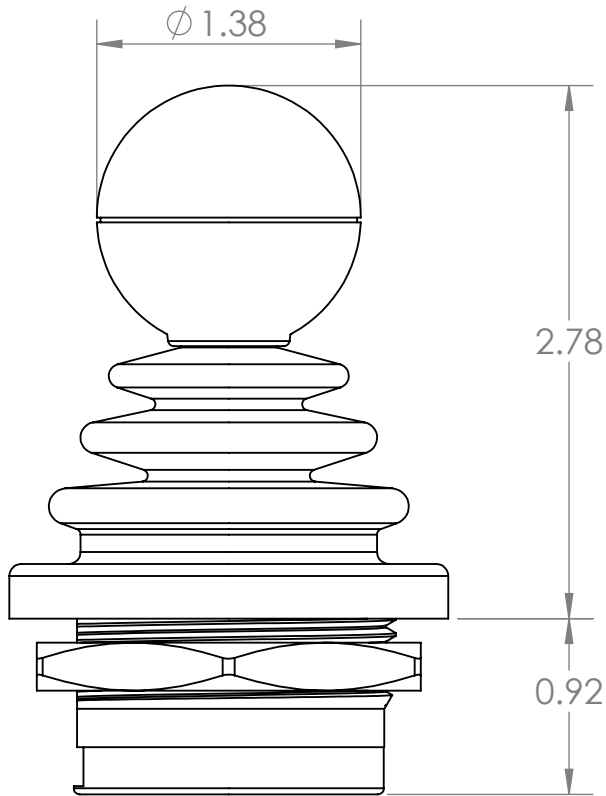
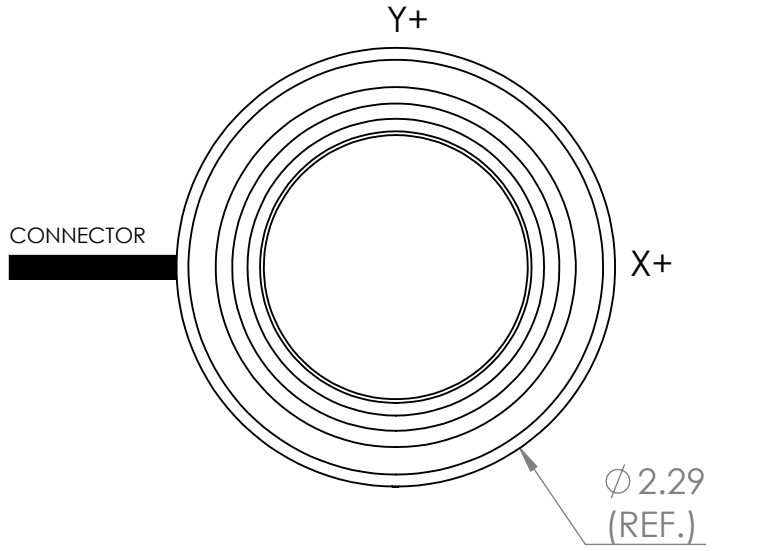
10" CABLE PROVIDED,  
ANALOG VERSION

\*Extended Testing Levels

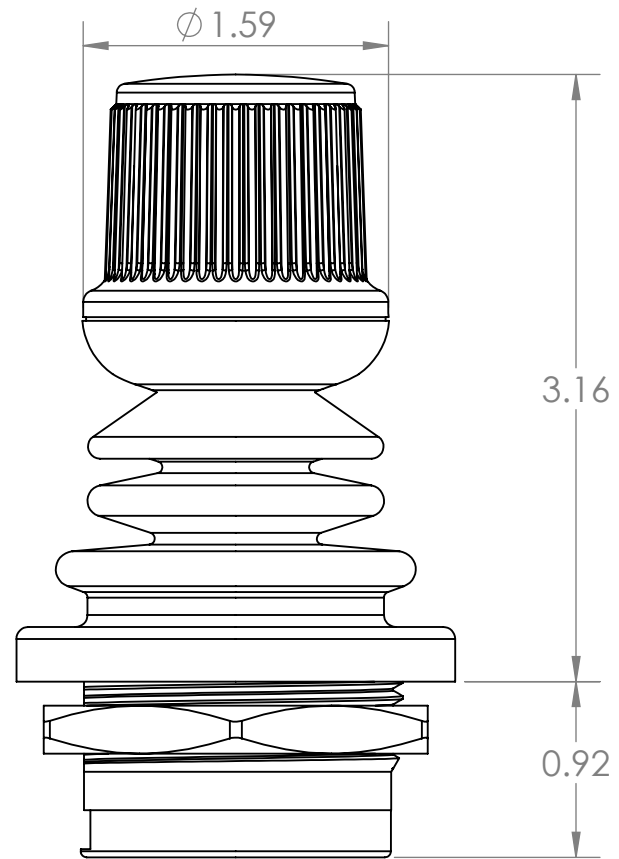
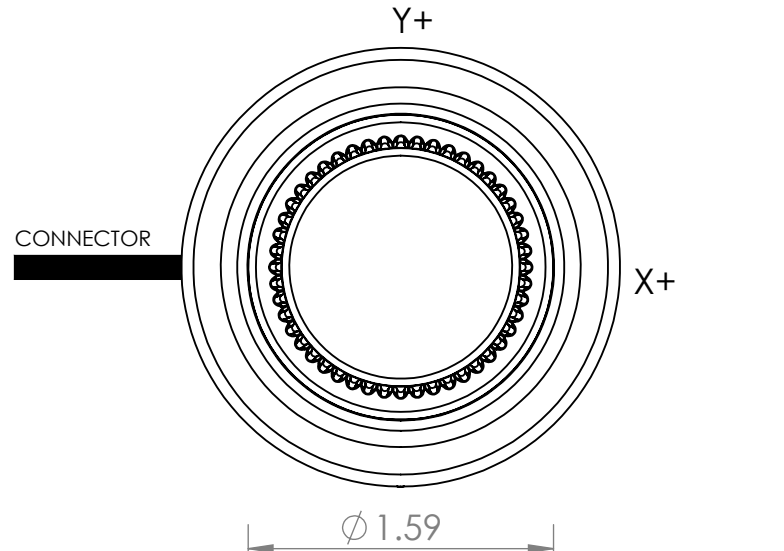
HE2 ELECTRICAL SPECIFICATIONS (USB VERSION)	
RESOLUTION	10 BIT
SUPPLY VOLTAGE	5VDC via USB CABLE
SYSTEM SUPPORT	WINDOWS (ALL), OSX, LINUX
SUPPORTED PROTOCOLS	USB HID 1.1 GAME CONTROLLER STANDARD DIRECTX HID DRIVERS JOYSTICK: 2 OR 3 HID AXES PUSHBUTTONS: UP TO 2 HID BUTTON
CABLE	USB MALE TYPE A to RIGHT ANGLE MINI B 5FT (60") LENGTH (MINI B TO JOYSTICK)

CURSOR CONTROL OUTPUT OPTION:	
<p>The <i>Cursor Control</i> 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.</p>	
CABLE	USB MALE TYPE A to RIGHT ANGLE MINI B 5FT (60") LENGTH (MINI B TO JOYSTICK)

# HE2 SERIES - HANDLE OPTIONS

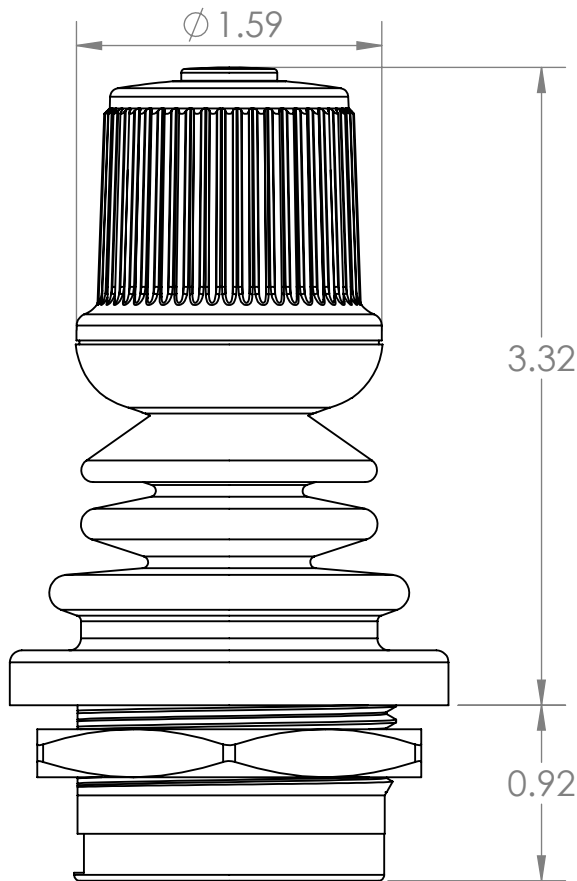
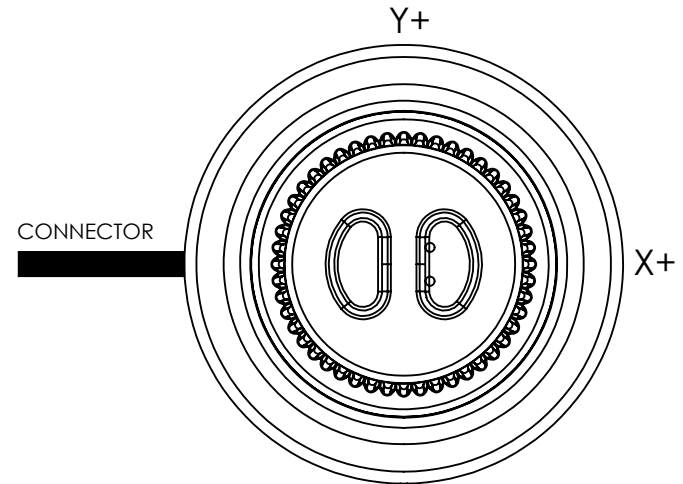
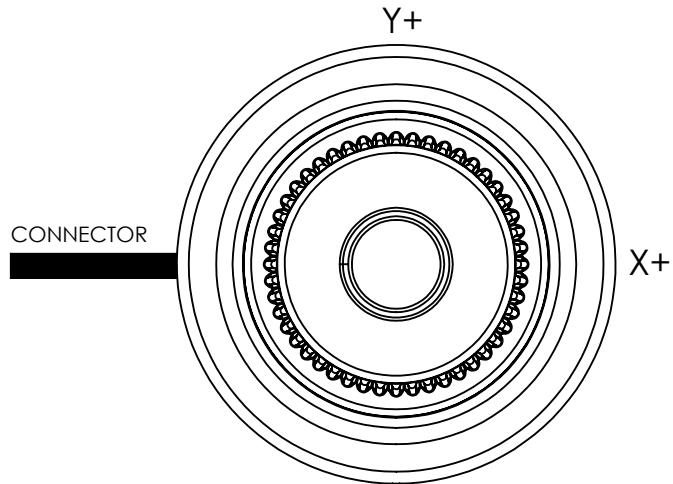


HE2-23-x-E-x-x-x

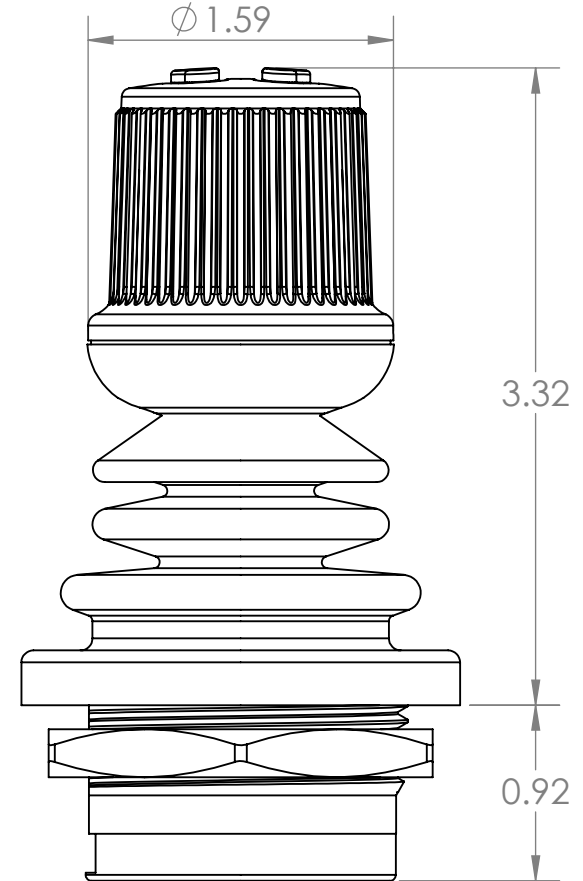


HE2-20-x-E-x-x-x  
HE2-30-x-E-x-x-x

# HE2 SERIES - HANDLE OPTIONS



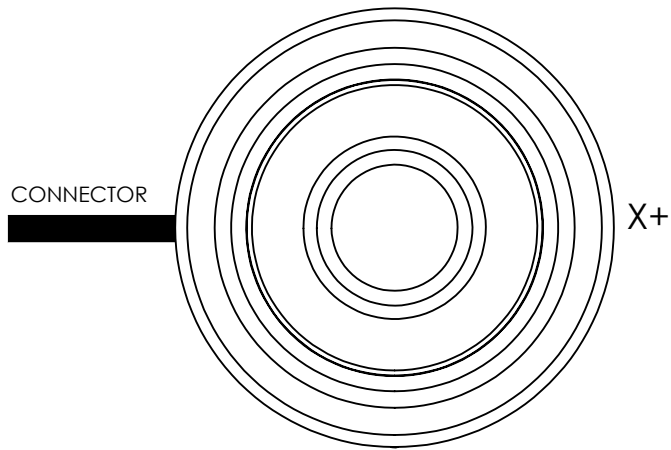
HE2-21-x-E-x-x-x  
HE2-31-x-E-x-x-x



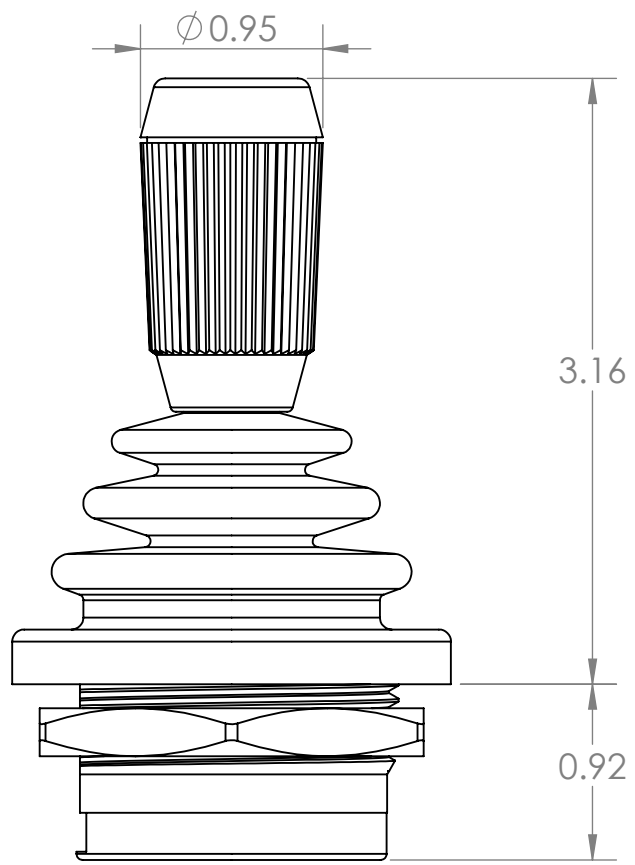
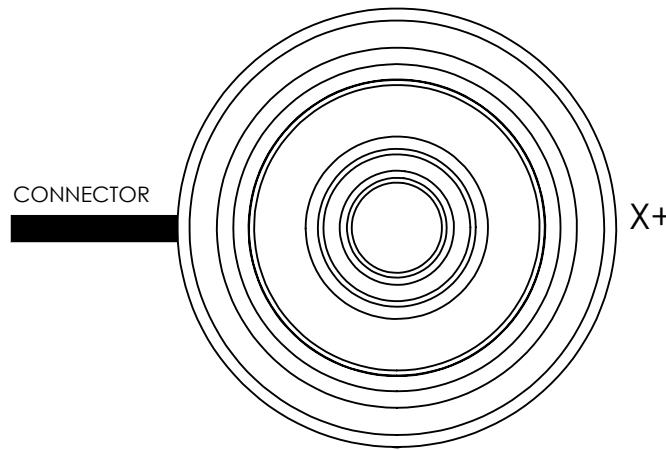
HE2-22-x-E-x-x-x  
HE2-32-x-E-x-x-x

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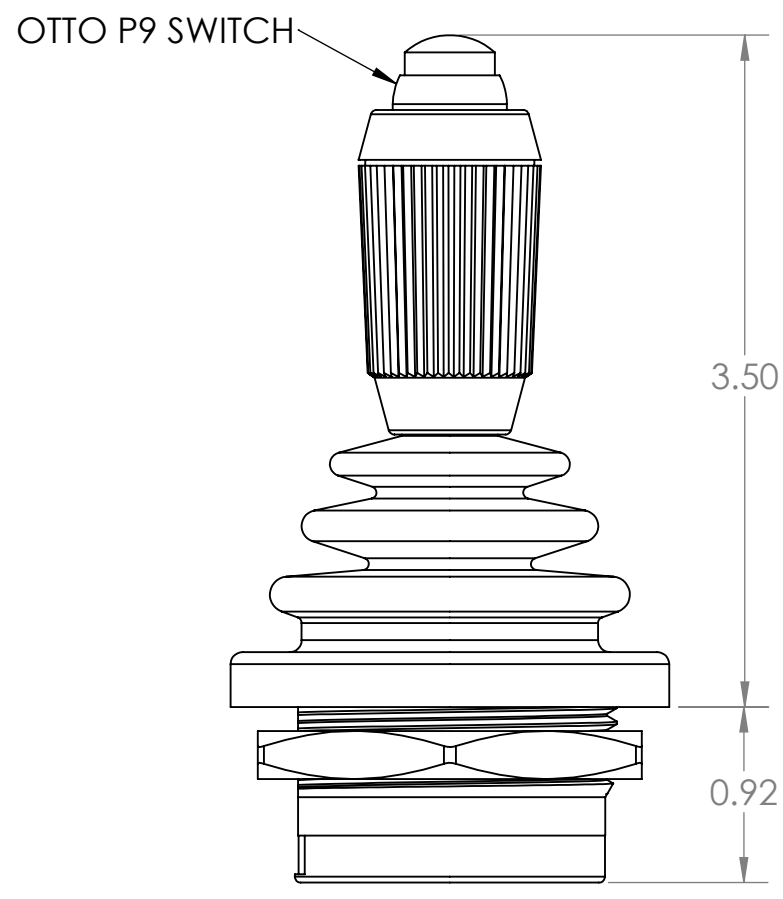
Y+



Y+

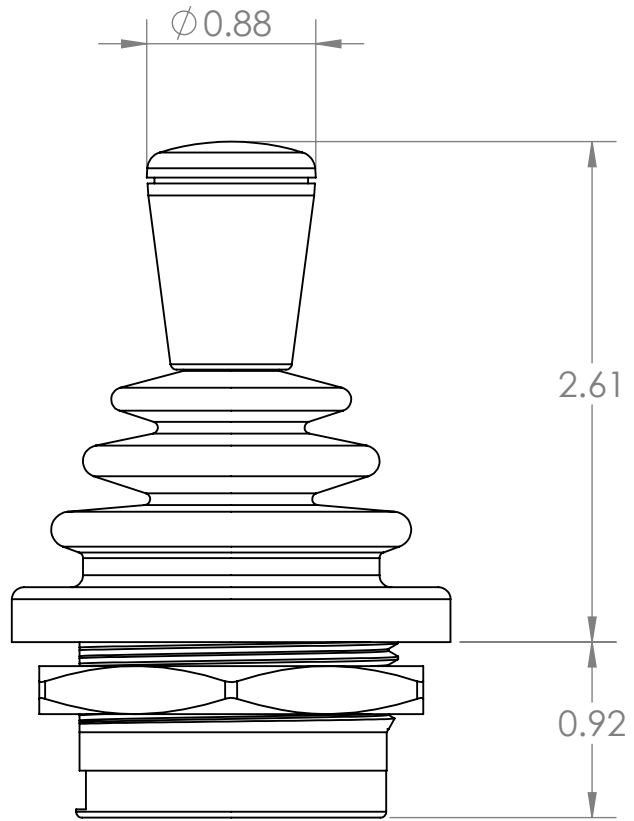
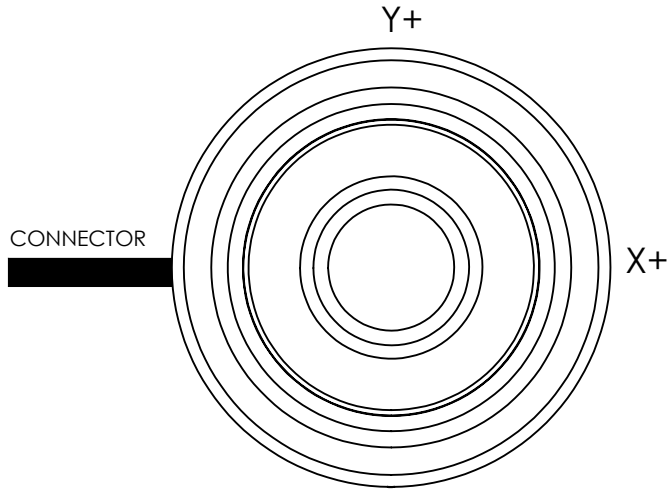


HE2-24-x-E-x-x-x



HE2-25-x-E-x-x-x

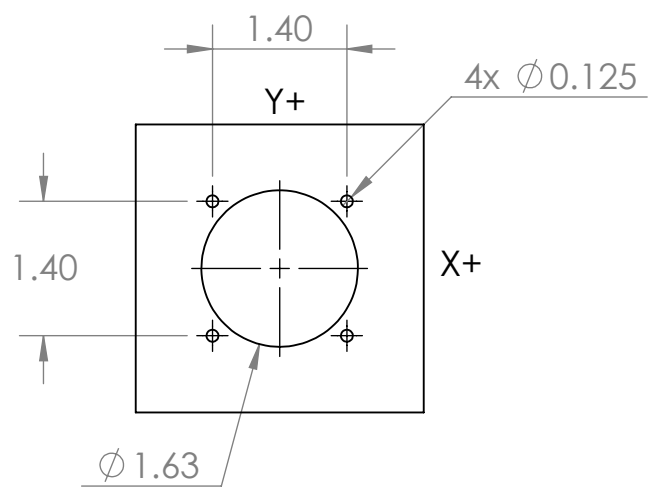
# HE2 SERIES - HANDLE OPTIONS



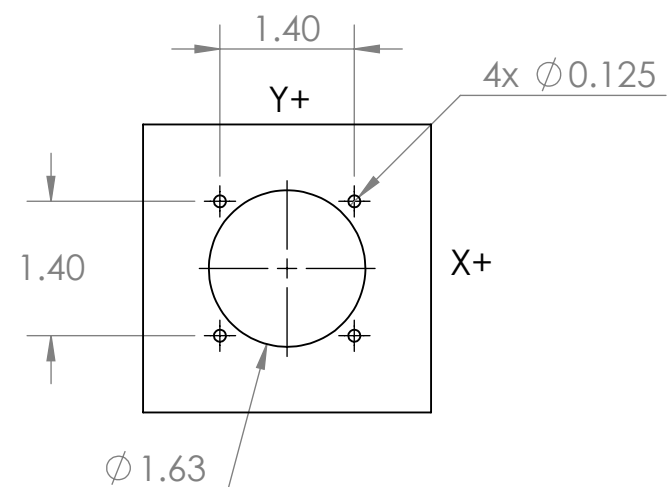
HE2-26-x-E-x-x-x

**HE2 - MOUNTING OPTIONS**

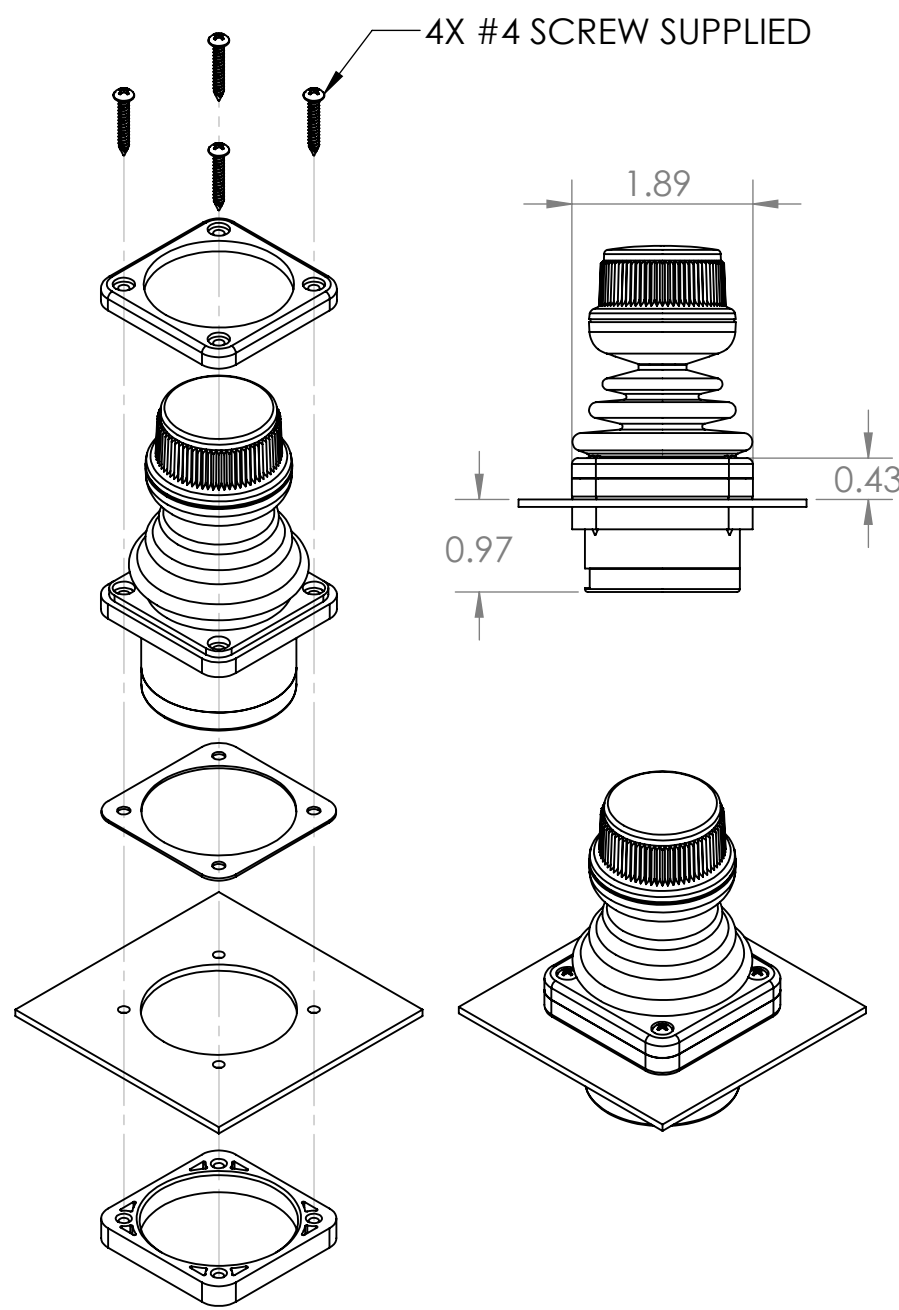
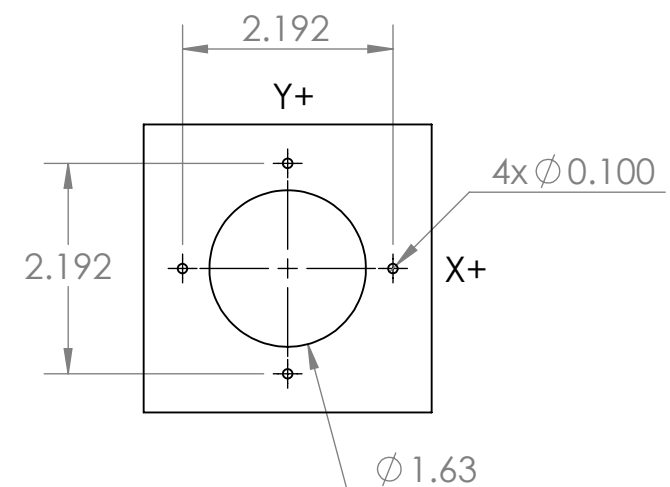
DROP-IN SQUARE PANEL DIMENSIONS



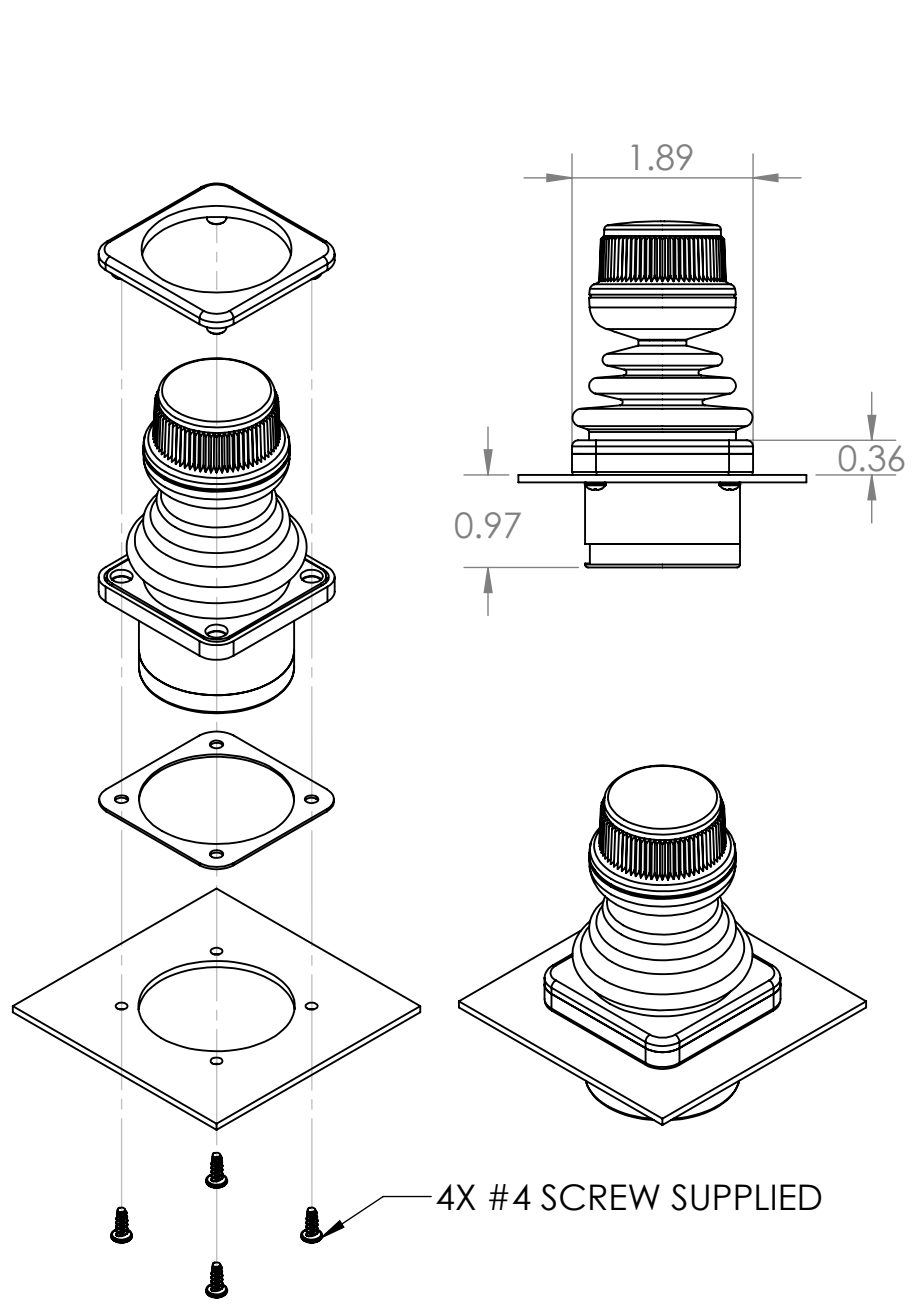
DROP-IN SQUARE PANEL DIMENSIONS (UNDER PANEL SCREWS)



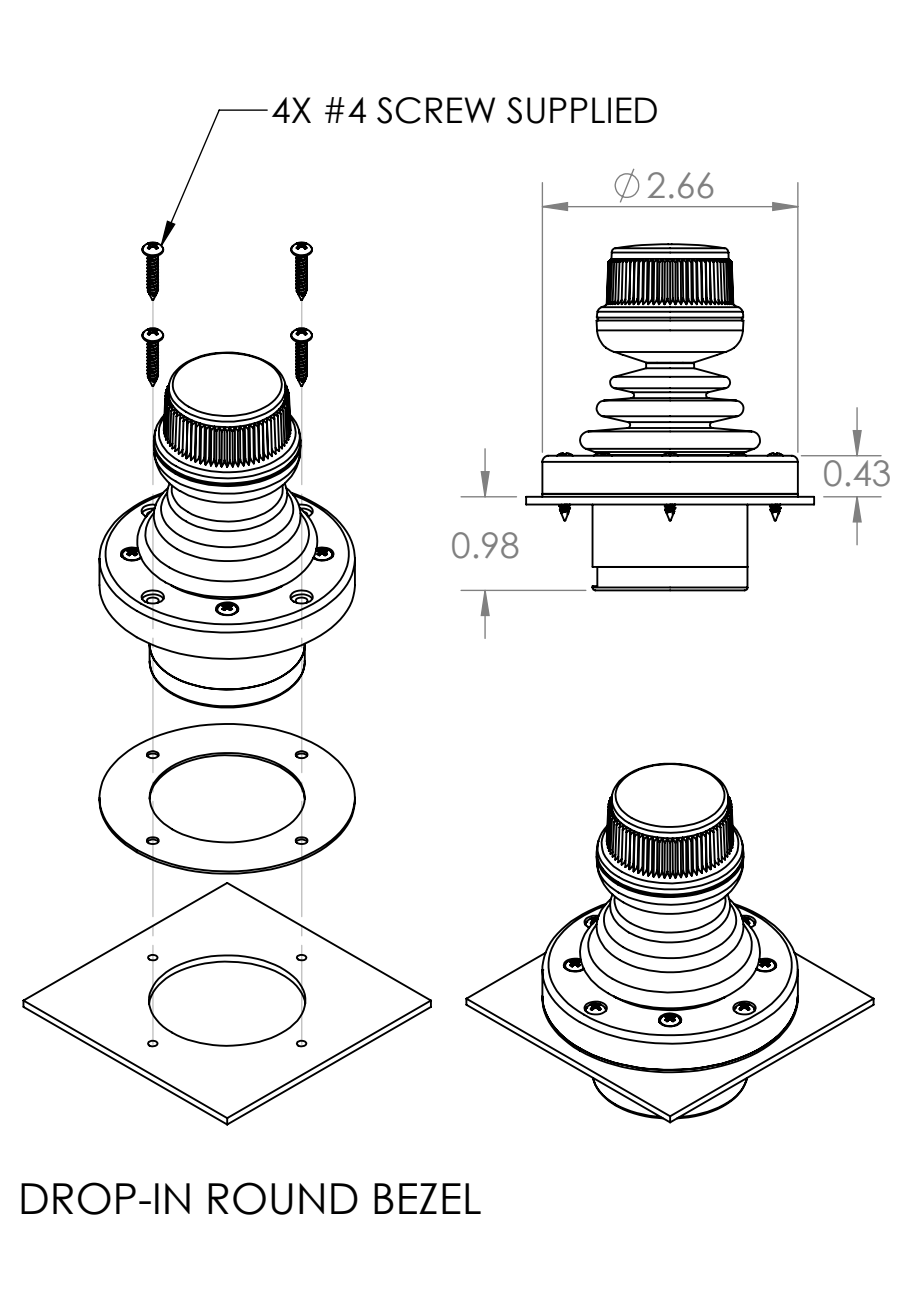
DROP-IN ROUND PANEL DIMENSIONS



DROP-IN STANDARD SQUARE BEZEL



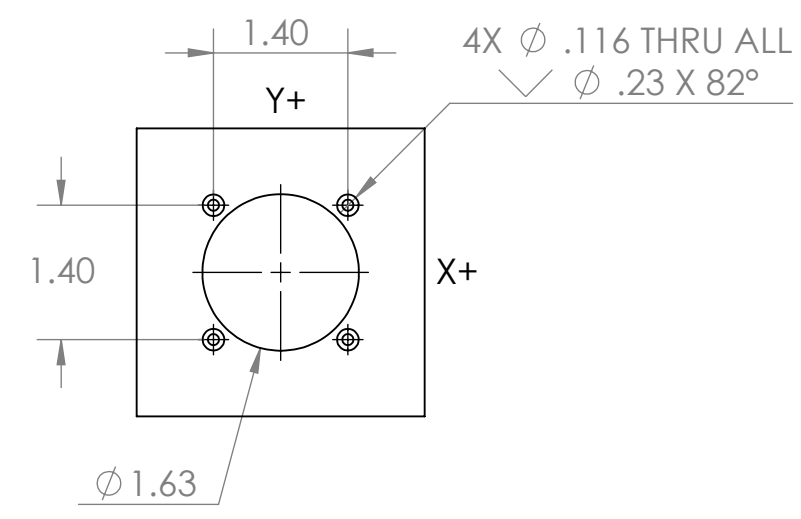
DROP-IN SQUARE BEZEL, UNDER PANEL SCREWS



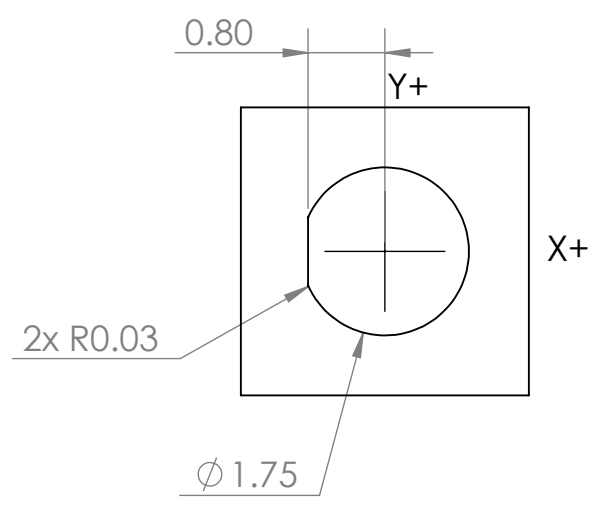
DROP-IN ROUND BEZEL

\*HANDLE SHOWN FOR REFERENCE ONLY

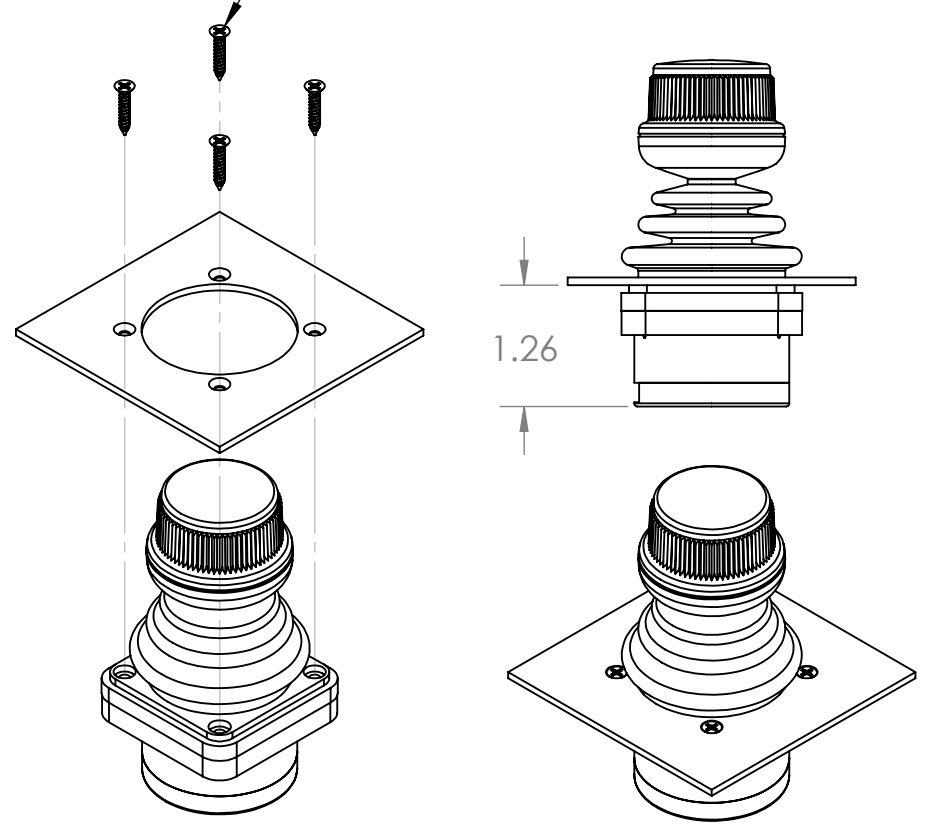
REAR MOUNT PANEL DIMENSIONS



METAL OR PLASTIC THREADED HOUSING PANEL DIMENSIONS

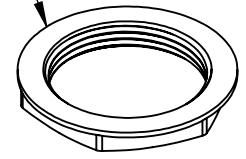


4X #4 FLAT HEAD SCREW SUPPLIED



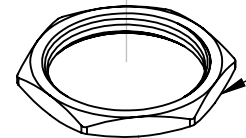
REAR MOUNT

PLASTIC NUT SUPPLIED

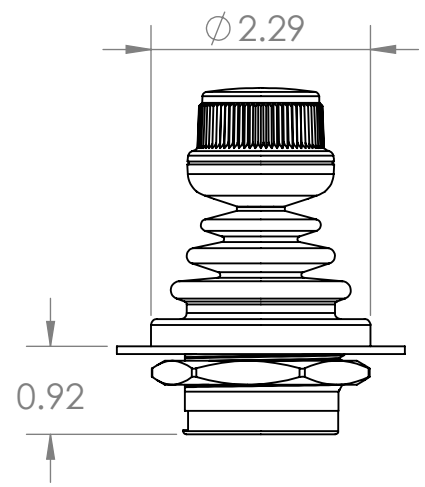


PLASTIC THREADED HOUSING

ALUMINUM NUT SUPPLIED



METAL THREADED HOUSING



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HE2

SERIES

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**LIMITER OPTION:**

S SQUARE (□)  
 R ROUND (O)  
 G GUIDED FEEL (□/+)  
 X X AXIS LIMITER (-)  
 Y Y AXIS LIMITER (|)

**OUTPUT OPTION:**

1 0V-5V  
 2 0.5V to 4.5V  
 3 0.25V to 4.75V  
 4 1V to 4V  
 5 USB  
 6 CURSOR CONTROL

**SPRING FORCE:**

(BLANK) STANDARD  
 1 +35% (X,Y,Z)

**HANDLE OPTION:**

20 2 AXIS NO BUTTON LOCKED Z  
 21 2 AXIS 1 BUTTON LOCKED Z  
 22 2 AXIS 2 BUTTON LOCKED Z  
 23 2 AXIS BALL HANDLE  
 24 2 AXIS TAPERED TALL  
 25 2 AXIS 1 BUTTON TAPERED  
 26 2 AXIS TAPERED SHORT  
 30 3 AXIS NO BUTTON  
 31 3 AXIS 1 BUTTON  
 32 3 AXIS 2 BUTTON

**MOUNTING OPTION:**

A DROP-IN STD. SQUARE BEZEL  
 B DROP-IN SQUARE BEZEL  
 (NO HARDWARE ABOVE PANEL)  
 C DROP-IN ROUND BEZEL  
 D REAR MOUNT  
 E METAL THREADED HOUSING  
 (NO HARDWARE ABOVE PANEL)  
 F PLASTIC THREADED HOUSING  
 (NO HARDWARE ABOVE PANEL)

**HANDLE COLOR:**

BK BLACK  
 GY GREY