




W 18-2: Integrated state-of-the-art technology for intelligent solutions

	Photoelectric proximity switches, BGS
	Photoelectric reflex switches
	Through-beam photoelectric switches



Furthermore, the devices also incorporate a large number of features that are usually only found in special versions, e.g. the test input of the WS/WE 18-2 and WL 18-2, the adjustable scanning distance with background suppression of the WTV 18-2, individual plugs, or status LEDs as signal strength indicators, alignment aids, or pre-failure signalling output.

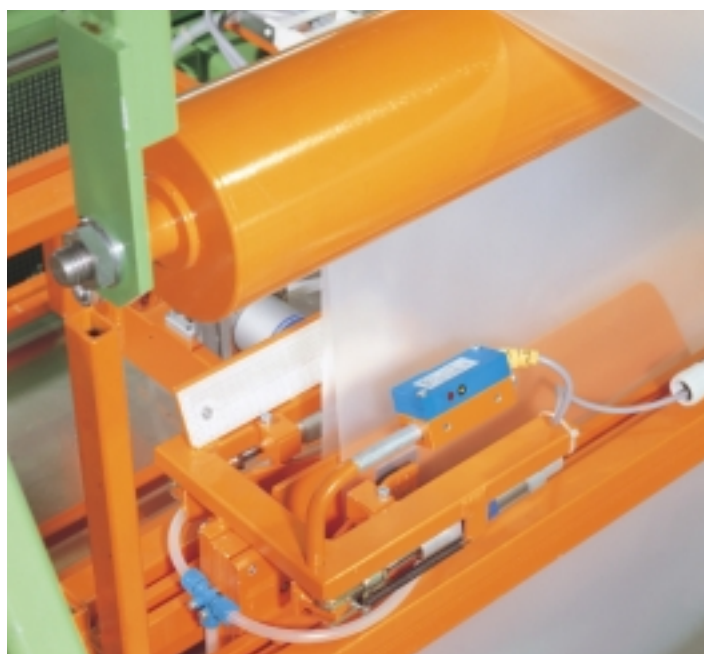
The WTV 18-2 photoelectric proximity switch has been specially developed for and with the packaging industry. Its features include: its broad optical basis, internally adjustable optics, state-of-the-art electronics, powerful background suppression and optimised light spot geometry which together provide a previously unattainable level of immunity against ambient reflections. The detection of plastic bags on a conveyor belt, glossy and differently sized coffee packets or drinks cartons before being packed, cakes packed in plastic film on a stainless steel chain conveyor, or drinking straws attached to drinks containers – all of these tasks can be mastered without any problem with the WTV 18-2.

The W 18-2 series of photoelectric switches is ideal for handling systems as well as for packaging machines and other complex tasks. WT 18-2 photoelectric proximity switches, WL 18-2 photoelectric reflex switches, or WS/WE 18-2 through-beam photoelectric switches – thanks to their glass-fibre-reinforced and fully welded plastic housing, all of these sensors have the robustness required for industrial applications. Extremely large scanning ranges are an additional feature: up to 20 metres for the through-beam photoelectric switch, up to 7 metres for the photoelectric reflex switch and 600 mm or 700 mm for the photoelectric proximity switch (depending on whether a red light or infrared light source is used).



◀ WTV 18-2 sensors used to check the presence of objects along the individual lanes of a packaging line for packs of coffee.

▼ Transparency poses no problems: the WL 18-2 photoelectric reflex switch monitors the edges of packaging film.



▲ Is the packaging unit complete? WT 18-2 photoelectric proximity switches provide us the answer.

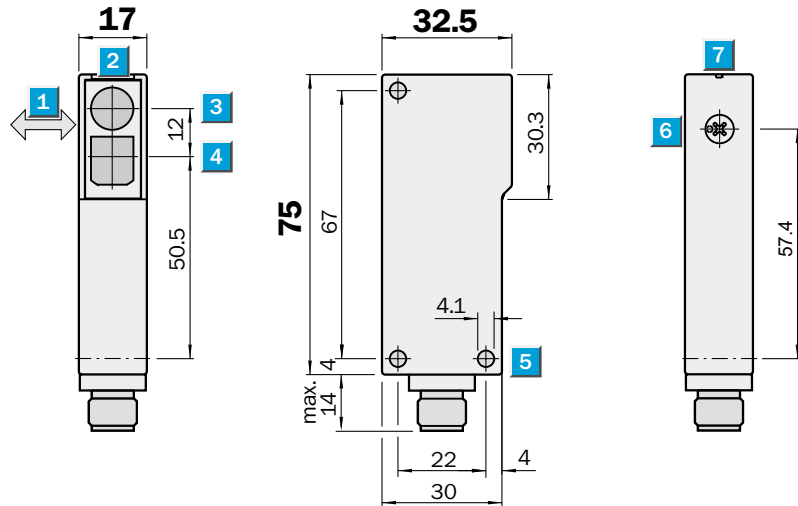


► Leak test for plastic bottles: WT 18-2 sensors used to check the presence of test objects in the automatic machine.

Scanning distance
 50...700 mm
 Photoelectric proximity switches

- Adjustable background suppression
- Insensitive to ambient light sources (HF lamps, flashing alarm lamps)
- No mutual interference if devices are installed opposite each other
- Operating temperature -40 °C...+60 °C
- Fast response time

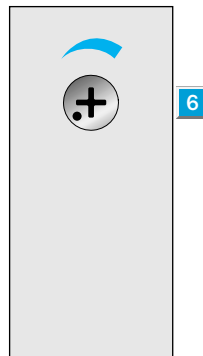
Dimensional drawing



Adjustments possible

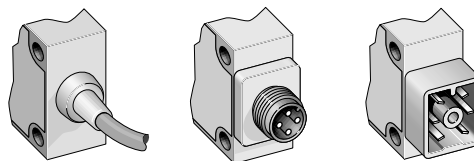
WT 18-2P 112	WT 18-2N 112
WT 18-2P 115	WT 18-2N 115
WT 18-2P 410	WT 18-2N 410
WT 18-2P 610	WT 18-2N 610

- 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 4.1 mm
- 6 Scanning distance adjustment
- 7 Alignment sight



Connection types

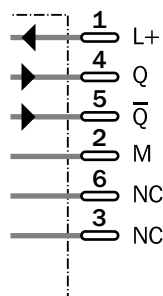
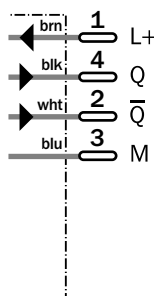
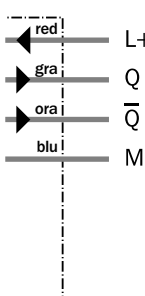
WT 18-2P 112	WT 18-2P 410	WT 18-2P 610
WT 18-2P 115	WT 18-2N 410	WT 18-2N 610
WT 18-2N 112		
WT 18-2N 115		



4 x 2.5 mm²

4-pin, M 12

6-pin



Accessories	page
Cable receptacles	496
Mounting brackets	510

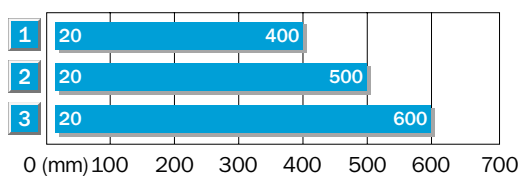
Technical data		WT 18-2	P 112	P 115	P 410	P 610	N 112	N 115	N 410	N 610
Scanning distance , max. typical	50...700 mm, adjustable									
Light source¹⁾, light type	LED, infrared light									
Light spot diameter	20 mm at 400 mm									
Supply voltage V_S	10...30 V DC									
Ripple ³⁾	$\leq 5 V_{SS}$									
Current consumption ⁴⁾	$< 25 \text{ mA}$									
	$< 45 \text{ mA}$									
Switching outputs	PNP, Q and \bar{Q}									
	NPN, Q and \bar{Q}									
Output current I_A max.	100 mA									
PNP; signal voltage HIGH	$V_S - (< 2.9 \text{ V})$									
PNP; signal voltage LOW	Approx. 0 V									
NPN; signal voltage HIGH	Approx. V_S									
NPN; signal voltage LOW	$< 1.5 \text{ V}$									
Response time ⁵⁾	$< 700 \mu\text{s}$									
Max. switching frequency ⁶⁾	700/s									
Connection types	Cable ⁷⁾ , 2 m									
	Cable ⁷⁾ , 5 m									
	Plug									
VDE protection class⁸⁾	<input type="checkbox"/>									
Circuit protection⁹⁾	A, B, C									
Enclosure rating	IP 67									
	IP 65									
Ambient temperature T_A	Operation $-40 \text{ }^\circ\text{C} \dots +60 \text{ }^\circ\text{C}$									
	Storage $-40 \text{ }^\circ\text{C} \dots +75 \text{ }^\circ\text{C}$									
Weight	Approx. 100 g									
Housing material	ABS, acrylonitrile butadiene styrene									

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

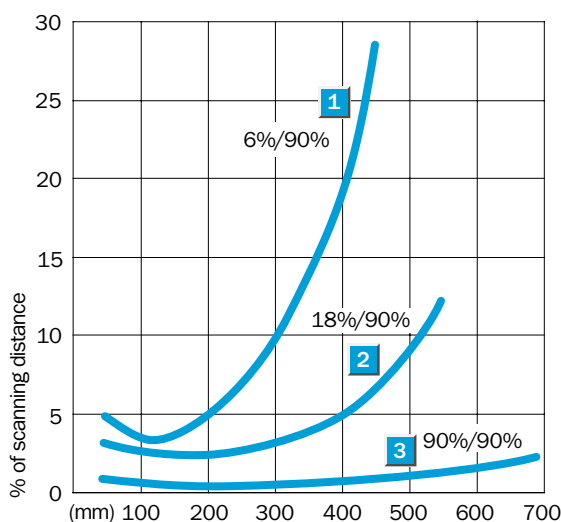
- 4) Without load
- 5) Signal transit time with resistive load
- 6) With light/dark ratio 1:1
- 7) Do not bend below $0 \text{ }^\circ\text{C}$
- 8) Reference voltage 50 V DC

- 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

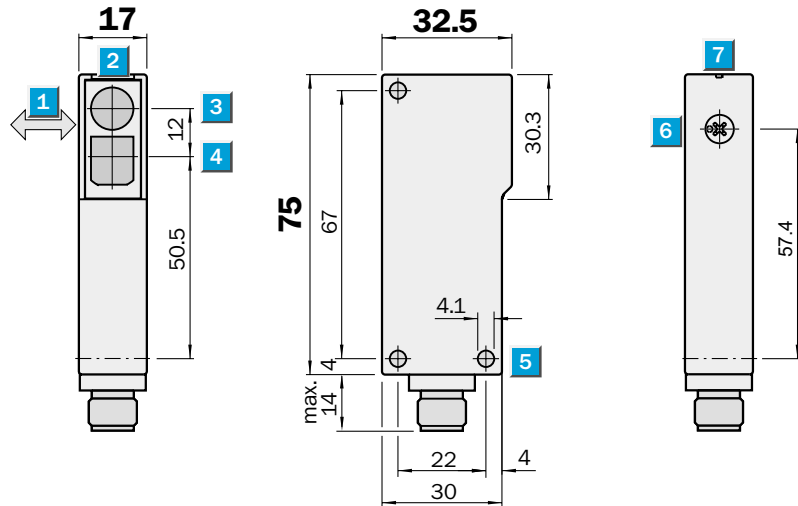
Type	Part no.
WT 18-2P 112	1 012 887
WT 18-2P 115	1 012 890
WT 18-2P 410	1 012 895
WT 18-2P 610	1 012 900
WT 18-2N 112	1 012 879
WT 18-2N 115	1 012 881
WT 18-2N 610	1 012 885
WT 18-2N 410	1 015 149

Scanning distance
 50...600 mm

Photoelectric proximity switches

- Adjustable background suppression
- Insensitive to ambient light sources (HF lamps, flashing alarm lamps)
- No mutual interference if devices are installed opposite each other
- Operating temperature -40 °C...+60 °C
- Fast response time

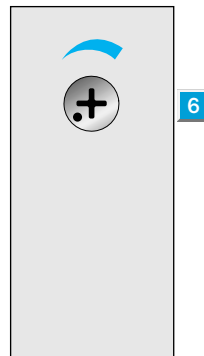
Dimensional drawing



Adjustments possible

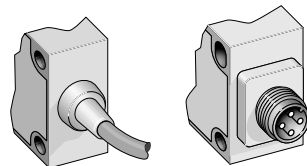
WT 18-2P 132
WT 18-2P 430
WT 18-2N 132
WT 18-2N 430

- 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 4.1 mm
- 6 Scanning distance adjustment
- 7 Alignment sight

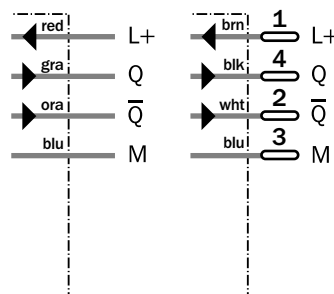


Connection types

WT 18-2P 132	WT 18-2P 430
WT 18-2N 132	WT 18-2N 430



4 x 0.25 mm ²	4-pin, M 12
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Accessories	page
Cable receptacles	496
Mounting brackets	510

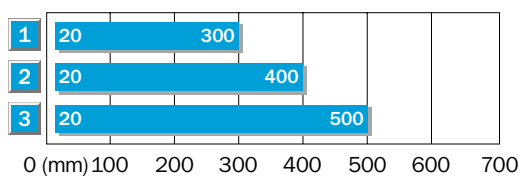
Technical data		WT 18-2	P 132	P 430	N 132	N 430						
Scanning distance , max. typical	50...600 mm, adjustable											
Light source¹⁾, light type	LED, red light											
Light spot diameter	15 mm at 300 mm											
Supply voltage V_S	10...30 V DC											
Ripple ³⁾	$\leq 5 V_{SS}$											
Current consumption ⁴⁾	< 25 mA											
	< 35 mA											
Switching outputs	PNP, Q and \bar{Q}											
	NPN, Q and \bar{Q}											
Output current I_A max.	100 mA											
PNP; signal voltage HIGH	$V_S - (< 2.9 V)$											
PNP; signal voltage LOW	Approx. 0 V											
NPN; signal voltage HIGH	Approx. V_S											
NPN; signal voltage LOW	< 1.5 V											
Response time ⁵⁾	< 700 μ s											
Max. switching frequency ⁶⁾	700/s											
Connection types	Cable ⁷⁾ , 2 m											
	Plug											
VDE protection class⁸⁾	<input type="checkbox"/>											
Circuit protection⁹⁾	A, B, 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, acrylonitrile butadiene styrene											

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

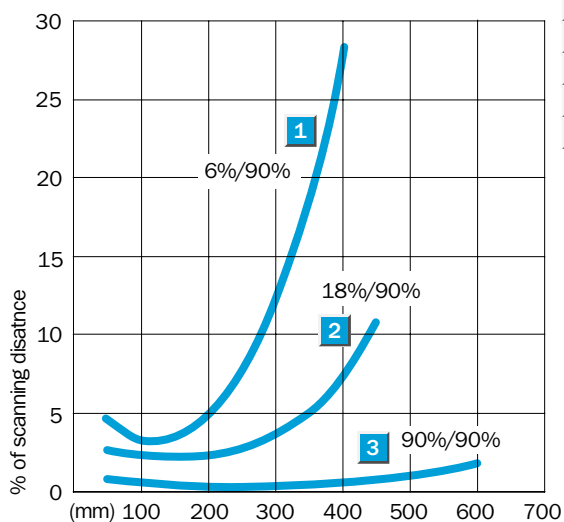
- 4) Without load
- 5) Signal transit time with resistive load
- 6) With light/dark ratio 1:1
- 7) Do not bend below 0 °C
- 8) Reference voltage 50 V DC

- 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



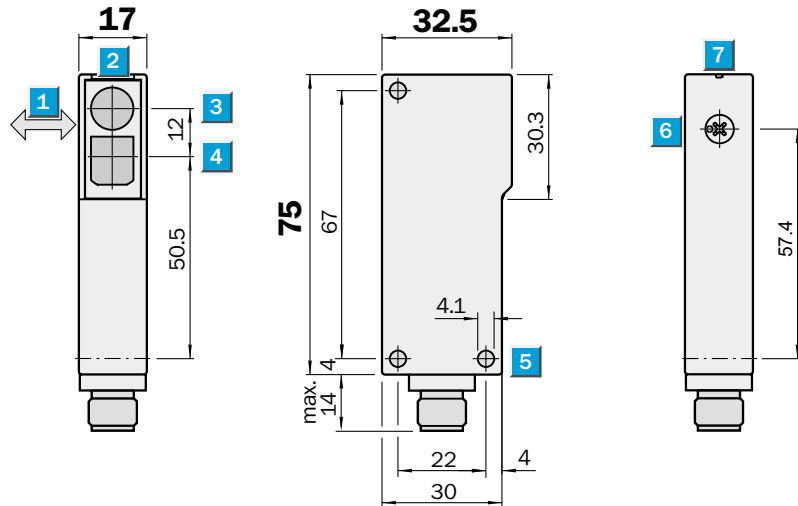
Order information

Type	Part no.
WT 18-2P 132	1 012 892
WT 18-2P 430	1 012 897
WT 18-2N 132	1 012 882
WT 18-2N 430	1 012 884


Scanning distance
 50...250 mm
 Photoelectric proximity switches

- Adjustable background suppression
- Insensitive to ambient light sources (HF lamps, flashing alarm lamps)
- No mutual interference if devices are installed opposite each other
- Operating temperature - 40 °C...+ 60 °C
- Fast response time

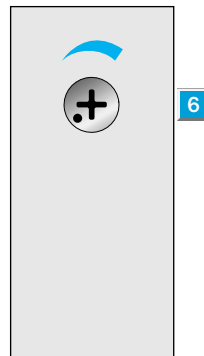
Dimensional drawing



Adjustments possible

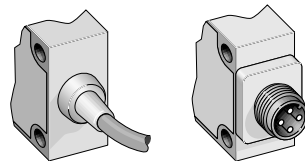
- WT 18-2P 172
- WT 18-2P 470
- WT 18-2P 182
- WT 18-2P 480

- 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 4.1 mm
- 6 Scanning distance adjustment
- 7 Alignment sight

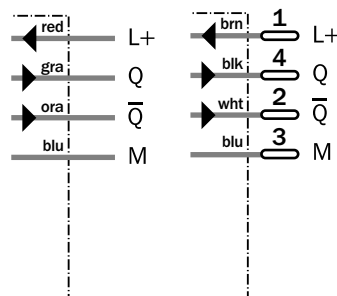


Connection types

WT 18-2P 172	WT 18-2P 470
WT 18-2P 182	WT 18-2P 480



4 x 0.25 mm ²	4-pin, M 12
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Accessories	page
Cable receptacles	496
Mounting brackets	510

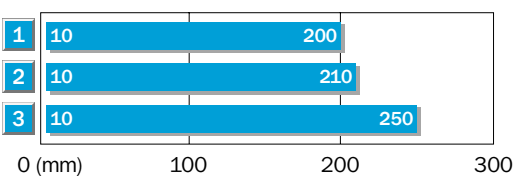
Technical data		WT 18-2	P 172	P 470	P 182	P 480
Scanning distance	50...250 mm, adjustable					
Light source¹⁾, light type	LED, red light					
	LED, infrared light					
Light spot diameter	10 mm at 200 mm					
Supply voltage V_S	10...30 V DC ²⁾					
Ripple ³⁾	$\leq 5 V_{SS}$					
Current consumption ⁴⁾	< 25 mA					
Switching outputs	PNP, Q and \bar{Q}					
Output current I_A max.	100 mA					
PNP; signal voltage HIGH	$V_S - (< 2.9$ V)					
PNP; signal voltage LOW	Approx. 0 V					
Response time ⁵⁾	< 700 μ s					
Max. switching frequency ⁶⁾	700/s					
Connection types	Cable ⁷⁾ , 2 m					
	Plug					
VDE protection class⁸⁾	<input type="checkbox"/>					
Circuit protection⁹⁾	A, B, 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, acrylonitrile butadiene styrene					

- 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

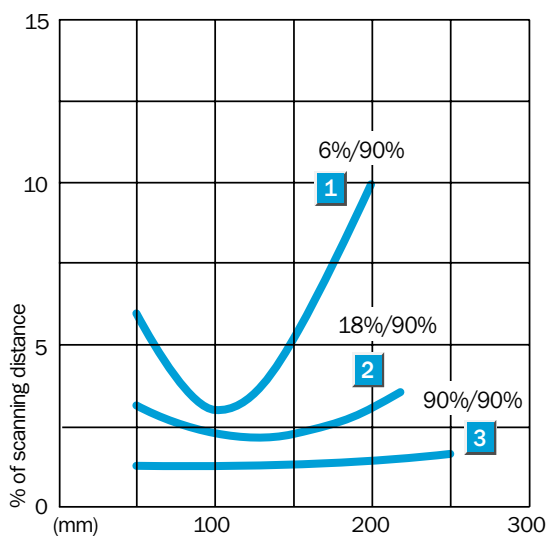
- 4) Without load
- 5) Signal transit time with resistive load
- 6) With light/dark ratio 1:1
- 7) Do not bend below 0 °C
- 8) Reference voltage 50 V DC

- 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



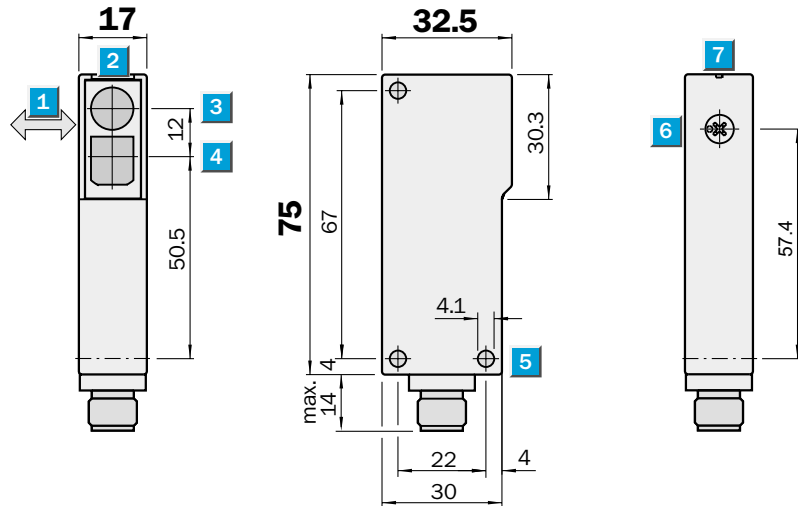
Order information

Type	Part no.
WT 18-2P 172	1 016 079
WT 18-2P 470	1 016 016
WT 18-2P 182	1 016 266
WT 18-2P 480	1 016 267

Scanning distance
 50...1000 mm
 Photoelectric proximity switches

- Adjustable background suppression
- Insensitive to ambient light sources (HF lamps, flashing alarm lamps)
- No mutual interference if devices are installed opposite each other
- Operating temperature - 40 °C...+ 60 °C
- Fast response time

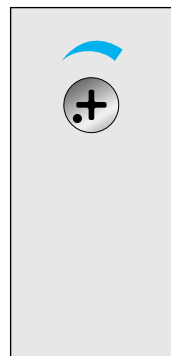
Dimensional drawing



Adjustments possible

WT 18-2P 122

WT 18-2P 420

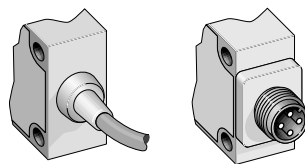


- 1** Standard direction of the material being scanned
- 2** LED signal strength indicator
- 3** Optical axis, sender
- 4** Optical axis, receiver
- 5** Mounting hole \varnothing 4.1 mm
- 6** Scanning distance adjustment
- 7** Alignment sight

Connection types

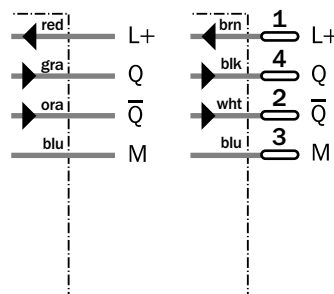
WT 18-2P 122

WT 18-2P 420



4 x 0.25 mm²

4-pin, M 12



Accessories	page
Cable receptacles	496
Mounting brackets	510

Technical data		WT 18-2	P 172	P 420								
Scanning distance	50...1000 mm, adjustable											
Light source¹⁾, light type	LED, infrared light											
Light spot diameter	30 mm at a distance of 600 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}											
Output current I_A max.	100 mA											
PNP; signal voltage HIGH	$V_S - (< 2.9 V)$											
PNP; signal voltage LOW	Approx. 0 V											
Response time ⁵⁾	< 700 μ s											
Max. switching frequency ⁶⁾	700/s											
Connection types	Cable ⁷⁾ , 2 m Plug											
VDE protection class⁸⁾	<input type="checkbox"/>											
Circuit protection⁹⁾	A, B, 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, acrylonitrile butadiene styrene											

- 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

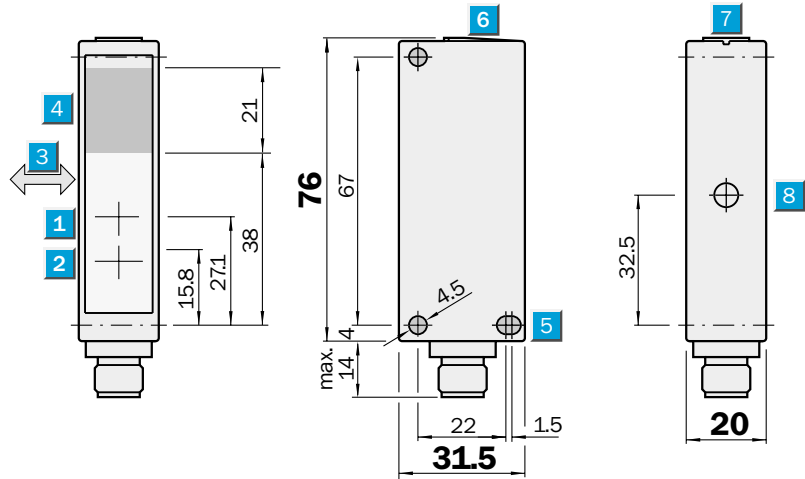
- 9) A = V_S connections reverse-polarity protected
- B = Output Q and \bar{Q} short-circuit protected
- C = Interference pulse suppression

Scanning distance		Order information							
<p>1 Scanning distance on black, 6 % remission 2 Scanning distance on grey, 18 % remission 3 Scanning distance on white, 90 % remission</p>		<table border="1"> <thead> <tr> <th>Type</th> <th>Part no.</th> </tr> </thead> <tbody> <tr> <td>WT 18-2P 122</td> <td>1 012 921</td> </tr> <tr> <td>WT 18-2P 420</td> <td>1 012 919</td> </tr> </tbody> </table>	Type	Part no.	WT 18-2P 122	1 012 921	WT 18-2P 420	1 012 919	
Type	Part no.								
WT 18-2P 122	1 012 921								
WT 18-2P 420	1 012 919								

	Scanning distance
	60...120 mm
	100...200 mm
Photoelectric proximity switches	

- Adjustable background suppression
- Detection of objects with shiny surfaces
- Insensitive to ambient light sources (HF lamps, flashing alarm lamps)
- No mutual interference if devices are installed opposite each other
- Operating temperature - 40 °C...+ 60 °C

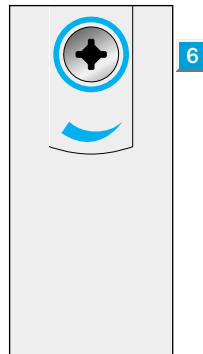
Dimensional drawing



Adjustments possible

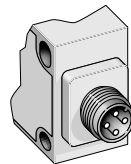
WTV 18-2P 410
WTV 18-2P 420

- Centre of optical axis, sender, WTV 18-2P 410
- Centre of optical axis, sender, WTV 18-2P 420
- Standard direction of the material being scanned
- Receiving range
- Mounting hole \varnothing 4.5 mm
- Scanning distance adjustment
- Alignment sight
- Status indicator

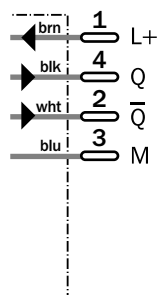


Connection type

WTV 18-2P 410
WTV 18-2P 420



4-pin, M 12



Accessories	page
Cable receptacles	496
Mounting brackets	510

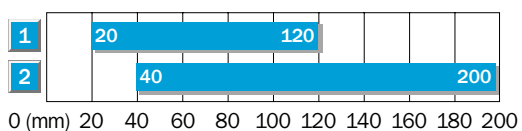
Technical data		WTV 18-2	P 410	P 420										
Scanning distance	60...120 mm, adjustable													
	100...200 mm, adjustable													
Light source¹⁾, light type	LED, infrared light													
	Light spot diameter	8 mm at 120 mm												
		8 mm at 200 mm												
Supply voltage V_S	10...30 V DC ²⁾													
	Ripple ³⁾	$\leq 5 V_{SS}$												
	Current consumption ⁴⁾	< 30 mA												
Switching outputs	PNP, Q and \bar{Q}													
	Output current I_A max.	100 mA												
	PNP; signal voltage HIGH	$V_S - (< 1.5 V)$												
	NP; signal voltage LOW	Approx. 0 V												
	Response time ⁵⁾	2 ms												
	Max. switching frequency ⁶⁾	250/s												
Connection type	Plug													
VDE protection class⁷⁾	<input type="checkbox"/>													
Circuit protection⁸⁾	A, B, C													
Enclosure rating	IP 67													
Ambient temperature T_A	Operation	- 25 °C...+ 60 °C												
	Storage	- 25 °C...+ 75 °C												
Weight	Approx. 100 g													
Housing material	ABS, acrylonitrile butadiene styrene													

- 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

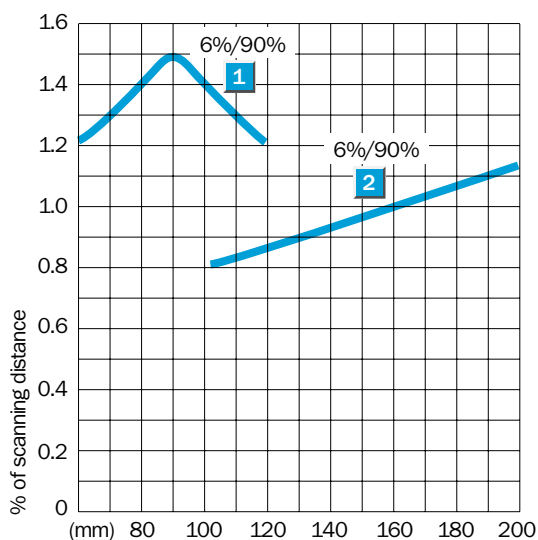
- 4) Without load
- 5) Signal transit time with resistive load
- 6) With light/dark ratio 1:1
- 7) Reference voltage 50 V DC

- 8) A = V_S connections reverse-polarity protected
- B = Output Q and \bar{Q} short-circuit protected
- C = Interference pulse suppression

Scanning distance



- 1 Scanning distance on black, 6 % remission with P 410
- 2 Scanning distance on black, 6 % remission with P 420



Order information

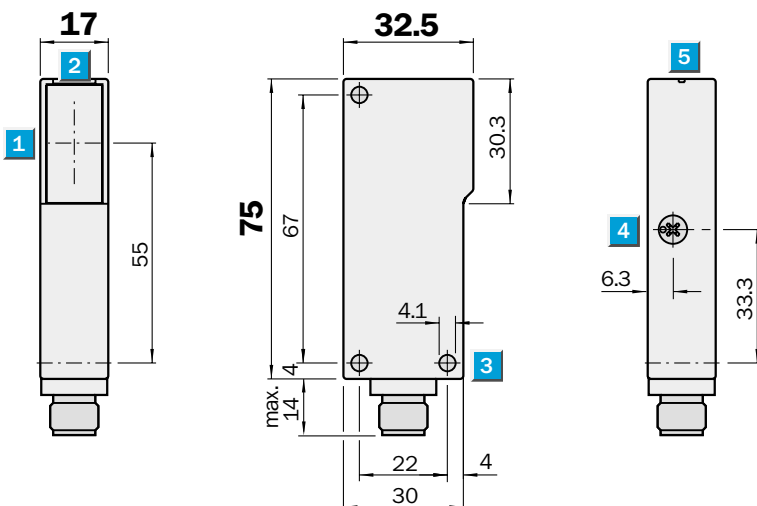
Type	Part no.
WTV 18-2P 410	1 016 198
WTV 18-2P 420	1 016 243

Scanning range
7 m

Photoelectric reflex switches

- Insensitive to ambient light sources (HF lamps, flashing alarm lamps)
- No mutual interference if devices are installed opposite each other
- Operating temperature - 40 °C...+ 60 °C
- Fast response time
- Test input for system diagnosis, optional
- Autocollimation system

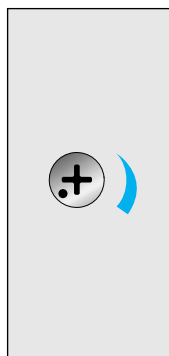
Dimensional drawing



Adjustments possible

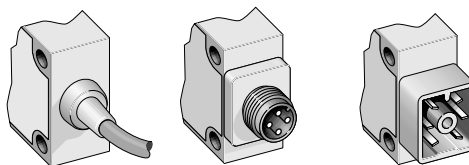
WL 18-2P 132	WL 18-2N 132
WL 18-2P 135	WL 18-2N 135
WL 18-2P 430	WL 18-2N 430
	WL 18-2N 630

- 1** Centre of optical axis
- 2** LED signal strength indicator
- 3** Mounting hole \varnothing 4.1 mm
- 4** Sensitivity adjustment
- 5** Alignment sight



Connection types

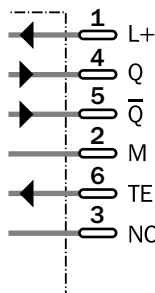
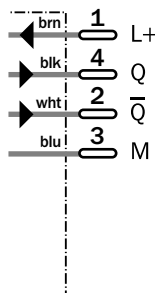
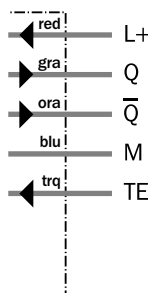
WL 18-2P 132	WL 18-2P 430	WL 18-2P 630
WL 18-2P 135	WL 18-2N 430	WL 18-2N 630
WL 18-2N 132		
WL 18-2N 135		



5 x 0.25 mm²

4-pin, M 12

6-pin



Accessories	page
Cable receptacles	496
Mounting brackets	510
Reflectors	520

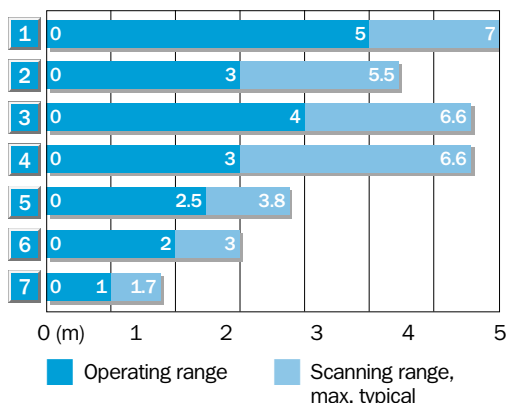
Technical data		WL 18-2	P 132	P 135	P 430	P 630	N 132	N 135	N 430	N 630
Scanning range , max. typ./on reflector	7 m/PL 80 A									
Sensitivity	adjustable									
Light source¹⁾, light type	LED, red light									
Light spot diameter	40 mm at 2 m									
Supply voltage V_S	10...30 V DC ²⁾									
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									
PNP; signal voltage HIGH	$V_S - (< 2.9 V)$									
PNP; signal voltage LOW	Approx. 0 V									
NPN; signal voltage HIGH	Approx. V_S									
NPN; signal voltage LOW	< 1.5 V									
Response time ^{5)/Max. switching freq.⁶⁾}	< 500 μ s; 1000/s									
Test input "TE"										
PNP, sender OFF	Test input to 0									
NPN, sender OFF	Test input to V_+									
Connection types	Cable ⁷⁾ , 2 m									
	Cable ⁷⁾ , 5 m									
	Plug									
VDE protection class⁸⁾	<input type="checkbox"/>									
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									
Polarising filter										
Housing material	ABS, acrylonitrile butadiene styrene									

- 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

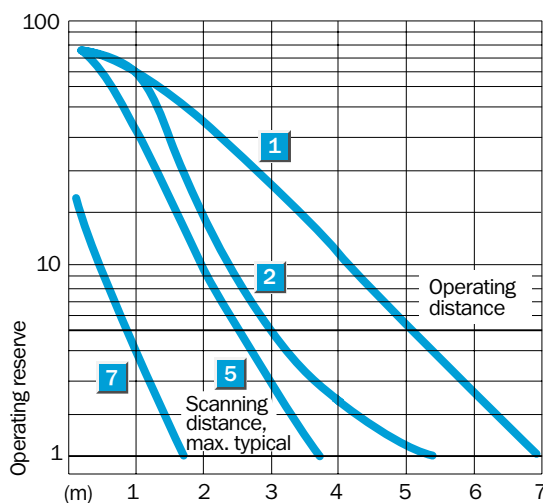
- 4) Without load
- 5) Signal transit time with resistive load
- 6) With light/dark ratio 1:1
- 7) Do not bend below 0 °C
- 8) Reference voltage 50 V DC

- 9) A = V_S connections reverse-polarity protected
- B = Output Q and \bar{Q} short-circuit protected
- C = Interference pulse suppression

Scanning range and operating reserve



Reflector type	Operating range
1 PL80 A	0...5.0 m
2 C 110	0...3.0 m
3 PL50	0...4.0 m
4 PL40 A	0...3.0 m
5 PL30 A	0...2.5 m
6 PL20 A	0...2.0 m
7 Reflective tape Diamond Grade	0...1.0 m



Order information

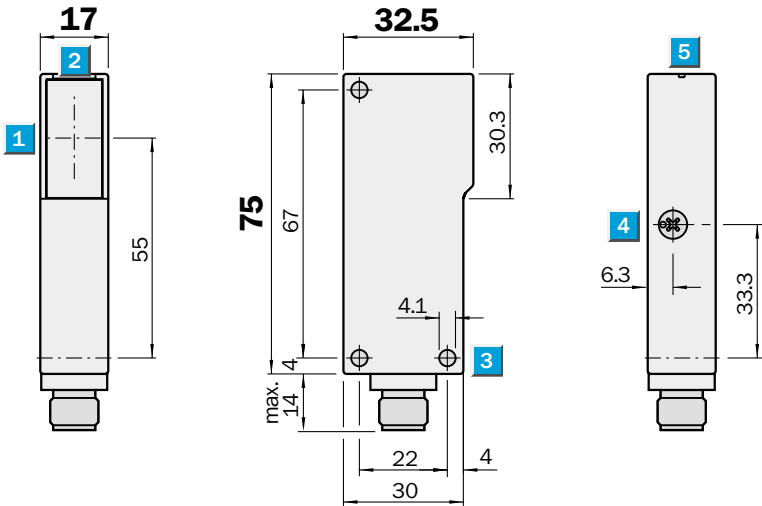
Type	Part no.
WL 18-2P 132	1 012 906
WL 18-2P 135	1 012 907
WL 18-2P 430	1 012 908
WL 18-2P 630	1 012 912
WL 18-2N 132	1 012 903
WL 18-2N 135	1 012 911
WL 18-2N 630	1 012 904
WL 18-2N 430	1 016 205

Scanning range
20 m

Through-beam photoelectric switches

- Insensitive to ambient light sources (HF lamps, flashing alarm lamps)
- Operating temperature - 40 °C...+ 60 °C
- Fast response time
- Test input for system diagnosis

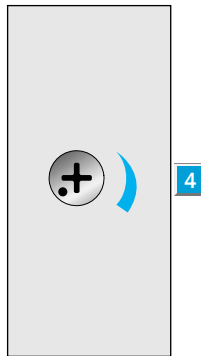
Dimensional drawing



Adjustments possible

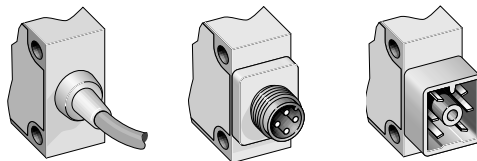
WS/WE 18-2P 132	WS/WE 18-2N 132
WS/WE 18-2P 630	WS/WE 18-2N 630
WS/WE 18-2P 430	

- 1 Centre of optical axis
- 2 Operating voltage indicator, green (WS)
LED signal strength indicator, yellow (WE)
- 3 Mounting hole \varnothing 4.1 mm
- 4 Sensitivity adjustment
- 5 Alignment sight



Connection types

WS/WE 18-2P 132	WS/WE 18-2P 430	WS/WE 18-2P 630
WS/WE 18-2N 132		WS/WE 18-2N 630



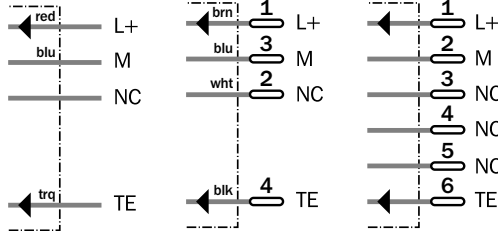
4 x 0.25 mm²

4-pin, M 12

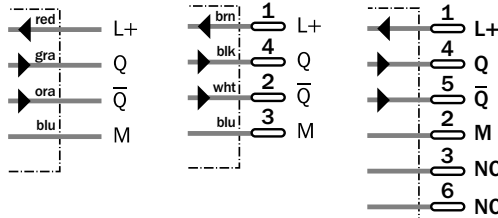
6-pin

Accessories	page
Cable receptacles	496
Mounting brackets	510

Sender



Receiver



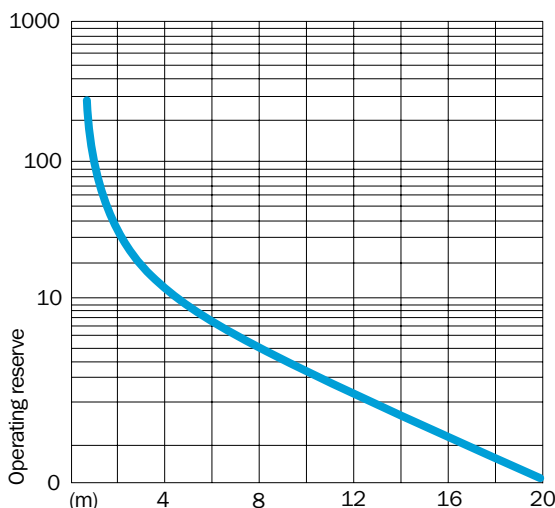
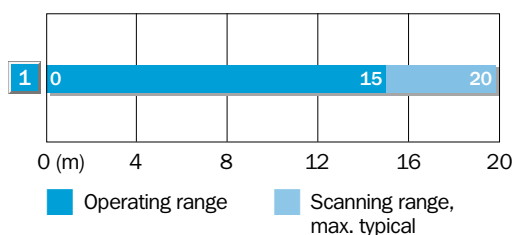
Technical data		WS/WE 18-2	P 132	P 430	P 630	N 132	N 630						
Scanning range , max. typical	0...20 m												
Sensitivity	adjustable												
Light source¹⁾, light type	LED, red light												
Light spot diameter	Approx. 450 mm at 15 m												
Angle of dispersion	Approx. 1.5°												
Supply voltage V_S	10...30 V DC ²⁾												
Ripple ³⁾	$\leq 5 V_{SS}$												
Current consumption ⁴⁾	< 60 mA												
sender without heating	< 35 mA												
receiver without heating	< 25 mA												
Switching outputs	PNP, Q and \bar{Q} NPN, Q and \bar{Q}												
Output current I_A max.	100 mA												
PNP; signal voltage HIGH	$V_S - (< 2.9 V)$												
PNP; signal voltage LOW	Approx. 0 V												
NPN; signal voltage HIGH	Approx. V_S												
NPN; signal voltage LOW	< 1.5 V												
Response time ⁵⁾	500 μ s												
Max. switching frequency ⁶⁾	1000/s												
Test input "TE" sender OFF	Test input to 0 V												
Connection type	Cable ⁷⁾ , 2 m Plug												
VDE protection class⁸⁾	<input type="checkbox"/>												
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												
Housing material	ABS, acrylonitrile butadiene styrene												

- 1) Average service life 100,000 h at $T_A = +25\text{ °C}$
- 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) 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 range and operating reserve



Order information

Type	Part no.
WS/WE 18-2P 132	1 012 915
WS/WE 18-2P 430	1 012 916
WS/WE 18-2P 630	1 012 918
WS/WE 18-2N 132	1 012 914
WS/WE 18-2N 630	1 012 917