

NOTES:

- MARKING TO INCLUDE:
 "OTTO" P/N & DATE CODE "YYWW".
 OUTPUTS ARE FROM THE CENTER TO THE FULL TRAVEL POSITION.
 OPTIONS "AA", "BB", "CC", "DD", "EE", "FF" PROVIDE INCREASED VOLTAGE IN +Y; AND DECREASING VOLTAGE IN -Y DIRECTION FROM ONE OUTPUT PER AXIS.
 OPTIONS "GG" AND "HH" PROVIDE INCREASING VOLTAGES.
 IN ALL DIRECTIONS (+Y, -Y) FROM 2 OUTPUTS PER AXIS.
 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 OF HAZARDOUS SUBSTANCES IN ELECTRICAL AND ELECTRONIC EQUIPMENT (RoHS) AND WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (WEEE).
 SEE PAGE 3 FOR ALTERNATE BUTTON DESIGN.

HTL2-

BUTTON STYLE

- 1 : CASTLE
- 2 : EXTERNAL CASTLE BOOT
- 3 : SHORT DOUBLE STADIUM
- 4 : TALL CONCAVE STADIUM
- 5 : EXTERNAL BAT HANDLE BOOT
- 6 : EXTERNAL SMOOTH BOOT
- 7 : LONG CONCAVE Y AXIS BUTTON

CASE STYLE

- 1 : .970 SQ.

SEAL

- 1 : DUSTTIGHT
- 2 : WATERTIGHT

TRAVEL

- 1 : 25 DEGREES

OPERATE FORCE

- 1 : 16 OZ

OUTPUT 1

- | | |
|--------------------|---------------|
| AA : 2.5+/-2.0 VDC | NONE |
| BB : 2.5+/-2.0 VDC | 2.5+/-2.0 VDC |
| CC : 2.5+/-2.0 VDC | 2.5+/-2.0 VDC |
| DD : 2.5+/-1.5 VDC | NONE |
| EE : 2.5+/-1.5 VDC | 2.5+/-1.5 VDC |
| FF : 2.5+/-1.5 VDC | 2.5+/-1.5 VDC |
| GG : 0.5-4.5 VDC | 0.5-4.5 VDC |
| HH : 1-4 VDC | 1-4 VDC |

OUTPUT 2

- | | |
|---------------|---------------|
| NONE | 2.5+/-2.0 VDC |
| 2.5+/-2.0 VDC | 2.5+/-2.0 VDC |
| 2.5+/-2.0 VDC | 2.5+/-2.0 VDC |
| NONE | 2.5+/-1.5 VDC |
| 2.5+/-1.5 VDC | 2.5+/-1.5 VDC |
| 2.5+/-1.5 VDC | 2.5+/-1.5 VDC |
| 0.5-4.5 VDC | 0.5-4.5 VDC |
| 1-4 VDC | 1-4 VDC |

TERMINATION

- 1 : WIRE LEADS
- 2 : PINS

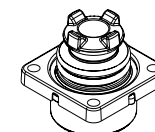
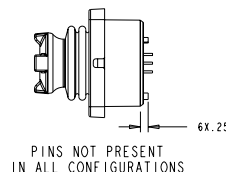
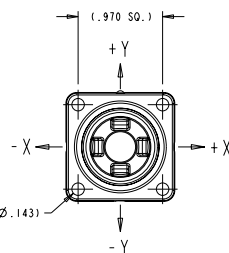
BUTTON COLOR

- 2 : BLACK

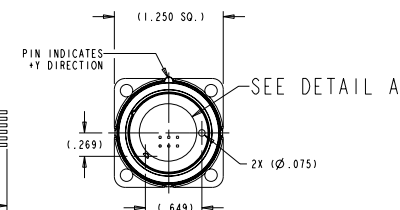
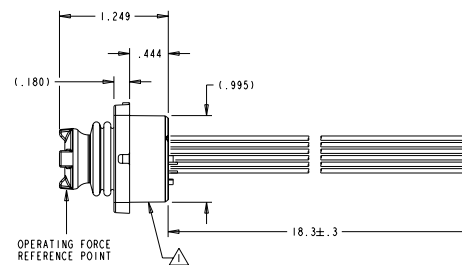
REV	OCN	DATE	APR
A	044213	17 JUL 08	LBC
B	046891	19 JAN 09	LBC

HTL2- - - - -

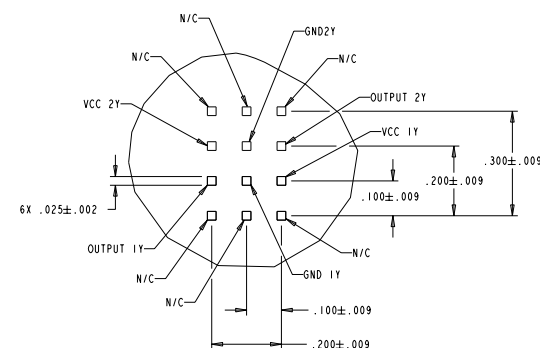
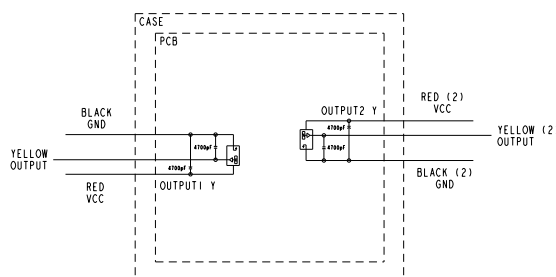
PRODUCT SPECIFICATIONS				
ELECTRICAL:				
RATED AT Vcc = 5V @ 20°C LOAD = 1ma (4.7KΩ)	UNITS	MIN	TYP	MAX
SUPPLY VOLTAGE, Vcc	VDC	4.50	5.00	5.50
OUTPUT VOLTAGE TOLERANCE AT CENTER (SEE APPROPRIATE GRAPH FOR OUTPUT VALUES)	VDC @5V Vcc	-.25		+.25
OUTPUT VOLTAGE TOLERANCE FULL TRAVEL (SEE APPROPRIATE GRAPH FOR OUTPUT VALUES)	VDC @5V Vcc	-.25		+.25
SUPPLY CURRENT B=0, Vcc=5V, Io=0	mA		32.00	40.00
OUTPUT SOURCE CURRENT LIMIT B=-X, Vcc=0	mA	-1.00		1.00
OUTPUT RESISTANCE Io ≤ -2 mA	Ω		1.00	10.00
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			



SCALE 1:1



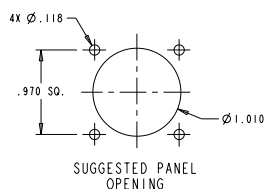
B



DETAIL A

SCALE 4:1

ALL PINS NOT PRESENT IN ALL CONFIGURATIONS

BLUE (2)
OUTPUTALL WIRES NOT PRESENT
IN ALL CONFIGURATIONSOUTPUT2 NOT PRESENT
IN ALL CONFIGURATIONS

UNLESS OTHERWISE
 SPECIFIED:
 DIMENSIONS ARE
 IN INCHES.
 TOLERANCES:
 .XX ±.03
 .XXX ±.010
 ANGLES ±2°
 DO NOT SCALE

MANUFACTURING
 SPC

OTTO
 CARPENTERSVILLE, ILLINOIS USA

DESCRIPTION

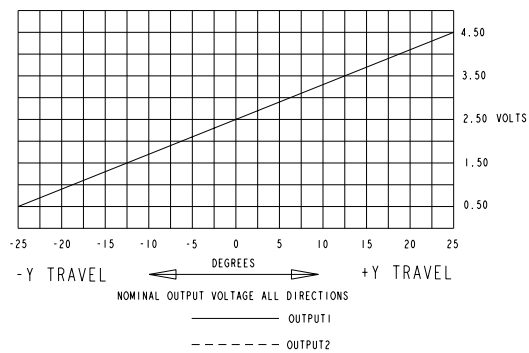
HTL2, LINEAR HALL EFFECT
 2-WAY TOGGLE

DRWN	RCW	SIZE	FSCM NO	DRAWING NO.	REV.
CHKD	LBC	C	21649	HTL2- - - - -	B
APPD	AH				
WT.					

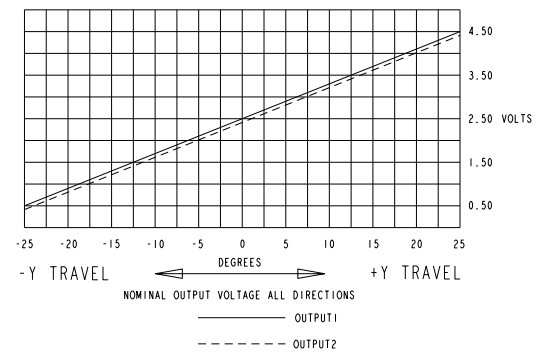
Scale 1:1 Sheet 1 of 4

HTL2-----			
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B	046891	19 JAN 09	LBG

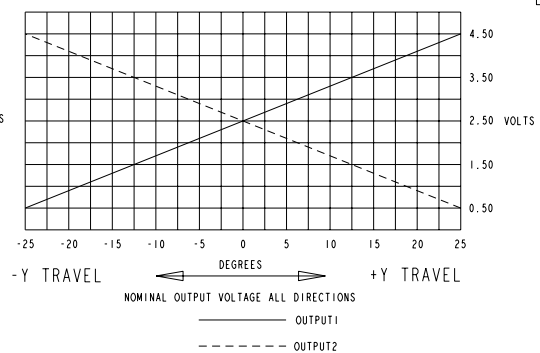
OPTION AA



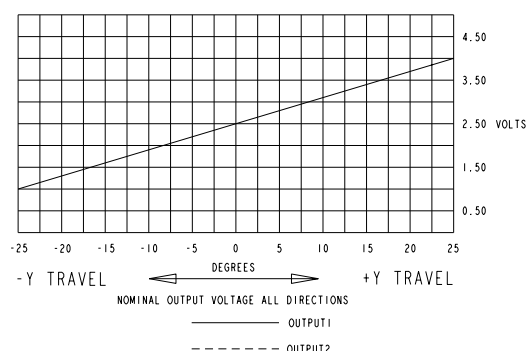
OPTION BB



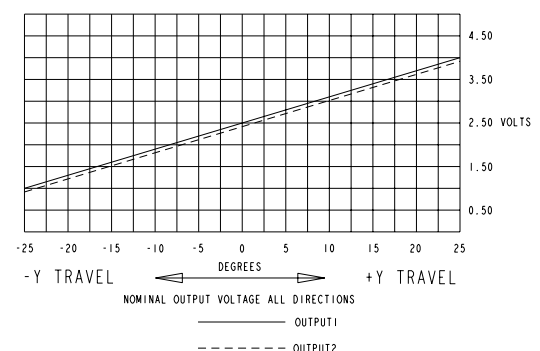
OPTION CC



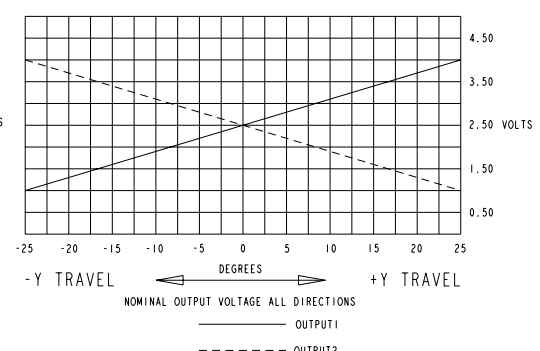
OPTION DD



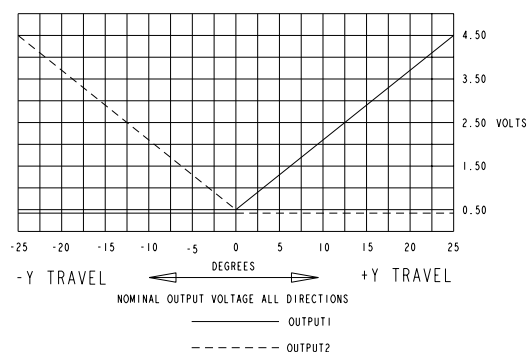
OPTION EE



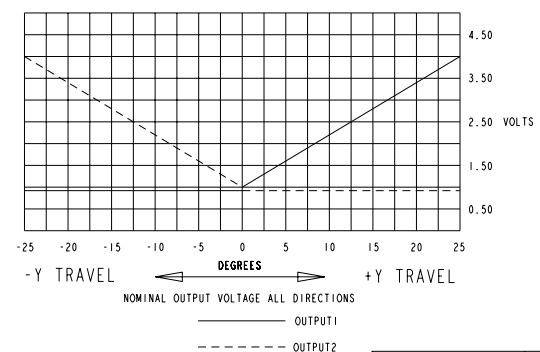
OPTION FF



OPTION GG

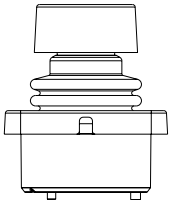
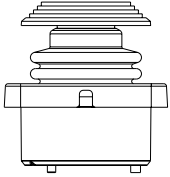
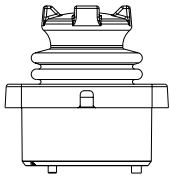
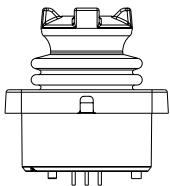
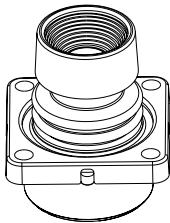
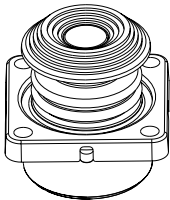
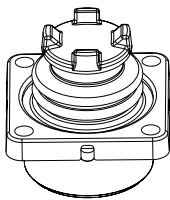
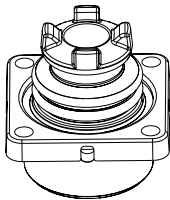


OPTION HH



UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ARE AS LISTED. MUST BE FREE FROM BURRS AND SHARP EDGES	TOLERANCES		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: RCW	SIZE	FSCM NO	DRAWING NO.	REV.
	XX	±.03		CHKD: LBG	C	21649	HTL2-----	B
	.XX	±.010		APPD: AH				

HTL2- - - - -			
REV	OCN #	DATE	APR
A	044213	17 JUL 08	LBG
B	046891	19 JAN 09	LBG



BUTTON STYLE 1
 (CASTLE)

BUTTON STYLE 2
 (EXTERNAL CASTLE BOOT)

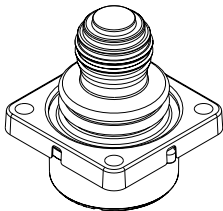
BUTTON STYLE 3
 (SHORT DOUBLE STADIUM)

BUTTON STYLE 4
 (TALL CONCAVE STADIUM)

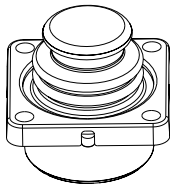
BUTTON STYLE CONFIGURATION

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: RCW	SIZE	FSCM NO	DRAWING NO.	REV.
	XX	±.03		CHKD: LBG	C	21649	HTL2- - - - -	B
	XXX	±.010		APPD: AH				
ANGLES ±2°		DO NOT SCALE DRAWING	1/4"=1" ANGLE PROJECTION		Scale 1:1		Sheet 3 OF 4	

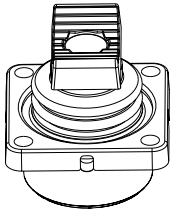
HTL2- - - - -			
REV	OCN	DATE	APR
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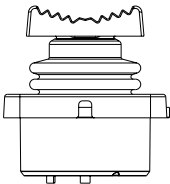
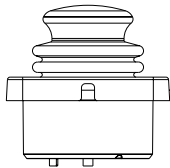
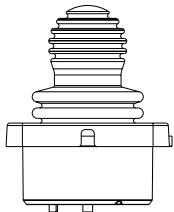
BUTTON STYLE 5
 (EXTERNAL BAT
 HANDLE BOOT)



BUTTON STYLE 6
 (EXTERNAL SMOOTH BOOT)



BUTTON STYLE 7
 (LONG CONCAVE Y AXIS BUTTON)



BUTTON STYLE CONFIGURATION

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	XX	±.03		CHKD: LBG	C	21649	HTL2- - - - -	B
	XXX	±.010		APPD: AH				
DO NOT SCALE DRAWING.				WT.		ISOTO ANGLE PROJECTION	Scale 1:1	Sheet 4 OF 4