

WITH FUNCTIONAL SAFETY

Pressure sensing for hydrogen processing and storage systems

Variohm Eurosensor's SMO31H2 series of pressure sensors are designed for critical measurement and monitoring tasks in hydrogen processing and logistics.



Variohm's SMO31H2 sensor is now available in a PLd compliant version (Source: Variohm)

They are now available with Performance Level d (PLd) certification. CANopen and J1939 are optionally provided. The sensor is capable of pressures to 1000 bar and with EC79 (up to 700 bar) and EC406 type approvals for hydrogen generation, storage, and transportation systems. It offers ECU (electronic control unit) and other safety-controlled applications compliance with the DIN EN ISO 13849-1 machinery safety and IEC 61508 functional safety standards in addition to other recognized safety accreditations, said the company.

The sensors are suitable for applications ranging from motorsports to medical equipment and from harsh industrial use to mobile agricultural and construction machinery. The SMO and EPT series pressure sensors offer various variants such as CANopen or J1939 as outputs. Further variants are as a titanium construction, gas/liquid compatibility, and more.

The product features stainless steel construction with IP67 protection class as standard or optional IP69K. It provides resistance to shock and vibration, a temperature range of -40 °C to +125 °C, EMI/RFI protection, as well as low static and thermal errors, said the company. The PLd variant is available in 20 range options from 1,0 bar up to 1000 bar with a choice of M16 or ¼ NPT pressure port configurations (NPT limited to 500 bar). Its 4 mA to 20 mA output from a 10-V to 32-V DC supply has defined safety limits which can be read into the safety system or ECU to detect faults. There is also internal failure detection within the sensor's signal conditioner for broken bond wires, internal EEPROM errors, and Watchdog etc., that cause an output signal outside of the safety limits.

Electrical interfacing is a 600-mm cable with free ends, or optionally with a Metri-Pack connector or M12x1 round connector. The sensor series also includes a variant with European E1 automotive type-approval making conformance straightforward for pressure monitoring on mobile applications for cars, buses, and trucks, explained the company.



The sensor SMO31H2 comes optional with CANopen and J1939 (Source: Variohm)

[CW](#)