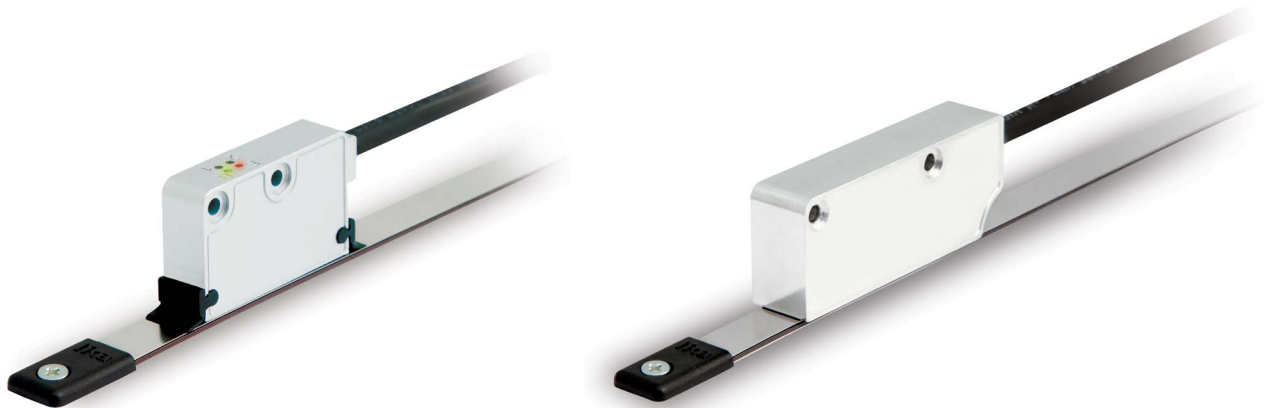


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Smart encoders & actuators

Incremental and absolute linear encoders from Lika Electronic

In a large number of applications linear encoders with magnetic sensing technology can be an excellent replacement for rotary encoders; thanks to their mechanical and electrical features, indeed they can offer several advantages, even in the most advanced automation systems. Here are some valuable solutions picked from our incremental and absolute range.



In a large number of applications linear encoders with magnetic sensing technology can be an excellent replacement for rotary encoders; thanks to their mechanical and electrical features, indeed they can offer several advantages, even in the most advanced automation systems.

What are their main benefits? They adopt the magnetic sensing technology, so they work without contact and ensure virtually wear- and maintenance-free operation. They do not mount moving parts and almost all the mechanical components of a rotary encoder (flange, shaft, bearings, etc.) are not installed. The limited use of both mechanical parts and miniaturized circuits allows to minimize the overall footprint of the devices. Furthermore magnetic technology is highly immune to external interferences such as light, oil, grease, water, chemical contaminants, etc. and enables to easily adopt PCB protection methods such as encapsulating, tropicalization, conformal coating, varnishing. In this way they can achieve the highest protection rates (IP67 to IP69K) and reliably operate in the harshest industrial environments.

A further prerogative: linear encoders have a modular structure, they basically consist of a readhead and a magnetic tape that are not in contact, so the risk of failures due to vibrations, shocks or mechanical stresses is limited.

The range of linear encoders from Lika Electronic has grown more and more and includes today a wide variety of both incremental and absolute devices. Furthermore it has enriched with some solutions that are dedicated to specific applications such as lateral reading sensors, sensors for toothed wheels and racks, sensors for UHV installations.

Among the "standard" and most widely used models are SME53 and SME54 incremental linear encoders and SMA2 absolute linear encoder.

SME53 is the incremental linear encoder with very high resolution down to 0.08 μm designed for demanding motion control applications.

SME54 incremental linear encoder offers the engineers a fully programmable solution, its resolution can be set in the range 1.25 mm ... 0.08 μm along with Index mark duration and counting direction. It provides complete adaptability, versatility and freedom for any type of industrial application.

Thanks to their rugged frame and encapsulated electronics are optimally protected against dust, oils, liquids, contaminants, shocks and vibrations (IP67 protection). The large permissible tolerances and air gap (up to 2 mm) ease installation and enable minimum mounting time.

They generate quadrature signals with inverted and Index signals via Push-Pull (HTL) and Line Driver (TTL) output circuits and offer diagnostic LEDs as a standard.

SMA2 is ideally suited for position and speed feedback applications where small size, finest resolution and greatest accuracy are mandatory. It provides high resolution down to 1 μm and high accuracy of $\pm 2 \mu\text{m}$. The max. measuring length is 8.1 m (26.57 ft) and the max. speed is 10 m/s. It is paired with MTA2 double track magnetic tape, so it is able to deliver both the absolute information for position feedback through the BiSS-C and SSI interfaces and the incremental information for speed feedback through the NPN output circuit. SMA2 is outstanding also in its mechanical characteristics: although the sensing head is very compact and slim, yet it preserves its toughness. The fully encapsulated electronics is optimally protected against dust, oil, grease, water, shocks, vibrations. Typical applications are for example linear motors, pick & place robots, electronic assembly systems.

Find out more about the range of [Lika Electronic's linear encoders](#)