

Photoelectric Switches W 12-2 Series

WS/WE 12-2

20 m



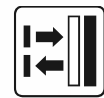
WL 12-2

0 ... 7 m



WT 12-2

35 ... 150 mm



20 ... 250 mm



80 ... 600 mm



Photoelectric switches in stable metal housing. Photoelectric proximity switches WT 12-2 with stepless adjustable scanning distance and optional background or foreground suppression as well as sensitivity adjuster for large scanning distances. Polarization filter for WL 12-2 photoelectric proximity switch.

WS/WE 12-2 through-beam photoelectric switches with test input for function monitoring.

LED signal strength indicator for soiling monitoring of the optics and as alignment help (blinking).

Available with fixed attached cable or 4 pole equipment plug.

Supply voltage 10 to 30 V.

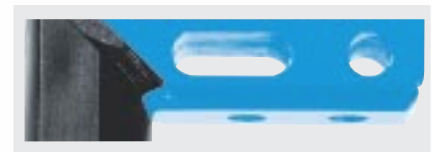
Insensitive to ambient light due to pulse modulation.

Complementary switching outputs for light of dark switching with short-circuit protection in NPN or PNP models.

Available as through-beam photoelectric switch, photoelectric reflex switch, photoelectric proximity switch.



Variable connection options on the back and bottom thanks to rotatable equipment plug.



Flexible mounting options thanks to dovetail clamp and longitudinal holes.

SICK

optic
electronic



Scanning Range

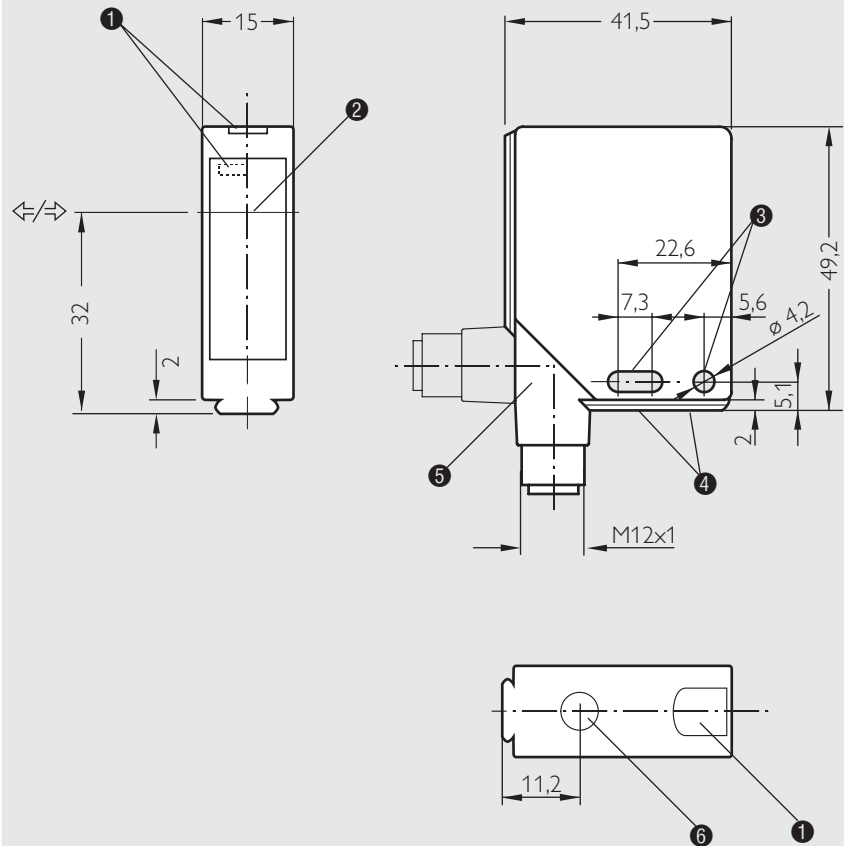
20 m



Features:

- Red-light emitter LED as alignment aid
- Insensitive to ambient light sources (HF lamps, blinking alarm lights)
- Reliable functioning when devices mounted facing each other
- Switching frequency 1.5 kHz
- All-round reverse polarity protection at the inputs and outputs
- Outputs short-circuit protected
- 90° rotatable M 12 equipment plug or 2 m cable
- CE

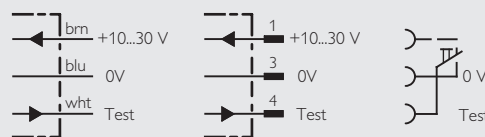
WS/WE 12-2



- ① LED signal strength indicator
- ② Center of optical axis
- ③ Mounting holes
- ④ Threaded mounting hole M 4 – 4 deep
- ⑤ Plug M 12 (rotatable by 90°) or 2 m connection cable
- ⑥ Sensitivity adjuster

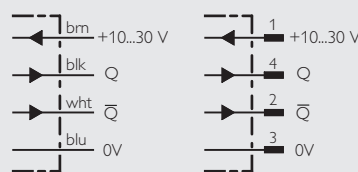
Connection diagram

WS 12-2

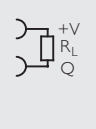


brn	blu	wht	blk
brown	blue	white	black
braun	blau	weiß	schwarz

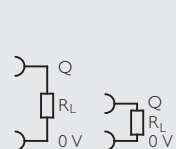
WE 12-2



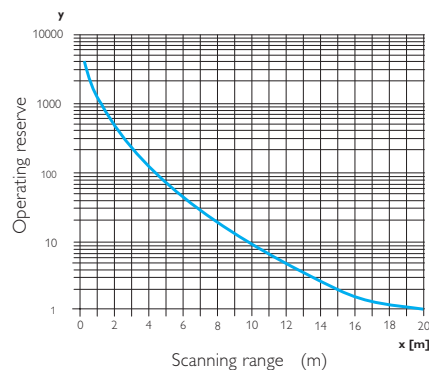
-N



-P



WS/WE 12-2



Through-beam Photoelectric Switch

WS/WE 12-2

Type	WS/WE 12-2	-P	-N
Typical maximal range		20 m	
Recommended operating range		15 m	
Range with 2 mm orifice		2.0 m	
Range with 1.5 mm orifice		1.5 m	
Range with 1 mm orifice		1.0 m	
Range with 0.5 mm orifice		0.5 m	
Light source		LED, visible red light, average operating life 100 000 h ¹⁾	
Light spot in distance		400 mm at distance of 15 m	
Supply voltage V_S		DC 10 ... 30 V (Limit values)	
Current consumption (without load)		≤ 15 mA, WE; ≤ 30 mA, WS	≤ 25 mA, WE; ≤ 30 mA, WS
Ripple ²⁾		≤ 5 V _{PP}	
Switching outputs		PNP, Q and \bar{Q}	NPN, Q and \bar{Q}
Signal voltage HIGH		V _S - 2.9 V	V _S
Signal voltage LOW ³⁾		approx. 0 V	≤ 1.5 V
Output current I _A max.		100 mA	
Response time ⁴⁾ , Switching frequency ⁵⁾		≤ 330 μs; 1500/s	
Test input TI		V _S or unswitched, Sender active	
		0 V Sender inactive	
VDE protection class⁶⁾		□	
Enclosure rating		IP 67	
Protection circuits ⁷⁾		A, B, C	
Ambient operating temperature T _U ⁸⁾		- 40 ... + 60 °C	
Storage temperature T _L ⁸⁾		- 40 ... + 75 °C	
Weight		with equipment plug 120 g, with cable approx. 200 g	

- 1) At T_U = + 25 °C
 2) Must remain within V_S tolerances
 3) At T_U = + 25 °C and 100 mA output current
 4) Signal run time with resistive load
 5) With light/dark ratio 1:1

- 6) Withstand voltage 50 V
 7) A = Inputs and outputs all-round reverse polarity protected
 B = Outputs short-circuit protected
 C = Interference pulse suppression
 8) Do not deform connecting cable below 0 °C

Selection Table

Plug M 12 rotatable	Cable 2 m	Transistor output		Type	Order no.
		PNP	NPN		
●		●		WS/WE 12-2P430	1 016 157
●			●	WS/WE 12-2N430	1 016 155
	●	●		WS/WE 12-2P130	1 016 156
	●		●	WS/WE12-2N130	1 016 154



Scanning Range

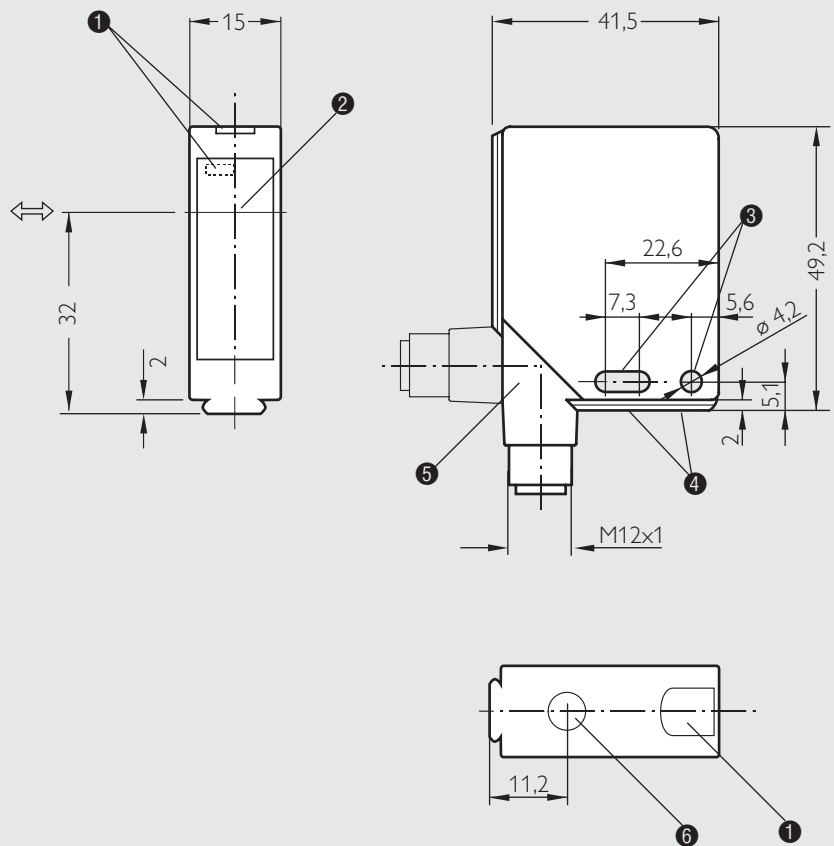
0 ... 7 m



Features:

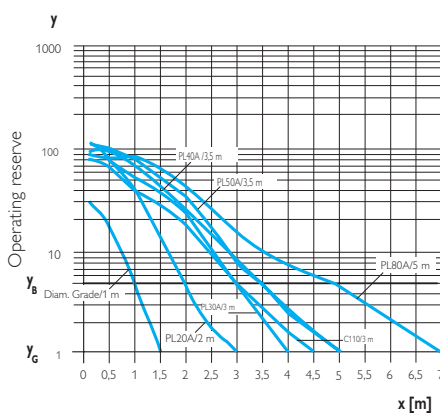
- Red-light emitter LED as alignment aid
- Insensitive to ambient light (HF lamps, blinking alarm lights)
- Reliable functioning when devices mounted facing each other
- Switching frequency 1.5 kHz
- All-round reverse polarity protection at inputs and outputs
- Outputs short-circuit protected
- 90° rotatable M 12 equipment plug or 2 m cable
- CE

WL 12-2

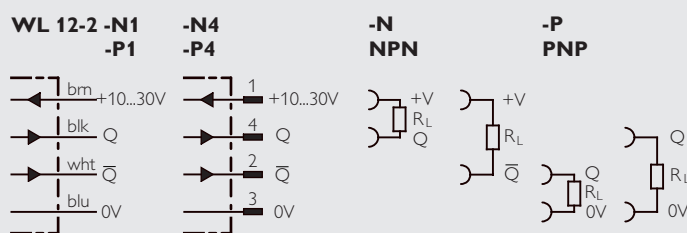


- 1 LED signal strength indicator
- 2 Center of optical axis
- 3 Mounting holes
- 4 Threaded mounting hole M 4 – 4 deep
- 5 Plug M 12 (rotatable by 90°) or 2 m connection cable
- 6 Sensitivity adjuster

WL 12-2



Connection Diagram



brn	blk	blu	wht
brown	black	blue	white
braun	schwarz	blau	weiß

Photoelectric Reflex Switch WL 12-2

WL 12-2	-P		-N	
	Standard (f = ∞)	Focus (f = 90 mm)	Standard (f = ∞)	Focus (f = 90 mm)
Typical maximal range/on reflector	7 m/PL 80 A	2 m/PL 80 A	7 m/PL 80 A	2 m/PL 80 A
Recommended operating range				
With reflector PL 80 A	0 ... 5 m	0 ... 1.5 m	0 ... 5 m	0 ... 1,5 m
With reflector C 110	0 ... 3 m		0 ... 3 m	
With reflector PL 50 A	0 ... 3.5 m		0 ... 3.5 m	
With reflector PL 40 A	0 ... 3.5 m		0 ... 3.5 m	
With reflector PL 30 A	0 ... 3 m		0 ... 3 m	
With reflector PL 20 A	0 ... 2 m		0 ... 2 m	
with „Diamond grade“ reflective tape (min. 100 x 100 mm ² area)	0 ... 1 m	0 ... 0.5 m	0 ... 1 m	0 ... 0.5 m
Supply voltage V_S	DC 10 ... 30 V			
Current consumption (without load)	≤ 30 mA		≤ 40 mA	
Ripple ¹⁾	≤ 5 V _{pp}			
Light source	LED, visible red light, average operating life 100 000 h ²⁾			
Angle of dispersion	approx. 1,5°			
Light spot diameter	80 mm at distance of 3 m	2 mm at distance of 90 mm	80 mm at distance of 3 m	2 mm at distance of 90 mm
Switching outputs	PNP, Q and \bar{Q}		NPN, Q and \bar{Q}	
Signal voltage HIGH	V _S - 2,9 V		V _S	
Signal voltage LOW ³⁾	approx. 0 V		≤ 1,5 V	
Output current I _A max.	100 mA			
Response time ⁴⁾ ; max. signal frequency ⁵⁾	≤ 330 μs; 1000/s			
VDE protection class⁶⁾	□			
Enclosure rating	IP 67			
Protection circuits ⁷⁾	A, B, C			
Ambient operating temperature T _U ⁸⁾	- 40 ... + 60 °C			
Storage temperature T _L ⁸⁾	- 40 ... + 75 °C			
Weight	with equipment plug approx. 120 g, with connection cable approx. 200 g			
1) Must remain within V _S tolerances	5) With light/dark ratio 1:1	7) A = Inputs and outputs all-round reverse polarity protected		
2) At T _U = + 25 °C	6) Withstand voltage 50 V	B = Outputs short-circuit protected		
3) At T _U = + 25 °C and 100 mA output current		C = Interference pulse suppression		
4) Signal run time with resistive load		8) Do not deform connecting cable below 0 °C		

Selection Table

Lens	Cable 2 m	M 12 plug rotatable	Transistor output		Type	Order no.
			PNP	NPN		
Standard (f = ∞)	●		●		WL 12-2N130	1 016 085
	●		●		WL 12-2P130	1 016 096
		●		●	WL 12-2N430	1 016 092
		●	●		WL 12-2P430	1 016 102
Focus (f = 90 mm)	●			●	WL 12-2N120	1 016 084
	●		●		WL 12-2P120	1 016 095
		●	●		WL 12-2P420	1 016 091
		●	●		WL 12-2P420	1 016 101



Scanning Range

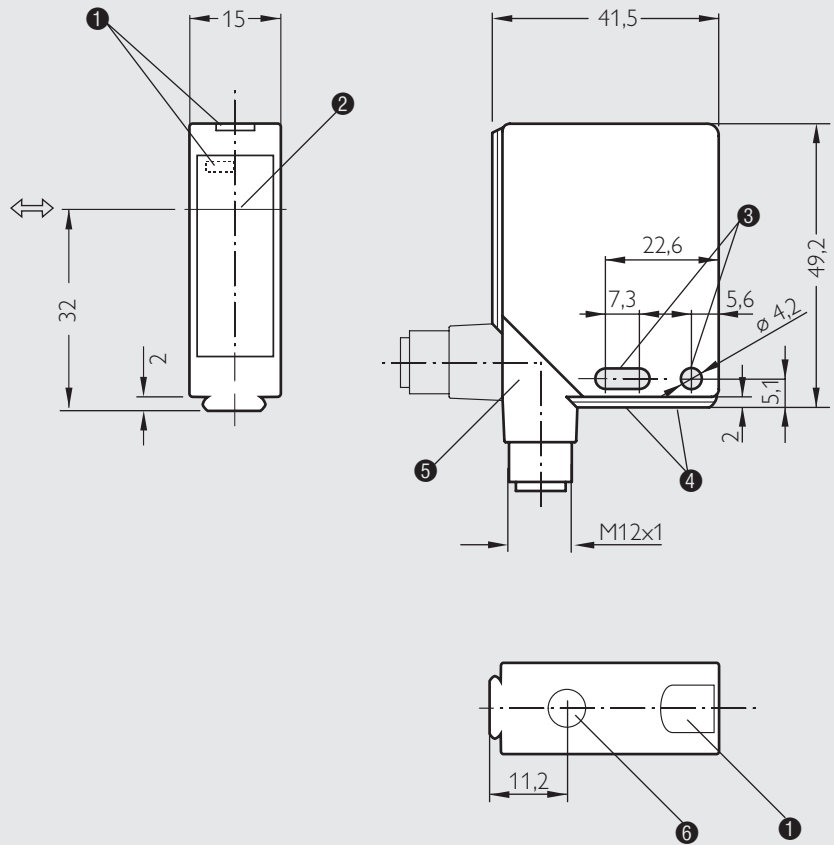
0 ... 4 m



Features:

- Detection of glass and transparent film
- Red-light emitter LED as alignment aid
- Insensitive to Ambient light sources (HF lamps, flashing alarm lamps)
- Reliable functioning when devices installed facing each other
- Switching frequency 1.5 kHz
- All-round reverse polarity protection at the inputs and outputs
- Outputs short-circuit protected
- 90° rotatable M 12 equipment plug or 2 m cable
- CE

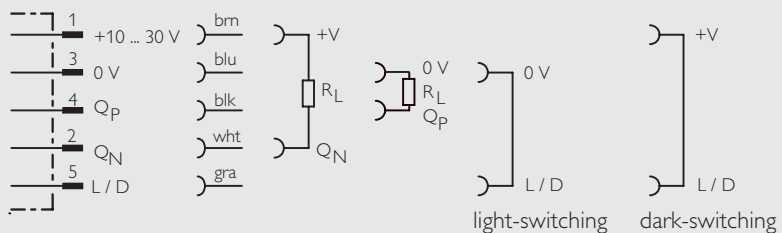
WL 12-2B560



- 1 LED signal strength indicator
- 2 Center of optics axis
- 3 Mounting holes
- 4 Threaded mounting hole M 4 – 4 deep
- 5 Plug M 12 (rotatable by 90°) or 2 m connection cable
- 6 Sensitivity adjuster

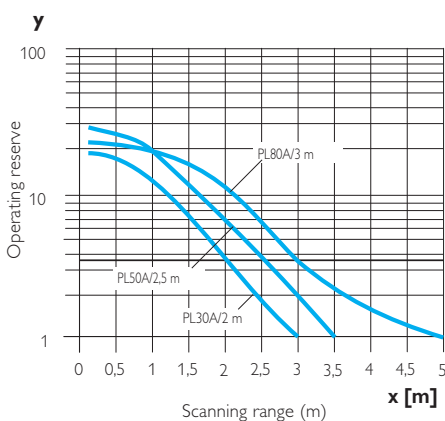
Connection Diagram

WL 12-2B560



gra	brn	blu	blk	wht
gray	brown	blue	black	white
grau	braun	blau	schwarz	weiß

WL 12-2B



Photoelectric Reflex Switch WL 12-2B560 with small Switching Hysteresis

WL 12-2	B560	
Part No.	1 016 080	
Typ. maximal range/on reflector	4 m/PL 80 A	
Recommended operating range		
With reflector PL 80 A	0 ... 3.5 m	
With reflector C 110	0 ... 1.8 m	
With reflector PI 50 A	0 ... 2.0 m	
With reflector PL 40 A	0 ... 1.8 m	
With reflector PL 30 A	0 ... 1.6 m	
With reflector PL 20 A	0 ... 1.0 m	
With „Diamond grade“ reflective tape (min. 100 x 100 mm ² area)	0 ... 0.5 m	
Supply voltage V_S	DC 10 ... 30 V	
Current consumption (without load)	≤ 30 mA	
Ripple ¹⁾	≤ 5 V _{pp}	
Light source	LED, visible red light, average operating life 100 000 h ²⁾	
Angle of dispersion	approx. 1.2°	
Light spot diameter	30 mm at distance of 1.5 m	
Switching outputs Q_P + Q_N	Output O _P – PNP	Output Q _N – NPN
Signal voltage HIGH	V _S – 2.9 V	V _S
Signal voltage LOW	approx. 0 V	≤ 1.5 V
Output current I _A max.	100 mA	
Operating mode	Light- or dark-switching, via control cable L/D switchable	
Control input L/D	0 V or unswitched	light-switching
Control input L/D	V _S	dark-switching
Response time ⁴⁾ , Switching frequency, max. ⁵⁾	330 μs; 1500/s	
VDE protection class⁶⁾	□	
Enclosure rating	IP 67	
Protection circuits ⁷⁾	A, B, C	
Ambient operating temperature T _U ⁸⁾	– 40 ... + 60 °C	
Storage temperature T _L ⁸⁾	– 40 ... + 75 °C	
Weight	approx. 120 g	

1) Must remain within V_S tolerances

2) At T_U = + 25 °C

3) At T_U = + 25 °C and 100 mA output current

4) Signal run time with resistive load

5) With light/dark ratio 1:1

6) Withstand voltage 50 V

7) A = Inputs and outputs all-round reverse polarity protected

B = Outputs short-circuit protected

C = Interference pulse suppression

8) Do not deform connecting cable below 0 °C



Scanning Range

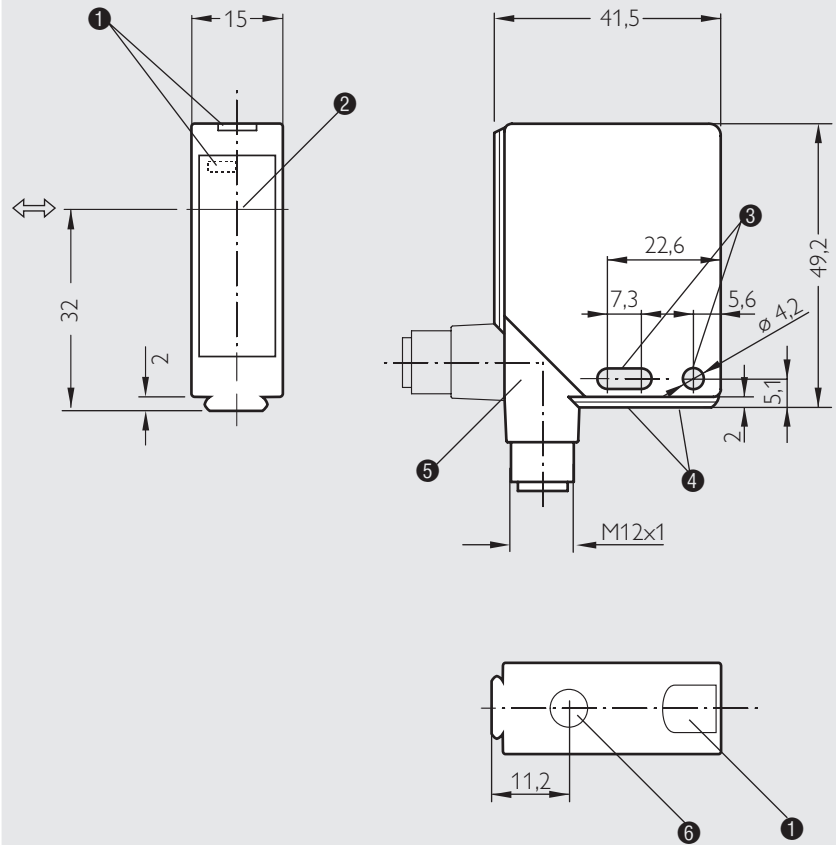
0 ... 7 m



Features:

- Red-light emitter LED as alignment aid
- Insensitive to ambient light (HF lamps, blinking alarm lights)
- Reliable functioning when devices mounted facing each other
- Switching frequency 1.5 kHz
- Inputs reverse polarity protected
- 90° rotatable M 12 equipment plug
- CE

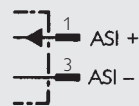
WL 12-2 ASI



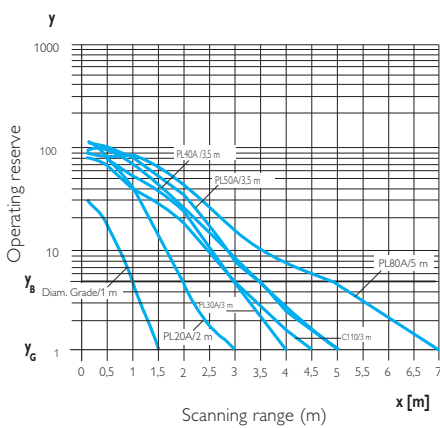
- ① LED signal strength indicator
- ② Center of optical axis
- ③ Mounting holes
- ④ Threaded mounting hole M 4 – 4 deep
- ⑤ Plug M 12 (rotatable by 90°) or 2 m connection cable
- ⑥ Sensitivity adjuster

Connection Diagram

WL 12-2Z430



WL 12-2 ASI



Photoelectric Reflex Switch WL 12-2 ASI

WL 12-2	-Z430
Part No.	1 016 108
Typ. maximal range/on reflector	7 m/PL 80 A
Recommended operating range	
With reflector PL 80 A	0 ... 5 m
With reflector C 110	0 ... 3 m
With reflector PI 50 A	0 ... 3.5 m
With reflector PL 40 A	0 ... 3.5 m
With reflector PL 30 A	0 ... 3 m
With reflector PL 20 A	0 ... 2 m
With „Diamond grade“ reflective tape (min. 100 × 100 mm ² area)	0 ... 1 m
Supply voltage V_S	DC 26,5 ... 31.6 V
Current consumption	≤ 35 mA
Light source	LED, visible red light, average operating life 100 000 h ¹⁾
Angle of dispersion	1.5°
Light spot diameter	80 mm at distance of 3 mm
Response time ²⁾ , Switching frequency max. ³⁾	≤ 330 μs; 1500/s
VDE protection class⁴⁾	□
Enclosure rating	IP 67
Protection circuits ⁵⁾	A, C
Ambient operating temperature T _U ⁶⁾	- 25 ... + 60 °C
Storage temperature T _L ⁶⁾	- 40 ... + 75 °C
Weight	approx. 120 g

1) At T_U = + 25 °C

2) Signal run time of sensor

3) With light/dark ratio 1:1

4) Withstand voltage 50 V

5) A = Inputs reverse polarity protected

C = Interference pulse suppression

6) Do not deform connecting cable below 0 °C

Allocation Data bits (Host level)

D ₀	Switching state	0 no reflection 1 reflection	Input
D ₁	VMA	0 active 1 inactive	Input
D ₂	NC	0 1	Input
D ₃ *	Test function	0 sender on 1 sender off	Output

Allocation Parameter bits (Host level)

P ₀ *	NC	0 1	Parameter
P ₁ *	Light-/dark-switch	0 Dark-switching 1 Light-switching	Parameter
P ₂ *	NC	0 1	Parameter
P ₃ *	NC	0 1	Parameter

* Default setting 0 1



Adjustable Scanning Distance

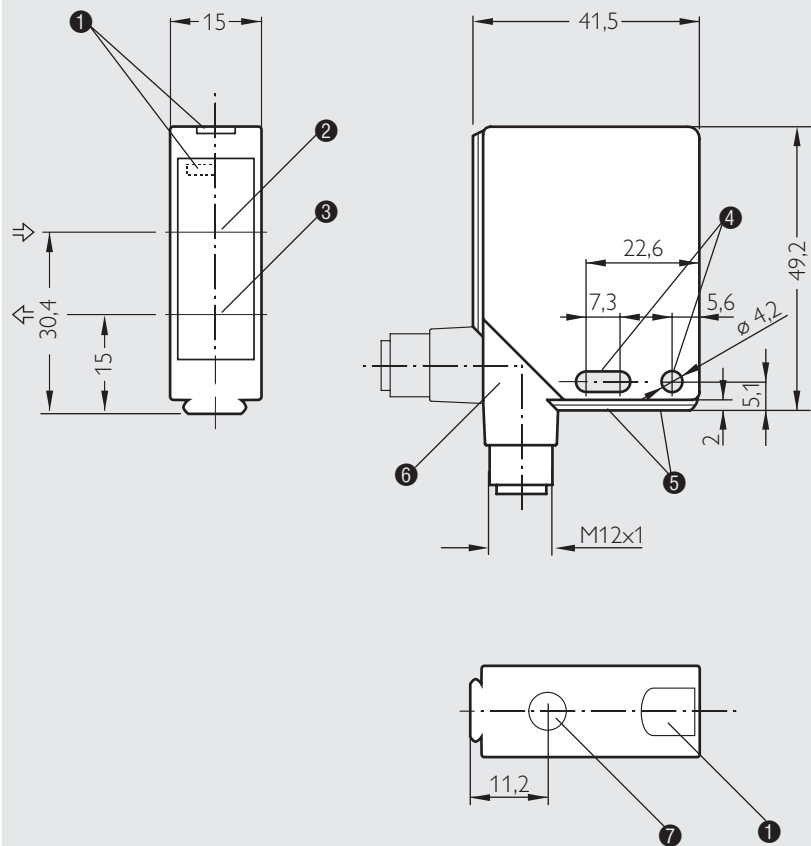
35 ... 150 mm



Features:

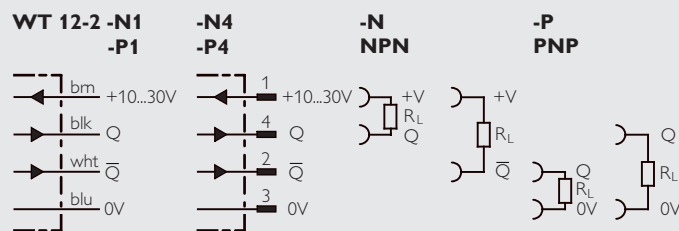
- Red-light emitter LED as alignment aid
- Foreground suppression
- Adjustable scanning distance
- Insensitive to ambient light (HF lamps, blinking warning lights)
- Reliable functioning with devices facing each other
- Switching frequency 1.5 kHz
- All-round reverse polarity protection at the inputs and outputs
- Outputs short-circuit protected
- 90° rotatable M 12 equipment plug or 2 m cable
- CE

WT 12-2



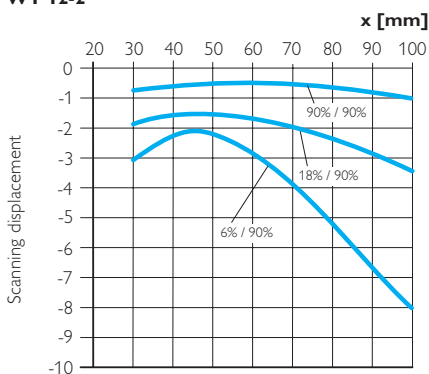
- 1 LED signal strength indicator
- 2 Optical axis – Receiver
- 3 Optical axis – Sender
- 4 Mounting holes
- 5 Threaded mounting holes M 4 – 4 deep
- 6 M12 plug (rotatable by 90°) or 2 m connection cable
- 7 Scanning distance adjuster

Connection Diagram



brn	blu	blk	wht
brown	blue	black	white
braun	blau	schwarz	weiß

WT 12-2



Photoelectric Proximity Switch WT 12-2 with Foreground Suppression

WT 12-2	-P	-N
Scanning range, adjustable ¹⁾	35 ... 150 mm	
Supply voltage V_S ²⁾	DC 10 ... 30 V	
Current consumption (without load)	≤ 30 mA	≤ 40 mA
Ripple ³⁾	≤ 5 V _{pp}	
Light source	LED, visible red light, average operating life 100 000 h ⁴⁾	
Light spot diameter	2 mm at distance of 60 mm	
Switching outputs	PNP, Q and \bar{Q}	NPN, Q and \bar{Q}
Signal voltage HIGH	V _S - 2,9 V	V _S
Signal voltage LOW ³⁾	approx. 0 V	≤ 1,5 V
Output current I _A max.	≤ 100 mA	
Response time, max. ⁶⁾ ; switching frequency, max. ⁷⁾	≤ 330 μs; 1500/s	
VDE protection class ⁸⁾	□	
Enclosure rating	IP 67	
Protection circuits ⁹⁾	A, B, C	
Ambient operating temperature T _U ¹⁰⁾	- 40 ... + 60 °C	
Storage temperature T _L ¹⁰⁾	- 40 ... + 75 °C	
Weight	with equipment plug approx. 120 g, with connection cable approx. 200 g	

1) Object with 6 % reflection
(based on white standard to DIN 5033)

2) Limit value

3) Must remain within V_S tolerances

4) At T_U = + 25 °C

5) At T_U = + 25 °C and 100 mA output current

6) Signal run time with resistive load

7) With light/dark ratio 1:1

8) Withstand voltage 50 V

9) A = Inputs and outputs all-round reverse polarity protected

B = Outputs short-circuit protected

C = Interference pulse suppression

10) Do not deform connecting cable below 0 °C

Selection Table

M 12 plug rotatable	Cable 2 m	Transistor output PNP	NPN	Type	Order no.
●		●		WT 12-2P440	1 016 150
●			●	WT 12-2N440	1 016 146
	●	●		WT 12-2P140	1 016 148
	●		●	WT 12-2N140	1 016 145



Adjustable Scanning Distance

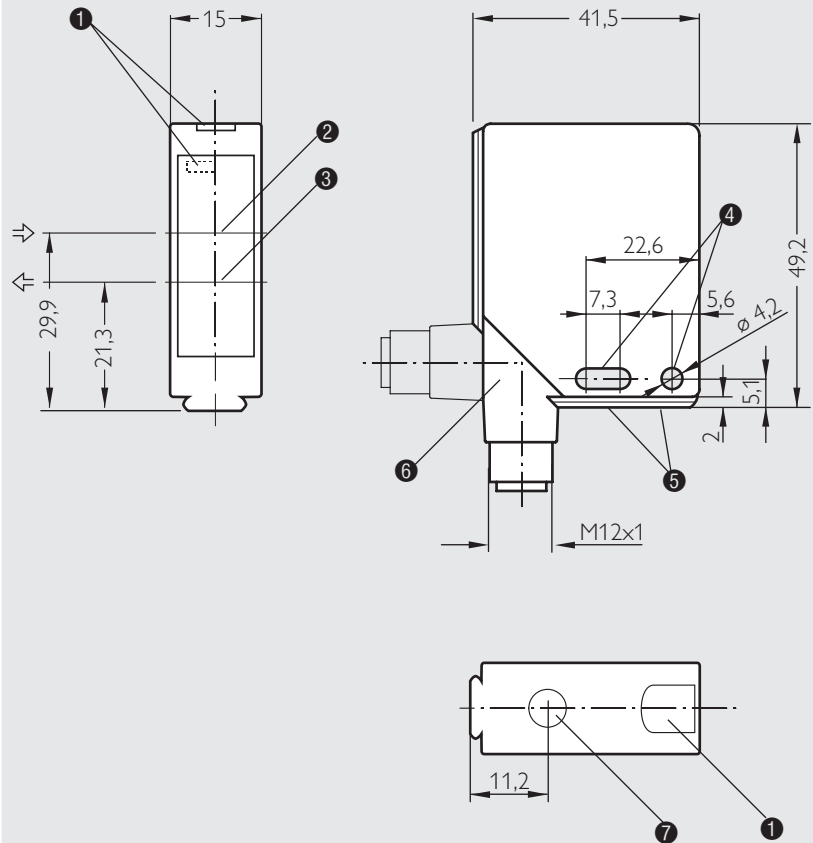
20 ... 250 mm



Features:

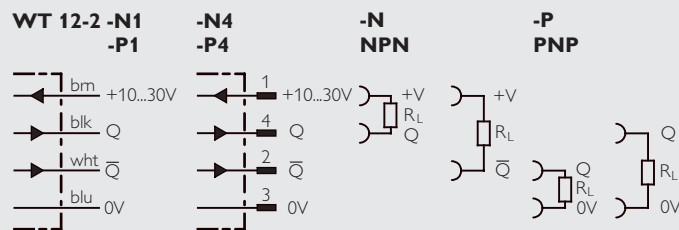
- LED light source, visible red light or infrared sender light
- Background suppression
- Adjustable scanning distance
- Insensitive to ambient light (HF lamps, blinking warning lights)
- Reliable functioning with devices facing each other
- Switching frequency 1,5 kHz
- All-round reverse polarity protection at the inputs and outputs
- Outputs short-circuit protected
- 90° rotatable M 12 equipment plug oder 2 m cable
- CE

WT 12-2

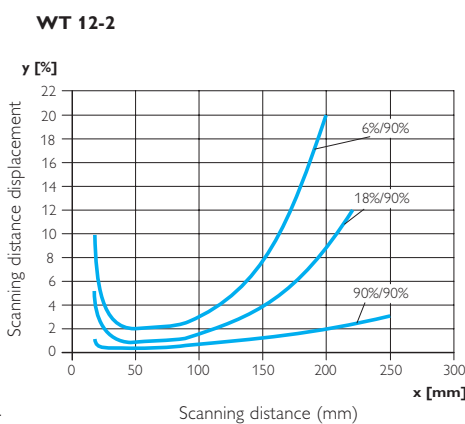


- LED signal strength indicator
- Optical axis – Receiver
- Optical axis – Sender
- Mounting holes
- Threaded mounting hole M 4 – 4 deep
- Plug M 12 (rotatable by 90°) or 2 m connection cable
- Scanning distance adjuster

Connection Diagram



brn	blu	blk	wht
brown	blue	black	white
braun	blau	schwarz	weiß



Photoelectric Proximity Switch WT 12-2 with Background Suppression

WT 12-2	-P	-N
Scanning distance, adjustable¹⁾	20 ... 250 mm	
Scanning distance	5 ... 20 mm and 5 ... 250 mm	
Supply voltage V_S	DC 10 ... 30 V (limit values)	
Current consumption (without load)	≤ 40 mA _{infrared} /≤ 30 mA _{rot}	≤ 50 mA _{infrared} /≤ 40 mA _{rot}
Ripple ²⁾	≤ 5 V _{pp}	
Light source	LED, infrared or visible red light (see selection table), average operating life 100 000 h ³⁾	
Light spot diameter	10 mm at distance of 200 mm	
Switching outputs	PNP, Q and \bar{Q}	NPN, Q and \bar{Q}
Signal voltage HIGH	V _S - 2.9 V	V _S
Signal voltage LOW ⁴⁾	approx. 0 V	≤ 1.5 V
Output current I _A max.	≤ 100 mA	
Response time, max. ⁵⁾ ; switching frequency, max. ⁶⁾	≤ 330 μs; 1500/s	
VDE protection class⁷⁾	□	
Enclosure rating	IP 67	
Protection circuits ⁸⁾	A, B, C	
Ambient operating temperature T _U ⁹⁾	- 40 ... + 60 °C	
Storage temperature T _L ⁹⁾	- 40 ... + 75 °C	
Weight	with equipment plug approx. 120 g, with connection cable approx. 200 g	

1) Object with 6/18 % reflection (based on white standard to DIN 5033)

2) Must remain within V_S tolerances

3) At T_U = + 25 °C

4) At T_U = + 25 °C and 100 mA output current

5) Signal run time with resistive load

6) With light/dark ratio 1:1

7) Withstand voltage 50 V

8) A = Inputs and outputs all-round reverse polarity protected

B = Outputs short-circuit protected

C = Interference pulse suppression

9) Do not deform connecting cable below 0 °C

Selection Table

Cable 2 m	M 12 plug rotatable	Sender light		Transistor output		Type	Order no.
		IR	Red light	PNP	NPN		
●		●			●	WT 12-2N110	1 016 118
●		●		●		WT 12-2P110	1 016 126
	●	●			●	WT 12-2N410	1 016 124
	●	●		●		WT 12-2P410	1 016 131
●			●		●	WT 12-2N130	1 016 122
●			●	●		WT 12-2P130	1 016 129
	●		●		●	WT 12-2N430	1 016 125
	●		●	●		WT12-2P430	1 016 134



Adjustable Scanning Distance

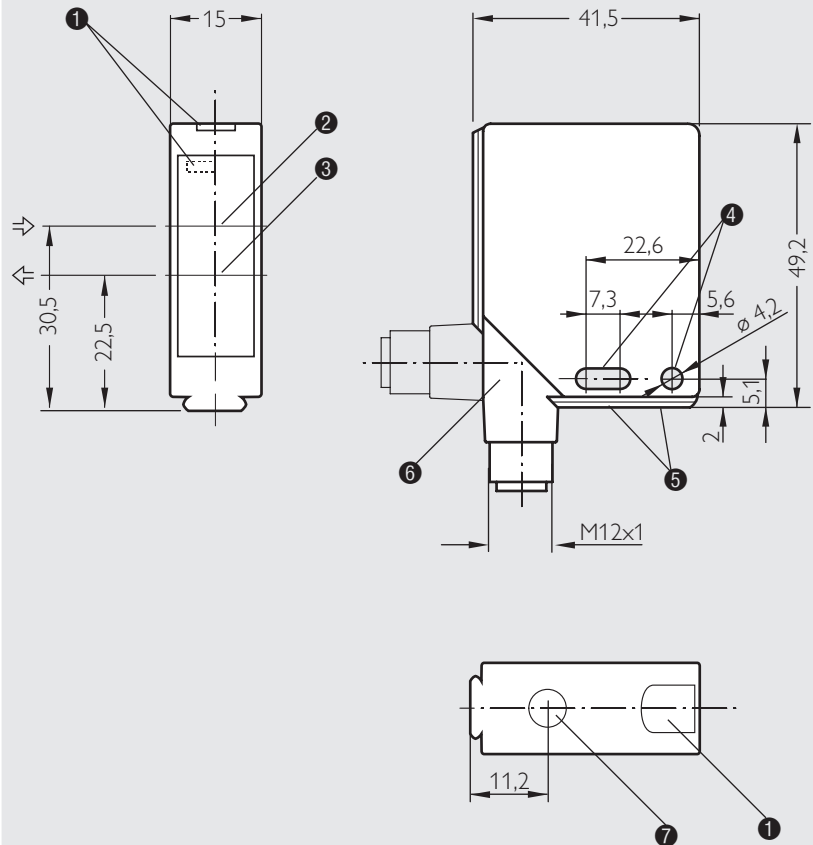
80 ... 600 mm



Features:

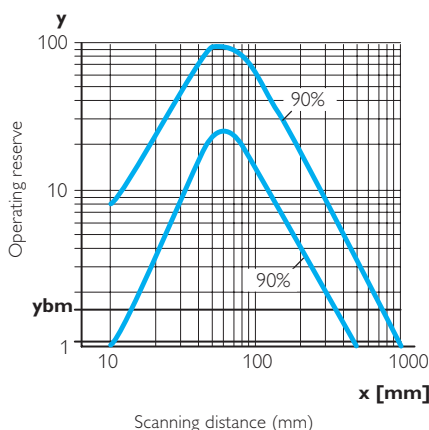
- Red-light emitter LED as alignment aid
- Adjustable scanning distance
- Insensitive to ambient light (HF lamps, blinking warning lights)
- Reliable functioning with devices facing each other
- Switching frequency 1.5 kHz
- All-round reverse polarity protection at the inputs and outputs
- Outputs short-circuit protected
- 90° rotatable M 12 equipment plug or 2 m cable
- CE

WT 12-2

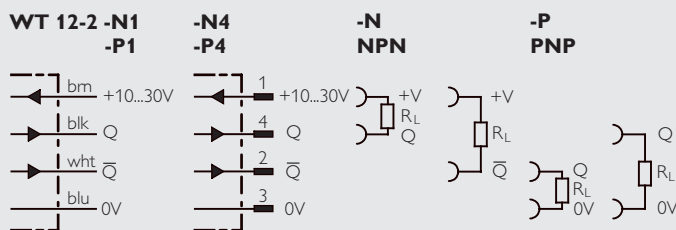


- LED signal strength indicator
- Optical axis – Receiver
- Optical axis – Sender
- Mounting holes
- Threaded mounting hole M 4 – 4 deep
- Plug M 12 (rotatable by 90°) or 2 m connection cable
- Scanning distance adjuster

WT 12-2



Connection Diagram



brn	blu	blk	wht
brown	blue	black	white
braun	blau	schwarz	weiß

Phototelectric Proximity Switch

WT 12-2

energetic

WT 12-2	-P	-N
Scanning distance, adjustable¹⁾	80 ... 600 mm	
Supply voltage V_S	DC 10 ... 30 V (limit values)	
Current consumption (without load)	≤ 30 mA	≤ 40 mA
Ripple ²⁾	≤ 5 V _{pp}	
Light source	LED, visible red light, average operating life 100 000 h ³⁾	
Light spot diameter	30 mm at distance of 600 mm	
Switching outputs	PNP, Q and \bar{Q}	NPN, Q and \bar{Q}
Signal voltage HIGH	V _S - 2.9 V	V _S
Signal voltage LOW ⁴⁾	approx. 0 V	≤ 1.5 V
Output current I _A max.	100 mA	
Response time ⁵⁾ , switching frequency max. ⁶⁾	≤ 330 μs; 1500/s	
VDE protection class⁷⁾	□	
Enclosure rating	IP 67	
Protection circuits ⁸⁾	A, B, C	
Ambient operating temperature T _U ⁹⁾	- 40 ... + 60 °C	
Storage temperature T _L ⁹⁾	- 40 ... + 75 °C	
Weight	with equipment plug approx. 120 g, with connection cable approx. 200 g	

1) Object with 90 % reflection
(based on white standard to DIN 5033)

2) Must remain within V_S tolerances

3) At T_U = + 25 °C

4) At T_U = + 25 °C und 100 mA output current

5) Signal run time with resistive load

6) With light/dark relationship 1:1

7) Withstand voltage 50 V

8) A = Inputs and outputs reverse polarity protected

B = Outputs short-circuit protected

C = Interference pulse suppression

9) Do not deform connecting cable below 0 °C

Selection Table

Cable 2 m	Plug M 12 rotatable	Transistor output PNP	NPN	Type	Order no.
●			●	WT 12-2N150	1 016 138
●		●		WT 12-2P150	1 016 140
	●		●	WT 12-2N450	1 016 139
	●	●		WT 12-2P450	1 016 142



Adjustable Scanning Distance

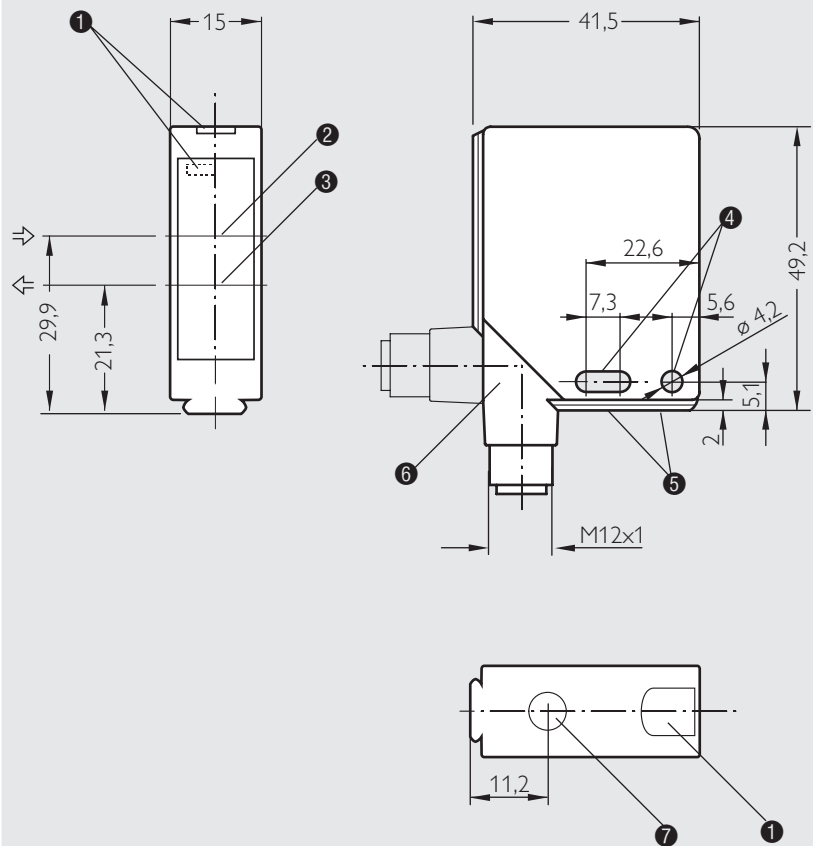
20 ... 250 mm



Features:

- LED- light source with visible red light
- Background suppression
- Adjustable scanning distance
- Insensitive to ambient light (HF lamps, blinking alarm lights)
- Reliable functioning when devices mounting facing each other
- Inputs reverse polarity protected
- Switching frequency 1.5 kHz
- 90° rotatable M 12 equipment plug or 2 m cable
- CE

WT 12-2 ASI



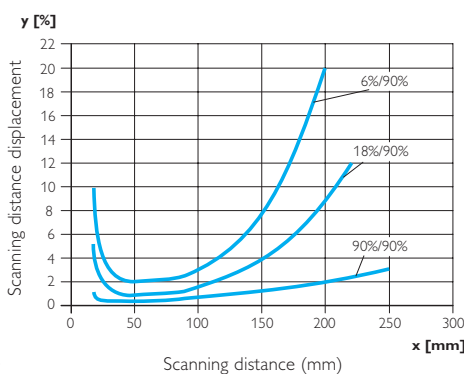
- ① LED signal strength indicator
- ② Optical axis – Receiver
- ③ Optical axis – Sender
- ④ Mounting holes
- ⑤ Threaded mounting hole M 4 – 4 deep
- ⑥ Plug M 12 (rotatable by 90°) or 2 m connection cable
- ⑦ Scanning distance adjuster

Connection Diagram

WT 12-2Z430



WT 12-2



Photoelectric Proximity Switch WT 12-2 ASI with Background Suppression

WT 12-2	-Z430
Part No.	1 016 136
Scanning distance, adjustable¹⁾	20 ... 250 mm
Scanning range	5 ... 20 mm und 5 ... 250 mm
Supply voltage V_S	DC 26.5 ... 31.5 V
Current consumption	≤ 35 mA
Light source	LED, visible red light, average operating life 100 000 h ²⁾
Light spot diameter	10 mm at distance of 200 mm
Response time ³⁾ , max. switching frequency ⁴⁾	≤ 330 μs; 1500/s
VDE protection class	□
Enclosure rating	IP 67
Circuit protection ⁵⁾	A, B, C
Ambient operating temperature T _U ⁶⁾	- 25 ... + 60 °C
Storage temperature T _L ⁶⁾	- 40 ... + 75 °C
Weight	approx. 120 g

- 1) Object with 90 % reflection
(based on white standard to DIN 5033)
 2) At T_U = + 25 °C
 3) Signal run time of sensor
 4) With light/dark ratio 1:1
 5) A = Inputs reverse polarity protected
 C = Interference pulse protection
 6) Do not deform connecting cable below 0 °C

Allocation Data bits (Host level)

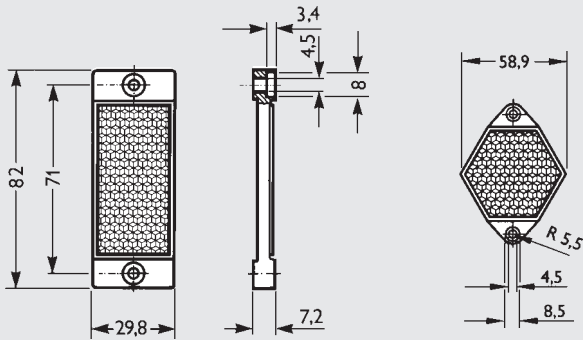
D ₀	Switching state	0 No reflection 1 reflection	Input
D ₁	VMA	0 active 1 inactive	Input
D ₂	NC	0 1	Input
D ₃ *	Test function	0 sender on 1 sender off	Output

Allocation Parameter bits (Host level)

P ₀ *	NC	0 1	Parameter
P ₁ *	Light/dark-switching	0 Dark-switching 1 Light-switching	Parameter
P ₂ *	NC	0 1	Parameter
P ₃ *	NC	0 1	Parameter

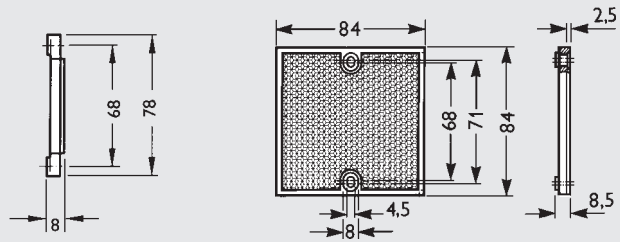
* Default setting 0 1

Accessories



Reflector PL 30 A (Order no. 1 002 314)

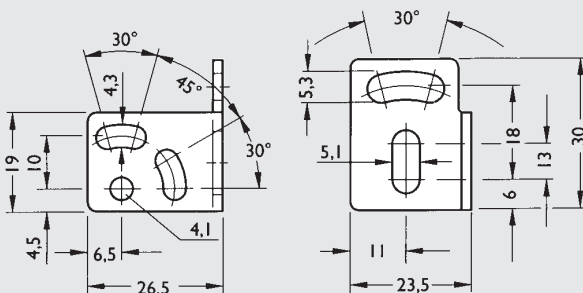
Reflector PL 50 A (Order no. 1 000 132)



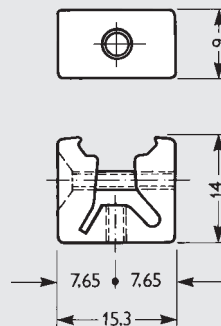
Reflector PL 80 A (Order no. 1 003 865)

Reflector PL 20 A (Order no. 1 012 719)

Reflector PL 40 A (Order no. 1 012 720)

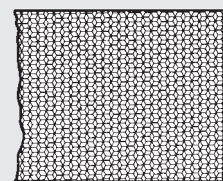


Small mounting bracket for series W 12-2 (Order no. 2 012 938)

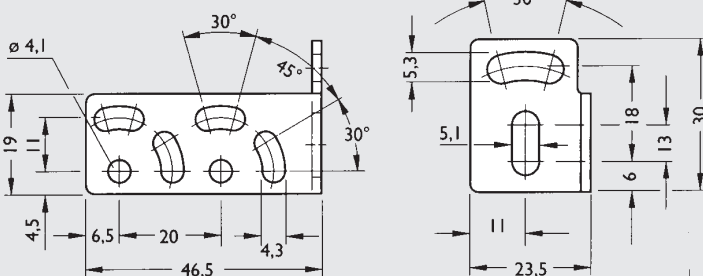


Terminal clamp for series W 12-2 (2 pieces required) (Order no. 2 013 285)

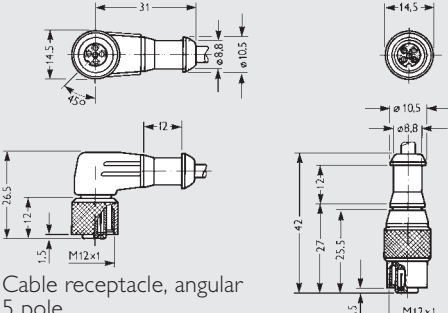
Double terminal clamp (Order no. 2 013 947)



Diamond Grade Reflective Tape (Order no. 4 019 634)

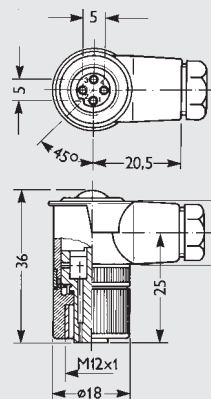


Large mounting bracket for series W 12-2 (Order no. 2 013 942)

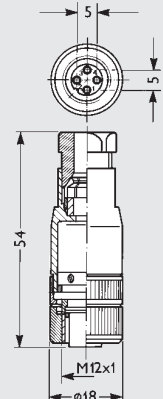


Cable receptacle, angular 5 pole with sprayed cable (Order no. 6 008 900)

Cable receptacle, straight 5 pole with sprayed cable (Order no. 6 008 899)



Cable receptacle, angular (Order no. 6 007 303) DC



Cable receptacle, straight (Order no. 6 007 302) DC