

Linear encoder LMP 48

up to 3 m measurement length



Release note

Please note that the information, measure values and tolerances in the drawings are not binding. Subject to Modification in technology and design. They serve only as a means to illustrate the product. Please contact our sales team if you would like a concrete offer and a binding drawing.

All information and data can be found at:
www.tr-electronic.com/s/S006878

Access information even faster:
by scanning the QR code.



New linear encoder series LMP 48

Analog

SSI

CAN



Advantages

- _ High level of machine availability: touch-free and wear-free measurement
- _ No machine initialization after a power failure: Linear absolute measurement
- _ Easy to install: Clampable, flat profile housing
- _ Compatible even in restricted space: Compact design
- _ Simple to connect: economical M12 standard connectors for all interfaces

Additional features

- _ Optimal price-performance ration for many industrial applications
- _ Measurement lengths of 0.03 m to 3 m
- _ A wide range of magnets and magnet slides are available
- _ Resistant to vibration and fluctuations in temperature

Features

- _ Resolution: 5/100 mm
- _ Linearity: 0.01 % FS
- _ Reliably tight system with protection class IP 67
- _ Spacers adapt the measuring profile to a diverse range of assembly situations.
- _ Device foot for installation with clamping shoes or to the rear with a sliding block.

Fields of application

- _ General positioning in machine construction
- _ Replacement for existing measuring elements, e.g. wear-prone potentiometers
- _ Plastic spray machines
- _ Feed and dress axis

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Magnetostriction – functional principle

Magnetostriction technology

The measuring principle is based on a travel time measurement (ultrasonic range). A protecting tube contains a tensioned magnetostrictive wire (waveguide), through which current pulses are transmitted. This generates a circular magnetic field around the wire. A non-contact permanent magnet serves as a position sensor, touching the waveguide with its magnetic field. The two differently aligned magnetic fields meet at the measuring point and trigger a torsion pulse, which moves along the wire in both directions at a constant sound velocity. The time difference between the emission of the torsion pulse and its arrival at the encoder in the sensor head is converted by the measuring electronics into a displacement-proportional signal, which is made

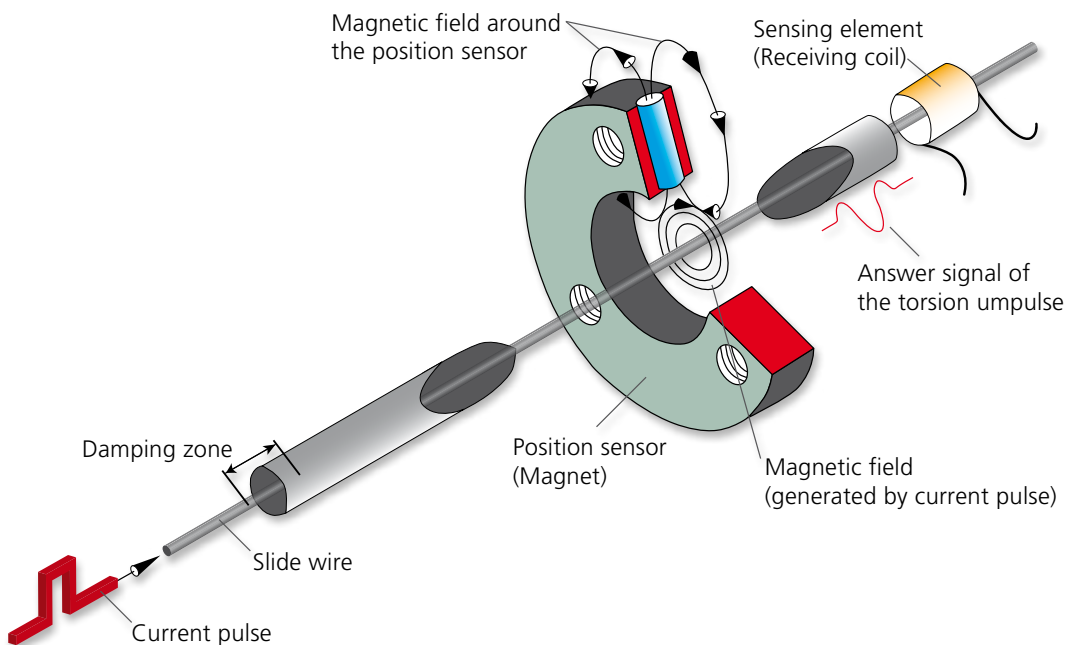
available as a digital or analog output signal.

The touch-free and wear-free measuring systems, which operate based on magnetostriction technology, are available in the following versions.

In an aluminium profile housing with externally attached measuring slide or loose magnet, managed by the operator

Advantages

- _ touch-free and low on wear and tear
- _ precise and reliable position feedback
- _ for attachment to the machine



LMP 48



Advantages

- _ Measures linear movement
- _ Profile housing
- _ Wear-free scanning
- _ Compact design

General Data

| | |
|---------------------------------------|---|
| Supply | |
| - Supply voltage | 24 VDC \pm 20 % |
| Measuring length, standard | 30 ... 3,000 mm in steps |
| Resolution | 0,05 mm |
| Linearity deviation | <0.01% Measuring length, \geq 60 μ m |
| Reproducibility | <0.005% Measuring length, \geq 50 μ m |
| Cycle time internal, <0,5 m/1 m/1,5 m | 0.50 ms/1.00 ms/1.5 ms |

More information about

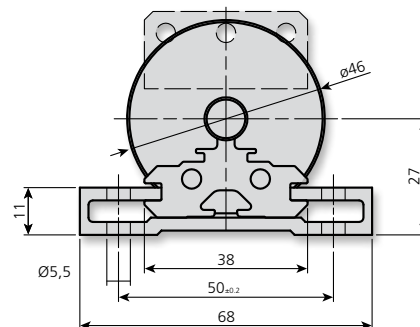
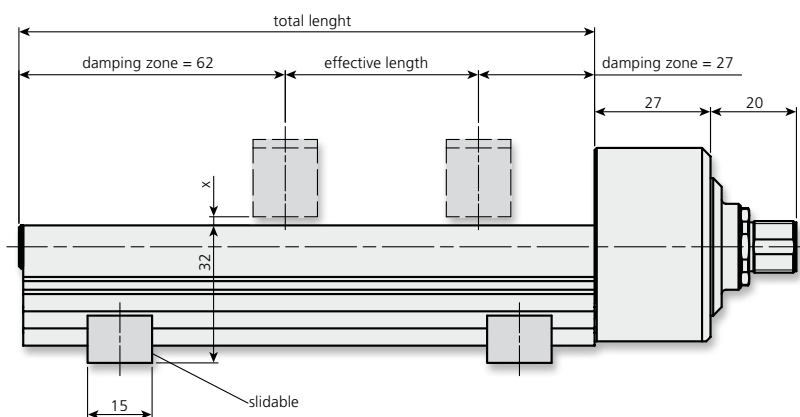
the devices can be found at
www.tr-electronic.com/s/S006878

Environmental conditions

| | |
|-------------------|----------------------|
| Relative humidity | 98 %, non condensing |
| Protection class | |
| - Standard | IP67 |

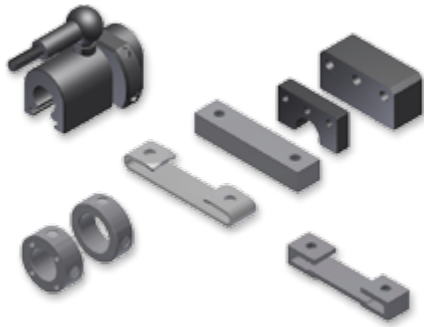
Dimensional drawing

LMP 48



Overview – accessories*

Magnets and spacers



Products

- _ Block magnets
- _ Open ring magnets
- _ Ball-joint arms
- _ Double clamping
- _ Spacer (extension to installation height available as follows 5/10/12 mm)

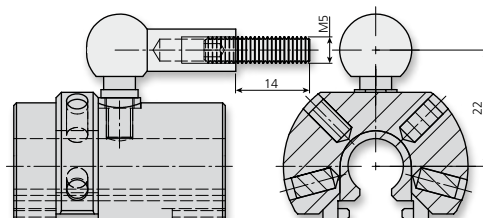
*When inquiring about suitable accessories, please always specify the encoder.

| Type | Order number | Product | Scale drawing |
|------------------------------|--------------|---------|---------------|
| Block magnet T1-S3818 | 49-155-015 | | |
| Block magnet T1-S5520 | 49-155-009 | | |
| Open ring magnet T4-U3820 | 49-155-003 | | |

Please request detailed drawings for your configuration.

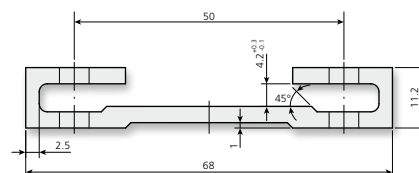
Ball-joint arm

85-917-013



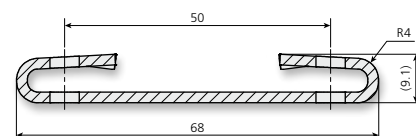
Double clamping –
aluminium (included
in scope of delivery)

49-917-001



Double clamping – stainless
steel, for vertical assembly

49-917-057

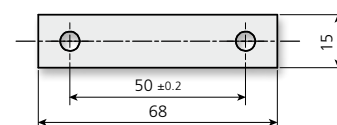
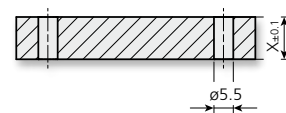


Spacer

49-917-081 (X=05 mm)
49-917-082 (X=10 mm)
49-917-083 (X=12 mm)



Example: 49-917-083 (X = 12 mm)



TR-Electronic – your partner in automation

Rotary encoders

Absolute encoder, incremental rotary encoder, wire-actuated encoder

Rotary encoders with optical and magnetic scanning function register the precise position in a wide variety of applications and industries. In medical engineering, miniature versions ensure correct positioning while SIL3-approved absolute rotary encoders provide the necessary safety. We offer not only high-quality rotary encoders (from Ø 22 to 160 mm) for almost any application but also comprehensive accessories.

Linear encoders

Linear absolute measuring systems, laser displacement measurement

Linear encoders register linear motions in machines, tools and systems according to specific requirements using different technologies. Linear encoders allow measuring distances of max. 20 m almost without any wear. This value is max. 240 m for laser measuring systems. Machines and systems can be precisely controlled to reach their desired positions.

Motion

Servo drives, compact drives, process drives

Intelligent encoTRive drives are available with the current field bus systems, such as PROFIBUS, PROFINET and CANopen, within a power range of up to 300 watts. The drives are configured to meet customer requirements and can be freely combined with precision gear, holding brake and I/O. Values of up to 4,350 rpm and powerful 200 Nm are available to cope with demanding applications.



Components

**Industrial PC, field bus I/O,
PLC, HMI controller**

Industrial PCs are available in numerous variants and offer customized calculation power for PC-assisted automation. Programmable logic controllers (PLC) are the traditional means for automation. HMI controllers establish the interface to the user. Field bus nodes, I/O modules and cam controllers complete the range of automation components.

Automation

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You want to set up a largely automated new machine or retrofit and modernize your existing machine with automation systems? Then you just need our extensive expert knowledge and the more than 20 years of our experience.

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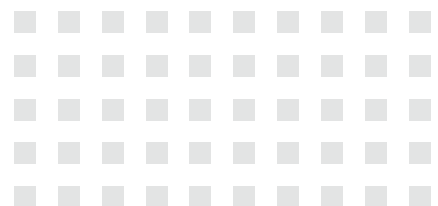
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Subject to technology and design modifications.

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