Diverse Software in Pressure Sensors

The following information applies to the following pressure sensors:

- SPAU-P10R-W-G18FD-L-PNLK-PNVBA-M8U (8001231)
  ↗ Datasheet, ↗ Datasheet Product Reliability
- SPBA-P2R-G18-2P-M12-0.25X (8000210)
  ↗ Datasheet, ↗ Product Reliability Datasheet

Both sensors use embedded software that cannot be evaluated by the user and do not meet the requirements of ISO 13849-1, section 7.3.1. These sensors may be used under the following alternative conditions (according to ISO 13849-1, section 7.3.2):

- The subsystem is limited to PL c with Category 2 or PL d with Category 3, and it is necessary to meet the diversity requirements for Common Cause Failure (CCF), where both channels use different embedded software (manufacturer Festo ↔ brand-labeled product from another manufacturer) and different measurement methods (piezoresistive ↔ metal thin-film pressure sensor).

Notes

- This document only confirms the suitability of the embedded software for the specified Performance Levels (PLs) based on the alternative method according to ISO 13849-1, section 7.3.2.
- The relevant basic and well-tried safety principles, as well as the other requirements of the category and PL to be implemented, must be evaluated in the application.

Used Literature

1. DIN EN ISO 13849-1:2023-12 - Safety of machinery - Safety-related parts of control systems - Part 1: General principles for design (ISO 13849-1:2023); German version EN ISO 13849-1:2023

Date
October 30th, 2025

Our Reference
200138

Legal form:
Limited partnership
Registered office: Esslingen a. N.
Registry court Stuttgart
HRA 211583
Value added tax id. number:
DE 145 339 206
General partner:
Festo Management SE
Registered office: Esslingen a. N.
Registry court Stuttgart
HRB 782421
Management Board:
Dr. Sebastian Beck
Dipl.-Ing. (FH) Thomas Böck (Chairman)
Dipl.-Ing. Gerhard Borho
Dr. Ansgar Kriwet
Dipl.-Ing. (FH) Frank Notz
Dr. Jaroslav Patka
Chairman of the Supervisory Board:
Dr. Friedrich Eichiner

Festo SE & Co. KG
Ruiter Straße 82
73734 Esslingen
Phone +49(711)347-0
GERMANY
www.festo.com