

NOTES:

1. MARKING TO INCLUDE:
"OTTO" P/N & DATE CODE "YYWW".
2. OUTPUTS ARE FROM THE CENTER TO THE FULL TRAVEL POSITION IN EACH DIRECTION.
OPTIONS "AA", "BB", "CC", "DD", "EE", "FF" PROVIDE INCREASED VOLTAGE IN +X, +Y; AND DECREASING VOLTAGE IN -X, -Y DIRECTION FROM ONE OUTPUT PER AXIS.
OPTIONS "GG" AND "HH" PROVIDE INCREASING VOLTAGES .
IN ALL DIRECTIONS (+X, +Y, -X, -Y) FROM 2 OUTPUTS PER AXIS.
3. OPTIONS "BB" AND "EE" PROVIDE REDUNDANT OUTPUT 2 WHICH DUPLICATES OUTPUT 1
OPTIONS "CC" AND "FF" PROVIDE REDUNDANT OUTPUT 2 WHICH IS INVERSE OF OUTPUT 1.
4. THIS PART/PRODUCT IS TO BE MANUFACTURED WITH THE APPLICABLE REGULATIONS OF EC DIRECTIVES 2002/95/EC AND 2002/96/EC, RESTRICTION OF THE USE HAZARDOUS SUBSTANCES IN ELECTRICAL AND ELECTRONIC EQUIPMENT (RoHS) AND WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (WEEE).
5. SEE PAGE 3 FOR ALTERNATE BUTTON DESIGN.

PRODUCT SPECIFICATIONS

ELECTRICAL:

RATED AT V _{cc} = 5V @ 20°C LOAD = 1ma (4.7K Ω)	UNITS	MIN	TYP	MAX
SUPPLY VOLTAGE, V _{cc}	VDC	4.50	5.00	5.50
OUTPUT VOLTAGE TOLERANCE AT CENTER (SEE APPROPRIATE GRAPH FOR OUTPUT VALUES)	VDC @5V V _{cc}	-.25		+.25
OUTPUT VOLTAGE TOLERANCE FULL TRAVEL (SEE APPROPRIATE GRAPH FOR OUTPUT VALUES)	VDC @5V V _{cc}	-.25		+.25
SUPPLY CURRENT PER SENSOR B=0, V _{cc} =5V, I _o =0	mA			10.00
OUTPUT SOURCE CURRENT LIMIT B=-X*, V _o =0	mA	-1.00		1.00

MECHANICAL:

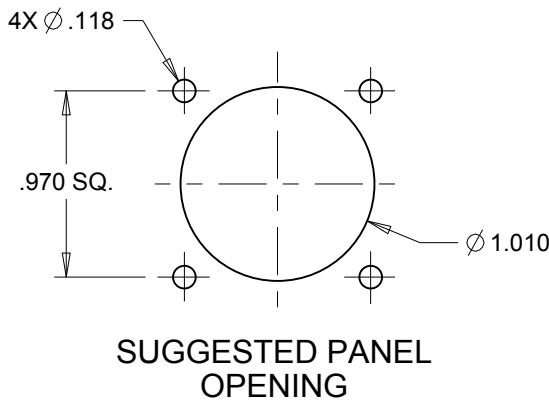
MECHANICAL LIFE ALL DIRECTIONS	1,000,000 CYCLES			
TRAVEL ANGLE	DEGREES	23	25	27
OPERATING FORCE (W/BOOT) AT TOP OF BUTTON, @ 20°C	OZ		16	20
MAX. ALLOWABLE VERTICAL FORCE ON BUTTON	LBS			25
MAX. ALLOWABLE RADIAL FORCE ON BUTTON	LBS			25
MAX. ALLOWABLE TORQUE ON BUTTON	IN-LBS			7.5

ENVIRONMENTAL:

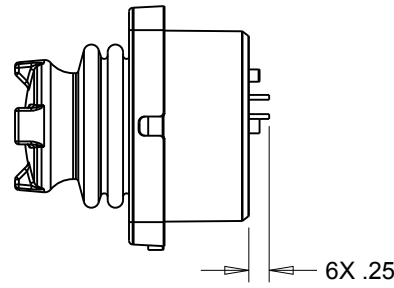
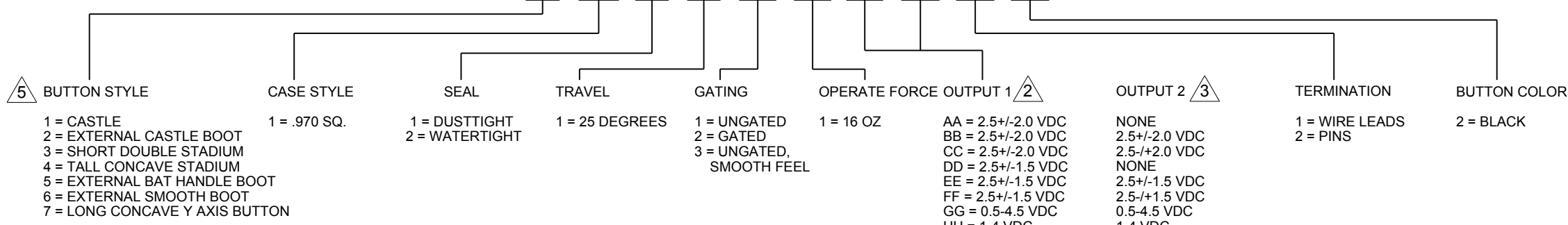
OPERATING TEMPERATURE	°C	-40	20	85
ELECTRONICS SEAL INTEGRITY	WATERTIGHT PER IP68S, 1 METER			
RF SUSCEPTIBILITY	100 V/m FROM 14 KHz TO 1 GHz			
EM SUSCEPTIBILITY	PER MIL-STD 461D, METHOD RE101 (SAE J113-22) AT 50 AND 60 Hz.			

MATERIAL:

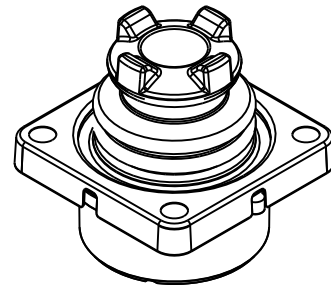
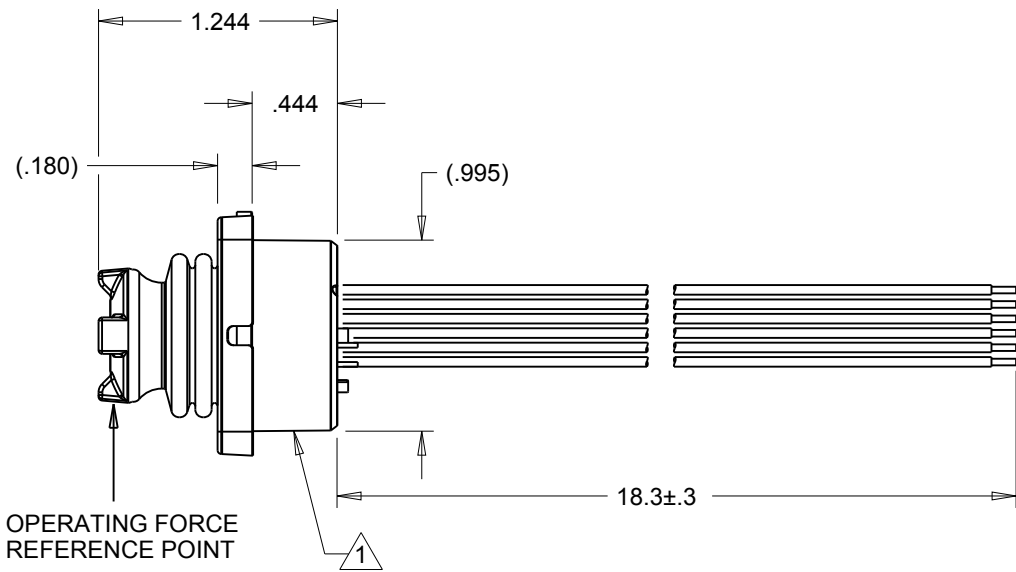
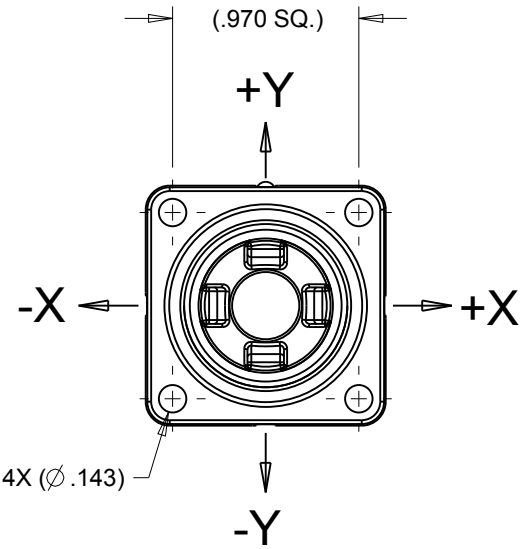
BOOT	ELASTOMER, BLACK
BUTTON	THERMOPLASTIC, BLACK
CASE	THERMOPLASTIC, BLACK
FLANGE	THERMOPLASTIC, BLACK
WIRES (IF PRESENT)	22 AWG, UL1569, COLOR PER SCHEMATIC
HARDWARE	4X ITW FASTEX PANEL FASTENER P/N 36030002, OR EQUIVALENT



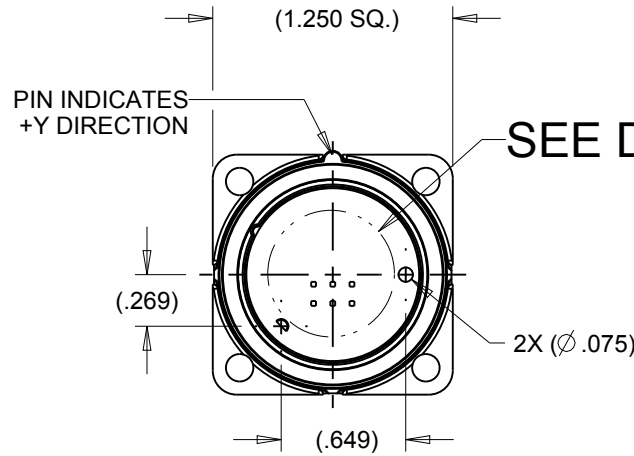
HTL4-



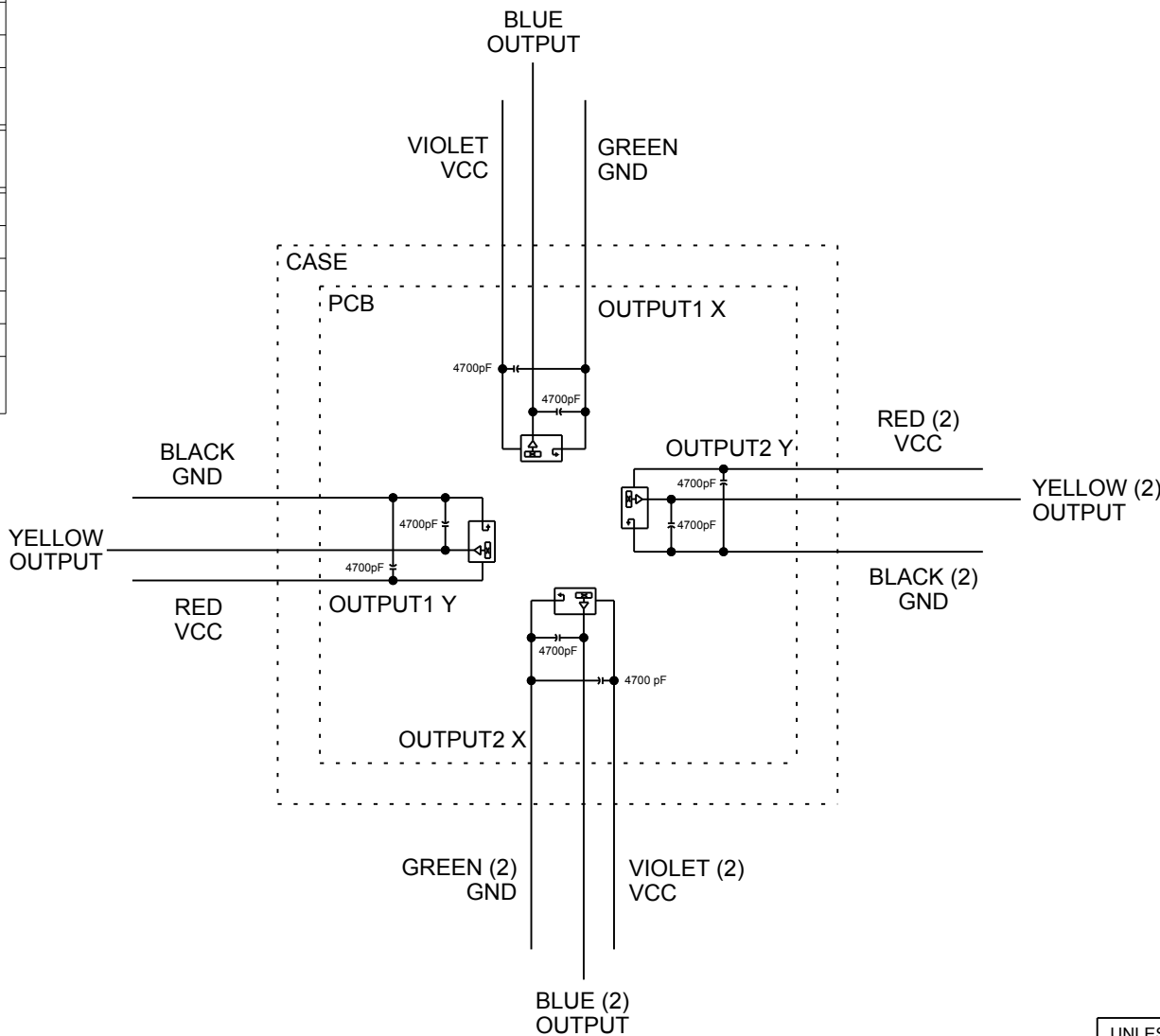
PINS NOT PRESENT
IN ALL CONFIGURATIONS



SCALE 1:1

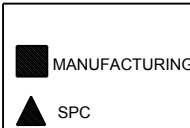


SEE DETAIL A



ALL WIRES NOT PRESENT
IN ALL CONFIGURATIONS

OUTPUT2 NOT PRESENT
IN ALL CONFIGURATIONS



UNLESS OTHERWISE
SPECIFIED:
DIMENSIONS ARE
IN INCHES.
TOLERANCES:
.XX ±.030
.XXX ±.010
ANGLES ±2°
DO NOT SCALE

OTTO
CARPENTERSVILLE, ILLINOIS USA

THIS DOCUMENT IS THE CONFIDENTIAL
PROPERTY OF OTTO ENGINEERING, INC..
IT IS NOT TO BE USED IN ANY WAY
DETRIMENTAL TO THE INTERESTS
OF OTTO ENGINEERING, INC..

DESCRIPTION

HTL4, LINEAR HALL EFFECT
4-WAY TOGGLE

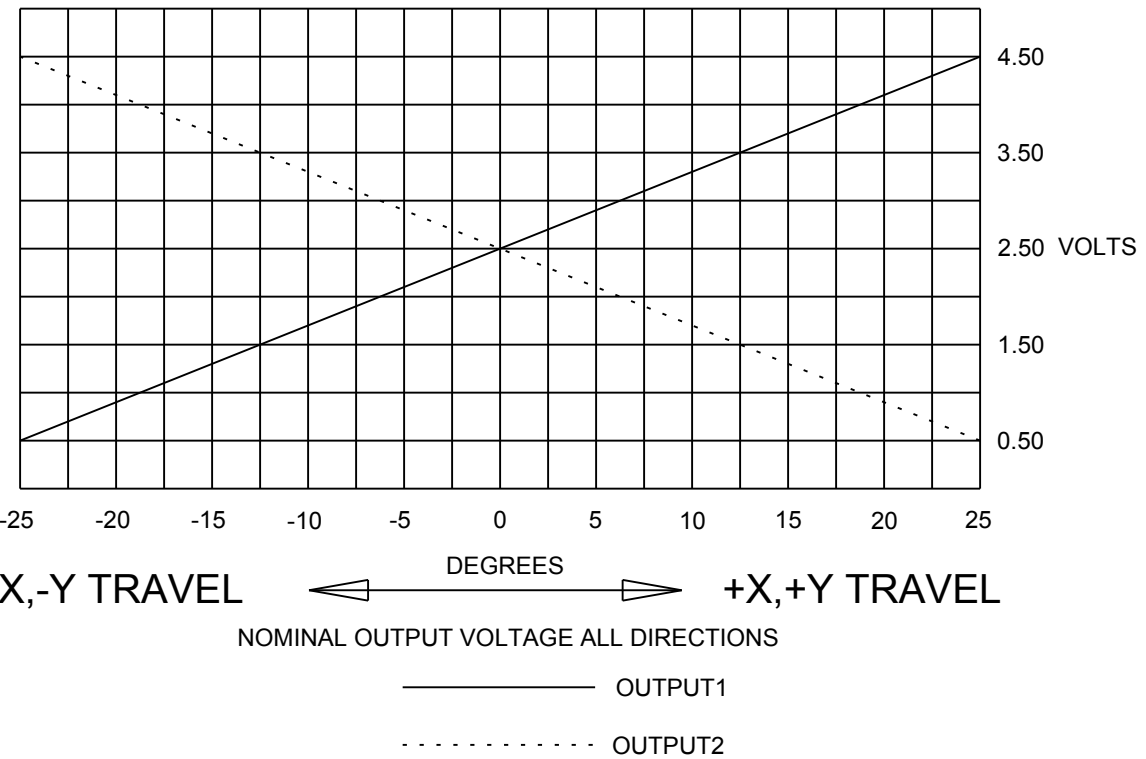
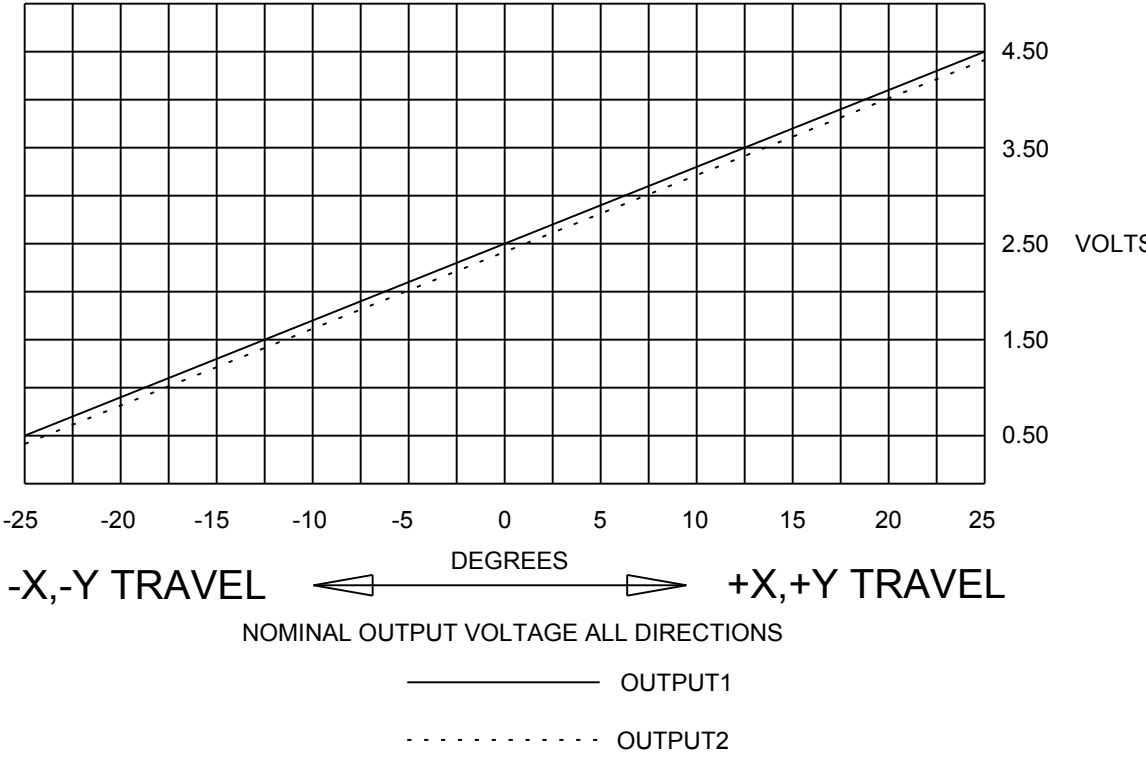
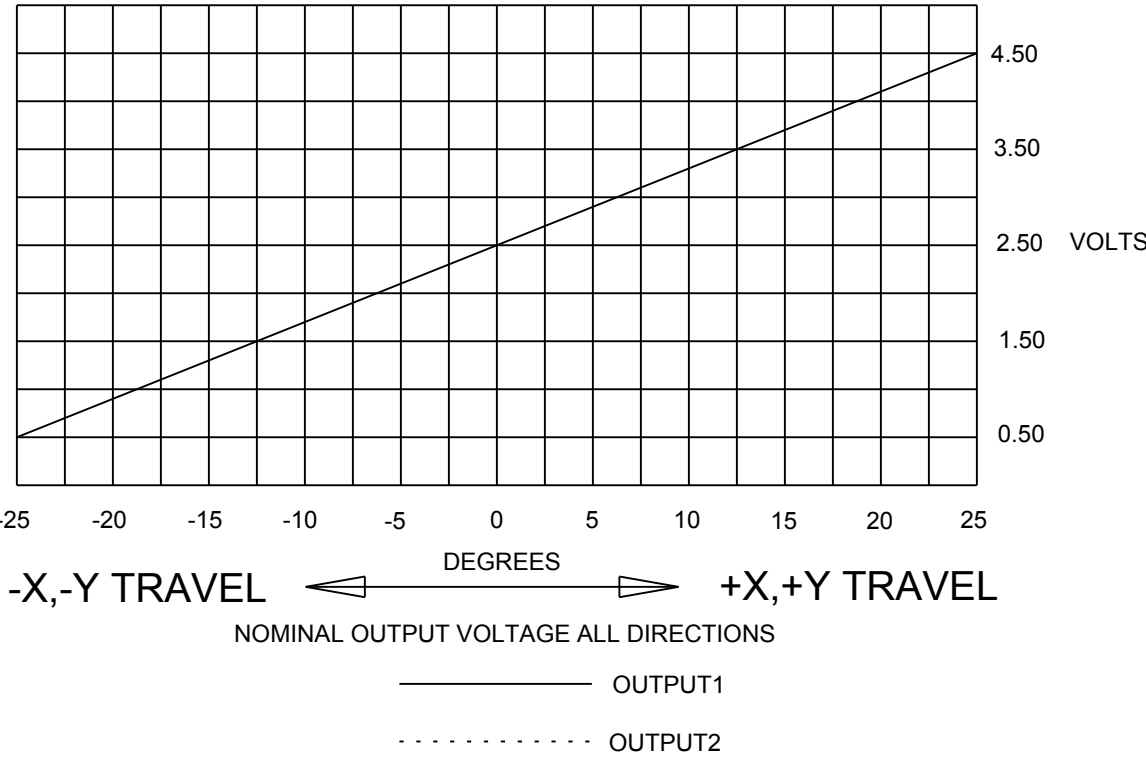
DRWN. JLW CHKD. LBG APPD. AH WT.	SIZE C	FSCM NO 21649	DRAWING NO. HTL4-_____	REV. P
THIRD ANGLE PROJECTION		Scale 1:1	Sheet 1 OF 4	

HTL4-_____			
REV	OCN #	DATE	APR
A	034205	10 OCT 06	LBG
B	034752	16 NOV 06	LBG
C	035067	06 DEC 06	LBG
D	036344	06 MAR 07	LBG
E	036978	20 APR 07	LBG
F	041177	25 JAN 08	LBG
G	041250	30 JAN 08	LBG
H	041618	19 FEB 08	LBG
J	045291	23 SEP 08	LBG
K	045737	16 OCT 08	LBG
L	046891	19 JAN 09	LBG
M	049665	22 JUN 09	LBG
N	055105	16 APR 10	LBG
P	056569	20 JUL 10	LBG

OPTION AA

OPTION BB

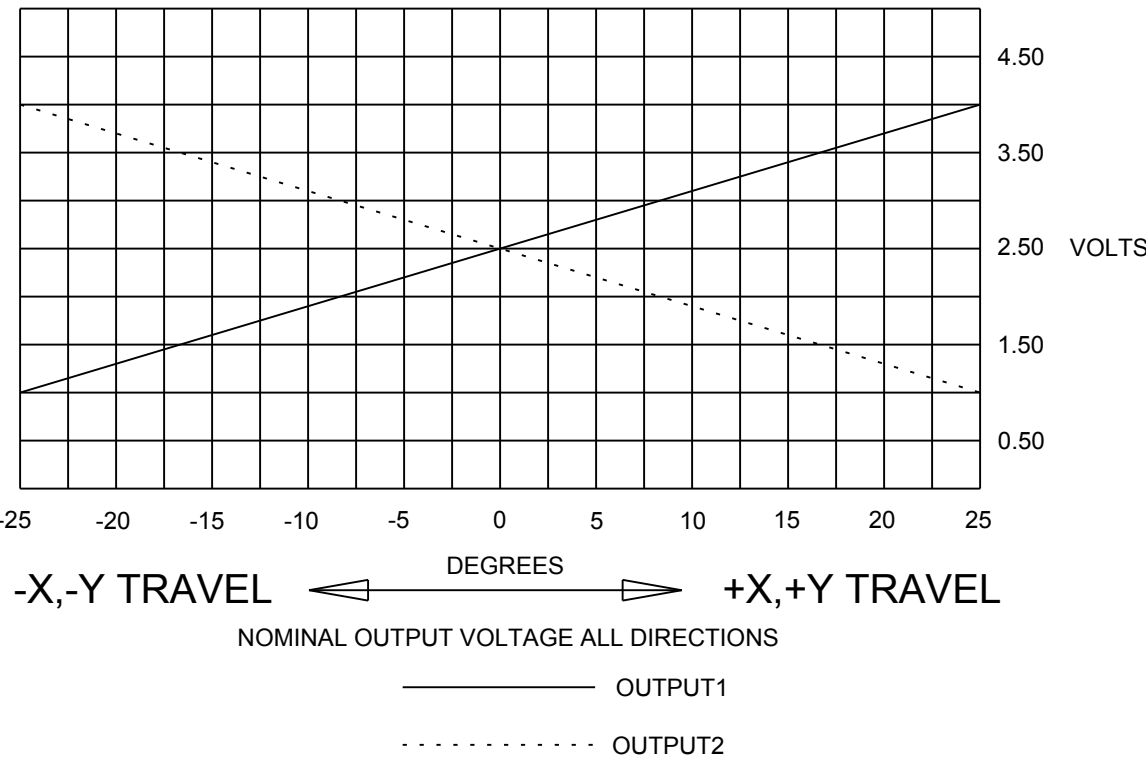
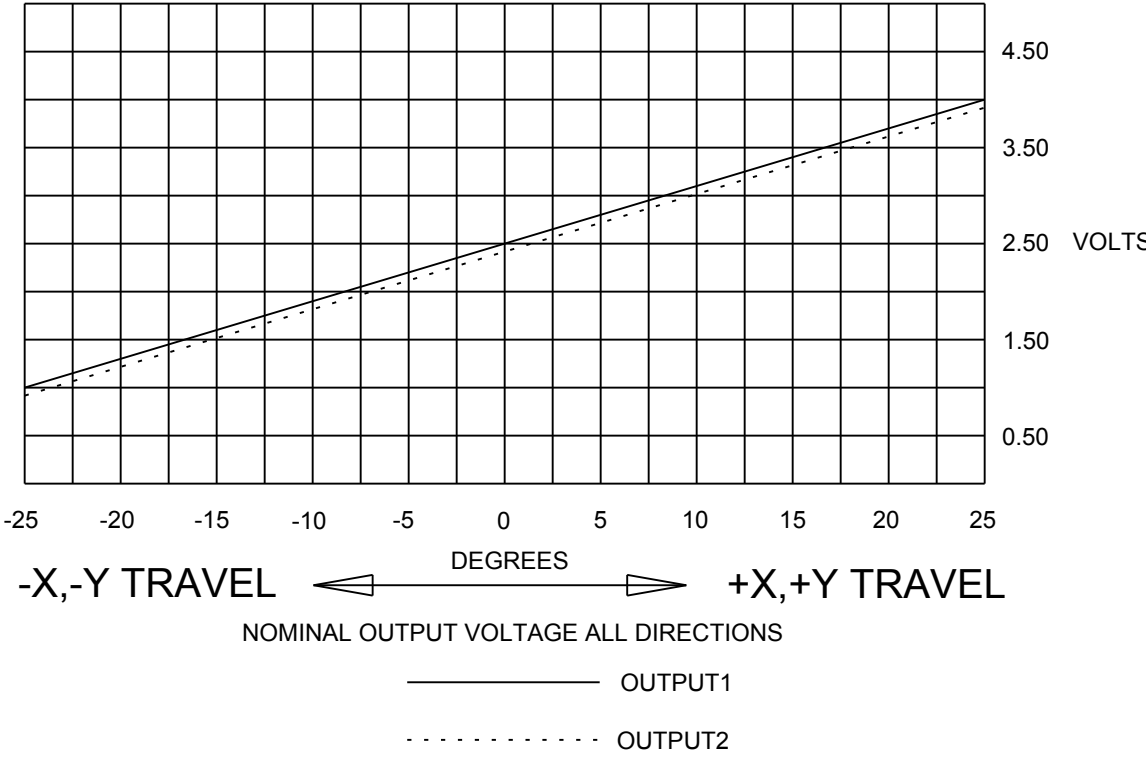
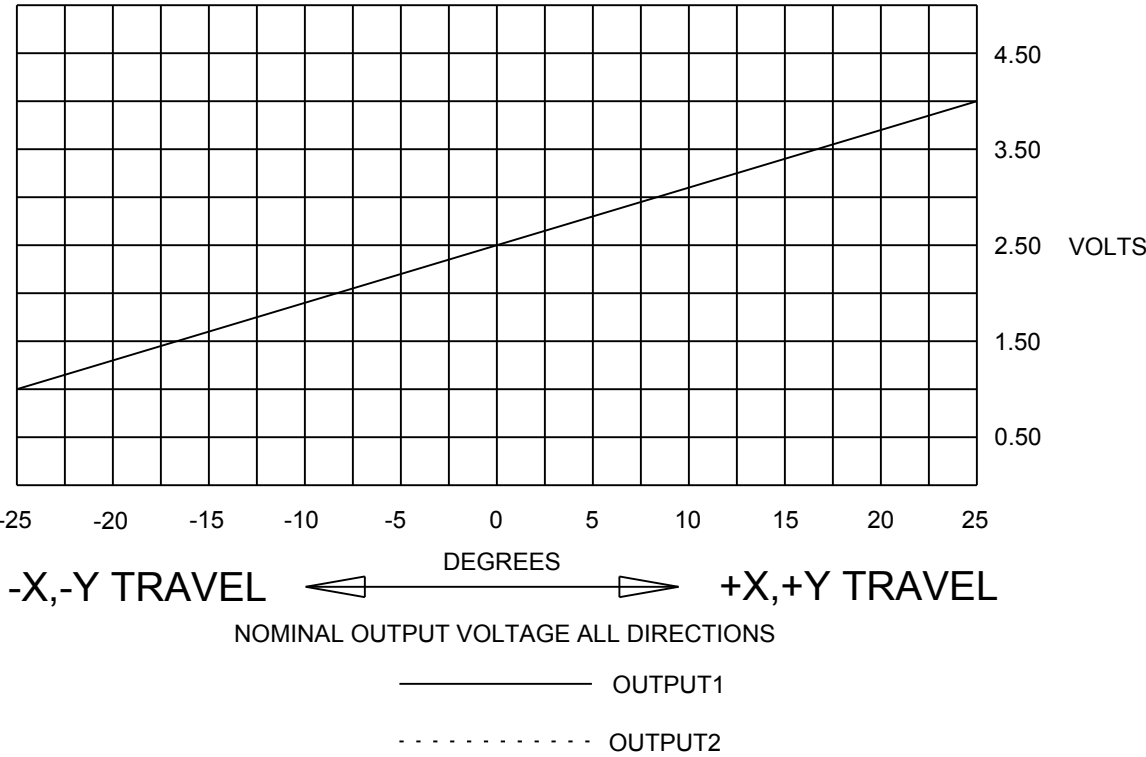
OPTION CC



OPTION DD

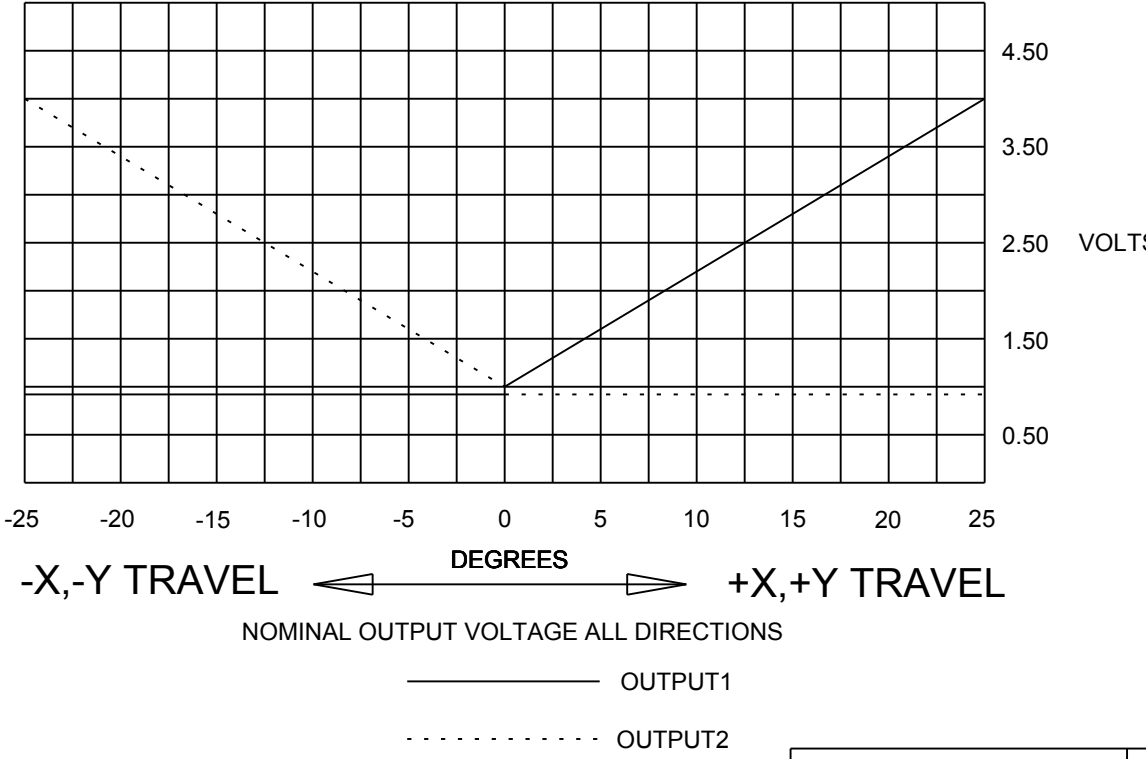
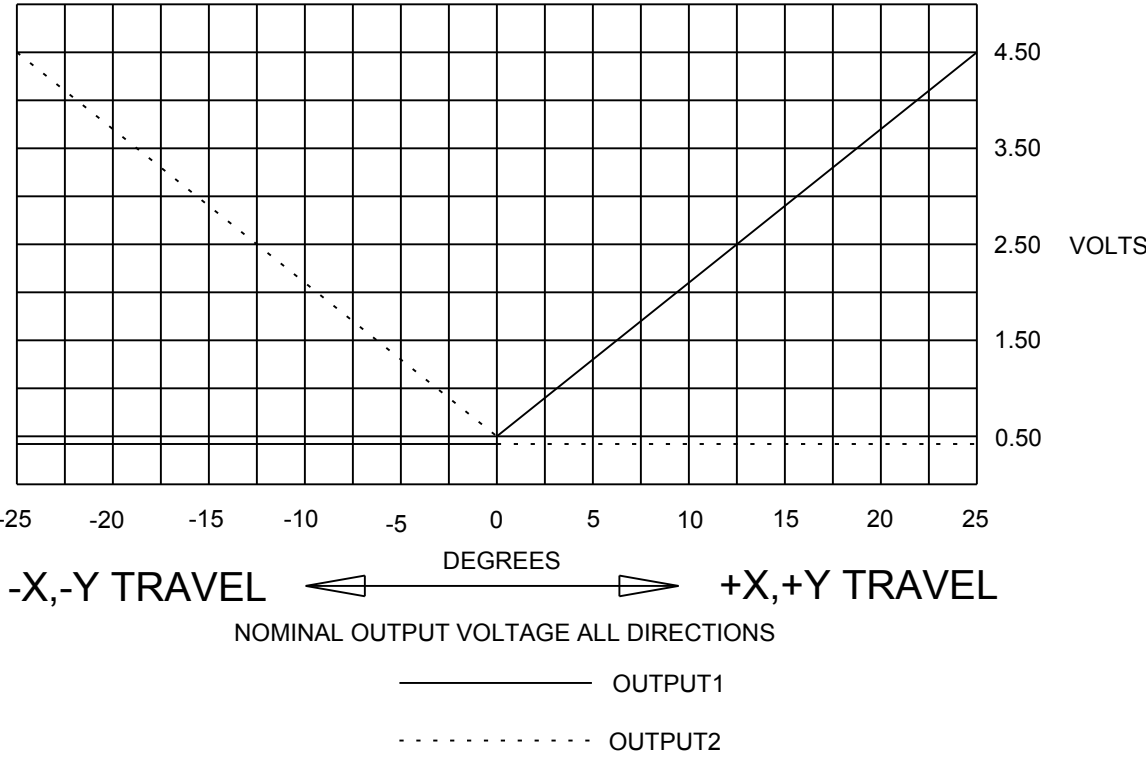
OPTION EE

OPTION FF



OPTION GG

OPTION HH



UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES.
TOLERANCES ARE AS LISTED.
MUST BE FREE FROM BURRS
AND SHARP EDGES

TOLERANCES
.XX ± .030
.XXX ± .010
ANGLES ± 2°
DO NOT SCALE DRAWING

THIS DOCUMENT IS THE CONFIDENTIAL
PROPERTY OF OTTO ENGINEERING, INC..
IT IS NOT TO BE USED IN ANY WAY
DETRIMENTAL TO THE INTERESTS
OF OTTO ENGINEERING, INC..

DRWN. JLW
CHKD. LBG
APPD. AH

SIZE
C

FSCM NO
21649

DRAWING NO.
HTL4-_____

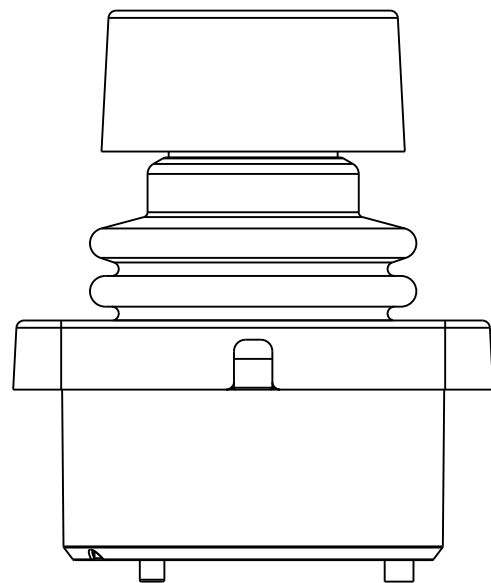
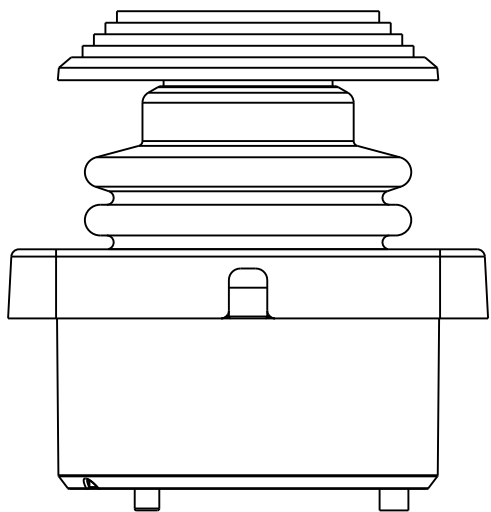
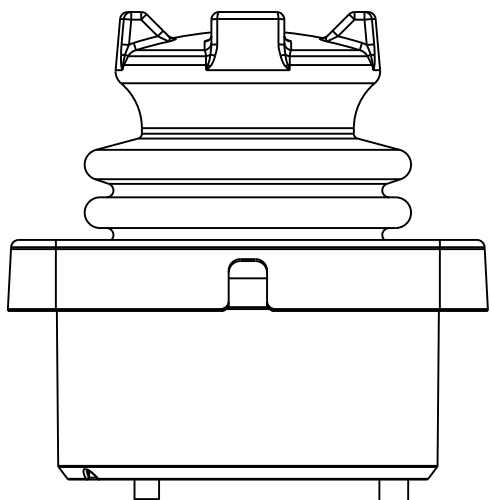
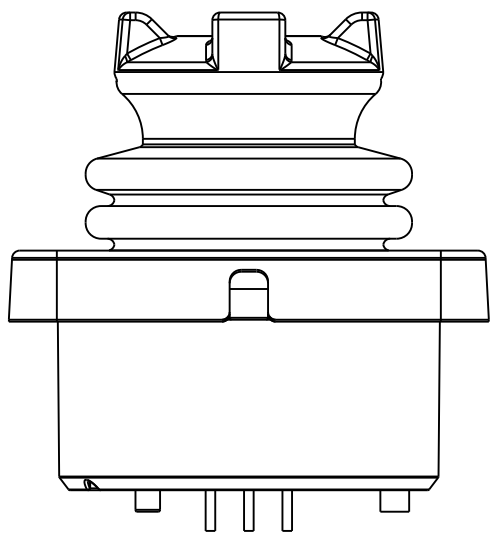
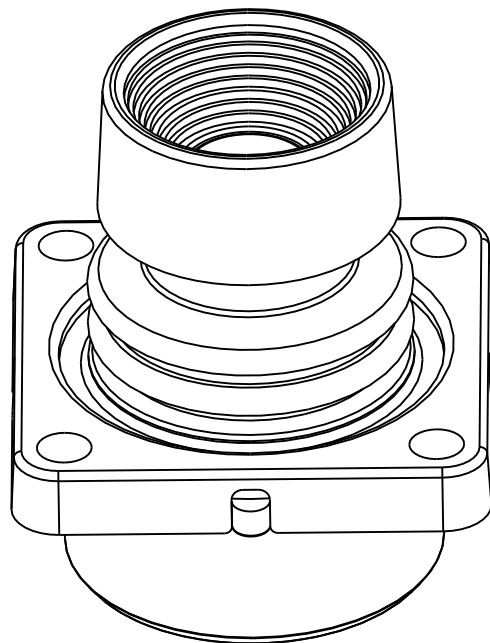
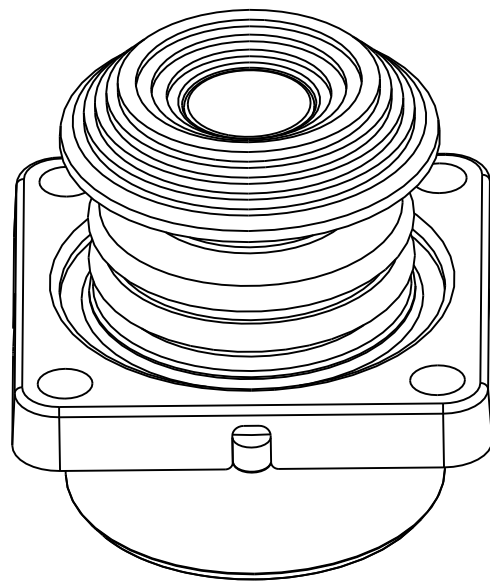
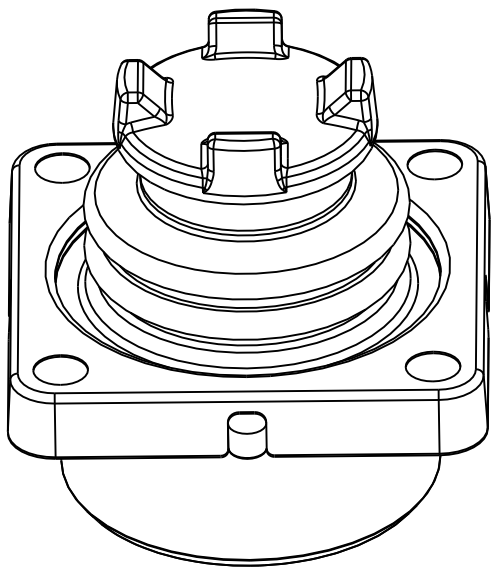
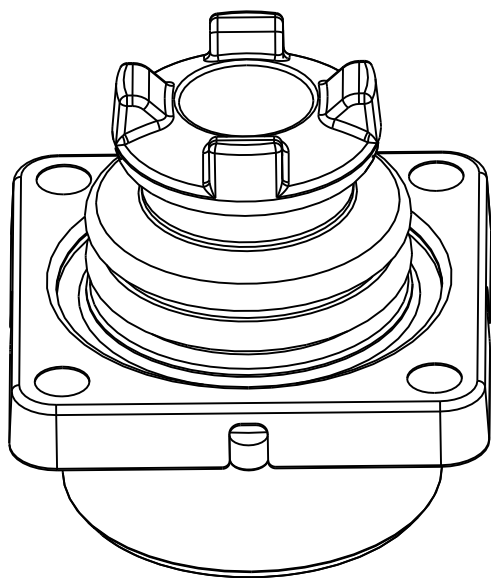
REV.
P

THIRD ANGLE
PROJECTION

Scale 1:1

Sheet 2 OF 4

HTL4-_____			
REV	OCN #	DATE	APR
A	034205	10 OCT 06	LBG
B	034752	16 NOV 06	LBG
C	035067	06 DEC 06	LBG
D	036344	06 MAR 07	LBG
E	036978	20 APR 07	LBG
F	041177	25 JAN 08	LBG
G	041250	30 JAN 08	LBG
H	041618	19 FEB 08	LBG
J	045291	23 SEP 08	LBG
K	045737	16 OCT 08	LBG
L	046891	19 JAN 09	LBG
M	049665	22 JUN 09	LBG
N	055105	16 APR 10	LBG
P	056569	20 JUL 10	LBG



BUTTON STYLE 1
(CASTLE)

BUTTON STYLE 2
(EXTERNAL CASTLE BOOT)

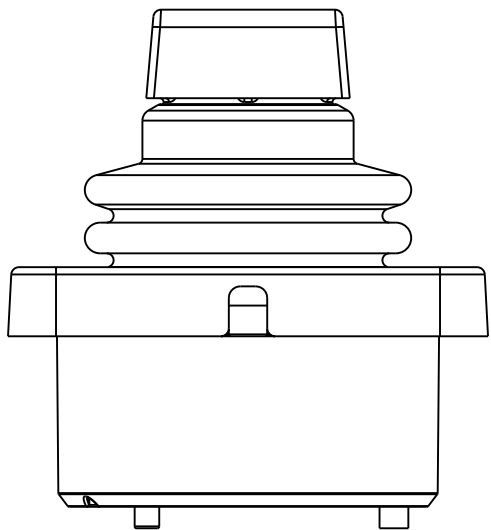
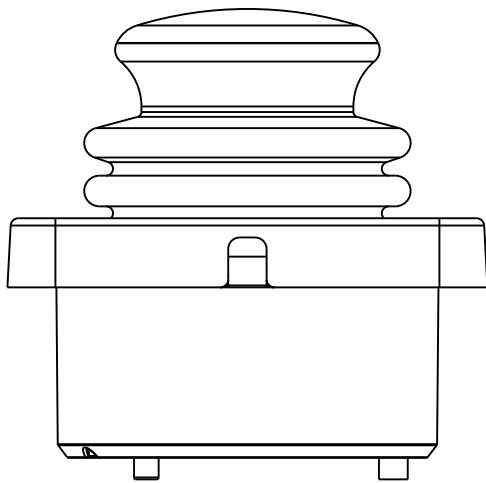
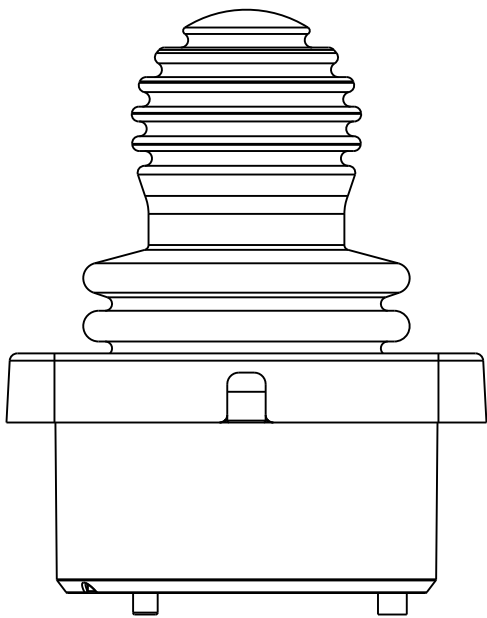
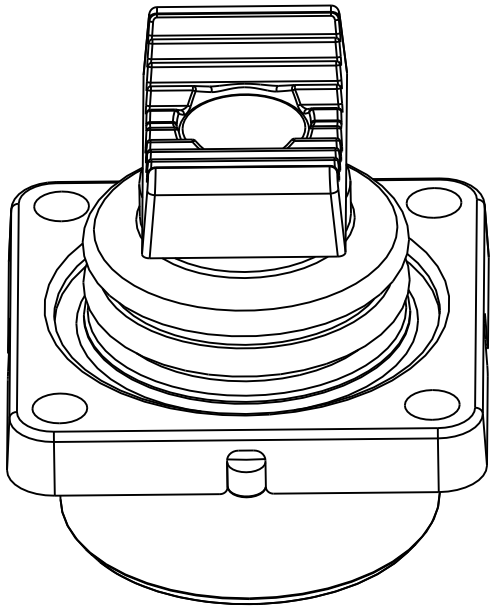
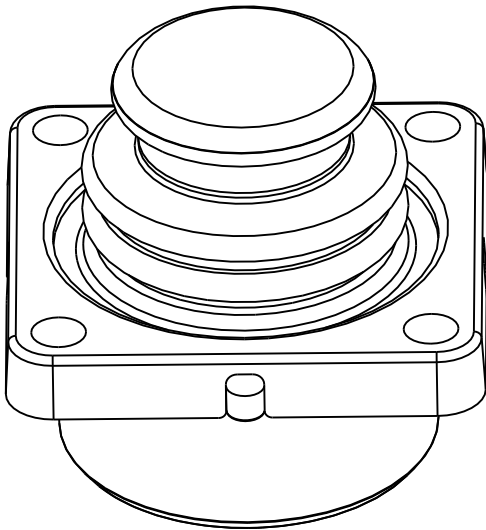
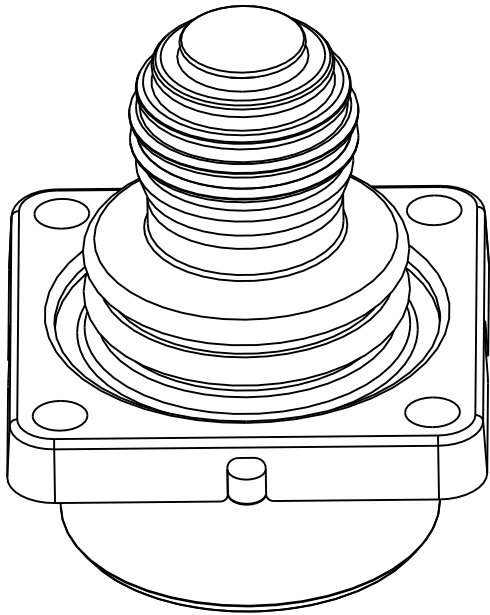
BUTTON STYLE 3
(SHORT DOUBLE STADIUM)

BUTTON STYLE 4
(TALL CONCAVE STADIUM)

BUTTON STYLE CONFIGURATION

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ARE AS LISTED. MUST BE FREE FROM BURRS AND SHARP EDGES	TOLERANCES		THIS DOCUMENT IS THE CONFIDENTIAL PROPERTY OF OTTO ENGINEERING, INC.. IT IS NOT TO BE USED IN ANY WAY DETRIMENTAL TO THE INTERESTS OF OTTO ENGINEERING, INC..	DRWN. JLW	SIZE	FSCM NO	DRAWING NO.		REV.
	.XX	± .030		CHKD. LBG	C	21649	HTL4-_____	P	
	.XXX	± .010		APPD. AH					
	DO NOT SCALE DRAWING			WT.					THIRD ANGLE PROJECTION

HTL4-_____			
REV	OCN #	DATE	APR
A	034205	10 OCT 06	LBG
B	034752	16 NOV 06	LBG
C	035067	06 DEC 06	LBG
D	036344	06 MAR 07	LBG
E	036978	20 APR 07	LBG
F	041177	25 JAN 08	LBG
G	041250	30 JAN 08	LBG
H	041618	19 FEB 08	LBG
J	045291	23 SEP 08	LBG
K	045737	16 OCT 08	LBG
L	046891	19 JAN 09	LBG
M	049665	22 JUN 09	LBG
N	055105	16 APR 10	LBG
P	056569	20 JUL 10	LBG



BUTTON STYLE 5
(EXTERNAL BAT
HANDLE BOOT)

BUTTON STYLE 6
(EXTERNAL SMOOTH BOOT)

BUTTON STYLE 7
(LONG CONCAVE Y AXIS BUTTON)

BUTTON STYLE CONFIGURATION