

# Data Sheet for Joysticks

Hand Joystick

Series 870



- Medium-sized heavy duty hand joystick of the highest quality with stock grip handle
- Contactless sensor technology (Hall sensors)
- Handles available with button, rocker, or third axis (z rotation)
- Easy to install thanks to the 12-pin connector in the housing

In terms of quality, the 870 series reaches a top level in the field of mechanics and electronics. Especially in demanding applications such as mobile and special machinery, input devices are exposed to vibrations and other harsh environmental conditions. This is where the 870 joysticks really come into their own. The pot shape with the connector in the housing also makes installation easier.

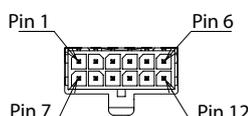
## Technical Data

Sensor	Hall Effect
Supply Voltage	5 VDC ±0.5 VDC transient free
Output Voltage	0.5 V up to 4.5 V (dual output available)
Independent Linearity Tolerance	±3% full scale
Load Resistance	> 10 kOhm
Insulation Resistance	Over 1000 MOhm at 500 VDC
Dielectric Strength	1 minute at 500 VAC
EMC Durability	100 V/m (80 MHz ~ 1 GHz, 1 kHz sine-wave 80% AM modulation)
ESD Durability	±8 kV contact / ±15 kV air (IEC 61000-4-2)
Expected Life	More than 5 million cycles
IP protection (above panel)*	up to IP65
Mechanical Angle of Movement	±20° (±2.5°) from center
Operating Force	3 N up to 4.5 N
Operating Temperature	-20 °C up to +60 °C
Mass*	approx. 300 g
Shock resistance:	294 m/s <sup>2</sup>

\*depends on configuration

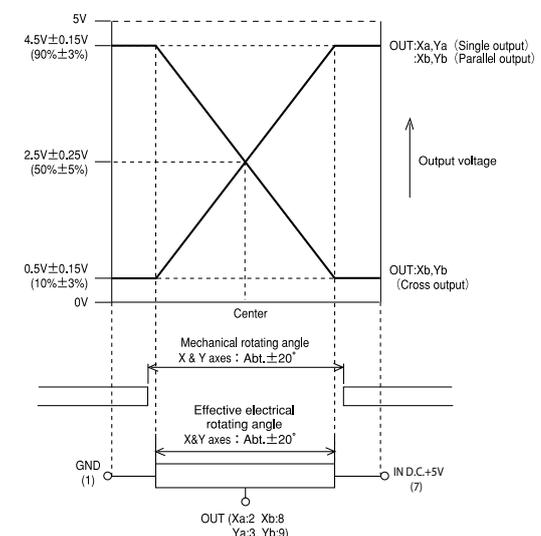
## Connectors

Function	Pin
Ground	1
Signal x axis	2
Signal y axis	3
Signal z axis	4
Pushbutton, rocker pos. 1	5
Rocker pos. 2	6
Supply voltage	7
Signal x axis dual output	8
Signal y axis dual output	9
Signal z axis dual output	10
not used	11
COM	12



Connection via 12-pin connector (Tyco 4-794678-2). Please contact us for customized connection cables and connectors.

## Output Characteristics



NOTE 1 : The number in ( ) shows connector number

Lever operation toward ⊕ each-axis

# Data Sheet for Joysticks

Hand Joystick

Series 870

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

## Order Code

<b>Series</b>	870						
<b>Axes / Functions:</b>							
2 Axes		2					
2 Axes with pushbutton		3					
2 Axes with rocker switch		4					
3 Axes		6					
<b>Sealing:</b>							
Rubber boot			5				
<b>Return Mechanism:</b>							
Spring return				1			
<b>Handles:</b>							
Stock Grip "1", for 2 axes, no pushbutton, IP65					1		
Stock Grip "2", for 2 axes, 1 pushbutton, IP54*					2		
Stock Grip "6", for 2 axes, 1 pushbutton, IP54*					6		
Stock Grip "A", for 2 axes, with rocker switch, IP54*					A		
Stock Grip "8", for 3 axes, with z-axis, IP54*					8		
<b>Limiter:</b>							
Square						Q	
<b>Output Signal:</b>							
0,5..4,5 V, single output							2
0,5..4,5 V, dual output parallel							P
0,5..4,5 V, dual output inverse							X

\*Higher IP protection (better sealing) available as custom version. Please contact us.

## Limiters



Square - Option "Q"

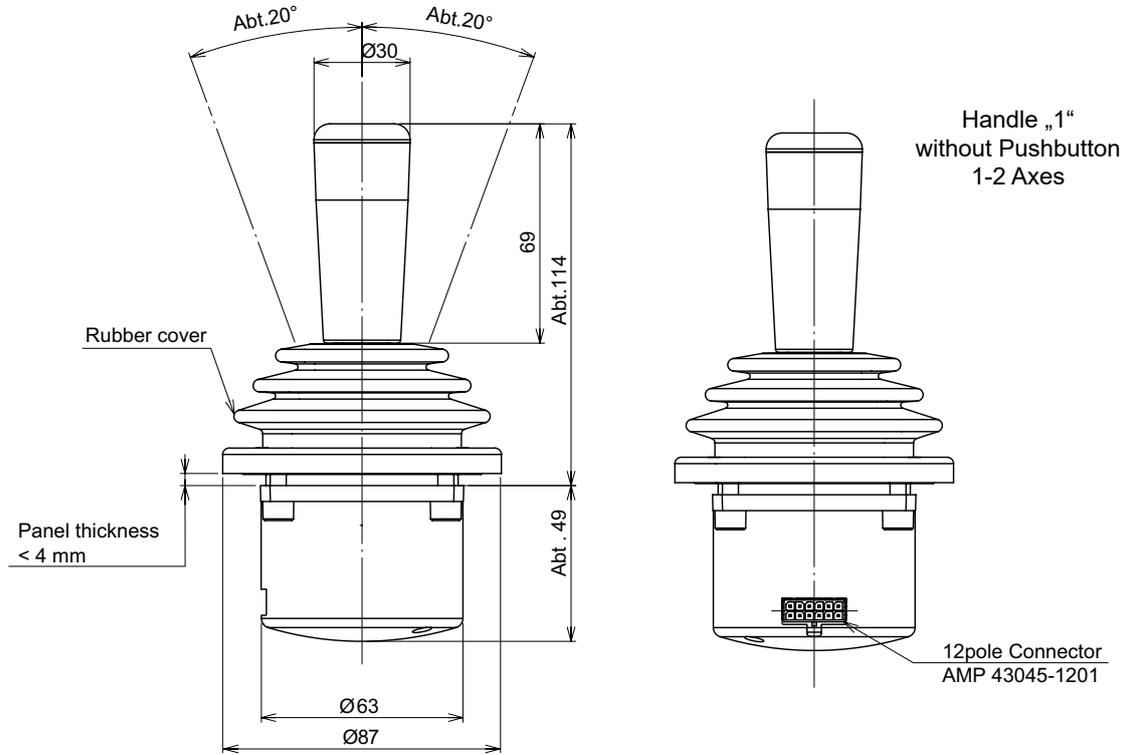
# Data Sheet for Joysticks



Hand Joystick

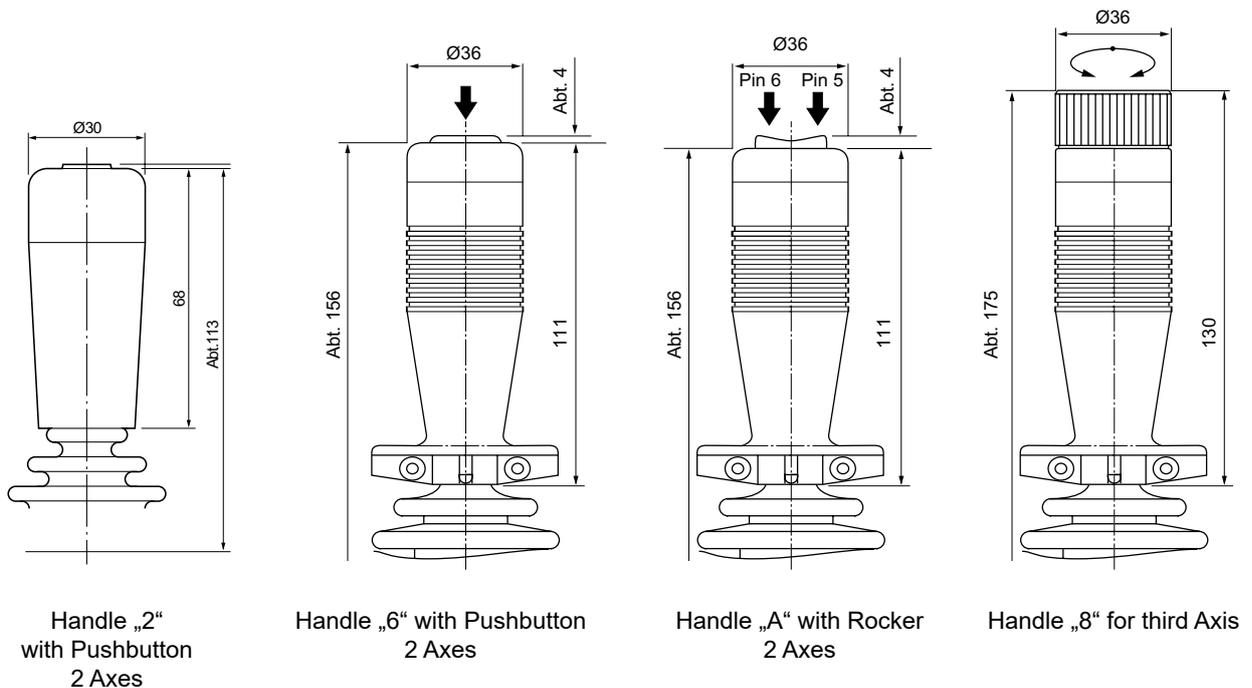
Series 870

## Drawing



All dimensions in mm.

## Drawing Handles



# Data Sheet for Joysticks



Hand Joystick

Series 870

## Panel Cut-Outs

Drop-In Installation

