

Sensors – Highlights 2026

New solutions, first shown here!



CIB2X Interface Box



Safety sensor range EU Machinery Directive



NEW: Compact Interface Box CIB2X

A wide range of interfaces despite limited space

- _ Remote mounting for encoders of the series 582, 802, 1102, and 362, as well as AEV70
- _ A cable between the rotary encoder and the interface box – up to 15 m in length
- _ Ideal for ATEX zones and aggressive environments

Compact & versatile

- _ Wide range of interfaces, including for 36 mm encoders
- _ Mounting the box in an accessible location
- _ Relief for Industrial Ethernet and multiple connections
- _ Easy integration of encoders in stainless steel or protective housings

Many plugs, little space?

The Compact Interface Box CIB2X from TR Electronic provides a solution. Instead of routing multiple cables directly to the rotary encoder, the interface box is mounted separately and connected via a single cable. This reduces cabling requirements and enables more compact installation situations – even with 36 mm rotary encoders. The CIB2X supports ATEX applications and aggressive environments and facilitates the integration of Industrial Ethernet. This preserves full interface diversity, regardless of the available installation space.

Ready for 2027 – secure & certified

EU Machinery Directive

- _ EC type examination certificate available for CD_582
- _ Complies with Machinery Regulation (EU) 2023/1230
- _ Functional safety: SIL2 / PLd to SIL3 / PLe
- _ Cyber security according to IEC 62443 in preparation

Future-proof security technology

- _ Interfaces: PROFI-safe, FSoE, openSAFETY, CIPsafety and CANopen Safety
- _ Simplified documentation via item numbers Evaluation
- _ Siemens application note on F controllers available
- _ Risk assessment shows high level of compliance with standards

The CD_582+FS safety encoder from TR Electronic already meets key requirements of the new EU Machinery Regulation 2023/1230, which will come into force on January 20, 2027. It requires functional safety up to SIL3/PLe, tamper-proof components, and cyber security measures in accordance with IEC 62443. With EC type examination, secure interfaces, and clear documentation, the CD_582 is optimally prepared for conformity assessment. The Siemens application note facilitates integration into F controllers. A recent risk assessment confirms: The CD_582 already meets essential requirements today – and offers a future-proof solution for machine manufacturers.

SIL Encoder – cyber security



NEW: CD_582+FS safety encoder with PROFINET / PROFIsafe

More security – compact & compatible

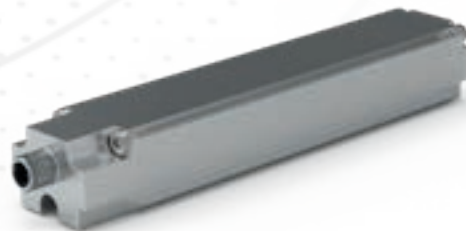
- _ PROFINET Security Class 1 for cyber security and tamper protection
- _ System redundancy S2 – stable communication even in the event of a control failure
- _ Safe acceleration value (SAV) according to IEC 61800-5-3
- _ SIL3/PLe, encoder profile V4.2, PROFIsafe address type 2

Functional safety

- _ Solid and hollow shafts available
- _ Easy integration into existing security architectures

TR Electronic has expanded the CD_582+FS safety encoder with modern cyber security functions. PROFINET Security Class 1 protects against unauthorized access and manipulation. System redundancy S2 ensures reliable communication even if a controller fails. Encoder profile V4.2 and PROFIsafe address type 2 facilitate integration into existing systems. The encoder provides safe acceleration values (SAV) in accordance with IEC 61800-5-3 for monitoring safety-related braking processes. The mechanics comply with SIL3/PLe and remain fully compatible. A future-proof solution for functional safety and cyber security in industrial automation.

Linear encoders – new “economy” product series



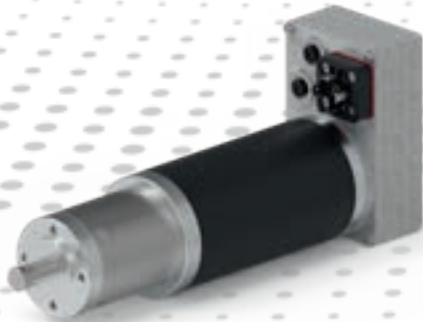
Economy linear encoders – contactless, precise, cost-effective

- _ Non-contact, wear-free measurement technology
- _ Flat design in profile housing for direct mounting
- _ Typical resolution: 0.1 mm
- _ Analog interface as replacement for linear potentiometer
- _ Digital interfaces: SSI, IO-Link, EtherCAT
- _ Variants: LMRS41H „Sensor only”, LMR70 with 0.1 μm resolution
- _ Special versions: Plastic housing, “3 in 1” redundancy, Magnetic guide

With its Economy series, TR Electronic offers a cost-effective solution for linear position measurement – ideal for replacing wear-prone linear potentiometers. The contactless, magnetostrictive technology is reliable and maintenance-free. Thanks to their flat design and robust profile housing, the sensors can be mounted directly on the machine body. The analog interface allows for easy retrofitting, while SSI, IO-Link, and EtherCAT support modern automation concepts. Variants such as the LMRS41H or LMR70 with high resolution, as well as special versions with plastic housings or redundant measuring structures, offer maximum flexibility for a wide range of applications.

encoTRive – EtherCAT with NC function

EtherCAT  **NC-Funktion**



Decentralized compact drives – compact & integrated

- _ Motor, power electronics, control, and position detection in one system
- _ Supply voltage: 24–48 V
- _ Bus systems: EtherCAT, PROFINET, PROFIBUS, CANopen

EtherCAT NC – new possibilities

- _ Integration into EtherCAT NC functions
- _ Manufacturer-neutral integration of a wide variety of drives
- _ Central position control via controller
- _ Integration via standard technology functions

The encoTRive series combines motor, electronics, and position detection in a single housing—ideal for space-saving applications with a 24–48 V supply. With support for modern fieldbus systems such as EtherCAT, Profinet, and CANopen, positioning tasks can be carried out efficiently. The new EtherCAT NC extension enables manufacturer-neutral integration and standardized control integration: The drive takes care of speed control, while position control is handled by the controller. This simplifies project planning and commissioning. Safety functions such as STO and SS1, as well as battery-free multiturn technology, round off the system – for greater convenience and future-proof automation.

New series Cable length sensor



NEW: WPS cable pull mechanism for CMW582 rotary encoder

Precise measurement over long distances – compact, robust, versatile

- _ Resolution of more than 17 bits over measuring lengths of 5 m with compact design
- _ Integrated multiturn encoder, protection class IP67

Full integration

- _ Wide range of interfaces: PROFINET, EtherCAT, CANopen, SSI, IO-Link, and many more.
- _ Radial connector arrangement, flexible mounting options
- _ Seamlessly integrated into the CMW582-encoder

The new WPS cable pull mechanism from TR Electronic enables high accuracy with low linearity deviation across the entire measuring range of up to 5 m – even in confined spaces and challenging installation situations. The multiturn encoder is directly integrated, significantly reducing the installation space required. Thanks to its IP67 protection rating, the mechanism is also suitable for harsh industrial environments. Installation is made easy by versatile mounting options – with T-slots and additional holes. Fully integrated into the CMW582 series, the WPS offers all common interfaces for modern automation – including Industrial Ethernet, IO-Link, and fieldbus options. Ideal for mechanical engineering, conveyor technology, and Industry 4.0 concepts.

notion.S Comfort Panels



notion.ABC – Industrial HMI and automation systems of the highest standard

Customized, robust, and future-proof: With notion.ABC, TRsystems offers a powerful platform for demanding industrial applications. The systems are developed and manufactured entirely at the Trossingen site – for maximum quality, flexibility, and long-term availability.

Whether for extreme operating conditions such as shock, vibration, EMC, or classic machine control, notion.ABC impresses with its reliability and efficiency. With state-of-the-art CPU technology (ARM®, Intel® Atom®, Intel® Core™ Gen. 14) you are already equipped for tomorrow.

NEW: notion.S Comfort Panels from TRsystems TP1200, TP1500, TP1900, TP2200

Highlights at a glance

- _ Functionally and installation-compatible with SIMATIC* HMI Comfort Panels
- _ Project planning directly in the TIA Portal
- _ Supports WinCC Runtime Advanced & Unified PC Runtime
- _ Scalable CPU performance – fanless and powerful
- _ Long-term availability of touch panels (>10 years)
- _ Seamless integration into SIMATIC*-environments: TIA Portal, WinCC Advanced & Unified

The notion.S Comfort Panels from TRsystems are the future-proof solution for industrial applications where compatibility, performance, and long-term availability are required. They can be fully integrated into the SIMATIC* world, both mechanically and in terms of software, including project planning in the TIA Portal. The panels support WinCC Runtime Advanced and Unified RT and are available in display sizes from 12" to 22" – with WXGA, HD, or Full HD resolution. Thanks to fanless, scalable CPU technology, they offer high performance with reliable continuous operation. Robust design, optional glass protection, and over 10 years of availability make them the ideal choice for machine and plant manufacturers. Ethernet interfaces, MPI, or AS511 adapters enable connection to all generations of SIMATIC* S5 and S7 controllers. The capacitive touch haptics provide a modern operating feel – notion.S is more than a replacement: it is an upgrade for your HMI future.

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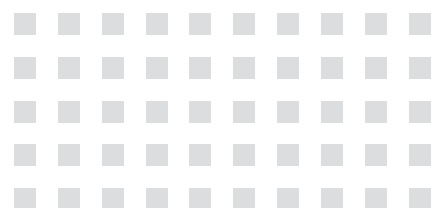
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