

HE1 Series Specifications

MECHANICAL (X & Y AXES)

ANGLE OF MOVEMENT	40° (20° EACH DIRECTION)
EXPECTED CYCLE LIFE	5 MILLION
CENTERING	SPRING RETURN
MAX. VERTICAL LOAD	75 lbf
MAX. HORIZONTAL LOAD	30 lbf *
MATERIAL	GLASS/MINERAL FILLED NYLON

* Measured 1.75" Above Panel Surface

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

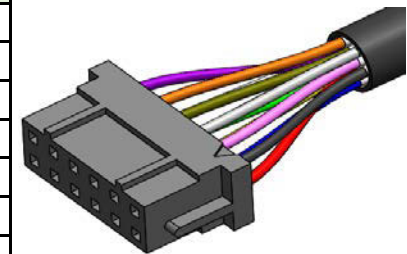
OPERATING TEMPERATURE	0°F TO 140°F
STORAGE TEMPERATURE	-40°F TO 160°F
IP SEALING ABOVE FLANGE	UP TO IP67**
EMC IMMUNITY LEVEL	EN61000-4-3 *Compliance to 30A/m
EMC EMISSIONS LEVEL	EN61000-6-3
ESD IMMUNITY LEVEL	EN61000-4-2
VIBRATION TESTING	Per SAE J1455 Section 4.9 & MIL-STD810G 514.6
MECHANICAL SHOCK	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

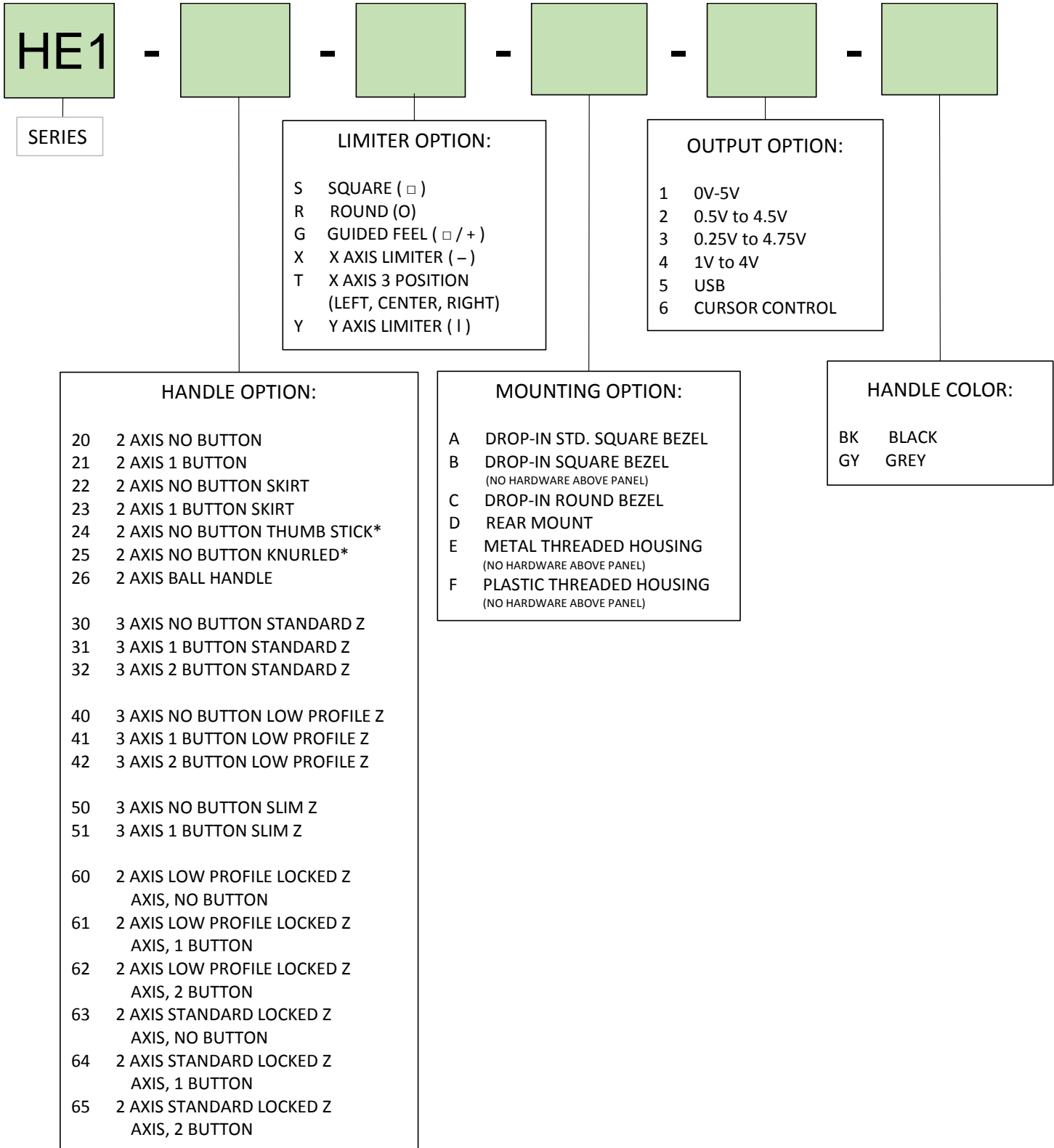


10" CABLE PROVIDED,
ANALOG VERSION

*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 AXES PUSHBUTTONS: UP TO 2 HID BUTTON
CABLE	USB MALE TYPE A to RIGHT ANGLE MINI B 5FT (60") LENGTH (MINI B TO JOYSTICK)

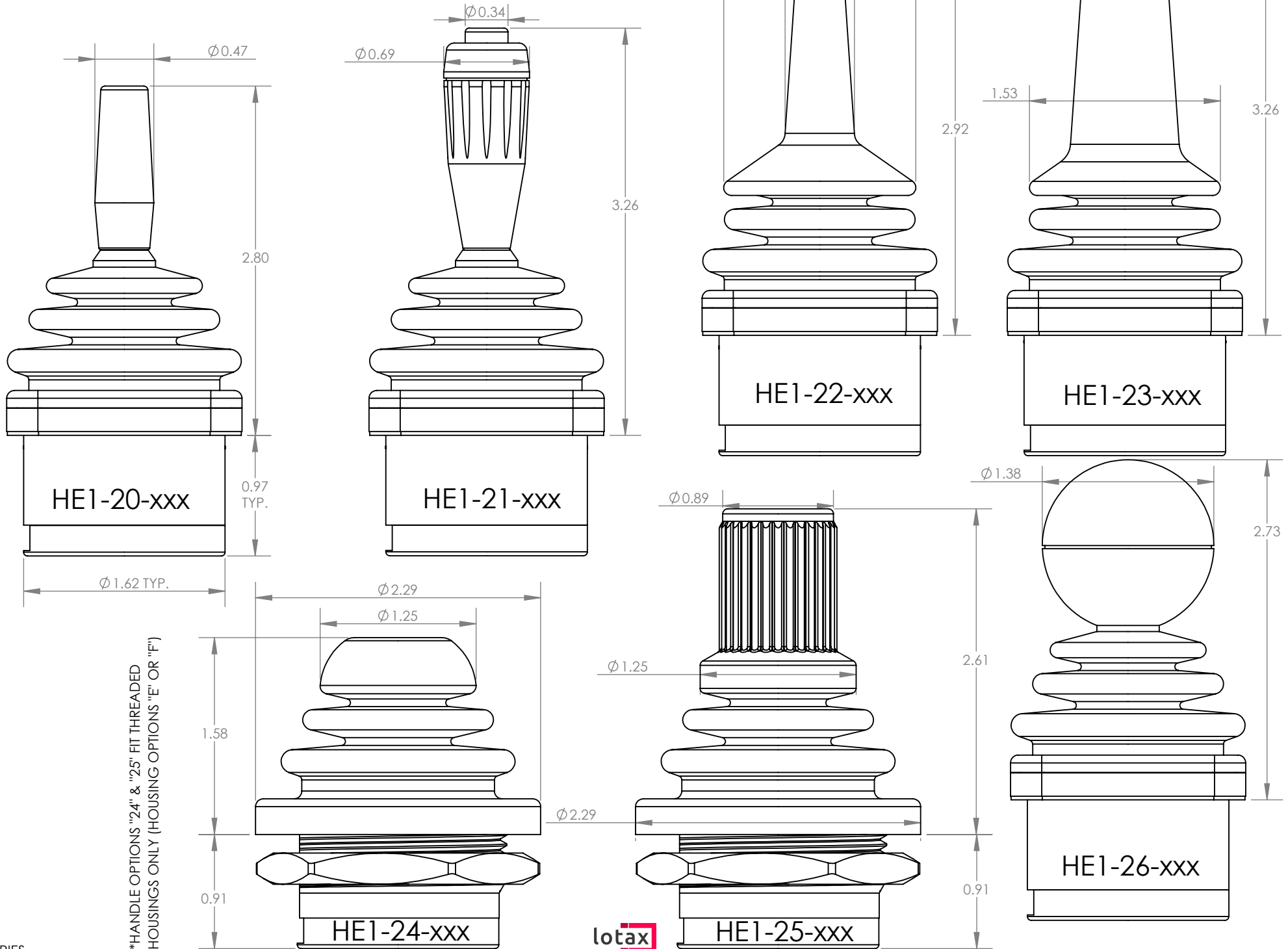
CURSOR CONTROL OUTPUT OPTION:	
The <i>Cursor Control</i> output option converts the analog joystick output into a USB cursor control device. This is achieved by the joystick's microprocessor converting the absolute position of the joystick into a cursor velocity or mouse position.	
CABLE	USB MALE TYPE A to RIGHT ANGLE MINI B 5FT (60") LENGTH (MINI B TO JOYSTICK)



* HANDLE OPTIONS "24" & "25" ONLY AVAILABLE WITH THREADED HOUSING MOUNTING OPTION "E" or "F"

HE1 SERIES - HANDLE OPTIONS (2 AXIS)

ALL HANDLES AVAILABLE WITH ANY MOUNTING OPTION UNLESS OTHERWISE SPECIFIED

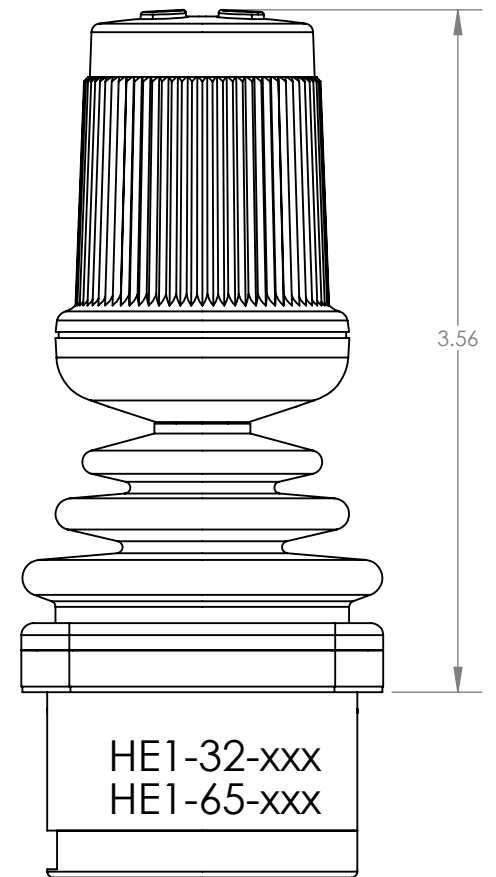
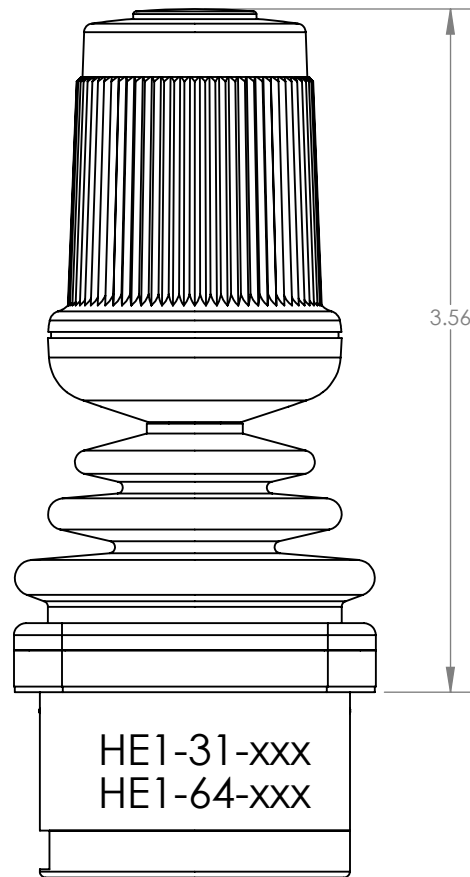
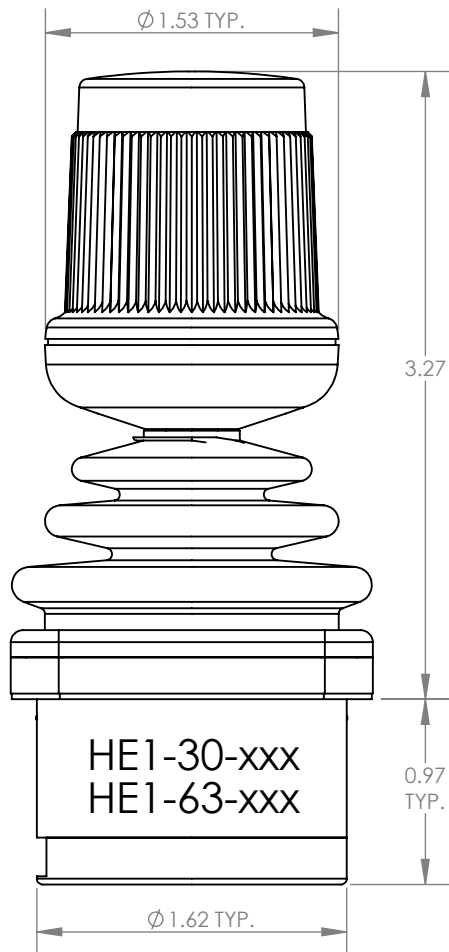
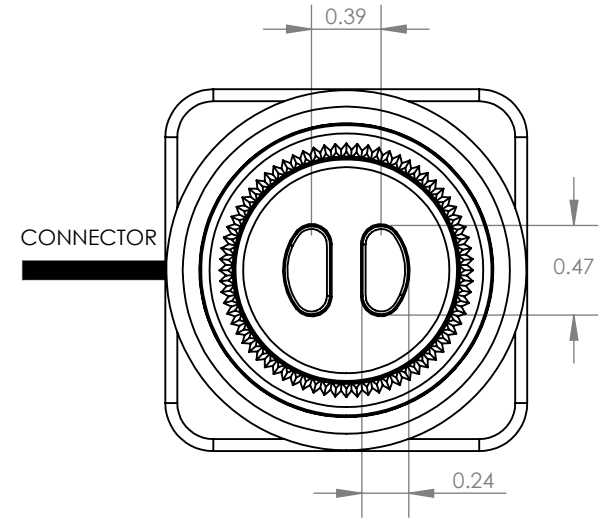
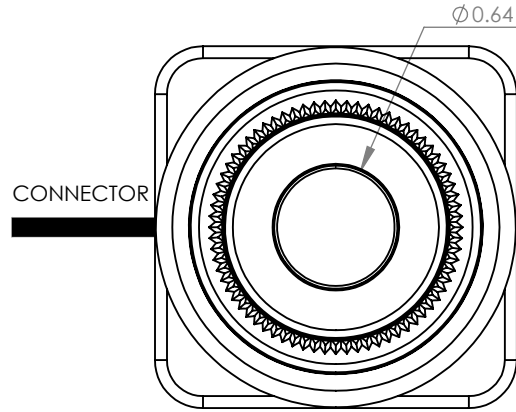
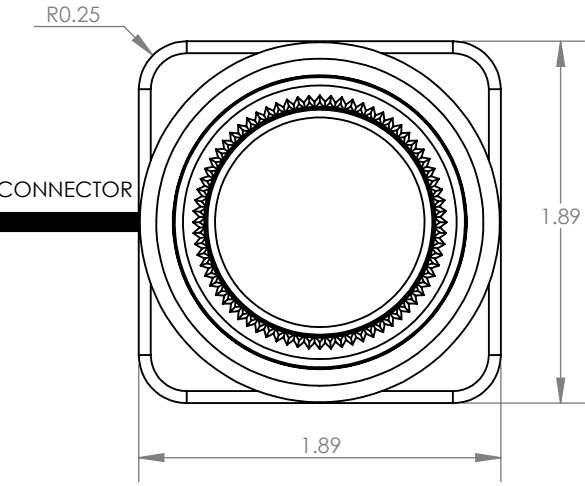


*HANDLE OPTIONS "24" & "25" FIT THREADED HOUSINGS ONLY (HOUSING OPTIONS "E" OR "F")



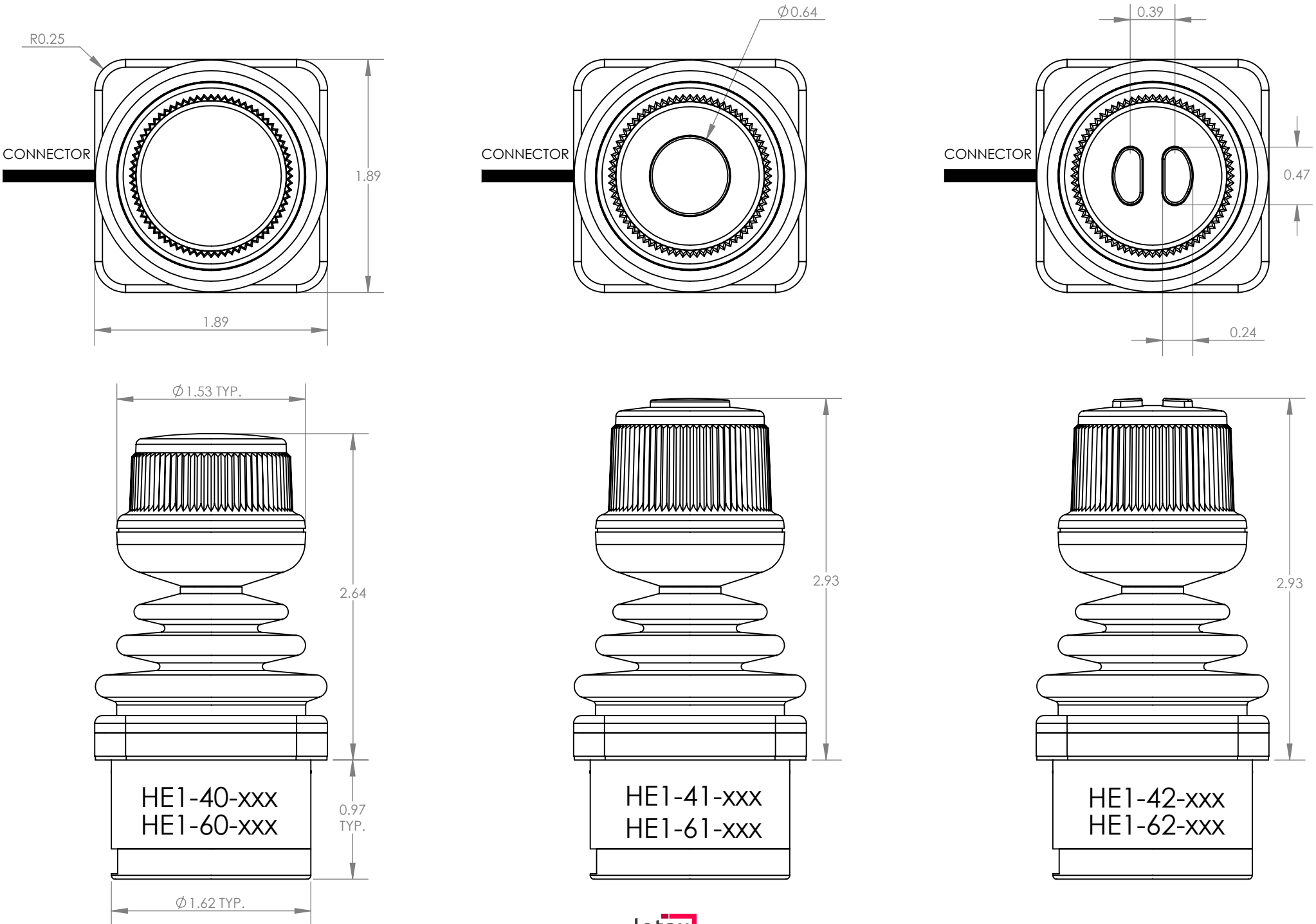
HE1 SERIES - HANDLE OPTIONS

3 AXIS (STANDARD Z AXIS) & 2 AXIS WITH LOCKED Z HANDLE

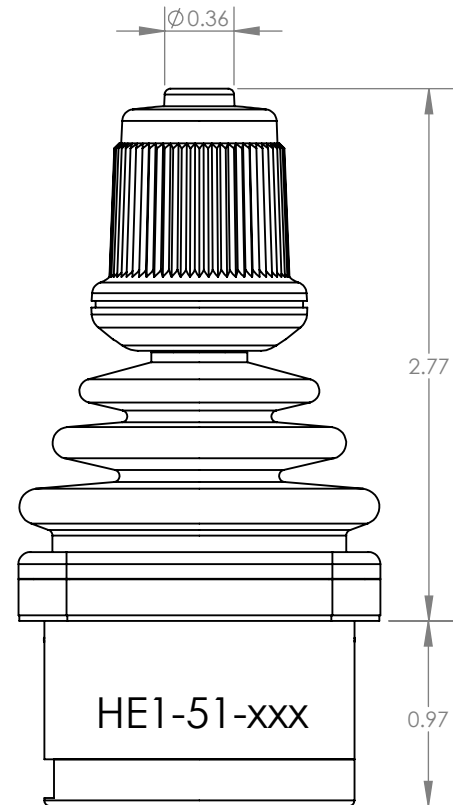
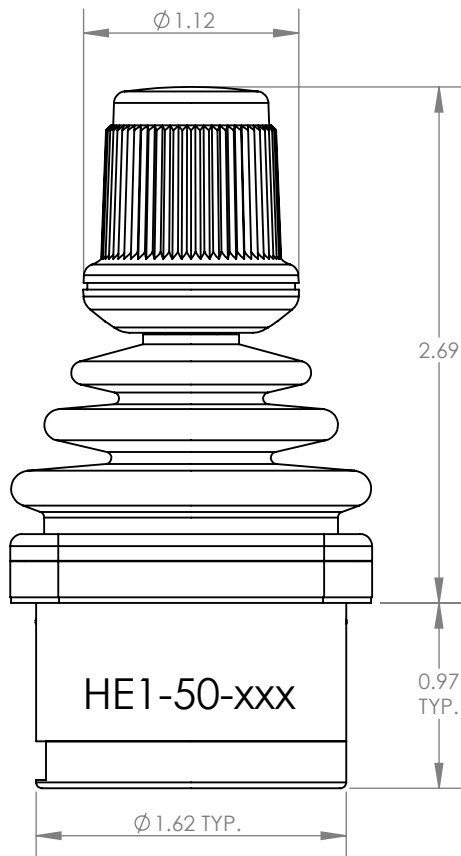
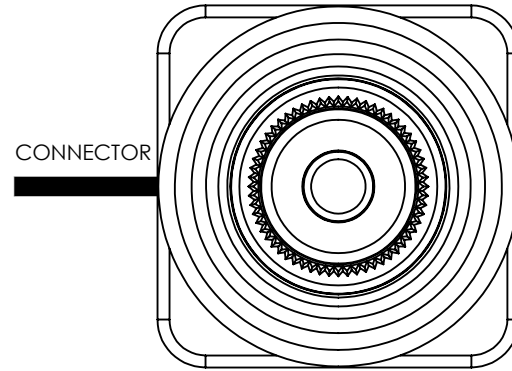
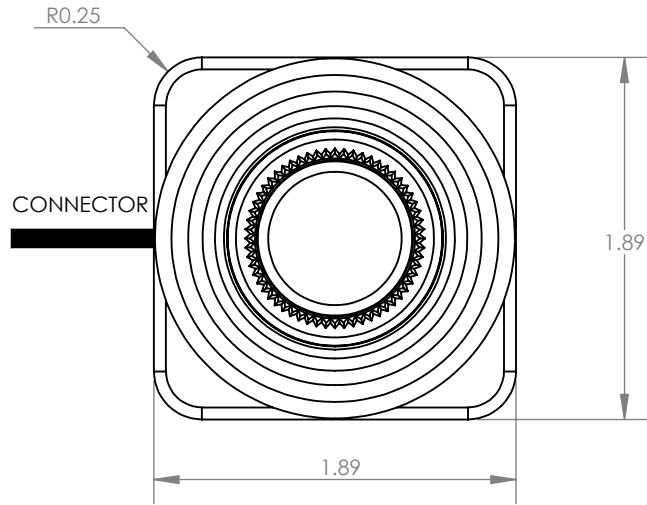


HE1 SERIES - HANDLE OPTIONS

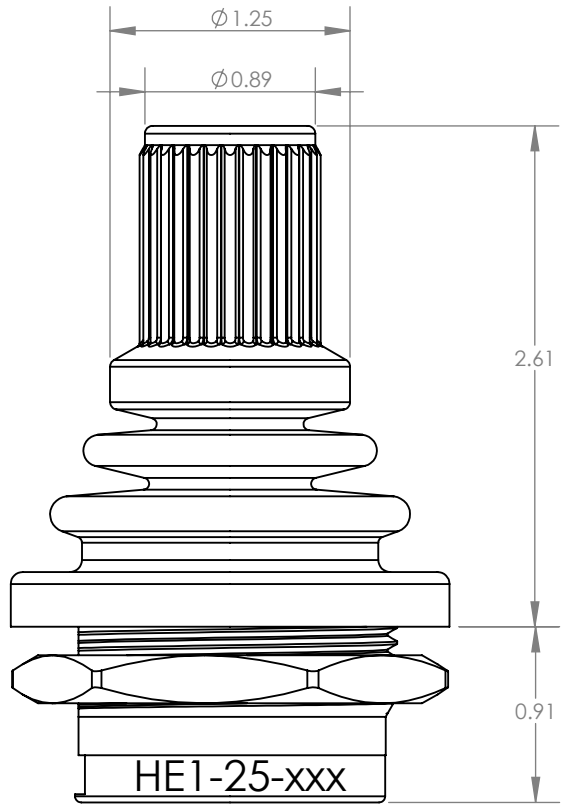
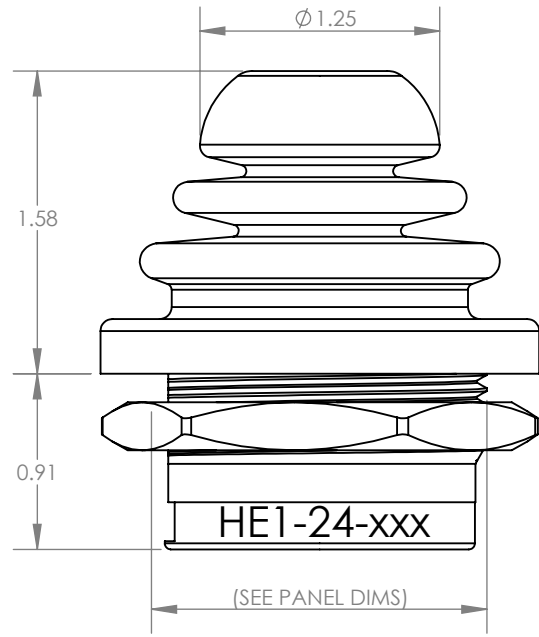
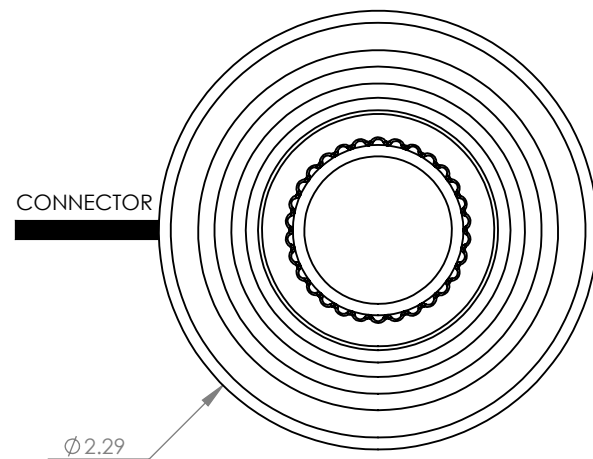
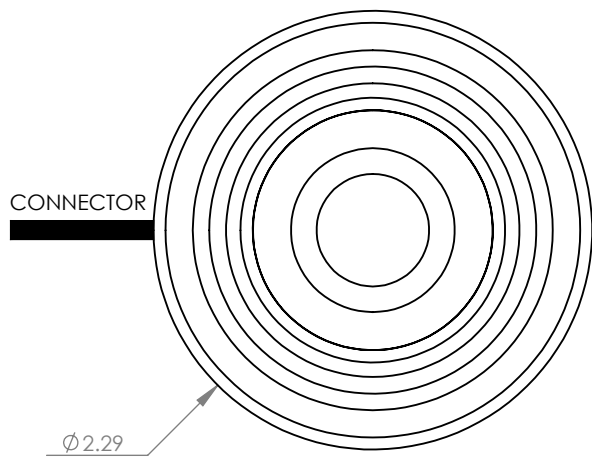
3 AXIS (LOW PROFILE Z AXIS) & 2 AXIS WITH LOCKED Z HANDLE



HE1 SERIES - HANDLE OPTIONS (3 AXIS, SLIM Z AXIS)

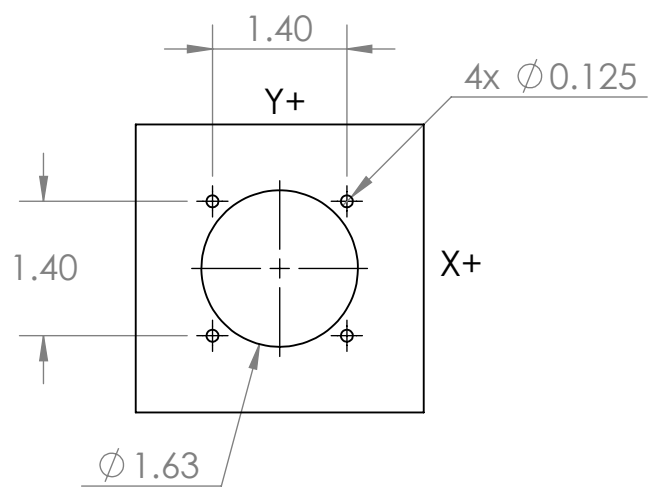


HE1 SERIES - HANDLE OPTIONS (2 AXIS IP67 SEALED)

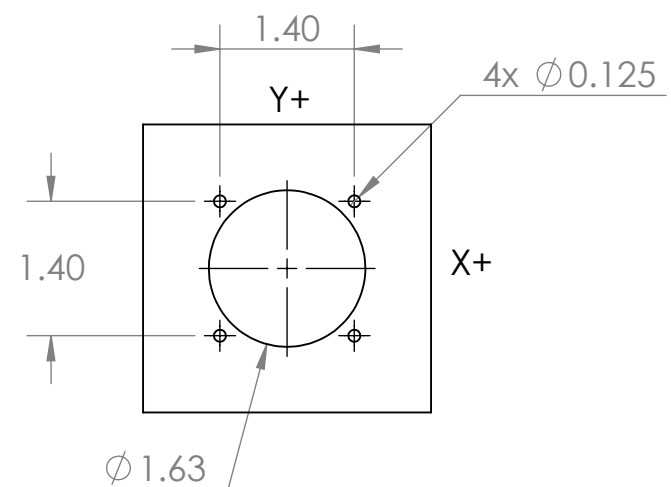


HE1 - MOUNTING OPTIONS

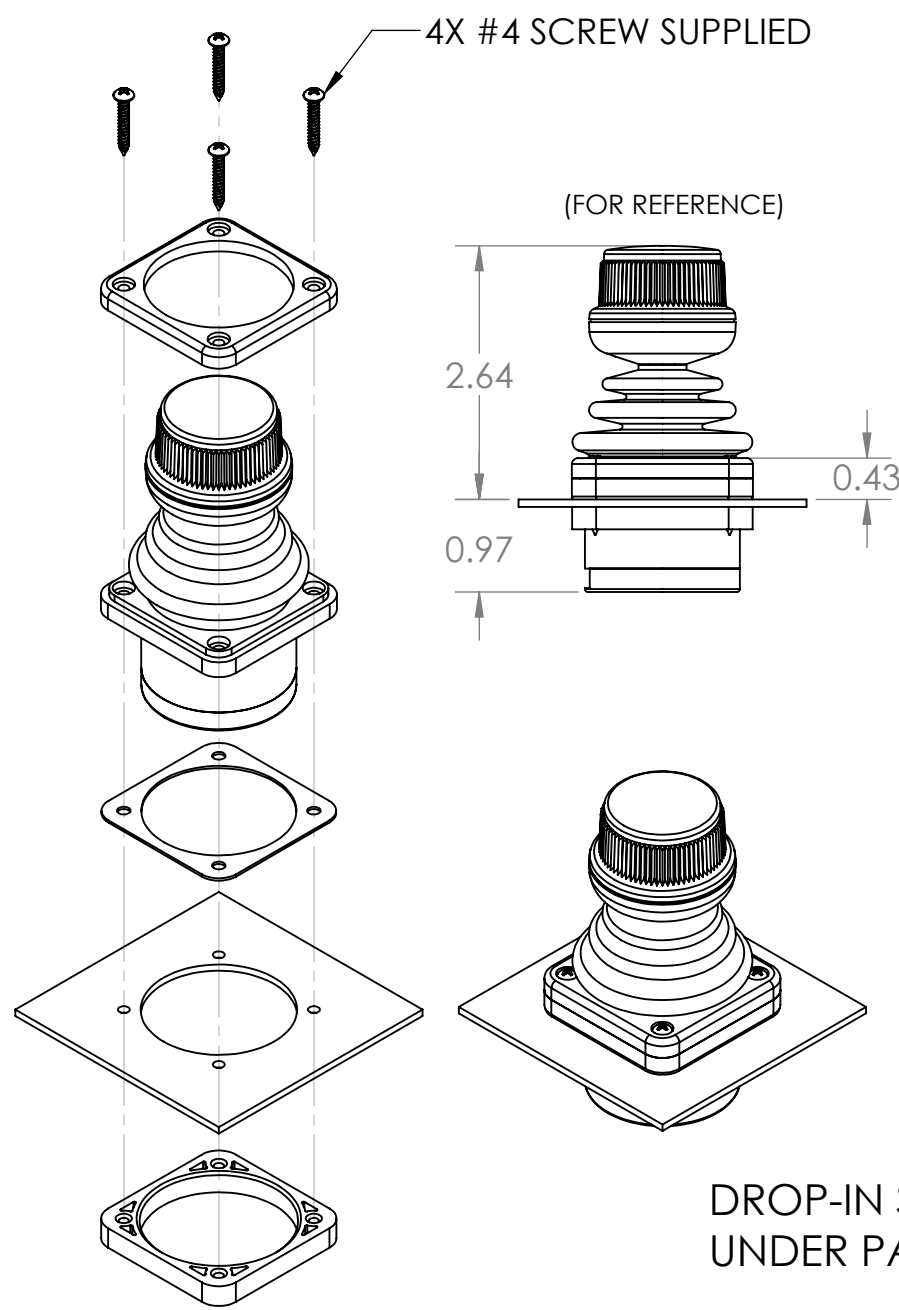
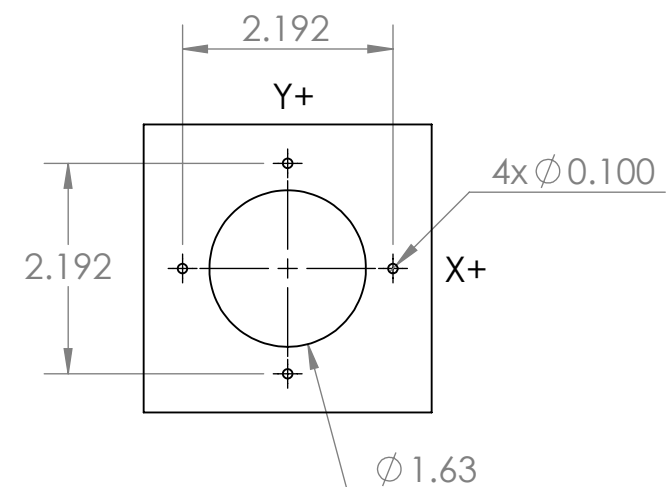
DROP-IN SQUARE PANEL DIMENSIONS



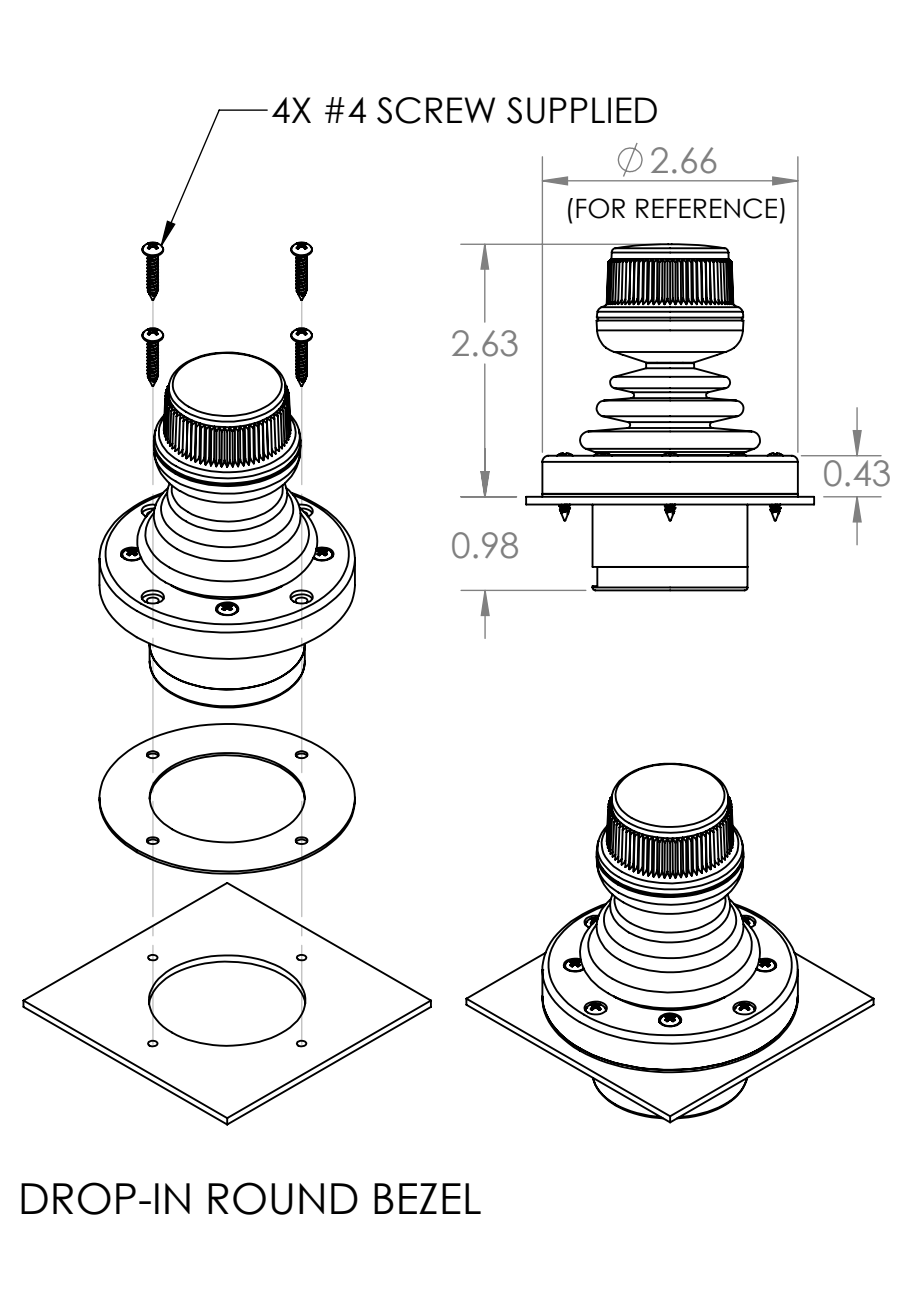
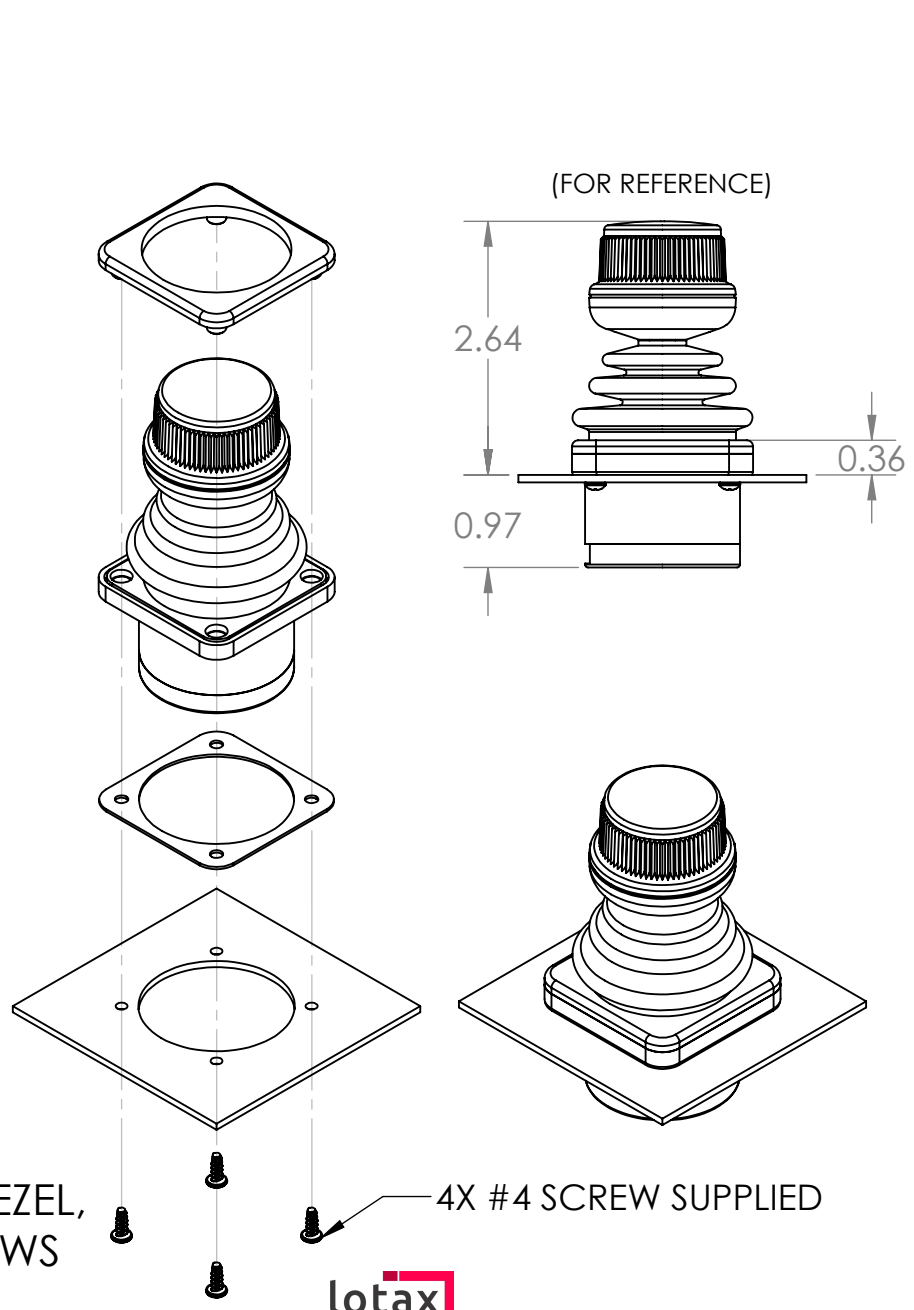
DROP-IN SQUARE PANEL DIMENSIONS



DROP-IN ROUND PANEL DIMENSIONS



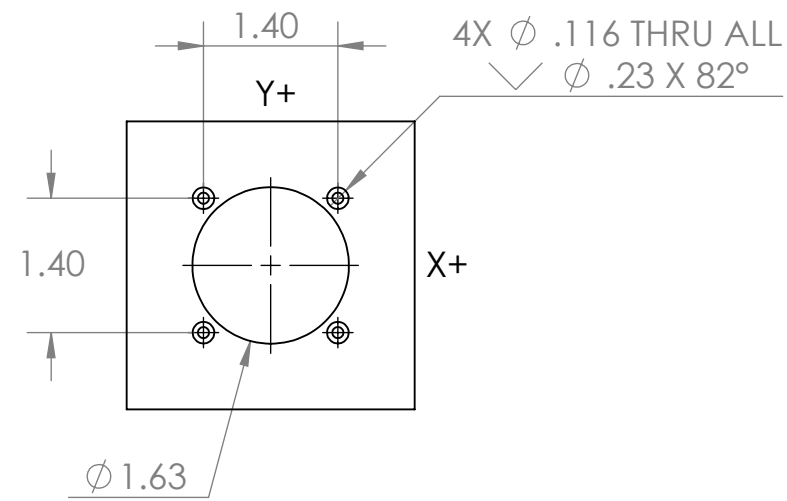
DROP-IN SQUARE BEZEL, UNDER PANEL SCREWS



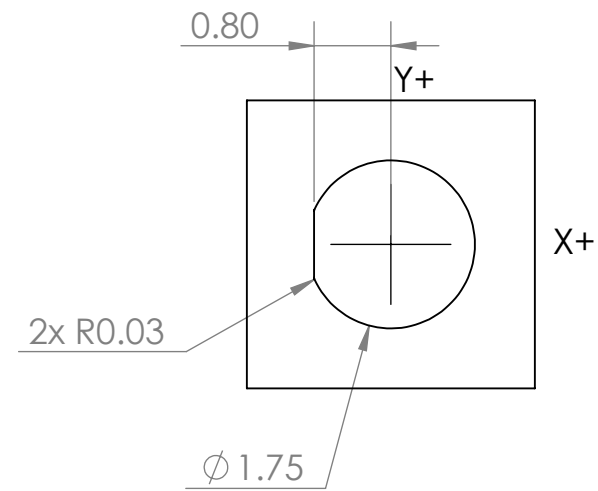
DROP-IN ROUND BEZEL

DROP-IN STANDARD SQUARE BEZEL

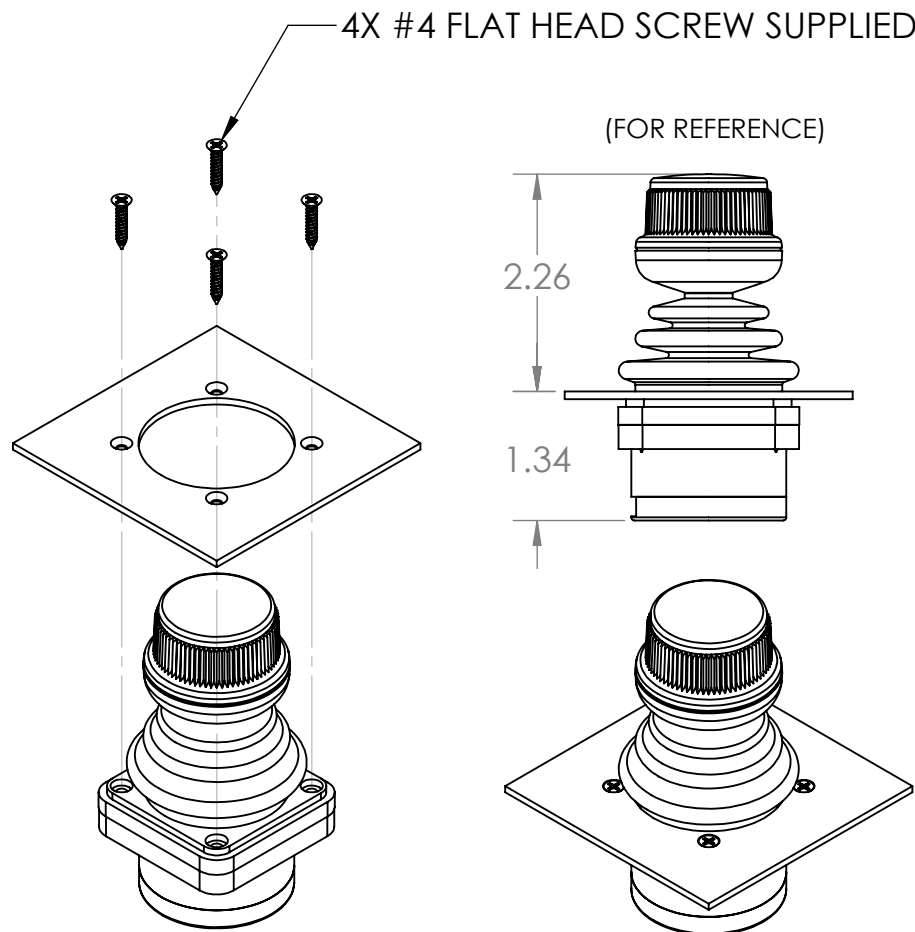
REAR MOUNT PANEL DIMENSIONS



METAL OR PLASTIC THREADED HOUSING PANEL DIMENSIONS

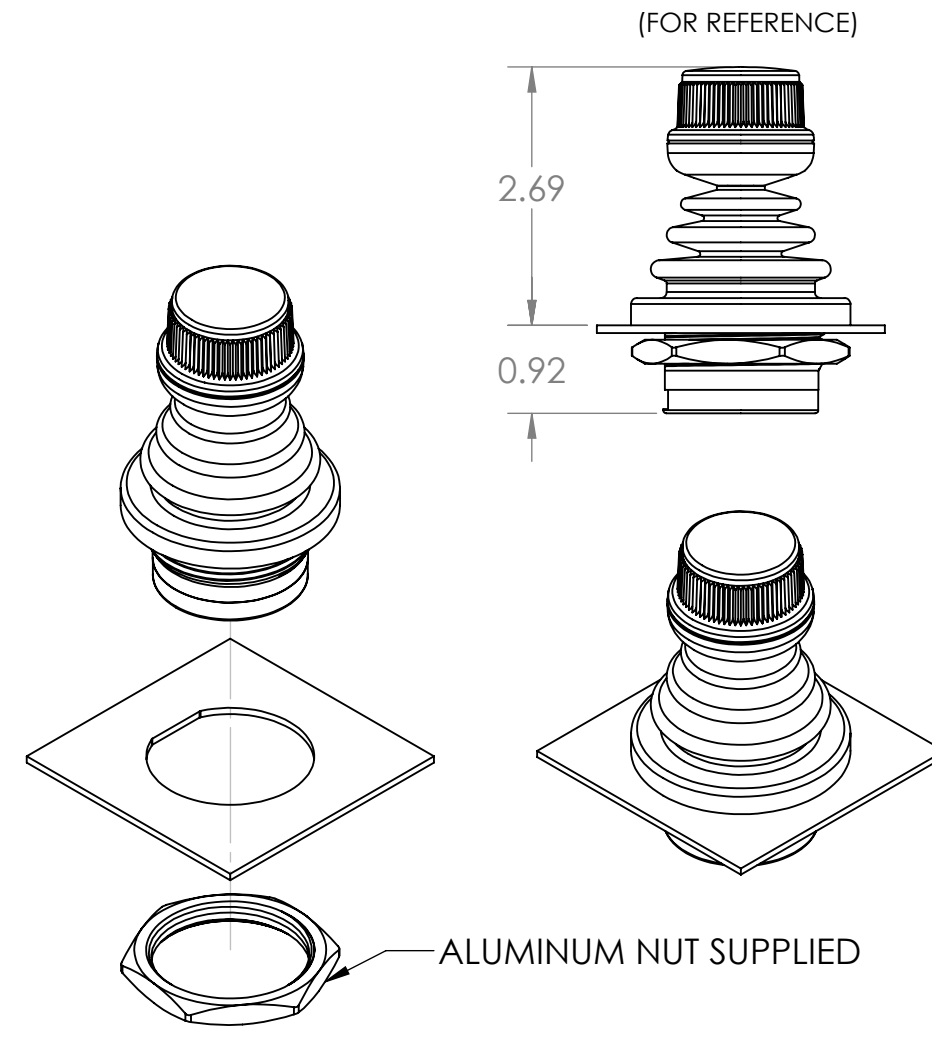


4X #4 FLAT HEAD SCREW SUPPLIED



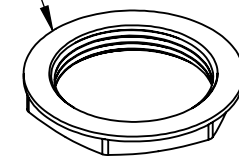
REAR MOUNT

(FOR REFERENCE)



PLASTIC NUT SUPPLIED

PLASTIC
THREADED
HOUSING



ALUMINUM NUT SUPPLIED

METAL
THREADED
HOUSING