

2019
September

lika

Smart encoders & actuators

SMAR1 Off-Axis Modular Encoder

Lika Electronic's modular encoders are compact, flat, lightweight, bearingless, accurate, and can be customized to fit perfectly individual applications.

SMAR1 rotary encoder is among the latest innovations.

SMAR1 is an **off-axis absolute singleturn modular encoder** to be paired with an MRA magnetic ring.

It is designed in an **open PCB** (readhead) and an ultra-flat ring with up to 18 mm (0.708") through bore (the outer diameter of the ring is 34 mm / 1.338"). The readhead is compact and low profile, the ring is very thin and axially magnetized. The whole measuring system is engineered and shrunk down in size and weight to be easily integrated into space critical applications such as robotic joints, hollow shaft motors (direct drive torque motors, ...), brushless and servo motors, OEM equipment. **The overall thickness of the measuring system is 9 mm / 0.354".**

The range of the operating temperature is -25°C +100°C (-13°F +212°F); it can be -25°C +115°C (-13°F +239°F) on request. Sure enough the system must be installed inside an enclosure suitable for the requested protection rate. It is offered in **both incremental and absolute versions**.

Incremental version provides Push-Pull and Line Driver level ABO /ABO signals with

additional UVW /UVW commutation signals for brushless motor feedback.

The incremental resolution can be in the range 1 to 65,536 PPR. UVW signals are available in a large number of pole pairs (1 to 16) to fit each BLDC motor. **Absolute versions** are available in three serial interface types: **SSI, BiSS C-mode, and SPI**. They offer a resolution ranging between 15 and 19 bits (up to 524,288 cpr) and provide additional ABO /ABO incremental signals (TTL/RS-422 Line Driver signal level) for speed control.

The compact slim design and the rich set of electrical features make SMAR1 modular encoder ideally suited for **position control of motors, direct drives, industrial robots, video surveillance systems, and applications with confined measurement and installation space.**

Lika Electronic develops **customer-specific solutions** to meet individual size, shape, resolution, and connection needs.

