Field Buses in Drive Components

Ethernet is extending and is implemented in the new singleturn and multiturn encoders as a complement to other bus systems.

Industrial Ethernet increasingly asserts itself as a communication standard. Surveys confirm that in many industrial sectors already half of the machines is equipped with the Ethernet technique. This proportion is going to increase durably, using as well Ethernet TCP/IP as the real-time variants. The manufacturers who integrate the latter in their machines use increasingly the Profinet protocol. Also the EtherCAT protocol is frequently implemented. Nevertheless, according to some experts, Profinet will go on reinforcing its leading position.

Kübler's encoders are equipped for both interfaces. The new singleturn and multiturn encoders with the robust Sendix design allow supplementing the multifaceted Sendix absolute encoder family precisely for Profinet. These devices implement the whole encoder profile in compliance with the "Profile Encoder Version 4.1" and the "Identification & Maintenance Functionality in Version 1.16" (IM 0, 1, 2, 3 and 4).

These encoders support the Isochronous-Real-Time-Mode, also called IRT Mode, and are therefore ideal for real-time applications. The IRT-Mode offers, via a decoupling of the real-time communication from the standard communication (TCP/IP), a real-time solution for all high-performance

Field bus technologies are increasingly required for explosion hazard zones. This is why Kübler mounted the Sendix field bus encoder technology in an explosion-proof housing. These encoders are released for zones 1, 2, 21 and 22, and they offer Profibus and CANopen field bus profiles.

Sendix encoders with CANopen Lift interface (Profile DS 417 V1.1) are available in singleturn and multiturn versions, with removable bus terminal cover for an optimal integration in complex CAN networks and easiest connection to the control.

applications such as synchronous applications. The short cycle time of ≤ 1 ms allows a flexible and versatile use. Implementation is easy, thanks to the simple "Plug-and Play" installation with the help of the "Ezturn for Profinet" software supplied with the encoder, which also allows a quick and simple update of the software of the encoder. This firmware update allows expanding the features of the encoder without having to disassemble it. Furthermore, scaling and preset values, as well as many other parameters, can be programmed via the Profinet bus. The Ezturn software also includes the display of the main parameters for monitoring purposes. Position, speed, temperature values and many other states of the encoder can be transmitted as output values.

To ensure a quick and error-free start-up, all parameters can be programmed via the bus. The bus terminal cover is equipped with 3 x M12 connectors for a quick, simple and error-free connection. The standard Ethernet interface ensures a direct link, for example from the laptop to the encoder.

The resolution for the singleturn devices is up to 16 bits and for multiturn devices up to 28 bits total resolution.

Thanks to the "Safety-Lock" bearing structure, the Sendix Profinet singleturn and multiturn encoders guarantee highest safety. The large interlocked, widely spaced bearings ensure stability in case of Vibrations and confer a robustness that even accepts incorrect installation, avoiding machine downtimes and repair work. The highly integrative Opto-ASIC technology of Kübler allows reducing the number of electronic and optical sensor components to a minimum, therefore providing higher reliability. The sturdy die-cast housing, with its protection up to IP67 and its wide temperature range of –40 °C to +85 °C, also allow using these encoders for outdoor applications.

Visual warning and alarm signals advise of sensor faults, undervoltage or over-temperature. Fault diagnosis is therefore much simpler, allowing the measures necessary to correct the problem to be taken without delay, so avoiding long machine downtimes.

CONTACT

Fritz Kübler GmbH
www.kuebler.com