

### Encoders, draw-wire encoders, and inclinometers with J1939

For years, Kuebler has been offering a portfolio of rotary encoders, draw-wire encoders, inclinometers, and slip rings suitable for transmitting loads, signals, and data. The company now also offers its sensors with the SAE J1939 interface.

Mobile automation is a versatile industry. The numerous applications result in different sensor requirements.

#### Absolute magnetic encoders

The Sendix M36 and M58 encoders are specially designed for mobile automation applications. The SAE J1939 interface, which can be customized, enables integration into the wiring system of vehicles. Also available with e1 approval on request. These encoders are based on the energy harvesting technology, which comes with magnetic scanning and brings advantages in harsh environments. The products come with a temperature range of -40 °C to +85 °C as well as a protection of IP67, and an optional stainless steel housing. The encoders can be integrated into the vehicle network due to adaptable PGNs for position, speed, and alarm. A two-colour LED visualizes the encoder's operating status.



Sendix M36 and Sendix M58 absolute magnetic encoders with J1939 interface (Source: Kuebler)

#### Draw-wire encoder

For all wire-actuated encoders in the Compact-Line and Performance-Line performance classes, the company offers the combination of wire-actuated mechanics with rotary encoders and a J1939 interface. Here, pull-wire encoders can be selected for measuring lengths from 0,3 m to 42,5 m. The encoder can also be used as a control unit for the encoder. Various cable types, cable attachments, and variable mounting options are available for selecting the appropriate sensor technology. As with the rotary encoders, the draw-wire encoders can also be integrated into vehicle networks thanks to adaptable PNGs.



Draw-wire encoders with J1939 for measuring lengths from 0,3 m to 42,5 m (Source: Kuebler)

#### Inclinometers

The company's inclination sensors are designed for outdoor use. The products also come with a IP69k-rated housing and a temperature range of -40 °C to +85°C. For measurement of the angle of inclination in the measuring range of 0° to 360° (1-dimensional) or ±85° (2-dimensional) ensures accuracy with a resolution of 0,01°. A flat and stackable mounting is ideal for implementing safety concepts. Thus, two sensors can be installed as a redundant solution to save maximum space, explained the company.

Kuebler sensors are suitable for application areas such as agricultural and forestry machinery, connections for truck trailers, military vehicles, fleet management systems, mobile homes, marine navigation systems, and others.



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Tilt sensors with J1939 (Source: Kuebler)