Data Sheet for Joysticks

Finger Joystick — Series 812

- Available with Potentiometers or Hall sensors
- Several handle options
- Small size at low installation depth

The 812 series is available with several different handle options. These small joysticks are recommended for indoor tasks with one to three axes, and where space is limited.

Technical Data Joystick	
Angle of Movement X-, Y-Axis	56° (±28° from center)
Angle of Movement Z-Axis	90° (±45° from center)
Return to Center Tolerance	±2%
Panel Thickness	1,3..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 / 0,040 Nm / 0,049 Nm

Technical Data Hall Sensor	
Supply Voltage Vsupply	5 VDC ±10%
Output Voltage at center	Vsupply/2 ±5%
Output Voltages Hall Sensor	0..5 V / 0,5..4,5 V / 0,25..4,75 V
Independent Linearity Tolerance	± 2%
Power Consumption	< 11 mA (2 axes) / < 17 mA (3 axes)
Resolution	Infinite
Mechanical Life	1 Million cycles
Operating Temperature	-25°C..+70°C
Storage Temperature	-40°C..+70°C

Technical Data Potentiometer		Type P	Type M	Type R
Electrical Element		Conductive Plastic	Conductive Plastic	Conductive Plastic
Track Resistance	[kOhm]	5	5	5
Independent Linearity	[%FS]	±1	±5	±1
Operating Temperature	[°C]	-10..+85	-10..+85	-55..+125
Power Dissipation	[W]	0,25 @40°C	0,5 @70°C	1
Track Operating Angle	[°]	220 ±5	56 ±5	50
Bearing		Sleeve Bearing	Sleeve Bearing	Sleeve Bearing
Rotational Life	Million cycles	>1	>1	ca. 10
Wiper current in case of failure	[mA] @40°C/<1 min	≤1	≤1	≤1
Recomm. wiper current	[µA]	≤2	≤2	≤2
Max. Voltage	DC [V]	35	20	70

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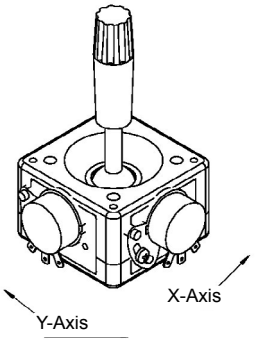
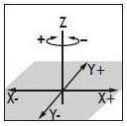
Technical Data Pushbuttons

	Voltage [VDC]	Current [mA]	Expected Life [number of actuations]	Color 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	Color
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

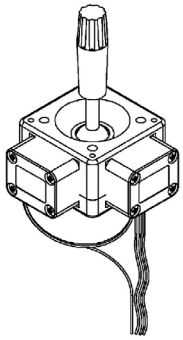


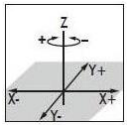


Wires AWG28, length ca. 290 mm, for
- Joysticks with three axes
- Joysticks with Pushbuttons
Potentiometers w/o wires

Wiring for Joysticks with Hall Sensors

Function	Color
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

Data Sheet for Joysticks

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Order Description / Options

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 6				**6**			
Handle 3				**3**			
Handle 7 with Z-Axis				**7**			
Handle 9 with Z-Axis and Pushbutton				**9**			
Handle B				B (*)			
Handle J				J (*)			
Handle L				L (*)			
Handle 1				1 (*)			
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**
Potentiometer M (X-, Y-Axis / Z-Axis Pot P)							M (*)
Hall Sensors, Output 0..5,0 V							K1 (*)
Hall Sensors, Output 0,5..4,5 V							K2 (*)
Hall Sensors, Output 0,25..4,75 V							K3 (*)

(*) upon request

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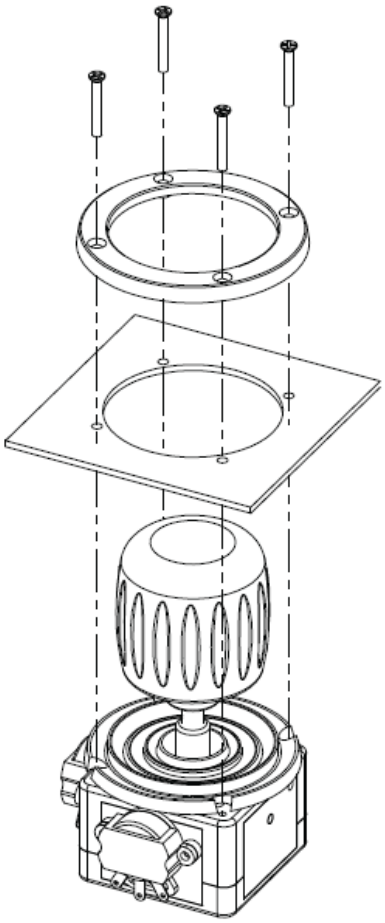
For higher quantities or on-going demand, additional options are available

For example:
- Redundant Output Signals (inverted or parallel), Mouse Emulation, Voltage Regulator
- Customer-specific cable

Mounting Options / Covers

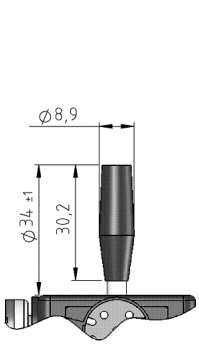


Split Bezel, Option „1“
- Insert the joystick with bezel from beneath the panel
- Cover ring to be attached from above the panel (see scheme left)
- Cutout diameter required for mounting: 39,70 mm
- Mounting accessories included: Bezel, cover ring, 4 black screws 2-56x1/2in

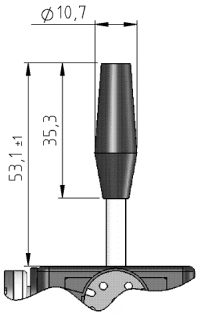
Rubber Boot, Option „5“
- Insert the joystick with bezel from beneath the panel
- Cover ring to be attached from above the panel (see scheme left)
- Cutout diameter required for mounting: 39,70 mm
- Mounting accessories included: Bezel, cover ring, 4 black screws 2-56x1/2in

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

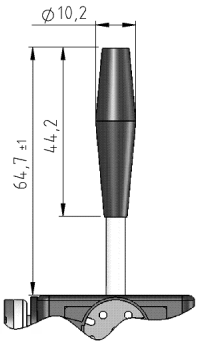
Handles



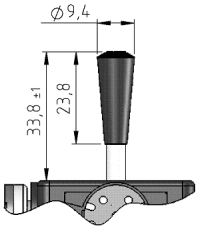
Handle „6“



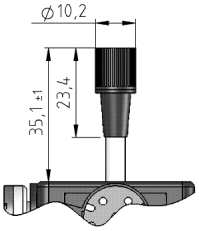
Handle „A“



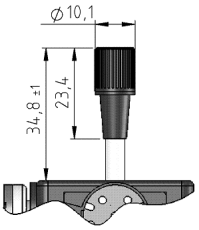
Handle „B“



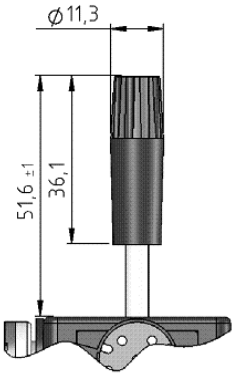
Handle „J“



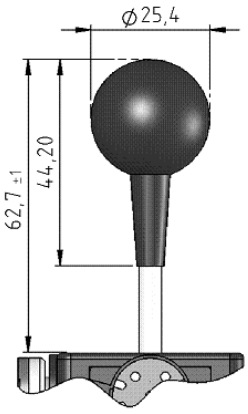
Handle „K“



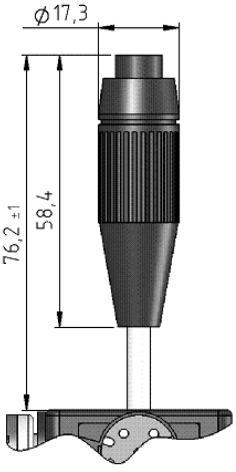
Handle „L“



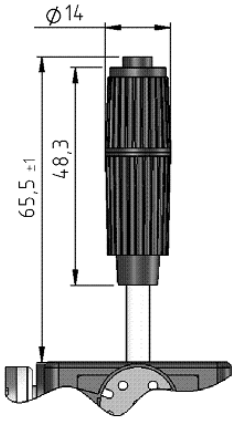
Handle „1“



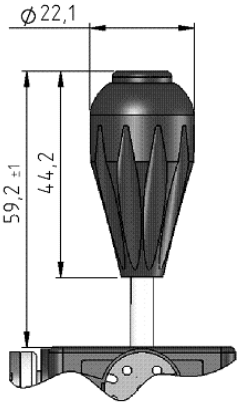
Handle „3“



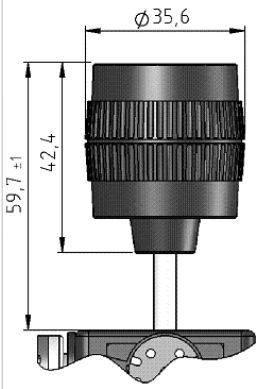
Handle „E“



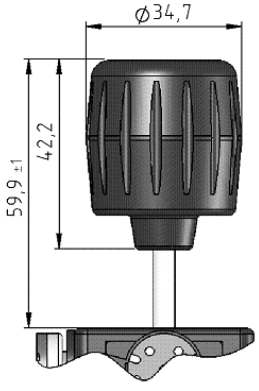
Handle „G“



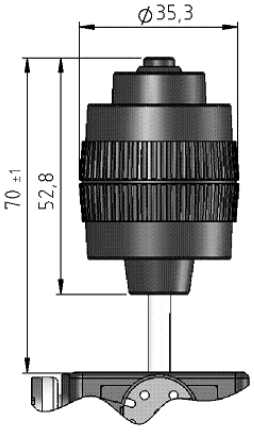
Handle „H“



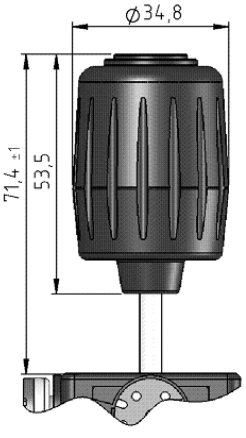
Handle „7“



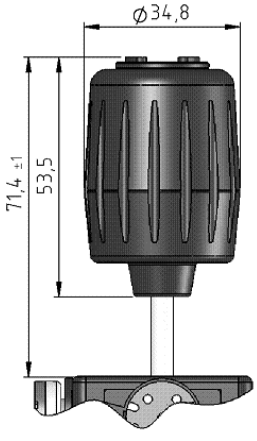
Handle „R“



Handle „9“



Handle „S“

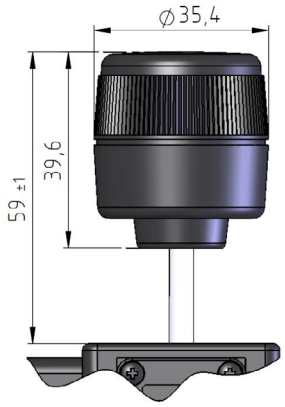


Handle „T“

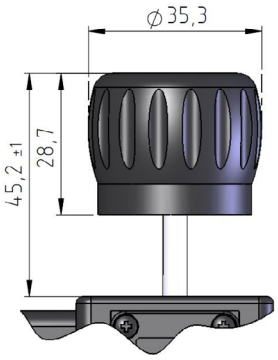
All Dimensions in mm

Finger Joystick — Series 812

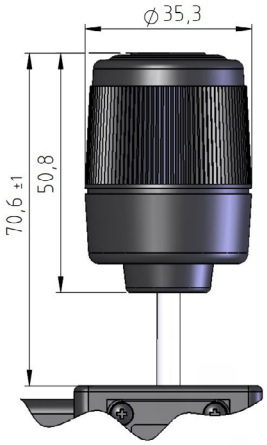
Handles



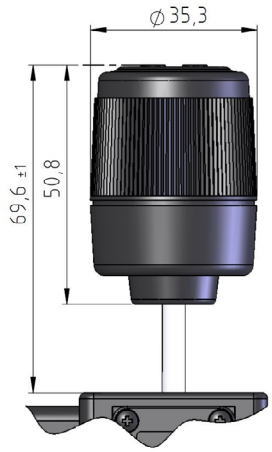
Handle „N“



Handle „O“



Handle „P“

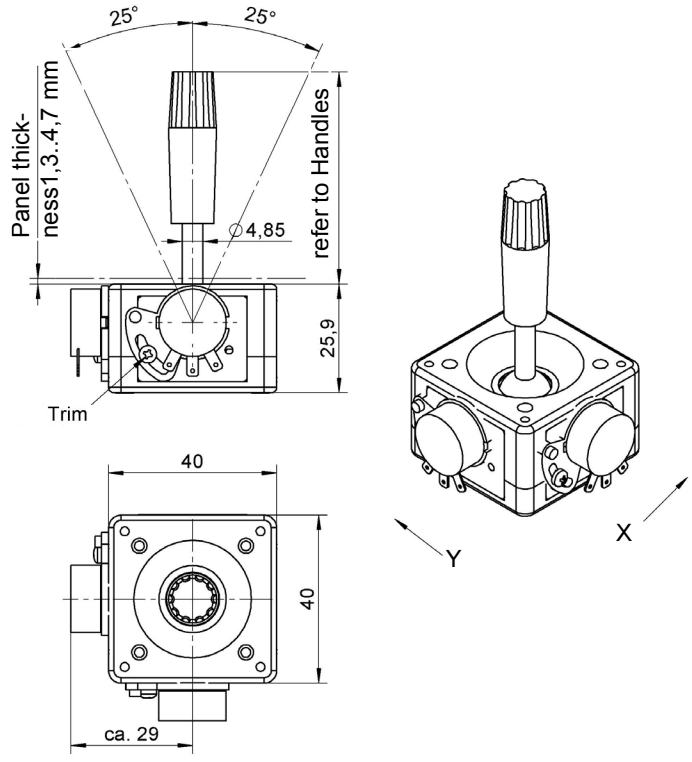


Handle „Q“

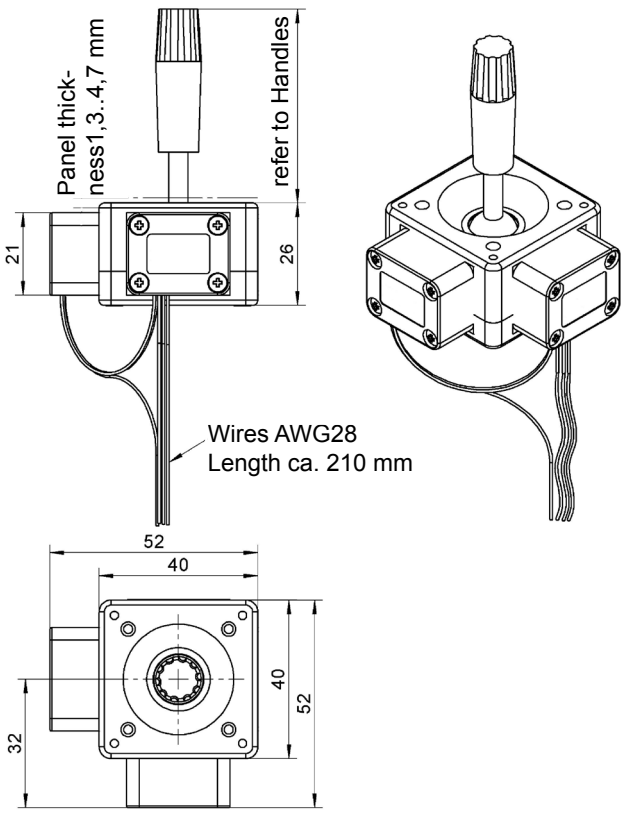
All Dimensions in mm

Dimensions

Version „Potentiometers“



Version „Hall Sensors“



All Dimensions in mm