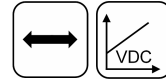


Transducer Potentiometric

LWG-0825
Pivot Head Mounting



Special Features

- Rod and cylinder design with twin slide bearings and lip seal
- Backlash free mounting via spherical rod end bearings with large pivot angle of ± 12.5 degrees
- Outstanding linearity
- Resolution better than 0.01 mm
- Long life typ. 10 Mio. movements, depending on application
- Protection class IP65
- Cable or connector version available

Applications

- Machine Tools
- Industrial Automation
- Off-Highway Vehicles
- Robotics technology

This linear transducer series is characterized by its robust housing and easy mounting via rod end bearings. The wiper block is mechanically decoupled backlash-free from the actuating rod, hereby ensuring high accuracy and long life.

The sensor can be used in a wide range of closed-loop control applications, including linear position sensing in industrial automation, mobile electronics and also in very fast robotics, e.g. simulator actuation. The simplicity of the measurement system – being electrically passive and providing absolute output even after power loss – makes the sensor impervious to electronic interferences and magnetic interferences.

Description

Material	Housing: aluminium, anodized Actuating rod: SS 1.4305 / AISI 303, rotatable
Mounting	Pivot Head Mounting (SS pivot heads on request)
Bearing	Slide bearing
Resistance element	Conductive plastic
Wiper	Precious metal multi-finger wiper, elastomer damped
Electrical connection	Connector M12x1, 4-pin, A-coded / Cable 3x 0.34 mm ² (AWG 22), PVC, shielded, L = 1 m

Mechanical Data

Type	LWG 0825
Length of housing [mm] (dim. A ± 2 mm)	1097
Mechanical travel [mm] (dim. B ± 2 mm)	841
Min. distance between pivot heads [mm] (dim. C, nominal)	1143
Operating force*	typ. ≤ 15 N
*) Initial operating force is dependent on ambient temperature and inactive time.	

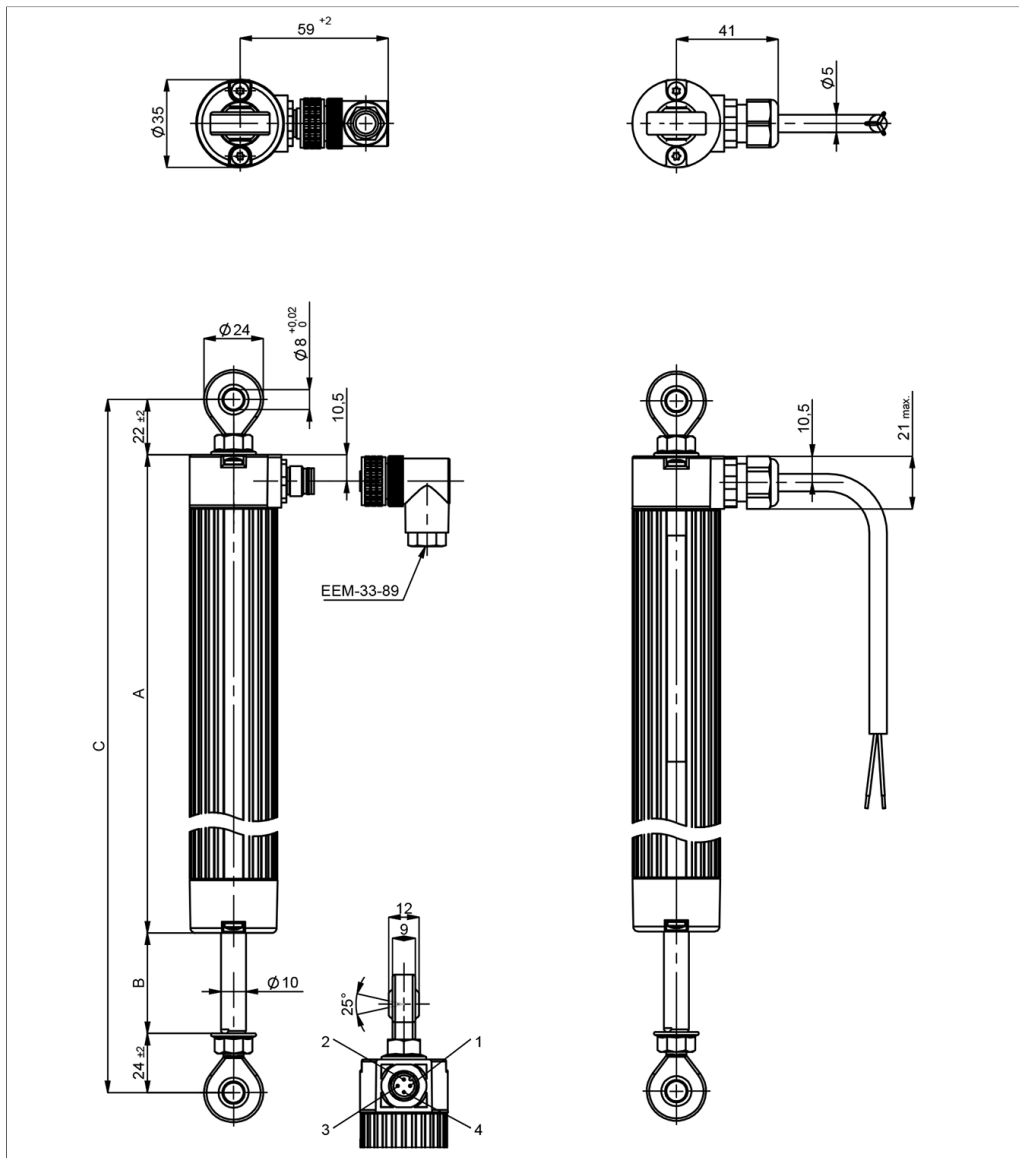
Ordering Specifications

P/N	Type	Defined electr. range [mm]	
			Electrical connection
400026133	LWG-0825	825	Connector
400026233	LWG-0825-000-201	825	Cable

Accessories included in delivery

- Mating female connector EEM-33-89 (see connector system M12)

Drawing



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

Technical Data

Type	LWG 0825
Electr. measuring range [mm]	838
Defined electr. range [mm]	825
Resistance value [kΩ]	10
Resistance tolerance	± 20 %
Independent linearity [± %FS]	0.04
Repeatability	≤ ±0.01 mm
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
Dielectric strength (500 VAC, 50 Hz)	≤ 100 µA
Environmental Data	
Vibration IEC 60068-2-6	5 g, 5 ... 2000 Hz, Amax = 0.75 mm *
Shock IEC 60068-2-27	50 g, 11 ms
Protection class DIN EN 60529	IP65
Operating temperature	-30 ... +80°C
Operating humidity	0 ... 95 % R.H. (no condensation)
Life	typ. > 10 Mio. movements
Installation	To comply with the technical data, vertical installation is required.
Functional safety	If you need assistance in using our products in safety-related systems, please contact us
Traceability	Serial number on type labeling: production batch of the sensor assembly and relevant sensor components
Conformity/Approval	CE, UKCA see https://www.novotechnik.de/en/downloads/certificates/declarations-of-conformity-eu/uk WEEE see https://www.novotechnik.de/en/downloads/certificates/eu-directive-weee/

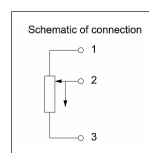
Important:

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).

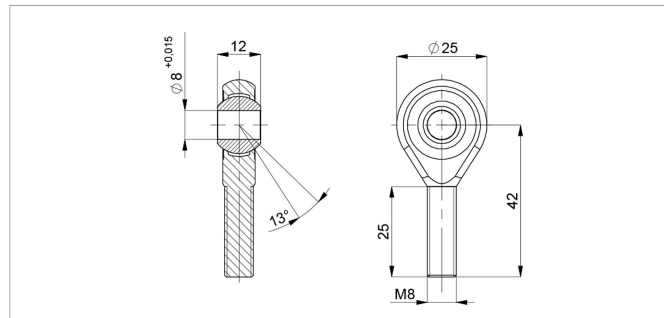
Connection Assignment

Signal	Connector	Cable
Connection 1	Pin 1	BN
Connection 2 Signal output	Pin 2	BK
Connection 3	Pin 3	RD
Do not connect	Pin 4	-

The signal output slope on pin 2 (or black wire) is rising while extending the rod with "+" of the power supply at pin 3 (or red wire) and falling with power supply "+" at pin 1 (or brown wire).



Sensor Mounting



Z-G-03

Conversion kit for series LWG and LWX: SS version with 2 pivot heads and 2 lock nuts.

P/N	Pack. unit [pcs]
400108551	2

Connector System

M12

EEM-33-89 (Included in delivery)

M12x1 Mating female connector, 4-pin, angled, A-coded, with coupling nut, screw termination, IP67, not shieldable

Operating temp. -25 ... +90°C

Plug housing PBT

For wire gauge 6 ... 8 mm, max. 0.75 mm²

P/N	Type
400005634	EEM-33-89

EEM-33-33/63/99

M12x1 Mating female connector, 4-pin, angled, A-coded, with molded cable, shielded, IP67, open ended

Plug housing PA

Cable sheath PUR, Ø = max. 6 mm, -25 ... +80°C (moved) -50 ... +80°C (fixed)

Lead wires PP, 0.34 mm²

P/N	Type	Length
400005601	EEM-33-33	2 m
400005610	EEM-33-63	5 m
400005696	EEM-33-99	10 m

EEM-33-32/62/97

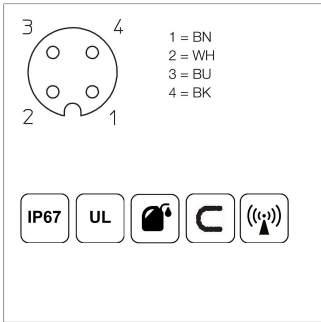
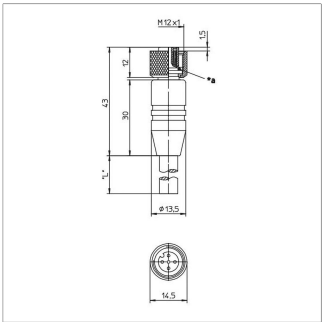
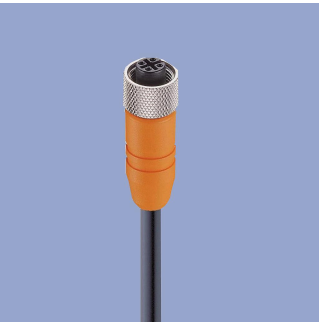
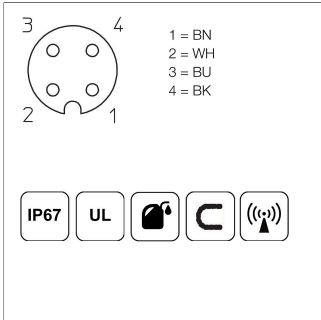
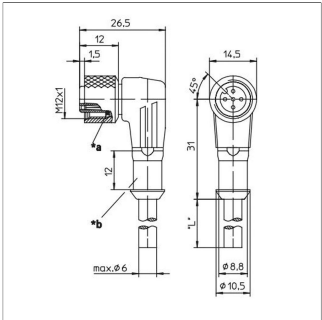
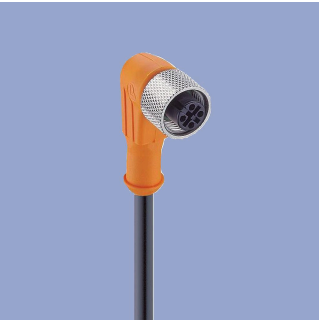
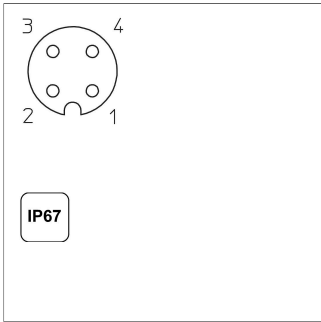
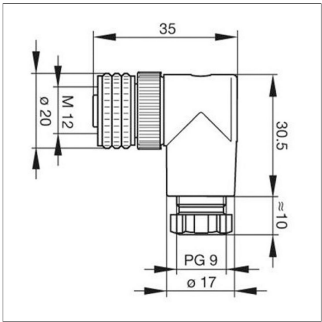
M12x1 Mating female connector, 4-pin, straight, A-coded, with molded cable, shielded, IP67, open ended

Plug housing PA

Cable sheath PUR, Ø = max. 6 mm, -25 ... +80°C (moved) -50 ... +80°C (fixed)

Lead wires PP, 0.34 mm²

P/N	Type	Length
400005600	EEM-33-32	2 m
400005609	EEM-33-62	5 m
400005650	EEM-33-97	10 m



IP67

Protection class IP67 DIN EN 60529

IP68

Protection class IP68 DIN EN 60529

Very good Electromagnetic Compatibility (EMC) and shield systems

Very good resistance to oils, coolants and lubricants

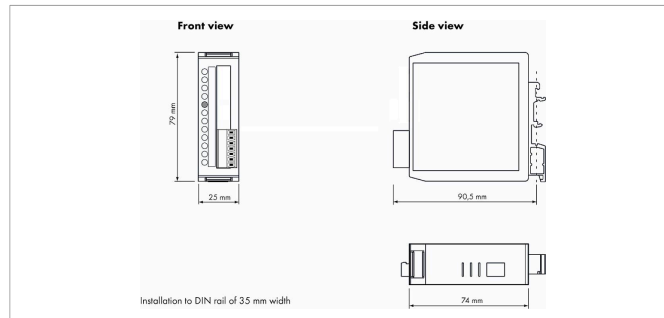
Suited for applications in dragchains

UL - approved

CAN

CAN-Bus

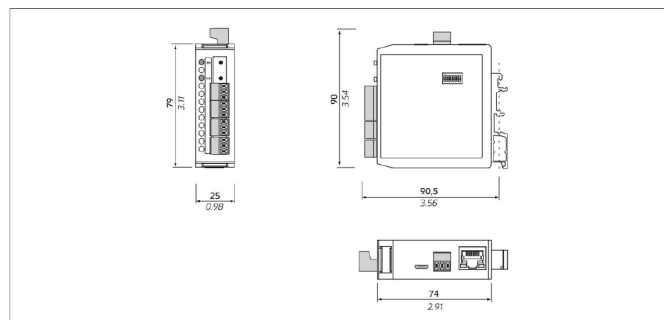
Signal Processing



MUP-080

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

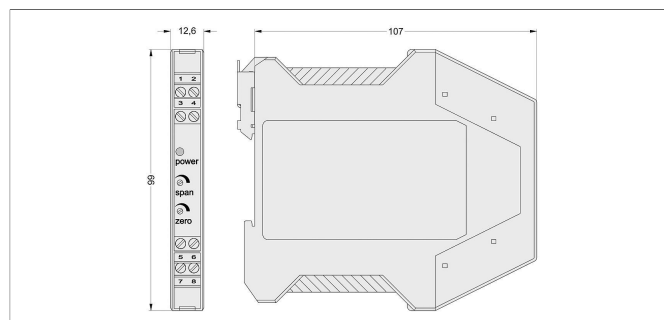
P/N	Type	Output
400054220	MUP-080-111	0 ... 10 V
400054221	MUP-080-113	4 ... 20 mA



MUP-410

Signal conditioner with simple teach-in function to adapt start and end point. Switchable current or voltage outputs. With galvanic isolation. Detailed data see separate data sheet.

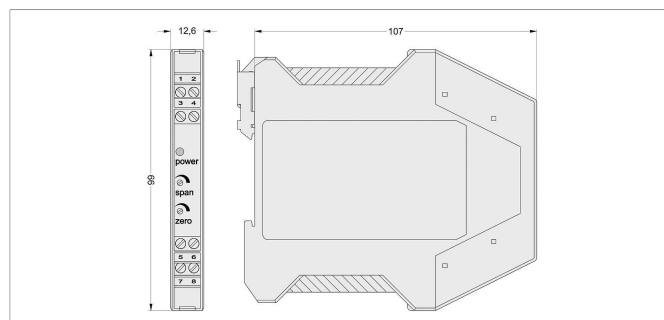
P/N	Type	Output
400108799	MUP-410-11	4 ... 20 mA, 0 ... 10 V, 0 ... 2/5 V, ± 10 V, 0 ... 5/20 mA



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



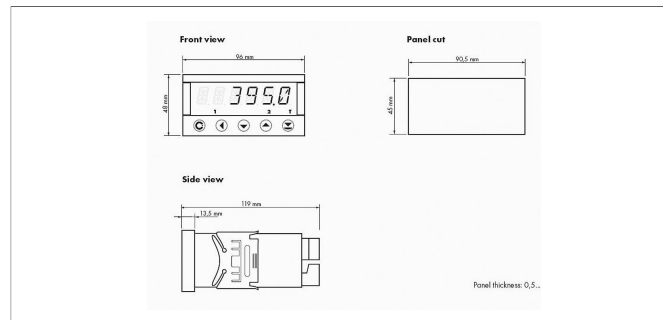
MUP-160

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

Signal Processing



MAP-4000

Multifunctional measuring device with digital display for direct connection 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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