SCHMERSAL Tech Briefs:

PFB Passive Field Box

Features

Internally 1.5A fused M12 connectors for quick and easy wiring

Dipswitches for configurations based on wiring schemes

LED indicators at each M12 device connector for power and Input

Available Literature

Installations Systems for Safety Series Connection

Overview

The PFB is a passive field box used to series connect multiple electronic sensors and electronic locking devices. The fused M12 plug and play configuration of the field box does not reduce the high safety rating of PLe to ISO 13849 and SIL3 to IEC 61508 as offered by the series connection of the electronic RFID and Pulse-Echo Schmersal devices.

For conventional diagnostic devices, one I/O 8-pole cable per PFB box is brought back to the control panel which will provide the signals for the safety outputs and each individual device's diagnostic signal. For serial diagnostic devices only one I/O 8-pole cable in total will be brought to the control panel to provide the signals of the safety outputs and the individual detailed device statuses offered with the serial diagnostic communication.

Dipswitches allow for easy configurations based on number of devices connected and the location within the series chain the field box is located. LEDs at each M12 connector provide a quick visual indication of the basic switch status.
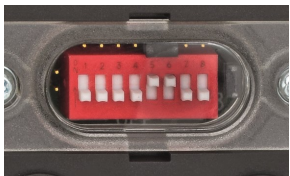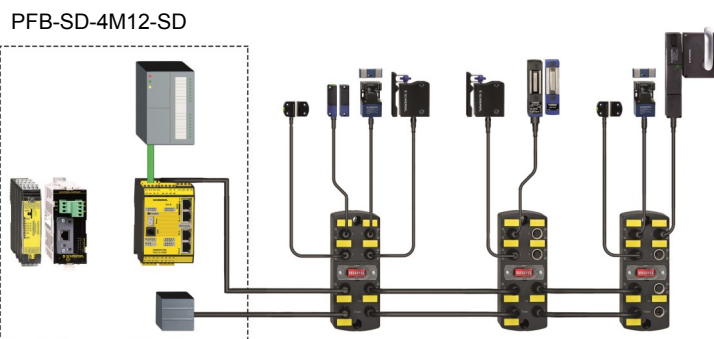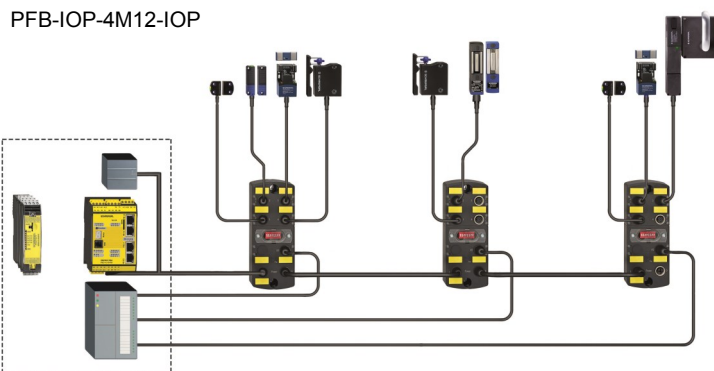
The PFB is IP67 rated and can easily by mounted via two M6 screws allowing it be installed at various positions on the machine itself.

Wiring of Electronic Safety Devices

This Passive Field Box is for wiring Schmersal's radio frequency identification (RSS type) and patented Pulse-Echo (CSS type) safety devices. These devices feature a microprocessor based non-contact technology. Internal self-diagnostics eliminate the need for a proprietary dedicated safety controller while maintaining PLe to ISO 13849 and SIL 3 to IEC 61508, even when wired in series. All electronic devices feature LED diagnostics to identify device status and quick disconnect option for easy wiring. Device options include locking and non-locking, magnetic locking, integrated door handle assemblies, IP69K and ECOLAB approved devices.

Wiring examples

PFB-IOP-4M12-IOP

PFB-SD-4M12-SD

Ordering Details

PFB-IOP-4M12-IOP
For series wiring of up to 4 OSSD devices with conventional diagnostics.

PFB-SD-4M12-SD
For series wiring of up to 4 OSSD devices with serial diagnostics.

Accessories

Main Power Cable (M12)
103013430 (5.0m, 4-pole, T-code)
103013431 (10.0m, 4-pole, T-code)

Device to PFB Cable (M12)
101217786 (0.5m, 8-pole, A-code)
101217787 (1.0m, 8-pole, A-code)
101217788 (1.5m, 8-pole, A-code)
101217789 (2.5m, 8-pole, A-code)
103013428 (3.5m, 8-pole, A-code)
101217790 (5.0m, 8-pole, A-code)
103013429 (7.5m, 8-pole, A-code)

Device to PFB Cable (M8 - RSS 260)
103003645 (2.0m, 8-pole, A-code)

PFB-IOP Signals Cable (M12)
103013426 (5.0m, 8-pole, A-code)
103013431 (10.0m, 8-pole, A-code)

PFB-SD Signals Cable (M12)
103013421 (5.0m, 4-pole, A-code)
103013422 (10.0m, 4-pole, A-code)

PFB to PFB Power Cable (M12)
103013432 (3.0m, 4-pole, T-code)
103013433 (5.0m, 4-pole, T-code)
103013434 (7.5m, 4-pole, T-code)

**PFB-SD to PFB-SD
Signals Cable (M12)**
103013423 (3.0m, 4-pole, A-code)
103013424 (5.0m, 4-pole, A-code)
103013425 (7.5m, 4-pole, A-code)

SD Gateway
SD-I-… Converter to a field bus:
   PROFIBUS   DeviceNet
   CC-Link   PROFINET I/O
   EtherNet IP   CANopen
   Modbus TCP

Bold part numbers are regularly stocked

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