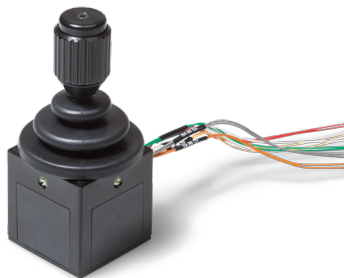


# Data Sheet for Joysticks

Miniature Switchstick

Series 821



- 1 to 3 Axes
- Available with up to 6 micro switches
- High durability

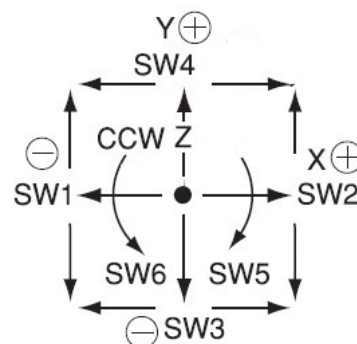
The 821 series is your choice for robust, at the same time precise switching while requiring little space.

## Technical Data

Angle of Movement X-, Y-Axis	$\pm 10^\circ \dots \pm 15^\circ$
Angle of Movement Z-Axis	$\pm 30^\circ \dots \pm 35^\circ$
Return to Center Accuracy X+Y Axis	$\pm 2^\circ$
Operating Force X+Y Axis	0,8..2 N
Operating Force Z-Axis	15..60 mNm
Power Rating X+Y Axis	50 mA at 24 V DC
Power Rating Z-Axis	100 mA at 24 V DC
Lifetime	typ. 1 million cycles
Vibration (10 to 55Hz)	98 m/s <sup>2</sup>
Shock	294 m/s <sup>2</sup>
Protection Grade	IP 40; (IP54 with rubber boot above panel; X+Y Axis versions only)
Operating temperature range	-20°C..+65°C
Weight	ca. 80 g (2 Axes) resp. ca. 100 g (3 Axes)
Panel Thickness	1..2 mm
Length of Wires	300 mm, AWG28

## Wiring

Color	Micro Switch
2x Green	SW1 (ON at 10° into -X)
2x White	SW2 (ON at 10° into +X)
2x Yellow	SW3 (ON at 10° into -Y)
2x Red	SW4 (ON at 10° into +Y)
2x Orange	SW5 (ON at 30° CW)
2x Grey	SW6 (ON at 30° CCW)



# Data Sheet for Joysticks

Miniature Switchstick

Series 821

## Order Code

<b>Series</b>	<b>821</b>						
<b>Axes</b>							
1 Axis (*)		1 (*)					
<b>2 Axes</b>		<b>2</b>					
2 Axis with Pushbutton (*)		3 (*)					
<b>3 Axes</b>		<b>4</b>					
<b>Rubber Boot</b>			<b>5</b>				
Circular dress panel, threaded flange (*)			6 (*)				
<b>Spring Return</b>				<b>1</b>			
Without Spring Return (applies only to Z-Axis) (*)				2 (*)			
<b>Handles</b>							
<b>Handle concave</b>					<b>2</b>		
Handle cylindrical, with Pushbutton (*)					6 (*)		
<b>Handle for 3 Axes</b>					<b>8</b>		
<b>No Trimm</b>						<b>1</b>	
<b>Micro Switches</b>							
2 Switches (1 Axis) (*)							2 (*)
<b>4 Switches (2 Axes X &amp; Y)</b>							<b>4</b>
<b>6 Switches (3 Axes X &amp; Y &amp; Z)</b>							<b>6</b>

(\*) upon request

## For higher quantities or on-going demand, additional options are available

For example:

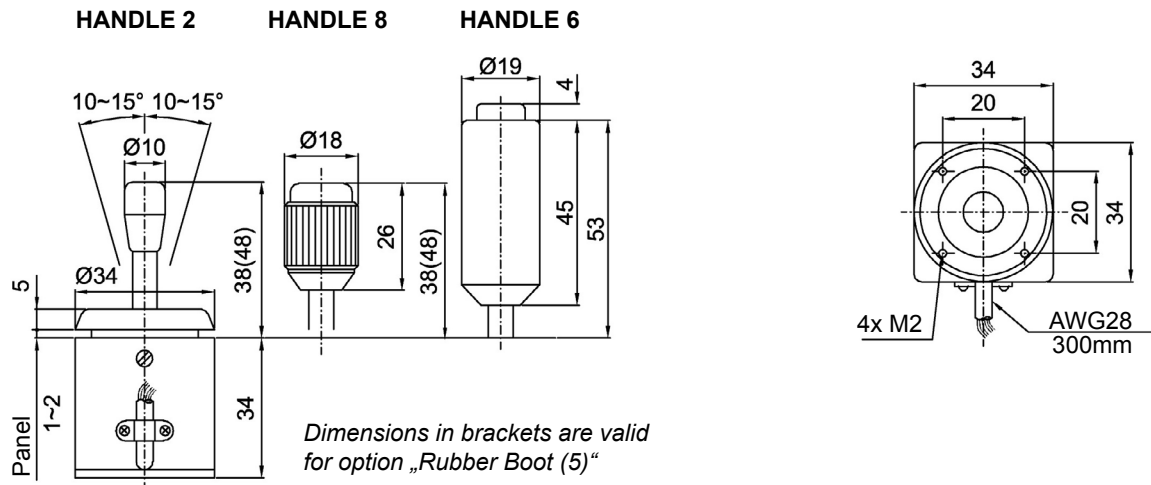
- Customer-specific cable

# Data Sheet for Joysticks

Miniature Switchstick

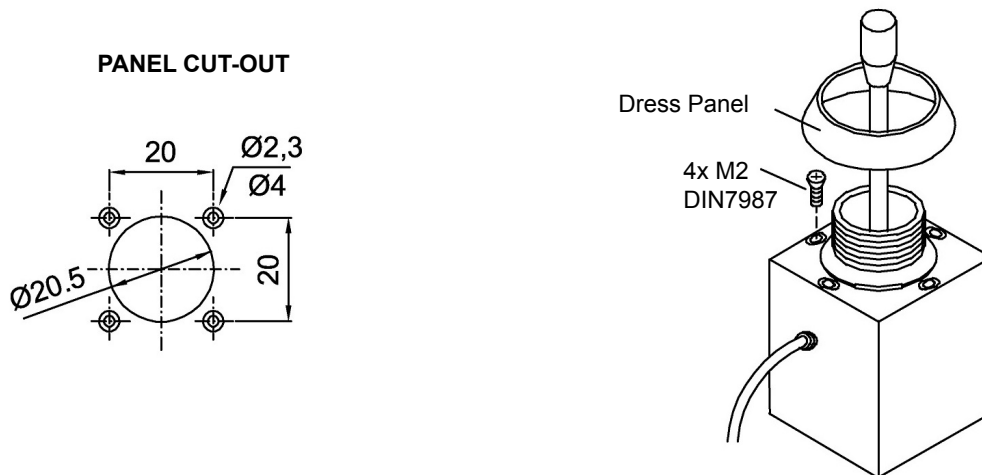
Series 821

## Technical Drawing



Dimensions in mm

## Installation



Dimensions in mm