P3 America, Inc.

Motion Control and Automation Products

Multi-Function Joystick Controller — Series JH60C

- **Single, Dual, Triple or Quad Axis**
- **Precision Hall Effect Potentiometers**
- **Multiple Pushbutton Options**
- **Dual Output Option for all Axis**
- **High EMS / ESD Durability**
- **5 Mio. Operations Mechanical Life**
- **RoHS**

Note: Customers should test and verify device performance in any given application. pecifications are subject to change without notice.

P3 America, Inc.
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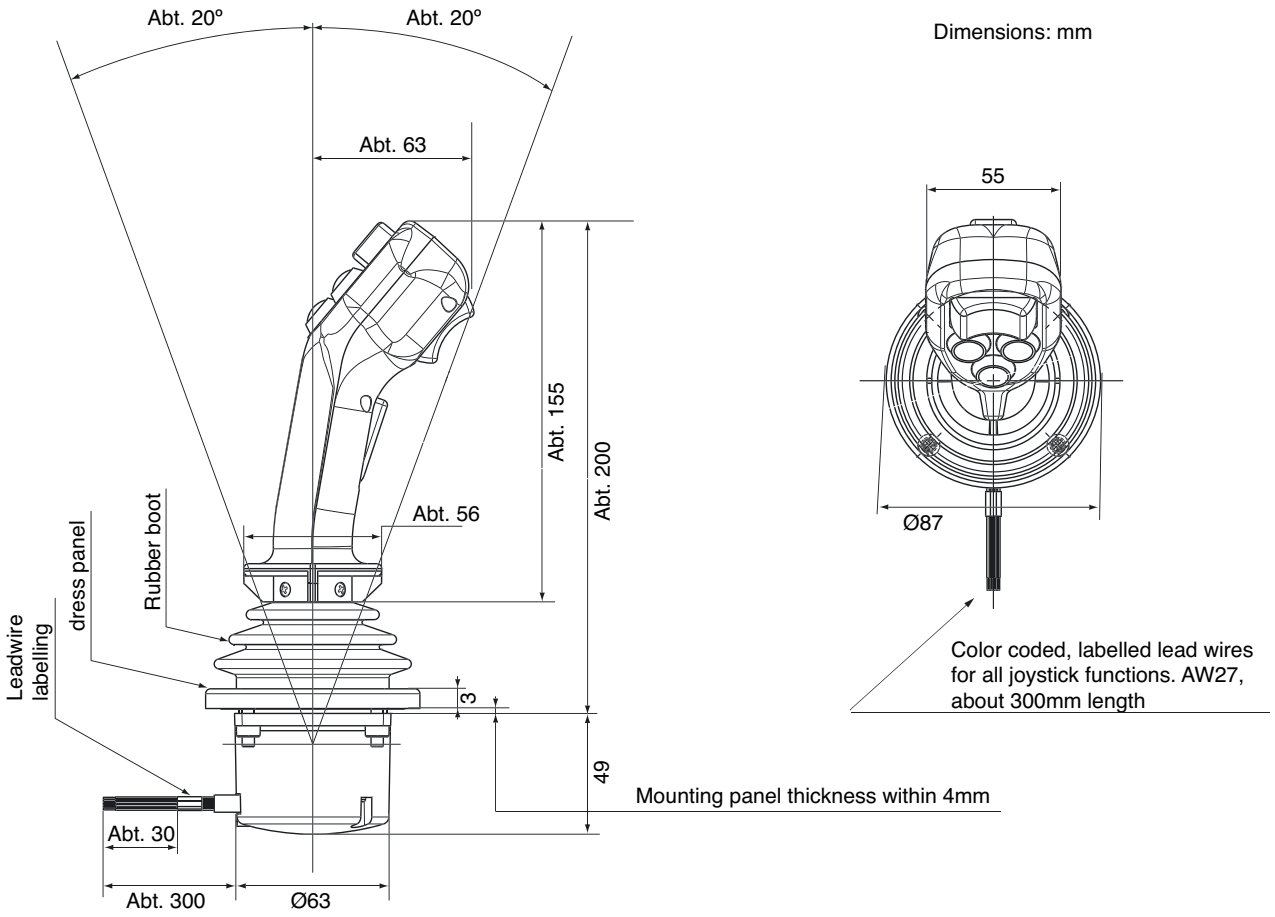
June 2016

Multi-Axis Joystick Controller — Series JH60C

X and Y Axes Mechanical Data (Note 1)	
Mechanical Travel	approx. ±20° from center (40° overall)
Operating Force	Spring return w/guided feel; 3N ~ 4.5N (300 ~ 450gf)
Operating Temperature	-20°C ~ +60°C
Vibration	10 ~ 55Hz 98m/s² (10G)
Shock	30G
Life Expectancy	> 5,000,000 random operations
Protection Grade	IP40
Weight	approx. 800g

Basic Dimensions



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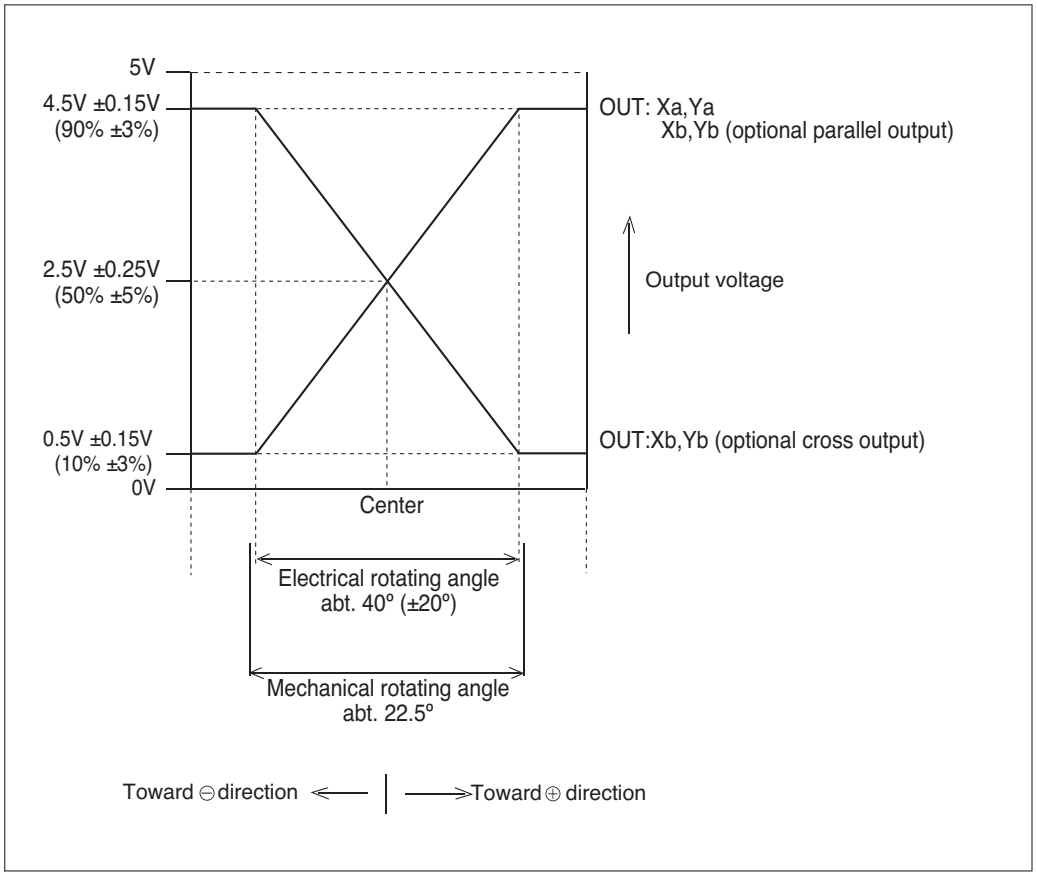
Specifications of X and Y Axis Hall Effect Potentiometer (Note 1)	
Electrical Travel	40° (±20° from center)
Load Resistance	over 10kΩ
Independent Linearity Tolerance	±3%
Resolution	Infinite
Applied Voltage	5VDC ±10%
Effective Output	0.5V ~ 4.5V (redundant option)
EMS Durability	100V/m (80MHz~1GHz sine-wave 80% AM modulation)
ESD Durability	±8KV contact ±15KV aerial discharge (IEC61000-4-2)
Dielectric Strength	1 minute at 500VAC
Insulation Resistance	Over 1000M ohms at 500VDC

Output Characteristics



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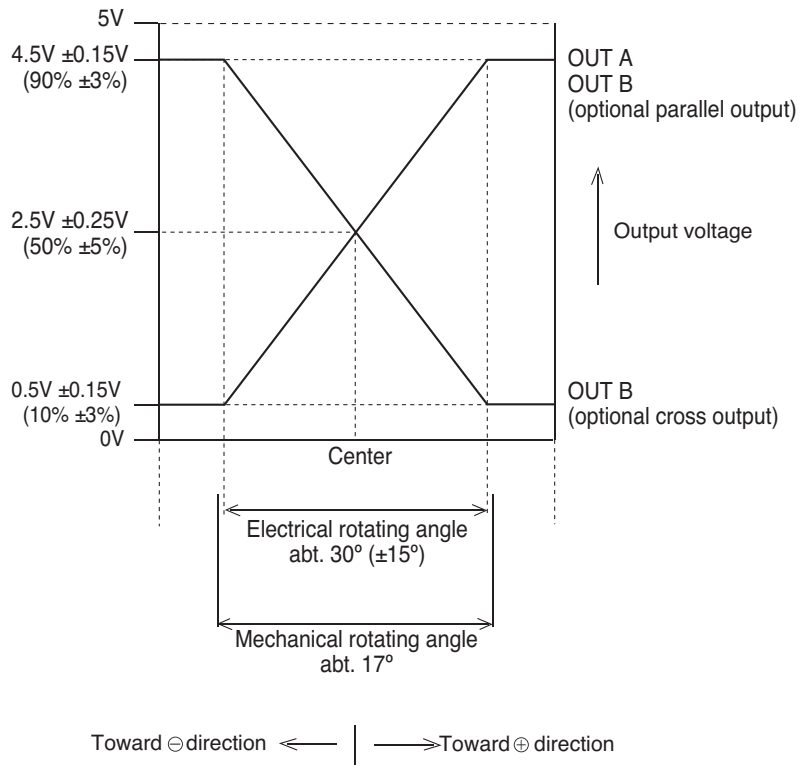
Specifications of Z Axis (see-saw type) Hall Effect Potentiometer (Note 1)	
Electrical Travel	30° (±15° from center)
Operating Force	Spring return; 24mN • m ~ 30mN • m
Return to Center Accuracy	50% ±3%
Load Resistance	over 10kΩ
Independent Linearity Tolerance	±3%
Resolution	Infinite
Applied Voltage	5VDC ±10%
Effective Output	0.5V ~ 4.5V (redundant option)
EMS Durability	100V/m (80MHz~1GHz sine-wave 80% AM modulation)
ESD Durability	±8KV contact ±15KV aerial discharge (IEC61000-4-2)
Dielectric Strength	1 minute at 500VAC
Insulation Resistance	Over 1000M ohms at 500VDC

Output Characteristics



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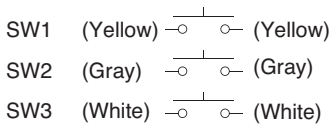
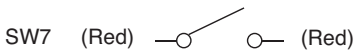
Specifications of Pushbutton Switches (Note 1)	
Model Number	59-111 (black) Manufactured by ITW Switches
Operating Characteristics	Momentary type (SW-ON when pushed)
Rating	100mA, 50VDC
Dielectric Strength	1000VAC, 1 minute
Insulation Resistance	> 1000MΩ at 500VDC
Mechanical Life Expectancy	500,000 operations max.

Circuit diagram and wiring connection diagram for push button switch



Specifications of Trigger (Dead Man) Switch (Note 1)	
Model Number	SPVQ810100 Manufactured by ALPS
Operating Characteristics	Momentary type (SW-ON when pushed)
Rating	100mA, 12VDC
Dielectric Strength	500VAC, 1 minute
Insulation Resistance	> 100MΩ at 500VDC
Mechanical Life Expectancy	300,000 operations max.

Circuit diagram and wiring connection diagram for dead man switch



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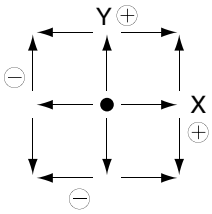
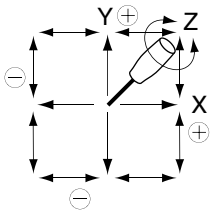
X and Y Axis Lever Operating Pattern

Type Q



Dual axis
Omni directional (360°)

Type U



Triple axis
X and Y axis, Omni directional (360°)
Z axis, rocker potentiometer

Handle Variations

w/dual axis thumb control hall effect controller

w/three see-saw potentiometer single axis controls

w/two see-saw potentiometer single axis controls, three pushbuttons switches and trigger switch

w/two see-saw potentiometer single axis controls, two colored switches.

w/five colored pushbutton switches and trigger switch

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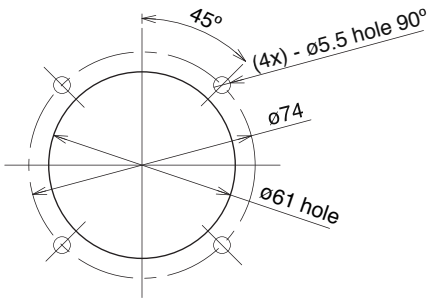
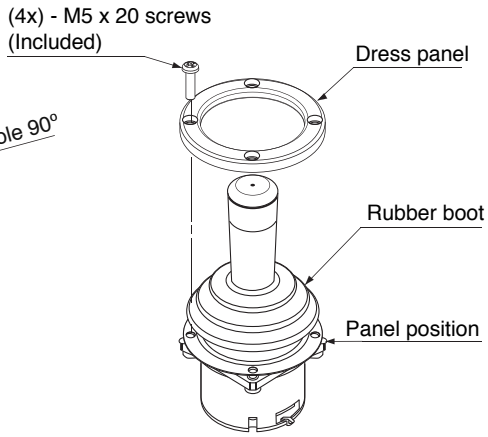
Mounting Details

Panel arrangements

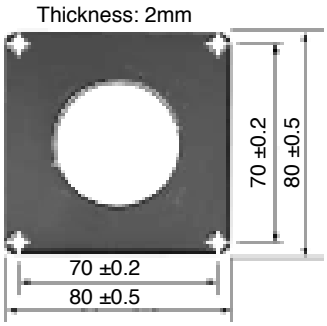


Dimensions (mm)



1. Remove 4 screws from dress panel.
2. Put joystick from below panel as shown
3. Assemble the dust proof rubber boot and dress panel as shown with 4 supplied screws.

Mounting Plate (optional)



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