

# Compact absolute encoder for SIL3 applications with CIPsafety Ethernet/IP

## CD\_582+FS Ethernet/IP – CIPsafety made by TR-Electronic

- SIL3 / SIL 2 – Ethernet/IP CIPsafety rotary encoder in industrial standard size 58mm
- Redundant layout (KAT4): two fully independent multiturn absolute encoders in the size of a single one
- Incremental output as an option (HTL, TTL, sin/cos)
- Ethernet/IP Protocol (Encoder-Object, DLR, DHCP, Programmable software gear, speed signal)
- CIPsafety Protocol (speed signal, programmable software gear, preset adjustment)

Absolute rotary encoder in standard dimensions of 58mm holds a true absolute multi-turn double rotary encoder system with integrated safety evaluation. Secured position data ("Safe Position" – SLP) are transmitted via secured bus system to the safety controller (CIPsafety protocol via Ethernet/IP). Depending on safety requirement of the specific applications, CD\_582+FS fulfill maximum safety standard SIL3, PL<sub>e</sub>. They are available as well in an optimized version to meet SIL2, PL<sub>d</sub> requirements.

CD\_582 uses the standard modular system of "Generation 2" absolute shaft encoders designed by TR-Electronic. 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. Almost any installation situation can be implemented with the standard flange variants. With solid and blind shafts, the user has additional choice placing the connectors at the side of the encoder or at the back side (opposite to the shaft). With limited mounting space, this choice can help to save some cm.

DLR (Device Level Ring) increases availability of the appliance. Usually, sensors and actors are daisy-chained. With DLR, the daisy-chain is closed into a ring. With this option, there is always one working connection to all Ethernet/IP nodes, even if a single connection fails.

CD\_582+FS are capable of preset adjustment (referencing) in full operation even with moving axis. Communication is handled with a secured handshake via CIPsafety. CD\_582+FS implement requirements of newest revision of ODVA protocol specifications CT17.

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.

[www.tr-electronic.com](http://www.tr-electronic.com)

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TR-Electronic GmbH  
Eglishalde 6  
78647 Trossingen



CD\_582+FS EIP – absolute rotary encoder for SIL applications with CIPsafety via Ethernet/IP made by TR-Electronic. Available with solid, blind and hollow-through shaft.