

Data Sheet for Joysticks

Finger Joystick

Series 812



- Very wide selection of knobs
- 1 - 3 axes
- Spring strength can be adjusted separately for both axes on request
- Optional Hall effect sensors or potentiometers
- Compact with low installation depth <26 mm
- Large deflection of up to $\pm 28^\circ$ around the central position
- Ideal solution when low operating forces are required

The 812 series is unique in its design. The sensors are attached to the outside of the housing, which enables flexible adaptation of the sensors: the customer can select from different types of potentiometers and Hall sensors. There is also a very large selection of knobs.

Thus, the joystick 812 can be optimized particularly well for the application. It is no coincidence that the series is the best-selling for CCTV applications.

Technical Data Joystick

Angle of Movement X-, Y-Axis	56° ($\pm 28^\circ$ from center)
Angle of Movement Z-Axis	90° ($\pm 45^\circ$ from center)
Return to Center Tolerance	$\pm 2\%$
Panel Thickness	1.3 to 4.7 mm
Break Out- / Operating / Max. Force X & Y	0.7 N / 1.3 N / 100 N
Break Out- / Operating / Max. Torque Z	0.022 Nm / 0.04 - 0.05 Nm / 0.20 Nm

Technical Data Hall Sensor

Supply Voltage V_{supply}	5 VDC $\pm 10\%$
Output Voltage at center	$V_{supply}/2 \pm 5\%$
Output Voltages Hall Sensor	0 to 5 V / 0.5 to 4.5 V / 0.25 to 4.75 V
Independent Linearity Tolerance	$\pm 2\%$
Power Consumption	< 11 mA (2 axes) / < 17 mA (3 axes)
Resolution	Infinite
Mechanical Life	1 Million cycles
Operating Temperature	-25°C to +70°C
Storage Temperature	-40°C to +70°C

Technical Data Potentiometer

Technical Data Potentiometer		Type P	Type R
Electrical Element		Conductive Plastic	Conductive Plastic
Track Resistance	[kOhm]	5	5
Independent Linearity	[%FS]	± 1	± 1
Operating Temperature	[°C]	-10 to +85	-55 to +125
Power Dissipation	[W]	0,25 @40°C	1
Track Operating Angle	[°]	220 ± 5	50
Bearing		Sleeve Bearing	Sleeve Bearing
Rotational Life	Million cycles	>1	ca. 10
Wiper current in case of failure	[mA] @40°C/<1 min	≤ 1	≤ 1
Recomm. wiper current	[μ A]	≤ 2	≤ 2
Max. Voltage	DC [V]	35	70

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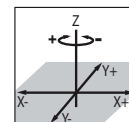
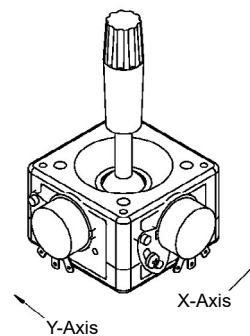
Series 812

Technical Data Pushbuttons

	Voltage [VDC]	Current [mA]	Expected Life [number of actuations]	Colour Pushbutton Cap
Handle E	50	100	5 Million	black
Handle G	24	50	1 Million	black
Handle H	24	50	1 Million	black
Handle 9	24	50	1 Million	black
Handle S	32	50	1 Million	black
Handle T	32	50	1 Million	black
Handle P	32	50	1 Million	black
Handle Q	32	50	1 Million	black

Wiring for Joysticks with Potentiometers

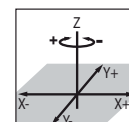
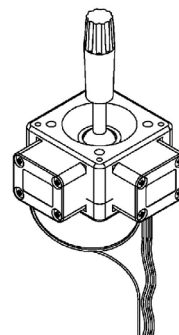
Function	Colour
Joysticks with 2 or 3 Axes, 1 Pushbutton	
Pushbutton Common	orange
Switch	orange
Joysticks with 3 Axes, 2 Pushbuttons	
Pushbutton 1/2 Common	green
Pushbutton 1	orange (pb left)
Pushbutton 2	brown (pb right)
Joysticks with 3 Axes, Z Axis	
+Supply	red
Signal Out	white
-Supply / GND	blue



Wires AWG28, length ca. 290 mm, for
 - Joysticks with three axes
 - Joysticks with Pushbuttons Potentiometers w/o wires

Wiring for Joysticks with Hall Sensors

Function	Colour
GND	black
+5VDC	red
X-Axis	blue
Y-Axis	yellow
Z-Axis	green
Pushbutton 1/2 Common	white
Pushbutton 1	orange
Pushbutton 2	violet



Wires AWG28, Length ca. 210 mm

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Please contact us for information regarding stock articles, delivery times and minimum order quantities.

Order Description / Options

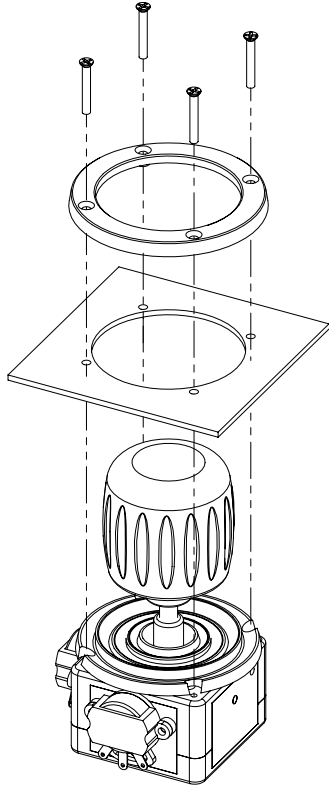
Description	Selection: standard= black/bold , possible options= <i>grey/italics</i>					
Series	812					
Axes						
2 Axes		2				
3 Axes		4				
3 Axes with Pushbutton(s)		5				
1 Axis		1				
1 Axis with Pushbutton(s)		6				
2 Axes and Pushbutton(s)		3				
Mounting Bezel						
Split Bezel (Front Mounting)			1			
Rubber Boot (Front Mounting)			5			
Square Bezel (Rear Mounting)			2			
Square Bezel Snap-On (Front Mounting)			3			
Spring Return						
Standard Spring Force (50% enforced)				1		
Spring Return 75% enforced Spring				8		
Spring Return 100% enforced Spring				9		
Friction Clutch (Potentiometer versions only)				2		
Handles						
Handle 1					1	
Handle 7 with Z-Axis					7	
Handle 9 with Z-Axis and Pushbutton					9	
Handle 6					6	
Handle 3					3	
Handle B					B	
Handle J					J	
Handle L					L	
Handle A					A	
Handle K					K	
Handle H with Pushbutton					H	
Handle E with Pushbutton					E	
Handle G with Pushbutton					G	
Handle R with Z-Axis					R	
Handle S with Z-Axis and Pushbutton					S	
Handle T with Z-Axis and 2 Pushbuttons					T	
3 Axes Low Profile, Hall Sensors					O	
3 Axes, Hall Sensors					N	
3 Axes, Hall Sensors, 1 Pushbutton					P	
3 Axes, Hall Sensors, 2 Pushbuttons					Q	
Trimm						
Without (always with Hall Sensors)						0
Internal (always with Potentiometers)						1
Sensors						
Potentiometer P (X-, Y-, Z-Axis)						P
Potentiometer R (X-, Y-Axis / Z-Axis Pot P)						R
Hall Sensors, Output 0 to 5.0 V						K1
Hall Sensors, Output 0.5 to 4,5 V						K2
Hall Sensors, Output 0.25 to 4.75 V						K3

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

For example:

- Customer-specific cables

Mounting Options / Covers



Split Bezel, Option „1“

- Insert the joystick with bezel from beneath the panel
- Cover ring to be attached from above the panel (see scheme left)
- Cutout diameter required for mounting: 39,70 mm
- Mounting accessories included: Bezel, cover ring, 4 black screws 2-56x1/2in



Rubber Boot, Option „5“

- Insert the joystick with bezel from beneath the panel
- Cover ring to be attached from above the panel (see scheme left)
- Cutout diameter required for mounting: 39,70 mm
- Mounting accessories included: Bezel, cover ring, 4 black screws 2-56x1/2in



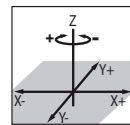
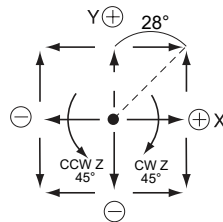
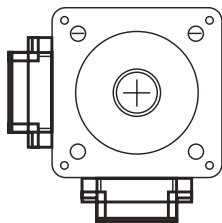
Square Bezel, Option „2“

- Insert the joystick with bezel from beneath the panel
- Cover ring to be attached from above the panel, screws fixed to joystick from beneath the panel
- Cutout diameter required for mounting: 30,20 mm
- Mounting accessories included: Bezel, cover ring, 4 black screws 2-56x1/2in

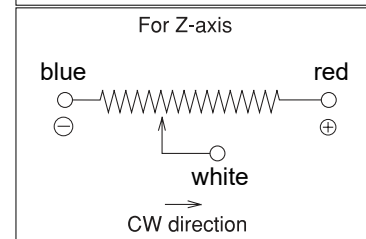
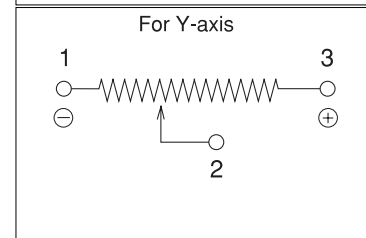
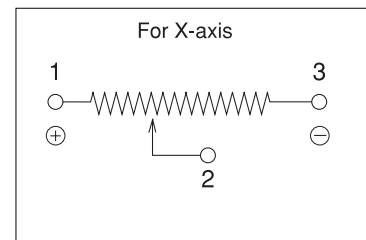


Relationship between axis orientation and pin assignment / electrical connection of the potentiometers

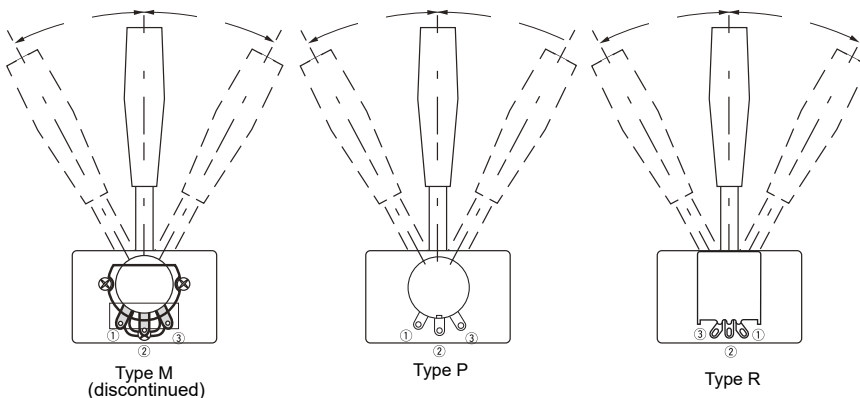
Definition of the coordinate system seen from above



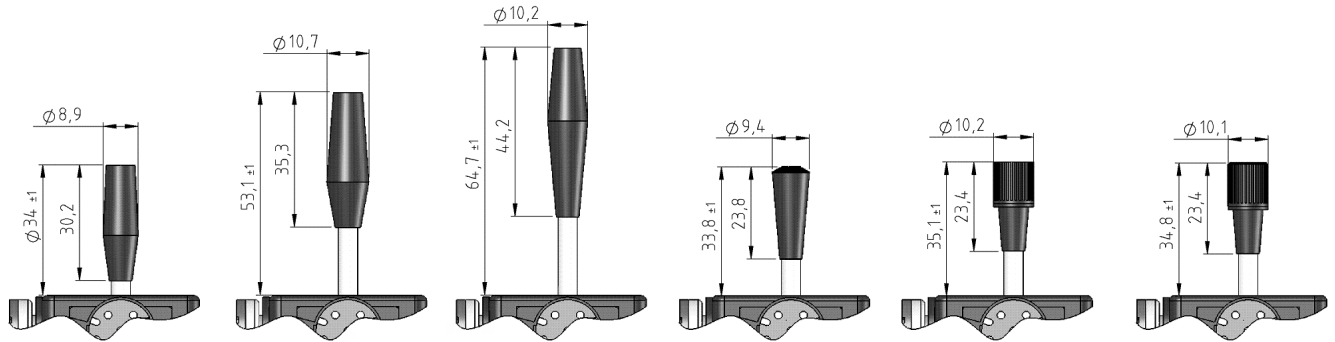
Signal connection and direction



Pin numbering/assignment of potentiometers when viewed from the side (Attention: the order for type R is reversed compared to P)



Handles



Handle „6“

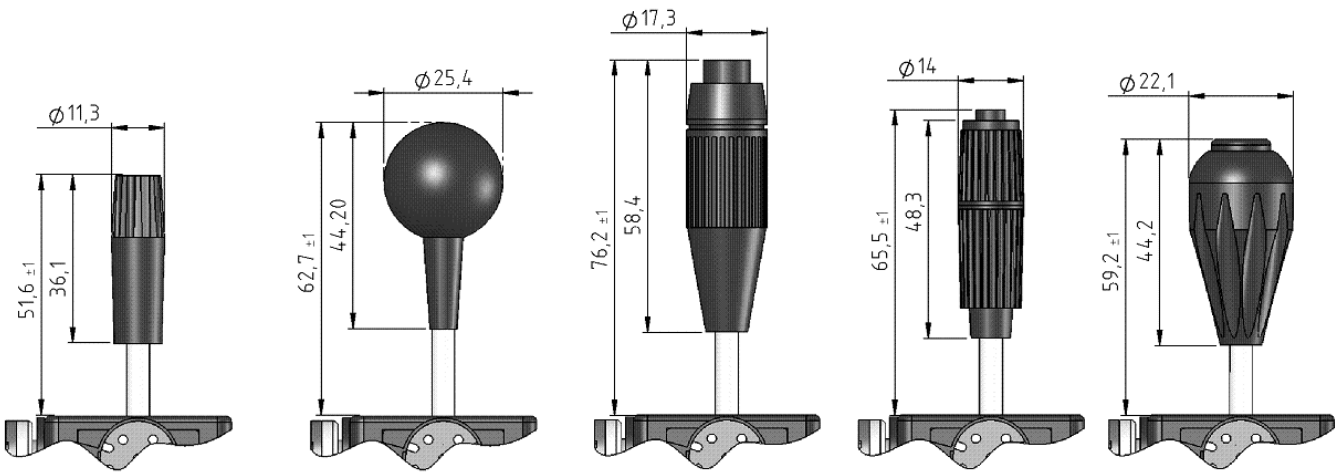
Handle „A“

Handle „B“

Handle „J“

Handle „K“

Handle „L“



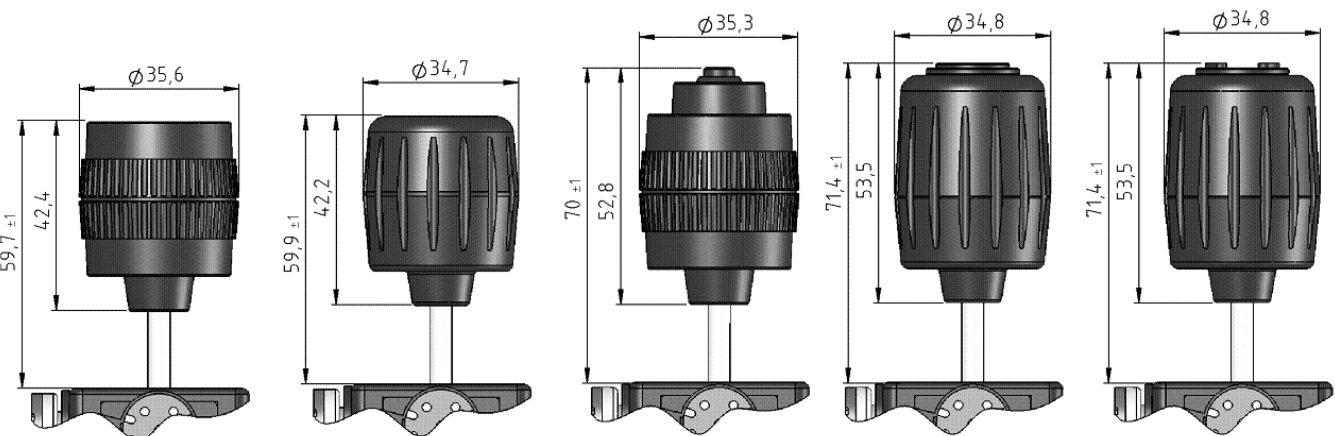
Handle „1“

Handle „3“

Handle „E“

Handle „G“

Handle „H“



Handle „7“

Handle „R“

Handle „9“

Handle „S“

Handle „T“

All Dimensions in mm

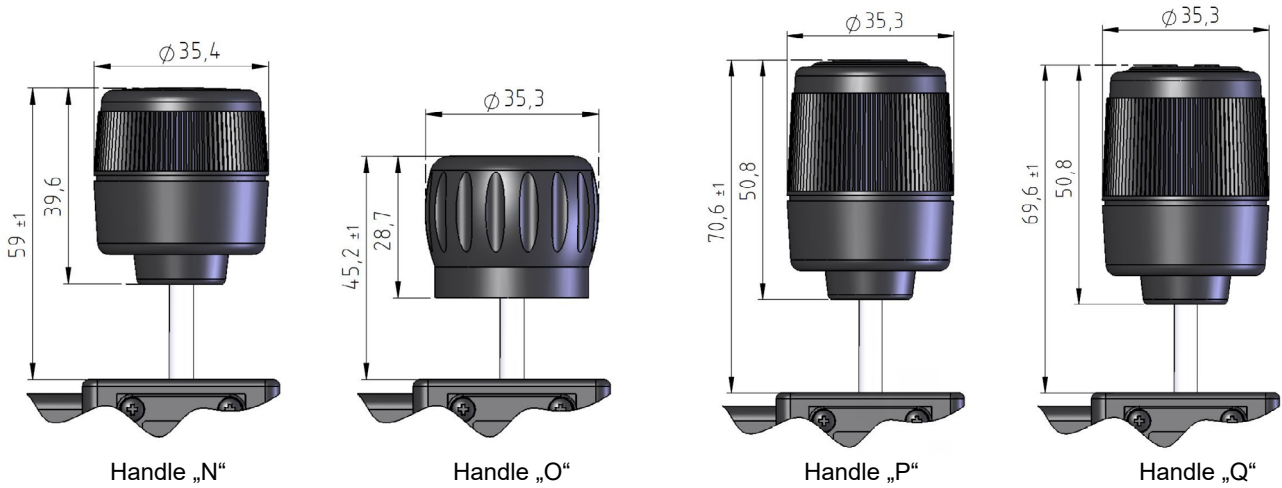
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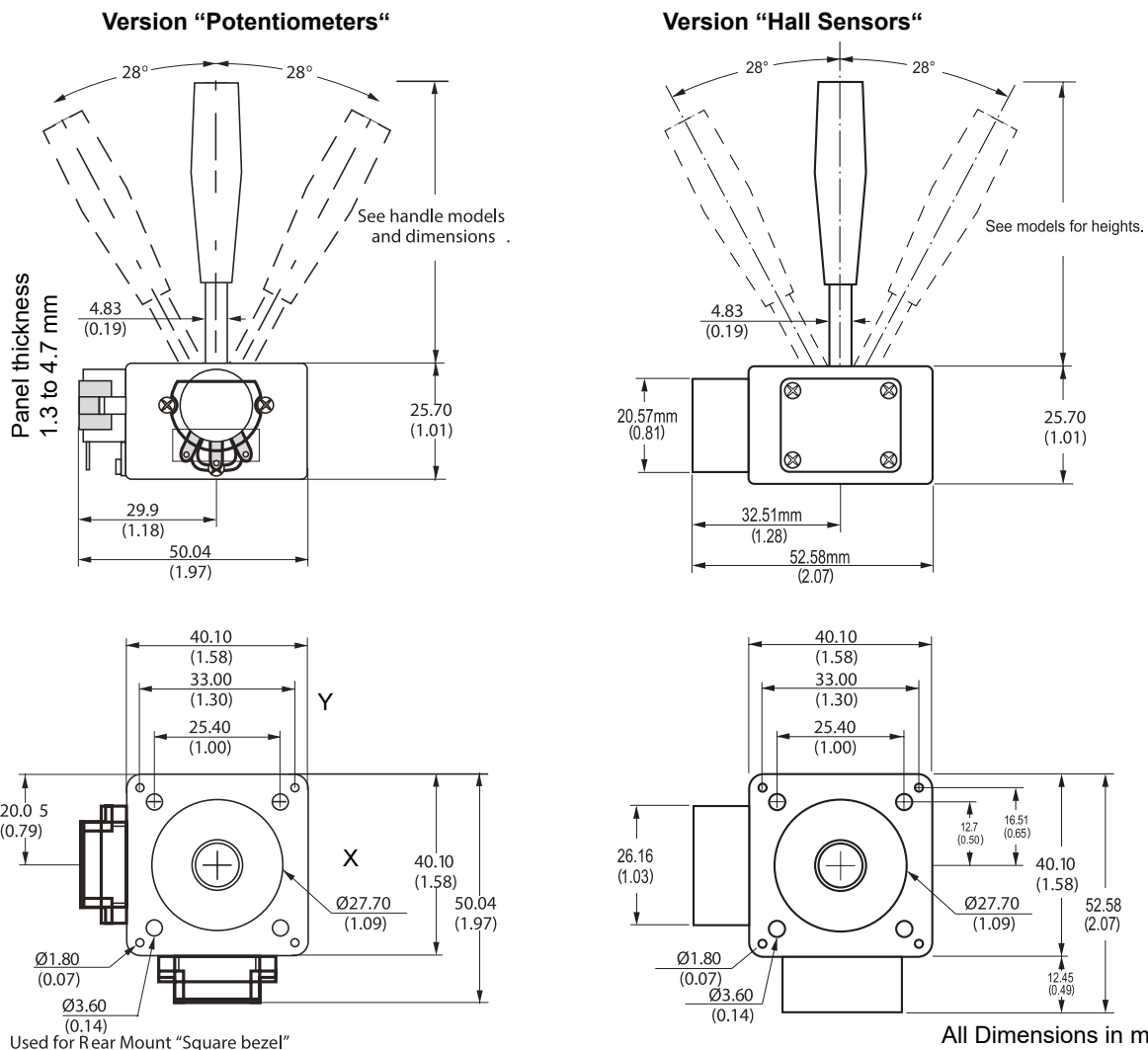
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Handles



All Dimensions in mm

Dimensions



All Dimensions in mm (inch)