



SICK Safety-Certified Encoder Protects Operators with Safe Motion Control

SICK UK has announced the launch of the PLd / SIL2-certified DFS60S Pro incremental encoder, enabling motion to be safely controlled in automated guided vehicles or machinery requiring frequent operator interaction. The DFS60S Pro enables safe operator interaction at slow speeds without the need to stop the machine.

Especially when teamed with the Flexi Soft FX3-MOC Drive Monitor, the DFS60S Pro permits safe working without loss of productivity during routine operations, such as piece part loading, magazine replacement, adjustment on machining centres or splicing of material on reel-fed machinery. Using a single DFS60S Pro, the rotating shaft speed is monitored and output to a safe motion monitor, providing data which can allow PLd / SIL2 safety for the equipment, PLe / SIL3 if two encoders are used.

“DFS60S Pro delivers easily-verified safety for controlled slow operations where production efficiency is key,” explains Darren Pratt, SICK (UK) encoder specialist. “Using non-certified encoders requires substantial investment in validation and verification of the safety function to ensure compliance with the Machinery Directive.

“The DFS60S can be fitted to rotating machinery and connected with any suitable safety drive monitor or retrofitted to equipment where the SICK Flexi Soft safety systems have been already installed to operate other safety sensors and switches.”

“The DFS60S Pro continually communicates shaft rotation but comes to the fore after a slow speed phase is signalled, for example when personnel are detected entering the designated safe zone. The drive monitor determines the shaft speed using the DFS60S Pro data, and monitors pre-configured motion characteristics until the appropriate clearance signal is received.

“When designing a safe motion solution it is easy to overlook the importance of the mechanical connection. It was a key factor during the development process that both mechanical and electrical elements be considered in the design of the DFS60S Pro to ensure the ultimate machine user receives the protection they need.”

The SICK DFS60S Pro is fitted directly to the machine's rotating shaft. The drive shaft connection consists of specially-engineered components with the added security of a keyed drive; the use of the key is recommended for all shaft diameters but is essential for shaft diameters below 10mm.

The IP65 rated encoder has a temperature range of -30°C to +95°C, is flange mounted and can be specified with M23, M12 connectors or a cable outlet.

"For many machine types, safely-controlled motion is essential for personnel safety, but it is also increasingly important for machine builders seeking to improve the productivity of machinery they build," adds Darren Pratt. "Shutting off the whole machine when someone needs to interact with the machine or if someone gets a little too near, can be very wasteful of energy and production time, especially if the machinery has to be totally re-initialised.

"SICK not only leads in encoder technology, we have extensive expertise in cutting-edge machine safety control installations, so the engineer receives the benefit of our expertise in both aspects. Using a safety encoder and safety motion monitor ensures peace of mind and production efficiency, as well as simplifying and saving valuable time verifying the safety system."

For more information on the SICK DFS60S Pro safety incremental encoder and other SICK encoder and safety systems, please contact Andrea Hornby on 01727 831121 or email andrea.hornby@sick.co.uk.

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