

Data Sheet for Joysticks

Thumb Joystick

Series PW30



- Single-axis joystick/proportional rocker
- Potentiometric or Hall effect sensor
- Spring return to the center position (optional to end position)
- Ergonomic handle shape

With the look of a rocker switch, but the sensors of industrial joysticks, the PW30 series combines the advantages of joysticks (for setting an analogue control variable) with toggle switches (flat design, small space requirement).

The PW30 meets the highest standards of quality and reliability for long-term use in an industrial environment. In addition to three different rocker shapes, you can choose between potentiometric or Hall effect sensors, as well as between spring return to the middle or end position. Redundant versions are available for the Hall version.

Technical Data Mechanics

Angle of Movement	± 15 to $\pm 19^\circ$
Operating Force	24 to 30 mNm
Max. Force	0,5 Nm
Vibration	10 to 55 Hz, 98 m/s ² (10G) MIL -STD-202F-204
Shock	294 m/s ² (30G) MIL-STD-202F-213
Weight	0.03 kg

Technical Data Potentiometer

Resistance Value / Tolerance	10 kOhm \pm 15%
Independent Linearity Tolerance	± 3 % full scale
Power Rating @40°C	0.1 W
Electrical Travel	30° $\pm 5^\circ$
Return to Center Accuracy	± 3 %
Max. Wiper Current	1 mA
Expected Life	ca. 2.000.000 cycles
Protection Grade	Standard IP40 (up to IP54)

Note: Max. Voltage < 50 VAC resp. < 75 VDC, additionally max. power rating must be considered.

Technical Data Hall Sensor

Supply Voltage	5 VDC \pm 10 %
Current Consumption	7 mA (14 mA with Dual Output)
Min. Impedance	10 kOhm (>100 kOhm recommended)
Output Voltage	0.5 to 4.5 VDC ratiometric
Independent Linearity Tolerance	± 3 % full scale
Return to Center Accuracy	± 3 %
Expected Life	ca. 5.000.000 cycles
Protection Grade	IP65

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Order Code

Description	Selection: standard= black/bold , possible options= <i>grey/italics</i>							
Series name	PW30							
Axes: 1 Axis		1						
Cover type: Only without cover			1					
Return mechanism: Spring return to center position <i>Spring return to end stop</i> <i>Spring return to center position, 100% enforced spring*</i>					1 2 9			
Knobs: Seesaw <i>Flat-shaped rocker</i> <i>Outstretched rocker*</i>						1 2 3		
Limiter: Single axis only							1	
Sensors / signal options: Potentiometer (conductive plastic)* Hall sensor single output <i>Hall sensor dual output parallel</i> <i>Hall sensor dual output inverse</i>								1 H <i>HP</i> <i>HX</i>
Additional Options: <i>Potentiometer with Center Tap (CT)**</i> <i>Custom resistance value in kOhms***</i>								<i>(1)</i> <i>(1)</i> <i>CT</i> <i>RxK</i>

* not available for 100% enforced spring return

** default resistance value is 10K, other possible resistances are 1K, 2K, 5K and 20K

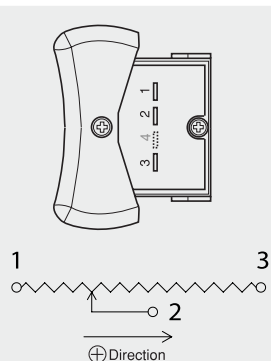
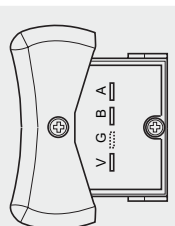
*** only for version with potentiometric sensor

For series demands these and further customer-specific solutions are available

For example:

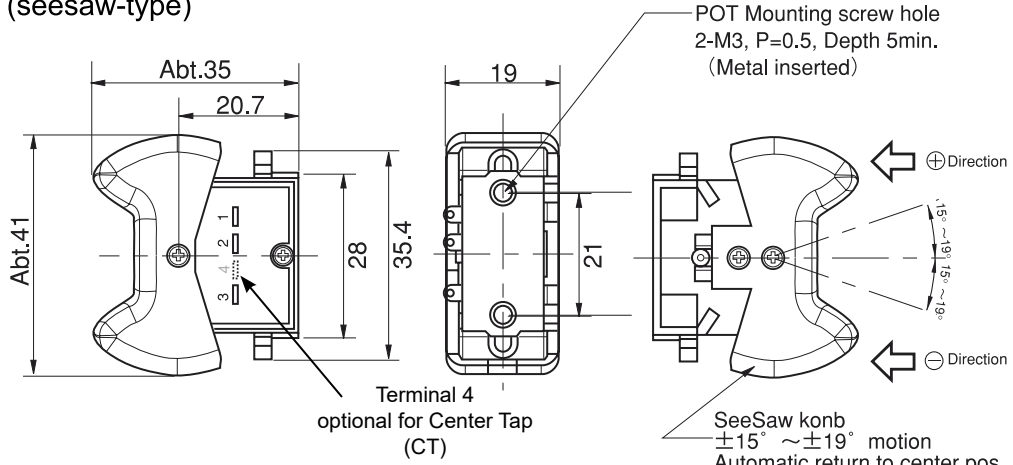
- Customer-specific cables and connectors

Terminal Connections

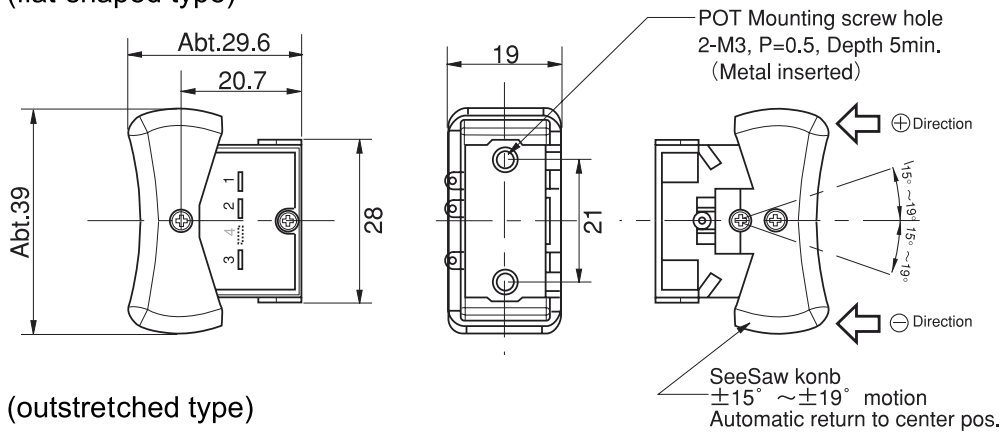
Sensor type	Potentiometric	Hall
Schematic	 <p>The schematic shows a potentiometer with three terminals labeled 1, 2, and 3. Terminal 1 is on the left, terminal 3 is on the right, and terminal 2 is the wiper in the center. An arrow labeled 'Direction' points to the right, indicating the wiper's movement.</p>	 <p>The schematic shows a hall sensor with four terminals labeled V, G, B, and A. Terminal V is on the left, G is in the middle, B is on the right, and A is at the bottom.</p>
Terminal / Function	<p>1: Terminal 1</p> <p>2: Wiper</p> <p>3: Terminal 2</p> <p>4: (optional) Center Tap</p>	<p>V: V_{supply} 5 VDC \pm 10%</p> <p>G: GND</p> <p>B: Signal B (dual output only)</p> <p>A: Signal A</p>

Technical Drawing

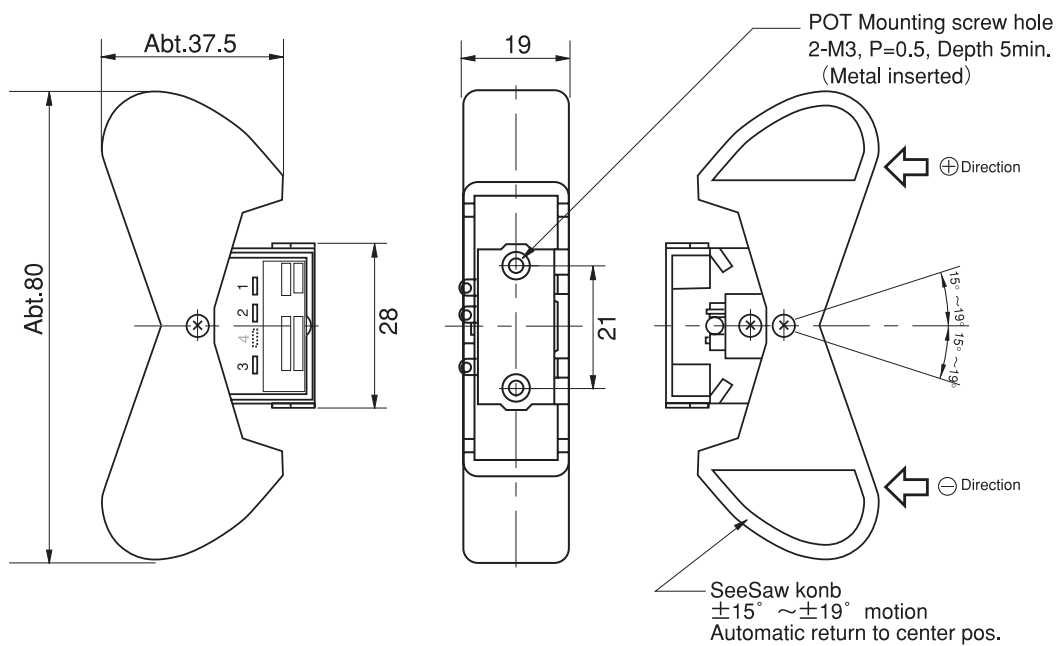
Handle Type 1 (seesaw-type)



Handle Type 2 (flat-shaped type)



Handle Type 3 (outstretched type)



All Dimensions in mm