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Simplify functional safety with SIL2/PLd certified incremental encoder

Leine & Linde is introducing the latest encoder for safety installation: an incremental encoder with high current HTL (HCHTL) signals for use in SIL2/PLd category 3 installations.

Thanks to the integrated safety solution, a second encoder or sensor for redundancy will no longer be needed. This will save space and reduce the need for cables, which even further decreases the system's vulnerability to environmental factors, disturbances, wear and tear.

In critical applications such as those in the steel and the paper industry, where production runs for 24 hours per day, seven days a week, an operator needs to have access to the machinery while it is in operation. Therefore it has to be protected in accordance with SIL2/PLd, in related C-standard, to fulfil the machinery directives. For such applications, these encoders – typically used in large machinery, electrical AC or DC motors, and for generator feedback – simplify the functional safety system design.

Up until now, the only single encoder solution available has been using a 1Vpp signal, which is not appropriate in these harsh environments, due to its weak signal of 5 Vdc. Therefore the solution is the FSI 800 series with HCHTL signals for 9-30 Vdc, which also meets the demand for long cables (over 300 metres). The industry can now simplify their installation to fulfill the safety requirement since only one HCHTL encoder is enough. The square wave signals are monitored internally in the encoder. If faults are detected, the encoder signals will enter safe

The FSI 800 series fulfills the mechanical fault exclusion requirement due to the slip-free solution for the shaft installation. The FSI 862 hollow shaft encoder contains a guiding pin which requires a matching adapter shaft to be mounted. The FSI 850 shaft encoder has a key nut on to the shaft ensuring safe mounting in couplings with keyway.