Sensor technology PSEN®, control and signal devices PIT®

PILZ
THE SPIRIT OF SAFETY

- Devices for position monitoring
- Safety switches
- Safety gate systems
- Light curtains
- Safety laser scanners
- Safe camera systems
- Control and signal devices




Safety switches

Safety switches from Pilz are used for cost-optimised safety gate and position monitoring and meet the requirements of EN ISO 14119 (successor standard to EN 1088) at particularly low cost. That's why they are used for applications in mechanical engineering as well as in the packaging or pharmaceutical industry and many other sectors.

PSENmech PSENmag PSENcode PSENbolt PSENhinge

Safety switches are available with various designs and operating principles and can even be used under difficult environmental conditions. Additional costs can be saved when connected in series.

Choose the optimum switch for your application:

- Mechanical – PSENmech offers personnel and process protection with safe guard locking
- Non-contact, magnetic – with concealed installation PSENmag is the most economical solution – for the highest safety requirements
- Non-contact, unique, fully coded – PSENcode allows maximum freedom in installation thanks to the highest manipulation protection for guards, as required in EN ISO 14119
- Non-contact, coded – PSENcode x.19n is suitable for safe monitoring and distinguishing up to 3 positions

Safety bolt – the robust, cost-effective solution for a rugged industrial environment

The safety bolt PSENbolt is particularly suitable for safety gates that are difficult to adjust or in areas where safety gates are often opened and closed. What you get is a complete solution comprising safety switch, handle and bolt.

Safe hinge switch – bundled hinge and safety switch

The combination of hinge and safety switch is the optimum solution for hinged safeguards. Designed as one functional and installation unit, the safe hinge switch PSENhinge offers a high level of flexibility in installation, connection and adjustment.

Selection guide – safety switches and safe hinge switches

Type	Safety switch PSENmech	Safety switch PSENmag	Safety switch PSENcode	Safety switch PSENcode	Hinge switch PSENhinge
Mode of action/Coding	Mechanical	Non-contact, magnetic	Non-contact, coded	Fully coded, unique fully coded	Mechanical
Application					
Covers	◆	◆	◆	◆	
Flaps	◆	◆	◆	◆	◆
Hinged safety gates	◆	◆	◆	◆	◆
Sliding safety gates	◆	◆	◆	◆	
Rolling doors		◆	◆	◆	
Position detection		◆	◆	◆	
Guard locking device	With	Without	Without	Without	Without
IP protection type	IP65/IP67	IP65/IP67/IP6K9K	IP67/IP6K9K	IP67/IP6K9K	IP67
Performance level[1]					
PL e	2 x	1 x	1 x	1 x	2 x
PL d	1 x + FE[2]	1 x	1 x	1 x	1 x + FE[2]
PL c	1 x	1 x	1 x	1 x	1 x
Classification in accordance with EN ISO 14119					
Type	2	4	4	4	1
Coding stage	Low	Low	Low	High	-

[1] Achievable performance level depends on application
[2] FE = Fault exclusion

Safety gate systems:
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Keep up-to-date on safety switches:

Webcode: web150523

Online information at www.pilz.com

Mechanical safety switch PSENmech

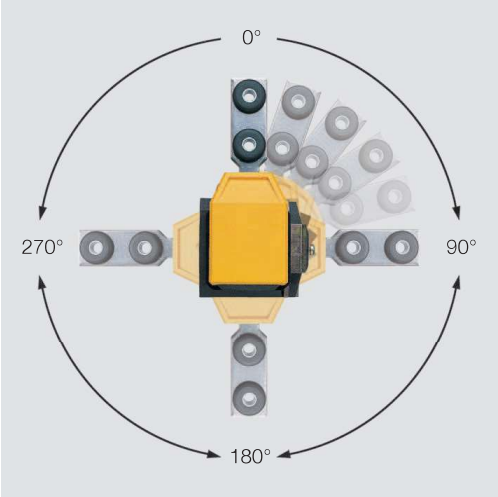
The mechanical safety switch PSENmech is suitable for safe monitoring of a movable guard and can lock the safety gate securely.

PSEN me1

PSENmech uses increased extraction force on the actuator to prevent the safety gate from being opened unintentionally. It complies with the standard EN 14119 due to its coded actuators.

Safety gate monitoring with guard locking guarantees the safety of persons or processes. One version of the mechanical safety switch PSEN me1 fulfils two safety functions:

- Avoids an unexpected start-up when PSEN me1 is unlocked or not closed
- Safety gate locked by the PSEN me1 while the motor speed is > 0

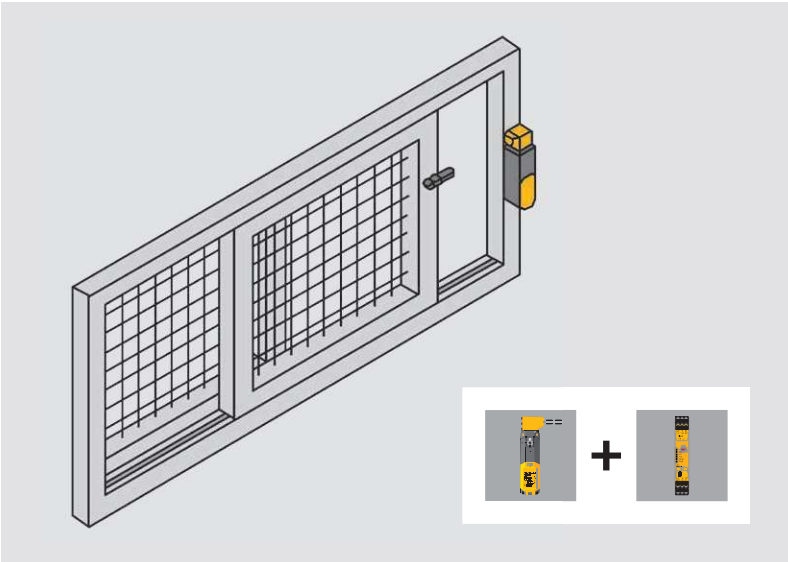


Universal actuation directions provide flexibility during installation.

Type code for PSENmech

PSEN me1.2S/1AR

Product area Pilz **SEN**sors	Product series	Series 1: Type of guard locking/ supply voltage	Series/actuator type
Product group me – PSENmech	**1 With guard locking, dimensions: 170 x 42.5 x 51 mm**	S Spring force, 24 VAC/DC (2 N/C, 2 N/O) **.2S Spring force, 110, 230 VAC (2 N/C, 2 N/O)** M Magnetic force, 24 VAC/DC (2 N/C, 2 N/O) .21S Spring force, 110, 230 VAC (3 N/C, 1 N/O)	1AS Standard, Series 1 **1AR Radius, Series 1**
Operation Mechanical			



Components for your safe solution	Order number
Sensor: PSEN me1M/1AS	570004
Connection: Cable, depending on function, e.g. 8 x 0.5 mm²	-
Evaluation device: PNOZ s3	751103

The optimum solution: monitoring sliding gates using the safety switch PSENmech and safety relay PNOZsigma.

Your benefits at a glance

- Safe, complete solution in conjunction with Pilz evaluation devices for applications with high safety requirements
- Flexibility and speed during installation due to:
  - Compact design
  - Radius or standard actuator
  - Up to 4 horizontal and 4 vertical approach directions
- Long product service life due to the robust design and high mechanical load capacity
- Suitable for a variety of applications due to the wide operating temperature range
- Housing is insensitive to dirt and dust and is also waterproof

Accessories – mechanical safety switch PSENmech

Description Type	Features	Quantity	Order number
One-way screw to secure the actuator	▸ Stainless steel ▸ Drive: one-way slot (safety screw)		
PSEN screw M4x16	▸ M4, 16 mm ▸ Suitable for PSEN me1/1AS and PSEN me4	10	540310
PSEN screw M5x20	▸ M5, 20 mm ▸ Suitable for PSEN me1/1AR, PSEN me2 and PSEN me3	10	540312

Cable selection:

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Keep up-to-date on mechanical safety switches PSENmech:

Webcode: web150414

Online information at www.pilz.com

Selection guide – PSENmech

Mechanical safety switch PSENmech with separate actuator and guard locking device

Common features

- Safety switch for monitoring the position of movable guards in accordance with EN 60947-5-3
- Suitable for applications up to:
  - PL e of EN ISO 13849-1
  - SIL CL 3 of EN/IEC 62061
- Can be connected to all Pilz evaluation devices
- Directions of actuation:
  - PSEN me1: 8
  - PSEN me3: 4
  - PSEN me4: 8
- Dimensions (H x W x D, excl. actuator) in mm:
  - PSEN me1: 170 x 42.5 x 51.0
  - PSEN me3: 90 x 52.0 x 33.0
  - PSEN me4: 100 x 31.0 x 30.5
- Ambient temperature:
  - PSEN me1: –25 … +70 °C/–13 … +158 °F
  - PSEN me3/me4: 0 … +80 °C/-22 … +176 °F
- Connection terminals:
  - PSEN me1: Spring-loaded terminals
  - PSEN me3/me4: Screw terminals
- Protection type:
  - PSEN me1: IP67
  - PSEN me3/me4: IP65

PSEN me1S/1AS

PSEN me3/2AR

PSEN me4/4AS

Type (switch/actuator)	Type of guard locking	Actuator type
▸ Base versions		
PSEN me1S/1AS	Spring force	Standard
PSEN me1.2S/1AS	Spring force	Standard
PSEN me1S/1AR	Spring force	Radius
PSEN me1.2S/1AR	Spring force	Radius
PSEN me1M/1AS	Magnetic force	Standard
PSEN me1M/1AR	Magnetic force	Radius
PSEN me1.21S/1AR	Spring force	Radius
PSEN me3/2AS	-	Standard
PSEN me3.2/2AS	-	Standard
PSEN me3.2/2AR	-	Radius
PSEN me4.1/4AS	-	Standard
PSEN me4.2/4AS	-	Standard
▸ Versions with additional M12, 8 or 5-pin plug-in connector		
PSEN me1.02S/AS M12	Spring force	Standard
PSEN me1.02S/AR M12	Spring force	Radius
PSEN me1.02M/AS M12	Magnetic force	Standard
PSEN me1.02M/AR M12	Magnetic force	Radius
PSEN me1.03M/AS n	Magnetic force	Standard

Contacts	Supply voltage/ contact load Utilisation category AC-15	Auxiliary release	Holding force	Extraction force	Certification	Order number (Unit) [1]
2 N/C, 2 N/O	24 VAC/DC	◆	1500 N	min. 27 N	CCC, CSA, DGUV, EAC	570000
2 N/C, 2 N/O	110 … 230 VAC	◆	1500 N	min. 27 N	CCC, CSA, DGUV, EAC	570006
2 N/C, 2 N/O	24 VAC/DC	◆	1500 N	min. 27 N	CCC, CSA, DGUV, EAC	570001
2 N/C, 2 N/O	110 … 230 VAC	◆	1500 N	min. 27 N	CCC, CSA, DGUV, EAC	570007
2 N/C, 2 N/O	24 VAC/DC		1500 N	min. 27 N	CCC, CSA, DGUV, EAC	570004
2 N/C, 2 N/O	24 VAC/DC		1500 N	min. 27 N	CCC, CSA, DGUV, EAC	570005
3 N/C, 1 N/O	110 … 230 VAC	◆	1500 N	min. 27 N	CCC, CSA, DGUV, EAC	570008
1 N/C, 1 N/O	240 V/3.0 A		-	10 N	CCC, CSA, DGUV, EAC	570210
2 N/C, 1 N/O	240 V/1.5 A		-	10 N	CCC, CSA, DGUV, EAC	570230
2 N/C, 1 N/O	240 V/1.5 A		-	10 N	CCC, CSA, DGUV, EAC	570232
2 N/C	240 V/3.0 A		-	10 N	CCC, CSA, DGUV, EAC	570245
2 N/C, 1 N/O	240 V/1.5 A		-	10 N	CCC, CSA, DGUV, EAC	570251
	24 VAC/DC	◆	1500 N	min. 27 N	CCC, CSA, DGUV, EAC	570011
	24 VAC/DC	◆	1500 N	min. 27 N	CCC, CSA, DGUV, EAC	570012
	24 VAC/DC		1500 N	min. 27 N	CCC, CSA, DGUV, EAC	570013
	24 VAC/DC		1500 N	min. 27 N	CCC, CSA, DGUV, EAC	570014
	24 VAC/DC		1500 N	min. 27 N	CCC, CSA, DGUV, EAC	570015

2 N/C contact
2 N/O contact

[1] Unit comprising switch and actuator

Cable selection:
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