LINEAR HALL EFFECT 4–WAY TOGGLE

The HTL4 series provides all of the performance of a full size dual axis joystick in a miniature package that can be mounted in control handles, arm rests and panels. The Hall Effect sensors are protected against electromagnetic and radio frequency interference up to 100 volts per meter. Programmable sensors with built-in temperature compensation insure consistent and repeatable operation. The HTL4 Series has excellent tactile feel for improved operator control and is available with either dust tight or IP68 watertight seal. A wide variety of output configurations are available to satisfy different applications.

Quality Features:

- **Designed for grip, arm rest and panel mounting**
- **Proven non contacting analog output Hall technology**
- **Redundant outputs available**
- **1,000,000 mechanical life**
- **Electronics watertight to IP68**
- **Outstanding EMI/RFI immunity**
- **Available gated and ungated**
- **Variety of button styles**

Standard Characteristics/Ratings:	
OPERATIONAL:	
1,000,000 cycles (all directions)	
Maximum allowable vertical force applied to button 25lbs	
Operating force (w/boot) at top of button 16 oz typical 20 oz max	
ELECTRICAL:	
Supply Voltage:	5.00Vdc Typ. (4.50Vdc min.5.50Vdc max)
Supply Current:	32mA Typ. (40mA max)
Output voltages at center position have a ±. 25mV tolerance	
Output voltages at full travel have a ± .25mV tolerance	
ENVIRONMENTAL:	
Operating Temp:	+ 20° typical (-40°C min to +85°C max)
Storage Temp:	+20° typical (-65° min to =105°C max)
Seal Integrity:	Watertight per IP68, 1 meter
RFI Withstand:	100V/m 14KHz to 1GHz
EMI Withstand:	per MIL STD 461D. Method RE101 (SAE J113-22) at 50 & 60 Hz

HTL4 – X X X X X X X X X X

Button Style
1 = Castle
2 = External Castle Boot
3 = Short Double Stadium
4 = Tall Concave Stadium

Case Style
1 = .970 SQ.

Seal
1 = Dusttight
2 = Watertight

Travel
1 = 25 Degrees

Gating
1 = Ungated
2 = Gated

Operation Force
1 = 16 OZ

Output 1
AA = 2.5+/-2.0 VDC
BB = 2.5+/-2.0 VDC
CC = 2.5+/-2.0 VDC
DD = 2.5+/-1.5 VDC
EE = 2.5+/-1.5 VDC
FF = 2.5+/-1.5 VDC
GG = 0.5-4.5 VDC
HH = 1-4 VDC

Output 2
NONE
2.5+/-2.0 VDC
2.5-/+2.0 VDC
NONE
2.5+/-1.5 VDC
2.5-/+1.5 VDC
0.5-4.5 VDC
1-4 VDC

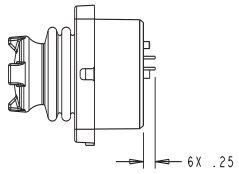
Termination
1 = Wire Leads
2 = Pins

Button Color
2 = Black

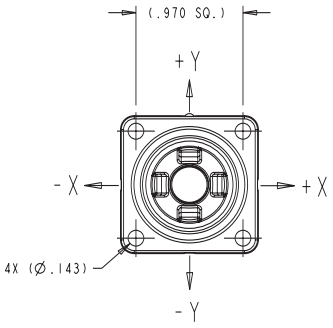
① Outputs are from the center to the full travel position in each direction. Options “AA”, “BB”, “CC”, “DD”, “EE”, “FF” provide increased voltage in +X, +Y; and decreasing voltage in -X, -Y direction from one output per axis. Options “GG” and “HH” provide increasing voltages in all directions (+X, +Y, -X, -Y) from 2 outputs per axis.

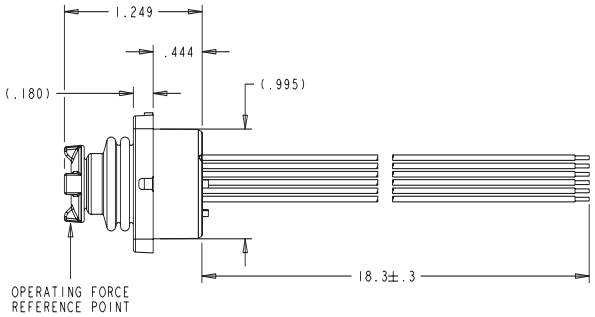
② Options “BB” and “EE” provide redundant output 2 which duplicates output 1. Options “CC” and “FF” provide redundant output 2 which is inverse of output 1.

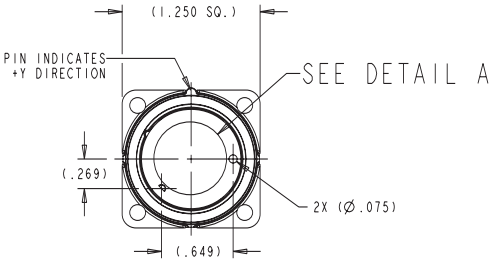
LINEAR HALL EFFECT 4-WAY TOGGLE

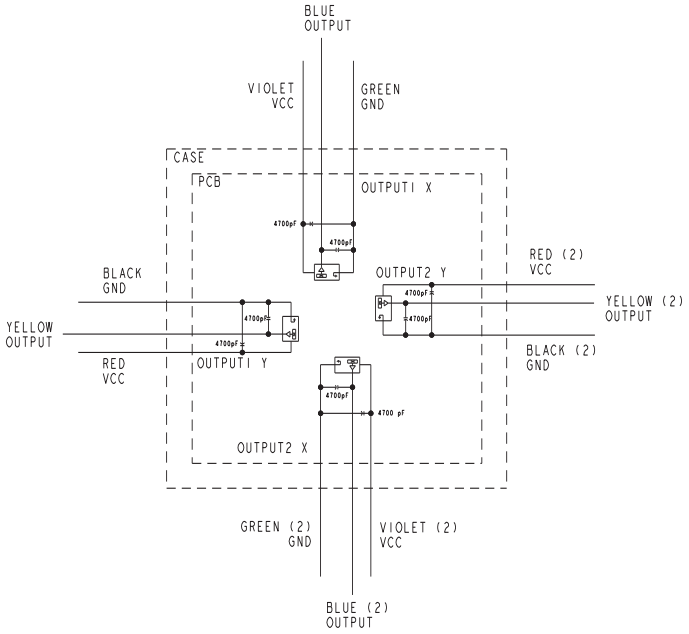


PINS NOT PRESENT
IN ALL CONFIGURATIONS



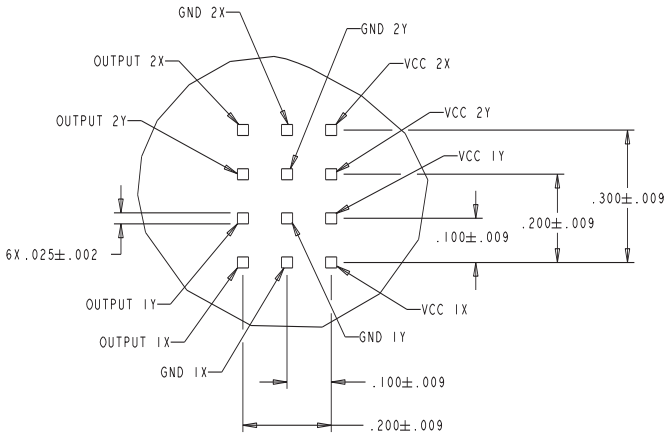




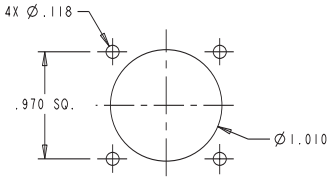


ALL WIRES NOT PRESENT
IN ALL CONFIGURATIONS.

OUTPUT2 NOT PRESENT
IN ALL CONFIGURATIONS.



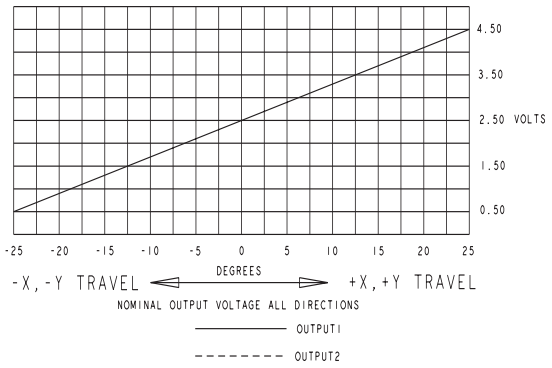
DETAIL A
ALL PINS NOT PRESENT IN ALL CONFIGURATIONS



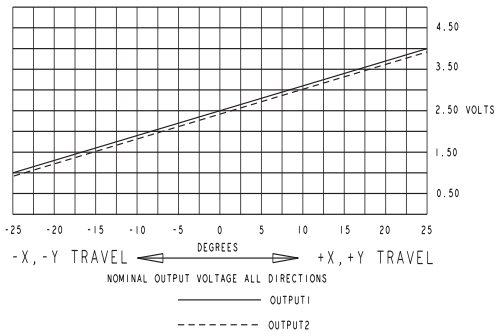
SUGGESTED PANEL
OPENING

LINEAR HALL EFFECT 4-WAY TOGGLE

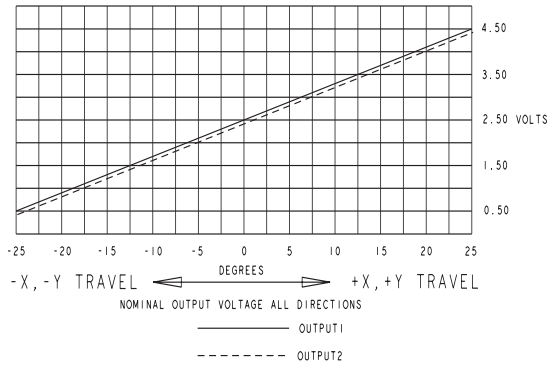
OPTION AA



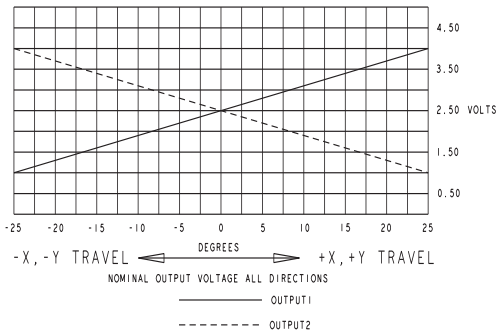
OPTION EE



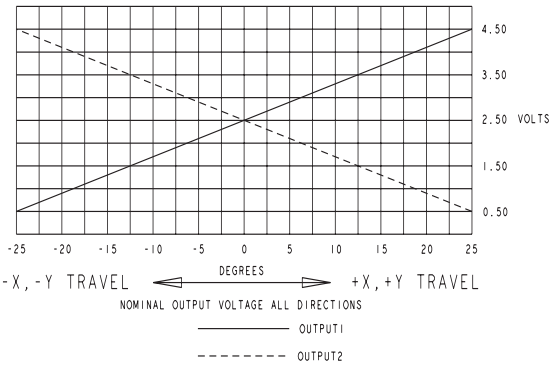
OPTION BB



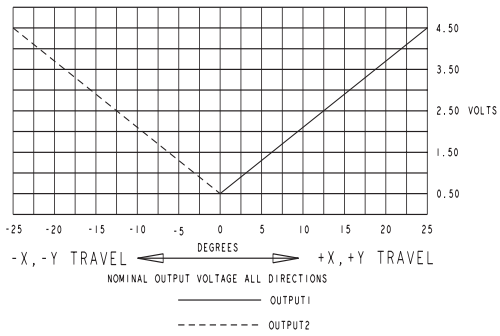
OPTION FF



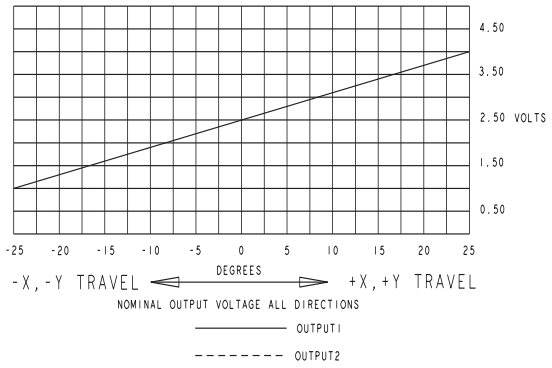
OPTION CC



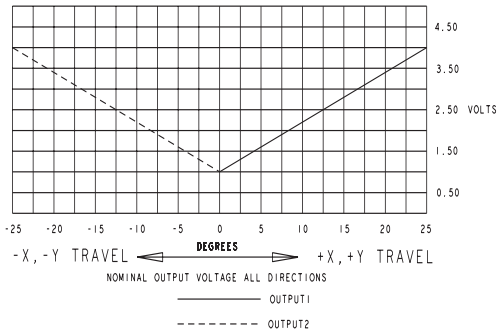
OPTION GG



OPTION DD

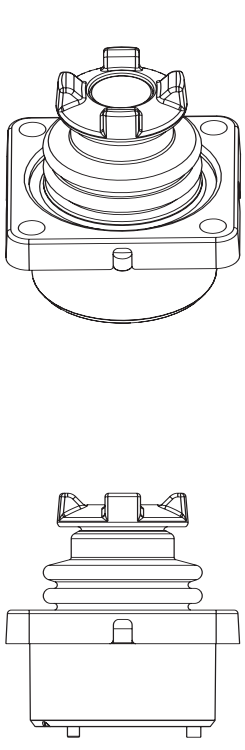


OPTION HH

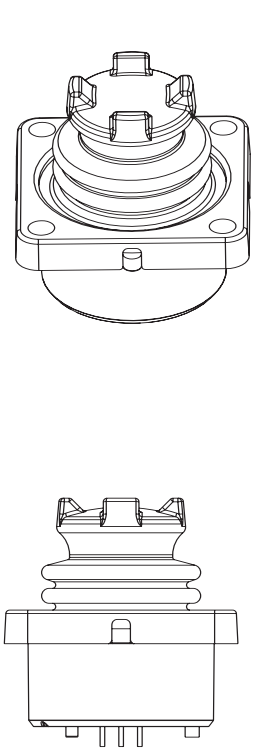


LINEAR HALL EFFECT 4-WAY TOGGLE

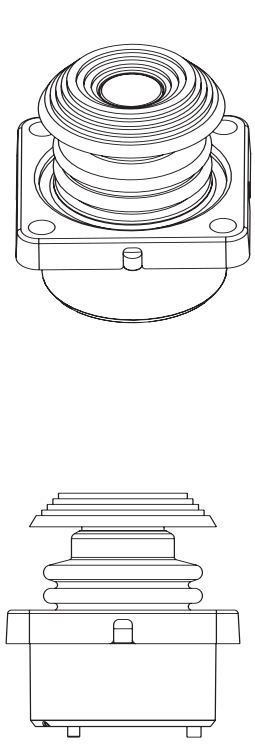
BUTTON STLE CONFIGURATION ©



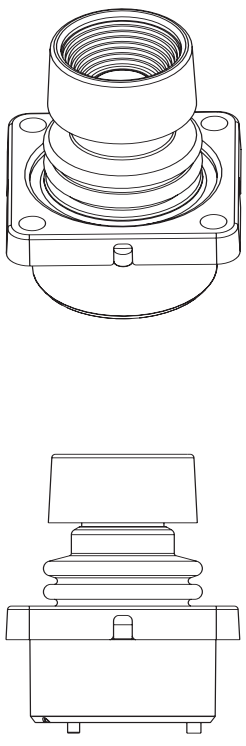
BUTTON STYLE 1
(CASTLE)



BUTTON STYLE 2
(EXTERNAL
CASTLE BOOT)



BUTTON STYLE 3
(SHORT DOUBLE
STADIUM)



BUTTON STYLE 4
(TALL CONCAVE
STADIUM)