

**SUCCESS
STORY**

SCHALLER
AUTOMATION 

HUMMEL
smart & reliable connections

M 23 connector with compressed air element

Transmission of power, signals and compressed air

In this application, the term "hybrid connector" takes on a whole new meaning: it is no longer about the classic transmission of power, signals and Ethernet. HUMMEL AG developed a circular connector for Schaller Automation that carries compressed air in addition to signals and power.

Background:

Schaller Automation specialises in oil detection systems. For this purpose, sensors are placed directly on the crankcase. Their task is to detect and report the smallest oil particles, because released oil particles indicate an operating fault and can lead to an explosion in the engine crankcase.

Challenge:

The sensors are constantly supplied with fresh air to keep dirt away from the measuring optics. This reduces maintenance and avoids false alarms. The fresh air is brought into the sensor in the form of compressed air via a special hybrid cable and the circular connector. The challenge was to develop a connector that, in parallel to transmitting signals and power, also safely and reliably supplies the sensor with compressed air. In addition, the assembly of the connection in the engine compartment had to be simple, quick and manageable without special tools.



The solution:

Based on the renowned M 23 connector series, HUMMEL developed a customised solution. It quickly became clear that the requirement for simple pluggability in difficult-to-access environments should be realised with the TWILOCK quick-connect system. It was needed a device connector on the sensor housing and, as a counterpart, the cable connector for the cable routing. The big challenge was the adaptation of the pole pattern to the specified cable structure. For this purpose, a completely new contact insert was designed, which is specially tailored to this very special application. The insert combines six signal contacts with the central element of the application: the compressed air insert. The HUMMEL AG connection specialists also developed an adapter for the hose connection in the cable as well as the actual compressed air connection between the device connector and the cable connector. As a result, the customer now has a reliably functioning connection solution for signals and compressed air based on standard housings of the M 23 circular connector series.

SCHALLER Automation

For more than 60 years, the products of Schaller-Automation Industrielle Automationstechnik GmbH & Co. KG have been helping to detect oil mist and other influencing factors and maximise operational safety on engines. In this way, the detectors increase safety for operating personnel and extend the running time of engines. Schaller-Automation is represented worldwide by subsidiaries and partners. The products are mainly used in the marine industry and in power plants.



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