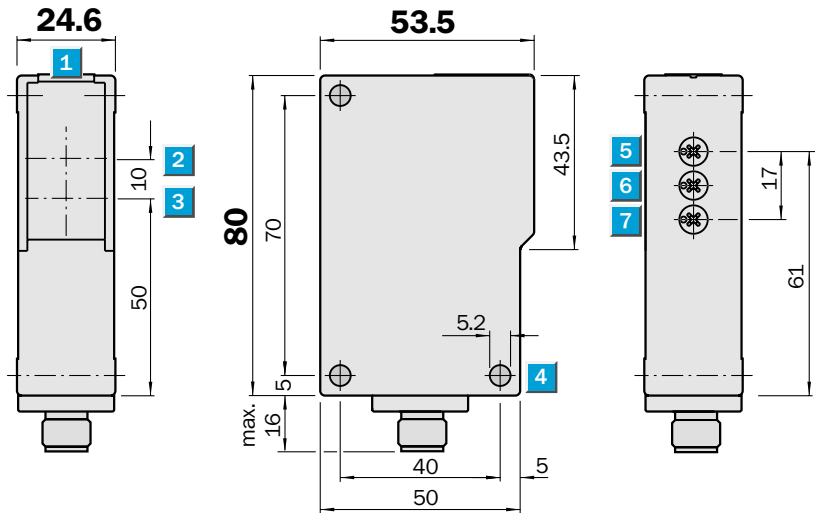




- Visible red light
- Front screen heating, optional
- Selectable time delay

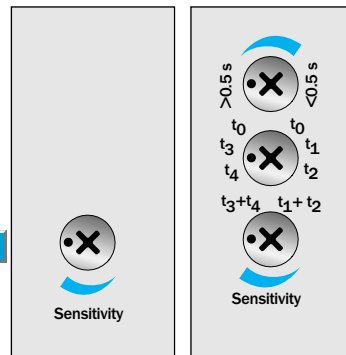
Dimensional drawing



Adjustments possible

WS/WE 27-2F 430	WS/WE 27-2P 630
WS/WE 27-2F 431	WS/WE 27-2N 630
WS/WE 27-2F 450	
WS/WE 27-2F 730	

- 1 LED signal strength indicator
- 2 Optical axis, sender
- 3 Optical axis, receiver
- 4 Mounting hole Ø 5.2 mm
- 5 Time control
- 6 Time delay selector switch
- 7 Sensitivity adjustment



5 Switch-selectable time delay

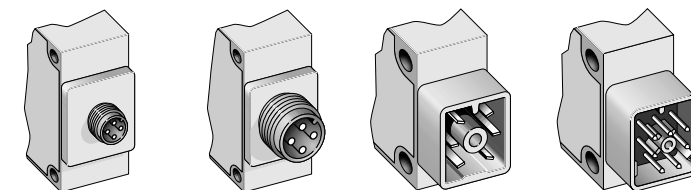
0.5 – 10 s

0.02 – 0.5 s

- 6 t_0 Without time delay
- t_3 ON-delay from interruption of light path
- t_4 OFF-delay from reset of light path
- $t_3 + t_4$ ON- and OFF-delay
- t_0 Without time delay
- t_1 ON-delay from interruption of light path
- t_2 OFF-delay from reset of light path
- $t_1 + t_2$ ON- and OFF-delay

Connection types

WS/WE 27-2F 430	WS/WE 27-2F 431	WS/WE 27-2P 630	WS/WE 27-2F 730
WS/WE 27-2F 450		WS/WE 27-2N 630	



4-pin, M 12

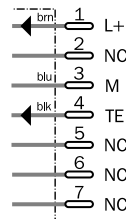
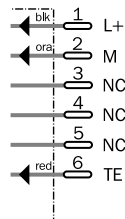
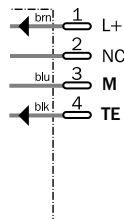
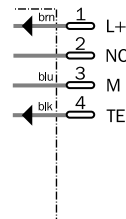
4-pin, M 18

6-pin

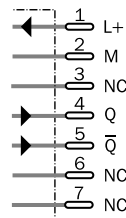
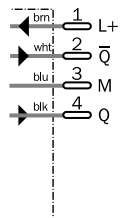
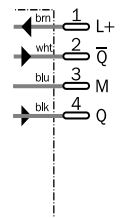
7-pin

Accessories	page
Cable receptacles	496
Mounting brackets	510

Sender



Receiver



Technical data		WS/WE 27-2	F 430	F 431	F 450	P 630	N 630	F 730				
Scanning range , max. typical	0...35 m											
	Adjustable sensitivity											
Light source¹⁾, light type	LED, red light											
Light spot diameter	Approx. 1200 mm at 25 mm											
Angle of dispersion	3°											
Supply voltage V_S	10...30 V DC ²⁾											
Ripple ³⁾	$\leq 5 V_{SS}$											
Current consumption ⁴⁾	≤ 25 mA											
	≤ 35 mA, sender without heating											
	≤ 45 mA, sender with heating											
	≤ 25 mA, receiver without heating											
	≤ 35 mA, receiver with heating											
Switching outputs	PNP, Q and $\bar{Q}$											
	NPN, Q and $\bar{Q}$											
Output current I_A max.	100 mA											
Response time ⁵⁾	$\leq 500 \mu s$											
Max. switching frequency ⁶⁾	1000/s											
Selectable delay ranges	0.5...10 s/0.02...0.5 s											
Pre-failure signalling output VMA ⁷⁾												
Test input "TE" , sender OFF	PNP : Test input to 0 V											
	NPN : Test input to V_S											
Connection types	Plug											
VDE protection class⁸⁾	□											
Circuit protection⁹⁾	A, B, C											
Enclosure rating	IP 65											
	IP 67											
Ambient temperature T_A	Operation - 40 °C...+ 60 °C											
	Storage - 40 °C...+ 75 °C											
Weight	Approx. 100 g											
Front screen heating												
Housing material	ABS											

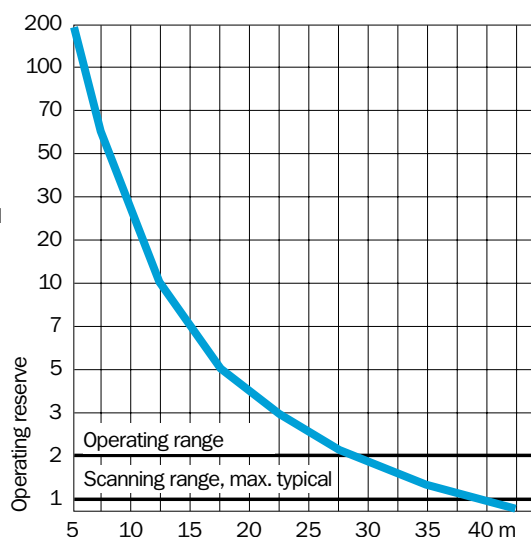
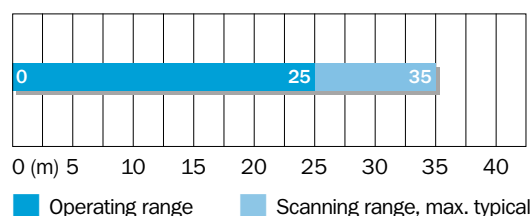
- 1) Average service life 100,000 h at $T_A = +25$ °C
 2) Limit values
 3) May not exceed or fall short of V_S tolerances

- 4) Without load
 5) Signal transit time with resistive load
 6) With light/dark ratio 1:1

- 7) NPN: Signal reserve > 50 % HIGH
 PNP: Signal reserve > 50 % LOW
 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

Operating range and operating reserve



Order information

Type	Part no.
WS/WE 27-2F 430	1 015 121
WS/WE 27-2F 431	1 015 126
WS/WE 27-2F 450	1 015 127
WS/WE 27-2P 630	1 015 123
WS/WE 27-2N 630	1 015 122
WS/WE 27-2F 730	1 015 124

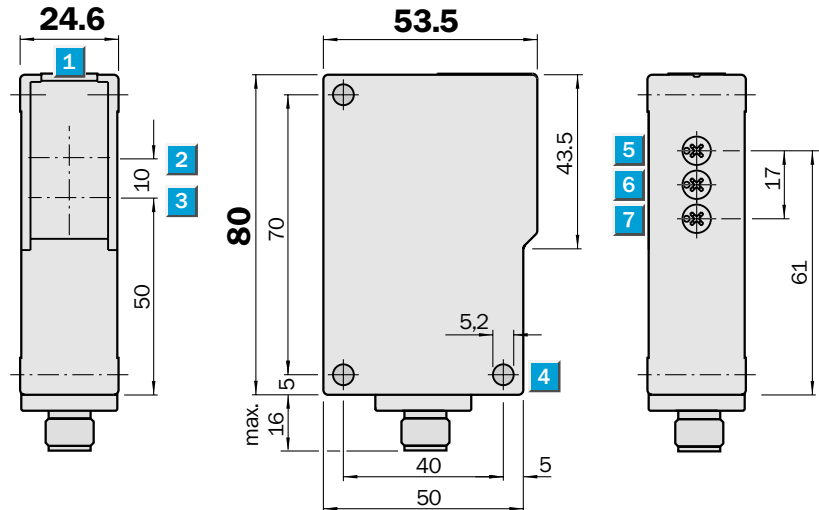


Scanning range
35 m

Through-beam photoelectric switches

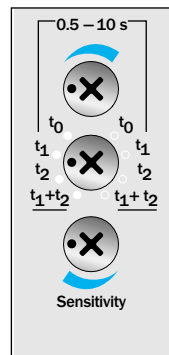
- Red light
- Selectable time delay

Dimensional drawing



Adjustments possible

WS/WE 27-2R 630



- 1 LED signal strength indicator
- 2 Optical axis, sender
- 3 Optical axis, receiver
- 4 Mounting hole Ø 5.2 mm
- 5 Time control
- 6 Time delay selector switch
- Light-switching
- Dark-switching
- 7 Sensitivity adjustment

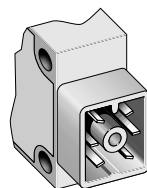
Switch-selectable time delay

0.5 – 10 s

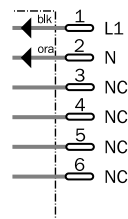
- t_0 Without time delay
- t_1 ON-delay from interruption of light path
- t_2 OFF-delay from reset of light path
- $t_1 + t_2$ ON- and OFF-delay

Connection type

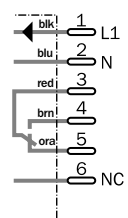
WS/WE 27-2R 630



6-pin



Sender



Receiver

Accessories	page
Cable receptacles	496
Mounting brackets	510



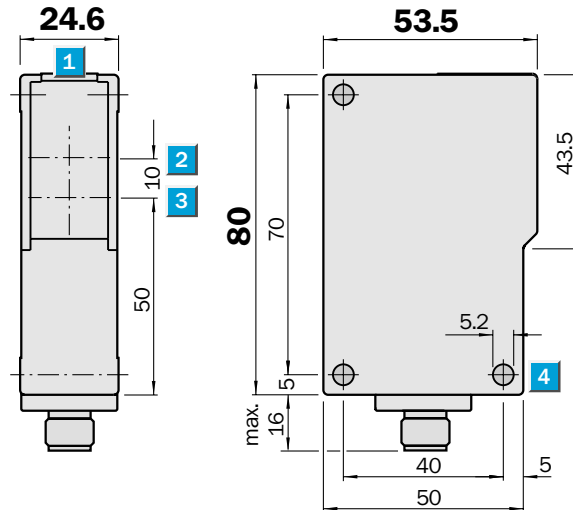


Scanning range
35 m

Through-beam photoelectric switches

- Red light
- Selectable time delay
- With integrated ASI chip

Dimensional drawing

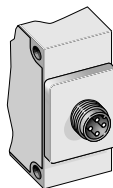


- 1 LED signal strength indicator
- 2 Optical axis, sender
- 3 Optical axis, receiver
- 4 Mounting hole $\varnothing$ 5.2 mm



Connection type

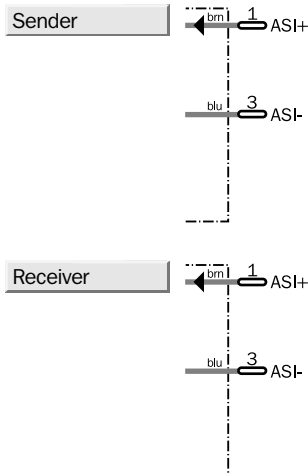
WS/WE 27-2Z 250



4-pin, M 12



Accessories	page
Cable receptacles	496
Mounting brackets	510
ASI	574



Technical data		WS/WE 27-2	Z 250												
Scanning range , max. typical	0...35 m														
Light source ¹⁾ , light type	LED, red light														
Light spot diameter	Approx. 1200 mm at 25 m														
Angle of dispersion	3°														
Supply voltage V_S	26.5...31.6 V DC ²⁾														
Ripple ³⁾	$\leq 5 V_{SS}$														
Current consumption ⁴⁾	sender	≤ 35 mA, front screen heating													
	receiver	≤ 40 mA, front screen heating													
Response time ⁵⁾	500 μ s														
Max. switching frequency ⁶⁾	1000/s														
Connection type	Plug														
VDE protection class ⁷⁾	□														
Circuit protection ⁸⁾	A, C														
Enclosure rating	IP 67														
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

C = Interference pulse suppression

WS 27-2 – Assignment of data bits (Host level)			
Test function	0 Sender OFF	Input	D_0^*
	1 Sender ON		
NC	0	Input	D_1
	1		
NC	0	Entrée	D_2
	1		
NC	0	Output	D_3
	1		

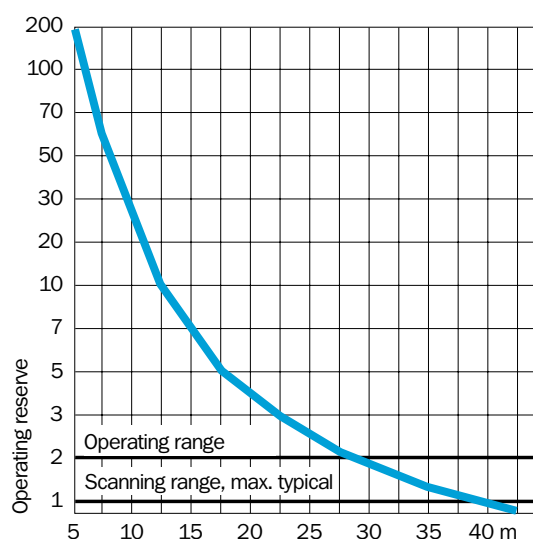
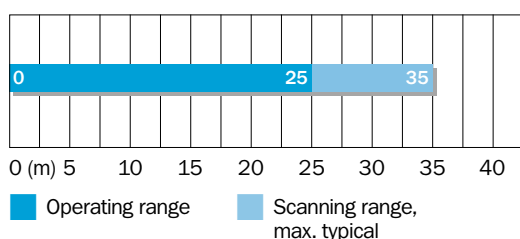
WS 27-2 – Assignment of parameter bits (Host level)			
NC	0	Parameter	P_0^*
	1		
NC	0	Parameter	P_1^*
	1		
NC	0	Parameter	P_2^*
	1		
NC	0	Parameter	P_3^*
	1		

WE 27-2 – Assignment of data bits (Host level)			
Switching state	0 No reflection	Input	D_0^*
	1 Reflection		
Alarm	0 Active	Input	D_1
	1 Inactive		
NC	0	Input	D_2
	1		
Test function	0	Output	D_3^*
	1		

WE 27-2 – Assignment of parameter bits (Host level)			
NC	0	Parameter	P_0^*
	1		
Light-/dark-switching	0 Dark-switching	Parameter	P_1^*
	1 Light-switching		
NC	0	Parameter	P_2^*
	1		
NC	0	Parameter	P_3^*
	1		

* Default setting = 1

Operating range and operating reserve



Order information

Type	Part no.
WS/WE 27-2 Z 250	1 015 140