

## Currently smallest absolute rotary encoder for applications requiring SIL 3 safety.

TR-Electronic introduces the SIL shaft encoder CD\_582+FS

- SIL 3/ SIL 2 – PROFIsafe rotary encoder in industrial standard size 58 mm
- Redundant setup (Cat 4): two completely independent multiturn encoders in one.
- Option: Incremental interface (HTL, TTL, sin/cos)
- PROFINET encoder profile (V4.2): IRT, MRP, neighborhood recognition, TCI, reset switch, preset on the fly
- PROFIsafe profile (V2.6.1): Extended Protocol, shared device, dynamic IO configuration

The trade fair novelty of TR-Electronic is rather inconspicuous when viewed from the outside: An absolute shaft encoder in 58 mm standard size. But this innovation has it all! This compact installation space holds a true absolute multi-turn double rotary encoder system with integrated safety evaluation that outputs error-protected data ("Safe Position" – SLP). Depending on user requirements, the rotary encoder is available in a version according to the highest safety level SIL3 or PLe or adapted to SIL2/PLd applications. This ultra-compact SIL shaft encoder fits into a wide variety of mounting situations: For solid shaft, keyway and key provide the form closure required for reliable connection between application and encoder. The same purpose fulfill partial keyways in blind and hollow shaft encoders with up to 15 mm diameter. CD\_582 uses the standard modular system of "Generation 2" absolute shaft encoders from TR-Electronic. Almost any installation situation can be implemented with the standard flange variants. This version can be implemented with two all-magnetic scans if extreme or changing temperatures pose a risk of condensation, such as in wind turbines. The diverse optical / magnetic scans offer increased precision.

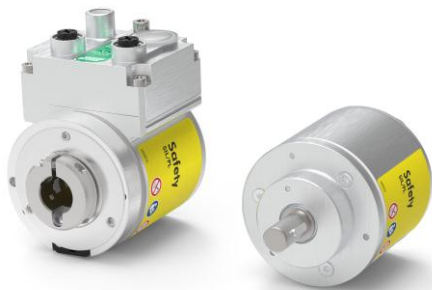
At first step, TR-Electronic achieves certification for PROFINET/PROFIsafe version of CD\_582M+FS. Its functionality exceeds that of the standard implemented in the 75 mm series: The latest profile generation for the PROFINET encoder profile (V4.2) and for PROFIsafe (V2.6.1) in basic and extended mode provide a sustainable platform for an integrated, and secure automation solution. Up to four rotary encoder instances simultaneously supply up to four safety controllers with position and velocity data at a bus repetition rate of 3 ms. The non-secure channel works even faster. The same values are transmitted every 1 ms and thus fast enough for real-time capable position control. The actual value output can be synchronized to the bus for minimal jitter. Naturally, the extended possibilities of the underlying PROFINET are also available for safety-oriented devices, such as neighbourhood detection for the exchange without any programming system, up to 3x faster start-up on

voltage recovery and the media redundancy protocol, which greatly increases availability by simply ring closing a segment.

You can operate the CD\_582+FS in compatible mode if you already use an existing model CD\_75: The latest safety shaft encoders from TR-Electronic even enable new applications due to the more compact design while using the well-known and proven software modules in the control system.

The CD\_582+FS can be applied in accordance with the current basic and execution standards to an axis, a system module, or a machine with safety functions wherever a standard 58 mm shaft encoder has been used. In principle, the CD\_582+FS fits wherever the non-functionally safe CE\_582 and CM\_582 could be installed. With CD\_582+FS, safe and secured automation is no more a matter of installation space.

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Functional safety absolute encoders with hollow and solid shaft  
CD\_582+FS made by TR-Electronic.

Alternative headlines:

Currently smallest PROFIsafe absolute rotary encoder for SIL3 applications.

Brand new: Shortest PROFIsafe absolute rotary encoder in standard size 58 mm with SIL 3/ SIL 2 certification.

TR defines new standard: SIL 3 and PROFIsafe in standard 58 mm size housing.