

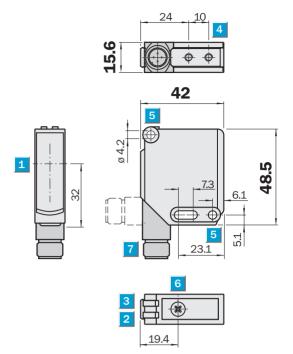
- Robust metal housing with dovetail mounting clamps
- Reliable detection of glass and transparent films
- Adjustable sensitivity
- High device availability in industrial environments
- Range between -40 °C ... +60 °C





Accessories
Connector, M12, 4-pin
Connector, M12, 5-pin
Mounting systems

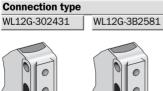
Dimensional drawing



Adjustments possible

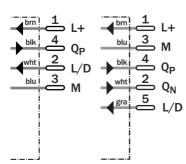


- Optical axis
- LED indicator yellow, status: light reception
 - LED indicator green, supply voltage active
- Mounting thread M4 4 mm deep
- Mounting thread, Ø 4.2 mm
- Scanning range adjuster, potentiometer
- Connection





112, 4-pin	M12, 5



Switching frequency 1,500 Hz ⁷⁾ Connection type Connector, M12, 5-pin Connector, M12, 4-pin VDE protection class Solution V _S connections reverse-polarity protected/All outputs short-circuit protected/Interference suppression Enclosure rating IP 66, IP 67, IP 69 K Ambient temperature operation Approx. 120 g	Technical data	WL12G-3	B2531 02431				
Scanning range, recommended O 2.5 m Relector PL80A	Scanning range typ may	0 4 m					
Relating to Reflector PL80A Sensitivity adjustment Potentiometer (11 turn) Light source, light type LED, Red light, 640 nm ⁻¹⁾ Light source, light type LED, Red light, 640 nm ⁻¹⁾ Light spot diameter Approx. 25 mm at 1.5 m distance Approx 1.5° Polarisation filter Supply voltage V _s DC 10 30 V ²⁾ Ripple \$5 V _{pp} ³⁾ Power consumption Switching outputs PNP Signal voltage PNP HIGH/LOW PNP Signal voltage PNP HIGH/LOW Approx. > V _y < 3 V Switching mode Light/dark-switching, switchable ⁵⁾ Output current l _a max 100 mA Response time \$330 µs ⁶⁾ Switching frequency 1,500 Hz ⁷⁾ Connector, M12, 4-pin VDE protection class Circuit protection V _c connections reverse-polarity protected/Interference suppression Enclosure rating P 6, P 67, P 69 K Ambient temperature storage Weight Approx. 120 g							
Sensitivity adjustment Potentiometer (11 turn) Light source, light type LED, Red light, 640 nm¹) Light spot diameter Approx. 25 mm at 1.5 m distance Angle of dispersion Approx. 15° Polarisation filter ✓ Supply voltage V _s DC 10 30 V²) Ripple ≤ 5 V _{pp} ³) Power consumption ≤ 30 mA¹) Switching outputs PNP Signal voltage PNP HIGH/LOW Approx. >V _s < 3 V/approx. 0 V Signal voltage NPN HIGH/LOW Approx. >V _s < 3 V Switching mode Light */dark-switching, switchable⁵) Output current I _s max Response time ≤ 330 µs⁰ Switching frequency 1,500 Hz²) Connection type Connector, M12, 4-pin VPE protection class Gircuit protection V _s connections reverse-polarity protected/ Interference suppression Enclosure rating P 66, IP 67, IP 69 K Ambient temperature operation Approx. 120 g Weight Approx. 120 g							
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Light spot diameter Approx. 25mm at 1.5m distance Angle of dispersion Aprox. 1.5° Approx. 1.5°							
Angle of dispersion Approx. 1.5° Polarisation filter \checkmark Supply voltage V_s DC $10 \dots 30 \ V^2$ Ripple $\le 5 \ V_{pp}^{30}$ Power consumption $\le 30 \ \text{mA}^{4}$ Switching outputs Q_{PNP} and Q_{NPN} PNP Signal voltage PNP HIGH/LOW $> V_s - 3 \ V_{sp} = 3 \ V_{$							
Polarisation filter \checkmark Supply voltage V_s DC 10 30 V^2) Ripple $\le 5 V_{pp}^{0}$ Power consumption $\le 30 \text{ mA}^{4}$ Switching outputs \bigcirc PNP Signal voltage PNP HIGH/LOW $> V_s - 3 \text{ V/approx. 0 V}$ Signal voltage PNP HIGH/LOW \bigcirc Approx. $> V_s/< 3 \text{ V}$ Switching mode \bigcirc Light-/dark-switching, switchable $^{(0)}$ Output current I_s max \bigcirc Response time \bigcirc Switching frequency \bigcirc Connector, M12, 4-pin VDE protection class \bigcirc Position of the protection \bigcirc V _s connections reverse-polarity protected/All outputs short-circuit protected/Interference suppression Enclosure rating \bigcirc Position in the protection \bigcirc Position in the	<u> </u>						
Supply voltage V_s DC $10 \dots 30 \ V^2$) Ripple $\leq 5 \ V_{pp}^{3}$) Power consumption $\leq 30 \ \text{mA}^4$) Switching outputs Q_{PNP} and Q_{NPN} PNP Signal voltage PNP HIGH/LOW $> V_s - 3 \ V_s$ and V_s ano							
Ripple $\leq 5 V_{pp}^{ 9}$ Power consumption $\leq 30 \text{mA}^{ 4}$ Switching outputs Q_{PNP} and Q_{NPN} PNP Signal voltage PNP HIGH/LOW $> V_s \cdot 3 V_{pp}$ Approx. 0 V Signal voltage NPN HIGH/LOW Approx. $> V_s / < 3 V_{pp}$ Switching mode Light, /dark-switching, switchable > 0 Utput current I_{amax} 100 mA Response time $\leq 330 \mu s^9$ Switching frequency 1,500 Hz? Switching frequency 1,500 Hz? Connection type Connector, M12, 5-pin Connector, M12, 4-pin VDE protection class \square 9 Circuit protection V_s connections reverse-polarity protected / Interference suppression \square 19 66, P 67, P 69 K Ambient temperature operation $-40 ^{\circ} \text{C} \dots +60 ^{\circ} \text{C}$ Ambient temperature storage $-40 ^{\circ} \text{C} \dots +75 ^{\circ} \text{C}$ Weight Approx. 120 g							
Power consumption ≤ 30 mA ⁴) Switching outputs Q _{PNP} and Q _{NPN} PNP Signal voltage PNP HIGH/LOW > V _s - 3 V/approx. 0 V Signal voltage NPN HIGH/LOW Approx. > V _s /< 3 V Switching mode Light/dark-switching, switchable ⁵) Output current I _a max 100 mA Response time ≤ 330 µs ⁶) Switching frequency 1,500 Hz ⁷) Connection type Connector, M12, 5-pin Connector, M12, 4-pin VDE protection class □ 8 Circuit protection V _s connections reverse-polarity protected/All outputs short-circuit protected/Interference suppression Enclosure rating							
Switching outputs Q_{PNP} and Q_{NPN} PNP Signal voltage PNP HIGH/LOW $> V_s - 3 \text{ V/approx. O V}$ Signal voltage NPN HIGH/LOW Approx. $> V_s/< 3 \text{ V}$ Switching mode Light/dark-switching, switchable ⁵⁾ Output current I_s max 100 mA Response time $\le 330 \text{ µs}^6$) Switching frequency 1,500 Hz ⁷⁾ Connection type Connector, M12, 5-pin Connector, M12, 4-pin VDE protection class User protection V_s connections reverse-polarity protected/all outputs short-circuit protected/interference suppression Enclosure rating IP 66, IP 67, IP 69 K Ambient temperature operation $-40 ^{\circ}$ C $+60 ^{\circ}$ C Ambient temperature storage $-40 ^{\circ}$ C $+75 ^{\circ}$ C Weight Approx. 120 g		r r					
Signal voltage PNP HIGH/LOW $>$ V_s - 3 V_s $>$ 3 V_s $>$ 5 Signal voltage NPN HIGH/LOW Approx. $>$ V_s /< 3 V_s $>$ 5 Switching mode Light/dark-switching, switchable $>$ 6 Output current I_a max $>$ 100 mA $>$ 6 Switching frequency $>$ 1,500 Hz $>$ 6 Connection type Connector, M12, 4-pin $>$ 6 Connection class $>$ 8 $>$ 6 Circuit protection $>$ 7 V_s connections reverse-polarity protected/All outputs short-circuit protected/Interference suppression $>$ 6 Signal Pois Ambient temperature storage $>$ 40 °C +60 °C $>$ 6 Mpion. 120 g							
Signal voltage PNP HIGH/LOW $> V_S - 3 \text{ V/approx. O V}$ Signal voltage NPN HIGH/LOW Approx. $> V_S/< 3 \text{ V}$ Switching mode Light-/dark-switching, switchable 5) Output current I_a max 100 mA Response time $\leq 330 \text{ µs}^{6}$) Switching frequency $1,500 \text{ Hz}^{7}$) Connection type Connector, M12, 5-pin Connection type Connector, M12, 4-pin VDE protection class $\boxed{0}^{8}$) V _S connections reverse-polarity protected/Interference suppression Enclosure rating $\boxed{1P 66, 1P 67, 1P 69 \text{ K}}$ Ambient temperature operation $-40 \text{ °C} + 60 \text{ °C}$ Ambient temperature storage $-40 \text{ °C} + 75 \text{ °C}$ Weight $Approx. 120 \text{ g}$	Switching outputs						
Signal voltage NPN HIGH/LOW Approx. $> V_s/<3 \text{ V}$ Switching mode Light/dark-switching, switchable 5) Output current I_a max 100 mA Response time $\le 330 \mu s^6$) Switching frequency 1,500 Hz? Connection type Connector, M12, 5-pin Connection type Connector, M12, 4-pin VDE protection class \square 8) Circuit protection V_s connections reverse-polarity protected/Interference suppression Enclosure rating IP 66, IP 67, IP 69 K Ambient temperature operation $-40 ^\circ C \dots +60 ^\circ C$ Ambient temperature storage $-40 ^\circ C \dots +75 ^\circ C$ Weight Approx. 120 g	-	* * * * *					
Switching mode							
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Response time ≤ 330 µs6) Switching frequency 1,500 Hz7) Connection type Connector, M12, 5-pin Connection type Connector, M12, 4-pin VDE protection class □ 8) Circuit protection Vs connections reverse-polarity protected/All outputs short-circuit protected/Interference suppression Enclosure rating IP 66, IP 67, IP 69 K Ambient temperature operation Ambient temperature storage -40 °C +60 °C Weight Approx. 120 g							
Switching frequency 1,500 Hz ⁷⁾ Connection type Connector, M12, 5-pin Connector, M12, 4-pin VDE protection class Solution V _S connections reverse-polarity protected/All outputs short-circuit protected/Interference suppression Enclosure rating IP 66, IP 67, IP 69 K Ambient temperature operation Approx. 120 g	Output current l _a max						
Connection type Connector, M12, 5-pin Connector, M12, 4-pin VDE protection class \[\begin{array}{c} \text{S} \\ \text{Circuit protection} \end{array} \begin{array}{c} \text{V}_{S} \text{connections reverse-polarity protected/} \\ \text{Interference suppression} \end{array} \] Enclosure rating \[\text{IP 66, IP 67, IP 69 K} \\ \text{Ambient temperature operation} \text{-40 °C +60 °C} \\ \text{Ambient temperature storage} \text{-40 °C +75 °C} \\ \text{Weight} \end{array} \]	Response time	≤ 330 µs ⁶⁾		 			
Connector, M12, 4-pin VDE protection class Image: Street of the connection of the	Switching frequency	1,500 Hz ⁷⁾					
VDE protection class Circuit protection V _s connections reverse-polarity protected/All outputs short-circuit protected/ Interference suppression Enclosure rating IP 66, IP 67, IP 69 K Ambient temperature operation Ambient temperature storage -40 °C +75 °C Weight Approx. 120 g	Connection type	Connector, M12, 5-pin					
Circuit protection V _s connections reverse-polarity protected/All outputs short-circuit protected/Interference suppression Enclosure rating IP 66, IP 67, IP 69 K Ambient temperature operation -40 °C +60 °C Ambient temperature storage -40 °C +75 °C Weight Approx. 120 g		Connector, M12, 4-pin					
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Ambient temperature operation -40 °C +60 °C Ambient temperature storage -40 °C +75 °C Weight Approx. 120 g	Circuit protection	ted/All outputs short-circuit protected/					
Ambient temperature storage -40 °C +75 °C Weight Approx. 120 g	Enclosure rating	IP 66, IP 67, IP 69 K		 	-	 	
Weight Approx. 120 g	Ambient temperature operation	−40 °C +60 °C			-	 <u></u>	
	Ambient temperature storage	–40 °C +75 °C					
Housing material Zinc die-cast ⁹⁾	Weight	Approx. 120 g					
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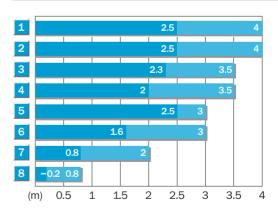
Average service life 100,000 h at T_a = +25 °C
 Limit values, operation in short-circuit protected network max. 8 A

May not exceed or fall short of V_s tolerances
 Without load

Control cable 0 V or open-circuited = light-switching. Control cable Vs = dark-switching
 Signal transit time with resistive load

With light/dark ratio 1:1 in switching mode
 Reference voltage 50 V DC
 Teflon-coated housing available on request

Scanning range and operating reserve



Operating range Reflector type

PL80A

C110A P250F PL50A

PL40A PL30A

PL20A

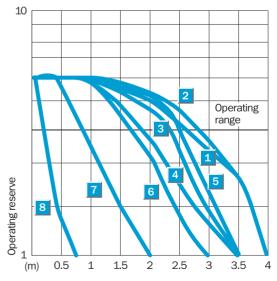
5 6

7

8

Operating range
0 2.5 m
0 2.5 m
0 2.3 m
0 2.0 m
0 2.5 m
0 1.6 m
0 0.8 m
0 0.2 m

Scanning range typ. max.



Order information				
Туре	Order no.			
WL12G-3B2531	1041456			
WL12G-302431	1041457			

Reflective tape