



# WLT280L-2P2536

PowerProx

**PHOTOELECTRIC SENSORS** 





## Ordering information

Туре	Part no.
WLT280L-2P2536	6048069

Other models and accessories → www.sick.com/PowerProx

Illustration may differ



#### Detailed technical data

#### **Features**

Sensor/ detection principle	Photoelectric proximity sensor, Background suppression
Dimensions (W x H x D)	23.5 mm x 76 mm x 55.8 mm
Housing design (light emission)	Rectangular
Sensing range max.	200 mm 4,000 mm <sup>1)</sup> 200 mm 3,000 mm <sup>2)</sup>
Sensing range	200 mm 18,000 mm <sup>3)</sup>
Type of light	Visible red light
Light source	Laser <sup>4)</sup>
Light spot size (distance)	Ø 50 mm (18 m)
Laser class	1 (EN 60825-1:2014, IEC 60825-1:2014)
Adjustment	Potentiometer (2 x)

 $<sup>^{1)}</sup>$  Object with 90 % reflectance (referred to standard white, DIN 5033).

#### Mechanics/electronics

Supply voltage 10 V DC 30 V DC <sup>1)</sup>
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 $<sup>^{1)}</sup>$  Limit values. Operated in short-circuit protected network: max. 8 A.

 $<sup>^{2)}</sup>$  Objects to be sensed with 6 % reflectivity (based on black).

<sup>3)</sup> Einstellbar.

 $<sup>^{4)}</sup>$  Average service life: 100,000 h at T<sub>U</sub> = +25 °C.

<sup>&</sup>lt;sup>2)</sup> Without load.

 $<sup>^{3)}</sup>$  Q1, Q2 = 2 switching thresholds, light/dark switching selectable via light/dark selector.

<sup>&</sup>lt;sup>4)</sup> Signal transit time with resistive load.

<sup>&</sup>lt;sup>5)</sup> With light/dark ratio 1:1.

 $<sup>^{6)}</sup>$  A = V<sub>S</sub> connections reverse-polarity protected.

<sup>&</sup>lt;sup>7)</sup> B = output reverse-polarity protected.

 $<sup>^{8)}</sup>$  C = interference suppression.

<sup>9)</sup> D = outputs overcurrent and short-circuit protected.

Ripple         ≤ 3 V <sub>po</sub> Power consumption         ≤ 70 mA²           Output type         PNP           Number of switching outputs         2 (Q1, Q2)³)           Switching mode         Light/dark switching           Switching mode selector         Selectable via light/dark rotary switch           Output current I <sub>max</sub> .         ≤ 100 mA           Response time         ≤ 0.5 ms⁴           Switching frequency         1,000 Hz⁵           Analog output         − Sender off           Connection type         Male connector M12, 5-pin           Circuit protection         A a²           B a²         C a²           C a²         B a²           D a²         B a²           B a²         B a²           C a²         B a²           C a²         B a²           C a²         B a²           <		
Output type         PNP           Number of switching outputs         2 (Q1, Q2) 3)           Switching mode         Light/dark switching           Switching mode selector         Selectable via light/dark rotary switch           Output current I <sub>max</sub> .         ≤ 100 mA           Response time         ≤ 0.5 ms 4)           Switching frequency         1,000 Hz 5)           Analog output         -           Input         Sender off           Connection type         Male connector M12, 5-pin           Circuit protection         A6 is 7 is	Ripple	≤ 3 V <sub>pp</sub>
Number of switching outputs  Switching mode  Light/dark switching  Selectable via light/dark rotary switch  Output current I <sub>max.</sub> \$ 100 mA  Response time  \$ 0.5 ms 40  1,000 Hz 50  Analog output  - Input  Connection type  Male connector M12, 5-pin  A 60  B 70  C 80  D 90  Protection class  III  Weight  Housing material  Plastic, ABS  Optics material  Enclosure rating  Items supplied  EMC  Ambient operating temperature  -10 ° C +50 ° C  Ambient storage temperature  -10 ° C +70 ° C	Power consumption	$\leq$ 70 mA $^{2)}$
Switching mode   Light/dark switching   Switching mode selector   Selectable via light/dark rotary switch   Output current I <sub>max.</sub>   ≤ 100 mA   Response time   ≤ 0.5 ms <sup>4)</sup>   Switching frequency   1,000 Hz <sup>5)</sup>   Analog output   -	Output type	PNP
Switching mode selector       Selectable via light/dark rotary switch         Output current I <sub>max</sub> .       ≤ 100 mA         Response time       ≤ 0.5 ms <sup>4)</sup> Switching frequency       1,000 Hz <sup>5)</sup> Analog output       -         Input       Sender off         Connection type       Male connector M12, 5-pin         Circuit protection       A <sup>6)</sup> B <sup>7)</sup> C <sup>8)</sup> C <sup>8)</sup> D <sup>9)</sup> Protection class       III         Weight       120 g         Housing material       Plastic, ABS         Optics material       Plastic, PMMA         Enclosure rating       IP67         Items supplied       Reflector P250         EMC       EN 60947-5-2         Ambient operating temperature       -10 ° C +50 ° C         Ambient storage temperature       -40 ° C +70 ° C	Number of switching outputs	2 (Q1, Q2) <sup>3)</sup>
Output current I <sub>max</sub> .       ≤ 100 mA         Response time       ≤ 0.5 ms <sup>4)</sup> Switching frequency       1,000 Hz <sup>5)</sup> Analog output       -         Input       Sender off         Connection type       Male connector M12, 5-pin         Circuit protection       A <sup>6)</sup>	Switching mode	Light/dark switching
Response time  Switching frequency  Analog output  Input  Sender off  Connection type  Male connector M12, 5-pin  Circuit protection  A 6 B 7 C 8 D 9  Protection class  III  Weight  Housing material  Optics material  Plastic, ABS  Optics material  Enclosure rating  Items supplied  EMC  Ambient operating temperature  A 0 C +70 °C  Ambient storage temperature	Switching mode selector	Selectable via light/dark rotary switch
Switching frequency  Analog output  Input  Sender off  Connection type  Male connector M12, 5-pin  Circuit protection  A 6 B 7 C 8 D 9 9  Protection class  III  Weight  Housing material  Optics material  Plastic, ABS  Optics material  Enclosure rating  IP67  Items supplied  EMC  ABDIANT SP 250  EMC  ABDIANT SP 30 °C  ABDIANT SP 30 °C  -40 °C +70 °C	Output current I <sub>max.</sub>	≤ 100 mA
Analog output Input Sender off Connection type Male connector M12, 5-pin Circuit protection A 6 B 7 C 8 D 9 P Protection class III Weight Housing material Optics material Plastic, ABS Optics material Plestic, PMMA Enclosure rating Items supplied EMC Ambient operating temperature Ambient storage temperature  -10 °C +50 °C Ambient storage temperature  -40 °C +70 °C	Response time	≤ 0.5 ms <sup>4)</sup>
Input  Connection type  Male connector M12, 5-pin  Circuit protection  A 6 B 7 C 8 D 9  Protection class  III  Weight  Housing material  Optics material  Plastic, ABS  Optics material  Plastic, PMMA  Enclosure rating  Items supplied  EMC  EN 60947-5-2  Ambient operating temperature  -10 ° C +50 ° C  Ambient storage temperature	Switching frequency	1,000 Hz <sup>5)</sup>
Connection type  Male connector M12, 5-pin  A 6 B 7 C 8 D 9  Protection class  III  Weight  Housing material  Optics material  Plastic, ABS  Optics material  Plastic, PMMA  Enclosure rating Items supplied  ENC  Ambient operating temperature  -10 ° C +50 ° C  Ambient storage temperature  -40 ° C +70 ° C	Analog output	-
Circuit protection  A 6) B 7) C 8) C 8) D 9)  Protection class  III  Weight  120 g  Housing material  Plastic, ABS  Optics material  Plastic, PMMA  Enclosure rating  IP67  Items supplied  EMC  Ambient operating temperature  -10 ° C +50 ° C  Ambient storage temperature  -40 ° C +70 ° C	Input	Sender off
B 7) C 8) D 9)  Protection class  III  Weight 120 g  Housing material Plastic, ABS  Optics material Plastic, PMMA  Enclosure rating IP67  Items supplied Reflector P250  EMC EN 60947-5-2  Ambient operating temperature -10 °C +70 °C	Connection type	Male connector M12, 5-pin
Weight  Housing material  Plastic, ABS  Optics material  Plastic, PMMA  Enclosure rating  IP67  Items supplied  Reflector P250  EMC  EN 60947-5-2  Ambient operating temperature  -10 °C +50 °C  -40 °C +70 °C	Circuit protection	B <sup>7)</sup> C <sup>8)</sup>
Housing material  Plastic, ABS  Optics material  Plastic, PMMA  Enclosure rating  IP67  Items supplied  EMC  EN 60947-5-2  Ambient operating temperature  -10 °C +50 °C  -40 °C +70 °C	Protection class	III
Optics material  Plastic, PMMA  IP67  Items supplied  EMC  EN 60947-5-2  Ambient operating temperature  -10 °C +50 °C  -40 °C +70 °C	Weight	120 g
Enclosure ratingIP67Items suppliedReflector P250EMCEN 60947-5-2Ambient operating temperature-10 °C +50 °CAmbient storage temperature-40 °C +70 °C	Housing material	Plastic, ABS
Reflector P250  EMC  EN 60947-5-2  Ambient operating temperature  -10 °C +50 °C  -40 °C +70 °C	Optics material	Plastic, PMMA
EMC EN 60947-5-2  Ambient operating temperature -10 °C +50 °C  Ambient storage temperature -40 °C +70 °C	Enclosure rating	IP67
Ambient operating temperature -10 °C +50 °C -40 °C +70 °C	Items supplied	Reflector P250
Ambient storage temperature -40 °C +70 °C	EMC	EN 60947-5-2
	Ambient operating temperature	-10 °C +50 °C
<b>UL File No.</b> NRKH2.E300503 & NRKH8.E300503	Ambient storage temperature	-40 °C +70 °C
	UL File No.	NRKH2.E300503 & NRKH8.E300503

<sup>1)</sup> Limit values. Operated in short-circuit protected network: max. 8 A.

#### Classifications

ECI@ss 5.0	27270904
ECI@ss 5.1.4	27270904
ECI@ss 6.0	27270904
ECI@ss 6.2	27270904
ECI@ss 7.0	27270904
ECI@ss 8.0	27270904
ECI@ss 8.1	27270904

<sup>2)</sup> Without load

<sup>3)</sup> Q1, Q2 = 2 switching thresholds, light/dark switching selectable via light/dark selector.

<sup>4)</sup> Signal transit time with resistive load.

<sup>5)</sup> With light/dark ratio 1:1.

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<sup>8)</sup> C = interference suppression.

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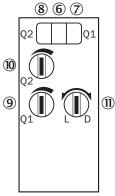
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PHOTOELECTRIC SENSORS

ECI@ss 9.0	27270904
ETIM 5.0	EC002719
ETIM 6.0	EC002719
UNSPSC 16.0901	39121528

## Adjustments possible

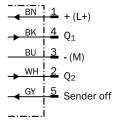
WxT280L-2xxxx6



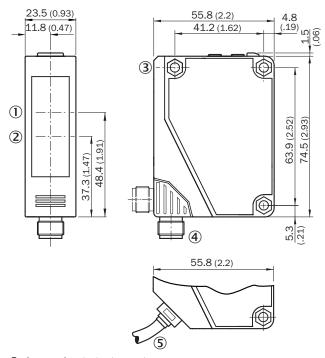
- ⑥ LED indicator green: Stability indicator
- ③ Status indicator LED, yellow: Status of received light beam (switching output 1)
- ® Status indicator LED, yellow: Status of received light beam (switching output 2)
- $\ \$  Sensing range adjustment: potentiometer for switching output 1
- $\ensuremath{\textcircled{\scriptsize 0}}$  Sensing range adjustment: potentiometer for switching output 2
- ① Light/dark selector

#### Connection diagram

#### Cd-211



## Dimensional drawing (Dimensions in mm (inch))



- ① Center of optical axis, receiver
- ② Center of optical axis, sender
- 3 Mounting hole, Ø 4.3 mm
- 4 M12 plug connector, 5-pin, can be rotated through 90°
- ⑤ Cable, 2 m, 5-wire, Ø 3.8 mm

#### Recommended accessories

Other models and accessories → www.sick.com/PowerProx

	Brief description	Туре	Part no.	
Universal bar clamp systems				
	Plate NO4 for universal clamp, steel, Zinc plated steel (sheet), Zinc die cast (clamping bracket), Universal clamp (5322626), mounting hardware	BEF-KHS-N04	2051610	
Pla	Plate NO4N for universal clamp bracket, stainless steel, Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp), Universal clamp (5322626), mounting hardware	BEF-KHS-N04N	2051620	
Mounting brackets and plates				
	Mounting bracket, Stainless steel V2A (1.4301), mounting hardware included	BEF-W280	5313885	

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SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is "Sensor Intelligence."

# **WORLDWIDE PRESENCE:**

Contacts and other locations -www.sick.com

