

# A new generation of linear-absolute position sensors

## Improved signal processing for the majority of applications

TR-Electronic has redesigned signal processing for linear-absolute position detection and thus clearly improved measured value quality for critical applications in particular. For measurement lengths up to 1000 mm linearity is improved to 0.05 mm, which opens up new fields of application.

This new signal processing quality is documented by a new designation: LM\_I. The "I" in the product name indicates that these measuring systems are ideally suited for industrial applications – in contrast to the measuring systems in the "basic" performance class, which are optimized for basic position measuring tasks.

The measurement acquisition electronics is available for all TR interfaces. There is no change in the programming of the devices, so that changing to the newest generation presents no problem.

The LMRI46 with pressure-resistant stainless steel casing is available for direct installation. Two basic threads (M18 and UNF???) fit into the piston head of hydraulic cylinders. In combination with different seal variants, the LMRI46 offers a solution for almost all commercially available cylinders. The stainless steel casings, equipped with float magnets, are also suitable for level measurement.

The LMPI46 offers a profiled aluminium housing for machine mounting. Grooves on three sides enable a wide variety of mounting types with clamping shoes or sliding blocks. The magnets are guided on the profile and are moved via push rods with a ball joint. Unguided magnets are also optionally available, if the machine's mechanical components observe the necessary tolerances. The LMPI46 operates completely free from wear with this technique. A number of systems available on the market can be replaced by the LMPI46. Suitable spacers are available for this purpose. TR will support the user in the selection of components for a specific case. The profile shape is also excellently suited for multiple-magnet scanning. With 3 magnets a resolution of 1µm is achieved, while with up to 30 magnets the resolution is 50 µm. The positions of all magnets are then output via the bus; one measuring system replaces several individual measuring systems. The LM\_I46 linear-absolute position measuring system is produced for measurement lengths up to 4 m.

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*LMPI46\_IndustrialEthernet\_TR-Electronic.jpg*

TR-Electronic linear-absolute position measuring system in profiled housing



*LMRI46\_IndustrialEthernet\_TR-Electronic.jpg*

TR-Electronic linear-absolute position measuring system in tubular housing for cylinder installation