

1-, 2- AND 3-AXIS INDUSTRIAL JOYSTICKS MJ-3K MTP



A sealed sensor is the distinguishing feature of the MetaPot technology. This technology is also used in the 1-, 2- and 3-axis versions of the Metallux MJ-3K joystick series. Analogue output signals and galvanically isolated direction contacts provide reliable manoeuvring of boats and construction equipment. Salty sea air does not influence the function of the joysticks. The third axis is realised by a compact, sealed conductive-plastic potentiometer.

FEATURES

- Long service life
- Robust design
- Compact
- MetaPot foil sensor technology
- EMC-safe

APPLICATIONS

- Aerial work platforms
- Wireless remote controls
- Forklift trucks
- Hydraulics
- Marine



ELECTRICAL SPECIFICATIONS

Resistance value	2,5 kΩ *
Resistance tolerance	± 20%
Deflection angle, el.	> ± 26° *
Independent linearity	± 3%
Load capacity/axis	0,2 W at 40°
Operating voltage (VCC)	Max. 30 VDC
Contact current	< 10 μA
Max. contact current	1 mA in case of malfunction
Insulation resistance	1 GΩ at 500 VDC
Dielectric strength	2000 V
Output signal	7.5% / 92.5 % of VCC (± 2.5%) *

MECHANICAL SPECIFICATIONS

Service life	5 million cycles *
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Specifications are subject to change without notice.
* Other values on request.

Deflection angle (mech.)	< ± 26°
Operating force	5 N typically *
Gate shape	Square*, soft cross guide
Wiper zero position	± 1°
Impact strength	100 N
User control	Handle with Gaiter

AMBIENT CONDITIONS

Storage temperature	− 25°C ... +70°C
Operating temperature	− 25°C ... +70°C
Protection class	IP 65

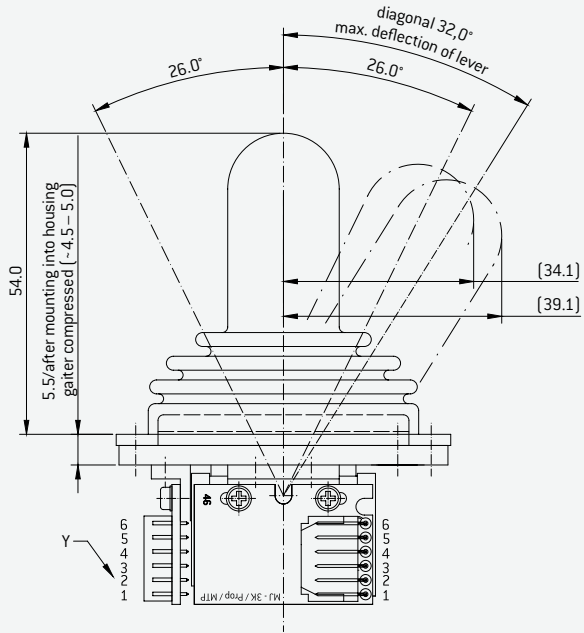
MATERIALS

Base	Aluminium
Bearing	Stainless steel/plastic
Electrical connection	6-pin Dubox plug
Mounting	Screws M3

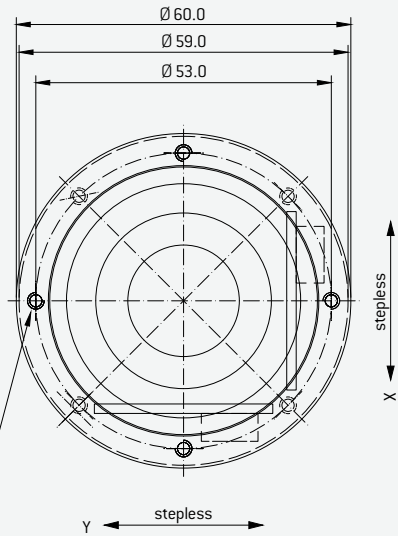
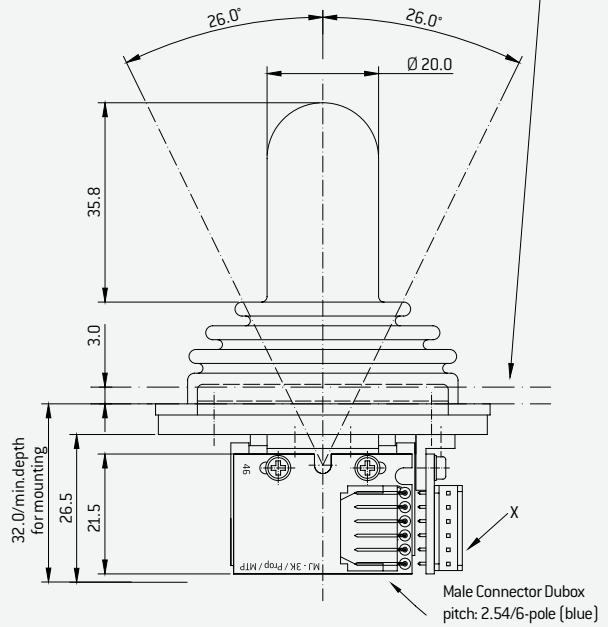
MJ-3K MTP ANALOGUE

Type Item number	MJ-3K 55 MTP x: 0 y: 2K5 1-0-1 Dubox 6-pin E060200xxx (1-axis)	Type Item number	MJ-3K MTP xyz: 2.5k 1-0-1 Dubox 6-pin E060200401 (3-axis)
Type Item number	MJ-3K 55 MTP xy: 2K5 1-0-1 Dubox 6-pin E060200012 (2-axis)	Type Item number	MJ-3K 55 MTP xy: 2.5k 1-0-1 DS Dubox 6-pin xxxxxxxxxxx (2-axis)
Type Item number	MJ-3K 65 MTP x:0 y: 2.5k 1-0-1 Dubox 6-pin E060200xxx (1-axis)	Type Item number	Dubox 6-pin LiYv 0.14mm ² 500mm Z301000500
Type Item number	MJ-3K 65 MTP xy: 2K5 1-0-1 Dubox 6-pin E060200491 (2-axis)		

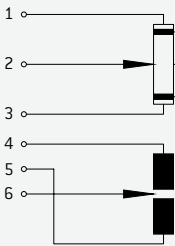
DRAWINGS FOR MJ-3K MTP 55



Assembly into Housing from Inside / Screw Head outside of housing
If thickness of mounting panel is 3mm: Use Screw M3x10mm / Center Hole D=49,0

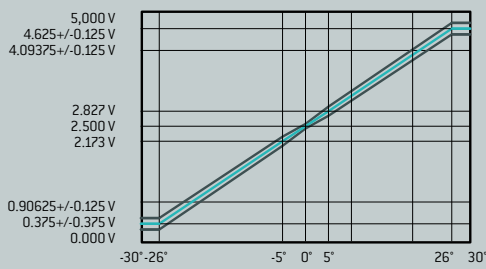


CONNECTOR PIN ASSIGNMENT / DIAGRAM

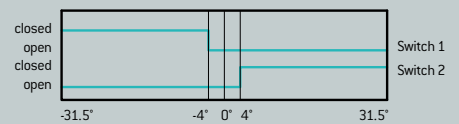


Connect. Resistance 2.5 kOhm ± 20%
Analogue band 7.5% - 92.5% Utotal ± 3%
Medium Voltage 50% Utotal ± 2.5%
Linearity = ± 3%
Contact Resistance Switch < 1kOhm
Life CP/PCB > 5 Mio Cycles

OUTPUT CHARACTERISTIC POTENTIOMETER



OUTPUT CHARACTERISTIC

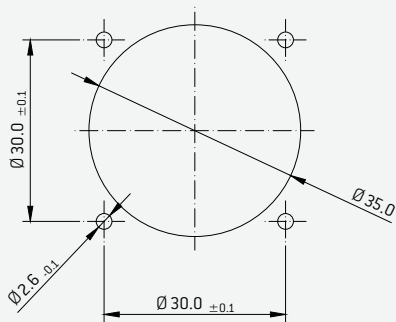


MOUNTING HOLES FOR MJ-2K AND MJ-3K



Mounting, Technology and Options

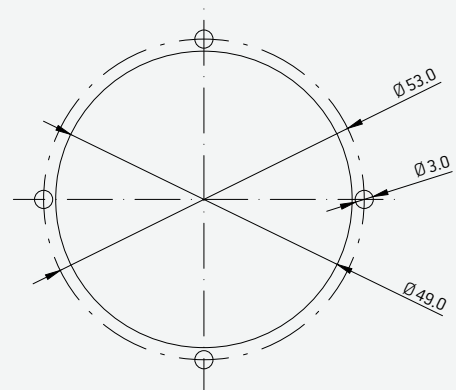
MOUNTING HOLE MJ-2K OM



Dimension Tolerance
DIN ISO 2768-m

If thickness of mounting panel/housing is 3mm thickness, following screw is to be used: Mounting Screw Type for example: M2,5x16 DIN7985 (4x) /H/Z/TX
Material: Steel galvanized/A2 (stainless). Length of screw has to be changed accordingly to mounting panel/housing thickness, to avoid damages to the gaiter!

MOUNTING HOLE MJ-3K



Dimension Tolerance
DIN ISO 2768-m

If thickness of mounting panel/housing is 3mm thickness, following screw is to be used: Mounting Screw Type for example: M3x10 DIN7985 (4x) /H/Z/TX
Material: Steel galvanized/A2 (stainless). Length of screw has to be changed accordingly to mounting panel/housing thickness.

KEY TECHNOLOGY / OPTIONS	SHORT FORM
Technology	
Conductive plastic	CP
Membrane sensor	MTP
Hall-Effect	Hall
Options	
Square platform	MJ-2K
Circular platform	MJ-3K
Grip height 55 (only MJ-3K)	55
Grip height 65 (only MJ-3K)	65
Center tap	MC
Dead man switch outside	DS series IB
Dead man switch (microswitch-inside)	DS
Cross gate	CG
Gaiter assembled from "outside" with respective mounting ring; IP 66	OM
Brake stepless – Put and Stay	BRS
Brake respective step – max. 2-0-2	BR 2-0-2
Circular deflection: 19,5°	3C
Soft control	SC
No guiding	NG