

# HE2 Series Specifications

## MECHANICAL (X & Y AXES)

ANGLE OF MOVEMENT	40° (20° EACH DIRECTION)
EXPECTED CYCLE LIFE	5 MILLION
CENTERING	SPRING RETURN
MAX. APPLIED FORCE	150 lbf
MATERIAL	GLASS/MINERAL FILLED NYLON

## MECHANICAL (Z AXIS)

ANGLE	90° (45° EACH DIRECTION)
CENTERING	SPRING RETURN
MAX. APPLIED TORQUE	14 lbFin

## ELECTRICAL

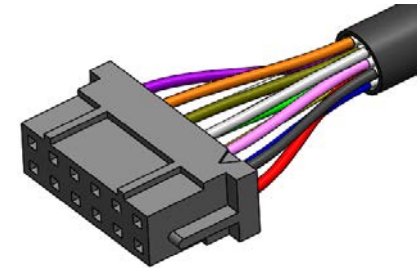
SENSOR TYPE	HALL EFFECT
RESOLUTION	12 BIT
SUPPLY VOLTAGE	5VDC ± 0.01VDC
OUTPUT VOLTAGE	SEE OPTIONS
RETURN TO CENTER VOLTAGE	± 50mV
OVERVOLTAGE MAX.	20VDC
REVERSE POLARITY MAX.	-10VDC

## ENVIRONMENTAL

OPERATING TEMPERATURE	-40°F TO 185°F
STORAGE TEMPERATURE	-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

## 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

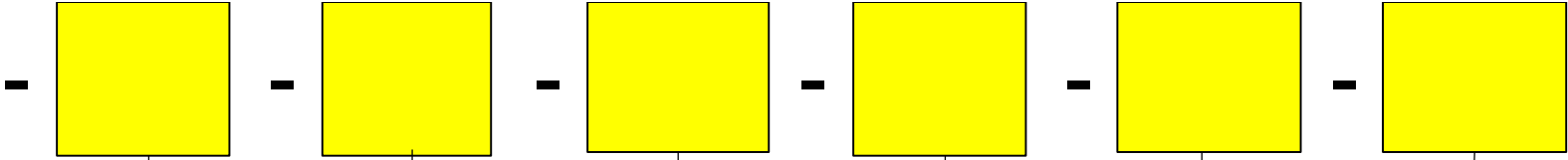
\*Extended Testing Levels

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:	
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.	
CABLE	USB MALE TYPE A to RIGHT ANGLE MINI B 5FT (60") LENGTH (MINI B TO JOYSTICK)

HE2

SERIES



**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 HANDLE  
 25 2 AXIS 1 BUTTON TAPERED  
 30 3 AXIS NO BUTTON  
 31 3 AXIS 1 BUTTON  
 32 3 AXIS 2 BUTTON

**MOUNTING OPTION:**

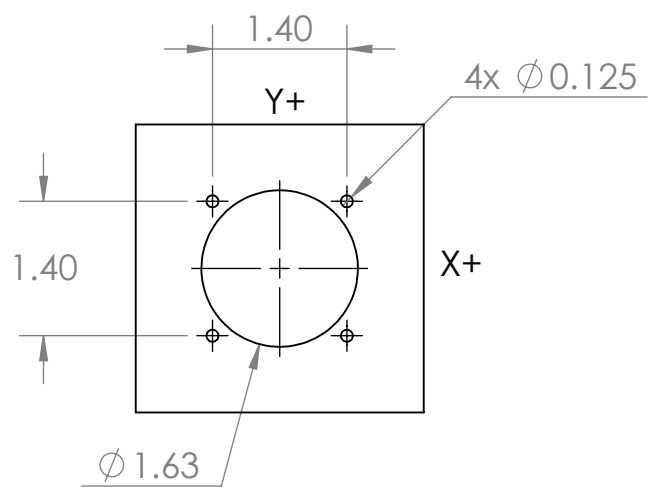
A DROP-IN STD. SQUARE BEZEL  
 B DROP-IN SQUARE BEZEL  
(NO HARDWARE ABOVE PANEL)  
 C DROP-IN ROUND BEZEL  
 D REAR MOUNT  
 E METAL THREADED HOUSING  
(NO HARDWARE ABOVE PANEL)  
 F PLASTIC THREADED HOUSING  
(NO HARDWARE ABOVE PANEL)

**HANDLE COLOR:**

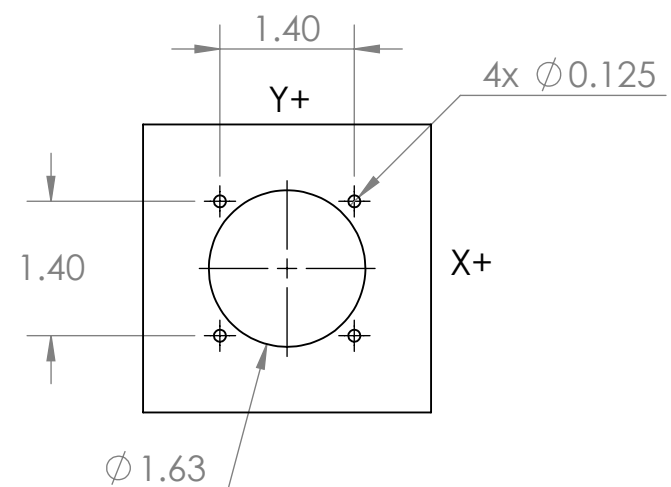
BK BLACK  
 GY GREY

**HE2 - MOUNTING OPTIONS**

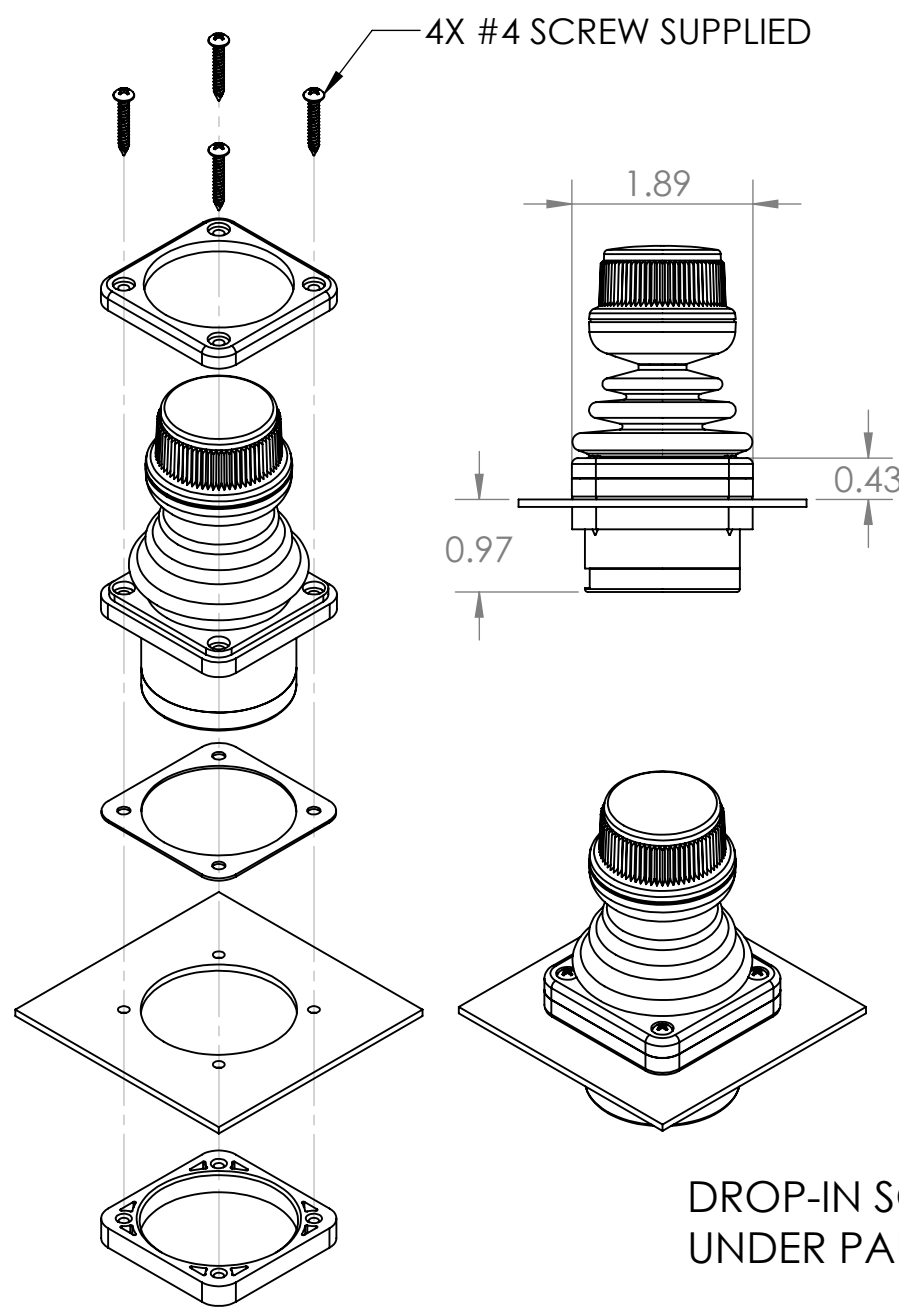
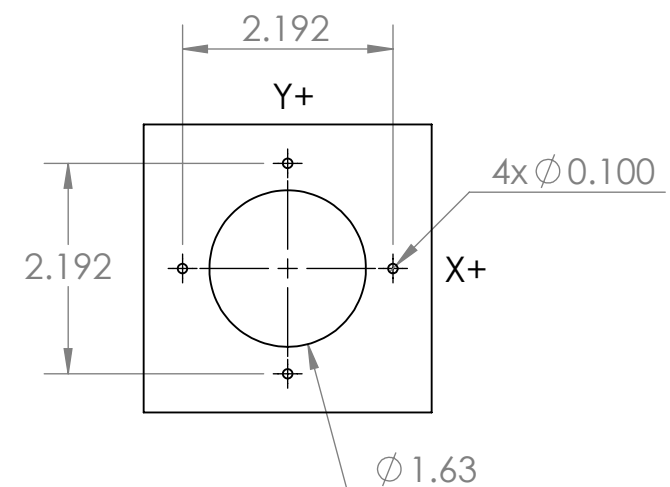
**DROP-IN SQUARE PANEL DIMENSIONS**



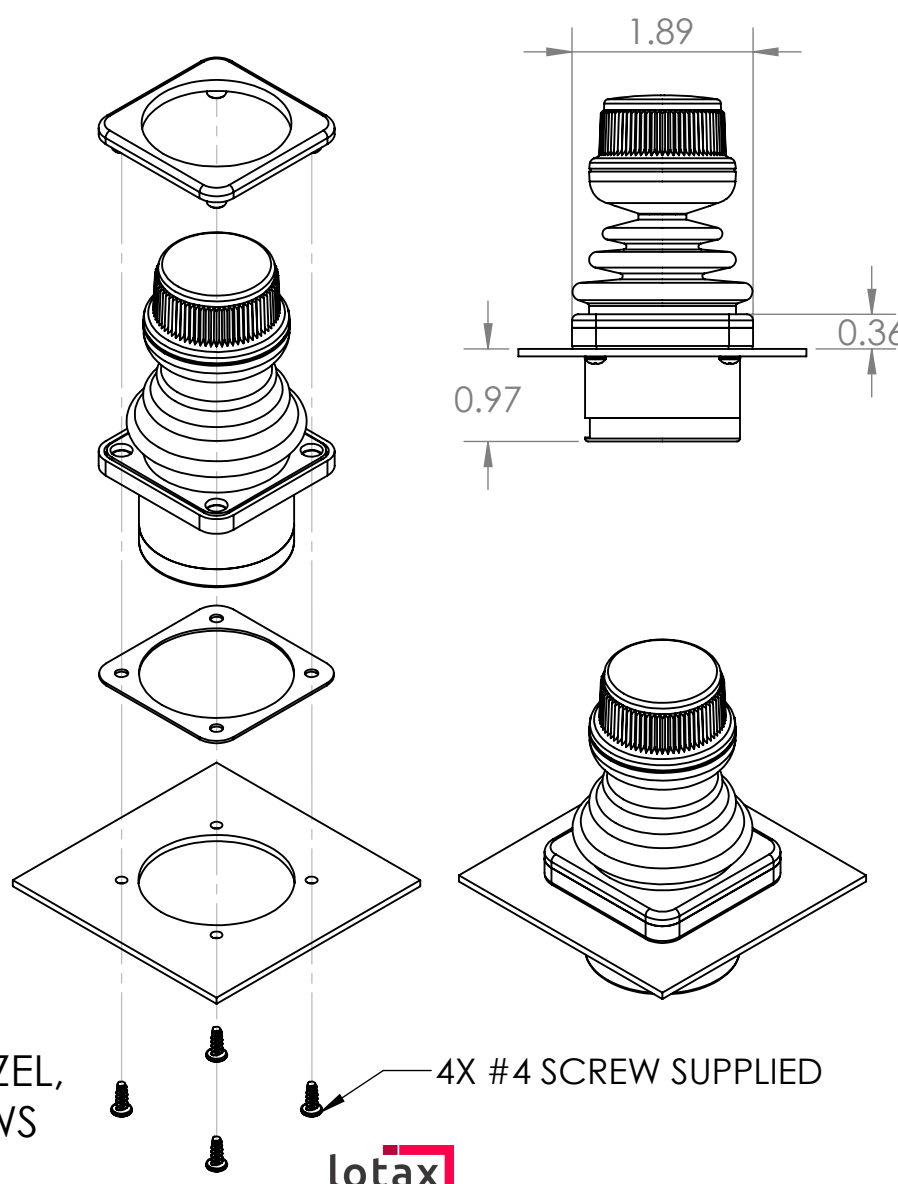
**DROP-IN SQUARE PANEL DIMENSIONS (UNDER PANEL SCREWS)**



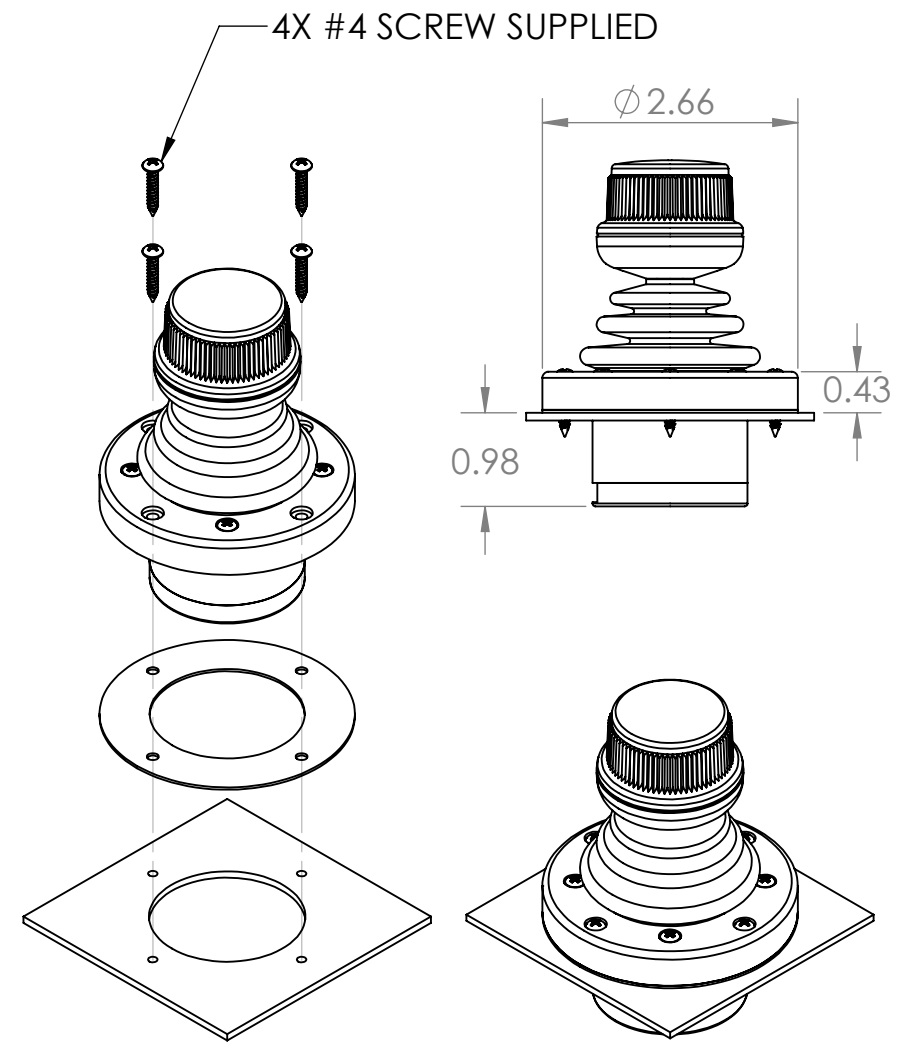
**DROP-IN ROUND PANEL DIMENSIONS**



**DROP-IN STANDARD SQUARE BEZEL**



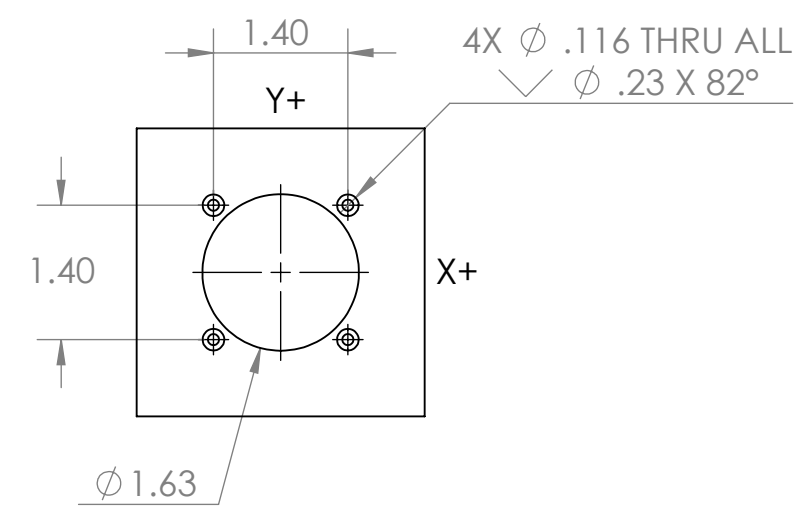
**DROP-IN SQUARE BEZEL, UNDER PANEL SCREWS**



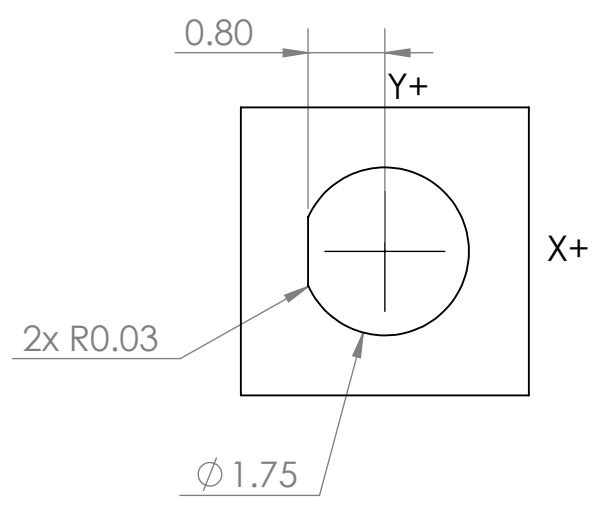
**DROP-IN ROUND BEZEL**

\*HANDLE SHOWN FOR REFERENCE ONLY

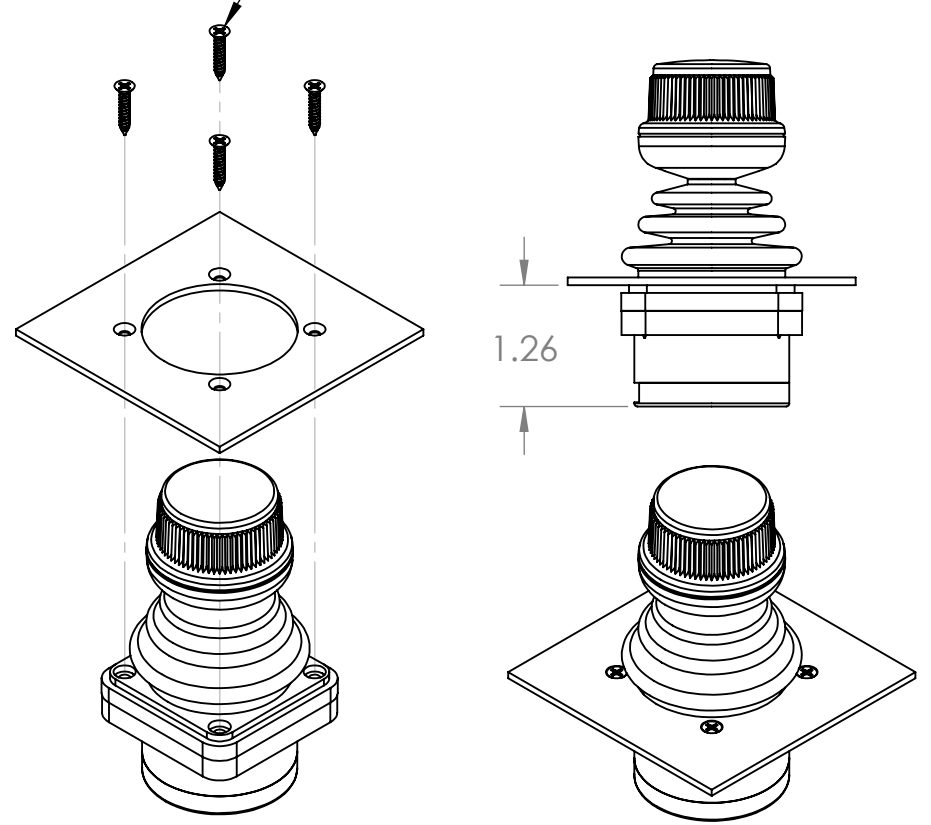
REAR MOUNT PANEL DIMENSIONS



METAL OR PLASTIC THREADED HOUSING PANEL DIMENSIONS



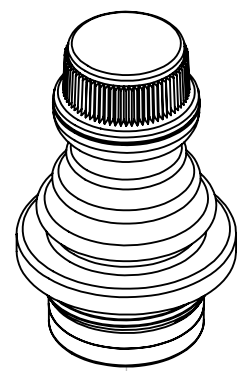
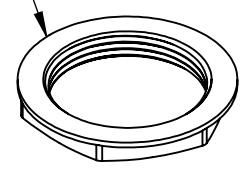
4X #4 FLAT HEAD SCREW SUPPLIED



REAR MOUNT

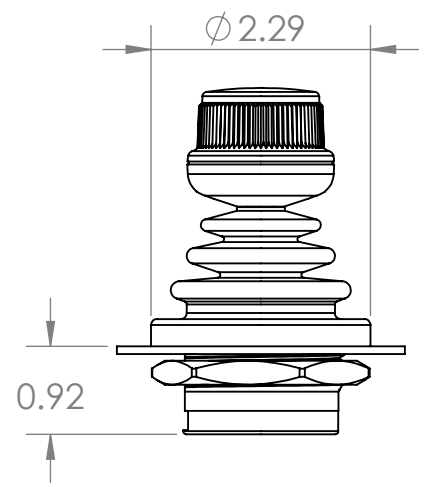
PLASTIC NUT SUPPLIED

PLASTIC THREADED HOUSING



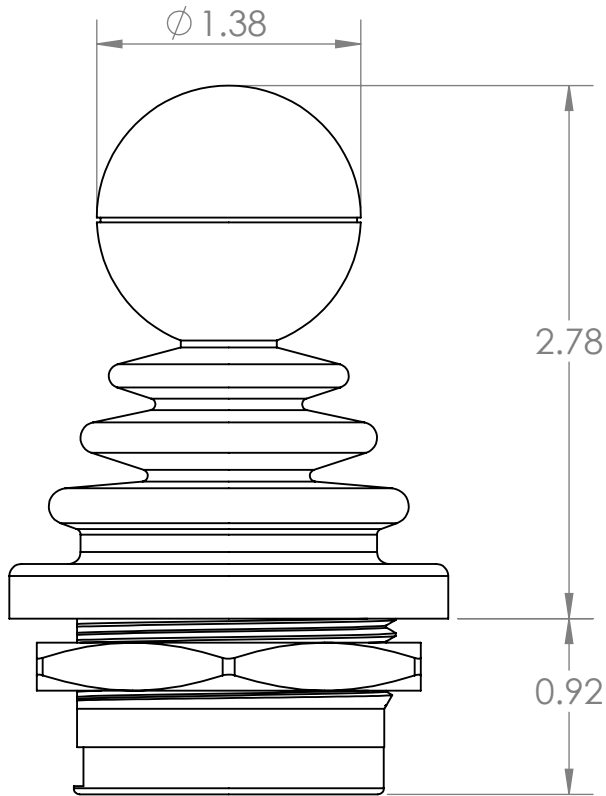
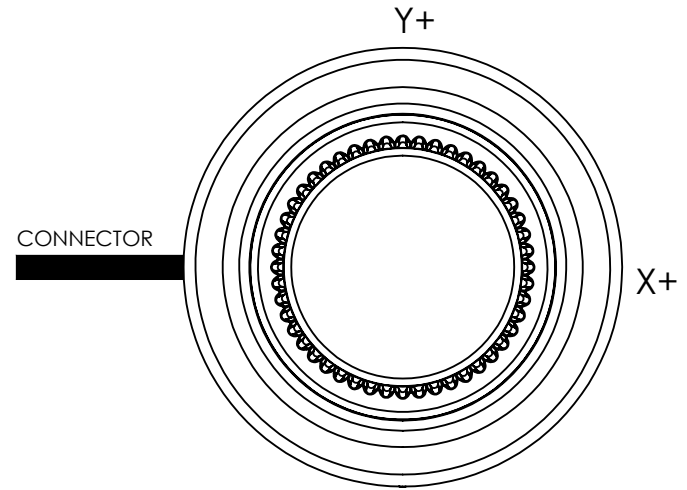
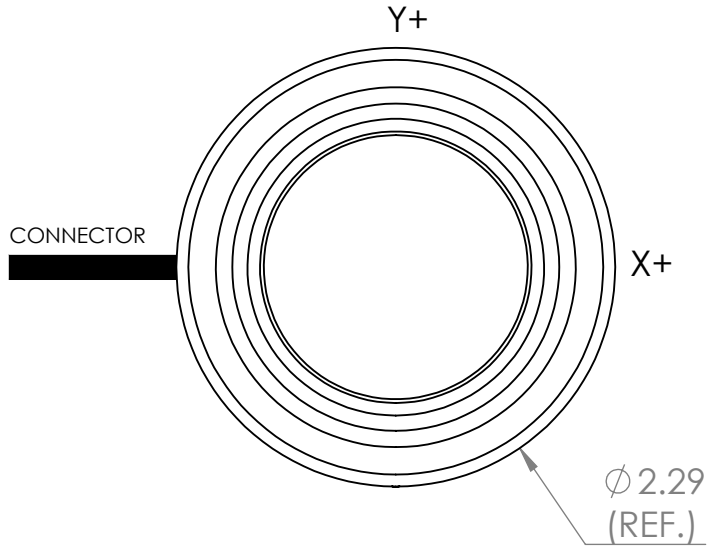
METAL THREADED HOUSING

ALUMINUM NUT SUPPLIED

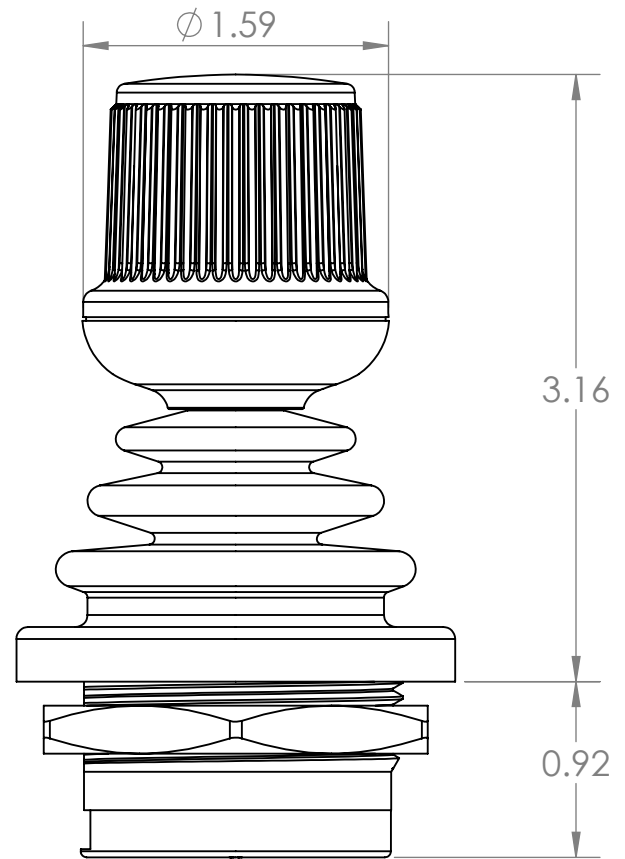


\*HANDLE SHOWN FOR REFERENCE ONLY

# HE2 SERIES - HANDLE OPTIONS



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

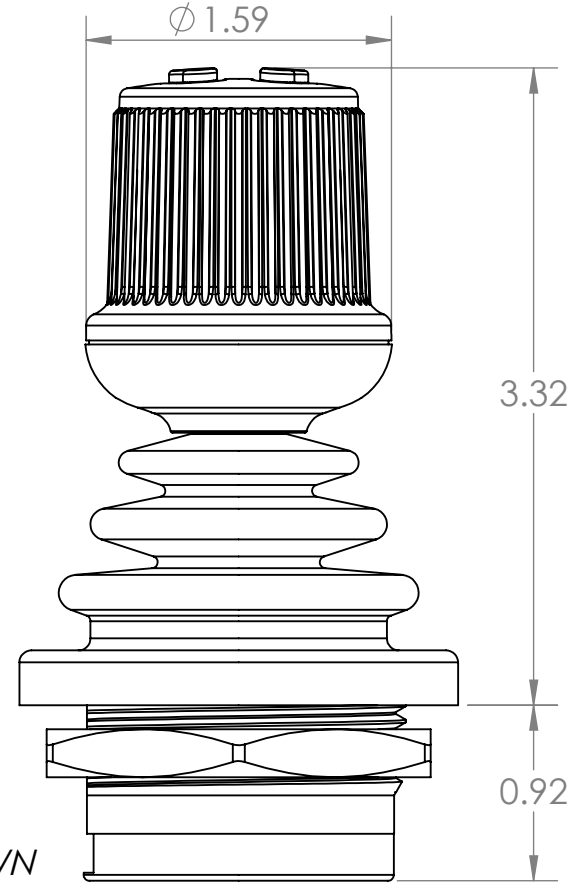
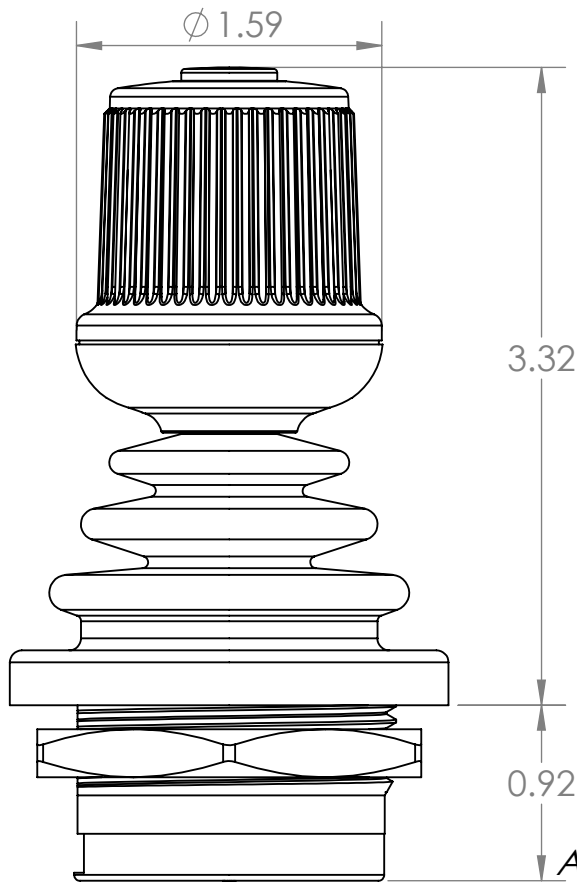
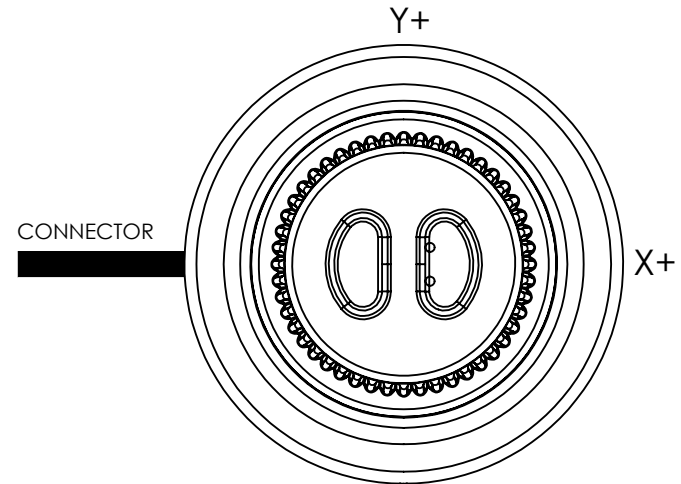
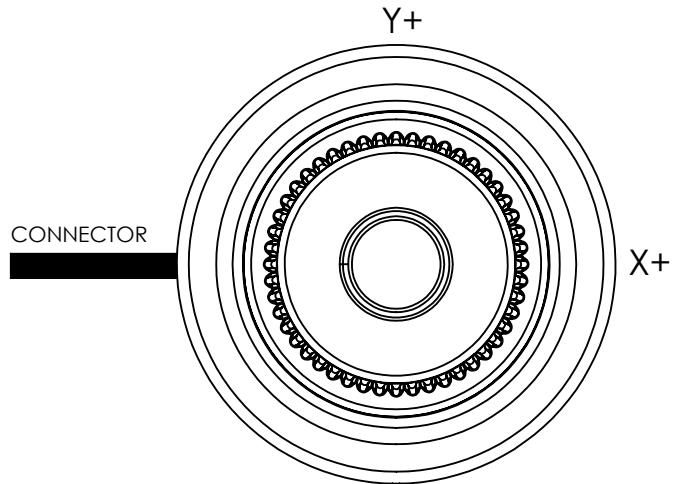


HE2-20-x-E-x-x-x  
HE2-30-x-E-x-x-x

ALL HANDLE OPTIONS SHOWN  
WITH METAL THREADED HOUSING  
MOUNTING OPTION "E"



# HE2 SERIES - HANDLE OPTIONS



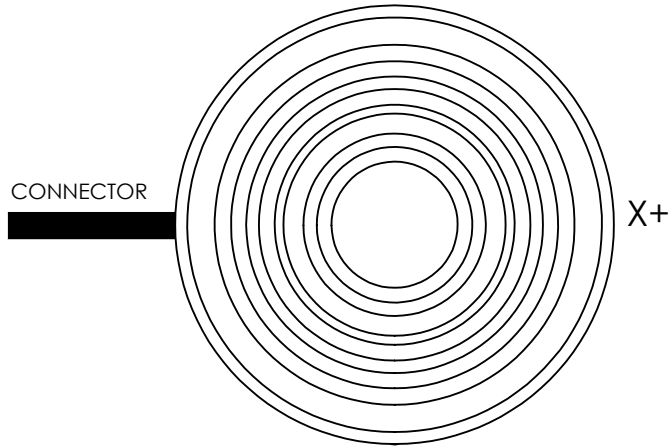
HE2-21-x-E-x-x-x  
HE2-31-x-E-x-x-x

*ALL HANDLE OPTIONS SHOWN  
WITH METAL THREADED HOUSING  
MOUNTING OPTION "E"*

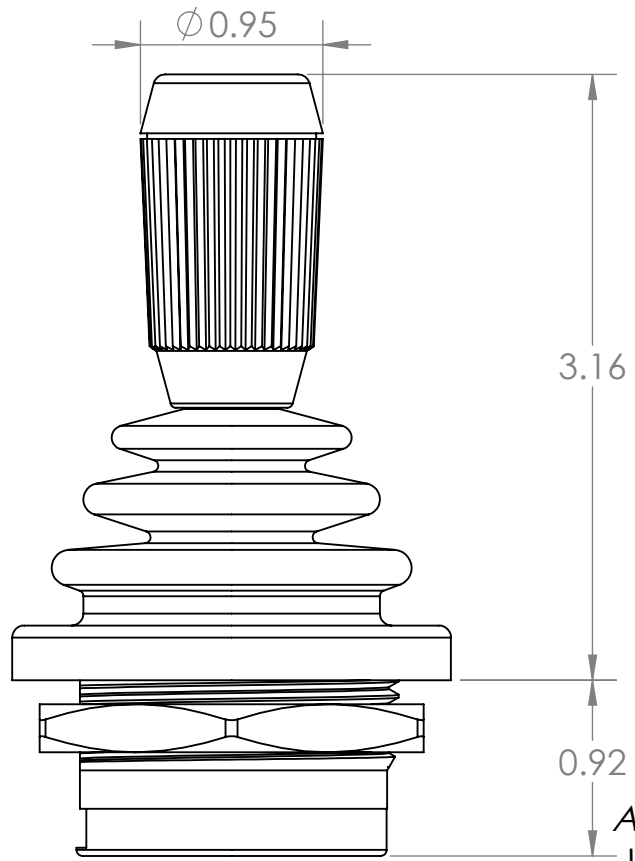
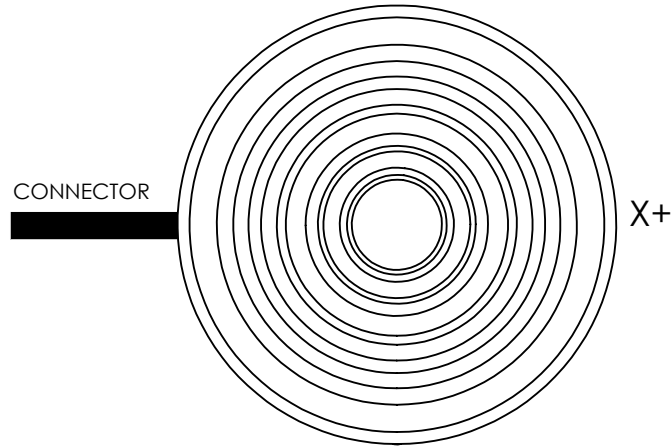
HE2-22-x-E-x-x-x  
HE2-32-x-E-x-x-x

# HE2 SERIES - HANDLE OPTIONS

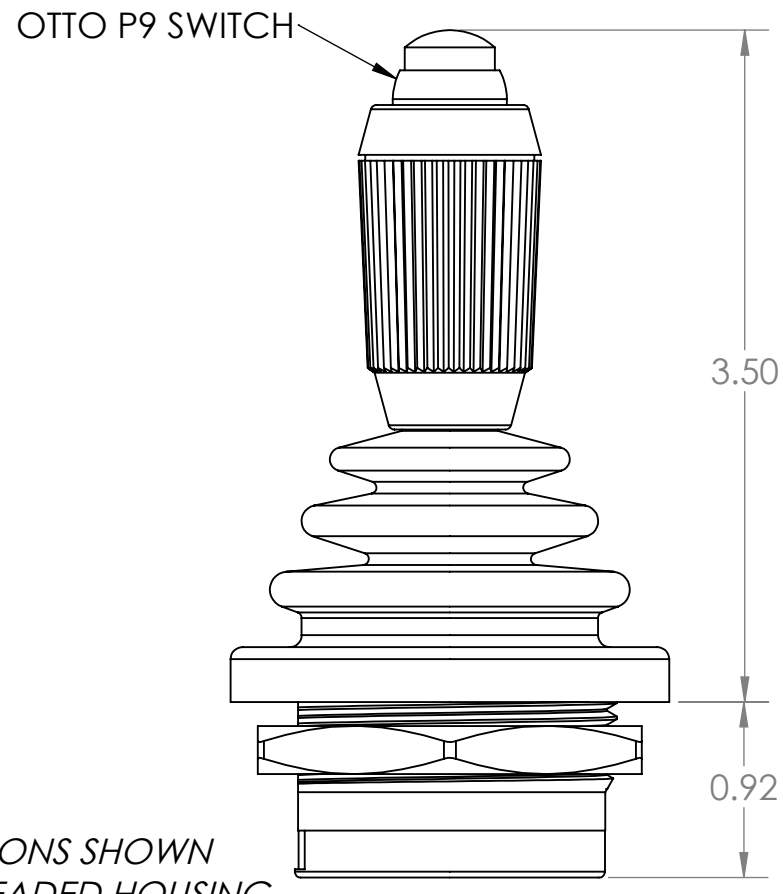
Y+



Y+



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



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

ALL HANDLE OPTIONS SHOWN WITH METAL THREADED HOUSING MOUNTING OPTION "E"

