



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



► Magnetic safety switch PSENmag

Magnetic safety switches are used both for monitoring the position of guards in accordance with EN 60947-5-3 and for position monitoring. Thanks to economical series connection, PSENmag offers maximum safety at a "low price" and is easily integrated into the existing system environment.



IP67



PSEN ma1.4a



PSEN ma1.4p



PSEN ma2.1p



PSEN ma1.3a VA

Manipulation protection

The concealed installation of the sensor – as defined in accordance with EN ISO 14119 – prevents manipulation. Other ways of manipulation are excluded if the actuator is secured using safety screws (one-way drive head). If the highest manipulation protection is required, we recommend PSENcode due to the RFID technology and the key lock principle.

High requirements – implemented economically

Use PSENmag wherever a high category is specified, heavy soiling occurs or strict cleaning requirements are to be met.

The rugged, fully encapsulated housing in conjunction with the non-contact, magnetic operating principle guarantees a long product service life.

Flexible application

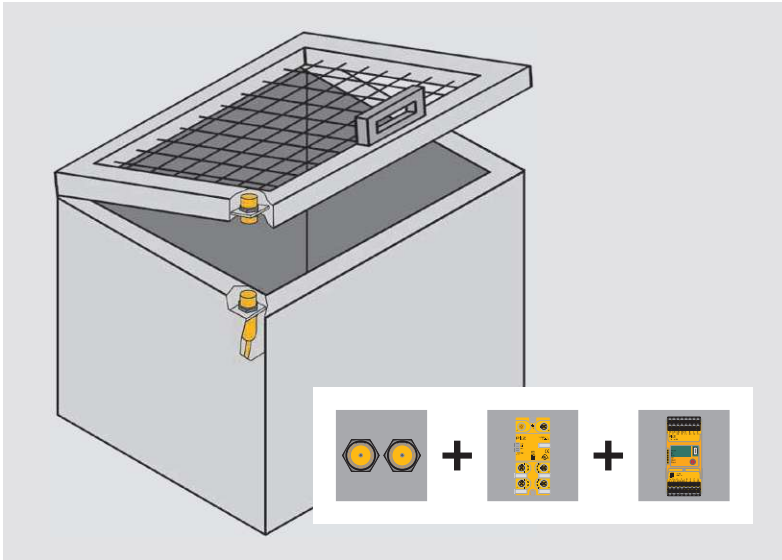
The compact design of the PSENmag saves installation space. A large selection of connectors and cables plus an assured operating distance of 3 to 12 mm enable flexible assembly and rapid, simple installation.

Type code for PSENmag

PSEN ma1.4b-50 VA

Product area Pilz SENsors	Contacts	Design	Connection type	Operating distance	LED/ATEX/ Series connection	Material
Product group ma – PSENmag	1 N/O/N/O 2 N/C/N/O	1 Square, dimensions: 36 x 26 x 13 mm 2 Round, M30 3 Round, M12 4 Square, dimensions: 37 x 26.4 x 18 mm	a Cable, 5 m b Cable, 10 m n Connector, M12, 5-pin p Connector, M8: - 4-pin (2 contacts) - 8-pin (3 contacts) M12/8 Connector, M12, 8-pin	1 3 mm 2 8 mm/ 12 mm ¹⁾ 3 6 mm 4 4 mm 5 3 mm/ 10 mm¹⁾	0 Without LED 1 With LED 2 Only with PSEN ix1 ²⁾ 3 ATEX, without LED 4 ATEX, with LED 5 ATEX, without LED, only with PSEN ix1 ²⁾ 6 ATEX, without LED 7 With LED, only with PSEN ix1 ²⁾ 8 ATEX, with LED, only with PSEN ix1 ²⁾ 9 Special types	VA Stainless steel

¹⁾ Depends on the actuator ²⁾ Ri = 0 Ω



Your benefits at a glance

- ▶ Safe complete solution with TÜV certification for the highest category applications.
- ▶ Economical thanks to:
 - Space and time-saving installation
 - Long product service life as it is mechanically non-wearing
 - User-friendly diagnostics via an additional signal contact and LED
- ▶ Can be used with heavy soiling and stringent cleaning requirements IP67/IP6K9K, ECOLAB tested
- ▶ High level of safety, even in potentially explosive areas
- ▶ Stainless steel version for maximum robustness

Components for your safe solution	Order number
Sensor: PSEN ma1,3n-20/PSEN ma1,3-12	506238
Connection: PSS67 cable, M12, straight, socket/M12, straight, plug, 5 m	380209
Decentralised periphery: PDP67 F 8DI ION	773600
Connection: PSEN cable, straight, M12, 5-pin	630311
Evaluation device: PNOZ m B0	772100
- Spring loaded terminals (1 set)	751008

The optimum solution: Monitoring a cover using the safety switch PSENmag and using the configurable safe small controllers PNOZmulti 2.

High level of safety, maximum robustness: PSENmag in stainless steel

PSENmag stainless steel sensors are not only suitable in areas with heavy soiling and strict cleaning requirements, but also in potentially explosive areas. In addition to being highly heat and cold-proof, they are characterised by their vibration and impact resistance. The high B10D value ensures a long service life.

Cable selection:

From page 138

Keep up-to-date on non-contact, magnetic safety switches PSENmag:

Webcode: web150413

Online information at www.pilz.com



► Selection guide – PSENmag

Magnetic safety switch PSENmag – square design

Common features

- ▶ Dual-channel safety switch for monitoring the position of movable guards in accordance with EN 60947-5-3
- ▶ Certified for applications up to Performance Level e of EN ISO 13849-1 and SIL CL 3 of EN/IEC 62061 in conjunction with safety relays such as PNOZ s4, PNOZ X2.8P, PNOZ mB0
- ▶ Optional signal contact
- ▶ Direct connection, via PDP67, PDP20 or via the interface PSEN ix1, see accessories page 32
- ▶ Protection type:
 - Cable versions: IP6K9K
 - Connector versions: IP67
- ▶ Flexible installation due to the housing design and pigtail cable
- ▶ Protective caps included for better manipulation protection



PSEN ma2.1p



PSEN ma1.4a



PSEN ma1.4p

Type (switch/actuator)	Assured switching distance
PSEN ma2.1p-10/ PSEN2.1-10/3mm/1 unit	3 mm
PSEN ma2.1p-11/ PSEN2.1-10/LED/3 mm/1 unit	3 mm
PSEN ma2.1p-30/ PSEN2.1-10/6 mm/1 unit	6 mm
PSEN ma2.1p-31/ PSEN2.1-10/LED/6mm/1 unit	6 mm
PSEN ma1.1p-10/ PSEN1.1-10/3 mm/1 unit	3 mm
PSEN ma1.1p-12/ PSEN1.1-10/3 mm/ix1/1 unit	3 mm
PSEN ma2.1p-34/ PSEN2.1-10-06/LED/ATEX/1u	6 mm
PSEN ma1.4a-50/PSEN ma1.4-10	10 mm
PSEN ma1.4a-51/PSEN ma1.4-10	10 mm
PSEN ma1.4a-52/PSEN ma1.4-10	10 mm
PSEN ma1.4a-57/PSEN ma1.4-10	10 mm
PSEN ma1.4p-50/PSEN ma1.4-10	10 mm
PSEN ma1.4p-51/PSEN ma1.4-10	10 mm
PSEN ma1.4p-52/PSEN ma1.4-10	10 mm
PSEN ma1.4p-57/PSEN ma1.4-10	10 mm
PSEN ma1.4n-50/PSEN ma1.4-10	10 mm
PSEN ma1.4n-51/PSEN ma1.4-10	10 mm
PSEN ma1.4-51M12/8-0.15m/ PSEN ma1.4-10	10 mm
PSEN ma1.4a-57/PSEN ma1.4-03	3 mm
PSEN ma1.4a-50/PSEN ma1.4-03	3 mm
PSEN ma1.4a-51/PSEN ma1.4-03	3 mm
PSEN ma1.4a-52/PSEN ma1.4-03	3 mm
PSEN ma1.4p-50/PSEN ma1.4-03	3 mm
PSEN ma1.4p-51/PSEN ma1.4-03	3 mm
PSEN ma1.4p-57/PSEN ma1.4-03	3 mm
PSEN ma1.4p-52/PSEN ma1.4-03	3 mm
PSEN ma1.4n-50/PSEN ma1.4-03	3 mm
PSEN ma1.4n-51/PSEN ma1.4-03	3 mm
PSEN ma1.4-51M12/8-0.15m/ PSEN ma1.4-03	3 mm

Contacts	Single connection	Series connection via	LED	ATEX	Connection type Cable/connector	Certification	Order number (unit) ¹⁾
	◆	-			M8, 4-pin	EAC, TÜV, UL ²⁾	506405
	◆	-	◆		M8, 4-pin		506406
	◆	-			M8, 4-pin		506407
	◆	-	◆		M8, 4-pin		506408
	◆	-			M8, 4-pin		506411
	◆	PSEN ix1			M8, 4-pin		506412
	◆	-	◆	◆	M8, 4-pin	ATEX ³⁾ , EAC, TÜV, UL ²⁾	506413
	◆	-			5 m	EAC, TÜV, UL ²⁾	506322
	◆	-	◆		5 m		506326
		PSEN ix1			5 m		506323
		PSEN ix1	◆		5 m		506327
	◆	-			M8, 4-pin, pigtail, 20 cm		506334
	◆	-	◆		M8, 8-pin, pigtail, 20 cm		506338
		PSEN ix1			M8, 4-pin, pigtail, 20 cm		506335
		PSEN ix1	◆		M8, 8-pin, pigtail, 20 cm		506339
	◆	PDP67			M12, 5-pin, pigtail, 13 cm		506342
	◆	PDP67	◆		M12, 5-pin, pigtail, 13 cm		506343
	◆	-	◆		M12, 8-pin, pigtail, 13 cm		506345
		PSEN ix1	◆		5 m		506325
	◆	-			5 m		506320
	◆	-	◆		5 m		506324
		PSEN ix1			5 m		506321
	◆	-			M8, 4-pin, pigtail, 20 cm		506332
	◆	-	◆		M8, 8-pin, pigtail, 20 cm		506336
		PSEN ix1	◆		M8, 8-pin, pigtail, 20 cm		506337
		PSEN ix1			M8, 4-pin, pigtail, 20 cm		506333
	◆	PDP67			M12, 5-pin, pigtail, 13 cm		506340
	◆	PDP67	◆		M12, 5-pin, pigtail, 13 cm		506341
	◆	-	◆		M12, 8-pin, pigtail, 13 cm		506344



Cable selection:

From page 138

Keep up-to-date on magnetic safety switches PSENmag:

Webcode: web150413

Online information at www.pilz.com

N/C contact
 N/O contact

¹⁾ Unit comprising switch and actuator

²⁾ UL certification applies only to individual components contained within the set

³⁾ ATEX certification applies only to individual components contained within the set

► Selection guide – PSENmag

Magnetic safety switch PSENmag – round design

Common features

- ▶ Dual-channel safety switch for monitoring the position of movable guards in accordance with EN 60947-5-3
- ▶ Certified for applications up to Performance Level e of EN ISO 13849-1 and SIL CL 3 of EN/IEC 62061 in conjunction with safety relays such as PNOZ s4, PNOZ X2.8P, PNOZ mB0
- ▶ With signal contact
- ▶ Direct connection, via PDP67, PDP20 or via the interface PSEN ix1
- ▶ Protection type: IP67



PSEN ma1.3p-20/
PSEN ma1.3-12

Type (switch/actuator)

Assured switching distance

▶ M12 housing

PSEN ma1.3a-20/PSEN ma1.3-08	8 mm
PSEN ma1.3a-22/PSEN ma1.3-08	8 mm
PSEN ma1.3b-20/PSEN ma1.3-08	8 mm
PSEN ma1.3b-22/PSEN ma1.3-08	8 mm
PSEN ma1.3p-20/PSEN ma1.3-08	8 mm
PSEN ma1.3n-20/PSEN ma1.3-08	8 mm
PSEN ma1.3-20M12/8-0.15m/ PSEN ma1.3-08	8 mm
PSEN ma1.3p-22/PSEN ma1.3-08	8 mm
PSEN ma1.3a-20/PSEN ma1.3-12	12 mm
PSEN ma1.3a-22/PSEN ma1.3-12	12 mm
PSEN ma1.3b-20/PSEN ma1.3-12	12 mm
PSEN ma1.3b-22/PSEN ma1.3-12	12 mm
PSEN ma1.3p-20/PSEN ma1.3-12	12 mm
PSEN ma1.3n-20/PSEN ma1.3-12	12 mm
PSEN ma1.3-20M12/8-0.15m/ PSEN ma1.3-12	12 mm
PSEN ma1.3p-22/PSEN ma1.3-12	12 mm

Magnetic safety switch PSENmag – stainless steel

Common features

- ▶ Certified for applications up to PL e of EN ISO 13849-1 and SIL CL 3 of EN/IEC 62061 in conjunction with safety relays such as PNOZ s4, PNOZ X2.8P, PNOZ mB0
- ▶ Directions of actuation: 1
- ▶ Diagnostic interface: with and without LED
- ▶ Design: round
- ▶ Assured operating distance: 12 mm
- ▶ Protection type: IP67, IP69k
- ▶ Stainless steel housing
- ▶ Series connection: with PSEN ix1 or PDP67 F8 ION






PSEN ma1.3a-21/PSEN
ma1.3-08/VA/1U

Type (switch/actuator)

Assured switching distance













PSEN ma1.3b-21/PSEN ma1.3-08/VA/1U	8 mm
PSEN ma1.3b-27/PSEN ma1.3-08/IX/VA/1U	8 mm
PSEN ma1.3a-21/PSEN ma1.3-08/VA/1U	8 mm
PSEN ma1.3a-27/PSEN ma1.3-08/IX/VA/1U	8 mm



Contacts	Single connection	Connection to	LED	Connection type Cable/connector	Certification	Order number (unit) ¹⁾
  	◆	-	◆	5 m	EAC, TÜV, UL ²⁾	506220
  		PSEN ix1	◆	5 m		506221
  	◆	-	◆	10 m		506222
  		PSEN ix1	◆	10 m		506223
  	◆	-	◆	M8, 8-pin, pigtail, 20 cm		506226
  	◆	PDP67	◆	M12, 5-pin, pigtail, 13 cm		506228
  	◆	-	◆	M12, 8-pin, pigtail, 13 cm		506229
  		PSEN ix1	◆	M8, 8-pin, pigtail, 20 cm		506227
  	◆	-	◆	5 m		506230
  		PSEN ix1	◆	5 m		506231
  	◆	-	◆	10 m		506232
  		PSEN ix1	◆	10 m		506233
  	◆	-	◆	M8, 8-pin, pigtail, 20 cm		506236
  	◆	PDP67	◆	M12, 5-pin, pigtail, 13 cm		506238
  	◆	-	◆	M12, 8-pin, pigtail, 13 cm		506239
  		PSEN ix1	◆	M8, 8-pin, pigtail, 20 cm		506237

 N/C contact
 N/O contact

¹⁾ Unit comprising switch and actuator, which can also be ordered separately
²⁾ UL certification applies only to individual components contained within the set

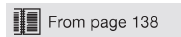


Contacts	Single connection	Connection to	LED	ATEX	Connection type Cable/connector	Certification	Order number (unit) ¹⁾
  	◆	-	◆		Cable, 10 m	EAC, ECOLAB, TÜV, UL ²⁾	506242
  		PSEN ix1	◆		Cable, 10 m		506243
  	◆	-	◆		Cable, 5 m		506240
  		PSEN ix1	◆		Cable, 5 m		506241

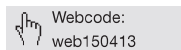
 N/C contact
 N/O contact

¹⁾ Unit comprising switch and actuator, which can also be ordered separately
²⁾ UL certification applies only to individual components contained within the set

Cable selection:



Keep up-to-date on magnetic safety switches PSENmag:



Online information at www.pilz.com

► Selection guide – PSENmag

Magnetic safety switch PSENmag – stainless steel

Common features















- ▶ Certified for applications up to PL e of EN ISO 13849-1 and SIL CL 3 of EN/IEC 62061 in conjunction with safety relays such as PNOZ s4, PNOZ X2.8P, PNOZ mB0
- ▶ Directions of actuation: 1
- ▶ Diagnostic interface: with and without LED
- ▶ Design: round
- ▶ Assured operating distance: 12 mm
- ▶ Protection type: IP67, IP69k
- ▶ Stainless steel housing
- ▶ Series connection: with PSEN ix1 or PDP67 F8 ION





Type (switch/actuator)	Assured switching distance
PSEN ma1.3b-24/ PSEN ma1.3-08/EX/VA/1U	8 mm
PSEN ma1.3b-28/ PSEN ma1.3-08/IX/EX/VA/1U	8 mm
PSEN ma1.3n-20/ PSEN ma1.3-08/VA/1U	8 mm
PSEN ma1.3-20 M12/8/ PSEN ma1.3-08/VA/1U	8 mm
PSEN ma1.3-22 M12/8/ PSEN ma1.3-08/IX/VA/1U	8 mm

Accessories – magnetic safety switch PSENmag



Description Type	Features	Quantity	Order number
One-way screw to secure the actuator	<ul style="list-style-type: none"> ▶ Stainless steel ▶ Drive: one-way slot (safety screw) 		
PSEN screw M4x10	<ul style="list-style-type: none"> ▶ M4, 10 mm ▶ Suitable for PSEN ma1.4, PSEN x.1, PSEN ma1.1, PSEN ma2.1 	10	540308
PSEN screw M4x12	<ul style="list-style-type: none"> ▶ M4, 12 mm ▶ Suitable for PSEN ma1.4, PSEN x.1, PSEN ma1.1, PSEN ma2.1 	10	540309
PSEN screw M4x16	<ul style="list-style-type: none"> ▶ M4, 16 mm ▶ Suitable for PSEN ma1.4, PSEN x.1, PSEN ma1.1, PSEN ma2.1 	10	540310
PSEN screw M4x20	<ul style="list-style-type: none"> ▶ M4, 20 mm ▶ Suitable for PSEN ma1.4, PSEN x.1, PSEN ma1.1, PSEN ma2.1 	10	540313
PSEN screw M4x26	<ul style="list-style-type: none"> ▶ M4, 26 mm ▶ Suitable for PSEN ma1.4, PSEN x.1, PSEN ma1.1, PSEN ma2.1 	10	540314

Contacts	Single connection	Connection to	LED	ATEX	Connection type Cable/connector	Certification	Order number (unit) ¹⁾
  	◆	-	◆	◆	Cable, 10 m	ATEX ²⁾ , EAC, TÜV, UL ³⁾	506254
  		PSEN ix1	◆	◆	Cable, 10 m		506255
 	◆	PDP67			Connector, M12, 5-pin	EAC, ECOLAB, TÜV, UL ³⁾	506246
  	◆	-			Connector, M12, 8-pin		506249
  		PSEN ix1			Connector, M12, 8-pin		506247

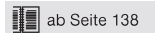
-  N/C contact
-  N/O contact

¹⁾ Unit comprising switch and actuator, which can also be ordered separately
²⁾ ATEX certification applies only to individual components contained within the set
³⁾ UL certification applies only to individual components contained within the set

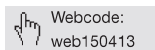


	Description Type	Features	Quantity	Order number
 PSEN bracket	End caps PSEN cs3/cs4, PSEN ma1.4 actuator caps	Suitable for PSEN ma1.4 actuator	50	540335
	Mounting bracket PSEN bracket	Suitable for PSEN ma1.4, PSEN x.1 ⁴⁾ , PSEN ma1.1, PSEN ma2.1	1	532110
 PSEN ma1.4 spacer	PSEN mag/cs bracket straight	Suitable for PSEN ma1.4, PSEN x.1, PSEN ma1.1, PSEN ma2.1	2	532111
	Spacer PSEN spacer	Suitable for PSEN x.1 ⁴⁾ , PSEN ma1.1, PSEN ma2.1	10	534310
	PSEN ma1.4 spacer	Suitable for PSEN ma1.4 ⁴⁾	10	534311
	Reverse spacer PSEN reverse spacer	Suitable for PSEN x.1 ⁴⁾ , PSEN ma1.1, PSEN ma2.1	2	534320

Cable selection:



Keep up-to-date on magnetic safety switches PSENmag:



Online information at www.pilz.com

⁴⁾ for actuator and switch, 1 of each required