

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 emission, EMC immunity	On request
ESD acc. to	IEC EN 61000-4-2

Mechanical data

Number of axes	1 or 2
Dimensions	See drawings
Weight	15 g
Operating force	1.5 N ± 0.5 N
Max. vertical force	< 100 N
Max. horizontal force	< 70 N
Deflection angle	± 22.5°
Center position	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

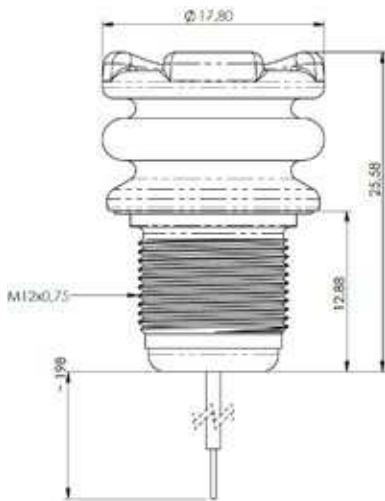
Rubber boot/handle	See drawings
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Handle function

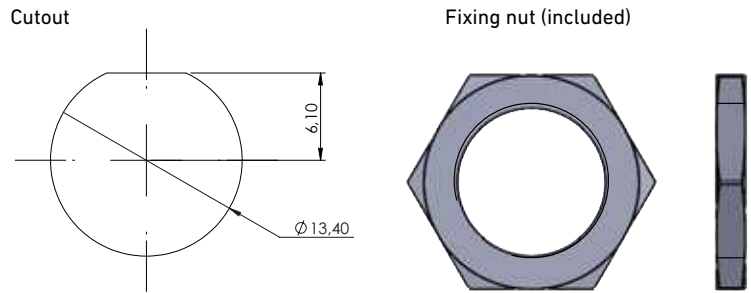
None

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Drawings



Mounting



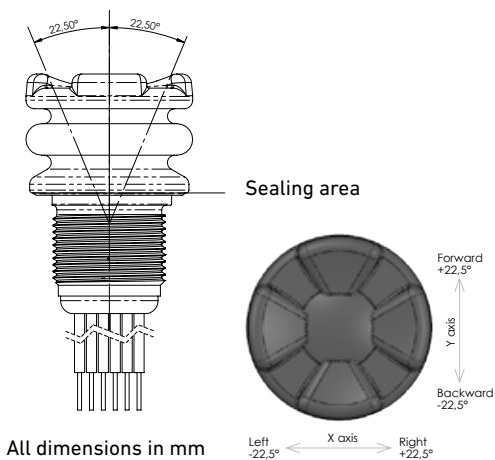
The mounting plate must not be thinner than 1.5 mm.

M12 x 0,75 SW 16
Thickness 2.15 mm

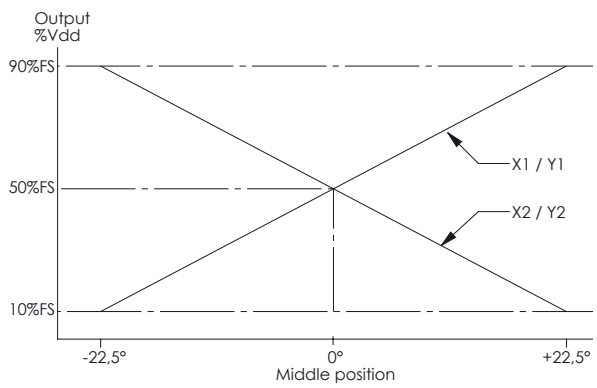
Deflection

Electrical connection

Output signal

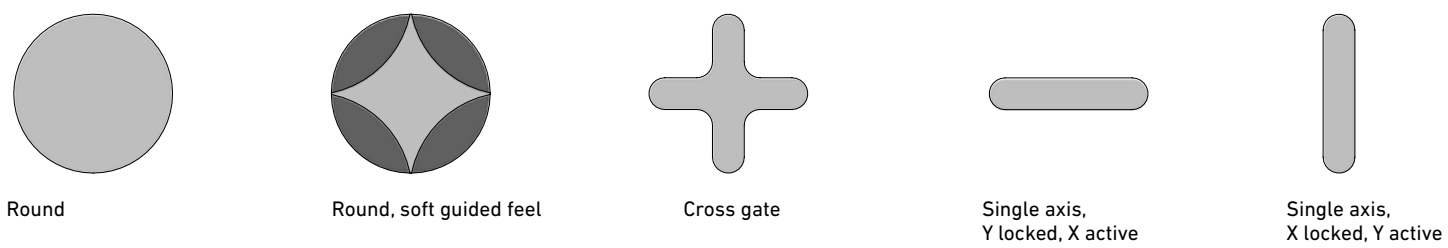


Out Y1	yellow
Out Y2	brown
Out X1	blue
Out X2	white
+V	red
GND	black



All dimensions in mm

Limiter



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).

THUMB JOYSTICK MJ-T10

Product Codes for orders									
	X-axis			Y-axis			Z-axis		
	X			Y			Z0	00	A00
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