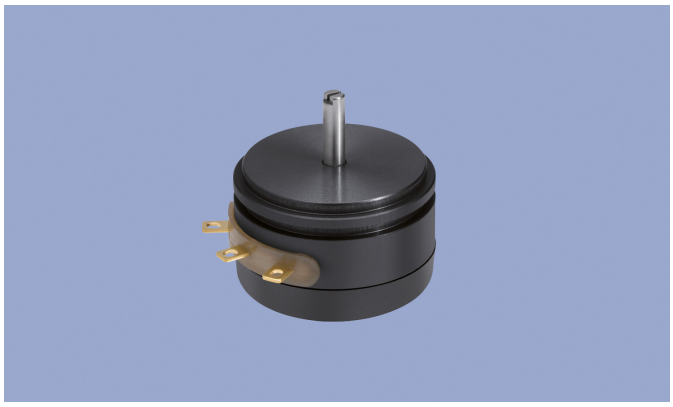
novotechnik
Siedle Group

Rotary Sensor Potentiometric

P-2500



Special Features
- Unmatched combination of size, performance and price
- Long life - 100 Mio. movements
- Excellent linearity ±0.2 %
- High admissible operating speed - 10 000 rpm
- Unrestricted continuous rotation

Applications
- Measuring/control technology
- Valves/throttle control
- Manufacturing Engineering (woodwork machines, riveting machines, packaging machines, welding machines)
- Assembly/test devices
- Medical appliances
- Building automation

Precision potentiometer for measuring, control and instrumentation applications.
The distinguishing features of the P-2500 include an all metal case, ball-bearings, a conductive resistance element and elastomer-damped wipers.
Because of its reliability, long life, good linearity, high resolution, high operational speed and corrosion resistance, this component opens applications hitherto closed to conventional potentiometers.
Special versions with different electrical travels and shaft dimensions are available.

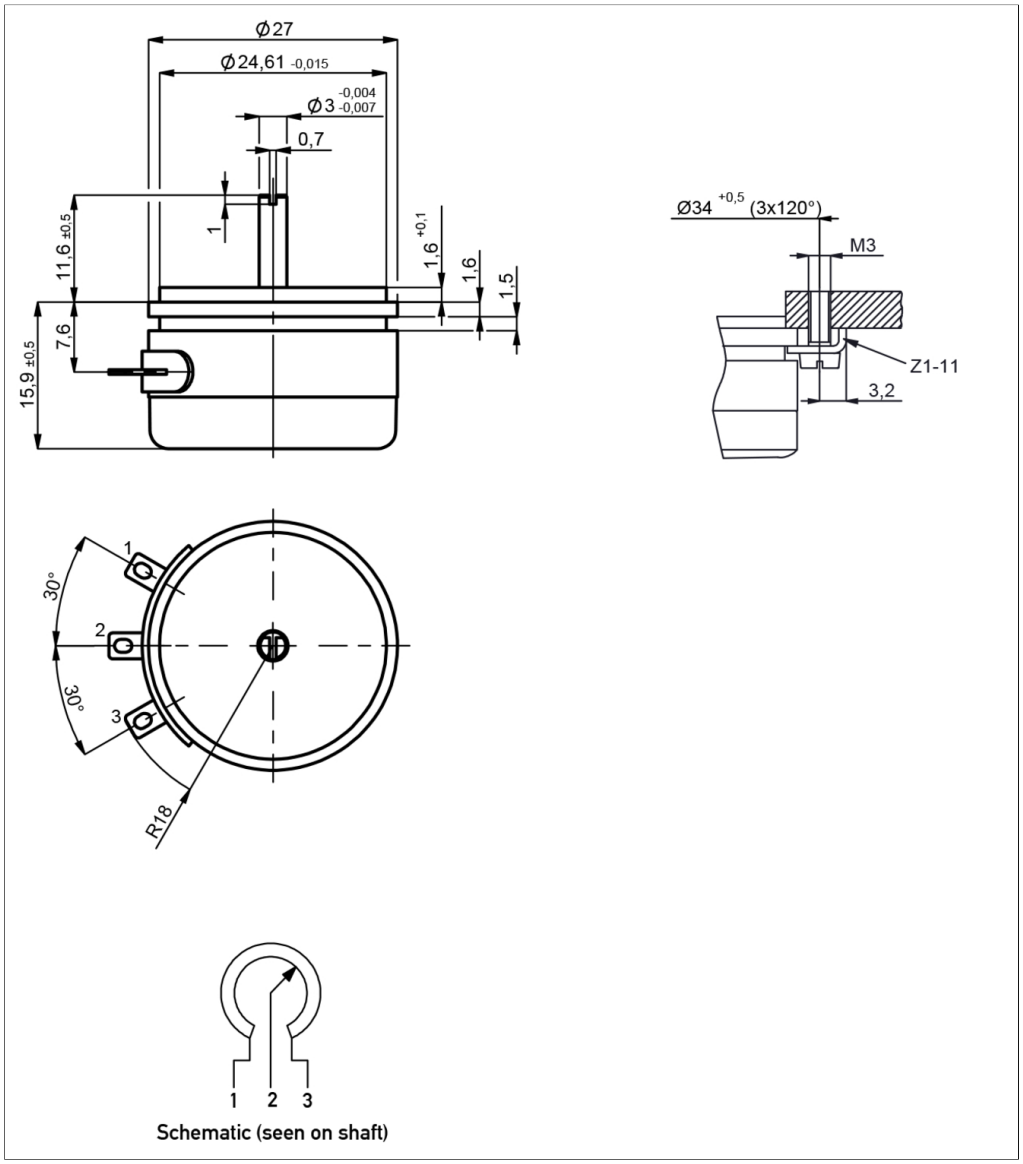
Description	
Servo size	11
Material	Flange: aluminium, anodized Cover: high grade, temperature resistant plastic Shaft: stainless steel
Mounting	With 3 mounting clamps Z1-11 (included in delivery)
Fastening torque of mounting	max. 120 Ncm
Bearing	Stainless steel ball bearings
Resistance element	Conductive plastic
Wiper	Precious metal multi-finger wiper
Electrical connection	Gold-plated brass terminals

Mechanical Data	
Dimensions	See dimension drawing
Mechanical travel	360° continuous
Permitted shaft load static or dynamic	15 N (axial / radial)
Torque	≤ 0.07 Ncm
Weight	approx. 20 g

Ordering Specifications

P/N	Type	Resistance value
400003201	P-2501-A102	1 kΩ
400003202	P-2501-A202	2 kΩ
400003203	P-2501-A502	5 kΩ

Drawing

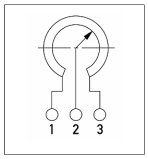


CAD data see www.novotechnik.de/en/download/cad-data/

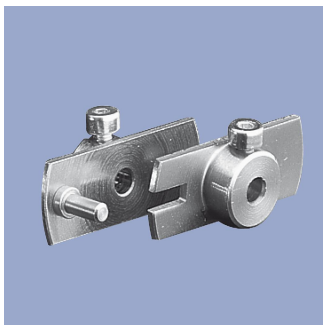
Technical Data

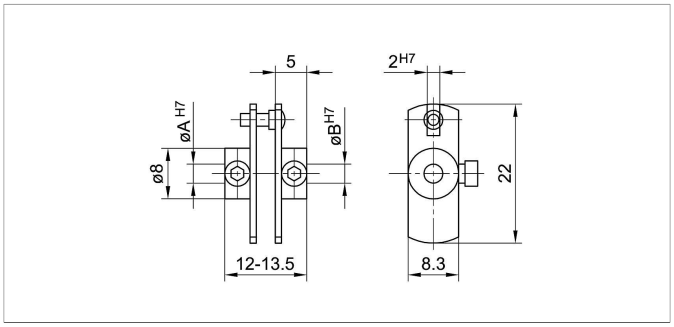
Type	P-2501-A102	P-2501-A202	P-2501-A502
Measuring range	345° ±2°		
Defined electr. measuring range	339°		
Output signal	Voltage divider		
Resistance value	1 kΩ	2 kΩ	5 kΩ
Resistance tolerance	± 10 %		
Independent linearity	≤ ±0.2 %FS		
Repeatability	≤ ±0.003 % (0,01°)		
Recommended operating wiper current	≤ 1 µA		
Max. wiper current in case of malfunction	10 mA		
Max. permissible supply voltage Ub	42 VDC		
Effective temp. coefficient of the output-to-applied voltage ratio	typ. 5 ppm/K		
Insulation resistance (500 VDC)	≥ 10 MΩ		
Environmental Data			
Max. operational speed	10,000 rpm		
Vibration IEC 60068-2-6	20 g, 5 ... 2000 Hz, Amax = 0.75 mm		
Shock IEC 60068-2-27	50 g, 11 ms		
Protection class DIN EN 60529	IP40		
Operating temperature	-40 ... +100°C		
Life	typ. > 100 Mio. movements		
Functional safety	If you need assistance in using our products in safety-related systems, please contact us		

Important:
All values specified in this data sheet for linearity, lifetime and temperature coefficient are only valid for a sensor used as a voltage divider with virtually no load applied to the wiper (Ie ≤ 1 µA).



Sensor Mounting



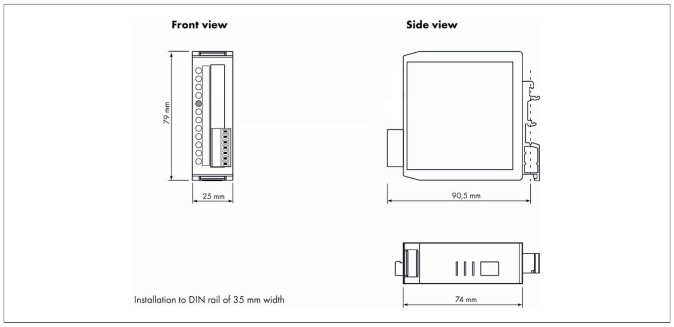


Z-103-G03
Fork coupling with low backlash for Ø3 mm.
Mounting with 1 cylinder head screw M2 with internal hexagon.
Angle screwdriver DIN 911 AF 1.5 included in delivery.

Material	Stainless Steel
Displacement	≤ 1 mm

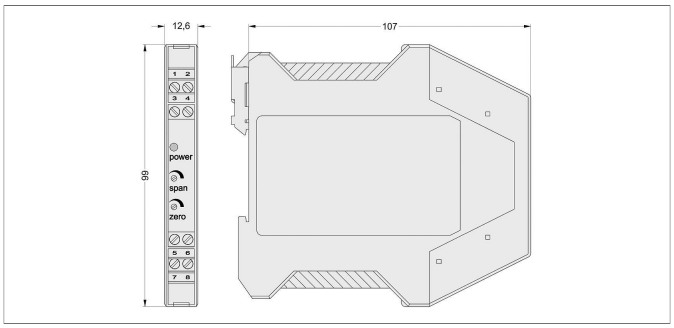
P/N	Type
400005687	Z-103-G03

Signal Processing



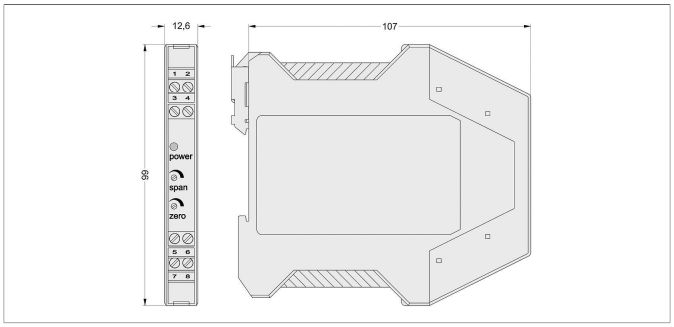
MUP-080
Cost-efficient signal conditioner with fixed output range, voltage or current output. Not adjustable.
Detailed data see separate data sheet.

P/N	Type	Output
400054220	MUP-080-111	0 ... 10 V
400054221	MUP-080-113	4 ... 20 mA



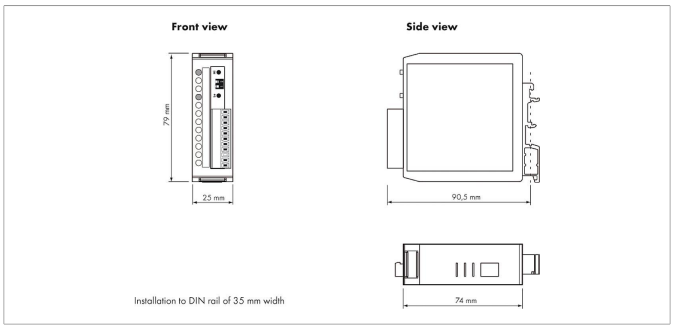
MUP-110
Signal conditioner in compact size with voltage or current output, adjustable zero and span.
Detailed data see separate data sheet.

P/N	Type	Output
400054010	MUP-110-0	0 ... 20 mA
400054011	MUP-110-1	0 ... 10 V
400054014	MUP-110-4	4 ... 20 mA



MUP-160
Signal conditioner in compact size with voltage or current output, adjustable zero and span. With galvanic isolation.
Detailed data see separate data sheet.

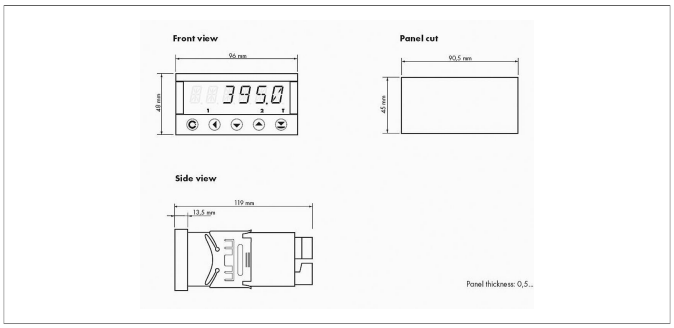
P/N	Type	Output
400054060	MUP-160-0	0 ... 20 mA
400054061	MUP-160-1	0 ... 10 V
400054064	MUP-160-4	4 ... 20 mA



MUP-400
Signal conditioner with simple teach-in function to adapt start and end point. Switchable current or voltage output. Available with or without galvanic isolation.
Detailed data see separate data sheet.

P/N	Type	Isolation
400054201	MUP-400-01	w/o
400054202	MUP-400-11	with

Signal Processing



MAP-4000

Multifunctional measuring device with digital display for direct connnection of potentiometric and normalized signals.

- Supply voltage 10...30 VDC, 80...250 VDC or AC
- High accuracy up to 0.1%
- Adjustable supply voltage for sensors 5...24 V
- Temperature coefficient 100 ppm/K
- Optional RS 232, RS 485, analog output, limited switch
- Complete data see separate data sheet

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