

No stroke loss due to lateral mounting

Siko (Germany) has introduced the SGH10L wire-draw encoder. It has been developed for use in applications, in which almost no stroke loss is acceptable.

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The SGH10L wire-actuated encoder provides CANopen or J1939 connectivity (Photo: Siko)

Mobile machine designers are often faced with the following dilemma: accommodating quite a large functionality in the smallest possible installation space. Some mobile machines and utility vehicles must comply as well with unambiguous regulations regarding the width or height of the vehicle. The difficulty of this task becomes particularly evident when additional functions are to be integrated into an existing machine design, for example, when retrofitting a position sensor in hydraulic cylinders. The SGH10L wire-actuated encoder provides CANopen or J1939 connectivity.

The SGH10L position sensor has been specially developed for use in applications, in which no stroke loss is acceptable when integrating the sensor into the cylinder. This is made possible by the lateral attachment of the sensor to the hydraulic cylinder. This is because the encoder is not installed in the cylinder base as usual, but in its specially developed housing. The sensor is fixed to the cylinder by a hydraulic screw connection. The cable is guided into the cylinder and then redirected towards the piston head. Due to this design, only the installation space for the sensor ear is required in the cylinder. Because it is only a few millimeters in size, this results in a particularly compact installation shape. Sensors with this design increase flexibility in the design of hydraulic cylinders with integrated position measurement. As a result, the sensor can also be used in hydraulic cylinders with diameters measuring less than 20 mm, or integrated in cylinders with mechanical end-position cushioning.

The features of the SGH series – there have been, to date, three sensor variants with measuring lengths up to 5 meters – are of course also integrated in this sensor. Consequently, hollow drilling of the piston is no longer necessary for the SGH10L either. Due to the intuitive teach-in function, the sensor, which is available in two versions (500 mm and 1000 mm measuring range), can be taught in to the exact measuring range. This significantly minimizes the number of variants, which in turn reduces overall costs. Like all SGH sensors, it of course can also be used in telescopic cylinders.

The product meets the EMC requirements for construction, agricultural, and forestry machines according to E1 (UN ECE R10), and is based on a magnetic, wear-free, and sturdy sensor technology. The wire-actuated encoder measures the absolute direct cylinder stroke in a hydraulic cylinder. The measuring system eliminates costly boring of the piston. As a result, integration costs are reduced compared to other measuring systems and a possible weakening of the piston is avoided effectively.

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