

Press release 17.07.2019

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Encoder kit with digital interface

Preventive maintenance with intelligent sensors

2,570 characters inc. space

Information about the condition of machine components is essential to avoid unplanned downtimes. That is why the MiniCODERs with digital interface from Lenord + Bauer supply additional information such as temperature, operating hours and warning messages as well as the rotational speed and position.

A digital interface makes it possible to directly use the new encoder kits from Lenord + Bauer on a range of control systems (e.g. Mitsubishi CNC). The variable platform allows rapid adjustments without the need to modify hardware. In addition to the speed data acquired, the encoder kits also output warning messages and alarms, enabling malfunctions to be detected at an early stage. They transmit the data to the control system by means of transformer-specific serial protocols. The new MiniCODER generation is a logical extension of Lenord + Bauer's i³SAAC product strategy. It features integrated, intelligent and interactive sensors as well as autonomous actuators and controllers that in future will not only deliver measured values or execute movements, but also supply functions and additional information. The higher-level instance, such as a central control system, receives the required information as targeted, pre-processed data.

The magnetic measuring systems consist of a ferromagnetic target wheel and a scanning unit. They acquire rotational speeds of up to 100,000 revolutions per minute as SIN/COS signals with a peak-peak value of 1 V. Positions are output with an accuracy of up to 15 arcseconds. An analogue or digital reference signal can be selected to suit the control system. After commissioning, the sensors monitor their own condition and send information about the use of the machine by the operating company.

The sensor electronics store the operating hours in individual rotational speed ranges as well as the minimum and maximum temperatures. Any exceeding of limit values allows conclusions to be drawn about the operating behaviour of the machine. The information is either reported online via the digital protocol or retrieved using the testing and programming unit. The operating conditions of the machine can be analysed and documented from the data using the device's web browser. In servicing operations, this device enables the sensor signals to be optimised without having to open the spindle. Active monitoring of the distance between the sensor and the target wheel helps to detect bearing damage or damage to the target wheel at an early stage.



Figure 1: MiniCODER on the target wheel

About Lenord + Bauer:

We are an international specialist in the field of motion sensors and integrated drive technology. We develop, produce and distribute technology-leading solutions for the mobility and machinery sectors. Our activities are focused on railway rolling stock, machine tools and packaging machines.

Our customers have been benefiting from our considerable technical consultancy skills and expertise in customer applications for more than 50 years.

Lenord + Bauer is certified according to DIN EN ISO 9001 and 14001, as well as IRIS.