


# JH60H Series

## Multi-Axis Joystick Controller (Hall Effect)



2 dimension coordinate type with rocker switch pushbutton type 106.

Model Pictured: JH60H-YQ-2S1R2G(106)

- 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 type 105.

Model Pictured: JH60H-YQ-2S1R2G(105)

2 dimension coordinate type with standard grip handle

Model Pictured: JH60H-YQ-2S1R2G

### 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

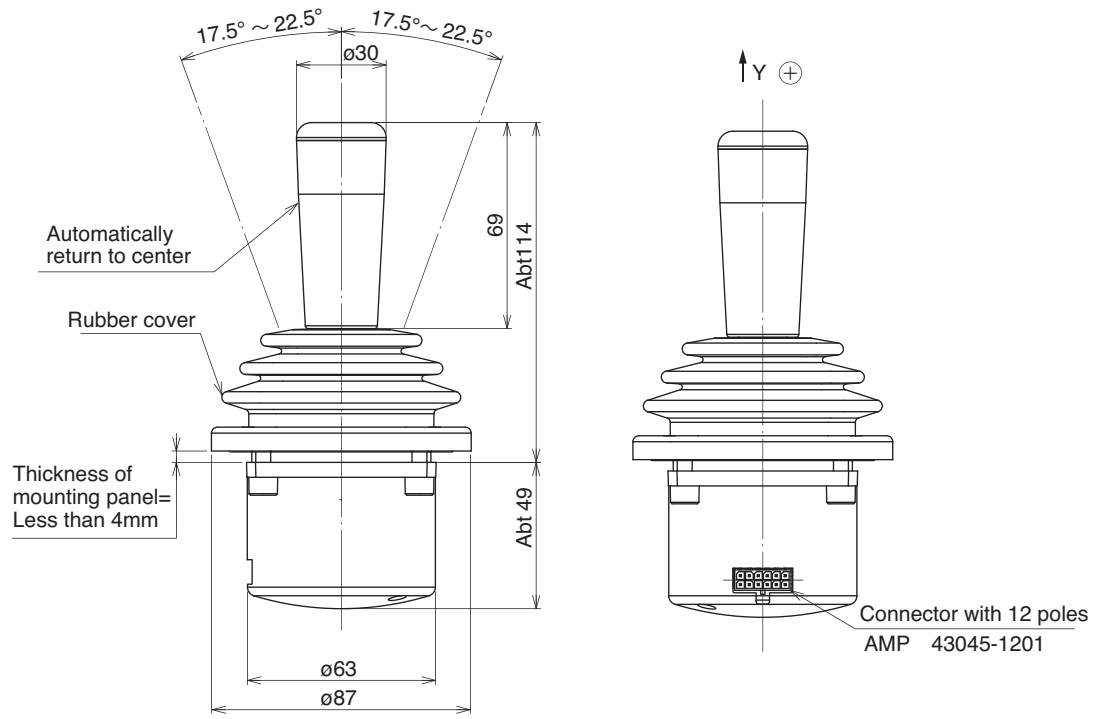
Center detect switch output (analog voltage), directional or positional switch outputs (analog voltage). Special handle shapes. Other customization to suit, please consult us.

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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)



The drawing shows a front view and a side view of the joystick controller. The front view includes the following dimensions and labels:

- Top view:  $17.5^\circ \sim 22.5^\circ$  (twice),  $\phi 30$
- Height of the joystick stem: Abt 69
- Height of the base: Abt 49
- Bottom diameter:  $\phi 63$  and  $\phi 87$
- Labels: "Automatically return to center", "Rubber cover", "Thickness of mounting panel= Less than 4mm"

The side view includes the following labels:

- Coordinate system:  $\uparrow Y \oplus$
- Connector: "Connector with 12 poles AMP 43045-1201"

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.

# JH60H Series

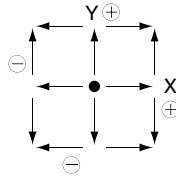
## Multi-Axis Joystick Controller

### (Hall Effect)

#### Handle Operating Patterns

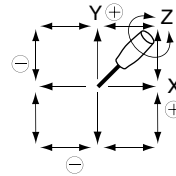
Type:

**Q**



Dual axis  
Omni-directional  
square pattern.

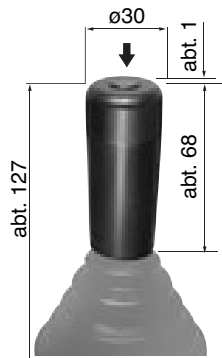
**U**



Triple axis  
Z-axis handle,  
upper portion twists

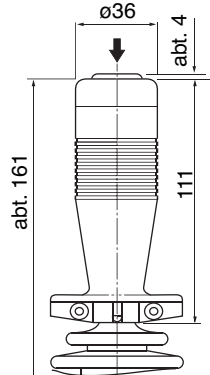
#### Optional Handles

dimensions (mm)



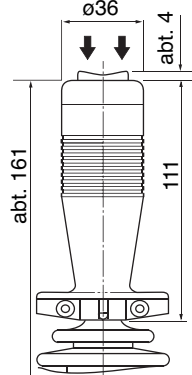
**Type 102**

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



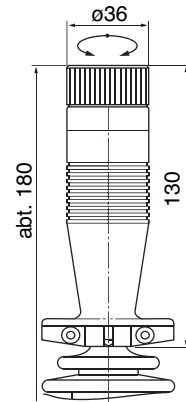
**Type 105**

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



**Type 106**

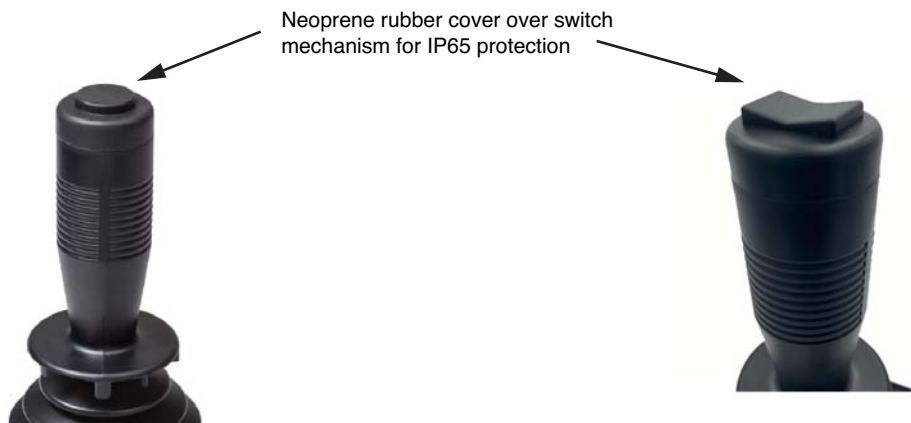
Pushbutton Handle  
2 dimension coordinate type  
Switch Rating: 250VAC / 10A  
300,000 operations min.  
DPST - momentary  
IP65



**Type 306**

Z Axis Handle  
3 dimension coordinate type  
Spring return to center  
approx. ±45° twist range  
IP40

#### Pushbutton Handle Features

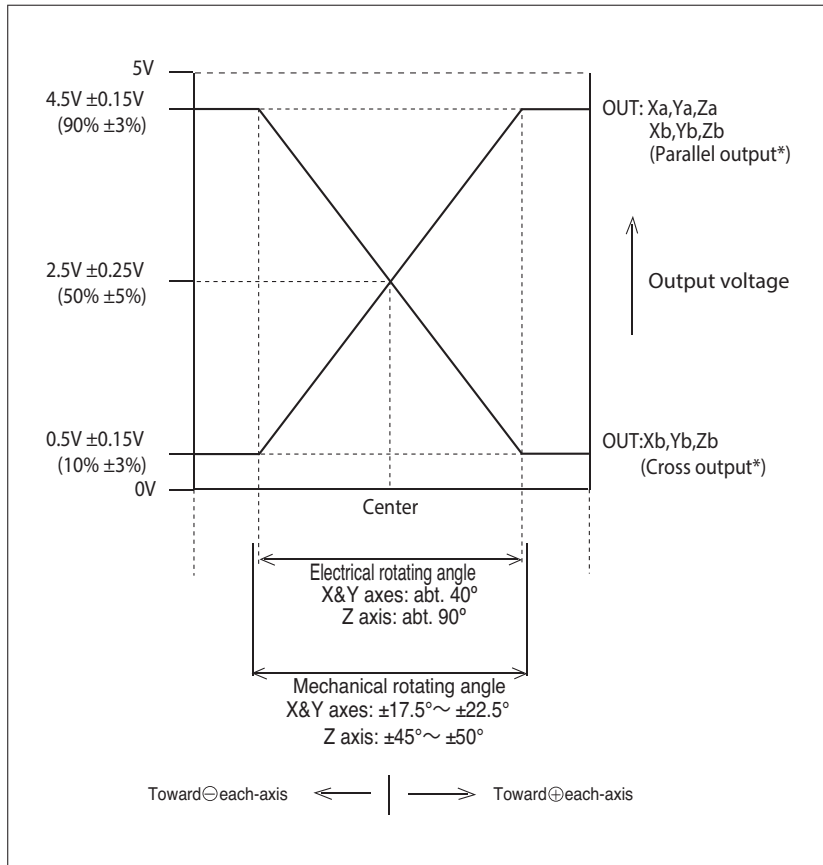


# JH60H Series

## Multi-Axis Joystick Controller (Hall Effect)

### Output Voltage Characteristics / Wiring Terminations

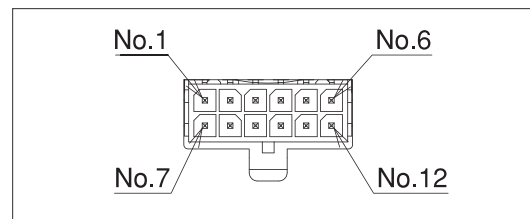
#### Output Characteristic



#### 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



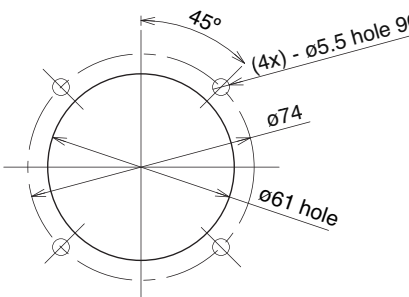
\*Optional parallel/cross redundant output  
(Please specify when ordering)

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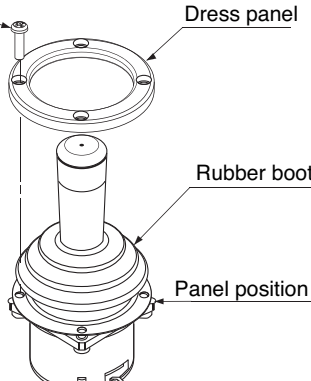
**Mounting Details**

**Panel arrangements**



Dimensions (mm)

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



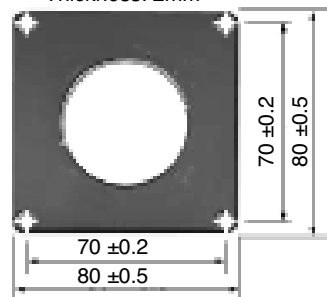
Dress panel

Rubber boot

Panel position

**Mounting Plate (optional)**

Thickness: 2mm



70 ±0.2

80 ±0.5

70 ±0.2

80 ±0.5

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.