

**Multi-Axis Joystick Controller - Hall Effect Potentiometer**

**Series JH60H**



2 dimension coordinate type with rocker switch pushbutton handle

- **Dual or Triple Axis**
- **Contactless Hall Effect Potentiometers**
- **Pushbutton Handle Options**
- **Center Detect Switch (analog)**
- **Direction / Positional Switches (analog)**
- **5 mio. operations life**
- **✓RoHS**



2 dimension coordinate type with pushbutton handle

2 dimension coordinate type with standard grip handle

**Electrical Data (Note 1)**

Electrical Travel	X, Y Axis: approx. 40° (±20° from center) Z Axis: approx. 90° (±45° from center)
Supply Voltage	5VDC ±10%
Output	0.5VDC ~ 4.5VDC (per axis)
Load Resistance	> 10k Ω
Independent Linearity Tolerance	±3%
Resolution	Infinite
Insulation Resistance	> 100MΩ at 250VDC
Dielectric Strength	250VAC, 1 minute
EMS Durability	100V/m (80MHz ~ 1GHz 1KHz sinw-wave 80% AM)
ESD Durability	±8KV contact ±15KV aerial discharge 10X 1 sec. interval

• **Special Specifications Available**

Center detect switch output (analog voltage), directional or positional switch outputs (analog voltage). Special handle shapes. Other customization to suit, please consult us.

Note 1: Customers should test and verify device performance in any given application. General specifications values are measured at temperatures of +15°C ~ +35°C. Specifications are subject to change without notice.

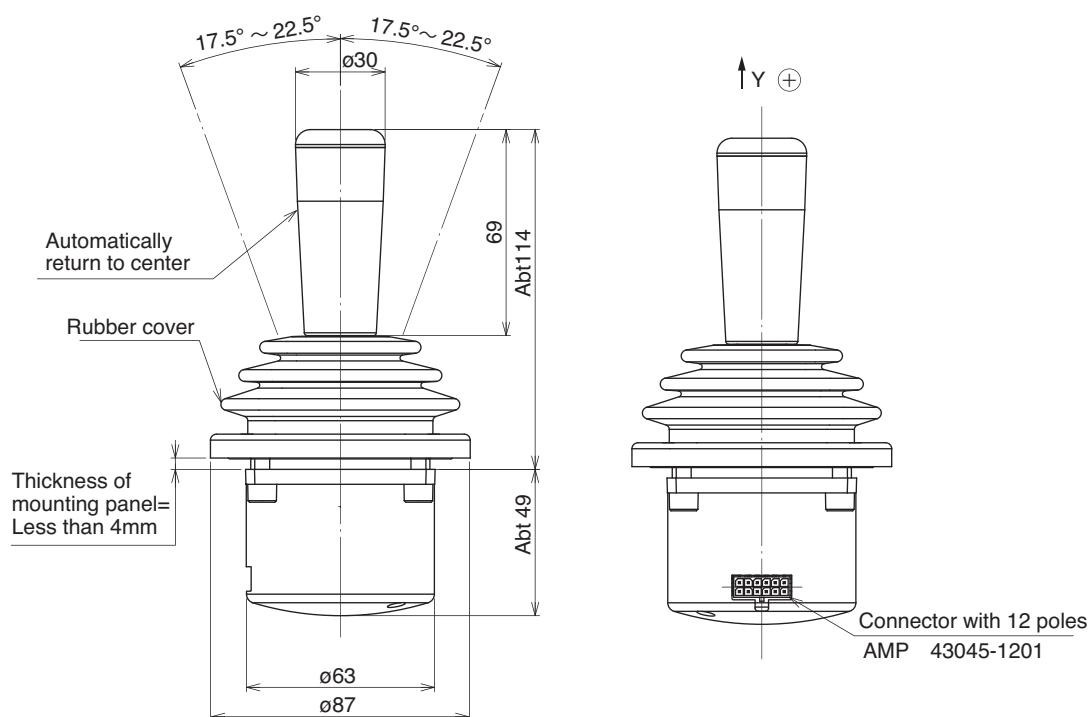
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### Mechanical Data (Note 1)

Mechanical Travel	X, Y Axes: approx. $\pm 17.5^\circ \sim \pm 22.5^\circ$ from center Z Axis: approx. $\pm 45^\circ \sim \pm 50^\circ$ from center
Operating Force	X, Y, Axes: 3 ~ 4.5N (300 ~ 450gf) Z Axis: 20 ~ 85mN · m (200 ~ 850gf · cm)
Operating Temperature	-20°C ~ +60°C
Vibration	10 ~ 55Hz 98m/s <sup>2</sup> (10G)
Shock	30G
Life Expectancy	> 5,000,000 random operations
Protection Grade	IP65 (above panel)
Weight	approx. 300g

### Dimensions (mm)



Note 1 : 4 pcs. of screw M5×20 are attached.

Note 2 : Mating connector with 300mm long lead wires(AWG22) is included. See page 4 for termination chart.

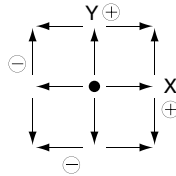
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### Handle Operating Patterns

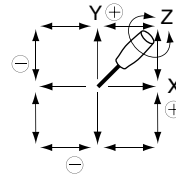
Type:

**Q**



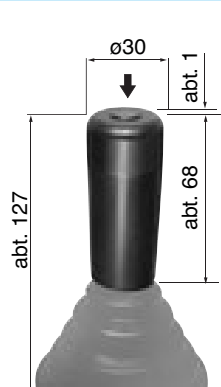
Dual axis  
Omni-directional  
square pattern.

**U**

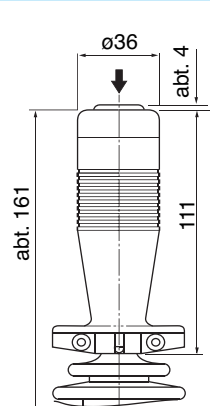


Triple axis  
Z-axis handle,  
upper portion twists

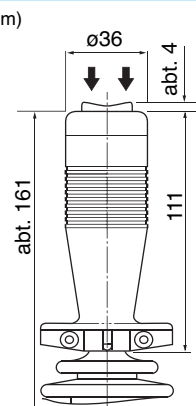
### Optional Handles



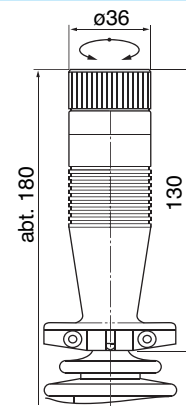
Pushbutton Handle  
2 dimension coordinate type  
Switch Rating: 125VAC / 3A  
25,000 operations min.  
SPST - momentary  
IP65



Pushbutton Handle  
2 dimension coordinate type  
Switch Rating: 250VAC / 10A  
300,000 operations min.  
SPST - momentary  
IP65



Pushbutton Handle  
2 dimension coordinate type  
Switch Rating: 250VAC / 10A  
300,000 operations min.  
DPST - momentary  
IP40



Z Axis Handle  
3 dimension coordinate type  
Spring return to center  
approx.  $\pm 45^\circ$  twist range  
IP40

### Pushbutton Handle Features

Neoprene rubber cover over switch mechanism for \*IP65 protection



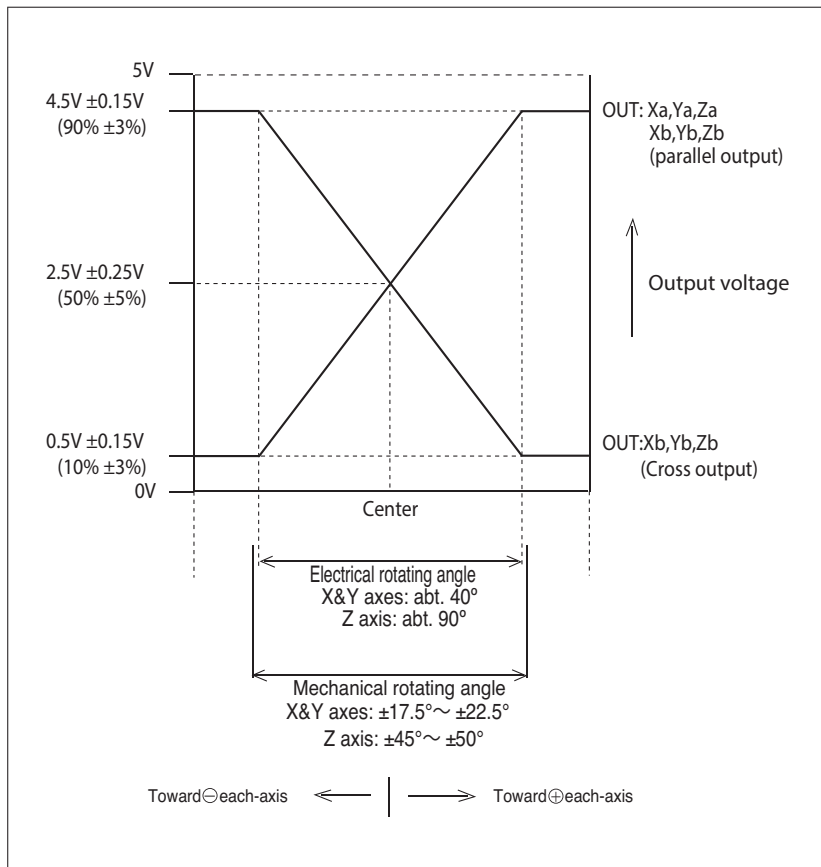
\*IP65 protection grade does not apply to rocker switch type pushbutton handle

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**Output Voltage Characteristics / Wiring Terminations**

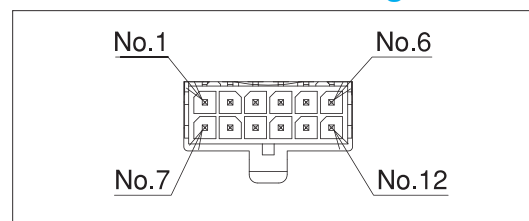
**Output Characteristic**



**Terminal Connection**

- Pin 1 (blue): G (GND)
- Pin 2 (green): X Axis Signal Out (Xa)
- Pin 3 (yellow) Y Axis Signal Out (Ya)
- Pin 4 (orange): Z Axis Signal Out (Za)
- Pin 5 (red): Pushbutton or Rocker Switch Position 1 (dry contact)
- Pin 6 (brown): Rocker Switch Position 2 (dry contact)
- Pin 7 (red): Supply Voltage (+5VDC)
- Pin 8 (brown): X Axis Dual Signal Out (Xb)
- Pin 9 (black): Y Axis Dual Signal Out (Yb)
- Pin 10 (white): Z Axis Dual Signal Out (Zb)
- Pin 11 (gray): Not Used
- Pin 12 (purple): (COM) Pushbutton Switch Common (dry contact)

**Terminal Location Diagram**

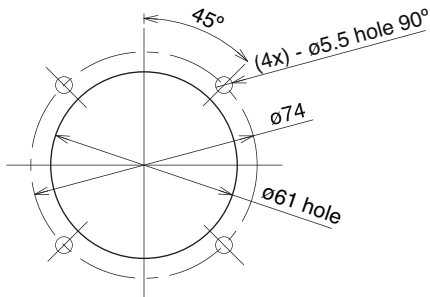


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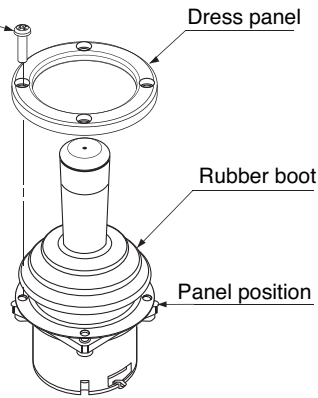
**Mounting Details**

**Panel arrangements**

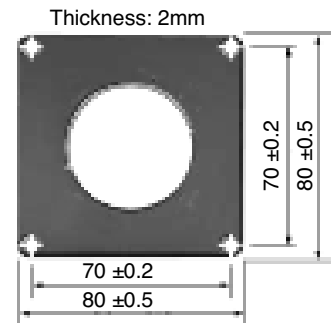


Dimensions (mm)

(4x) - M5 x 20 screws  
(Included)



**Mounting Plate (optional)**



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.