

## IECEx & ATEX certified bearingless encoder for large shafts

- Modular rotary encoder with absolute and incremental information
- segmented ring for simplified installation on large shaft machinery
- IECEx and ATEX certification for use in hazardous areas
- SSI, SSI + Incremental + Reference, Incremental + Reference interfaces
- 14 bit absolute resolution, 1.024 PPR or custom incremental resolution

**SMLAX + MRx measuring system** is the versatile solution for position and speed feedback on applications with large rotating shaft in potentially explosive atmospheres. It is made up of a reading head and a segmented magnetic ring. The diameter of the ring can be **up to 230 mm / 9.055"**. It is **IECEx and ATEX certified** for use in Zone 2, Gas group IIC, Temperature class T4, ATEX category 3 G applications.

A variety of absolute and incremental interfaces available SMLAX + MRx measuring system can be equipped with a variety of absolute and incremental interfaces, even coupled in the same package. It can provide the SSI interface + the incremental interface (Push-Pull or Line Driver level) + the Reference information in the same unit; or the SSI interface only; or the incremental interface (Push-Pull or Line Driver level) + the Reference information.

So up to three tracks can be coded on the magnetic tape of the ring at the same time. The absolute position information can be used for example to detect the stator / rotor position on motor starting, while the incremental information allows the speed control.

The absolute measuring system reaches a **14-bit resolution** (16,384 cpr) over the complete circumference and provides the absolute position and the error bit through the SSI interface. The incremental measuring system has a resolution according to customer's needs (and the physical characteristics of the measuring system) and provides square wave signals via Push-Pull or 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.



### MRx segmented ring

SMLAX encoder is paired with a segmented ring where the absolute track and/or the incremental track and/or the reference track are coded. The ring is designed in two to 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 and ATEX certification for use in hazardous areas

SMLAX is IECEx and ATEX certified for use in potentially explosive areas affected by combustible gases and marked as suitable for Zone 2, Gas group IIC, and Temperature class T4 (-10°C +85°C, +14°F +185°F). ATEX category is 3 G. It guarantees great resistance to dust, humidity, oil, grease, water jets, and chemical agents, and offers excellent durability under harsh environments, adverse temperatures, and shock and vibration conditions thanks to its encapsulated electronics and 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.

