

SPECIFICATIONS

1. ENVIRONMENT SPECIFICATIONS

- WORKING TEMPERATURE: -25°C TO 85°C
- STORAGE TEMPERATURE: -25°C TO 85°C
- VIBRATION: LEVEL±3g, 10-200Hz ANY DIRECTION @3.6g
- PROTECTION CLASS: IP65
- SHOCK: 20g, 6ms, SEMI - SINUSOIDAL TEST
- EMC ANTI-INTERFERENCE LEVEL: 100v/m, 30MHZ-1GHz, 1KHz 80% SINE WAVE MODULATION EN50082-2(1995)
- EMC RADIATION LEVEL: 150KHz, GRADE B, EN50081-2(1993)
- ESD IMMUNITY LEVEL: 48kv CONTACT DISCHARGE, IEC61000-4-2

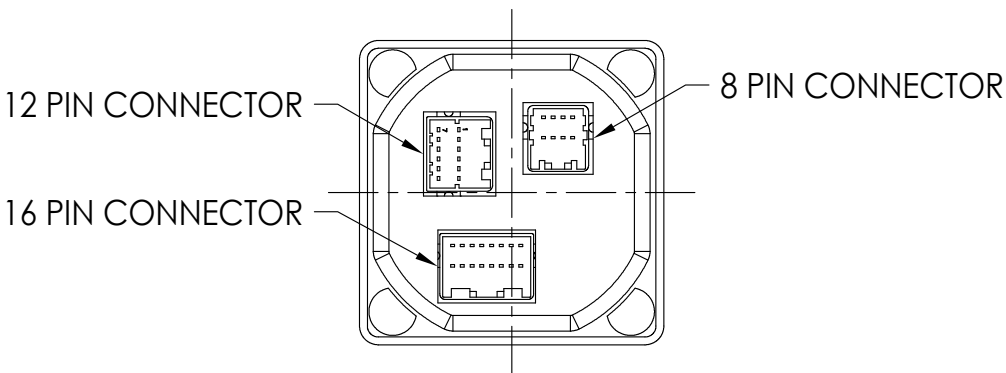
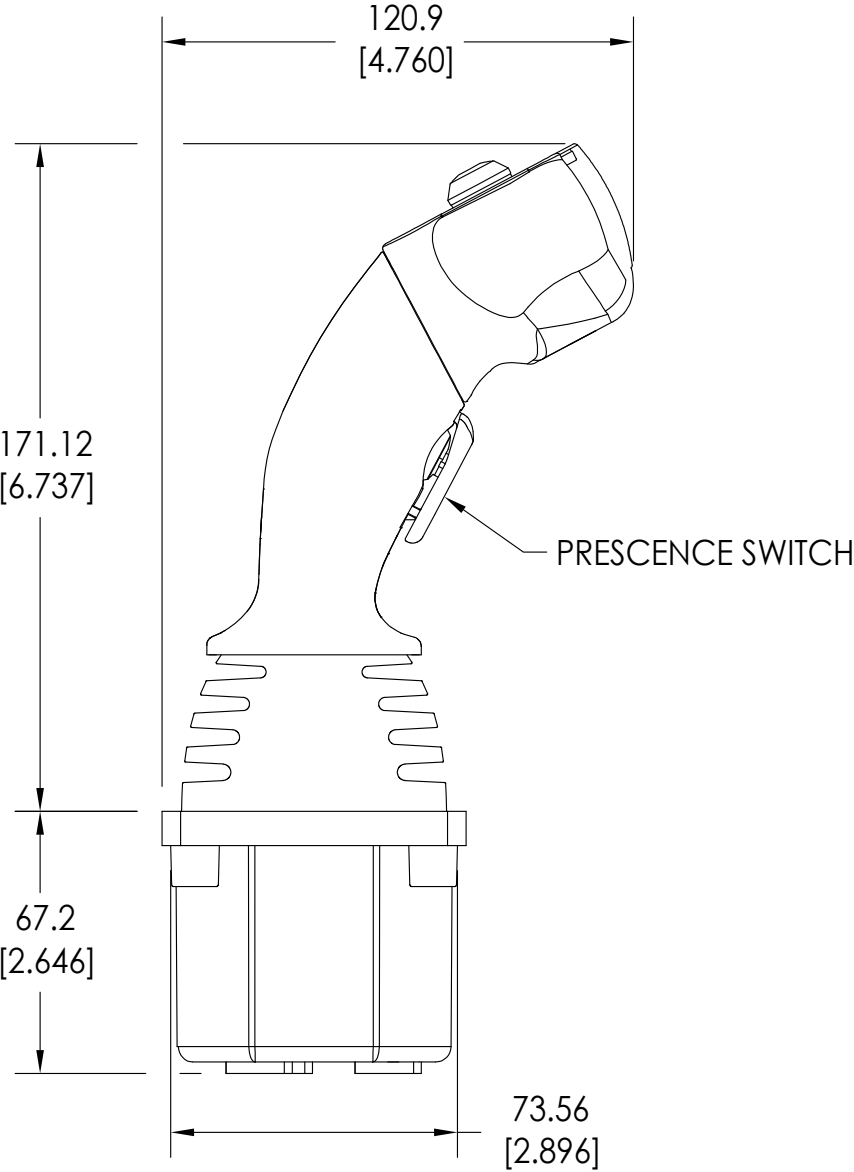
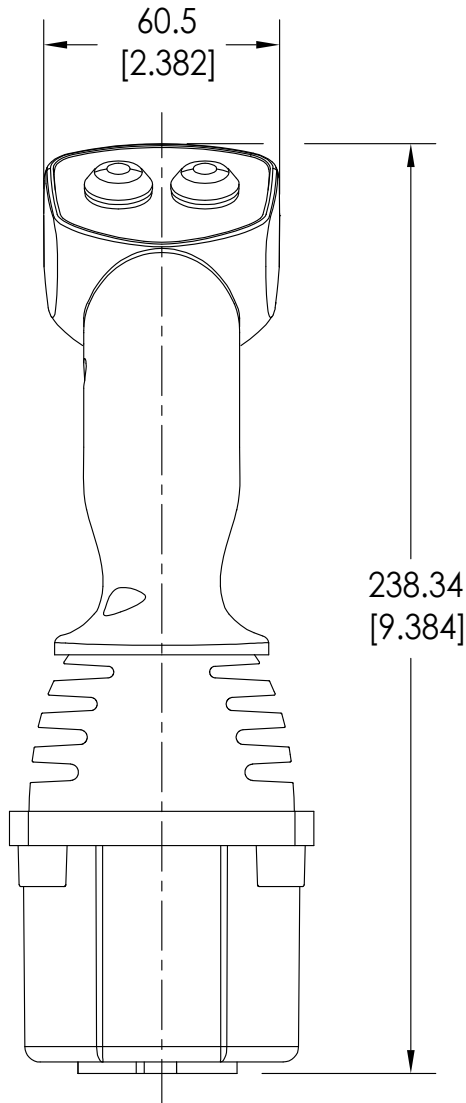
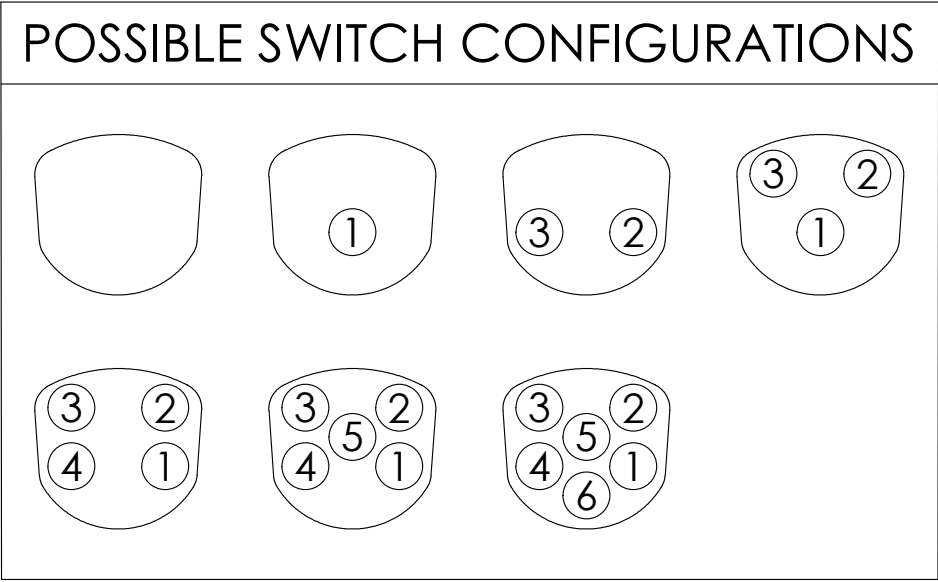
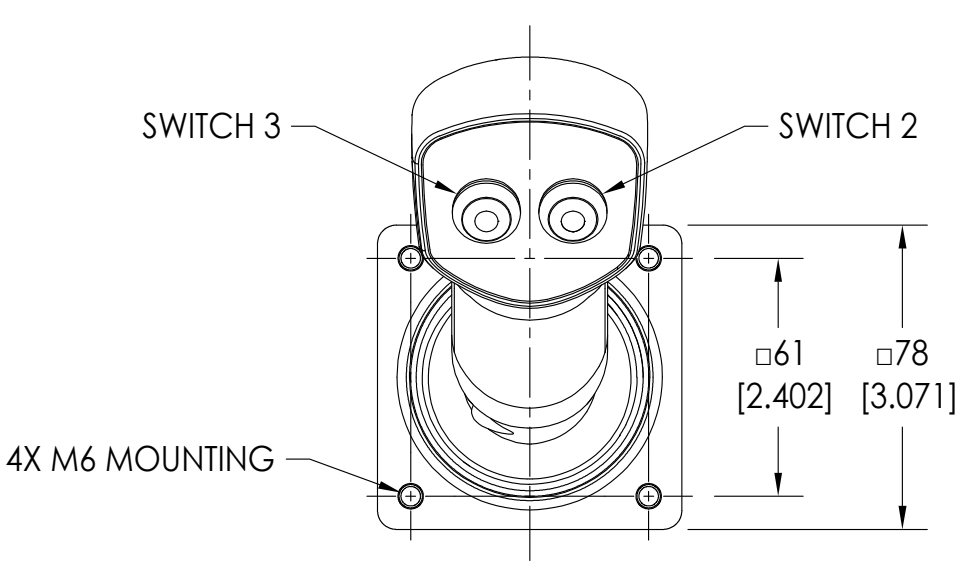
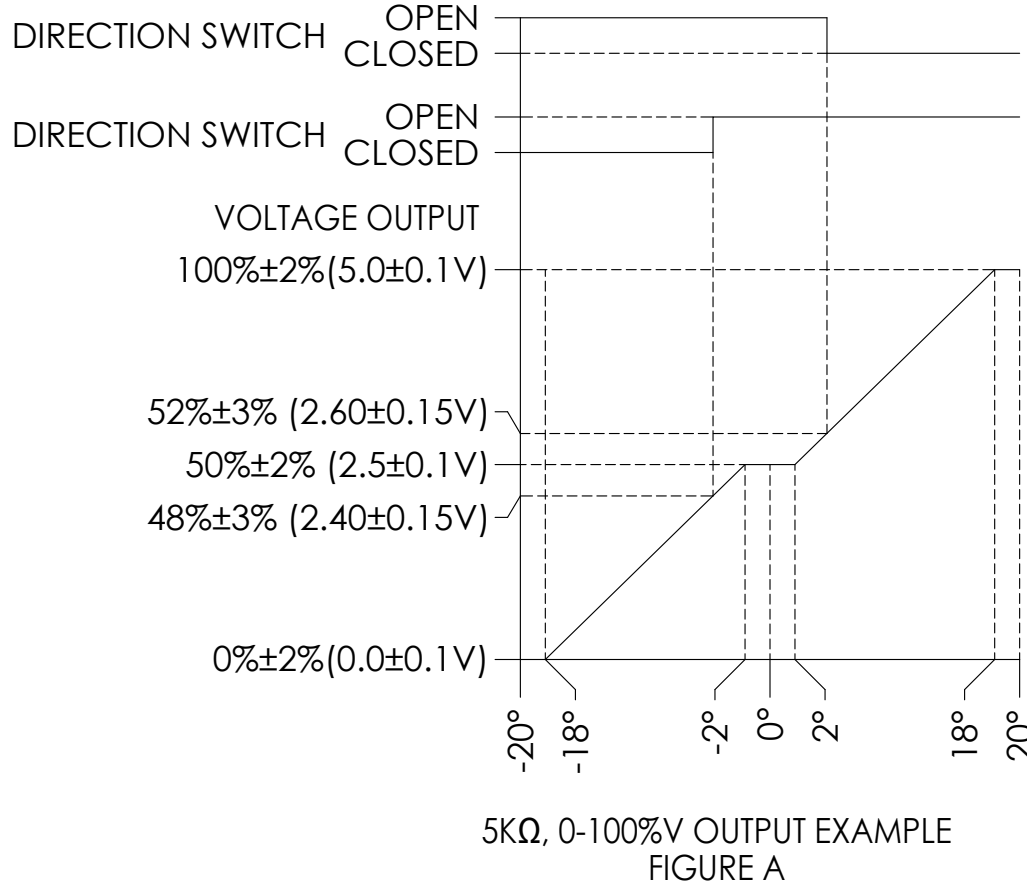
2. ELECTRICAL SPECIFICATIONS

- WORKING VOLTAGE: 5.0 - 16.0Vdc
- MAXIMUM VOLTAGE: 32Vdc
- VOLTAGE OUTPUT OPTIONS: OUTPUT SEE TABLE
- INSULATING RESISTANCE: ≥15MΩ
- TRACK RESISTANCE OPTIONS: OUTPUT SEE TABLE
- TRACK ANGLE RANGE: ±18°
- CENTER TAP VOLTAGE: 50±2%
- CENTER TAP ANGLE: ±2.5°
- LINEARITY: ±2%
- OUTPUT SIGNALS: SEE FIGURE 'A'
- BUTTON MAX CURRENT: 200 mA @50Vdc

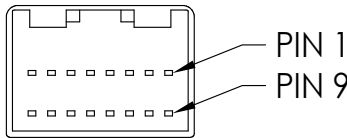
3. MECHANICAL SPECIFICATIONS

- TRAVEL: X=±20° Y=±20°
- BREAKAWAY FORCE: 7N OR 16N
- OPERATING FORCE: 19N OR 39N
- MAX FORCE: 390N
- LIFE: 5,000,000 CYCLES
- BUTTON OPERATING FORCE: 3N
- BUTTON LIFE: 1,000,000 CYCLES
- WEIGHT: 930.0±1.5g

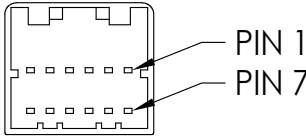
OUTPUT OPTIONS			
RESISTANCE	OUTPUT VOLTAGE	DIRECTIONAL SWITCH	FEATURES
1.8 KΩ	0-100%	±5.0°	
2.0 KΩ	10-90%	±1.5°	
2.0 KΩ	10-90%	±1.5°	
2.0 KΩ	10-90%	±1.5°	DUAL OUTPUTS PER AXIS
2.9 KΩ	25-75%	±1.5°	
2.9 KΩ	25-75%	±5.0°	
5.0 KΩ	0-100%	±5.0°	



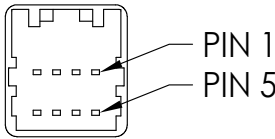
MATING CONNECTORS
16 PIN: AMP #174046
12 PIN: AMP #174045
8 PIN: AMP #174044



16 PIN CONNECTOR	
PIN	FUNCTION
1	Y SWITCH TRACK N/O (LEVER FOWARD +Y)
2	X SWITCH TRACK CENTER
3	X POT TRACK LEFT
4	X POT TRACK WIPER SIGNAL
5	X POT TRACK RIGHT
6	X POT CENTER TAP
7	X SWITCH TRACK COMMON
8	X SWITCH TRACK N/O (LEVER LEFT -X)
9	Y POT TRACK BACKWARD
10	Y POT TRACK WIPER SIGNAL
11	Y POT TRACK FORWARD
12	Y POT TRACK CENTER TAP
13	Y SWITCH TRACK COMMON
14	Y SWITCH TRACK N/O (LEVER BACKWARD -Y)
15	X SWITCH TRACK N/O (LEVER RIGHT +X)
16	Y SWITCH TRACK CENTER ON



12 PIN CONNECTOR	
PIN	FUNCTION
1	SWITCH 4
2	SWITCH 3
3	SWITCH 2
4	SWITCH 1
5	SWITCH 5
6	-
7	-
8	PRESENCE SWITCH IN
9	SWITCH 6
10	-
11	COMMON TERMINAL FOR ALL BUTTONS
12	PRESENCE SWITCH OUT



8 PIN CONNECTOR	
PIN	FUNCTION
1	SECONDARY Y POT TRACK BACKWARD
2	SECONDARY Y POT TRACK CENTER TAP
3	SECONDARY Y POT TRACK WIPER SIGNAL
4	SECONDARY Y POT TRACK FORWARD
5	SECONDARY X POT TRACK RIGHT
6	SECONDARY X POT TRACK WIPER SIGNAL
7	SECONDARY X POT TRACK CENTER TAP
8	SECONDARY X POT TRACK LEFT

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UNITS IN millimeter [inch]

PART #
10302-R