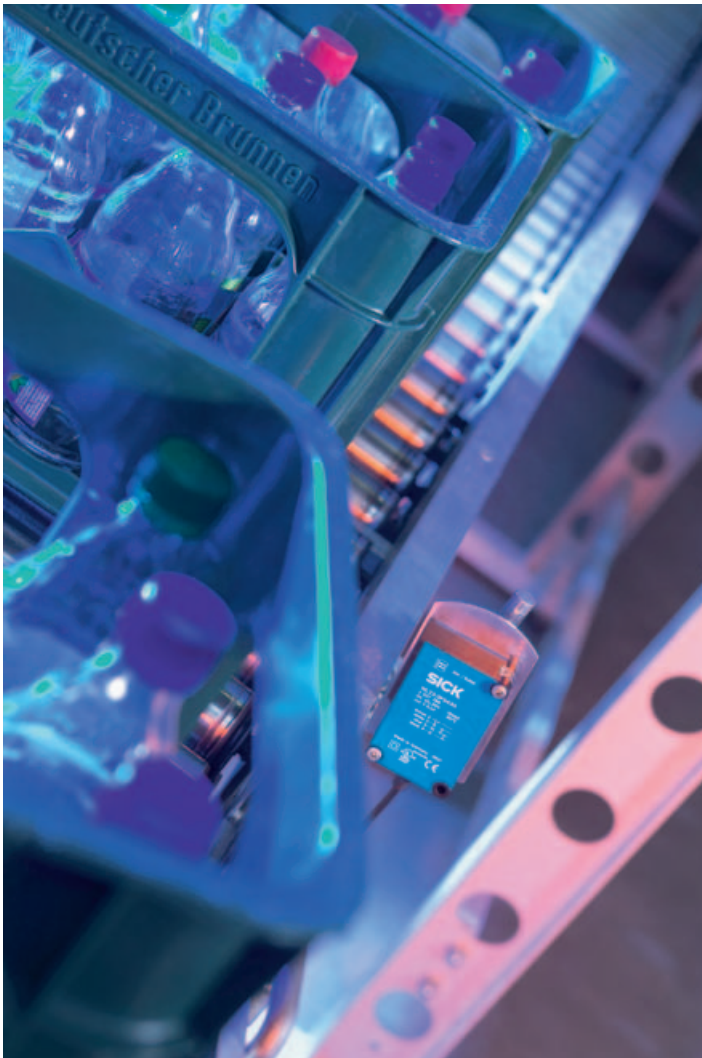




► WL23-2 photoelectric reflex switch reliably detects pallets while directing its visible red light on the reflector.




▼ WL23-2 photoelectric reflex switch detects very variable material to be conveyed, e.g. beverage boxes.



▼ Easy-Teach-in: Put energetic photoelectric proximity switch WTE23-2 quick and easily into function. Align on object, press Teach-in button 4 s, ready.

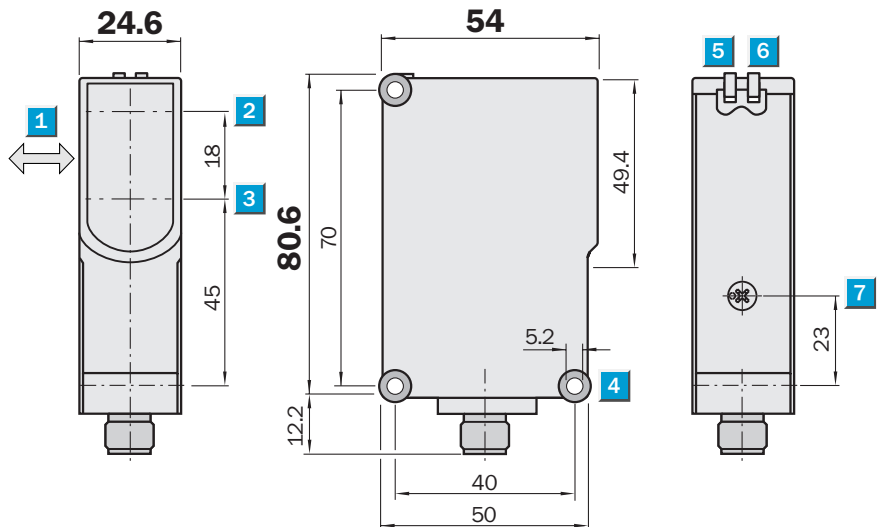


# Photoelectric proximity switch, WT23-2, red light, BGB - DC


**Scanning distance**  
 50 ... 800 mm  
**Photoelectric proximity switch**

- Background blanking
- Red light, easier alignment
- 360° visibility on indicator LEDs, for faster monitoring

## Dimensional drawing



## Adjustments possible

WT23-2P2441  
 WT23-2P3441

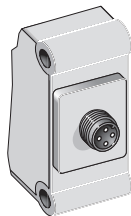


- 1 Standard direction of the material being scanned
- 2 Optical axis sender
- 3 Optical axis receiver
- 4 Mounting hole  $\varnothing$  5.2 mm
- 5 LED indicator green; power on
- 6 LED indicator yellow; status of received light beam
- 7 Scanning distance adjustment: Poti

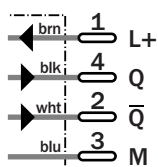


## Connection type

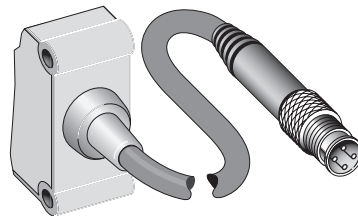
WT23-2P2441



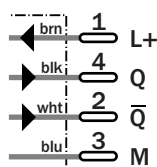
M12, 4-pin



WT23-2P3441



M12, 4-pin



## See chapter Accessories

- Connector, M12, 4-pin
- Mounting systems
- Weather protection

Technical data		WT23-2	P2441	P3441								
<b>Scanning distance typ. max.</b>	50 ... 800 mm <sup>1)</sup>											
<b>Operating distance</b>	100 ... 800 mm <sup>1)</sup>											
Adjustment of operating distance	Potentiometer											
<b>Light source, light type</b>	LED, Red light, 660 nm <sup>2)</sup>											
Light spot diameter	Approx. 30 mm at 800 mm distance											
<b>Supply voltage V<sub>s</sub></b>	10 ... 30 V DC <sup>3)</sup>											
Ripple	≤ 5 V <sub>pp</sub> <sup>4)</sup>											
Power consumption	≤ 30 mA <sup>5)</sup>											
<b>Switching outputs</b>	PNP antivalent											
Signal voltage PNP HIGH / LOW	> V <sub>s</sub> - 2.5 V / approx. 0 V											
Output current I <sub>a</sub> max	≤ 100 mA											
Response time	≤ 2.5 ms <sup>6)</sup>											
Switching frequency	200 Hz <sup>7)</sup>											
<b>Connection type</b>	Connector, M12, 4-pin											
	Cable with plug, M12, 4-pin, PVC, 270 mm <sup>8)</sup>											
<b>VDE protection class</b>	□ <sup>9)</sup>											
<b>Circuit protection</b>	V <sub>s</sub> connections reverse-polarity protected / All outputs short-circuit protected / Interference suppression											
<b>Enclosure rating</b>	IP 65											
<b>Ambient temperature operation</b>	-25 °C ... +60 °C											
<b>Ambient temperature storage</b>	-40 °C ... +70 °C											
<b>Weight</b>	Approx. 100 g											
	Approx. 120 g											
<b>Housing material</b>	ABS, PMMA											

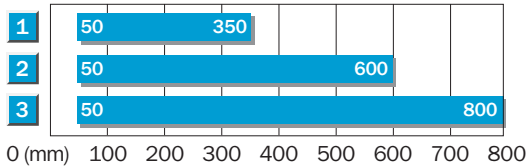
<sup>1)</sup> Object with 90% remission (based on standard white to DIN 5033)  
<sup>2)</sup> Average service life 100,000 h

at T<sub>a</sub> = +25 °C  
<sup>3)</sup> Limit values, operation in short-circuit protected network max. 8 A

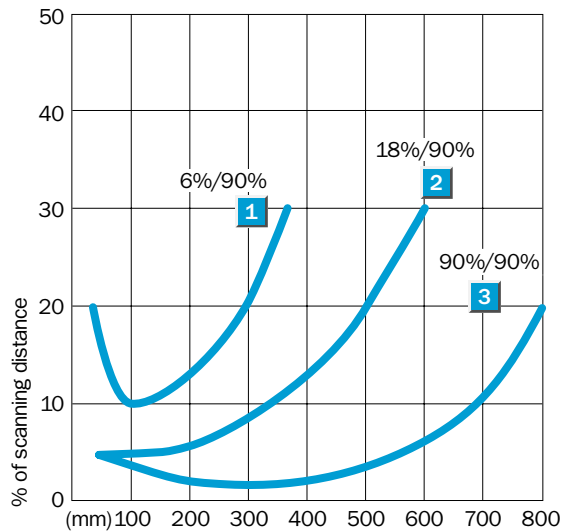
<sup>4)</sup> may not exceed or fall short of V<sub>s</sub> tolerances  
<sup>5)</sup> without load

<sup>6)</sup> Signal transit time with resistive load  
<sup>7)</sup> with light/dark ratio 1:1  
<sup>8)</sup> do not bend below 0 °C  
<sup>9)</sup> Reference voltage 50 V DC

**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**

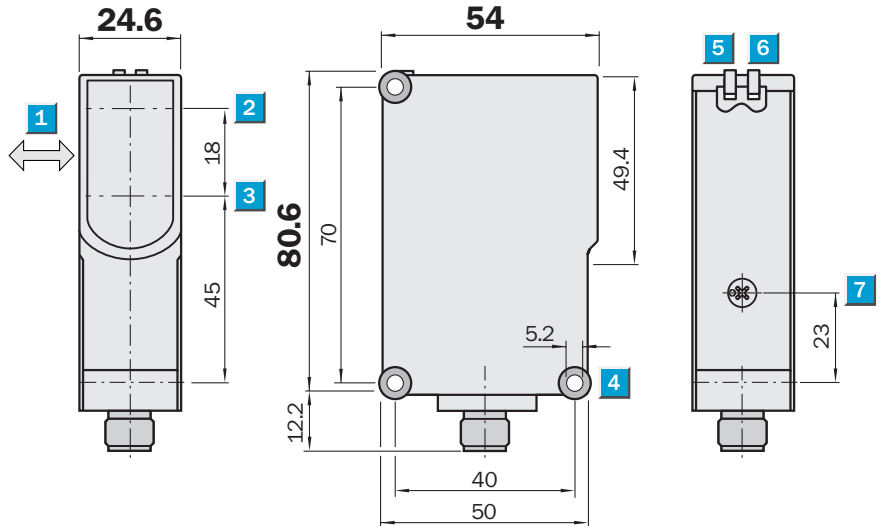
Type	Order no.
WT23-2P2441	1 027 779
WT23-2P3441	1 028 066

 **Scanning distance**  
50 ... 1,000 mm

Photoelectric proximity switch

- Infrared light, long scanning distance
- Background blanking
- Flexible: 24 V DC or 240 V AC
- 360° visibility on indicator LEDs, for faster monitoring

Dimensional drawing



Adjustments possible

- WT23-2N2421
- WT23-2P2421
- WT23-2S1521

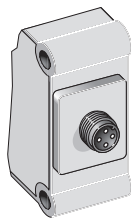
- 1 Standard direction of the material being scanned
- 2 Optical axis sender
- 3 Optical axis receiver
- 4 Mounting hole  $\varnothing$  5.2 mm
- 5 LED indicator green; power on
- 6 LED indicator yellow; status of received light beam
- 7 Scanning distance adjustment: Poti



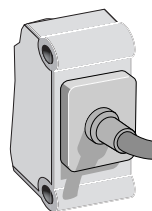
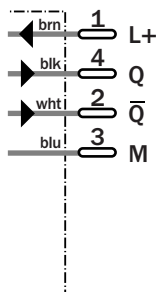
Connection type

- WT23-2N2421
- WT23-2P2421

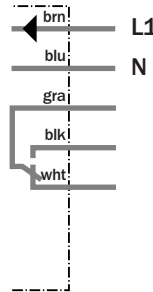
WT23-2S1521



M12, 4-pin



5 x 0.25 mm<sup>2</sup>



See chapter Accessories\*

- Connector, M12, 4-pin
- Mounting systems
- Weather protection

\*Recommendation for connectors



Technical data		WT23-2	N2421	P2421	S1521							
Scanning distance typ. max.	50 ... 1,000 mm <sup>1)</sup>											
Operating distance	100 ... 1,000 mm <sup>1)</sup>											
Adjustment of operating distance	Potentiometer											
Light source, light type	LED, Infrared light, 880 nm <sup>2)</sup>											
Light spot diameter	Approx. 50 mm at 800 mm distance											
Supply voltage V <sub>s</sub>	10 ... 30 V DC <sup>3)</sup>											
	90 ... 265 V AC <sup>4)</sup>											
Ripple	≤ 5 V <sub>pp</sub> <sup>5)</sup>											
Power consumption	≤ 35 mA <sup>6)</sup>											
Switching outputs	NPN antivalent											
	PNP antivalent											
	Relay 1 x c/o, electrically isolated <sup>7)</sup>											
Switching mode	Light-switching											
Signal voltage PNP HIGH / LOW	> V <sub>s</sub> - 2.5 V / approx. 0 V											
Signal voltage NPN HIGH / LOW	Approx. V <sub>s</sub> / < 2.5 V											
Output current I <sub>a</sub> max	≤ 100 mA											
Power consumption	≤ 2.5 VA											
Max. switching voltage	250 V AC / 250 V DC (max. 0.11A)											
Switching current max.	3 A @ 250 V AC or 24 V DC <sup>8)</sup>											
Max. switching power	750 W AC / 72 W DC											
Response time	≤ 2.5 ms <sup>9)</sup>											
	≤ 10 ms											
Switching frequency	200 Hz <sup>10)</sup>											
	10 Hz <sup>10)</sup>											
Connection type	Connector, M12, 4-pin											
	Cable, PVC, 2 m <sup>11)</sup>											
VDE protection class	□ <sup>12)</sup>											
	□ <sup>13)</sup>											
Circuit protection	V <sub>s</sub> connections reverse-polarity protected / All outputs short-circuit protected / Interference suppression											
	V <sub>s</sub> connections reverse-polarity protected / Interference suppression											
Enclosure rating	IP 65											
Ambient temperature operation	-25 °C ... +60 °C											
	-25 °C ... +60 °C <sup>14)</sup>											
Ambient temperature storage	-40 °C ... +70 °C											
Weight	Approx. 100 g											
	Approx. 200 g											
Housing material	ABS, PMMA											

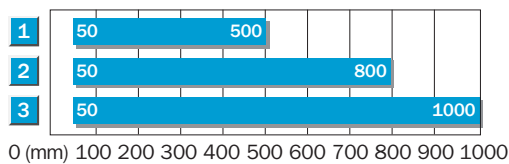
<sup>1)</sup> Object with 90% remission (based on standard white to DIN 5033)  
<sup>2)</sup> Average service life 100,000 h at T<sub>a</sub> = +25°C  
<sup>3)</sup> Limit values, operation in short-circuit

protected network max. 8 A  
<sup>4)</sup> Limit values  
<sup>5)</sup> may not exceed or fall short of V<sub>s</sub> tolerances  
<sup>6)</sup> without load

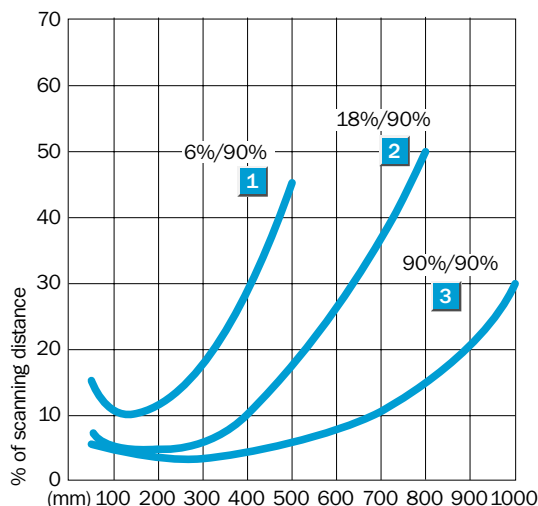
<sup>7)</sup> Provide suitable spark suppression for inductive or capacitive loads  
<sup>8)</sup> Usage category to EN 60947-1, AC-15, DC-13  
<sup>9)</sup> Signal transit time with resistive load

<sup>10)</sup> with light/dark ratio 1:1  
<sup>11)</sup> do not bend below 0 °C  
<sup>12)</sup> Reference voltage 50 V DC  
<sup>13)</sup> Reference voltage 250 V AC  
<sup>14)</sup> UL: 0°C ... +60°C

**Scanning distance**




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



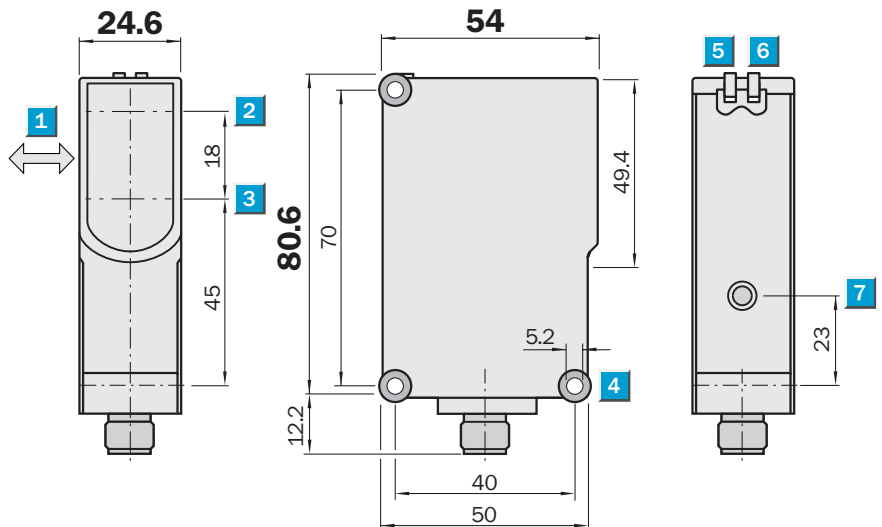
**Order information**

Type	Order no.
WT23-2N2421	1 028 073
WT23-2P2421	1 027 778
WT23-2S1521	1 027 780


**Scanning distance**  
 50 ... 2,300 mm  
**Photoelectric proximity switch**

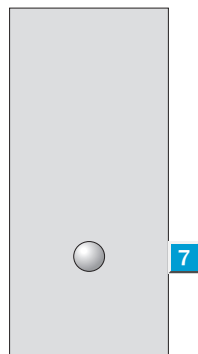
- Easy Teach-in, ready to operate in less time
- Infrared light, long scanning distance
- 360° visibility on indicator LEDs, for faster monitoring

**Dimensional drawing**



**Adjustments possible**

WTE23-2N2412  
WTE23-2P2412

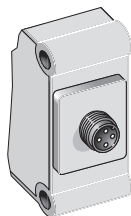


- 1** Standard direction of the material being scanned
- 2** Optical axis sender
- 3** Optical axis receiver
- 4** Mounting hole  $\varnothing$  5.2 mm
- 5** LED indicator green; power on
- 6** LED indicator yellow; status of received light beam
- 7** Scanning distance adjustment: single teach button

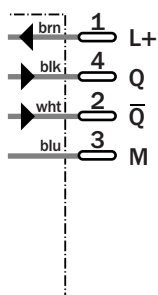


**Connection type**

WTE23-2N2412  
WTE23-2P2412



M12, 4-pin



**See chapter Accessories**  
 Connector, M12, 4-pin  
 Mounting systems  
 Weather protection





Technical data		WTE23-2	N2412	P2412								
Scanning distance typ. max.	50 ... 2,300 mm <sup>1)</sup>											
Operating distance	300 ... 2,000 mm <sup>1)</sup>											
Adjustment of operating distance	Teach-in: single teach button											
Light source, light type	LED, Infrared light, 880 nm <sup>2)</sup>											
Light spot diameter	Approx. 160 mm at 2000 mm distance											
Supply voltage $V_s$	10 ... 30 V DC <sup>3)</sup>											
Ripple	$\leq 5 V_{pp}$ <sup>4)</sup>											
Power consumption	$\leq 35 \text{ mA}$ <sup>5)</sup>											
Switching outputs	NPN antivalent											
	PNP antivalent											
Signal voltage PNP HIGH / LOW	$> V_s - 2.5 \text{ V}$ / approx. 0 V											
Signal voltage NPN HIGH / LOW	Approx. $V_s / < 2.5 \text{ V}$											
Output current $I_a$ max	$\leq 100 \text{ mA}$											
Response time	$\leq 2.5 \text{ ms}$ <sup>6)</sup>											
Switching frequency	200 Hz <sup>7)</sup>											
Connection type	Connector, M12, 4-pin											
VDE protection class	$\square$ <sup>8)</sup>											
Circuit protection	$V_s$ connections reverse-polarity protected / All outputs short-circuit protected / Interference suppression											
Enclosure rating	IP 65											
Ambient temperature operation	-25 °C ... +60 °C											
Ambient temperature storage	-40 °C ... +70 °C											
Weight	Approx. 100 g											
Housing material	ABS, PMMA											

<sup>1)</sup> Object with 90% remission (based on standard white to DIN 5033)

<sup>2)</sup> Average service life 100,000 h

at  $T_a = +25^\circ\text{C}$

<sup>3)</sup> Limit values, operation in short-circuit protected network max. 8 A

<sup>4)</sup> may not exceed or fall short of  $V_s$  tolerances

<sup>5)</sup> without load

<sup>6)</sup> Signal transit time with resistive load

<sup>7)</sup> with light/dark ratio 1:1

<sup>8)</sup> Reference voltage 50 V DC

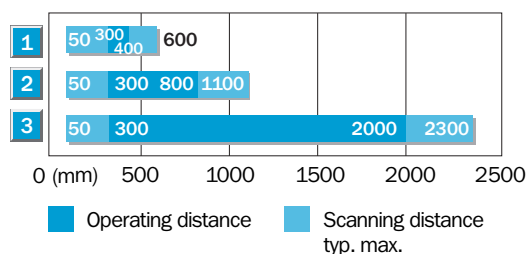
### Teach-in function

Programming via Teach-in button.

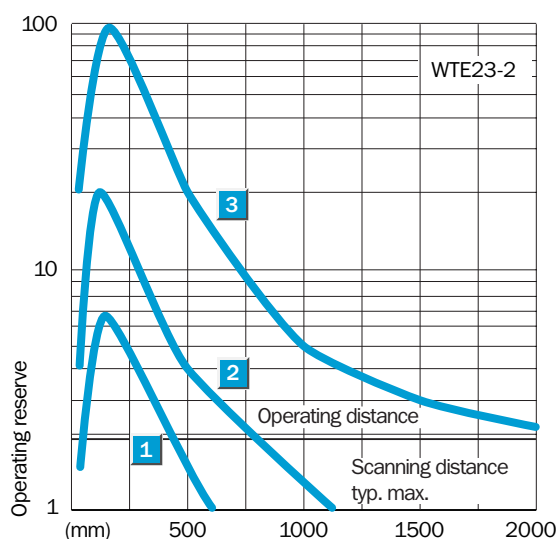
Position object in the light beam and push the teach-in button (< 4s), (approx. double reserve over switching threshold); adjustment is completed.

Yellow LED light and Teach-in value is stored.

### Scanning distance



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




### Order information

Type	Order no.
WTE23-2N2412	1 027 782
WTE23-2P2412	1 027 781

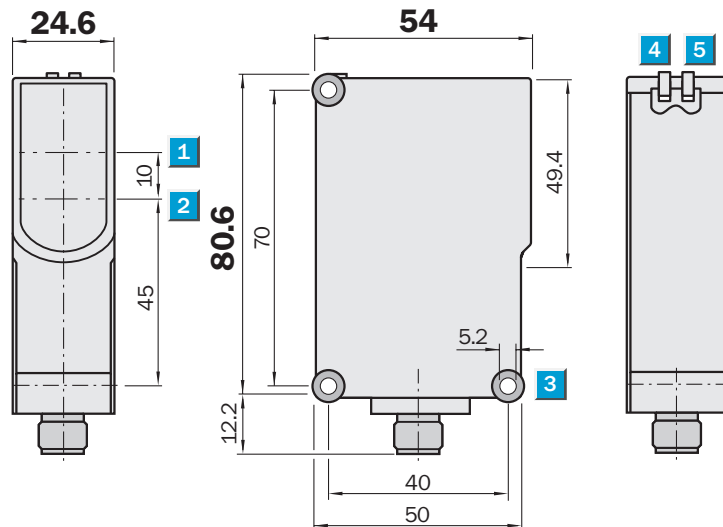


# Photoelectric reflex switch, WL23-2, red light - DC


**Scanning range**  
**0.1 ... 10 m**  
**Photoelectric reflex switch**

- "Plug & Play", ready to operate in less time
- Excellent alignment to reflector
- Polarisation filter: safe detection even with shiny surfaces

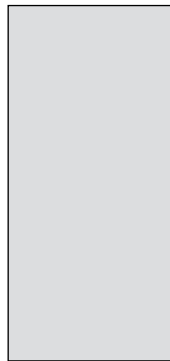
## Dimensional drawing



## Adjustments possible

- WL23-2N2430
- WL23-2P1130
- WL23-2P2430
- WL23-2P3430

- 1** Optical axis sender
- 2** Optical axis receiver
- 3** Mounting hole  $\varnothing$  5.2 mm
- 4** LED indicator green; power on
- 5** LED indicator yellow; status of received light beam

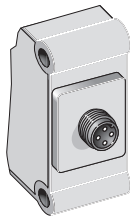


## Connection type

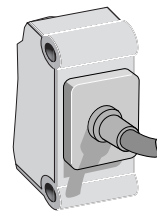
- WL23-2N2430
- WL23-2P2430

WL23-2P1130

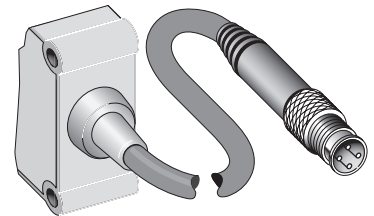
WL23-2P3430



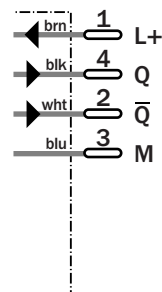
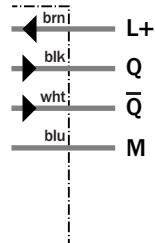
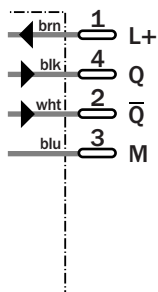
M12, 4-pin



4 x 0.25 mm<sup>2</sup>



M12, 4-pin



## See chapter Accessories

- Connector, M12, 4-pin
- Mounting systems
- Reflectors
- Weather protection

Technical data		WL23-2	N2430	P1130	P2430	P3430							
Scanning range typ. max.	0.1 ... 10 m												
Scanning range, recommended	0.3 ... 7 m												
Relating to	Reflector PL80 A												
Light source, light type	LED, Red light, 660 nm <sup>1)</sup>												
Light spot diameter	Approx. 45 mm at 2.7 m distance												
Angle of dispersion	Approx. 1.5 °												
Polarisation filter	✓												
Supply voltage V <sub>s</sub>	10 ... 30 V DC <sup>2)</sup>												
Ripple	≤ 5 V <sub>PP</sub> <sup>3)</sup>												
Power consumption	≤ 35 mA <sup>4)</sup>												
Switching outputs	NPN antivalent												
	PNP antivalent												
Signal voltage PNP HIGH / LOW	> V <sub>s</sub> - 2.5 V / approx. 0 V												
Signal voltage NPN HIGH / LOW	Approx. V <sub>s</sub> / < 2.5 V												
Output current I <sub>a</sub> max	≤ 100 mA												
Response time	≤ 2.5 ms <sup>5)</sup>												
Switching frequency	200 Hz <sup>6)</sup>												
Connection type	Connector, M12, 4-pin												
	Cable, PVC, 2 m <sup>7)</sup>												
	Cable with plug, M12, 4-pin, PVC, 270 mm <sup>7)</sup>												
VDE protection class	□ <sup>8)</sup>												
Circuit protection	V <sub>s</sub> connections reverse-polarity protected / All outputs short-circuit protected / Interference suppression												
Enclosure rating	IP 65												
Ambient temperature operation	-25 °C ... +60 °C												
Ambient temperature storage	-40 °C ... +70 °C												
Weight	Approx. 100 g												
	Approx. 180 g												
	Approx. 120 g												
Housing material	ABS, PMMA												

<sup>1)</sup> Average service life 100,000 h at T<sub>a</sub> = +25 °C

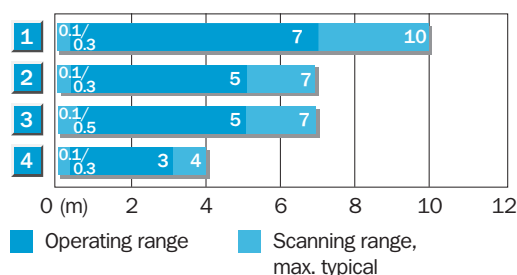
<sup>2)</sup> Limit values, operation in short-circuit

<sup>3)</sup> protected network max. 8 A may not exceed or fall short of

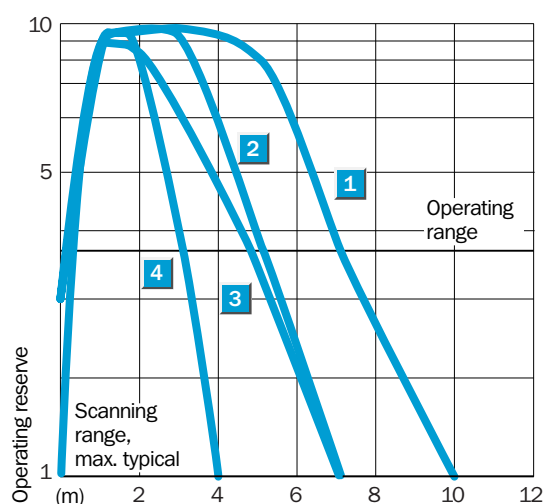
V<sub>s</sub> tolerances  
<sup>4)</sup> without load  
<sup>5)</sup> Signal transit time with resistive load

<sup>6)</sup> with light/dark ratio 1:1  
<sup>7)</sup> do not bend below 0 °C  
<sup>8)</sup> Reference voltage 50 V DC

**Scanning range and operating reserve**




Reflector type	Operating range
1 PL 80 A	0.3 ... 7.0 m
2 PL 40 A	0.3 ... 5.0 m
3 C 110	0.5 ... 5.0 m
4 PL 20 A	0.3 ... 3.0 m



Order information	
Type	Order no.
WL23-2N2430	1 027 787
WL23-2P1130	1 027 784
WL23-2P2430	1 027 785
WL23-2P3430	1 027 786

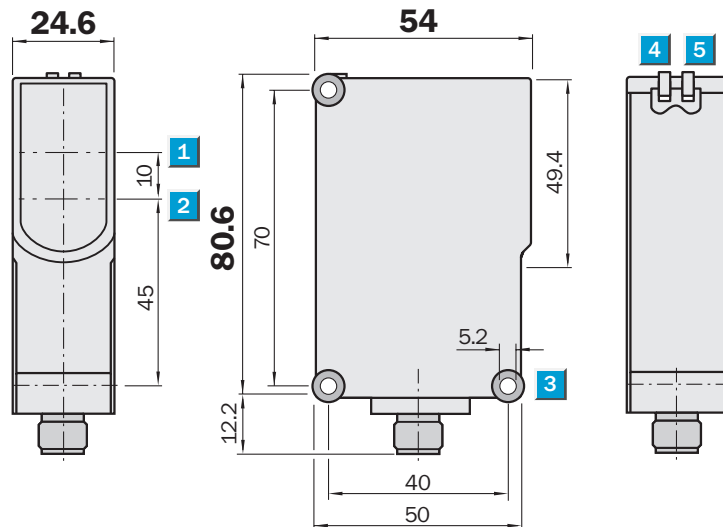
# Photoelectric reflex switch, WL23-2, red light - AC


**Scanning range**  
**0.1 ... 10 m**

Photoelectric reflex switch

- "Plug & Play": AC version (240 V)
- Excellent alignment to reflector
- Polarisation filter: safe detection even with shiny surfaces

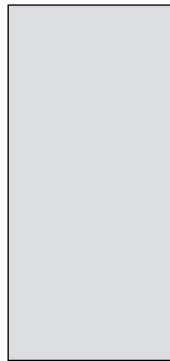
## Dimensional drawing



## Adjustments possible

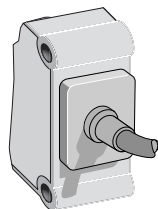
WL23-2S1530  
 WL23-2S3730

- 1** Optical axis sender
- 2** Optical axis receiver
- 3** Mounting hole  $\varnothing$  5.2 mm
- 4** LED indicator green; power on
- 5** LED indicator yellow; status of received light beam

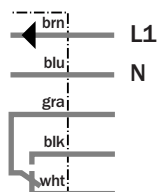


## Connection type

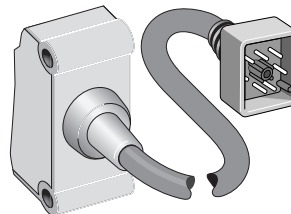
WL23-2S1530



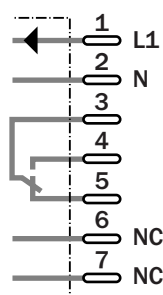
5 x 0.25 mm<sup>2</sup>



WL23-2S3730



Q7, 7-pin, AC/UC



### See chapter Accessories\*

- Connector, Q7, 7-pin, UC-coding
- Mounting systems
- Reflectors
- Weather protection

\*Recommendation for connectors

AWM Style 2464

Technical data		WL23-2	S1530	S3730									
Scanning range typ. max.	0.1 ... 10 m												
Scanning range, recommended	0.3 ... 7 m												
Relating to	Reflector PL80 A												
Light source, light type	LED, Red light, 660 nm <sup>1)</sup>												
Light spot diameter	Approx. 45 mm at 2.7 m distance												
Angle of dispersion	Approx. 1.5 °												
Polarisation filter	✓												
Supply voltage V <sub>s</sub>	AC 90 ... 265 V <sup>2)</sup>												
Switching outputs	Relay 1 x c/o, electrically isolated <sup>3)</sup>												
Switching mode	Light-switching												
Power consumption	≤ 2.5 VA												
Max. switching voltage	250 V AC / 250 V DC (max. 0.11A)												
Switching current max.	3 A @ 250 V AC or 24 V DC <sup>4)</sup>												
Max. switching power	750 W AC/ 72 W DC												
Response time	≤ 10 ms												
Switching frequency	10 Hz <sup>5)</sup>												
Connection type	Cable, PVC, 2 m <sup>6)</sup>												
	Cable with plug, Q7, 7-pin, AC/UC, PVC, 150 mm <sup>6)</sup>												
VDE protection class	□ <sup>7)</sup>												
Circuit protection	V <sub>s</sub> connections reverse-polarity protected / Interference suppression												
Enclosure rating	IP 65												
Ambient temperature operation	-25 °C ... +60 °C <sup>8)</sup>												
Ambient temperature storage	-40 °C ... +70 °C												
Weight	Approx. 200 g												
	Approx. 140 g												
Housing material	ABS, PMMA												

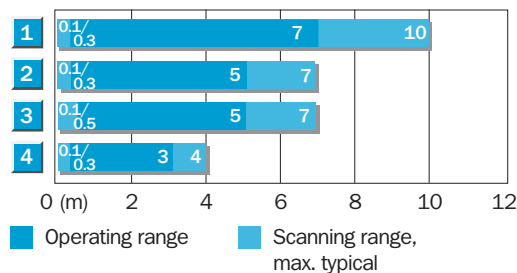
<sup>1)</sup> Average service life 100,000 h at T<sub>a</sub> = +25 °C  
<sup>2)</sup> Limit values

<sup>3)</sup> Provide suitable spark suppression for inductive or capacitive loads  
<sup>4)</sup> Usage category to EN 60947-1, AC-15,

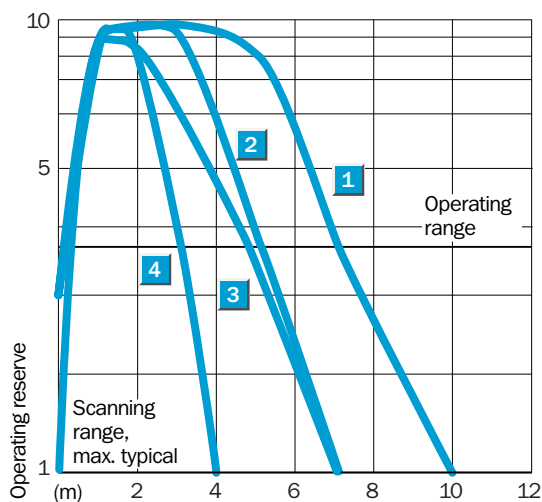
DC-13  
<sup>5)</sup> with light/dark ratio 1:1  
<sup>6)</sup> do not bend below 0 °C

<sup>7)</sup> Reference voltage 250 V AC  
<sup>8)</sup> UL: 0 °C ... +60 °C

**Scanning range and operating reserve**



Reflector type	Operating range
1 PL 80 A	0.3 ... 7.0 m
2 PL 40 A	0.3 ... 5.0 m
3 C 110	0.5 ... 5.0 m
4 PL 20 A	0.3 ... 3.0 m



Order information	
Type	Order no.
WL23-2S1530	1 027 788
WL23-2S3730	1 027 789