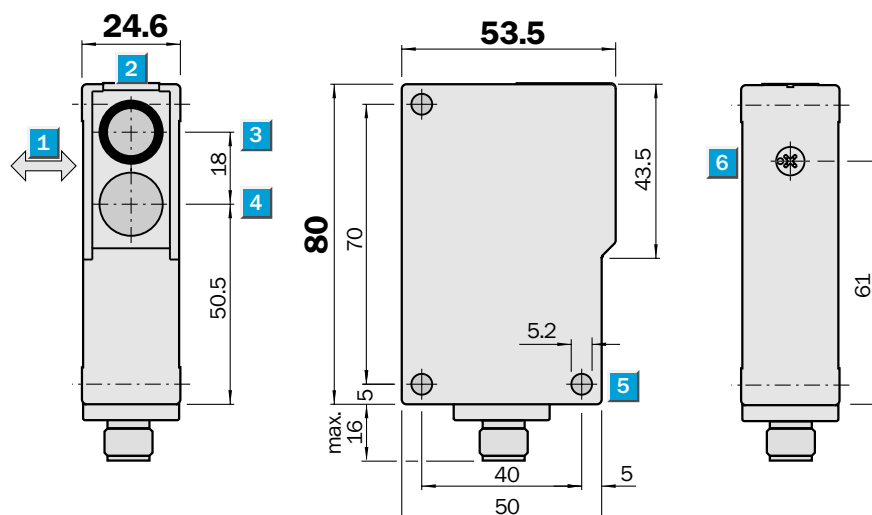


	Scanning distance 100...800 mm
Photoelectric proximity switches	

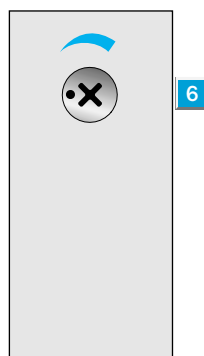
- Laser LED, red light
- Adjustable background suppression

Dimensional drawing



Adjustments possible

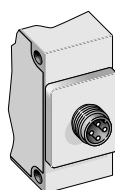
WT 27L-2F 430



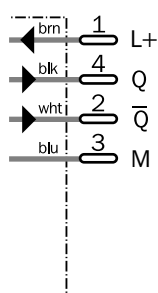
- 1 Standard direction of the material being scanned
- 2 LED signal strength indicator
- 3 Optical axis, sender
- 4 Optic axis, receiver
- 5 Mounting hole $\varnothing$ 5.2 mm
- 6 Sensitivity adjustment

Connection type

WT 27L-2F 430



4-pin, M 12



Laser class 2

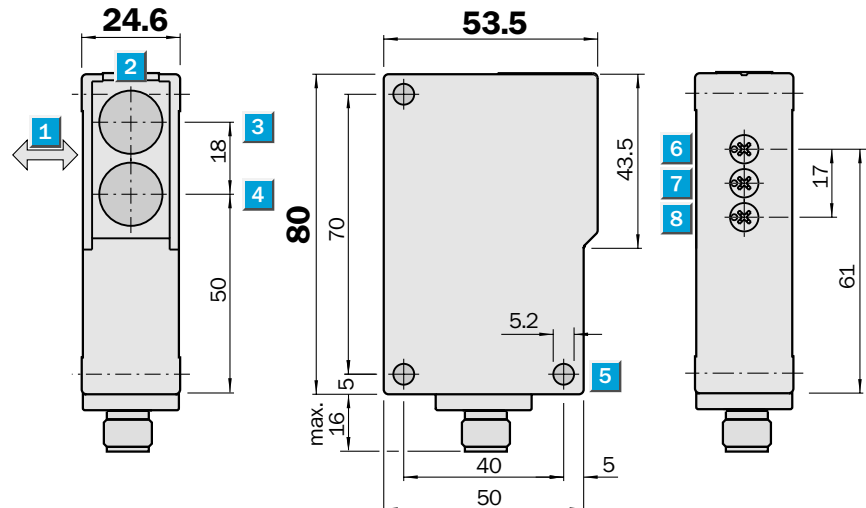
Accessories	page
Cable receptacles	496
Mounting brackets	510

	Scanning distance 100...1000 mm
Photoelectric proximity switches	

- Red light
- Adjustable background suppression
- Selectable time delay

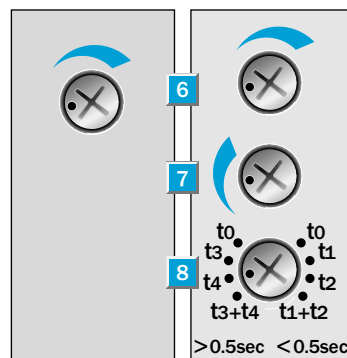


Dimensional drawing



Adjustments possible

WT 27-2F 430	WT 27-2P 630
WT 27-2F 431	WT 27-2N 630
WT 27-2F 730	



- 1 Standard direction of the material being scanned
- 2 LED signal strength indicator
- 3 Optical axis, sender
- 4 Optical axis, receiver
- 5 Mounting hole $\varnothing$ 5.2 mm
- 6 Sensitivity adjustment
- 7 Time control
- 8 Time delay selector switch

Switch-selectable time delay

0.5 – 10 s

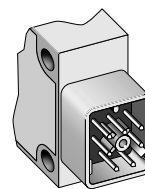
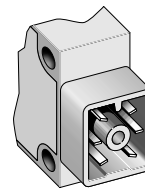
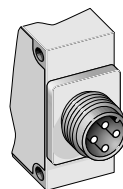
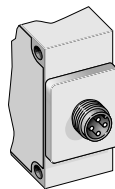
- t_0 Without time delay
- t_3 OFF-delay from trailing edge of object
- t_4 ON-delay from leading edge of object
- $t_3 + t_4$ OFF- and ON-delay

0.02 – 0.5 s

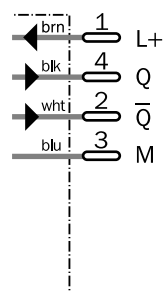
- t_0 Without time delay
- t_1 OFF-delay from trailing edge of object
- t_2 ON-delay from leading edge of object
- $t_1 + t_2$ OFF- and ON-delay

Connection types

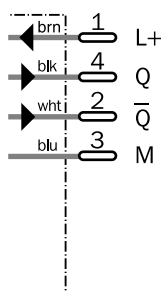
WT 27-2F 430	WT 27-2F 431	WT 27-2P 630 WT 27-2N 630	WT 27-2F 730
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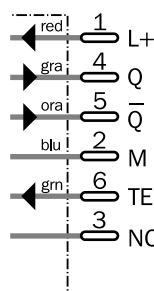
4-pin, M 12



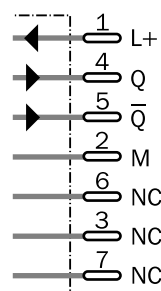
4-pin, M 18



6-pin



7-pin

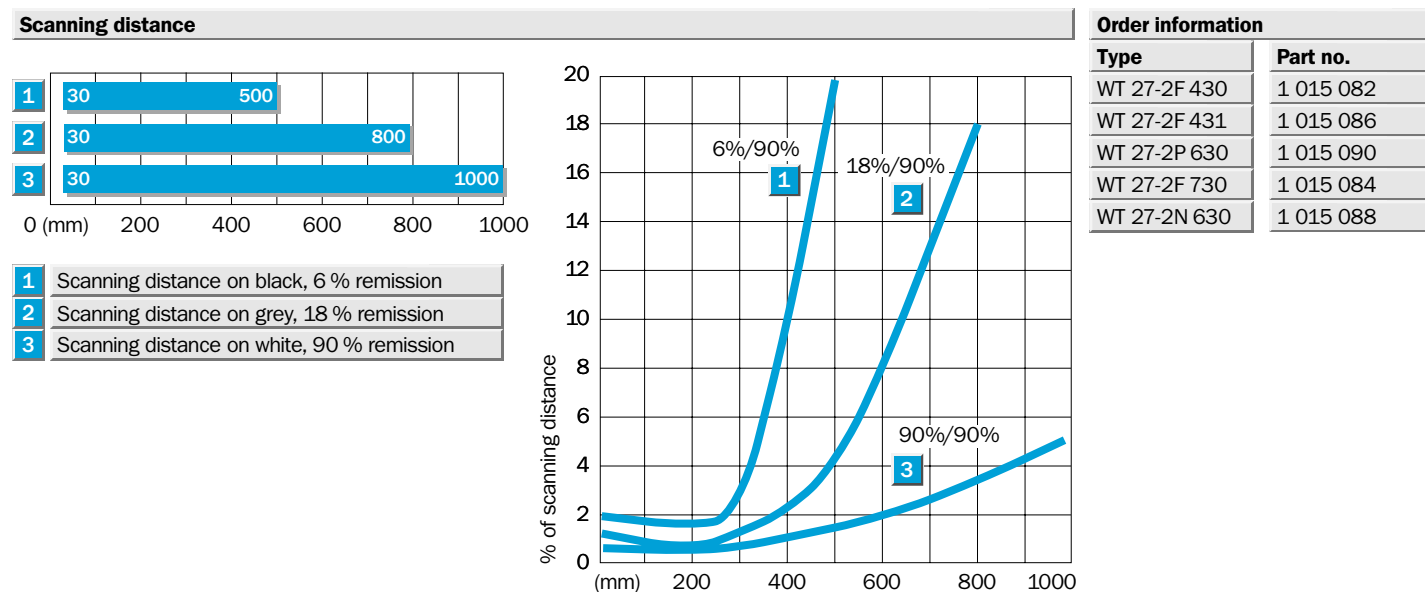


Accessories	page
Cable receptacles	496
Mounting brackets	510



Technical data		WT 27-2	F 430	F 431	P 630	F 730	N 630						
Scanning distance	100 ... 1000 mm, adjustable												
Light source¹⁾, light type	LED, red light												
Light spot diameter	Approx. 15 mm at 500 mm												
Supply voltage V_S	10 ... 30 V DC ²⁾												
Ripple ³⁾	$\leq 5 V_{SS}$												
Current consumption ⁴⁾	≤ 25 mA												
Switching outputs	PNP, Q and $\bar{Q}$												
	NPN, Q and $\bar{Q}$												
Output current I_A max.	100 mA												
Response time ⁵⁾	2 ms												
Max. switching frequency ⁶⁾	250/s												
Selectable delay ranges	0.5 ... 10 s / 0.02 ... 0.5 s												
Test input "TE", sender OFF	PNP: Test input to 0 V												
	NPN: Test input to V_S												
Connection types	Plug												
VDE protection class⁷⁾	□												
Circuit protection⁸⁾	A, B, C												
Enclosure rating	IP 67												
	IP 65												
Ambient temperature T_A	Operation - 40 °C ... + 60 °C												
	Storage - 40 °C ... + 75 °C												
Weight	Approx. 100 g												
Housing material	ABS												

1) Average service life 100,000 h at $T_A = + 25$ °C
 2) Limit values
 3) May not exceed or fall short of V_S tolerances
 4) Without load
 5) Signal transit time with resistive load
 6) With light/dark ratio 1:1
 7) Reference voltage 50 V DC
 8) A = V_S connections reverse-polarity protected
 B = Output Q and $\bar{Q}$ short-circuit protected
 C = Interference pulse suppression

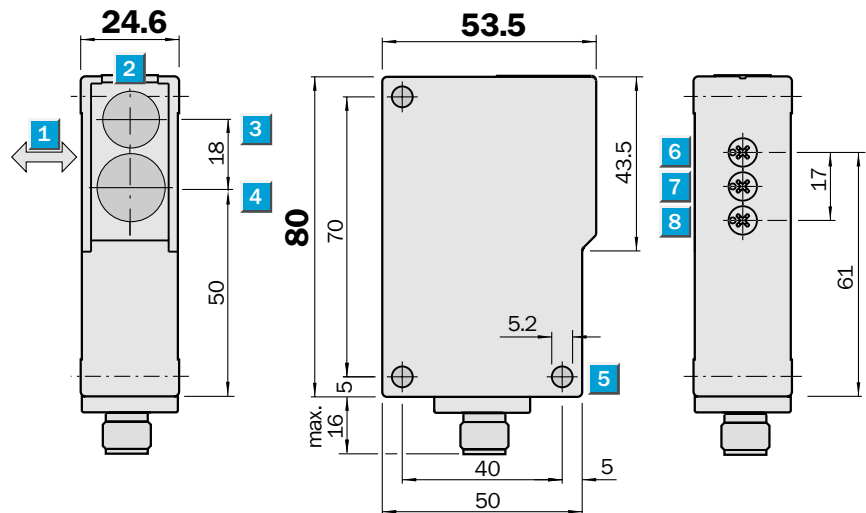


	Scanning distance 100...1000 mm
Photoelectric proximity switches	

- Red light
- Adjustable background suppression
- Selectable time delay

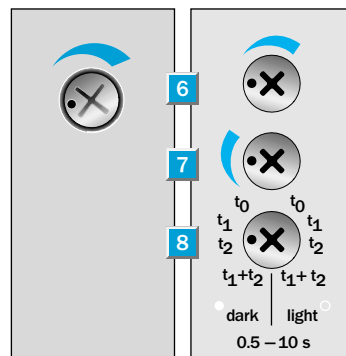


Dimensional drawing



Adjustments possible

WT 27-2S 132	WT 27-2R 630
WT 27-2S 730	



- 1 Standard direction of the material being scanned
 - 2 LED signal strength indicator
 - 3 Optical axis, sender
 - 4 Optical axis, receiver
 - 5 Mounting hole $\varnothing$ 5.2 mm
 - 6 Sensitivity adjustment
 - 7 Time control
 - 8 Time delay selector switch
- ☐ Light-switching
☐ Dark-switching

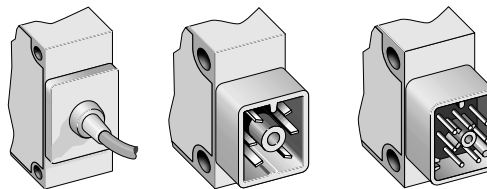
Switch-selectable time delay

0.5 – 10 s

- t_0 Without time delay
 t_1 OFF-delay from trailing edge of object
 t_2 ON-delay from leading edge of object
 $t_1 + t_2$ OFF- and ON-delay

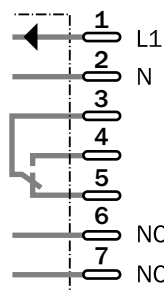
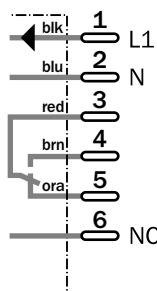
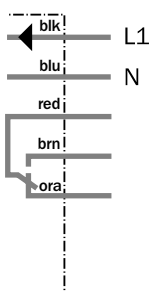
Connection types

WT 27-2S 132	WT 27-2R 630	WT 27-2S 730
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5 x 0.25 mm²

6-pin

7-pin

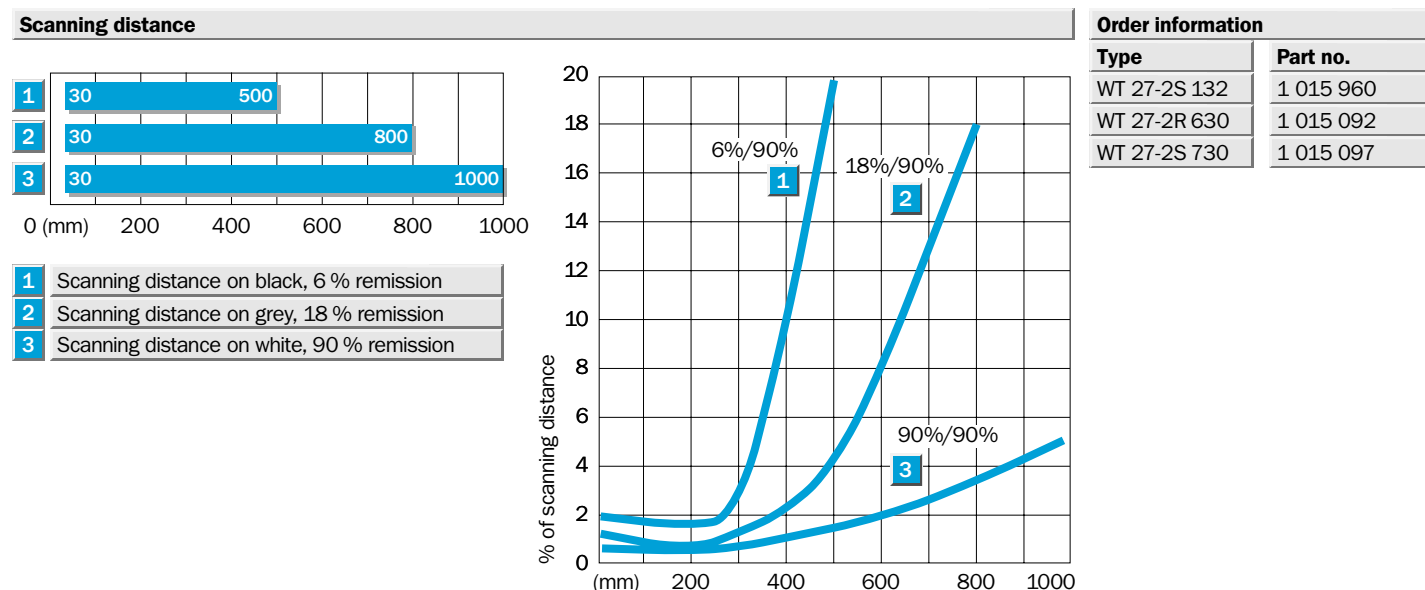


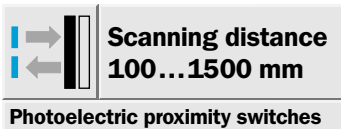
Accessories	page
Cable receptacles	496
Mounting brackets	510



Technical data		WT 27-2	S 132	R 630	S 730							
Scanning distance	100 ... 1000 mm, adjustable											
Light source¹⁾, light type	LED, red light											
Light spot diameter	Approx. 15 mm at 500 mm											
Supply voltage V_S	24 ... 240 V UC (+ 10 %, – 20 %)											
Current consumption	< 2 VA											
Switching outputs	SPDT, isolated ²⁾											
Max. switching voltage	250 V AC / 120 V DC											
Max. switching current	4 A / 240 V AC or 24 V DC											
Max. switching capacity	AC 1000 VA / DC 100 W											
Resonse time	< 6 ms											
Max. switching frequency ³⁾	10/s											
Delay range	0.5 ... 10 s											
Connection types	Cable ⁴⁾ , 2 m											
	Plug											
VDE protection class⁵⁾	□											
Circuit protection⁶⁾	A, C											
Enclosure rating	IP 67											
	IP 65											
Ambient temperature T_A	Operation – 40 °C ... + 60 °C											
	Storage – 40 °C ... + 75 °C											
Weight	Approx. 100 g											
Housing material	ABS											

1) Average service life 100,000 h at $T_A = + 25 °C$
2) Provide suitable spark suppression for inductive and capacitive loads
3) With light/dark ratio 1:1
4) Do not bend below 0 °C
5) Reference voltage 250 V AC
6) A = V_S connections reverse-polarity protected
C = Interference pulse suppression

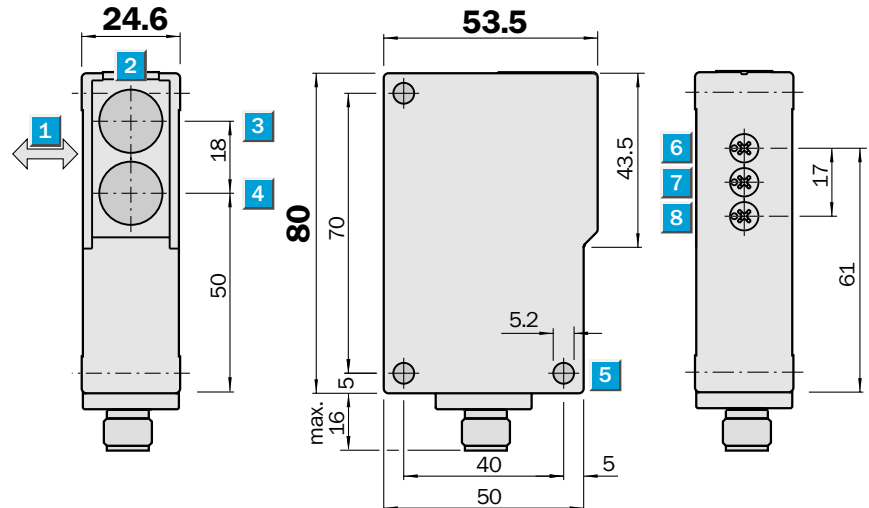




- Infrared light
- Adjustable background suppression
- Front screen heating, optional
- Selectable time delay



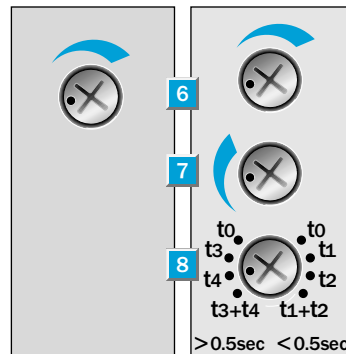
Dimensional drawing



Adjustments possible

WT 27-2F 112	WT 27-2P 410
WT 27-2F 410	WT 27-2P 610
WT 27-2F 440	WT 27-2N 410
WT 27-2F 411	WT 27-2N 610
WT 27-2F 710	

- 1 Standard direction of the material being scanned
- 2 LED signal strength indicator
- 3 Optical axis, sender
- 4 Optical axis, receiver
- 5 Mounting hole $\varnothing$ 5.2 mm
- 6 Sensitivity adjustment
- 7 Time control
- 8 Time delay selector switch



Switch-selectable time delay

0.5 – 10 s

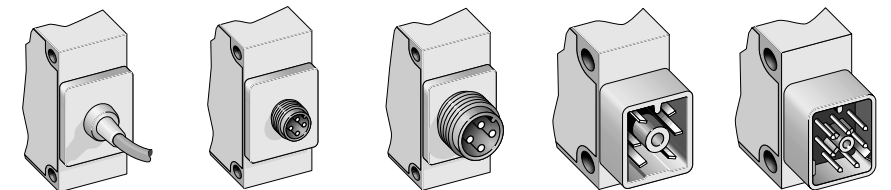
- t₀ Without time delay
- t₃ OFF-delay from trailing edge of object
- t₄ ON-delay from leading edge of object
- t₃ + t₄ OFF- and ON-delay

0.02 – 0.5 s

- t₀ Without time delay
- t₁ OFF-delay from trailing edge of object
- t₂ ON-delay from leading edge of object
- t₁ + t₂ OFF- and ON-delay

Connection types

WT 27-2F 112	WT 27-2F 410	WT 27-2F 411	WT 27-2P 610	WT 27-2F 710
	WT 27-2P 410		WT 27-2N 610	
	WT 27-2N 410			
	WT 27-2F 440			

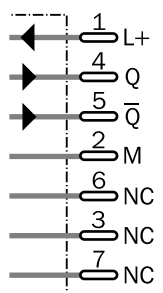
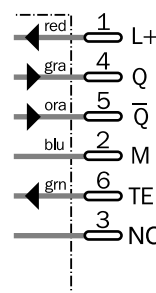
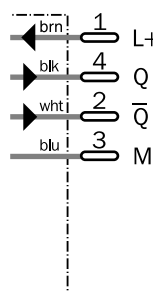
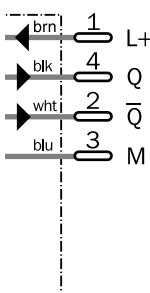
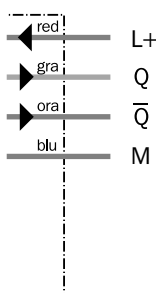

4 x 0.25 mm²

4-pin, M 12

4-pin, M 18

6-pin

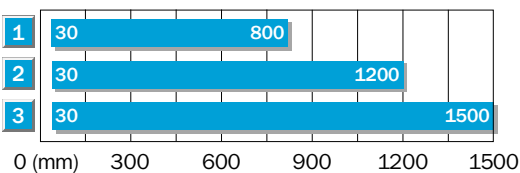
7-pin



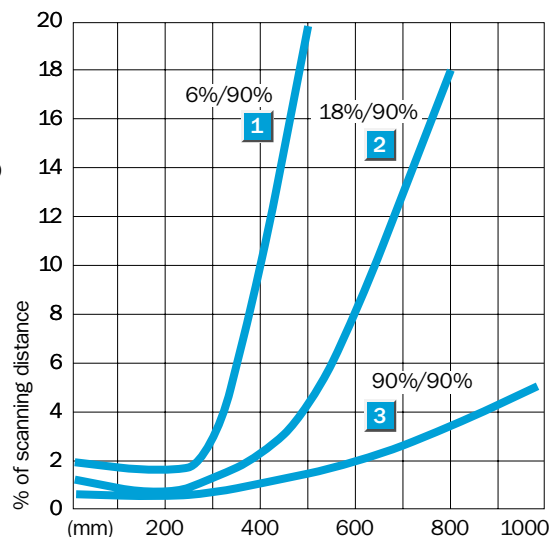
Accessories	page
Cable receptacles	496
Mounting brackets	510

Technical data		WT 27-2	F 112	F 410	N 410	F 411	F 440	P 410	P 610	N 610	F 710
Scanning distance	100...1500 mm, adjustable										
Light source¹⁾, light type	LED, infrared light										
Light spot diameter	Approx. 25 mm at 800 mm										
Supply voltage V_S	10...30 V DC ²⁾										
Ripple ³⁾	$\leq 5 V_{SS}$										
Current consumption ⁴⁾	≤ 25 mA										
	≤ 35 mA, front screen heating										
Switching outputs	PNP, Q and $\bar{Q}$										
	NPN, Q and $\bar{Q}$										
Output current I_A max.	100 mA										
Response time ⁵⁾	2 ms										
Max. switching frequency ⁶⁾	250/s										
Selectable delay ranges	0.5...10 s/0.02...0.5 s										
Test input "TE", sender OFF	PNP : Test input to 0 V										
	NPN : Test input to V_S										
Connection types	Cable ⁷⁾ , 2 m										
	Plug										
VDE protection class⁸⁾	□										
Circuit protection⁹⁾	A, B, C										
Enclosure rating	IP 67										
	IP 65										
Ambient temperature T_A	Operation -40 °C...+60 °C										
	Storage -40 °C...+75 °C										
Weight	Approx. 100 g										
Front screen heating											
Housing material	ABS										
1) Average service life 100,000 h at $T_A = +25$ °C 2) Limit values 3) May not exceed or fall short of V_S tolerances 4) Without load 5) Signal transit time with resistive load 6) With light/dark ratio 1:1 7) Do not bend below 0 °C 8) Reference voltage 50 V DC 9) A = V_S connections reverse-polarity protected B = Output Q and $\bar{Q}$ short-circuit protected C = Interference pulse suppression											

Scanning distance



1	Scanning distance on black, 6 % remission
2	Scanning distance on grey, 18 % remission
3	Scanning distance on white, 90 % remission



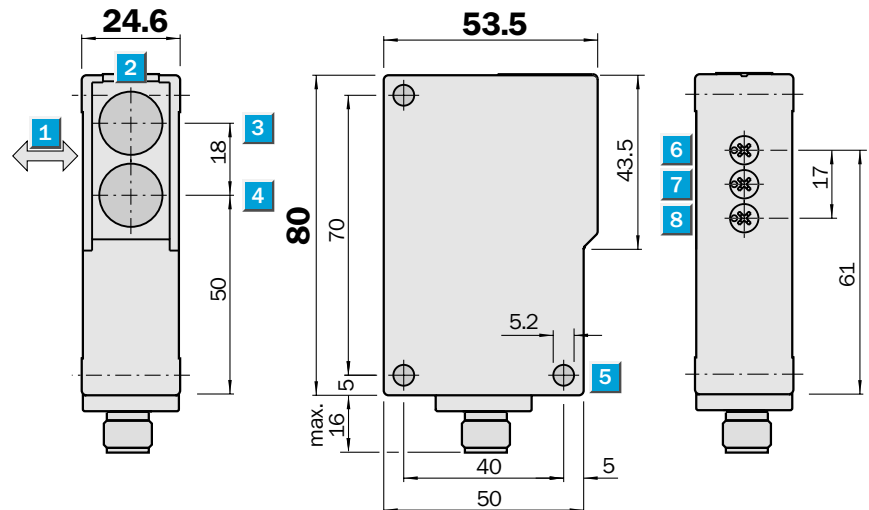
Order information

Type	Part no.
WT 27-2F 112	1 015 076
WT 27-2F 410	1 013 268
WT 27-2N 410	1 016 030
WT 27-2F 411	1 015 085
WT 27-2F 440	1 015 079
WT 27-2P 410	1 015 138
WT 27-2P 610	1 015 089
WT 27-2N 610	1 015 087
WT 27-2F 710	1 015 083

	Scanning distance 100...1500 mm
Photoelectric proximity switches	

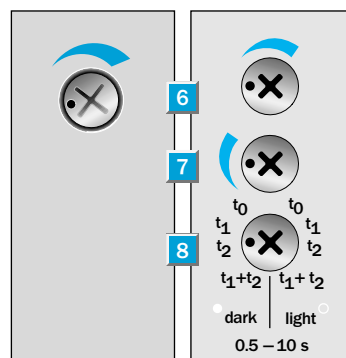
- Infrared light
- Adjustable background suppression
- Selectable time delay

Dimensional drawing



Adjustments possible

WT 27-2S 112	WT 27-2R 610
WT 27-2S 710	



- 1 Standard direction of the material being scanned
 - 2 LED signal strength indicator
 - 3 Optical axis, sender
 - 4 Optical axis, receiver
 - 5 Mounting hole $\varnothing$ 5.2 mm
 - 6 Sensitivity adjustment
 - 7 Time control
 - 8 Time delay selector switch
- ☐ Light-switching
☐ Dark-switching

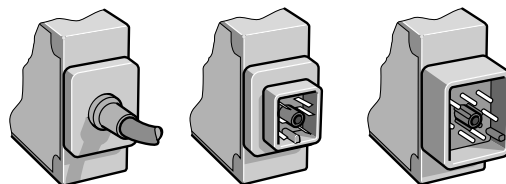
Switch-selectable time delay

0.5 – 10 s

- t_0 Without time delay
 t_1 OFF-delay from trailing edge of object
 t_2 ON-delay from leading edge of object
 $t_1 + t_2$ OFF- and ON-delay

Connection types

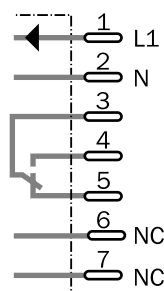
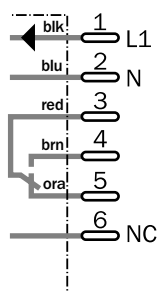
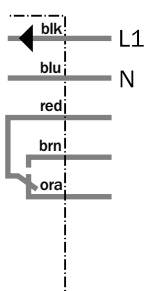
WT 27-2S 112	WT 27-2R 610	WT 27-2S 710
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5 x 0.25 mm²

6-pin

7-pin

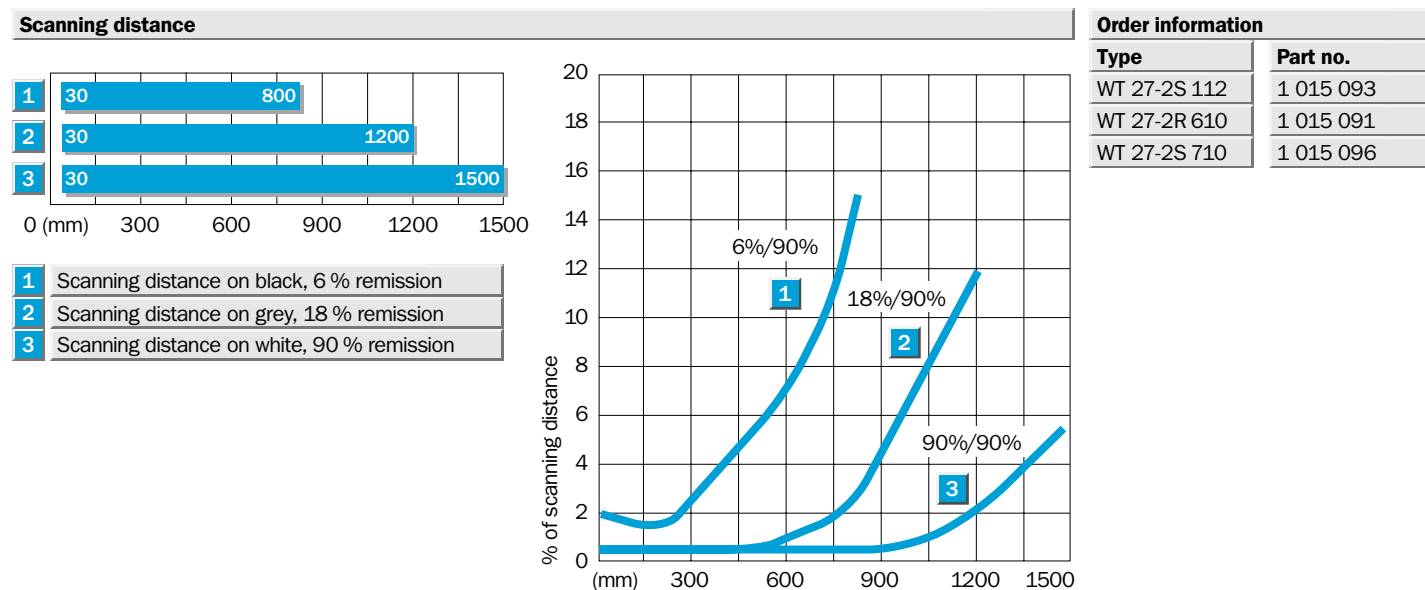


Accessories	page
Cable receptacles	496
Mounting brackets	510



Technical data		WT 27-2	S 112	R 610	S 710							
Scanning distance	100 ... 1500 mm, adjustable											
Light source¹⁾, light type	LED, infrared light											
Light spot diameter	Approx. 25 mm at 800 mm											
Supply voltage V_S	24 ... 240 V UC (+ 10 %, – 20 %)											
Current consumption	< 2 VA											
Switching outputs	SPDT, isolated ²⁾											
Max. switching voltage	250 V AC / DC 120 V											
Max. switching current	4 A / 240 V AC or 24 V DC											
Max. switching capacity	AC 1000 VA / DC 100 W											
Response time	< 6 ms											
Max. switching frequency ³⁾	10/s											
Delay range	0.5 ... 10 s											
Connection types	Cable ⁴⁾ , 2 m											
	Plug											
VDE protection class⁵⁾	□											
Circuit protection⁶⁾	A, C											
Enclosure rating	IP 67											
	IP 65											
Ambient temperature T_A	Operation – 40 °C ... + 60 °C											
	Storage – 40 °C ... + 75 °C											
Weight	Approx. 100 g											
Housing material	ABS											

1) Average service life 100,000 h at $T_A = + 25 °C$
2) Provide suitable spark suppression for inductive and capacitive loads
3) With light/dark ratio 1:1
4) Do not bend below 0 °C
5) Reference voltage 250 V AC
6) A = V_S connections reverse-polarity protected
C = Interference pulse suppression

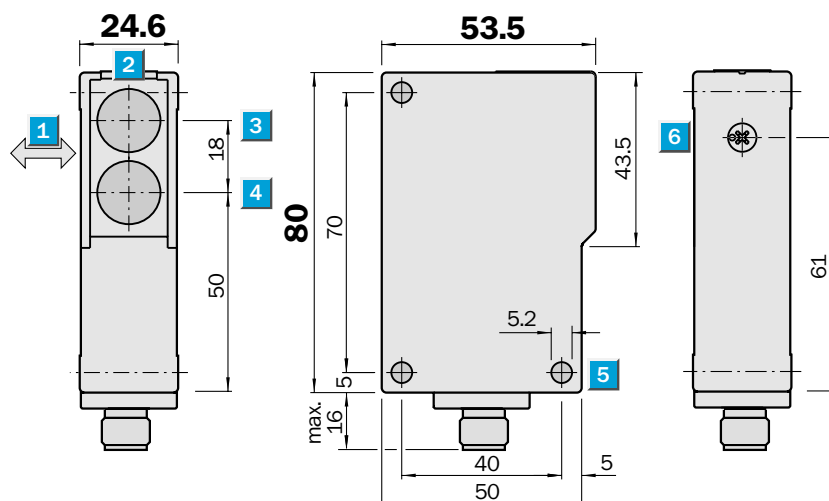


	Scanning distance 100...1000 mm
	Scanning distance 100...1500 mm
Photoelectric proximity switches	

- Red/infrared light
- Adjustable background suppression
- Front screen heating, optional (only for infrared type)
- Integrated ASI chip



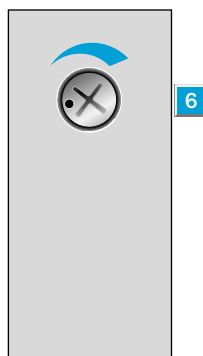
Dimensional drawing



Adjustments possible

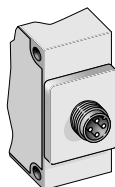
WT 27-2Z 230
WT 27-2Z 210
WT 27-2Z 240

- 1 Standard direction of the material being scanned
- 2 LED signal strength indicator
- 3 Optical axis, sender
- 4 Optical axis, receiver
- 5 Mounting hole $\varnothing$ 5.2 mm
- 6 Scanning distance adjustment

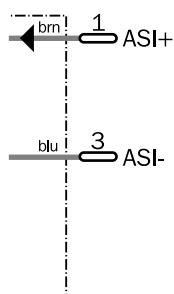


Connection type

WT 27-2Z 230
WT 27-2Z 210
WT 27-2Z 240



4-pin, M 12



Accessories	page
Cable receptacles	496
Mounting brackets	510
ASI	574

Technical data		WT 27-2	Z 230	Z 210	Z 240						
Scanning distance	100 ... 1000 mm, adjustable										
	100 ... 1500 mm, adjustable										
Light source¹⁾, light type	LED, red light										
	LED, infrared light										
Light spot diameter	Approx. 15 mm at 500 mm										
	Approx. 25 mm at 800 mm										
Supply voltage V_S	26.5 ... 31.6 V DC ²⁾										
Ripple ³⁾	$\leq 5 V_{SS}$										
Current consumption ⁴⁾	≤ 30 mA										
	≤ 40 mA, front screen heating										
Response time ⁵⁾	2 ms										
Max. switching frequency ⁶⁾	250/s										
Connection type	Plug										
VDE protection class⁷⁾	□										
Circuit protection⁸⁾	A, C										
Enclosure rating	IP 67										
Ambient temperature T_A	Operation $-40^\circ\text{C} \dots +60^\circ\text{C}$										
	Storage $-40^\circ\text{C} \dots +75^\circ\text{C}$										
Weight	Approx. 100 g										
Front screen heating											
Housing material	ABS										

- 1) Average service life 100,000 h at $T_A = +25^\circ\text{C}$
 2) Limit values
 3) May not exceed or fall short of V_S tolerances

- 4) Without load
 5) Signal transit time with resistive load
 6) With light/dark ratio 1:1
 7) Reference voltage 50 V DC

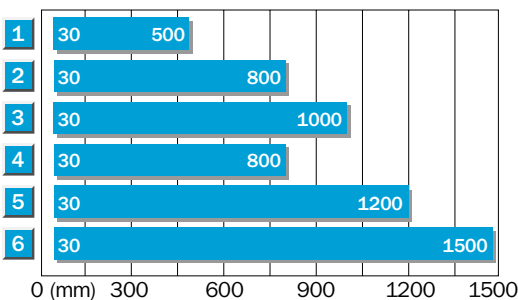
- 8) A = V_S connections reverse-polarity protected
 C = Interference pulse suppression

- 9) Black = 6 % remission
 Grey = 18 % remission
 White = 90 % remission

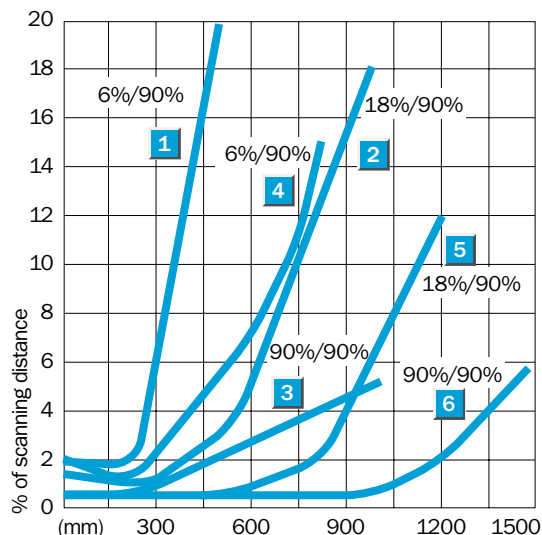
Assignment of data bits				(Host level)	Assignment of parameter bits				(Host level)
Switching state	0 No reflection	Input	D_0^*		NC	0	Parameter	P_0^*	
	1 Reflection					1			
Alarm	0 Active	Input	D_1		Light-/dark-switching	0 Dark-switching	Parameter	P_1^*	
	1 Inactive					1 Light-switching			
NC	0	Input	D_2		NC	0	Parameter	P_2^*	
	1					1			
Test function	0 Sender ON	Output	D_3^*		NC	0	Parameter	P_3^*	
	1 Sender OFF					1			

* Default setting = 1

Scanning distance



1	Scanning distance on black ⁹⁾	red light
2	Scanning distance on grey ⁹⁾	red light
3	Scanning distance on white ⁹⁾	red light
4	Scanning distance on black ⁹⁾	infrared light
5	Scanning distance on grey ⁹⁾	infrared light
6	Scanning distance on white ⁹⁾	infrared light



Order information

Type	Part no.
WT 27-2Z 230	1 015 099
WT 27-2Z 210	1 015 098
WT 27-2Z 240	1 015 137