

► Light curtains PSENOpt II – new generation

The new second generation of light curtains PSENOpt II is characterized by the high level of robustness and is suitable for all Type 3 and Type 4 applications in accordance with EN/IEC 61496.



PSEN opII3F...

High level of robustness for reducing downtimes

With a shock resistance of 50 g, PSENOpt II are extremely robust with regard to shock, vibration and collision. They are also resistant to dust and cold (up to -10°C), making them ideal for use in rugged industrial environments. The operator can evaluate the essential causes and system defects responsible for the machine stopping by means of the LEDs. This reduces downtimes.



Shock, vibration, collision



Cold



Dust

Type code for PSENOpt II

PSEN opII3H-s-30-045

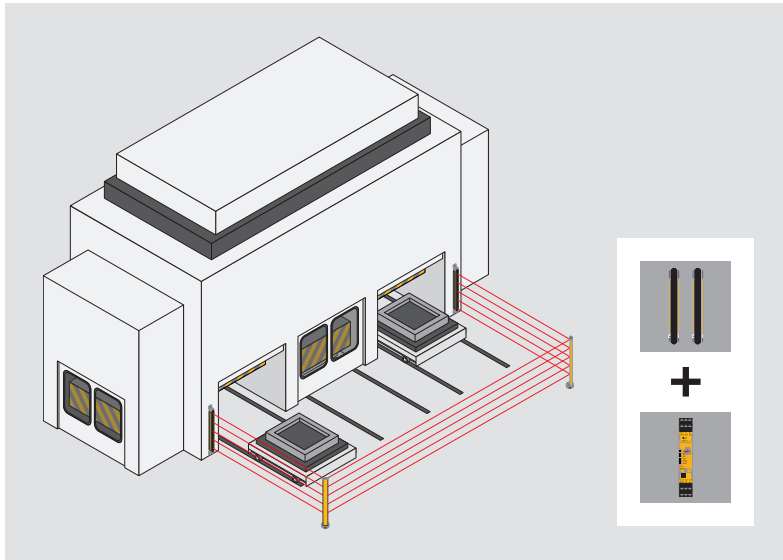
Product area Pilz SENSors	Approval	Resolution	Functions	Resolution	Height of protected field
Product group opII – PSENOpt II	3 Type 3 ¹⁾ 4 Type 4 ²⁾	B Body protection H Hand protection F Finger protection	s Standard	14 14 mm 30 30 mm 170 170 mm ³⁾ 300 300 mm ⁴⁾	015 150 mm 030 300 mm 045 450 mm 060 600 mm 075 750 mm 090 900 mm 105 1050 mm 120 1200 mm 135 1350 mm 150 1500 mm 165 1650 mm 180 1800 mm
Operation ► Non-contact, optical, 2D (area monitoring) ► With safe semiconductor outputs					

¹⁾ Approved in accordance with EN/IEC 61496-1

²⁾ Approved in accordance with EN/IEC 61496-1/-2

³⁾ With operating range 0.2 – 15 m

⁴⁾ With operating range 10 – 55 m



Your benefits at a glance

- ▶ Finger, hand and body protection for applications up to PL e
- ▶ Highly robust for protection against shock, collision and vibration
- ▶ User-friendly diagnostics via LEDs to reduce downtimes
- ▶ Rapid and simple assembly, installation and commissioning
- ▶ Flexible use with enhanced safety – thanks to freedom from dead zones
- ▶ One-stop shop – economical all-in-one solution with PDP67 and comprehensive accessories

Components for your safe solution	Order number
Sensor: PSEN opII4H-s-30-150	632 069
Mirror columns: PSEN opII mirror column-165 Set	632 010
Connection: ▶ PSEN op cable M12-5sf 10 m (2x)	630 312
Evaluation device: ▶ PNOZ s3	751 103

The optimum solution: securing several sides of a danger zone with light curtains PSENopt II and compatible mirror columns.

Flexible arrangement

There are no limits to the physical arrangement of your light curtains. Thanks to the coding, the light curtains do not interfere with each other, even in close proximity. This is particularly true if the transmitter of the first pair of light curtains emits beams in the direction of the receiver of the second pair of light curtains. In this case, the pairs of light curtains can be configured with different beam codes.

Securing several sides of a danger zone

In order to secure several sides of a danger zone, the light curtains can be combined with our new PSENopt II mirror columns. Up to three access sides can be monitored with just one pair of light curtains and two mirror columns. This saves wiring work, space and money. The mirror columns are comprised of a post protector and an integrated mirror and can be used with all light curtains PSENopt and PSENopt II. The PSENopt II adjustable base unit is an optional accessory offering additional protection against strong mechanical impact.

Accessories:

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Cable selection:

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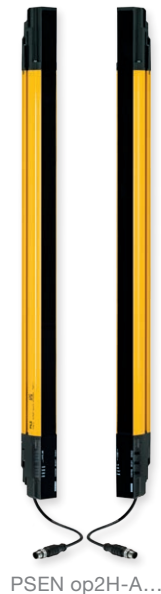
Keep up-to-date on light curtains PSENopt II:

 Webcode: web150418

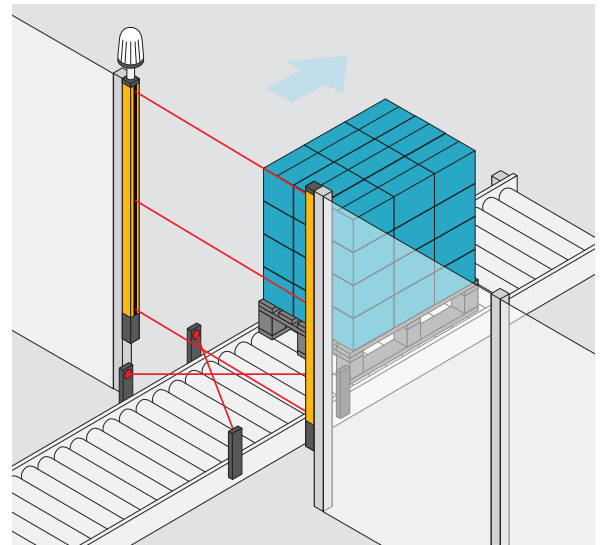
Online information at www.pilz.com

► Light curtains PSENOpt Advanced

The multifunctional light curtains PSENOpt Advanced are used for the advanced functions muting, blanking and/or cascading. Configuration is intuitive via the software PSENOpt Configurator. Reaction times can be reduced to a minimum through rapid diagnostics.



PSEN op2H-A...



Muting with crossed muting sensors.

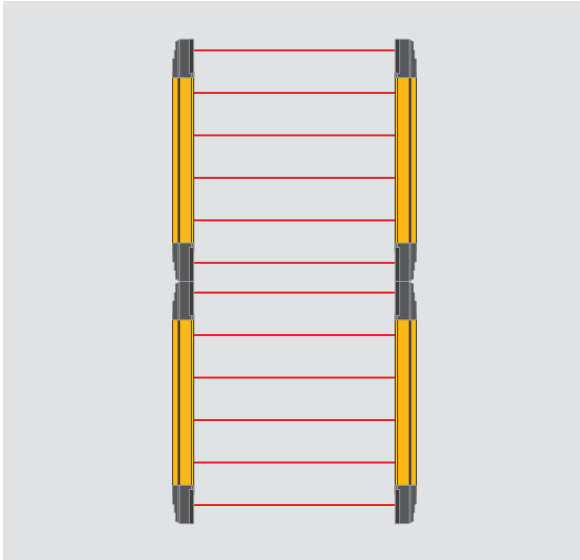
Rapid commissioning

Light curtains PSENOpt Advanced are easy to commission using the software PSENOpt Configurator. You can also take advantage of short reaction times thanks to rapid diagnostics.

Muting to distinguish between a person and material

PSENOpt devices with muting function are suitable for transporting material into and out of a danger zone, when loading or unloading pallets for example.





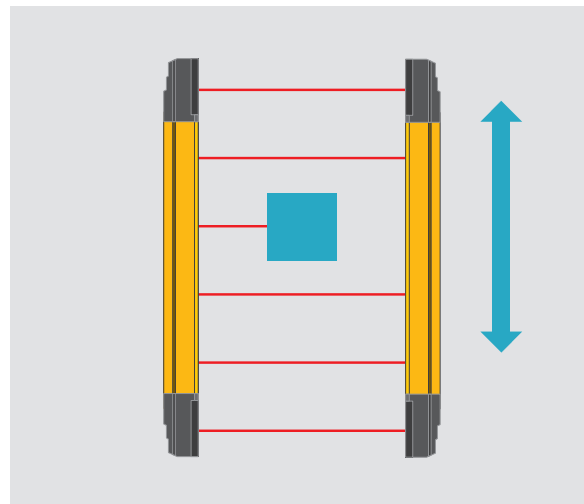
Continuous single beams during cascading, without dead zones, increase safety.

Cascading function without dead zones for effective protection against encroachment into and behind the protected area

Adjacent protected fields can easily be safeguarded using the cascading function. Just connect master and slave quickly and simply using a convenient plug-in connector; also combines finger and hand protection.

Blanking for a flexible, uninterrupted production process

You can use the blanking function to blank out a defined area of the light curtain. The safety function will not be triggered when the material to be processed passes through. Blanking can be implemented in two different ways: fixed blanking and floating blanking.



Floating blanking: One beam is blanked out. Any object that interrupts more than one beam will be detected.

Your benefits at a glance

- ▶ Simple operation and commissioning with the new software PSENOpt Configurator
- ▶ Short reaction times thanks to rapid diagnostics of fault states
- ▶ High flexibility:
 - 3 functionalities in one light curtain: muting, blanking, cascading
 - Flexible installation thanks to coding
 - Higher level of safety as there are no dead zones

Accessories:

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Cable selection:

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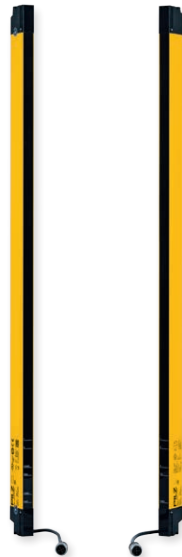
Keep up-to-date on light curtains PSENOpt Advanced:

 Webcode: web150423

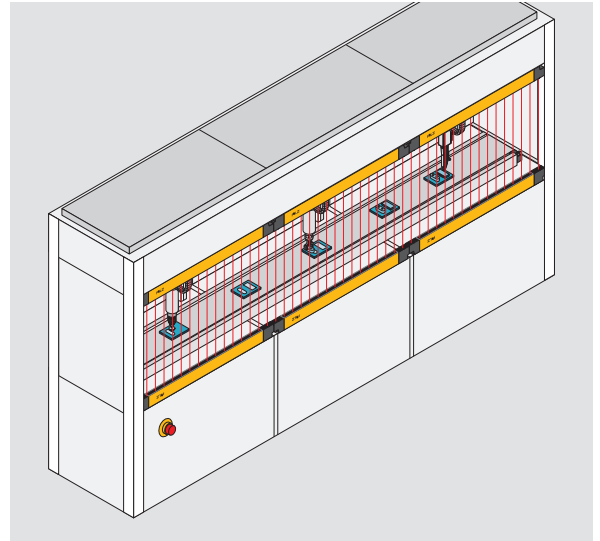
Online information at www.pilz.com

► Light curtains PSENopt slim

Thanks to their slimline design, light curtains PSENopt slim are perfect for applications where space is at a premium.



PSEN op2H-SL...



Linear cascading

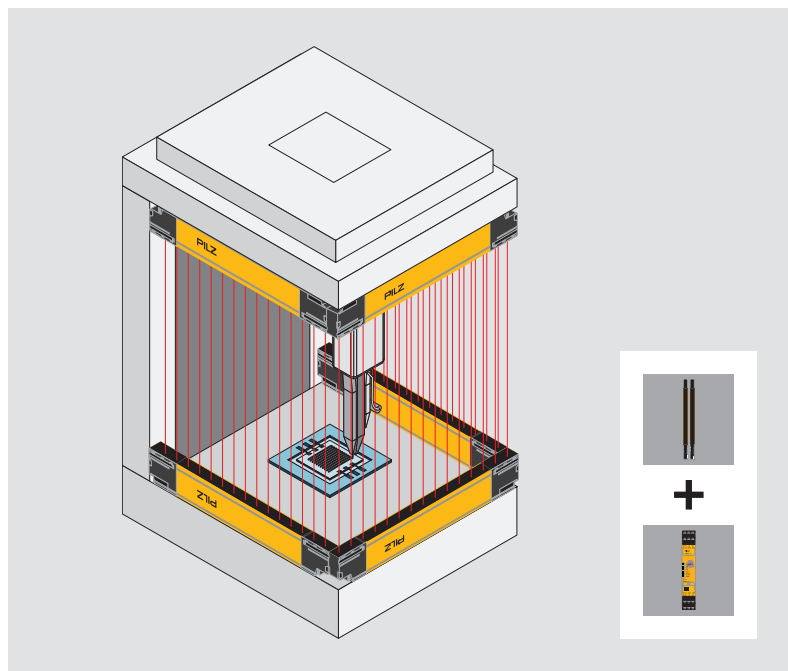
Small light curtain, high level of safety

With their slimline design, PSENopt slim can be used above all in applications where space is at a premium. In this case, the Type 2 and Type 4 light curtains provide finger and hand protection, depending on the requirement. The operator can evaluate the essential causes and system defects responsible for the machine stopping by means of the LEDs. This reduces downtimes.

Linear cascading without dead zones

Thanks to the cascading function with no dead zones, PSENopt slim provide effective protection against encroachment into and behind the protected area. Adjacent protected fields can easily be safeguarded using the cascading function.



**Your benefits at a glance**

- ▶ Finger and hand protection for applications up to PL c and PL e
- ▶ Narrow design saves space and costs
- ▶ Cascading function without dead zones for effective protection against encroachment into and behind the protected area
- ▶ User-friendly diagnostics via LEDs to reduce downtimes
- ▶ Rapid and simple assembly, installation and commissioning
- ▶ Safe and economical one-stop solution e.g. with PNOZsigma or PNOZmulti

Components for your safe solution	Order number
Sensor: 3 x PSEN op4F-SL-14-105/1	631 157
Connection:	
▶ PSEN cable M12-5sf 5m	630 311
▶ 2 x PSEN op SL cascading 0.1 m	631 183
Evaluation device:	
▶ PNOZ s3	750 103
Test rod for ESPE: PSEN op Testpiece F 14m	630 345

The optimum solution: monitoring of space-critical applications with cascaded light curtains PSENOpt slim and safety relay PNOZsigma/ configurable safe small controllers PNOZmulti 2.

Accessories:

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Cable selection:

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Keep up-to-date on light curtains PSENOpt slim:

 Webcode:
web150423

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► Selection guide – PSENopt II

Body protection: Type 3 – light curtain PSEN oplI3B

Common features

- Compliant and approved in accordance with:
 - EN/IEC 61508
 - EN/IEC 61496-1: Type 3
- For use in applications up to:
 - PL d of EN ISO 13849-1
 - SIL CL 2 of EN/IEC 62061
- No dead zones (except with protected field height 150 mm)
- Supply voltage: 24 VDC
- Connection:
 - Receiver: 1 x pigtail, M12, 5-pin
 - Transmitter: 1 x pigtail, M12, 5-pin
- Dimensions: 35 x 40 mm
- For response times see data sheet
- Coding "Code A", "Code B", "not coded"
- Simple wiring



PSEN oplI3B-s-...

Type	Resolution
► Body protection	
PSEN oplI3B-s-170-045	170 mm
PSEN oplI3B-s-170-060	170 mm
PSEN oplI3B-s-170-075	170 mm
PSEN oplI3B-s-170-090	170 mm
PSEN oplI3B-s-170-120	170 mm
PSEN oplI3B-s-170-150	170 mm
PSEN oplI3B-s-300-045	300 mm
PSEN oplI3B-s-300-060	300 mm
PSEN oplI3B-s-300-075	300 mm
PSEN oplI3B-s-300-090	300 mm
PSEN oplI3B-s-300-120	300 mm
PSEN oplI3B-s-300-150	300 mm

Body protection: Type 4 – light curtain PSEN oplI4B

Common features

- Compliant and approved in accordance with:
 - EN/IEC 61508
 - EN/IEC 61496-1/-2: Type 4
- For use in applications up to:
 - PL e of EN ISO 13849-1
 - SIL CL 3 of EN/IEC 62061
- No dead zones (except with protected field height 150 mm)
- Supply voltage: 24 VDC
- Connection:
 - Receiver: 1 x pigtail, M12, 5-pin
 - Transmitter: 1 x pigtail, M12, 5-pin
- Dimensions: 35 x 40 mm
- For response times see data sheet
- Coding "Code A", "Code B", "not coded"
- Simple wiring



PSEN oplI4B-s-...

Type	Resolution
► Body protection	
PSEN oplI4B-s-170-045	170 mm
PSEN oplI4B-s-170-060	170 mm
PSEN oplI4B-s-170-075	170 mm
PSEN oplI4B-s-170-090	170 mm
PSEN oplI4B-s-170-120	170 mm
PSEN oplI4B-s-170-150	170 mm
PSEN oplI4B-s-300-045	300 mm
PSEN oplI4B-s-300-060	300 mm
PSEN oplI4B-s-300-075	300 mm
PSEN oplI4B-s-300-090	300 mm
PSEN oplI4B-s-300-120	300 mm
PSEN oplI4B-s-300-150	300 mm

Height of protected field	Range	Certification	Order number ¹⁾
450 mm	0.2 ... 15 m	EAC, TÜV	632 100
600 mm	0.2 ... 15 m	EAC, TÜV	632 101
750 mm	0.2 ... 15 m	EAC, TÜV	632 102
900 mm	0.2 ... 15 m	EAC, TÜV	632 103
1 200 mm	0.2 ... 15 m	EAC, TÜV	632 104
1 500 mm	0.2 ... 15 m	EAC, TÜV	632 105
450 mm	10 ... 55 m	EAC, TÜV	632 110
600 mm	10 ... 55 m	EAC, TÜV	632 111
750 mm	10 ... 55 m	EAC, TÜV	632 112
900 mm	10 ... 55 m	EAC, TÜV	632 113
1 200 mm	10 ... 55 m	EAC, TÜV	632 114
1 500 mm	10 ... 55 m	EAC, TÜV	632 115

¹⁾ Order number for transmitter, receiver and mounting bracket respectively (one unit)

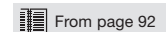


Height of protected field	Range	Certification	Order number ¹⁾
450 mm	0.2 ... 15 m	EAC, TÜV, UL ²⁾	632 120
600 mm	0.2 ... 15 m	EAC, TÜV, UL ²⁾	632 121
750 mm	0.2 ... 15 m	EAC, TÜV, UL ²⁾	632 122
900 mm	0.2 ... 15 m	EAC, TÜV, UL ²⁾	632 123
1 200 mm	0.2 ... 15 m	EAC, TÜV, UL ²⁾	632 124
1 500 mm	0.2 ... 15 m	EAC, TÜV, UL ²⁾	632 125
450 mm	10 ... 55 m	EAC, TÜV, UL ²⁾	632 130
600 mm	10 ... 55 m	EAC, TÜV, UL ²⁾	632 131
750 mm	10 ... 55 m	EAC, TÜV, UL ²⁾	632 132
900 mm	10 ... 55 m	EAC, TÜV, UL ²⁾	632 133
1 200 mm	10 ... 55 m	EAC, TÜV, UL ²⁾	632 134
1 500 mm	10 ... 55 m	EAC, TÜV, UL ²⁾	632 135

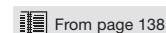
¹⁾ Order number for transmitter, receiver and mounting bracket respectively (one unit)

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

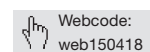
Accessories:



Cable selection:



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► Selection guide – PSENopt II

Hand protection: Type 3 – light curtain PSEN oplI3H

Common features

- Compliant and approved in accordance with:
 - EN/IEC 61508
 - EN/IEC 61496-1: Type 3
- For use in applications up to:
 - PL d of EN ISO 13849-1
 - SIL CL 2 of EN/IEC 62061
- No dead zones (except with protected field height 150 mm)
- Supply voltage: 24 VDC
- Connection:
 - Receiver: 1 x pigtail, M12, 5-pin
 - Transmitter: 1 x pigtail, M12, 5-pin
- Dimensions: 35 x 40 mm
- For response times see data sheet
- Coding "Code A", "Code B", "not coded"
- Simple wiring



PSEN oplI3H-s-...

Type	Resolution
► Hand protection	
PSEN oplI3H-s-30-015	30 mm
PSEN oplI3H-s-30-030	30 mm
PSEN oplI3H-s-30-045	30 mm
PSEN oplI3H-s-30-060	30 mm
PSEN oplI3H-s-30-075	30 mm
PSEN oplI3H-s-30-090	30 mm
PSEN oplI3H-s-30-105	30 mm
PSEN oplI3H-s-30-120	30 mm
PSEN oplI3H-s-30-135	30 mm
PSEN oplI3H-s-30-150	30 mm
PSEN oplI3H-s-30-165	30 mm
PSEN oplI3H-s-30-180	30 mm

Hand protection: Type 4 – light curtain PSEN oplI4H

Common features

- Compliant and approved in accordance with:
 - EN/IEC 61508
 - EN/IEC 61496-1/-2: Type 4
- For use in applications up to:
 - PL e of EN ISO 13849-1
 - SIL CL 3 of EN/IEC 62061
- No dead zones (except with protected field height 150 mm)
- Supply voltage: 24 VDC
- Connection:
 - Receiver: 1 x pigtail, M12, 5-pin
 - Transmitter: 1 x pigtail, M12, 5-pin
- Dimensions: 35 x 40 mm
- For response times see data sheet
- Coding "Code A", "Code B", "not coded"
- Simple wiring



PSEN oplI4H-s-...

Type	Resolution
► Hand protection	
PSEN oplI4H-s-30-015	30 mm
PSEN oplI4H-s-30-030	30 mm
PSEN oplI4H-s-30-045	30 mm
PSEN oplI4H-s-30-060	30 mm
PSEN oplI4H-s-30-075	30 mm
PSEN oplI4H-s-30-090	30 mm
PSEN oplI4H-s-30-105	30 mm
PSEN oplI4H-s-30-120	30 mm
PSEN oplI4H-s-30-135	30 mm
PSEN oplI4H-s-30-150	30 mm
PSEN oplI4H-s-30-165	30 mm
PSEN oplI4H-s-30-180	30 mm

Height of protected field	Range	Certification	Order number ¹⁾
150 mm	0.2 ... 18 m	EAC, KOSHA, TÜV	632 020
300 mm	0.2 ... 18 m	EAC, KOSHA, TÜV	632 021
450 mm	0.2 ... 18 m	EAC, KOSHA, TÜV	632 022
600 mm	0.2 ... 18 m	EAC, KOSHA, TÜV	632 023
750 mm	0.2 ... 18 m	EAC, KOSHA, TÜV	632 024
900 mm	0.2 ... 18 m	EAC, KOSHA, TÜV	632 025
1 050 mm	0.2 ... 18 m	EAC, KOSHA, TÜV	632 026
1 200 mm	0.2 ... 18 m	EAC, KOSHA, TÜV	632 027
1 350 mm	0.2 ... 18 m	EAC, KOSHA, TÜV	632 028
1 500 mm	0.2 ... 18 m	EAC, KOSHA, TÜV	632 029
1 650 mm	0.2 ... 18 m	EAC, KOSHA, TÜV	632 030
1 800 mm	0.2 ... 18 m	EAC, KOSHA, TÜV	632 031

¹⁾ Order number for transmitter, receiver and mounting bracket respectively (one unit)



Height of protected field	Range	Certification	Order number ¹⁾
150 mm	0.2 ... 18 m	EAC, KOSHA, TÜV, UL ²⁾	632 060
300 mm	0.2 ... 18 m	EAC, KOSHA, TÜV, UL ²⁾	632 061
450 mm	0.2 ... 18 m	EAC, KOSHA, TÜV, UL ²⁾	632 062
600 mm	0.2 ... 18 m	EAC, KOSHA, TÜV, UL ²⁾	632 063
750 mm	0.2 ... 18 m	EAC, KOSHA, TÜV, UL ²⁾	632 064
900 mm	0.2 ... 18 m	EAC, KOSHA, TÜV, UL ²⁾	632 065
1 050 mm	0.2 ... 18 m	EAC, KOSHA, TÜV, UL ²⁾	632 066
1 200 mm	0.2 ... 18 m	EAC, KOSHA, TÜV, UL ²⁾	632 067
1 350 mm	0.2 ... 18 m	EAC, KOSHA, TÜV, UL ²⁾	632 068
1 500 mm	0.2 ... 18 m	EAC, KOSHA, TÜV, UL ²⁾	632 069
1 650 mm	0.2 ... 18 m	EAC, KOSHA, TÜV, UL ²⁾	632 070
1 800 mm	0.2 ... 18 m	EAC, KOSHA, TÜV, UL ²⁾	632 071

¹⁾ Order number for transmitter, receiver and mounting bracket respectively (one unit)

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

Accessories:

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► Selection guide – PSENopt II

Finger protection: Type 3 – light curtain PSEN oplI3F

Common features

- Compliant and approved in accordance with:
 - EN/IEC 61508
 - EN/IEC 61496-1: Type 3
- For use in applications up to:
 - PL d of EN ISO 13849-1
 - SIL CL 2 of EN/IEC 62061
- No dead zones (except with protected field height 150 mm)
- Supply voltage: 24 VDC
- Connection:
 - Receiver: 1 x pigtail, M12, 5-pin
 - Transmitter: 1 x pigtail, M12, 5-pin
- Dimensions: 35 x 40 mm
- For response times see data sheet
- Coding "Code A", "Code B", "not coded"
- Simple wiring



Type	Resolution
► Finger protection	
PSEN oplI3F-s-14-015	14 mm
PSEN oplI3F-s-14-030	14 mm
PSEN oplI3F-s-14-045	14 mm
PSEN oplI3F-s-14-060	14 mm
PSEN oplI3F-s-14-075	14 mm
PSEN oplI3F-s-14-090	14 mm
PSEN oplI3F-s-14-105	14 mm
PSEN oplI3F-s-14-120	14 mm
PSEN oplI3F-s-14-135	14 mm
PSEN oplI3F-s-14-150	14 mm
PSEN oplI3F-s-14-165	14 mm
PSEN oplI3F-s-14-180	14 mm

Finger protection: Type 4 – light curtain PSEN oplI4F

Common features

- Compliant and approved in accordance with:
 - EN/IEC 61508
 - EN/IEC 61496-1/-2: Type 4
- For use in applications up to:
 - PL e of EN ISO 13849-1
 - SIL CL 3 of EN/IEC 62061
- No dead zones (except with protected field height 150 mm)
- Supply voltage: 24 VDC
- Connection:
 - Receiver: 1 x pigtail, M12, 5-pin
 - Transmitter: 1 x pigtail, M12, 5-pin
- Dimensions: 35 x 40 mm
- For response times see data sheet
- Coding "Code A", "Code B", "not coded"
- Simple wiring



Type	Resolution
► Finger protection	
PSEN oplI4F-s-14-015	14 mm
PSEN oplI4F-s-14-030	14 mm
PSEN oplI4F-s-14-045	14 mm
PSEN oplI4F-s-14-060	14 mm
PSEN oplI4F-s-14-075	14 mm
PSEN oplI4F-s-14-090	14 mm
PSEN oplI4F-s-14-105	14 mm
PSEN oplI4F-s-14-120	14 mm
PSEN oplI4F-s-14-135	14 mm
PSEN oplI4F-s-14-150	14 mm
PSEN oplI4F-s-14-165	14 mm
PSEN oplI4F-s-14-180	14 mm

Height of protected field	Range	Certification	Order number ¹⁾
150 mm	0.2 ... 8 m	EAC, KOSHA, TÜV	632 040
300 mm	0.2 ... 8 m	EAC, KOSHA, TÜV	632 041
450 mm	0.2 ... 8 m	EAC, KOSHA, TÜV	632 042
600 mm	0.2 ... 8 m	EAC, KOSHA, TÜV	632 043
750 mm	0.2 ... 8 m	EAC, KOSHA, TÜV	632 044
900 mm	0.2 ... 8 m	EAC, KOSHA, TÜV	632 045
1 050 mm	0.2 ... 8 m	EAC, KOSHA, TÜV	632 046
1 200 mm	0.2 ... 8 m	EAC, KOSHA, TÜV	632 047
1 350 mm	0.2 ... 8 m	EAC, KOSHA, TÜV	632 048
1 500 mm	0.2 ... 8 m	EAC, KOSHA, TÜV	632 049
1 650 mm	0.2 ... 8 m	EAC, KOSHA, TÜV	632 050
1 800 mm	0.2 ... 8 m	EAC, KOSHA, TÜV	632 051

¹⁾ Order number for transmitter, receiver and mounting bracket respectively (one unit)



Height of protected field	Range	Certification	Order number ¹⁾
150 mm	0.2 ... 8 m	EAC, KOSHA, TÜV, UL ²⁾	632 080
300 mm	0.2 ... 8 m	EAC, KOSHA, TÜV, UL ²⁾	632 081
450 mm	0.2 ... 8 m	EAC, KOSHA, TÜV, UL ²⁾	632 082
600 mm	0.2 ... 8 m	EAC, KOSHA, TÜV, UL ²⁾	632 083
750 mm	0.2 ... 8 m	EAC, KOSHA, TÜV, UL ²⁾	632 084
900 mm	0.2 ... 8 m	EAC, KOSHA, TÜV, UL ²⁾	632 085
1 050 mm	0.2 ... 8 m	EAC, KOSHA, TÜV, UL ²⁾	632 086
1 200 mm	0.2 ... 8 m	EAC, KOSHA, TÜV, UL ²⁾	632 087
1 350 mm	0.2 ... 8 m	EAC, KOSHA, TÜV, UL ²⁾	632 088
1 500 mm	0.2 ... 8 m	EAC, KOSHA, TÜV, UL ²⁾	632 089
1 650 mm	0.2 ... 8 m	EAC, KOSHA, TÜV, UL ²⁾	632 090
1 800 mm	0.2 ... 8 m	EAC, KOSHA, TÜV, UL ²⁾	632 091

¹⁾ Order number for transmitter, receiver and mounting bracket respectively (one unit)

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

Accessories:

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Cable selection:

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