

LINEAR 1-AXIS INDUSTRIAL JOYSTICK MJ-1L



The linear joystick of the MJ-1L type series is the robust light-weight of the MJ-xx joystick series. One of its feature characteristics is space-saving in the customer's housing. The installation space and extra functions, combined with a compact housing are excellent arguments to choose the MJ-1L. Less weight, easier controls of operations are huge advantages for end users. The robust design (also available with additional protective cover) guarantees a long service life.

CHARACTERISTICS

- Ultra light
- Robust design
- Compact
- Minimal installation dimensions
- Long service life
- Conductive plastic technology

APPLICATIONS

- Aerial work platforms
- Radio remote controls
- Forklift trucks
- Mobile hydraulics
- Steering of boats

OPTION

- Protective cover



ELECTRICAL SPECIFICATIONS

| | |
|---------------------------------|---|
| Resistance value | 5 kohm $\pm 20\%$ (2 x 2.5 K $\pm 20\%$) |
| Linearity | $\pm 2\%$ |
| Deflection angle, el. | $> \pm 28^\circ$ * |
| Load capacity/axis | 0.2 W at 40° C |
| Operating voltage (VCC) | Max. 30 VDC |
| Contact current | $< 10 \mu\text{A}$ |
| Max. contact current | 3 mA (typ.: 1 mA; in case of malfunction: max. 5 mA) |
| Contact resistance (CRV) | $< 400 \text{ ohm}$ (switch level) |
| Insulation resistance | 1 G Ω at 500 V |
| Dielectric strength | 2,000 V |
| Output signal | 10 – 90 % ($\pm 1\%$) of VCC 0 – 100 % ($\pm 1\%$) of VCC 2 x 2.5 k 10 – 90 % reverse redundant |
| Neutral position | $\pm 2.5\%$ (50% $\pm 0.5\%$ of VCC measured load-free) |

MECHANICAL SPECIFICATIONS

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|---------------------|------------------|
| Service life | 5 million cycles |
|---------------------|------------------|

| | |
|--------------------------------|-----------------|
| Deflection angle, mech. | $\pm 30^\circ$ |
| Operating force | 4 N typically * |
| Impact strength | Max. 180 N |
| Weight | About 35 g |

AMBIENT CONDITIONS

| | |
|------------------------------|-----------------|
| Storage temperature | -40° C – +85° C |
| Operating temperature | -25° C – +70° C |
| Protection class | IP 66 |

MATERIALS

| | |
|------------------------------|-------------|
| Base | Plastics |
| Bearing | Plastics |
| Electrical connection | 7-pin Molex |

DEFINITIONS

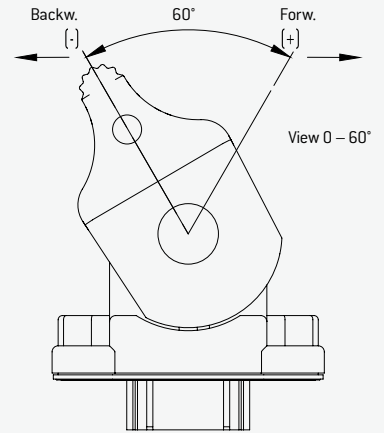
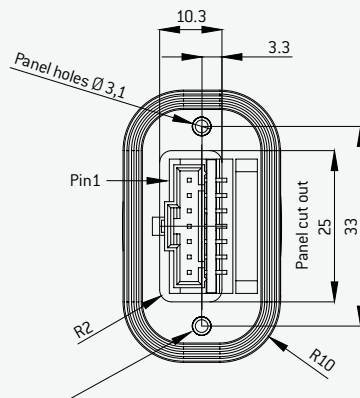
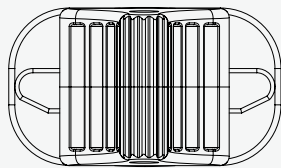
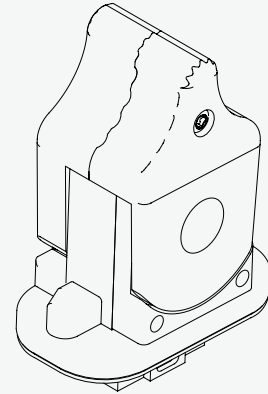
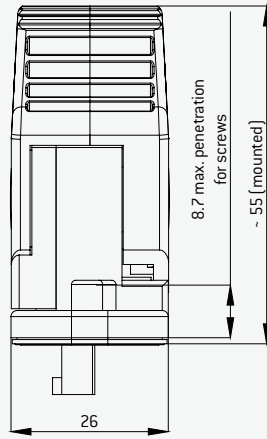
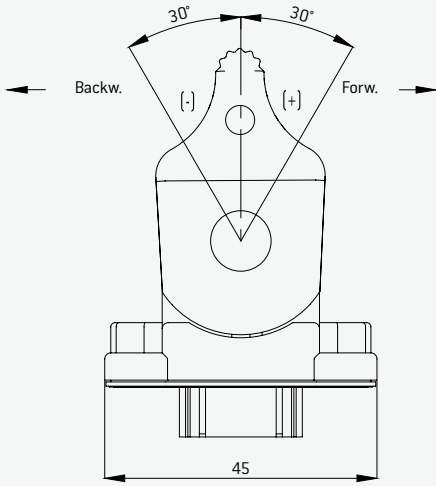
| | |
|----------------|---|
| BRS-0 | Stepless brake, detent in the zero position |
| BRS | Stepless brake |
| 0 – 60° | -30° = zero position |

Specifications are subject to change without notice. | * Other values on request.

MJ-1L

| | | | |
|------------------|--|-------------|--|
| Type | MJ-1L 5K MC 1-0-1 10 – 90 % Molex 7-pin | Type | MJ-1L BRS-0 5k MC 1-0-1 0 – 100 % Molex 7-pin |
| Item number | E060200030 (1-axis) | Item number | E060201130 (1-axis) |
| Type | MJ-1L 5K MC 1-0-1 0 – 100 % Molex 7-pin | Type | MJ-1L BRS 5K MC 1-0-1 10 – 90 % Molex 7-pin |
| Item number | E060200130 (1-axis) | Item number | E060202030 (1-axis) |
| Type | MJ-1L 2x2.5K 10 – 90 % reverse redundant Molex 7-pin | Type | MJ-1L BRS 5K MC 1-0-1 0 – 100 % Molex 7-pin |
| Item number | E060200231 (1-axis) | Item number | E060202130 (1-axis) |
| Type | MJ-1L BRS-0 5K MC 1-0-1 10 – 90 % Molex 7-pin | Type | MJ-1L 0 – 60° 2x2.5K 10 – 90 % reverse redundant Molex 7-pin |
| Item number | E060201030 (1-axis) | Item number | E060203231 (1-axis) |
| Connection cable | Molex 7-pin LiYv 0.14mm ² 500mm | Item number | Z301000507 |

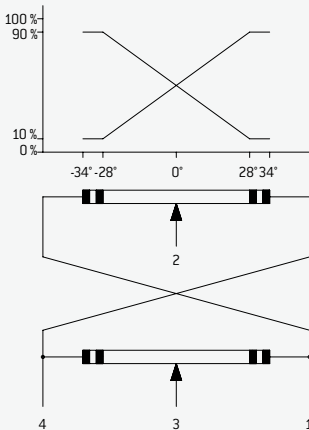
DRAWINGS FOR MJ-1L



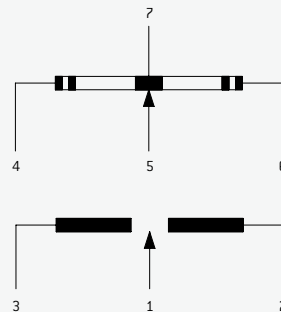
Mounting: 2 x screws for plastic
K30x_Z1 A2 [supplied]
Drive mode: PH1/Z1 ~0.7 Nm
Plate thickness up to 3.50 mm: K30 x 10
Z408000031
Plate thickness from 4.0 – 6.0 mm: K30 x 12
Z408000018

Connector:
Male header Molex 70553-0111
Connector latching: 7 pol. Molex
Cable 500 mm ws/white LiYv 0.14 mm² VDE0812
[order separately: Z30100050?]

CONNECTOR PIN ASSIGNMENT/DIAGRAM



Potentiometer:
Resistance value: 2.5 kOhm ± 20 %
Output signal reverse redundant
10 – 90 % of supplied voltage
Pin 1: Voltage supply
Pin 2: Output voltage signal
Pin 3: Output voltage signal
Pin 4: Voltage supply



Potentiometer:
Resistance value: 5 kOhm ± 20 %
Output signal:
10 – 90 % ± 1 % of supplied voltage

Pin 1: Common terminal-switches
Pin 2: N/O switch lever forward (+)
Pin 3: N/O switch lever backward (-)
Pin 4: Negat. or zero volt. supply
Pin 5: Output voltage signal
Pin 6: Positive voltage supply
Pin 7: Center tap

ACCESSORIES

| | | | |
|-------------|---|-------------|--|
| Type | Neoprene protective cover MJ-1L | Type | Locking connector, 7-pin Molex |
| Item number | Z405000018 (not applicable for BRS/BRS-0/0 – 60°) | Item number | 500mm, white LiYv 0.14mm ² VDE 0812 |
| Type | Neoprene protective cover MJ-1L SC (Soft Control) | | Z30100050? |
| Item number | Z405000023 (not applicable for BRS/BRS-0/0 – 60°) | | |