

SMLAX bearingless rotary encoder for large shafts with IECEx certification

SMLAX + MRA/262 measuring system (reading head + magnetic ring) is the dual output solution (absolute and incremental) for position and speed feedback on applications with large rotating shaft in potentially explosive atmospheres.

- *Bearingless rotary encoder with dual output (absolute and incremental)*
- *segmented ring for simplified installation in large shaft machinery*
- *IECEx certification for use in hazardous areas*
- *14 bit absolute resolution, 4,096 PPR incremental resolution*



Absolute and incremental + reference interfaces

SMLAX rotary encoder is equipped with both absolute and incremental sensing and processing electronics in the same package so it can read the absolute and incremental tracks coded on the magnetic tape of the ring. The absolute position information can be used for example to detect the stator / rotor position on motor starting, while the incremental information allows speed control. The absolute measuring system reaches a **14-bit resolution** (16,384 cpr) over the complete circumference and provides the absolute position and error bit through the SSI and BiSS interfaces. The incremental measuring system has a resolution up to 4,096 PPR and yields square wave signals via Line Driver output circuit. SMLAX can also include a reference mark information once per revolution. Magnetic sensing technology permits non-contact and frictionless operation with no components subject to wear or fatigue.

MRA/262 segmented ring

SMLAX encoder is paired with a **segmented ring** where the absolute track and the incremental + reference track are coded. The ring is designed in four pieces for simplified installation in **large diameter shafts up to 230 mm / 9.055"** where access for mounting or servicing is difficult. It easily fits around very large shafts in inaccessible mounting areas without any loss of information at joints.

The pieces are joined from the sides of the shaft and then clamped together around the shaft in a very easy and quick way.

IECEx certification for use in hazardous areas

SMLAX is IECEx certified for use in hazardous areas and marked as suitable for Zone 2, Gas group IIC and Temperature class T3. It guarantees great resistance to dust, humidity, oil, grease, water jets, and chemical agents and offers excellent durability under harsh environments, adverse temperatures (-25°C +85°C, -13°F +185°F), and shock and vibration conditions thanks to encapsulated electronics and its **IP67 protection** enclosure.

Typical applications

Typical applications include motors, machines and equipment with large diameter shafts in hazardous industry locations and harsh environments, such as gear motors, servo motors, torque motors, direct drives, gear drives in oil and gas applications, refineries, fertiliser plants and food industry, spindles of lathes and milling machines, rotary indexing tables, direct drive (DDR) rotary tables, wind turbines and solar power plants, generators, robotic arm joints, textile, wood, metal & stone working machinery, packaging lines, mobile equipment, construction vehicles, cranes and hoists.