

THUMB JOYSTICK MJ-T10

The MJ-T10 is one of the smallest 2-axis, redundant industrial joysticks in Hall technology.

Different limiters are available.

Its dimensions: total length approx. 25 mm, diameter approx. 18 mm, installation depth approx. 13 mm

Advantages

- Extremely small joystick
- Contactless Hall technology
- Redundant output signal

Application examples

- Control element in hand joysticks
- Control element in armrests
- Radio remote controls
- Off-highway vehicles



Electrical data

Sensor technology	Hall-effect
Supply voltage	3.3 to 5 VDC
Tolerance center position	±5 % FSO
Interface	0.5 – 4.5 V ratiometric at 5 VDC Redundant or reverse redundant SPI PWM
Resolution	12 bit
Supply current	Typ. 8 mA, max. 16 mA

Electrical connection

Cable, approx. 200 mm
Others on request

Environmental data

Operating temperature	-20° C up to +85° C
Storage temperature	-40° C up to +85° C
Protection level acc. to IEC 60529	IP 67 above sealing
EMC Immunity acc. to	EN IEC 61000-6-2
EMC Emission acc. to	EN IEC 61000-6-4

Mechanical data

Number of axes	1 or 2
Dimensions	See drawings
Weight	15 g
Operating force	1.5 N ± 0.5 N
Max. vertical load	< 100 N
Max. tilt load	< 70 N
Deflection angle	± 22.5°
Centering	Single spring
Mounting	M12 with lock nut Screwed from below
Mechanical option	Spring return to center
Limiter	Round Round, soft guided feel Cross gate Single axis in X or Y
Lifetime	5 million cycles

Material

Housing	Stainless steel
Rubber boot	Neoprene Silicone on request

Handle design

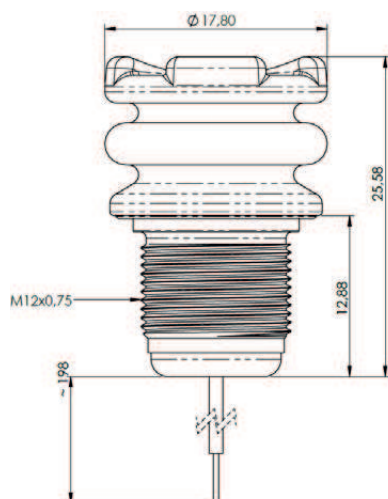
Rubber boot/handle	See drawings
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Handle function

None

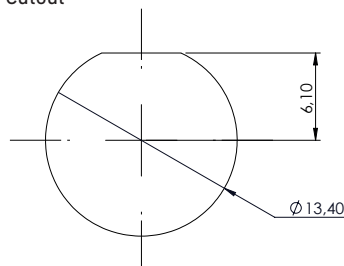
THUMB JOYSTICK MJ-T10

Drawings



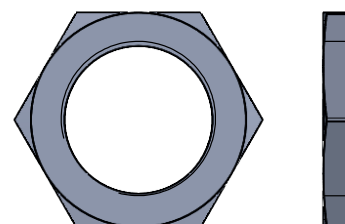
Mounting

Cutout



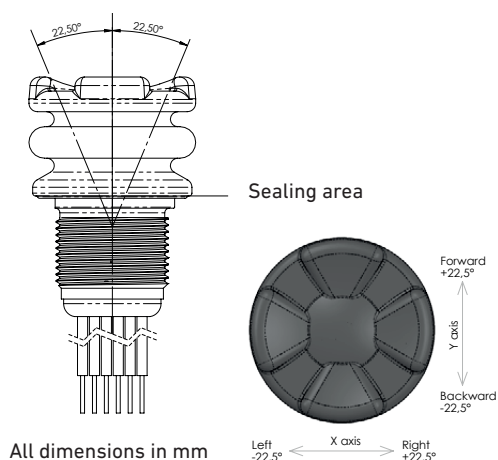
The mounting plate must not be thinner than 1.5 mm.

Fixing nut (included)

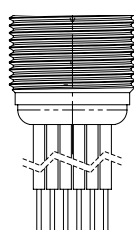


M12 x 0,75 SW 16
Thickness 2.15 mm

Deflection

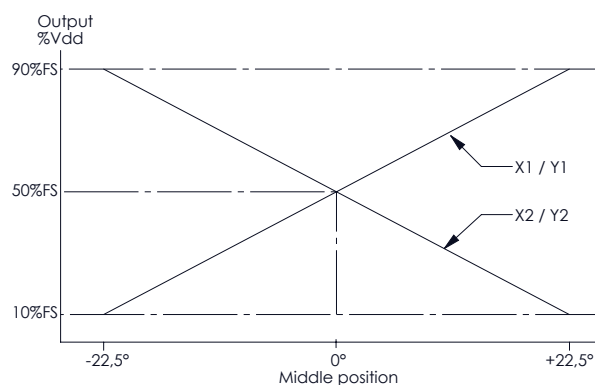


Electrical connection

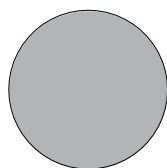


Out Y1	yellow
Out Y2	brown
Out X1	blue
Out X2	white
+V	red
GND	black

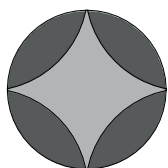
Output signal



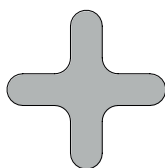
Limiter



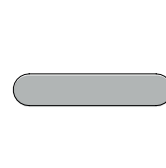
Round



Round, soft guided feel



Cross gate



Single axis,
Y locked, X active



Single axis,
X locked, Y active

Metallux cannot picture the customer's operating and application conditions and the customer's existing environmental influences. We therefore recommend that you carry out your own investigations into the planned use of the products under the actual operating conditions.

We continuously improve our products and also update our data sheets regularly. In this respect, there may be changes in the specification. These changes will apply to orders received by us from the time of the update, unless otherwise agreed.

Our products comply with Directive 2011/65/EU (RoHS) including Directive 2015/863/EU and Regulation (EC) No. 1907/2006 (REACH).

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Product Codes for orders

	X-axis	Y-axis	Z-axis	
	X	Y	Z	
Sensor technology				
0 None	0	0		
H Hall	H	H		
Interface				
00 None	00	00		
16 Hall ratiometric 0.5–4.5 V	16	16		
17 Hall ratiometric 0.5–4.5 V, redundant	17	17		
18 Hall ratiometric 0.5–4.5 V, reverse redundant	18	18		
19 SPI	19	19		
24 PWM	24	24		
99 Custom	99	99		
Mechanical Option				
A00 None	A00	A00		
A01 Spring return to center	A01	A01		
A99 Custom	A99	A99		
Limiter				
B00 None			B00	
B03 Round			B03	
B04 Round, soft guided feel			B04	
B05 Cross gate			B05	
B07 Single axis, Y locked, X active			B07	
B08 Single axis, X locked, Y active			B08	
B99 Custom			B99	
Electrical connection				
C00 None			C00	
C03 Cable			C03	
C99 Custom			C99	
Handle design				
D00 No handle, only base			D00	
D01 MJ-T10 shape A			D01	
D99 Custom			D99	
Handle function				
E00 None				E00
E99 Custom				E99

Explanation of Product Codes

Each product code begins with the model name.

After that, for each axis, the sensor technology, the interface, and the mechanical option are specified.

This is followed by the limiter, the electrical connection, the handle design, and the handle function.

Example for the Product Code of a typical MJ-T10: MJ-T10_XH16_A01_YH16_A01_Z000_A00_B04_C03_D01_E00

XH16_A01: X-axis Hall ratiometric, spring return to center

YH16_A01: Y-axis Hall ratiometric, spring return to center

Z000_A00: No Z-axis

B04_C03_D01_E00: Round limiter, soft guided feel, Cable, MJ-T10 shape A, no handle function