

► Selection guide – PNOZpower

Base units – Safety relays PNOZpower

Type	Application area	Application				Performance Level (PL) – EN ISO 13849-1
						
PNOZ p1p	Base unit	◆	◆	◆		e
PNOZ p1vp	Base unit, delayed	◆	◆	◆	◆	e (d) ¹⁾

Contact expansion modules – Safety relays PNOZpower

Type	Output contacts		Performance Level (PL) – EN ISO 13849-1
	Safe 	Non-safe 	
PNOZ po3p	3	1	e
PNOZ po3.1p	8	-	e
PNOZ po3.2p	4	-	e
PNOZ po3.3p	3	-	e
PNOZ po4p	4	-	e

Accessories – Safety relays PNOZpower

Type	Application area	Application	Performance Level (PL) – EN ISO 13849-1
PNOZ pe1p	Control module	For control via safety contacts or safe semiconductor outputs	e
PNOZ pe2p	Bus interface	Coupling connector for connecting PNOZpower expansion modules to a higher-level controller	e
PNOZ pps1p	Power supply	-	-

Safety Integrity Level (SIL) CL claim limit in accordance with EN/IEC 62061	Number of expansion modules	Supply voltage	Dimensions (H x W x D) in mm
3	Min. 1, max. 4 expansion modules	24 VDC	94 x 45 x 135
3	Min. 1, max. 8 expansion modules (max. 4 delayed and 4 instantaneous)	24 VDC	94 x 45 x 135

¹⁾ Value applies to instantaneous (delayed) safety contacts

Safety Integrity Level (SIL) CL claim limit in accordance with EN/IEC 62061	Number of expansion modules			Dimensions (H x W x D) in mm
	AC1	AC3	DC1	
3	240 V/4 A/960 VA	-	24 V/4 A/96 W	94 x 22.5 x 121
3	240 V/8 A/2 000 VA	-	24 V/8 A/200 W	94 x 45 x 121
3	240 V/16 A/4 000 VA	-	24 V/16 A/400 W	94 x 90 x 135
3	240 V/16 A/4 000 VA 400 V/10 A/4 000 VA 500 V/8 A/4 000 VA	240 V/3.0 kW 400 V/5.5 kW 500 V/4.0 kW	24 V/16 A/400 W	94 x 90 x 135
3	240 V/4 A/960 VA	-	24 V/4 A/96 W	94 x 22.5 x 121

Safety Integrity Level (SIL) CL claim limit in accordance with EN/IEC 62061	Number of expansion modules	Supply voltage	Dimensions (H x W x D) in mm
3	Min. 1, max. 4 expansion modules	24 VDC	94 x 22.5 x 121
3	Min. 1, max. 6 expansion modules	24 VDC	29 x 23.5 x 22
-	-	100 ... 240 VAC	94 x 45 x 121

Keep up-to-date on safety relays PNOZpower:

 Webcode: web150107

Online information at www.pilz.com

► Technical details – PNOZpower

Safety relays PNOZpower



PNOZ p1p



PNOZ pe1p



PNOZ pe2p



PNOZ pps1p



PNOZ po3p

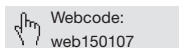


PNOZ po3.2p

Type	Application area	Inputs/outputs	Supply voltage
PNOZ p1p	Base unit	2 semiconductor outputs	24 VDC
PNOZ p1vp	Base unit, delayed	2 semiconductor outputs	24 VDC
PNOZ pe1p	Control module	Expansion module control output connected to the PNOZpower bus	24 VDC
PNOZ pe2p	Bus interface	Output connected to PNOZpower bus	24 VDC
PNOZ pps1p	Power supply	-	100 ... 240 VAC/DC
PNOZ po3p PNOZ po4p	Expansion modules	► PNOZ po3p: - 3 safety contacts (N/O) - 1 auxiliary contact (N/C) ► PNOZ po4p: - 4 safety contacts (N/O)	Via PNOZpower bus
PNOZ po3.1p	Expansion module	8 safety contacts (N/O)	Via PNOZpower bus
PNOZ po3.2p	Expansion module	4 safety contacts (N/O)	Via PNOZpower bus
PNOZ po3.3p	Expansion module	3 safety contacts (N/O)	Via PNOZpower bus

Features	Certification	Order number
		Plug-in screw terminals
▶ Dual-channel wiring, with or without detection of shorts across contacts ▶ Monitored or automatic start can be selected ▶ Connection between PNOZ p1p and expansion modules via PNOZpower bus, using jumpers on the back of the unit	CE, cULus Listed, EAC (Eurasian), TÜV, CCC	773300
▶ Dual-channel wiring, with or without detection of shorts across contacts ▶ Monitored or automatic start can be selected ▶ Delay time can be selected via rotary switch and potentiometer ▶ Connection between PNOZ p1vp and expansion modules via PNOZpower bus, using jumpers on the back of the unit	CE, cULus Listed, EAC (Eurasian), TÜV, CCC	▶ 30 s ____ 773950 ▶ 300 s ____ 773951
▶ 1-channel operation, without detection of shorts across contacts ▶ 2-channel operation, with or without detection of shorts across contacts ▶ Connection between PNOZ pe1p and expansion modules via PNOZpower bus, using jumpers on the back of the unit ▶ Status indicator for output relay, supply voltage and fault ▶ Connection for feedback loop	CE, cULus Listed, EAC (Eurasian), TÜV, CCC	773900
▶ Control via safety contacts or safe semiconductor outputs ▶ 1-channel operation, without detection of shorts across contacts ▶ Connection between PNOZ pe2p and expansion modules via PNOZpower bus	CE, cULus Listed, EAC (Eurasian), TÜV, CCC	779125
▶ Galvanic isolation ▶ Short-circuit-proof ▶ 24 VDC at plug-in connector on back of unit for PNOZpower bus and at terminals ▶ LEDs for supply voltage, output voltage and fault	CE, cULus Listed, EAC (Eurasian), TÜV, CCC	773200
▶ 2-channel operation with the ability to detect short circuits via the base unit ▶ LEDs for switch status of channels 1/2, supply voltage and fault	CE, cULus Listed, EAC (Eurasian), TÜV, CCC	▶ PNOZ po3p: 773634 ▶ PNOZ po4p: 773635
	CE, cULus Listed, EAC (Eurasian), TÜV, CCC	773630
	CE, cULus Listed, EAC (Eurasian), TÜV, CCC	773631
▶ 2-channel operation with the ability to detect short circuits via the base unit ▶ LEDs for switch status of channels 1/2, supply voltage and fault ▶ Suitable for safety-related switching of loads with utilisation category AC3 (e.g. motor) ▶ External start/stop input for non-safety-related load switching	CE, cULus Listed, EAC (Eurasian), TÜV, CCC	773632

Technical documentation on safety relays PNOZpower:

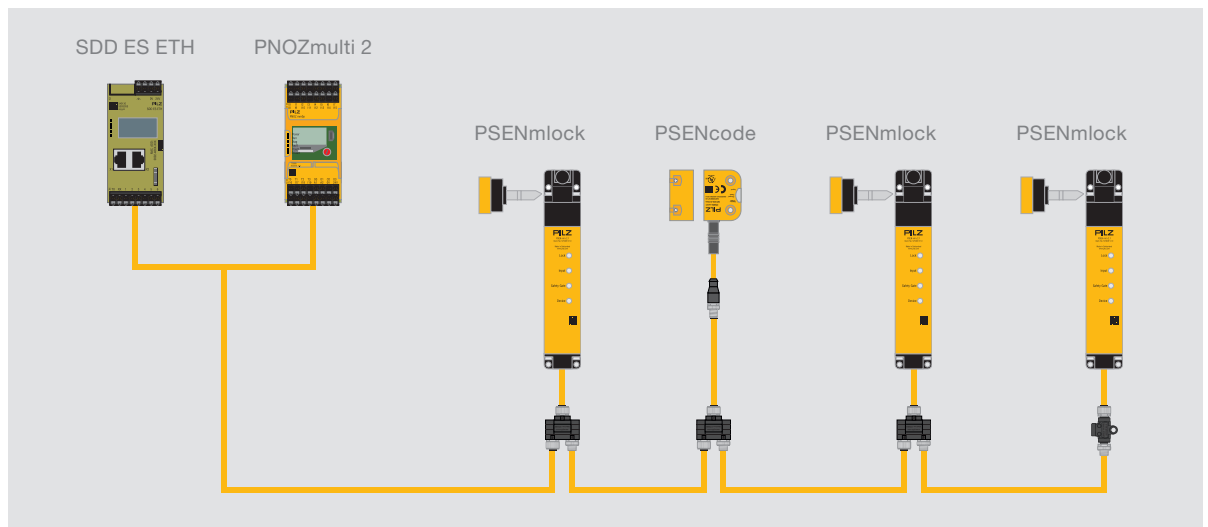


Webcode:
web150107

Online information at www.pilz.com

► Safety Device Diagnostics

In combination with e.g. PNOZsigma or PNOZ X, Safety Device Diagnostics (SDD) provides simple and extensive diagnosis of safety devices. The signal I/Os of the safety devices, such as PSENcode, have their functions extended. Status information is interrogated, configuration parameters read and actions performed. Safety Device Diagnostics is the ideal solution for your application as it provides you with an overview of the safety devices at all times and from any location.



Fewer service calls, greater availability

The availability of plant and machinery is also determined by safety devices. The extended diagnostic possibilities of Pilz safety devices with Safety Device Diagnostics can reduce service calls to your customers. End users benefit from a higher machine availability thanks to faster fault diagnostics. Safety Device Diagnostics can also provide an interface to the plant bus for all safety devices. Thanks to its expandability, Safety Device Diagnostics supports a modular machine structure within the framework of Industrie 4.0.

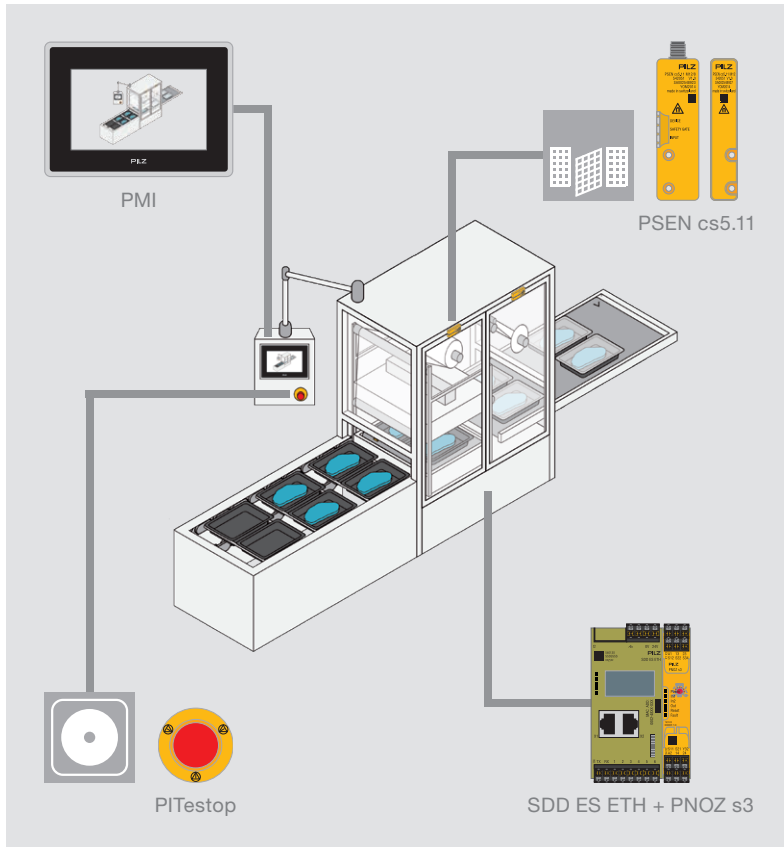
Complete solution for extended diagnostics

Safety Device Diagnostics consists of a fieldbus module plus junction box and safety devices (e.g. sensors) and, in combination with e.g. PNOZsigma or PNOZ X, offers a cost-effective complete solution. The safety devices are automatically activated by the fieldbus module so that the signal contacts for the Safety Device Diagnostics are enabled. For example, a simple series connection of sensors in the field and remote maintenance via web server are possible. The solution using Safety Device Diagnostics therefore provides many more advantages than a conventional wiring of signal contacts. You decide which solution is optimum for your needs: the sensor remains the same.

Type code for Safety Device Diagnostics

SDD ES ETH

Product area	Version
Safety Device Diagnostics	
Product group	ETH Communication module with ETH interface
SDD ES – Safety Device Diagnostics	PROFIBUS Communication module with PROFIBUS interface
Electronic module Standard	PROFINET Communication module with PROFINET interface
	EIP Communication module with EtherNet/IP interface



Your benefits at a glance

- ▶ Comprehensive diagnostics for reducing down times and number of service calls
- ▶ Simple diagnostics thanks to use of the same sensors and optional IP67 cabling
- ▶ Information is received directly via the display on the fieldbus module
- ▶ Targeted activation of individual sensors in the chain
- ▶ Quick and easy installation due to series connection in the field
- ▶ Third-party devices can be connected directly via the I/Os on the fieldbus module
- ▶ Cost-effective complete solution, e.g. with PNOZ X, PNOZsigma, PNOZmulti 2 or PSS 4000



Components for your safe solution	Order number
Sensor: PSEN cs5.11	542 011
Connection: PSEN cable, M12, 8-pin, 5 m distributor IP20	540 320 535 112
Evaluation device: PNOZ s3	751 103
Fieldbus module: SDD ES ETH	540 130
- spring-loaded terminals	540 121
- plug-in screw terminals	540 120

The coded safety switches PSENcode, which are often connected in series, are ideal here; see PSENcode slimline design.



Keep up-to-date
on Safety Device
Diagnostics:

Webcode:
web150456

Online information
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