

# Proportional + Switched Joystick P1H, P2H

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## Description

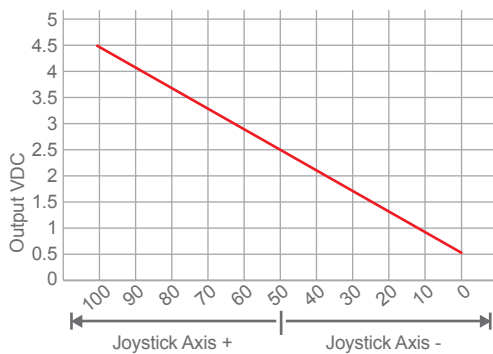
The proportional + high current switched joystick is designed for applications that require redundant proportional drive signals in addition to separate high current switched outputs on each axis that could be used to detect off-neutral movement. The proportional and switched outputs are activated through hall effect sensors which extends the life of the switch by more than ten times that of traditional mechanical switching configurations. The proportional + high current switched output can be provided on both the “JL” or “JM” Series joysticks in either single axis or dual axis configurations.

### Part #'s:

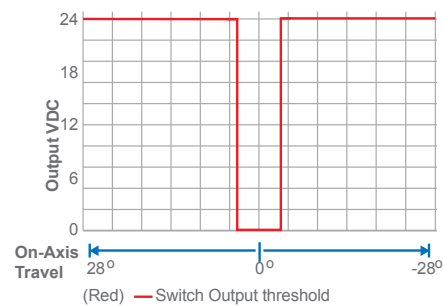
**P1H** - Proportional + High Current Switched Outputs, Single Axis

**P2H** - Proportional + High Current Switched Outputs, Dual Axis

### Proportional Output Characteristics



### Switched Output Characteristics



### Electrical Specifications:

#### Proportional Outputs:

Supply voltage: 5.0 VDC (+/- 0.1 VDC)

Supply current: 30 mA maximum

Typical Output Voltage Range:

0.5 - 2.5 - 4.5VDC, (+/- 0.1 VDC)

Maximum Output current:

2mA (Outputs protected against shorts to supply or ground as long as supply voltage is within operational range, maximum survival voltage 18 VDC)

#### Switched Outputs:

Supply Voltage, +Vs: 10 - 30VDC

Output Range: 0.1V max (OFF), +Vs (ON)

Output Current: 2.5A max per axis

Movement to Activate:

4 degrees, while moving on axis

8 degrees, while moving on 45 degree points

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**SURE GRIP**  
CONTROLS INC.

To add to our existing line of reliable non contact industrial controls, Sure Grip has developed an electronic joystick with both proportional and switched outputs. The joystick is available in both single axis (P1H) and dual axis (P2H) versions and provides a redundant set of proportional outputs in the range of 0.5V to 4.5V over the full joystick travel. In addition to the analog proportional outputs the joystick provides separate high current switched outputs that activate on each axis.

## P1H, P2H Proportional + Switched Joystick Electrical Characteristics

Parameter	Min	Typ	Max	Unit	Notes
<b>Power Supply:</b>					
+12V/+24V Supply Voltage	10	12 or 24	30	VDC	Supply Voltage for Switched Outputs
+5V Supply Voltage	4.5	5	5.5	VDC	Supply Voltage for Proportional Outputs
Supply Current	35	-	5035	mA	
<b>Proportional Output Characteristics:</b>					
Output Voltage Typical Range	0.5	2.5	4.5	VDC	Output Tolerance (+/- 5%)
Output Current	-	1	2	mA	
Load Resistor	4.5	-	-	KΩ	
<b>Switched Output Characteristics:</b>					
Output Voltage in Dead Band	-	-	0.100	VDC	
Continuous Output Current	-	-	2500	mA	Per Direction on Axis
Reverse Voltage Protection	-30	-	-	VDC	
Output Activation	8	-	10	Degrees	
<b>Environmental Specifications:</b>					
Operating Temperature Range	-40 to +80			°C	