

Pressure measurement for safety critical applications: Variohm SMO3100 series pressure sensors now includes SIL 2 / PLd functional safety version

Variohm EuroSensor's SMO3100 series pressure sensors are now available with SIL 2/ PLd functional safety. Aimed at safety-critical pressure measurement tasks for gas and liquids compatible with stainless steel or titanium wetted parts, the new SMO3100 PLd will allow user's the ability to meet SIL2 functional safety levels on machines and systems. The robust and durable sensor series is available in twenty pressure range versions from 0.5 to 5000 bar and with best accuracy to 0.5% F.S.



Based on a piezo resistive sensing element and latest ASIC circuitry and providing high precision linearity and repeatability, the SMO3100 PLd features a 4...20 mA output from a 10 to 32 VDC supply. Its high strength 304 stainless steel housing offers excellent durability in demanding industrial machinery applications. Standard environmental protection meets IP67, and IP69K is optionally available. With the standard version's well proven use in demanding environments such as motorsports, off-road vehicles, construction equipment and agricultural machinery, the sensor boasts a high shock and vibration resistance together with a generous over-range and burst pressure specification of 2x and 5x respectively. Rated life is 10 million pressure cycles and an impressive 100 year MTTFd factor demonstrates its excellent endurance. The SMO3100 PLd includes a measuring medium temperature range of -40 to +125 °C with a compensated range from -20 to +85 °C.

The SMO3100 PLd version brings DIN EN ISO 13849-1 Performance Level d (PLd), enabling ECU and other safety controlled systems to meet IEC 61508, 61511 and 62061 standards for Safety Integrity Level (SIL) 2 functional safety on machines and system. The sensor detects internal failures within a predefined diagnostic range for its output signal. Internal failures include broken bond wires, internal EEPROM errors and internal watchdog errors.

As with the standard SMO3100, the PLd version is available for absolute, gauge and vacuum pressure measurement. Port configuration options include most commonly required types in NPT, UNF and metric thread sizes with the electrical interfacing covering cable and connectors for DIN EN175301-803, M12 and Packard Metripac. The new SMO3100 PLd series is covered by a new datasheet available from Variohm EuroSensor's website at www.variohm.com.

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About Variohm EuroSensor

Variohm EuroSensor is a manufacturer, distributor and supply chain partner providing complete sales and application support across a comprehensive range of position, force, pressure, load, and temperature sensor technologies - for demanding measurement applications across industry, construction, agriculture, motorsports, research and more.

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