

W18-3: Incorporated application know-how, expanded functionality, high level of equipment availability



In Automation Technology, customers demand optical sensors, which can reliably solve complex applications, which are capable of operating at high processing speeds and which provide a high level of in-service availability under arduous operating conditions. The W18-3 Series is recommended. The W18-3 Series is the result of a vast amount of experience and many years of knowledge gathered from thousands of applications, from which the user can now benefit. Depending upon the task required, the most appropriate sensor can be selected:

With precision background suppression, the WT18-3 Series is ideal for demanding applications. The scanning distance can be simply and quickly adjusted, either via conventional potentiometer or via double Teach buttons, with fine adjustment option.

WL18-3, using an auto-collimation optical principle, are designed to optically focus upon the object in a reliable manner and utilising a visually defined small red spot of light.

WS/WE18-3 – ideal for applications where greater system reserve is required.

Further advantage:

 The series W18-3 sensors fulfil the test requirements of



The main target industries for the W18-3 Series are:

- Packaging industry,
- Food and confectionery industry,
- Storage and conveying,
- Wood processing.

W18-3

◄ WT18-3 detects the position of a load carrier in front of the shelf bay and optimises the flow of goods in a high-bay warehouse.

▼ In a picking warehouse, the goods containers are reliably detected by WT18-3, thus ensuring correct goods throughput.



► WT18-3 safely detects the shiny coffee packets on a fullyautomatic packaging line.



▼ From dark to light: WT18-3 reliably monitors the material supply in a spinning machine.

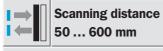






▲ WL18-3 detects the transport hanger and thus enables the smooth throughput of the garments to be washed in a fully-automatic laundry.

WT18-3 Photoelectric proximity switches, red light, background suppression



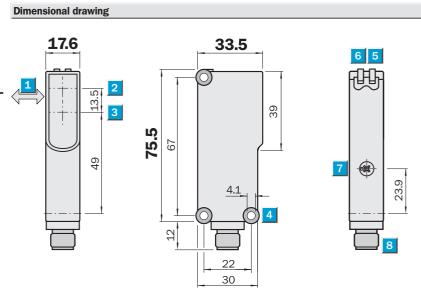
Photoelectric proximity switches

- Precise background suppression; suitable for high demanding applications
- Scanning range adjustable via potentiometer
- Insensitive to external light sources (HF lamps)
- Operation reliability with equipment facing each other
- Permissible ambient operating temperature –40 °C ... +60 °C





See chapter Accessories					
Connectors					
Mounting systems					





- Standard direction of the material being scanned
- 2 Optical axis sender
- 3 Optical axis receiver
- 4 Mounting hole Ø 4.1 mm
- 5 LED indicator, yellow; status of received light beam
- 6 LED indicator, green; power on
- 7 Scanning distance adjustment, Poti 4 turn
- 8 Plug M12, 4-pin or 2 m cable

Connection types		
WT18-3P130	WT18-3P430	
WT18-3N130	WT18-3N430	
4 x 0.25 mm ²	4-pin, M12	
$ \begin{array}{c} $	$ \begin{array}{c} $	

WT18-3

Technical data	WT18-3	P130	P430	N130	N430						
								·			
Scanning distance, adjustable 1)	50 600 mm, 90 % remission										
Visible range ¹⁾	10 600 mm										
Adjustment	Poti, 4 turn										
Light source ²⁾ , light type	LED, visible red light										
Light spot diameter	15 mm at 300 mm										
Supply voltage V _S	10 30 V DC ³⁾										
Residual ripple ⁴⁾	$< 5 V_{PP}$										
Current consumption ⁵⁾	< 40 mA										
Output current I _A max.	< 100 mA										
Switching outputs	PNP, antivalent										
	NPN, antivalent										
Response time ⁶⁾	< 700 μs										
Switching frequency max. 7)	700/s										
Connection types	Cable ⁸⁾ , 2 m, 4 wire										
	M12 plug, 4-pin										
VDE protection class cable ⁹⁾											
Circuit protection ¹⁰⁾	A, B, C										
Enclosure rating	IP 67										
Ambient temperature	Operation -40 °C +60 °C										
	Storage -40 °C +75 °C										
Weight	With cable, 2 m, approx. 120 g										
	With M12 plug, approx. 40 g										
Housing material	ABS										
	 Limit values; Operation in short-circuit protected network max. 8 A Must be within V_S tolerances Without load 	 With ⁸⁾ Do r 	al transit light/darl not bend l erence vol	k ratio 1:1 below 0 °	L C	load	B=	protected Outputs s	ction rever hort-circuit ce pulse s	t protecte	ed

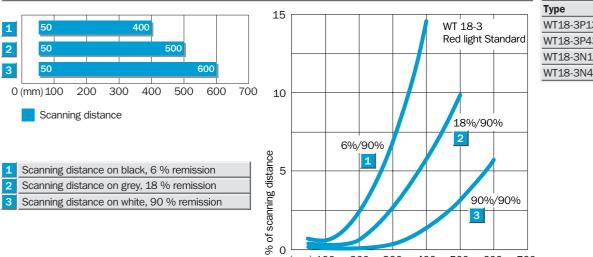
Adjustment via Poti

1. Position the object in the path of the beam.

2. By rotating the potentiometer to the right until the yellow LED illuminates continuously = object is positively detected.

3. If necessary, fine adjustments to the scanning distance can be made to suit the conditions of the application: minimal rotation of the potentiometer to the right = scanning distance will be increased, minimal rotation of the potentiometer to the left = scanning distance will be decreased.

Scanning distance



(mm) 100

200

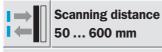
300 400

500

600 700

Order information							
Туре	Order no.						
WT18-3P130	1025895						
WT18-3P430	1025896						
WT18-3N130	1025897						
WT18-3N430	1025898						

WT18-3 Photoelectric proximity switches, red light, background suppression, Teach-in

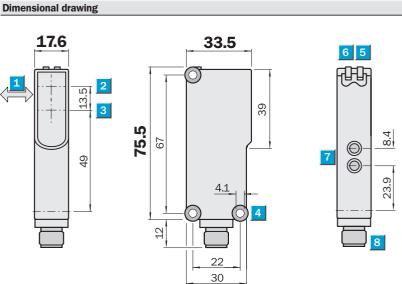


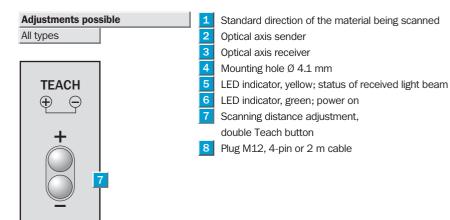
- Photoelectric proximity switches
- Precise background suppression; suitable for high demanding applications
- Scanning range adjustable by a Teachin process using double Teach buttons
- Insensitive to external light sources (HF lamps)
- Operation reliability with equipment facing each other
- Permissible ambient operating temperature -40 °C ... +60 °C





See chapter Accessories					
Connectors					
Mounting systems					





Connection types	
WT18-3P131	WT18-3P431
	WT18-3N431
4 x 0.25 mm ²	4-pin, M12
→ bini L+ → bik Q → wht Q blu M	$ \begin{array}{c} \bullet \text{ brin} & 1 \\ \bullet \text{ blk} & 4 \\ \bullet \text{ wht} & 2 \\ \bullet \text{ blu} & 3 \\ \bullet \text{ M} \end{array} $

WT18-3

Technical data	WT18-3	P131	P431	N/131							
	WITCO	LTOT	[F401	IN401							
Scanning distance, adjustable 1)	50 600 mm, 90 % remission										
Visible range ¹⁾	10 600 mm										
Adjustment	Teach-in, via double Teach buttons										
Fine adjustment	Manuel via "+" and "–" button		i								
Light source ²⁾ , light type	LED, visible red light		i								
Light spot diameter	15 mm at 300 mm		i								
Supply voltage V _S	10 30 V DC ³⁾		i								
Residual ripple ⁴)	$< 5 V_{PP}$		i								
Current consumption ⁵⁾	< 40 mA		i								
Output current I _A max.	< 100 mA		i								
Switching outputs	PNP, antivalent		i								
	NPN, antivalent										
Response time ⁶⁾	< 700 µs										
Switching frequency max. 7)	700/s		i								
Connection types	Cable ⁸⁾ , 2 m, 4 wire		<u> </u>								
	M12 plug, 4-pin										
VDE protection class cable ⁹⁾											
Circuit protection ¹⁰⁾	A, B, C		i								
Enclosure rating	IP 67										
Ambient temperature	Operation -40 °C +60 °C										
	Storage		i								
Weight	With cable, 2 m, approx. 120 g		Í								
	With M12 plug, approx. 40 g										
Housing material	ABS										
 Object with 90 % remission (according to standard white DIN 5033) Average service life 100,000 h at T_A = +25 °C 	 Limit values; Operation in short-circuit protected network max. 8 A Must be within V_S tolerances Without load 	 7) With 8) Do r 	n light/darl not bend l	time with k ratio 1:1 below 0 °(ltage 50 \	L C	load	B =	protecte Outputs	ection reve d short-circ nce pulse	uit protec	cted

Teach-in procedure via the double Teach buttons

1. Position the object in the path of the beam.

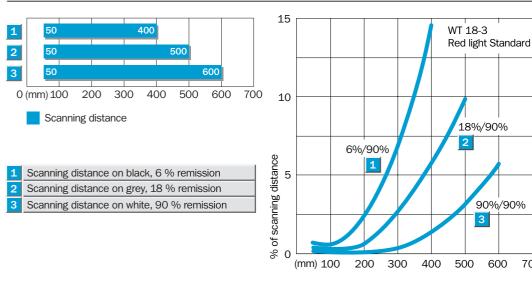
2. Press both buttons simultaneously (for approx. 2 seconds) until the yellow LED flashes = object in focus. In the event of button activation of less than 2 seconds, the Teach command is not effective, therefore providing no protection against further unwanted manipulation.

- 3. Release buttons; yellow LED illuminates continuously = object is positively detected.
- 4. Fine adjustments can be made to the scanning distance, when required by the application:
- Pressing the "+" button (approx. 0.5 sec) = scanning distance will be increased.
- Pressing the "-" button (approx. 0.5 sec) = scanning distance will be decreased.

In the event of button activation less than 0.5 sec, no change to the scanning distance is made. Upon activation of the button, the yellow LED flashes.

5. The Teach-in scanning distance is stored in the memory.

Scanning distance



Order information						
Туре	Order no.					
WT18-3P131	1026034					
WT18-3P431	1026032					
WT18-3N431	1026035					

700

WT18-3 Photoelectric proximity switches, infrared, background suppression

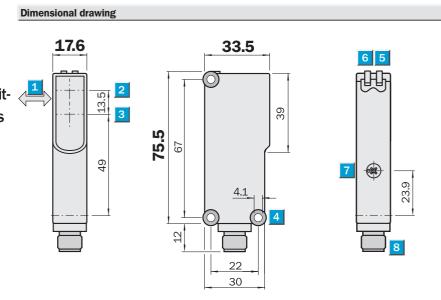


- Precise background suppression; suitable for high demanding applications
- Scanning range adjustable via potentiometer
- Insensitive to external light sources (HF lamps)
- Operation reliability with equipment facing each other
- Permissible ambient operating temperature –40 °C ... +60 °C





See chapter Accessories					
Connectors					
Mounting systems					





- Standard direction of the material being scanned
- 2 Optical axis sender
- 3 Optical axis receiver
- 4 Mounting hole Ø 4.1 mm
- 5 LED indicator, yellow; status of received light beam
- 6 LED indicator, green; power on
- 7 Scanning distance adjustment, Poti 4 turn
- 8 Plug M12, 4-pin or 2 m cable or cubic plug, 6-pin

Connection types	i		
WT18-3P110	WT18-3P410	WT18-3P610	
WT18-3N110	WT18-3N410	WT18-3N610	
4 x 0.25 mm ²	4-pin, M12	6-pin	
→ bik Q → wht Q blu M	biri 1 L+ bik 4 Q wint 2 Q blu 3 M	1 L+ 4 Q 5 Q 2 M 6 NC 3 NC	

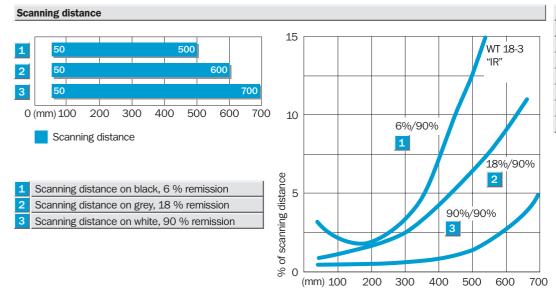
									,		
Technical data	WT18-3	P110	P410	P610	N110	N410	N610				
					-		_	i			
Scanning distance, adjustable 1)	50 700 mm, 90 % remission							ļ			
Visible range ¹⁾	10 700 mm							<u> </u>			
Adjustment	Poti, 4 turn										
Light source ²⁾ , light type	LED, infrared light							L			
Light spot diameter	20 mm at 400 mm							L			
Supply voltage V _S	10 30 V DC ³⁾										
Residual ripple 4)	$< 5 V_{SS}$										
Current consumption ⁵⁾	< 55 mA				i s						
Output current I _A max.	< 100 mA										
Switching outputs	PNP, antivalent				í –						
	NPN, antivalent										
Response time ⁶⁾	< 700 μs					i and					
Switching frequency max. 7)	700/s		i	i	i i i i i i i i i i i i i i i i i i i		/ The second				
Connection types	Cable ⁸⁾ , 2 m, 4 wire		Í.			Í.					
	M12 plug, 4-pin						4				
	Cubic plug, 6-pin										
VDE protection class cable ⁹⁾					i						
Circuit protection ¹⁰⁾	A, B, C		1 THE		Á r a	A	i i i i				
Enclosure rating	IP 67			T		A THE	Á The second sec				
	IP 65			1		1	1				
Ambient temperature	Operation -40 °C +60 °C		4		Á ran	4					
	Storage −40 °C +75 °C		i	ing	i and			[
Weight	With cable, 2 m, approx. 120 g		i			í The second sec					
	With M12 plug, approx. 40 g					1	4				
	With cubic plug, approx. 40 g			1	1		1	1			
Housing material	ABS				i						
¹⁾ Object with 90 % remission (according to standard white DIN 5033) ²⁾ Average service life 100,000 h at $T_A = +25$ °C	 Limit values; Operation in short-circuit protected network max. 8 A Must be within V_S tolerances Without load 	 With 8) Do r 	nal transit h light/dar not bend ference vo	rk ratio 1: I below 0 °	::1 °C	load	В = 0	protected Outputs s	ection reve d short-circu ence pulse	uit protec	cted

Adjustment via Poti

1. Position the object in the path of the beam.

2. By rotating the potentiometer to the right until the yellow LED illuminates continuously = object is positively detected.

3. If necessary, fine adjustments to the scanning distance can be made to suit the conditions of the application: minimal rotation of the potentiometer to the right = scanning distance will be increased, minimal rotation of the potentiometer to the left = scanning distance will be decreased.



Order information						
Туре	Order no.					
WT18-3P110	1025887					
WT18-3P410	1025889					
WT18-3P610	1025890					
WT18-3N110	1025891					
WT18-3N410	1025893					
WT18-3N610	1025894					

WT18-3 Photoelectric proximity switches, infrared light, background suppression, Teach-in

2 വ 13. 3

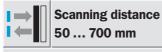
49

75.5

67

Dimensional drawing

17.6

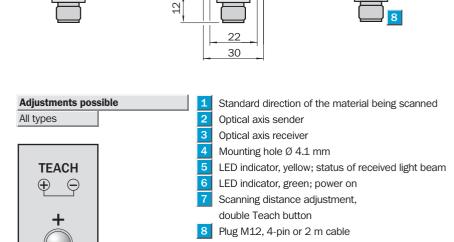


- Photoelectric proximity switches
- Precise background suppression; suitable for high demanding applications
- Scanning range adjustable by a Teachin process using double Teach buttons
- Insensitive to external light sources (HF lamps)
- Operation reliability with equipment facing each other
- Permissible ambient operating temperature -40 °C ... +60 °C





See chapter Accessories	
Connectors	
Mounting systems	



33.5

4.1

39

Δ

6 5

⊕

 \bigcirc

8.4

23.9

Connection types	
WT18-3P111	WT18-3P411
4 x 0.25 mm ²	4-pin, M12
→ bini L+ → bik Q → wht Q blu M	$ \begin{array}{c} $

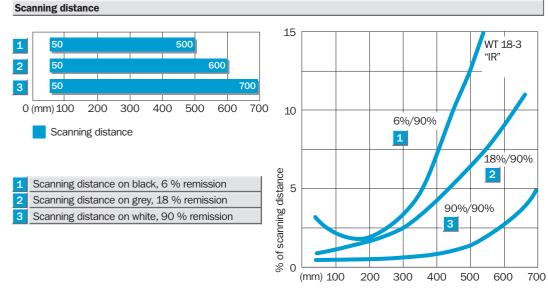
			-	-							
Technical data	WT18-3	P111	P411								
Scanning distance, adjustable 1)	50 700 mm, 90 % remission										
Visible range ¹)	10 700 mm			<u> </u>							
Adjustment	To 700 mm Teach-in, via double Teach buttons			<u> </u>							
-	1			_							
Fine adjustment	Manuel via "+" and "-" button			4							
Light source ²), light type	LED, infrared light			4							
Light spot diameter	20 mm at 400 mm	_		4							
Supply voltage V _S	10 30 V DC ³⁾	_		4							
Residual ripple ⁴)	$< 5 V_{SS}$			4							
Current consumption ⁵⁾	< 55 mA			4							
Output current I _A max.	< 100 mA			4							
Switching outputs	PNP, antivalent										
	NPN, antivalent										
Response time 6)	<700 μs										
Switching frequency max. 7)	700/s										
Connection types	Cable ⁸⁾ , 2 m, 4 wire		Í								
	M12 plug, 4-pin										
VDE protection class cable ⁹⁾				Í							
Circuit protection ¹⁰⁾	A, B, C			á –							
Enclosure rating	IP 67			í –							
Ambient temperature	Operation -40 °C +60 °C		ing	í –							
-	Storage -40 °C +75 °C		i ny	î 👘							
Weight	With cable, 2 m, approx. 120 g		í	-							
	With M12 plug, approx. 40 g			4							
Housing material	ABS			í							
 Object with 90 % remission (according to standard white DIN 5033) Average service life 100,000 h at T_A = +25 °C 	 Limit values; Operation in short-circuit protected network max. 8 A Must be within V_S tolerances Without load 	 With ⁸⁾ Do r 	h light/dar not bend	t time with ark ratio 1:: 1 below 0 ° oltage 50 \	:1 °C	load	B=	= V _S conne protected = Outputs = Interfered	ed short-circ	cuit prote	ected

Teach-in procedure via the double Teach buttons

1. Position the object in the path of the beam.

 Press both buttons simultaneously (for approx. 2 seconds) until the yellow LED flashes = object in focus. In the event of button activation of less than 2 seconds, the Teach command is not effective, therefore providing no protection against further unwanted manipulation.

- 3. Release buttons; yellow LED illuminates continuously = object is positively detected.
- 4. Fine adjustments can be made to the scanning distance, when required by the application:
- Pressing the "+" button (approx. 0.5 sec) = scanning distance will be increased.
- Pressing the "-" button (approx. 0.5 sec) = scanning distance will be decreased.
 - In the event of button activation less than 0.5 sec, no change to the scanning distance is made. Upon activation of the button, the yellow LED flashes.
- 5. The Teach-in scanning distance is stored in the memory.



Order information						
Туре	Order no.					
WT18-3P111	1026033					
WT18-3P411	1026031					

WT18-3 Photoelectric proximity switches, infrared, long range, background suppression

2 13.5 3

49

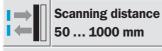
75.5

67

12

Dimensional drawing

17.6



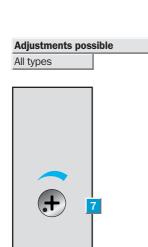
Photoelectric proximity switches

- Precise background suppression; suitable for high demanding applications
- Scanning range adjustable via potentiometer
- Insensitive to external light sources (HF lamps)
- Operation reliability with equipment facing each other
- Permissible ambient operating temperature -40 °C ... +60 °C





See chapter Accessories					
Connectors					
Mounting systems					



Standard direction of the material being scanned

6 5

Яĥ

۲

23.9

- 2 Optical axis sender
- 3 Optical axis receiver

33.5

4.1

22

30

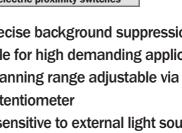
39

4

D)

- 4 Mounting hole Ø 4.1 mm
- 5 LED indicator, yellow; status of received light beam
- 6 LED indicator, green; power on
- Scanning distance adjustment, Poti 4 turn
- 8 Plug M12, 4-pin or 2 m cable

Connection types	
WT18-3P120	WT18-3P420
4 x 0.25 mm ²	4-pin, M12
→ bik Q → wht Q biu M	$ \begin{array}{c} $



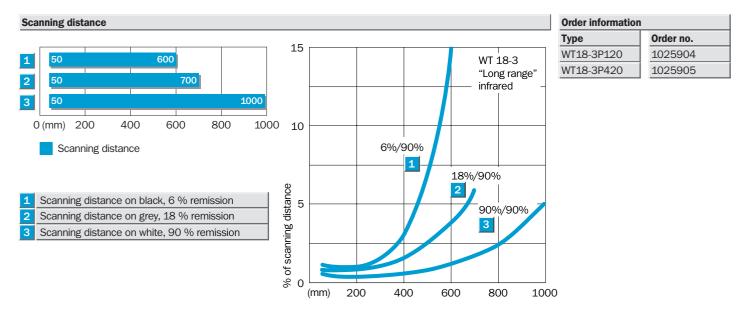
Technical data	WT18-3	P120	P420								
Comming distance adjustable 1)	50 1000 mm, 90 % remission										
Scanning distance, adjustable ¹⁾	,										
Visible range ¹⁾	10 1000 mm										
Adjustment	Poti, 4 turn										
Light source ²⁾ , light type	LED, infrared light										
Light spot diameter	30 mm at 600 mm										
Supply voltage V _S	10 30 V DC ³⁾										
Residual ripple 4)	$< 5 V_{SS}$										
Current consumption ⁵⁾	< 55 mA										
Output current I _A max.	< 100 mA										
Switching outputs	PNP, antivalent										
Response time ⁶⁾	< 700 µs										
Switching frequency max. 7)	700/s										
Connection types	Cable ⁸⁾ , 2 m, 4 wire										
	M12 plug, 4-pin										
VDE protection class cable ⁹⁾											
Circuit protection ¹⁰⁾	A, B, C										
Enclosure rating	IP 67										
Ambient temperature	Operation -40 °C +60 °C										
	Storage										
Weight	With cable, 2 m, approx. 120 g										
	With M12 plug, approx. 40 g										
Housing material	ABS										
 Object with 90 % remission (according to standard white DIN 5033) Average service life 100,000 h at T_A = +25 °C 	 Limit values; Operation in short-circuit protected network max. 8 A Must be within V_S tolerances Without load 	 With ⁸⁾ Do n 	al transit t light/dark ot bend b rence vol	ratio 1:1 elow 0 °0	C	load	B =	= V _S conne protecte = Outputs = Interfere	d short-circ	cuit proted	cted

Adjustment via Poti

1. Position the object in the path of the beam.

2. By rotating the potentiometer to the right until the yellow LED illuminates continuously = object is positively detected.

3. If necessary, fine adjustments to the scanning distance can be made to suit the conditions of the application: minimal rotation of the potentiometer to the right = scanning distance will be increased, minimal rotation of the potentiometer to the left = scanning distance will be decreased.



WL18-3 Photoelectric reflex switches, red light, polarising filter

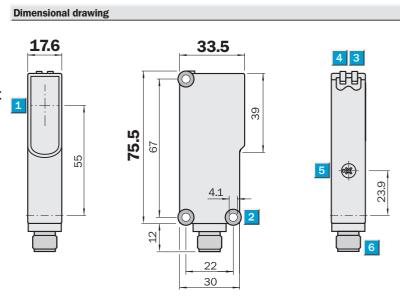


Photoelectric reflex switches

- Autocollimation optics; reliable target detection
- Insensitive to external light sources (HF lamps)
- Operation reliability with equipment facing each other
- Permissible ambient operating temperature -40 °C ... +60 °C
- Test input for system diagnosis (optional)



See chapter Accessories					
Connectors					
Reflectors					
Mounting systems					





1	Middle of optical axis
2	Mounting holes Ø 4.1 mm
3	Status indicator LED, yellow,
	status of received light beam
4	Status indicator LED, green; power on
5	Sensitivity control; Poti 270°
6	Plug M12, 4-pin or cable 2 m
	or cubic plug 6 pin

Connection types			
WL18-3P130	WL18-3P430	WL18-3P630	WL18-3P730
WL18-3N130	WL18-3N430	WL18-3N630	WL18-3N730
4 x 0.25 mm ²	4-pin, M12	6-pin	5 x 0.25 mm ²
→ bik Q → bik Q → wht Q blu M	bini biki biki biki biki biki biki biki	$\begin{array}{c} 1 \\ 4 \\ 5 \\ 2 \\ 6 \\ 1 \\ 6 \\ 1 \\ 8 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1$	→ bini L+ → bik Q → wht Q → biu M → gra TE

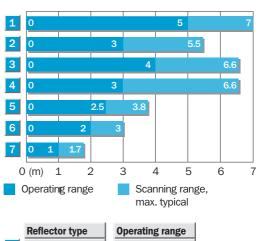
SENSICK CATALOGUE 752

Technical data		WL18-3	P130	P430	P630	P730	N130	N430	N630	N730	
Scanning range, max. typ./on reflector	7 m/PL80A			1	1	1	1				
Sensitivity	Adjustable, via Poti, 270°										
Light source ¹⁾ , light type	LED, visible red light										
Angle of dispersion	4°		_								
Light spot diameter	40 mm at 2 m										
Polarising filter	Yes										
Supply voltage V _S	10 30 V DC ²⁾										
Residual ripple ⁴⁾	< 5 V _{PP}										
Current consumption ⁵⁾	< 40 mA										
Output current I_{Δ} max.	< 100 mA										
Switching outputs	PNP, antivalent										
	NPN, antivalent						-				
Response time ⁵⁾	500 μs										
Switching frequency max. ⁶⁾	1000/s		_								
Test input »TE«	PNP: Sender off; TE to 0 V										
	NPN: Sender off; TE to V+										
Connection types	Cable ⁷), 2 m, 4 wire			1							
	M12 plug, 4-pin						_	-			
	Cubic plug, 6-pin					L				L	
	Cable, 2 m, 5 wire										
VDE protection class cable ⁸⁾											
Circuit protection ⁹⁾	A, B, C										
Enclosure rating	IP 67				i—						
	IP 65									<u> </u>	
Ambient temperature	Operation -40 °C +60 °	С									
•	Storage -40 °C +75 °	С									
Weight	With cable, 2 m, approx. 120	g		i — —				i			
	With M12 plug, approx. 40 g	0									
	With cubic plug, ca. 40 g									1	
Housing material	ABS					İ.					
¹⁾ Average service life 100,000 h at $T_A = +25 \text{ °C}$	 ³⁾ Must be within V_S tolerances ⁴⁾ Without load 				k ratio 1: below 0 °				V _S connected	ection reve	rse-polarity
2) Limit values. On exetien in chart size uit	5) Cignel transit times with registiv									about aireui	

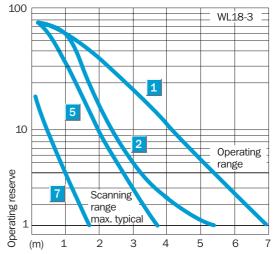
 $T_A = +25 °C$ Limit values; Operation in short-circuit 5) Signal transit time with resistive load ⁸⁾ Reference voltage 50 V DC

protected network max. 8 A

Scanning range



	Reflector type	Operating range
1	PL 80 A	0 5.0 m
2	C 110	0 3.0 m
3	PL 50 A	0 4.0 m
4	PL 40 A	0 3.0 m
5	PL 30 A	0 2.5 m
6	PL 20 A	0 2.0 m
7	Reflective tape	0 1.0 m
	Diamond Grade	



tected

B = Outputs short-circuit protected

C = Interference pulse suppression

Order information						
Туре	Order no.					
WL18-3P130	1025909					
WL18-3P430	1025911					
WL18-3P630	1025912					
WL18-3P730	1026029					
WL18-3N130	1025913					
WL18-3N430	1025915					
WL18-3N630	1025916					
WL18-3N730	1026030					

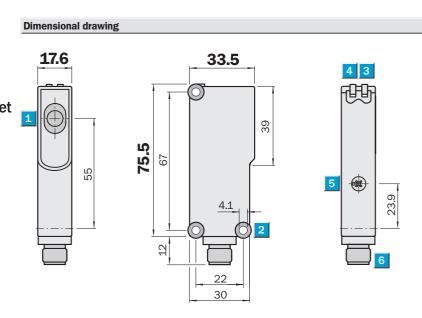
WL18-3 Photoelectric reflex switches, red light, without polarising filter



- Autocollimation option, valial
- Autocollimation optics; reliable target detection
- Insensitive to external light sources (HF lamps)
- Operation reliability with equipment facing each other
- Permissible ambient operating temperature –40 °C ... +60 °C
- Test input for system diagnosis (optional)

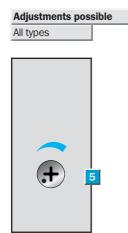


See chapter Accessories				
Connectors				
Reflectors				
Mounting systems				



1 2 3

> 4 5 6



Middle of optical axis
Mounting holes Ø 4.1 mm
Status indicator LED, yellow,
status of received light beam
Status indicator LED, green; power on
Sensitivity control; Poti 270°
Plug M12, 4-pin or cubic plug 6-pin

Connection types	
WL18-3P480	WL18-3P680
4-pin, M12	6-pin
→ bini 1 L+ → biki 4 Q → whit 2 Q biu 3 M	$\begin{array}{c} 1 \\ 4 \\ 7 \\ 7 \\ 7 \\ 7 \\ 7 \\ 7 \\ 7 \\ 7 \\ 7$

754 SENSICK CATALOGUE

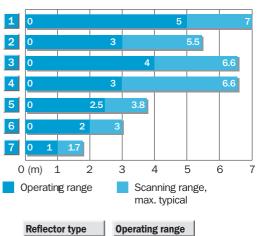
Technical data		WL18-3	P480	P680							
•	7 (DI 004										
Scanning range, max. typ./on reflector	7 m/PL80A				-	 					
Sensitivity	Adjustable, via Poti, 270°		_								
Light source ¹⁾ , light type	LED, visible red light				ļ	 					
Angle of dispersion	1,8°										
Light spot diameter	40 mm at 2 m										
Polarising filter	No										
Supply voltage V _S	10 30 V DC ²⁾										
Residual ripple 4)	$< 5 V_{PP}$										
Current consumption ⁵⁾	< 40 mA										
Output current I _A max.	< 100 mA										
Switching outputs	PNP, antivalent										
Response time ⁵⁾	500 μs										
Switching frequency max. ⁶⁾	1000/s										
Test input »TE«	PNP: Sender off; TE to 0 V										
Connection types	M12 plug, 4-pin										
	Cubic plug, 6-pin										
VDE protection class cable ⁷⁾					1						
Circuit protection ⁸⁾	A, B, C										
Enclosure rating	IP 67			i							
	IP 65										
Ambient temperature	Operation -40 °C +60 °	°C			i						
	Storage -40 °C +75 °	C									
Weight	With M12 plug, approx. 40 g										
	With cubic plug, ca. 40 g				<u> </u>						
Housing material	ABS										
¹⁾ Average service life 100,000 h at	$^{3)}$ Must be within V _S tolerances		6) With		k ratio 1:		9) A =	V _S conne	ection rev	erse-pola	arity pro-

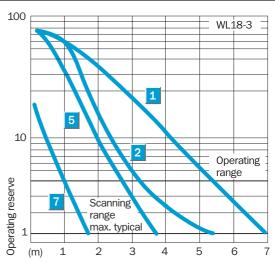
 $T_A = +25$ °C Limit values; Operation in short-circuit protected network max. 8 A 2)

- 4) Without load
 5) Signal transit time with resistive load
- 7) Do not bend below 0 °C
 8) Reference voltage 50 V DC

- tected B = Outputs short-circuit protected C = Interference pulse suppression

Scanning range

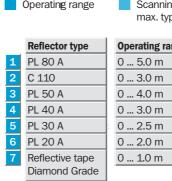




Order information

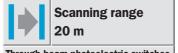
Туре	Order no.
WL18-3P480	1025917
WL18-3P680	1025918

L



	0 5.0 m
	0 3.0 m
	0 4.0 m
	0 3.0 m
	0 2.5 m
	0 2.0 m
е	0 1.0 m
de	

WS/WE18-3 Through-beam photoelectric switches, red light



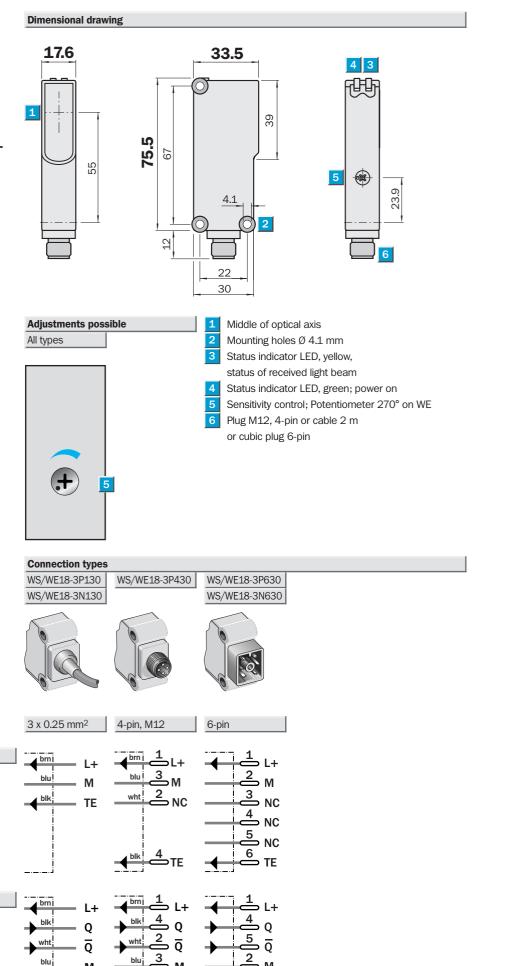
Through-beam photoelectric switches

- Insensitive to external light sources (HF lamps)
- Permissible ambient operating temperature -40 °C ... +60 °C
- Test input; for device diagnosis
- Rugged plastic housing



Sender

Receiver



М

3 NC

Μ

Μ

See chapter Accessories

Connectors

Mounting systems

WS/WE18-3

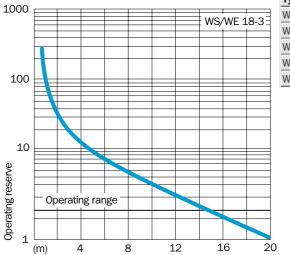
Technical data	WS/WE18	3-3 F	P130	P430	P630	N130	N630					
Scanning range, max. typ.	0 20 m	T		4				i				
Sensitivity	Adjustable, via Poti, 270°	7										
Light source 1), light type	LED, visible red light											
Light spot diameter	450 mm at 15 m											
Angle of dispersion	Approx. 1,5°											
Angle of reception	Approx. 2°											
Supply voltage V _S	10 30 V DC ²⁾											
Residual ripple ⁴)	$< 5 V_{PP}$											
Current consumption ⁴)	Sender < 45 mA											
	Receiver $<$ 35 mA											
Output current I _A max.	< 100 mA	/						l				
Switching outputs	PNP, antivalent											
	NPN, antivalent											
Response time ⁵⁾	500 μs				4							
Switching frequency max. ⁶⁾	1000/s				Á r s	i na		İ				
Test input »TE« Sender off	TE to 0 V (WS)				Á r s	i na		İ				
Connection types	Cable ⁷), 2 m, 4 wire	1		í The second sec			i —					
	M12 plug, 4-pin				4							
	Cubic plug, 6-pin				1	([
VDE protection class cable ⁸⁾		1				i and						
Circuit protection ⁹⁾	A, B, C	1			i and							
Enclosure rating	IP 67	1			í —		1					
	IP 65		_		1			[
Ambient temperature	Operation -40 °C +60 °C											
	Storage -40 °C +75 °C	7										
Weight	With cable, 2 m, approx. 120 g	7										
Weight	With M12 plug, approx. 40 g			-			<u> </u>					
	With cubic plug, ca. 40 g				4			1				
Usuaing motorial	ABS											
Housing material	ABS											
¹⁾ Average service life 100,000 h at $T_{A} = +25 \ ^{\circ}\text{C}$	 ³⁾ Must be within V_S tolerances ⁴⁾ Without load 	6) 7)			rk ratio 1:: below 0 °			9) A =	= V _S conn tected	ection rev	erse-pola	rity pro-

 $T_A = +25$ °C Limit values; Operation in short-circuit protected network max. 8 A 2)

Scanning range and operating reserve

- 4) Without load
 5) Signal transit time with resistive load
- 7) Do not bend below 0 °C
- ⁸⁾ Reference voltage 50 V DC
- tected
- B =Outputs short-circuit protected C =Interference pulse suppression

0 (m) 4 8 12 16 20 Operating range Scanning range, max. typical



Order information							
Туре	Order no.						
WS/WE18-3P130	1025922						
WS/WE18-3P430	1025923						
WS/WE18-3P630	1025924						
WS/WE18-3N130	1025925						
WS/WE18-3N630	1025926						