

2020  
April

lika

Smart encoders & actuators

## Compact, rugged, and precise linear encoders!

*Incremental and absolute linear encoders SME / SMS and SMA from Lika Electronic are suitable for position and speed feedback of highly dynamic automation systems and linear motors and combine performance with rugged mechanical design and a wide choice of options.*

- Wide range of incremental and absolute sensors to pick from
- Non contact, virtually wear- and maintenance-free operation
- No moving parts, no mechanical stresses
- Very compact and robust packaging
- Highest protection rate (up to IP69K) for heavy-duty environments



Lika's incremental and absolute linear encoders are suitable for demanding industrial applications and combine high performance with rugged mechanical design and a wide choice of options. They can be an attractive alternative to conventional optical encoders.

They adopt **magnetic sensing technology**, so they operate without contact and ensure virtually wear- and maintenance-free operation.

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.

**Linear encoders have a modular structure.**

They basically consist of two components: a readhead and a magnetic tape. They are not in contact, so the risk of failures due to vibrations, shocks, or mechanical stresses is limited. Their design and features also ease installation and enable minimum mounting time.

They do not mount moving parts and almost all the mechanical components of a conventional 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.

**Lika's range of linear encoders includes a wide variety of both incremental and absolute devices** and also a number of solutions dedicated to custom applications such as lateral reading sensors, sensors for toothed wheels and racks, sensors for UHV installations.

A further remark: using **IF55 gateways**, linear encoders with SSI serial interface (i.e. the whole absolute range) can be easily integrated into the most popular industrial **Ethernet networks: Profinet, EtherNet/IP, POWER-LINK, EtherCAT, and MODBUS-TCP** (but also into conventional fieldbuses: CANopen, Profibus, and DeviceNet). So they can be ideally combined for installation in case of plant retrofit and in tight spaces where bigger rotary encoders have not room enough.

# 2020

April

# lika

Smart encoders & actuators

Among the "standard" and most widely used models are **SME11, SME21 and SMS11, SMS21 incremental linear encoders and SMA2 absolute linear encoder.**

SME11 / SME21 are the incremental linear encoders with **high resolution down to 0.5  $\mu\text{m}$**  designed for demanding motion control applications. They generate quadrature signals with inverted and Index signals via Push-Pull (HTL) and Line Driver (TTL) output circuits.

SMS11 / SMS21 **sinusoidal linear encoders provide Sine/Cosine 1Vpp** with interpolatable output signals and accuracy down to 1,000  $\mu\text{m}$ .

Thanks to their rugged frame and encapsulated electronics, SME11 / SME21 and SMS11 / SMS21 are fully protected against dust, oils, liquids, contaminants, shocks, and vibrations (IP67 protection). The large permissible tolerances and air gap (up to 2 mm / 0.079") ease installation and enable minimum mounting time. All models offer diagnostic LEDs as a standard.

**SMA2 absolute linear encoder** is ideally suited for position and speed feedback applications where small size,

finest resolution, and greatest accuracy are mandatory. SMA2 provides **high resolution down to 1  $\mu\text{m}$  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 BiSS-C and SSI interfaces and the incremental information for speed feedback through NPN level output circuit. SMA2 is **very compact and slim**, yet it preserves its toughness. The fully encapsulated electronics (IP67 protection rate) is optimally protected against dust, oil, grease, water, shocks, vibrations. Typical applications are for example linear motors, pick & place robots, electronic assembly systems.

For more about Lika Electronic's range

<https://www.lika.it/eng/products/linear-encoders/incremental-1>

<https://www.lika.it/eng/products/linear-encoders/absolute-1>



While the world shuts down waiting for the coronavirus storm to pass, also we at Lika must necessarily change our way of life and our way of working. But, even in this difficult moment, we want to stay focused on our commitments and we want to remain a dependable and close partner for all our customers. So let's not forget each other: we will continue to talk about our work, our products and our projects through social media and through the newsletter you are reading now. You, please, write something to us: an email, a comment, a post; and let us know about you and about your work: we are there. Stay health!