

Ready for Industry 4.0   
with TR-Electronic

Comprehensive networking and open communication between systems are the driving force for the next technological advances in industrial automation. The increasing demand for the production of products and the implementation of additional functions in production systems, along with the demand for competitive pricing, calls for intelligent and adaptive production systems that effortlessly communicate with each other.

Direct exchange of recipe and process control data, dynamic adaptation of production processes and material flow, as well as product documentation, ensure high flexibility for fulfilling diverse user requirements and at the same time producing efficiently. This requires machines and system parts that fulfill their specific tasks with adjustable parameters and ideally carry out these parameter changes independently. Systems, and entire factories, are networked, and a large number of component and system manufacturers are involved in the delivery of services. Speaking a common language in this diverse world of industrial automation iswhere TR Electronic continues to thrive..

TR-Electronic absolute positioning sensors with Industrial Ethernet provide the information highway to the executing component of the machine or system. PROFINET, EtherCAT, Ethernet/IP or Powerlink, available in the absolute rotary encoder or an absolute linear measuring system, deliver position data directly to the control unit. A plant component is no longer a black box, controlled with just a few binary signals and always doing the same task. Relevant data is directly available for linking processes. The compact absolute rotary encoders in the CE\_58 series measure up to 32768 steps per revolution with 256000 revolutions, and can be integrated seamlessly into PROFINET, EtherCAT, Ethernet/IP, Powerlink or SERCOS. The LA/LP46 linear absolute measuring systems can measure positions up to 4 m without contact, and wear-free. The moving part, a permanent magnet, does not require a supply lead. The LA46 series, with its pressure-resistant tubular housing, can be directly installed into hydraulic cylinders. The LP46 series has its own profiled housing and can thus be optimally mounted on machines and systems. These systems also support PROFINET, EtherCAT, Ethernet/IP, Powerlink and SERCOS.

Additional components assisting with TR Electronic’s successful technological leap, are the TR Electronic decentralized actuators and process actuators with Industrial Ethernet. Tasks which previously had to be set up manually on auxiliary and infeed axes, can now be performed directly by decentralized drives. The switch cabinet remains unloaded, as no central converters are required. The communication line and supply enable machine modules to carry out configuration tasks themselves. From simple actuators with the MA brush motor through to MD servo-oriented process actuators, the PROFIdrive standard has been systematically implemented via PROFINET: One protocol is sufficient to control all PROFINET drives from TR-Electronic.

TR also offers state-of-the-art platforms for contemporary machine and system automation at the control level. In addition to the proven Windows technology for PC-based automation, the control systems in the Notion series also offer lean and efficient Linux/Android-based systems. This means that even with small machines and system modules, a flexible control can be implemented, which provides all necessary interfaces for complete networking. There are also diverse options on the software side for OPC, UA, or DDS. With notion from TR systems, both machine modules and complete systems will be ready for Industry 4.0. Innovative, operating field technology using multi-touch,combined with TR's many years of experience, creates robust control systems for extremely demanding environments, from harsh, everyday production work, through to hygiene-sensitive food and medical technology

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