




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

W27-3: The all-rounder: robust, powerful, very wide range of applications



speed of set up: simply press the button and, within seconds, the sensor is adjusted to the object. The highly visible red light enormously simplifies the alignment of the photoelectric reflex switch to the reflector.

Optionally, the photoelectric proximity switch can be offered with the new, unique IO-Link fieldbus link.

Overview of W27-3:

- Robust, universal all-rounder,
- Greater security against unwanted optical reflections,
- Easy Teach-in, simple and fast commissioning,
- **IP69K in preparation,**
- ECOLAB certifies the material resistance to cleaning agents and disinfectants in common use in the food-processing sector.



Typical uses:

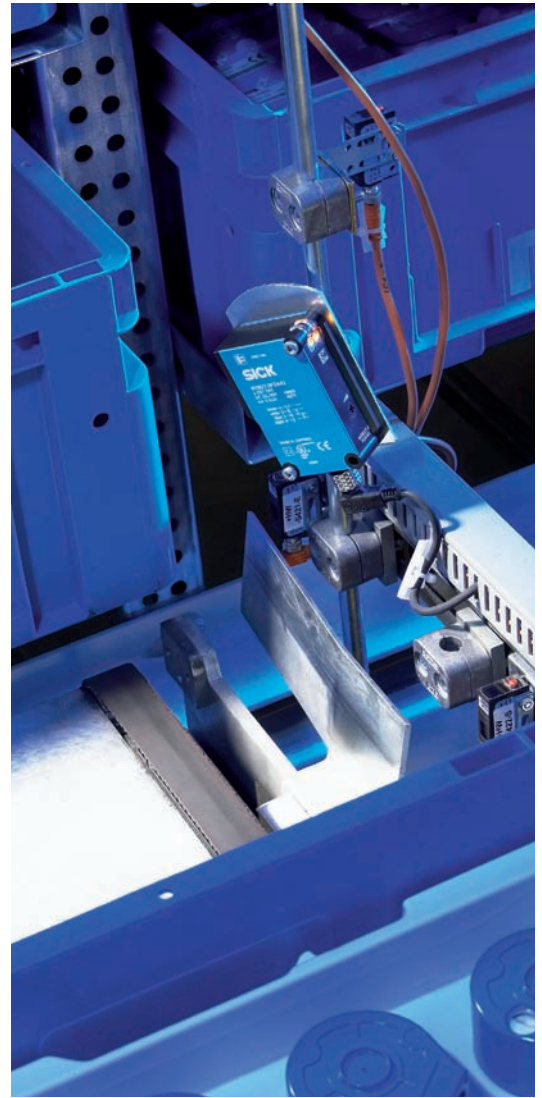
- Storage and conveying technology,
- Automotive industry,
- Woodworking machinery,
- Doors/gates.

The all-rounder W27-3 shows its particular strengths in harsh industrial environments, easily coping with heavy vibration, shocks and extreme temperature variations. Another benefit of the W27-3 is its very wide range of applications. A choice of variants offering functions including 24 VDC or 24 to 240 VAC, output time delays and front screen heating, permits simple integration into any control system.

Additionally, the full W27-3 product range with different laser sensors and devices for Ex areas according to category 3G/3D (ATEX) opens up new applications (see separate data sheets).

The photoelectric proximity switch leads its class through improved operational security in case of unwanted optical reflections and its

► The WTB27-3 photoelectric proximity switch controls the bay allocation to ensure that everything in the warehouse is in its right place.



▼ The WL27-3 photoelectric reflex switch reliably detects the pallet wrapped with foil.



▲ Easy Teach-in: Commissioning the WTB27-3 photoelectric proximity switch easily and quickly: align on the object, press both keys for 2 seconds, ready.

▲ The WL27-3 photoelectric reflex switch meets the demanding quality requirements in the automotive industry.

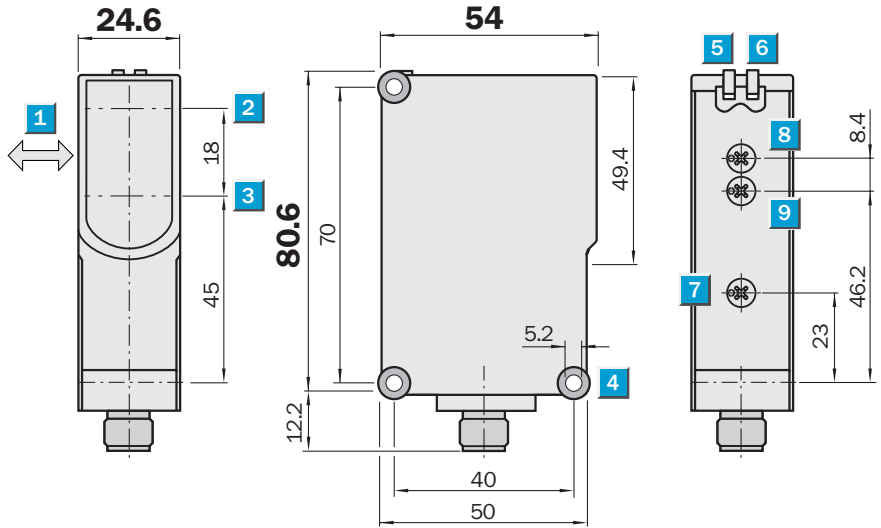
Scanning distance
30 ... 1,100 mm

Photoelectric proximity switch

- Precise background suppression without scanning distance drift
- Reliable in industrial environments; secure against the effects of ambient light, unwanted optical reflections, other sensors mounted adjacently and temperatures from -40 °C ... +60 °C
- Easy Teach-in, simple and fast commissioning

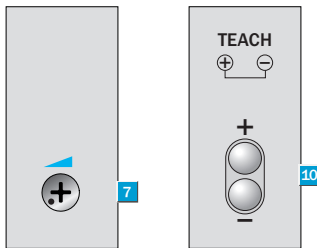


Dimensional drawing

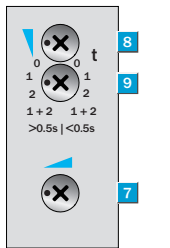


Adjustments possible

| | |
|--------------|--------------|
| WTB27-3P2441 | WTB27-3P2443 |
| WTB27-3P3741 | |



| |
|--------------|
| WTB27-3E2641 |
| WTB27-3F2641 |



- 1 Standard direction of the material being scanned
- 2 Optical axis sender
- 3 Optical axis receiver
- 4 Mounting hole Ø 5.2 mm
- 5 LED indicator green; power on
- 6 LED indicator yellow; status of received light beam
- 7 Adjustment of scanning distance: Poti
- 8 Time control
- 9 Time delay selector switch
- 10 Adjustment of scanning distance: double teach button

Switch-selectable time delay

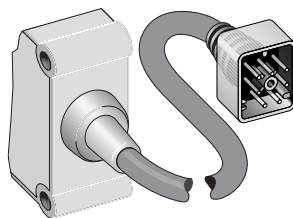
0.02 - 0.5s or 0.5 - 10s

- 0 Without time delay
- 1 Time delay from trailing edge of object
- 2 Time delay from leading edge of object
- 1 + 2 Time delay from trailing and leading edge of object

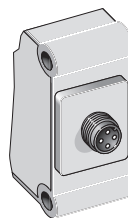


Connection type

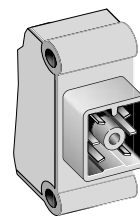
| | | |
|--------------|--------------|--------------|
| WTB27-3P3741 | WTB27-3P2441 | WTB27-3E2641 |
| | WTB27-3P2443 | WTB27-3F2641 |



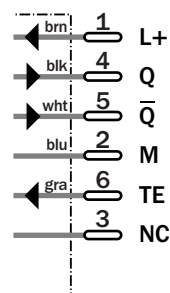
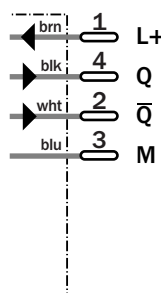
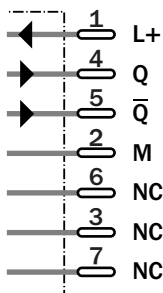
Q7, 7-pin, DC



M12, 4-pin



Q6, 6-pin, DC



See chapter Accessories

| |
|---------------------------------|
| Connector, M12, 4-pin |
| Connector, Q6, 6-pin, DC-coding |
| Connector, Q7, 7-pin, DC-coding |
| Mounting systems |
| Weather protection |

| Technical data | | WTB27-3 | E2641 | F2641 | P2441 | P2443 | P3741 | | | | | | |
|-----------------------------------|--|---------|-------|-------|-------|-------|-------|--|--|--|--|--|--|
| Scanning distance typ. max. | 30 ... 1,100 mm ¹⁾ | | | | | | | | | | | | |
| Operating distance | 100 ... 1,100 mm ¹⁾ | | | | | | | | | | | | |
| Adjustment of operating distance | Potentiometer | | | | | | | | | | | | |
| | Teach-in: double teach button | | | | | | | | | | | | |
| Light source, light type | LED, Red light, 660 nm ²⁾ | | | | | | | | | | | | |
| Light spot diameter | Approx. 15 mm at 500 mm distance | | | | | | | | | | | | |
| Supply voltage V _s | 10 ... 30 V DC ³⁾ | | | | | | | | | | | | |
| Ripple | ≤ 5 V _{pp} ⁴⁾ | | | | | | | | | | | | |
| Power consumption | ≤ 35 mA ⁵⁾ | | | | | | | | | | | | |
| Switching outputs | NPN antivalent | | | | | | | | | | | | |
| | PNP antivalent | | | | | | | | | | | | |
| Signal voltage PNP HIGH / LOW | > V _s - 2.5 V / approx. 0 V | | | | | | | | | | | | |
| Signal voltage NPN HIGH / LOW | Approx. V _s / < 2.5 V | | | | | | | | | | | | |
| Output current I _a max | 100 mA | | | | | | | | | | | | |
| Response time | ≤ 1.5 ms ⁶⁾ | | | | | | | | | | | | |
| Switching frequency | 350 Hz ⁷⁾ | | | | | | | | | | | | |
| Time delay | Selectable: 0.5 ... 10 s / 0.02 ... 0.5 s | | | | | | | | | | | | |
| Time type | OFF, T _{off} , T _{on} , T _{off} + T _{on} | | | | | | | | | | | | |
| Test input sender off | TE to V _s | | | | | | | | | | | | |
| | TE to 0 V | | | | | | | | | | | | |
| Connection type | Connector, Q6, 6-pin, DC | | | | | | | | | | | | |
| | Connector, M12, 4-pin | | | | | | | | | | | | |
| | Cable with plug, Q7, 7-pin, DC, PVC, 150 mm ⁸⁾ | | | | | | | | | | | | |
| VDE protection class | □ ⁹⁾ | | | | | | | | | | | | |
| Circuit protection | V _s connections reverse-polarity protected / All outputs short-circuit protected / Interference suppression | | | | | | | | | | | | |
| Enclosure rating | IP 65 | | | | | | | | | | | | |
| | IP 66, IP 67 | | | | | | | | | | | | |
| Ambient temperature operation | -40 °C ... +60 °C | | | | | | | | | | | | |
| Ambient temperature storage | -40 °C ... +75 °C | | | | | | | | | | | | |
| Weight | Approx. 100 g | | | | | | | | | | | | |
| | Approx. 120 g | | | | | | | | | | | | |
| Housing material | ABS, PMMA | | | | | | | | | | | | |

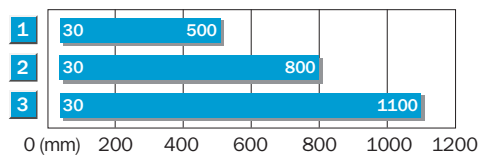
1) Object with 90 % remission (based on standard white to DIN 5033)
2) Average service life 100,000 h

at T_a = +25 °C
3) Limit values, operation in short-circuit protected network max. 8 A

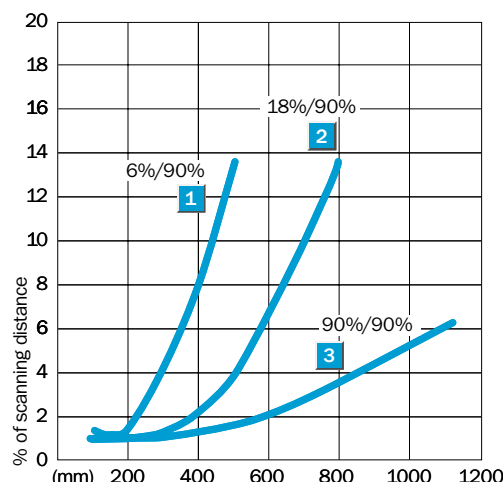
4) may not exceed or fall short of V_s tolerances
5) without load

6) Signal transit time with resistive load
7) with light/dark ratio 1:1
8) do not bend below 0 °C
9) 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. |
|--------------|-----------|
| WTB27-3E2641 | 1 027 747 |
| WTB27-3F2641 | 1 027 746 |
| WTB27-3P2441 | 1 027 744 |
| WTB27-3P2443 | 1 027 745 |
| WTB27-3P3741 | 1 027 748 |

Photoelectric proximity switch, WTB27-3, BGS, red light - UC

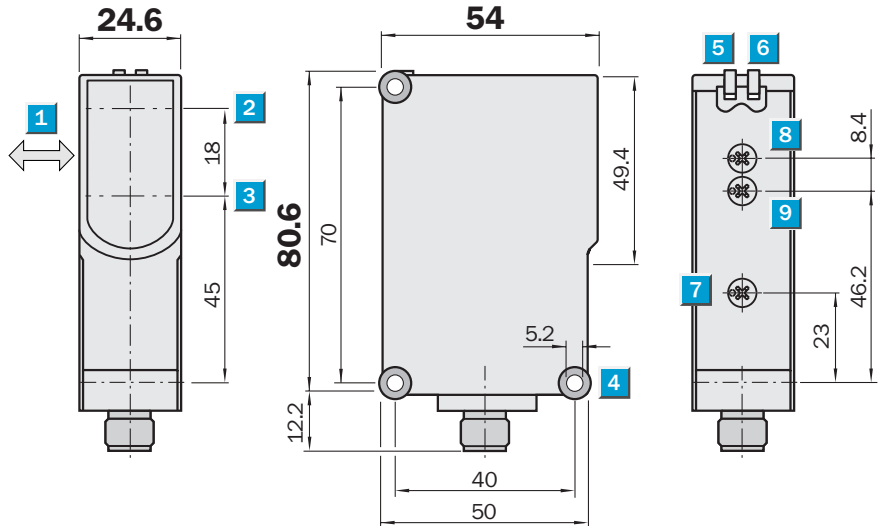
Scanning distance
30 ... 1,100 mm

Photoelectric proximity switch

- Universal supply voltage
- High-precision background suppression without scanning distance drift
- Reliable in industrial environments; secure against the effects of ambient light, unwanted optical reflections, other sensors mounted adjacently and temperatures from -40 °C ... +60 °C



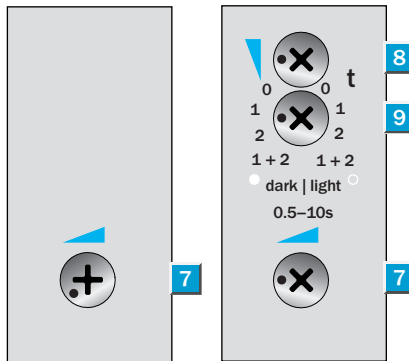
Dimensional drawing



Adjustments possible

WTB27-3S1541
WTB27-3S3741

WTB27-3R2641



- 1 Standard direction of the material being scanned
- 2 Optical axis sender
- 3 Optical axis receiver
- 4 Mounting hole Ø 5.2 mm
- 5 LED indicator green; power on
- 6 LED indicator yellow; status of received light beam
- 7 Adjustment of scanning distance: Poti
- 8 Time control
- 9 Time delay selector switch
- 0 Light-switching (L)
- Dark-switching (D)

Switch-selectable time delay

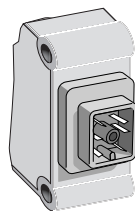
| D L | 0.5 - 10s |
|-------|---|
| 0 0 | Without time delay |
| 2 1 | Time delay from trailing edge of object |
| 1 2 | Time delay from leading edge of object |
| 1 + 2 | Time delay from trailing and leading edge of object |

Connection type

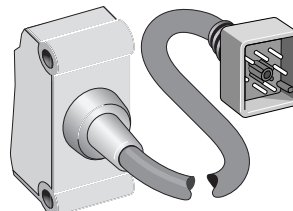
WTB27-3R2641

WTB27-3S3741

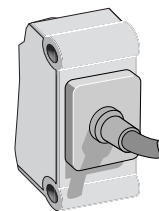
WTB27-3S1541



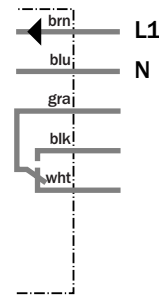
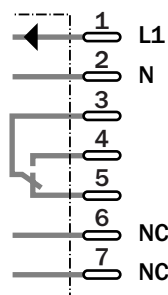
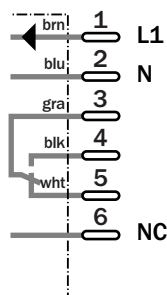
Q6, 6-pin, AC/UC



Q7, 7-pin, AC/UC



5 x 0.25 mm²



See chapter Accessories*

- Connector, Q6, 6-pin, UC-coding
- Connector, Q7, 7-pin, UC-coding
- Mounting systems
- Weather protection

* Recommendation for connectors:

AWM Style 2464

| Technical data | | WTB27-3 | R2641 | S1541 | S3741 | | | | | | | |
|----------------------------------|--|---------|-------|-------|-------|--|--|--|--|--|--|--|
| Scanning distance typ. max. | 30 ... 1,100 mm ¹⁾ | | | | | | | | | | | |
| Operating distance | 100 ... 1,100 mm ¹⁾ | | | | | | | | | | | |
| Adjustment of operating distance | Potentiometer | | | | | | | | | | | |
| Light source, light type | LED, Red light, 660 nm ²⁾ | | | | | | | | | | | |
| Light spot diameter | Approx. 15 mm at 500 mm distance | | | | | | | | | | | |
| Supply voltage V _s | 24 ... 240 V UC ³⁾ | | | | | | | | | | | |
| Switching outputs | Relay 1 x c/o, electrically isolated ⁴⁾ | | | | | | | | | | | |
| | Relay 1 x c/o, electrically isolated ⁵⁾ | | | | | | | | | | | |
| Switching mode | Light-/dark-switching, switchable | | | | | | | | | | | |
| | Light-switching | | | | | | | | | | | |
| Power consumption | ≤ 2.5 VA | | | | | | | | | | | |
| Max. switching voltage | 250 V AC / 250 V DC (max. 0.11 A) | | | | | | | | | | | |
| Switching current max. | 3 A @ 250 V AC o. 24 V DC ⁶⁾ | | | | | | | | | | | |
| Max. switching power | 750 W AC / 72 W DC | | | | | | | | | | | |
| Response time | ≤ 10 ms | | | | | | | | | | | |
| Switching frequency | 10 Hz ⁷⁾ | | | | | | | | | | | |
| Time delay | Selectable: 0.5 ... 10 s | | | | | | | | | | | |
| Time type | OFF, T _{off} , T _{on} , T _{off} + T _{on} | | | | | | | | | | | |
| Connection type | Connector, Q6, 6-pin, AC/UC | | | | | | | | | | | |
| | Cable, PVC, 2 m ⁸⁾ | | | | | | | | | | | |
| | Cable with plug, Q7, 7-pin, AC/UC, PVC, 150 mm ⁸⁾ | | | | | | | | | | | |
| VDE protection class | □ ⁹⁾ | | | | | | | | | | | |
| Circuit protection | V _s connections reverse-polarity protected / Interference suppression | | | | | | | | | | | |
| Enclosure rating | IP 65 | | | | | | | | | | | |
| | IP 66, IP 67 | | | | | | | | | | | |
| Ambient temperature operation | -40 °C ... +60 °C ¹⁰⁾ | | | | | | | | | | | |
| Ambient temperature storage | -40 °C ... +75 °C | | | | | | | | | | | |
| Weight | Ca. 120 g | | | | | | | | | | | |
| | Approx. 200 g | | | | | | | | | | | |
| | Approx. 140 g | | | | | | | | | | | |
| Housing material | ABS, PMMA | | | | | | | | | | | |

¹⁾ Object with 90 % remission (based on standard white to DIN 5033)

²⁾ Average service life 100,000 h at T_a = +25 °C

³⁾ ± 10 %

⁴⁾ Provide suitable spark suppression for inductive or capacitive loads. Relay contacts are separated from the power supply by a basic isolation of 3 mm. Depending on the application, additional

isolation might have to be applied in the user's circuit

⁵⁾ Provide suitable spark suppression for inductive or capacitive loads

⁶⁾ Usage category to EN 60947-1,

AC-15, DC-13

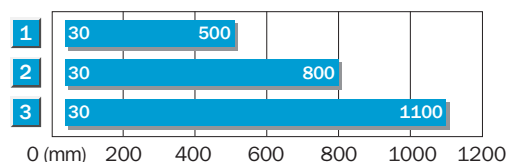
⁷⁾ with light/dark ratio 1:1

⁸⁾ do not bend below 0 °C

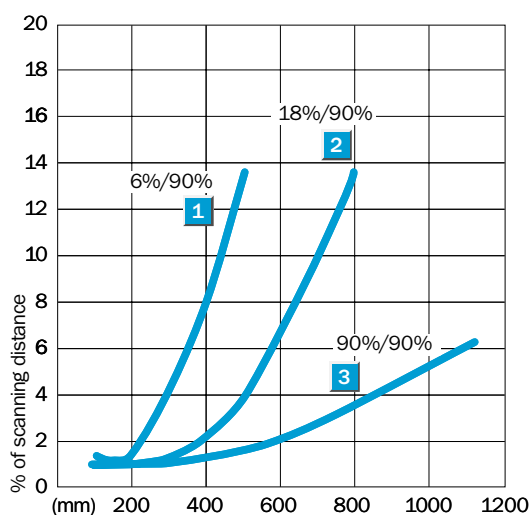
⁹⁾ Reference voltage 250 V AC

¹⁰⁾ 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. |
|--------------|-----------|
| WTB27-3R2641 | 1 027 750 |
| WTB27-3S1541 | 1 027 749 |
| WTB27-3S3741 | 1 027 751 |

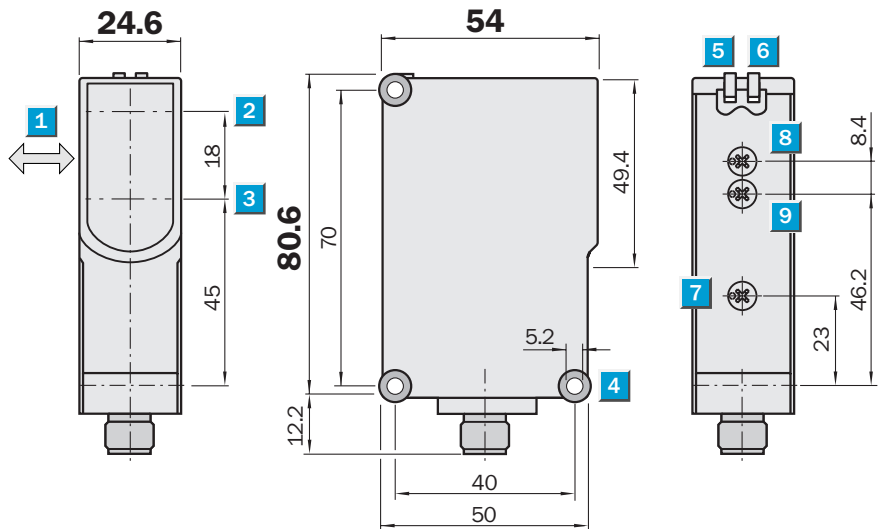
Scanning distance
30 ... 1,600 mm

Photoelectric proximity switch

- Infrared light, very long scanning distance
- Reliable in industrial environments; secure against the effects of ambient light, unwanted optical reflections, other sensors mounted adjacently and temperatures from -40 °C ... +60 °C
- Time delays, test input, front screen heating

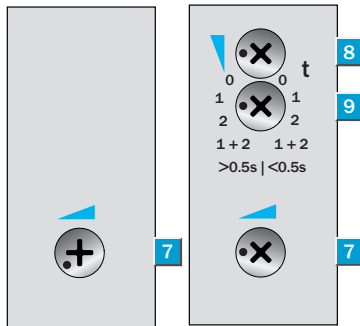


Dimensional drawing



Adjustments possible

| | |
|--------------|--------------|
| WTB27-3P1111 | WTB27-3E2411 |
| WTB27-3P2411 | WTB27-3E2611 |
| WTB27-3P2421 | WTB27-3F2411 |
| WTB27-3P3711 | WTB27-3F2611 |



- Standard direction of the material being scanned
- Optical axis sender
- Optical axis receiver
- Mounting hole \varnothing 5.2 mm
- LED indicator green; power on
- LED indicator yellow; status of received light beam
- Adjustment of scanning distance: Poti
- Time control
- Time delay selector switch

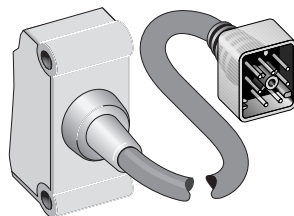
Switch-selectable time delay

0.02 - 0.5s or 0.5 - 10s

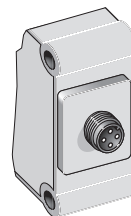
- 0 Without time delay
- 1 Time delay from trailing edge of object
- 2 Time delay from leading edge of object
- 1 + 2 Time delay from trailing and leading edge of object

Connection type

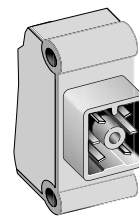
| | | | |
|--------------|--------------|--------------|--------------|
| WTB27-3P3711 | WTB27-3E2411 | WTB27-3E2611 | WTB27-3P1111 |
| | WTB27-3F2411 | WTB27-3F2611 | |
| | WTB27-3P2411 | | |
| | WTB27-3P2421 | | |



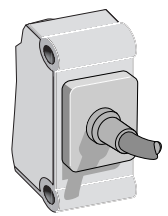
Q7, 7-pin, DC



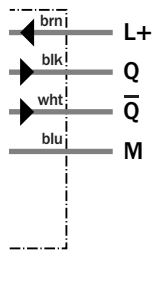
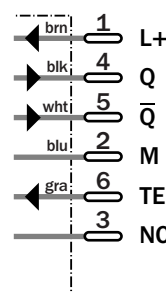
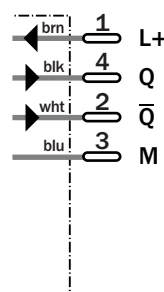
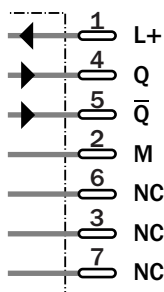
M12, 4-pin



Q6, 6-pin, DC



4 x 0.25 mm²



See chapter Accessories

- Connector, M12, 4-pin
- Connector, Q6, 6-pin, DC-coding
- Connector, Q7, 7-pin, DC-coding
- Mounting systems
- Weather protection

| Technical data | | WTB27-3 | E2411 | E2611 | F2411 | F2611 | P1111 | P2411 | P2421 | P3711 | | |
|--------------------------------------|--|---------|-------|-------|-------|-------|-------|-------|-------|-------|--|--|
| Scanning distance typ. max. | 30 ... 1,600 mm ¹⁾ | | | | | | | | | | | |
| Operating distance | 100 ... 1,600 mm ¹⁾ | | | | | | | | | | | |
| Adjustment of operating distance | Potentiometer | | | | | | | | | | | |
| Light source, light type | LED, Infrared light, 880 nm ²⁾ | | | | | | | | | | | |
| Light spot diameter | Approx. 25 mm at 800 mm distance | | | | | | | | | | | |
| Supply voltage V_s | 10 ... 30 V DC ³⁾ | | | | | | | | | | | |
| Ripple | ≤ 5 V _{pp} ⁴⁾ | | | | | | | | | | | |
| Power consumption | ≤ 40 mA ⁵⁾ | | | | | | | | | | | |
| | ≤ 55 mA ⁵⁾ | | | | | | | | | | | |
| Switching outputs | NPN antivalent | | | | | | | | | | | |
| | PNP antivalent | | | | | | | | | | | |
| Signal voltage PNP HIGH / LOW | > V _s - 2.5 V / approx. 0 V | | | | | | | | | | | |
| Signal voltage NPN HIGH / LOW | Approx. V _s / < 2.5 V | | | | | | | | | | | |
| Output current I _a max | 100 mA | | | | | | | | | | | |
| Response time | ≤ 1.5 ms ⁶⁾ | | | | | | | | | | | |
| Switching frequency | 350 Hz ⁷⁾ | | | | | | | | | | | |
| Time delay | Selectable: 0.5 ... 10 s / 0.02 ... 0.5 s | | | | | | | | | | | |
| Time type | OFF, T _{off} , T _{on} , T _{off} + T _{on} | | | | | | | | | | | |
| Test input sender off | TE to V _s | | | | | | | | | | | |
| | TE to 0 V | | | | | | | | | | | |
| Connection type | Connector, M12, 4-pin | | | | | | | | | | | |
| | Connector, Q6, 6-pin, DC | | | | | | | | | | | |
| | Cable, PVC, 2 m ⁸⁾ | | | | | | | | | | | |
| | Cable with plug, Q7, 7-pin, DC, PVC, 150 mm ⁸⁾ | | | | | | | | | | | |
| VDE protection class | □ ⁹⁾ | | | | | | | | | | | |
| Circuit protection | V _s connections reverse-polarity protected / All outputs short-circuit protected / Interference suppression | | | | | | | | | | | |
| Enclosure rating | IP 66, IP 67 | | | | | | | | | | | |
| | IP 65 | | | | | | | | | | | |
| Ambient temperature operation | -40 °C ... +60 °C | | | | | | | | | | | |
| Ambient temperature storage | -40 °C ... +75 °C | | | | | | | | | | | |
| Weight | Approx. 100 g | | | | | | | | | | | |
| | Approx. 180 g | | | | | | | | | | | |
| | Approx. 120 g | | | | | | | | | | | |
| Front screen heating | ✓ | | | | | | | | | | | |
| Housing material | ABS, PMMA | | | | | | | | | | | |

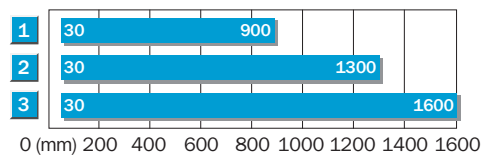
¹⁾ Object with 90 % remission (based on standard white to DIN 5033)
²⁾ Average service life 100,000 h

at T_a = +25 °C
³⁾ Limit values, operation in short-circuit protected network max. 8 A

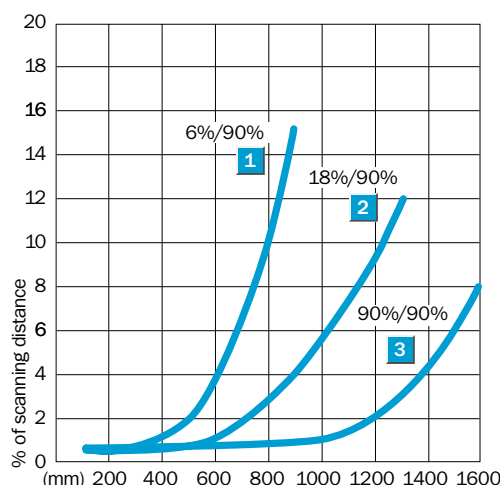
⁴⁾ may not exceed or fall short of V_s tolerances
⁵⁾ without load

⁶⁾ Signal transit time with resistive load
⁷⁾ with light/dark ratio 1:1
⁸⁾ do not bend below 0 °C
⁹⁾ 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



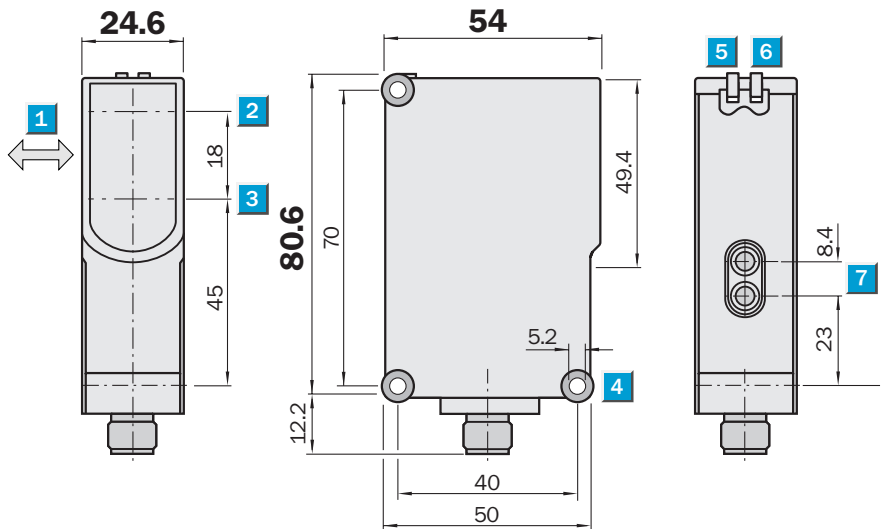
| Order information | |
|-------------------|-----------|
| Type | Order no. |
| WTB27-3E2411 | 1 027 755 |
| WTB27-3E2611 | 1 027 757 |
| WTB27-3F2411 | 1 027 753 |
| WTB27-3F2611 | 1 027 756 |
| WTB27-3P1111 | 1 027 752 |
| WTB27-3P2411 | 1 025 994 |
| WTB27-3P2421 | 1 027 754 |
| WTB27-3P3711 | 1 027 758 |

Scanning distance
30 ... 1,600 mm

Photoelectric proximity switch

- Infrared light, very long scanning distance
- Easy Teach-in, simple and fast commissioning
- Reliable in industrial environments; secure against the effects of ambient light, unwanted optical reflections, other sensors mounted adjacently and temperatures from -40 °C ... +60 °C

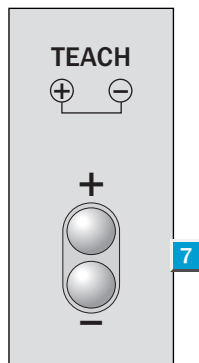
Dimensional drawing



Adjustments possible

- WTB27-3N2413
- WTB27-3P1113
- WTB27-3P2413

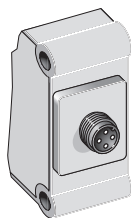
- 1 Standard direction of the material being scanned
- 2 Optical axis sender
- 3 Optical axis receiver
- 4 Mounting hole Ø 5.2 mm
- 5 LED indicator green; power on
- 6 LED indicator yellow; status of received light beam
- 7 Adjustment of scanning distance: double teach button



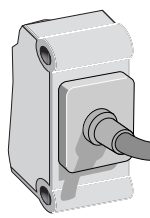
Connection type

- WTB27-3N2413
- WTB27-3P2413

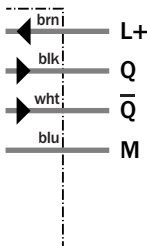
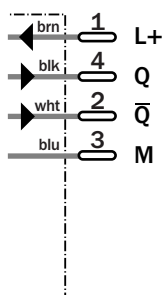
WTB27-3P1113



M12, 4-pin



4 x 0.25 mm²



See chapter Accessories

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

| Technical data | | WTB27-3 | N2413 | P1113 | P2413 |
|-----------------------------------|--|---------|-------|-------|-------|
| Scanning distance typ. max. | 30 ... 1,600 mm ¹⁾ | | | | |
| Operating distance | 100 ... 1,600 mm ¹⁾ | | | | |
| Adjustment of operating distance | Teach-in: double teach button | | | | |
| Light source, light type | LED, Infrared light, 880 nm ²⁾ | | | | |
| Light spot diameter | Approx. 25 mm at 800 mm distance | | | | |
| Supply voltage V _s | 10 ... 30 V DC ³⁾ | | | | |
| Ripple | ≤ 5 V _{pp} ⁴⁾ | | | | |
| Power consumption | ≤ 40 mA ⁵⁾ | | | | |
| Switching outputs | NPN antivalent PNP antivalent | | | | |
| Signal voltage PNP HIGH / LOW | > V _s - 2.5 V / approx. 0 V | | | | |
| Signal voltage NPN HIGH / LOW | Approx. V _s / < 2.5 V | | | | |
| Output current I _a max | 100 mA | | | | |
| Response time | ≤ 1.5 ms ⁶⁾ | | | | |
| Switching frequency | 350 Hz ⁷⁾ | | | | |
| Connection type | Connector, M12, 4-pin Cable, PVC, 2 m ⁸⁾ | | | | |
| VDE protection class | □ ⁹⁾ | | | | |
| Circuit protection | V _s connections reverse-polarity protected / All outputs short-circuit protected / Interference suppression | | | | |
| Enclosure rating | IP 66, IP 67 | | | | |
| Ambient temperature operation | -40 °C ... +60 °C | | | | |
| Ambient temperature storage | -40 °C ... +75 °C | | | | |
| Weight | Approx. 100 g Approx. 180 g | | | | |
| Housing material | ABS, PMMA | | | | |

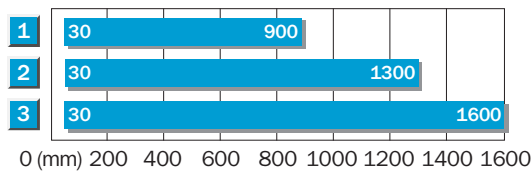
¹⁾ Object with 90 % remission (based on standard white to DIN 5033)
²⁾ Average service life 100,000 h

at T_a = +25 °C
³⁾ Limit values, operation in short-circuit protected network max. 8 A

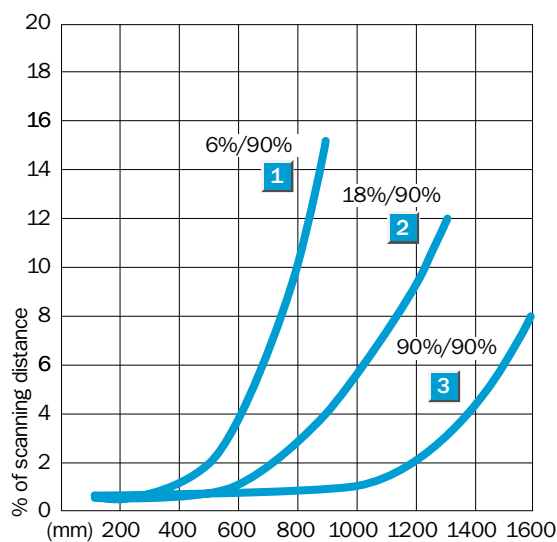
⁴⁾ may not exceed or fall short of V_s tolerances
⁵⁾ without load

⁶⁾ Signal transit time with resistive load
⁷⁾ with light/dark ratio 1:1
⁸⁾ do not bend below 0 °C
⁹⁾ 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



Ordering information

| Type | Order no. |
|--------------|-----------|
| WTB27-3N2413 | 1 027 761 |
| WTB27-3P1113 | 1 027 759 |
| WTB27-3P2413 | 1 027 760 |

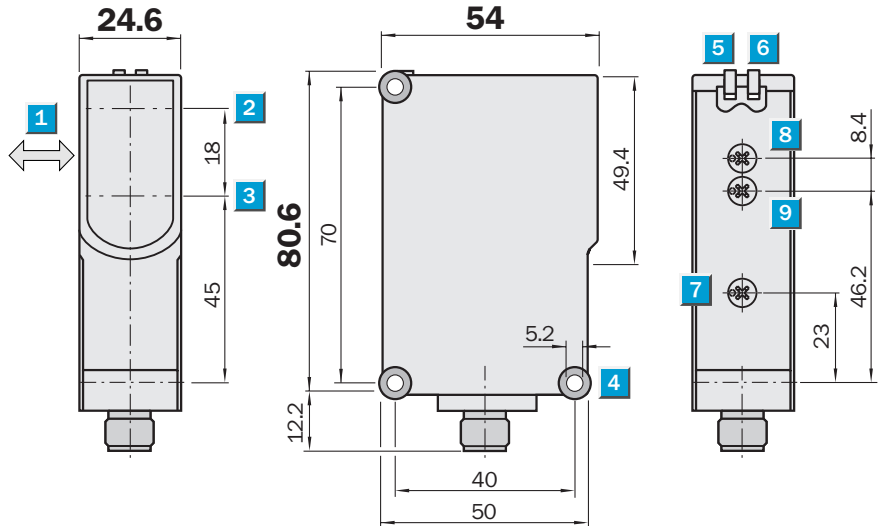
Scanning distance
30 ... 1,600 mm

Photoelectric proximity switch

- Universal supply voltage
- Infrared light, very long scanning distance
- Reliable in industrial environments; secure against the effects of ambient light, unwanted optical reflections, other sensors mounted adjacently and temperatures from -40 °C ... +60 °C
- Time delays

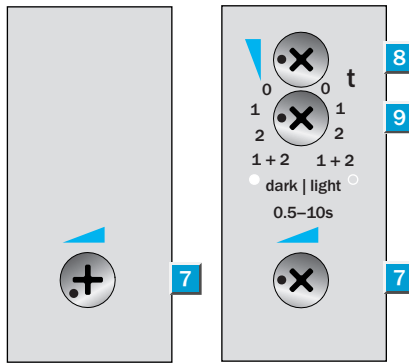


Dimensional drawing



Adjustments possible

| | |
|--------------|--------------|
| WTB27-3S1511 | WTB27-3R2611 |
| WTB27-3S3711 | |



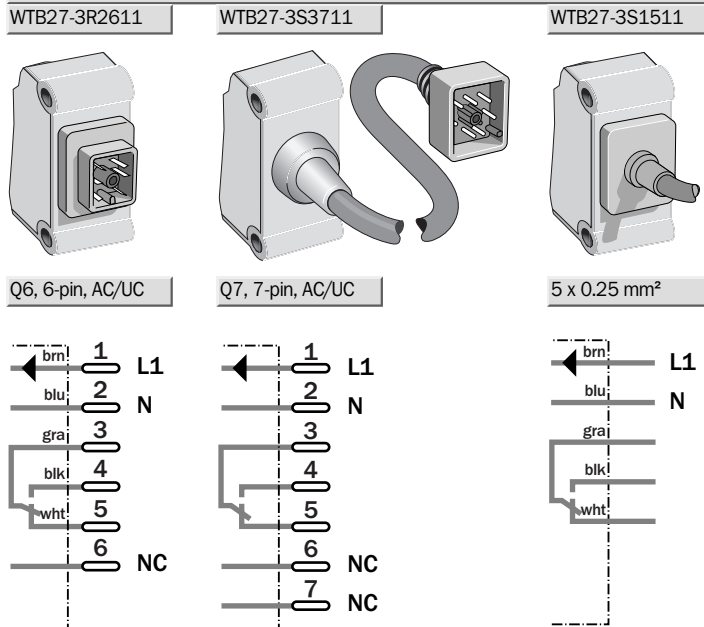
- 1 Standard direction of the material being scanned
- 2 Optical axis sender
- 3 Optical axis receiver
- 4 Mounting hole Ø 5.2 mm
- 5 LED indicator green; power on
- 6 LED indicator yellow; status of received light beam
- 7 Adjustment of scanning distance: Poti
- 8 Time control
- 9 Time delay selector switch
- 0 Light-switching (L)
- Dark-switching (D)

Switch-selectable time delay

| | |
|-------|---|
| D L | 0.5 - 10s |
| 0 0 | Without time delay |
| 2 1 | Time delay from trailing edge of object |
| 1 2 | Time delay from leading edge of object |
| 1 + 2 | Time delay from trailing and leading edge of object |



Connection type



See chapter Accessories*

| |
|---------------------------------|
| Connector, Q6, 6-pin, UC-coding |
| Connector, Q7, 7-pin, UC-coding |
| Mounting systems |
| Weather protection |

* Recommendation for connectors:



| Technical data | | WTB27-3 | R2611 | S1511 | S3711 | | | | | | | | |
|----------------------------------|--|---------|-------|-------|-------|--|--|--|--|--|--|--|--|
| Scanning distance typ. max. | 30 ... 1,600 mm ¹⁾ | | | | | | | | | | | | |
| Operating distance | 100 ... 1,600 mm ¹⁾ | | | | | | | | | | | | |
| Adjustment of operating distance | Potentiometer | | | | | | | | | | | | |
| Light source, light type | LED, Infrared light, 880 nm ²⁾ | | | | | | | | | | | | |
| Light spot diameter | Approx. 25 mm at 800 mm distance | | | | | | | | | | | | |
| Supply voltage V _s | 24 ... 240 V UC ³⁾ | | | | | | | | | | | | |
| Switching outputs | Relay 1 x c/o, electrically isolated ⁴⁾ | | | | | | | | | | | | |
| | Relay 1 x c/o, electrically isolated ⁵⁾ | | | | | | | | | | | | |
| Switching mode | Light-/dark-switching, switchable | | | | | | | | | | | | |
| | 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 o. 24 V DC ⁶⁾ | | | | | | | | | | | | |
| Max. switching power | 750 W AC / 72 W DC | | | | | | | | | | | | |
| Response time | ≤ 10 ms | | | | | | | | | | | | |
| Switching frequency | 10 Hz ⁷⁾ | | | | | | | | | | | | |
| Time delay | Selectable: 0.5...10s | | | | | | | | | | | | |
| Time type | OFF, T _{off} , T _{on} , T _{off} + T _{on} | | | | | | | | | | | | |
| Connection type | Connector, Q6, 6-pin, AC/UC | | | | | | | | | | | | |
| | Cable, PVC, 2 m ⁸⁾ | | | | | | | | | | | | |
| | Cable with plug, Q7, 7-pin, AC/UC, PVC, 150 mm ⁸⁾ | | | | | | | | | | | | |
| VDE protection class | □ ⁹⁾ | | | | | | | | | | | | |
| Circuit protection | V _s connections reverse-polarity protected / Interference suppression | | | | | | | | | | | | |
| Enclosure rating | IP 65 | | | | | | | | | | | | |
| | IP 66, IP 67 | | | | | | | | | | | | |
| Ambient temperature operation | -40 °C ... +60 °C ¹⁰⁾ | | | | | | | | | | | | |
| Ambient temperature storage | -40 °C ... +75 °C | | | | | | | | | | | | |
| Weight | Approx. 120 g | | | | | | | | | | | | |
| | Approx. 200 g | | | | | | | | | | | | |
| | Approx. 140 g | | | | | | | | | | | | |
| Housing material | ABS, PMMA | | | | | | | | | | | | |

¹⁾ Object with 90 % remission (based on standard white to DIN 5033)

²⁾ Average service life 100,000 h at T_a = +25 °C

³⁾ ± 10%

⁴⁾ Provide suitable spark suppression for inductive or capacitive loads. Relay contacts are separated from the power supply by basic isolation of 3 mm. Depending on the application, additional

isolation might have to be applied in the user's circuit

⁵⁾ Provide suitable spark suppression for inductive or capacitive loads

⁶⁾ Usage category to EN 60947-1,

AC-15, DC-13

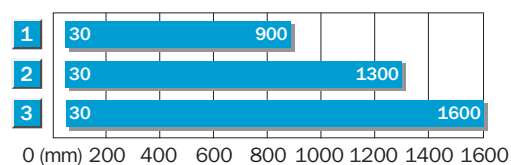
⁷⁾ with light/dark ratio 1:1

⁸⁾ do not bend below 0 °C

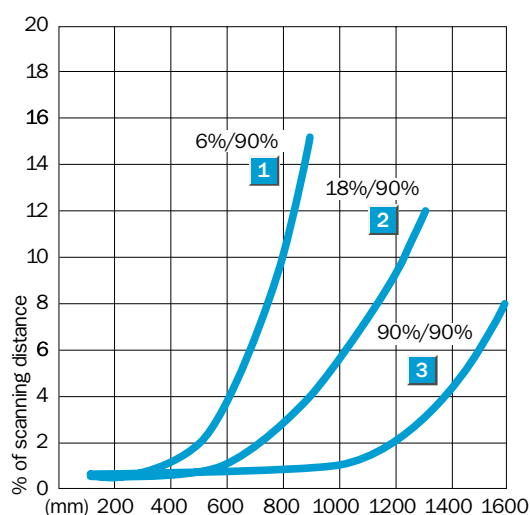
⁹⁾ Reference voltage 250 V AC

¹⁰⁾ 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

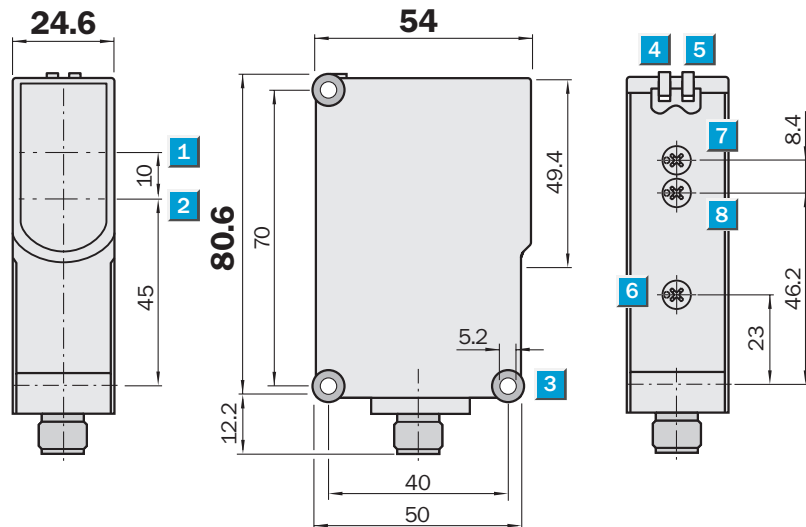
| Type | Order no. |
|--------------|-----------|
| WTB27-3R2611 | 1 027 763 |
| WTB27-3S1511 | 1 027 762 |
| WTB27-3S3711 | 1 027 764 |

Photoelectric reflex switch, WL27-3, red light - DC


Scanning range
0.1 ... 15 m
Photoelectric reflex switch

- Red light for easier alignment
- Long range, high operating reserve
- Reliable in industrial environments; secure against the effects of ambient light, other sensors mounted adjacently and temperatures from -40 °C ... +60 °C
- Front screen heating, time delays

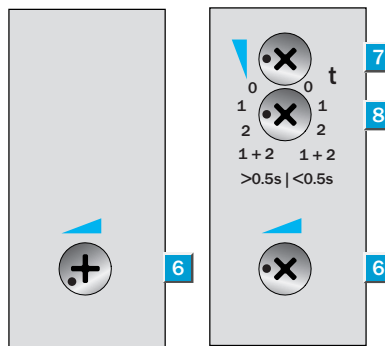
Dimensional drawing



Adjustments possible

| | |
|-------------|-------------|
| WL27-3P1131 | WL27-3E2631 |
| WL27-3P2431 | WL27-3F2631 |
| WL27-3P2451 | |

- 1 Optical axis sender
- 2 Optical axis receiver
- 3 Mounting hole Ø 5.2 mm
- 4 LED indicator green; power on
- 5 LED indicator yellow; status of received light beam
- 6 Sensitivity adjustment: Poti
- 7 Time control
- 8 Time delay selector switch



Switch-selectable time delay

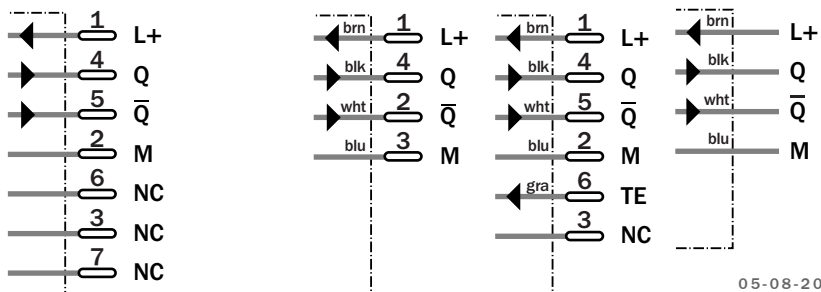
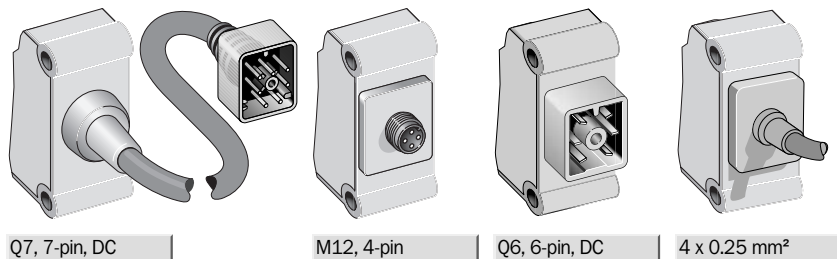
0.02 - 0.5s or 0.5 - 10s

- 0 Without time delay
- 1 Time delay from trailing edge of object
- 2 Time delay from leading edge of object
- 1 + 2 Time delay from trailing and leading edge of object



Connection type

| | | | |
|-------------|-------------|-------------|-------------|
| WL27-3P3730 | WL27-3P2430 | WL27-3E2631 | WL27-3P1131 |
| | WL27-3P2431 | WL27-3F2631 | |
| | WL27-3P2450 | | |
| | WL27-3P2451 | | |



See chapter Accessories

| |
|---------------------------------|
| Connector, M12, 4-pin |
| Connector, Q6, 6-pin, DC-coding |
| Connector, Q7, 7-pin, DC-coding |
| Mounting systems |
| Reflectors |
| Weather protection |

| Technical data | | WL27-3 | E2631 | F2631 | P1131 | P2430 | P2431 | P2450 | P2451 | P3730 | | |
|-----------------------------------|--|--------|-------|-------|-------|-------|-------|-------|-------|-------|--|--|
| Scanning range typ. max. | 0.1 ... 15 m | | | | | | | | | | | |
| Scanning range, recommended | 0.1 ... 11 m | | | | | | | | | | | |
| Relating to | Reflector PL80 A | | | | | | | | | | | |
| Sensitivity adjustment | Potentiometer | | | | | | | | | | | |
| Light source, light type | LED, Red light, 660 nm ¹⁾ | | | | | | | | | | | |
| Light spot diameter | Approx. 220 mm at 10 m distance | | | | | | | | | | | |
| Angle of dispersion | Approx. 1.5 ° | | | | | | | | | | | |
| Polarisation filter | ✓ | | | | | | | | | | | |
| Supply voltage V _s | 10 ... 30 V DC ²⁾ | | | | | | | | | | | |
| Ripple | ≤ 5 V _{pp} ³⁾ | | | | | | | | | | | |
| Power consumption | ≤ 45 mA ⁴⁾ | | | | | | | | | | | |
| | ≤ 30 mA ⁴⁾ | | | | | | | | | | | |
| Switching outputs | NPN antivalent | | | | | | | | | | | |
| | PNP antivalent | | | | | | | | | | | |
| Signal voltage PNP HIGH / LOW | > V _s - 2.5 V / approx. 0 V | | | | | | | | | | | |
| Signal voltage NPN HIGH / LOW | Approx. V _s / < 2.5 V | | | | | | | | | | | |
| Output current I _a max | 100 mA | | | | | | | | | | | |
| Response time | ≤ 500 μs ⁵⁾ | | | | | | | | | | | |
| Switching frequency | 1,000 Hz ⁶⁾ | | | | | | | | | | | |
| Time delay | Selectable: 0.5 ... 10 s / 0.02 ... 0.5 s | | | | | | | | | | | |
| Time type | OFF, T _{off} , T _{on} , T _{off} + T _{on} | | | | | | | | | | | |
| Test input sender off | TE to V _s | | | | | | | | | | | |
| | TE to 0 V | | | | | | | | | | | |
| Connection type | Connector, Q6, 6-pin, DC | | | | | | | | | | | |
| | Cable, PVC, 2 m ⁷⁾ | | | | | | | | | | | |
| | Connector, M12, 4-pin | | | | | | | | | | | |
| | Cable with plug, Q7, 7-pin, DC, PVC, | | | | | | | | | | | |
| | | | | | | | | | | | | |
| VDE protection class | □ ⁸⁾ | | | | | | | | | | | |
| Circuit protection | V _s connections reverse-polarity protected / All outputs short-circuit protected / Interference suppression | | | | | | | | | | | |
| Enclosure rating | IP 65 | | | | | | | | | | | |
| | IP 66, IP 67 | | | | | | | | | | | |
| Ambient temperature operation | -40 °C ... +60 °C | | | | | | | | | | | |
| Ambient temperature storage | -40 °C ... +75 °C | | | | | | | | | | | |
| Weight | Approx. 100 g | | | | | | | | | | | |
| | Approx. 180 g | | | | | | | | | | | |
| | Approx. 120 g | | | | | | | | | | | |
| Front screen heating | ✓ | | | | | | | | | | | |
| Housing material | ABS, PMMA | | | | | | | | | | | |

¹⁾ Average service life 100,000 h at T_a = +25 °C

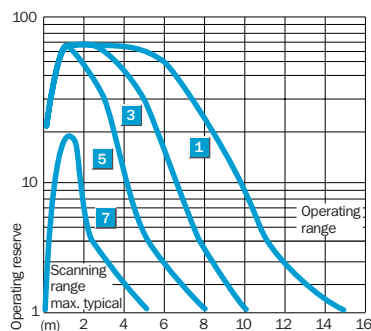
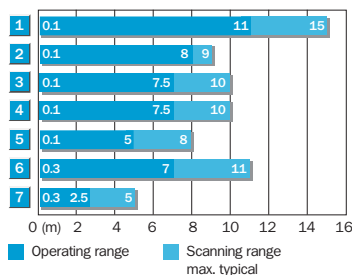
²⁾ Limit values, operation in short-circuit

³⁾ protected network max. 8 A
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

Scanning range and operating reserve




| Reflector type | Operating range |
|---------------------------------|-----------------|
| 1 PL 80 A | 0.1 ... 11.0 m |
| 2 PL 50 A | 0.1 ... 8.0 m |
| 3 PL 40 A | 0.1 ... 7.5 m |
| 4 PL 30 A | 0.1 ... 7.5 m |
| 5 PL 20 A | 0.1 ... 5.0 m |
| 6 C 110 | 0.3 ... 7.0 m |
| 7 Reflective tape Diamond Grade | 0.3 ... 2.5 m |

Order information

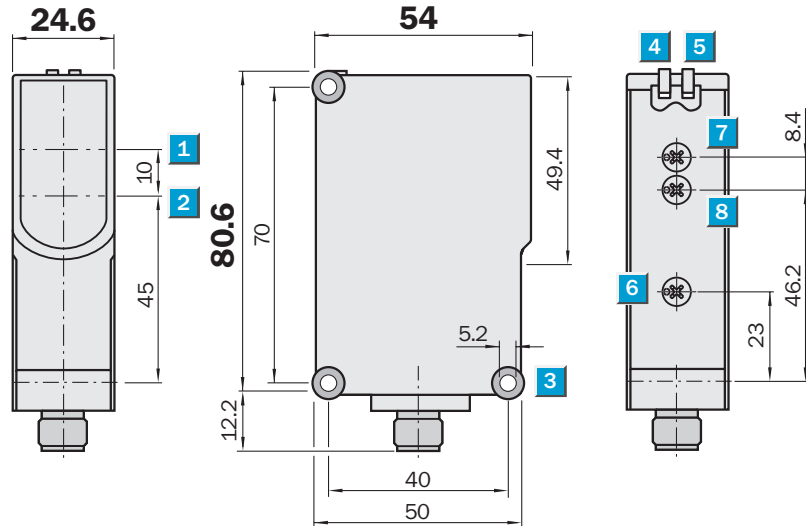
| Type | Order no. |
|-------------|-----------|
| WL27-3E2631 | 1 027 773 |
| WL27-3F2631 | 1 027 772 |
| WL27-3P1131 | 1 027 768 |
| WL27-3P2430 | 1 027 769 |
| WL27-3P2431 | 1 027 982 |
| WL27-3P2450 | 1 027 771 |
| WL27-3P2451 | 1 027 770 |
| WL27-3P3730 | 1 027 774 |

Photoelectric reflex switch, WL27-3, red light - UC


Scanning range
0.1 ... 15 m
Photoelectric reflex switch

- Universal supply voltage
- Red light for easier alignment
- Reliable in industrial environments; secure against the effects of ambient light, other sensors mounted adjacently and temperatures from -40 °C ... +60°C
- Time delays

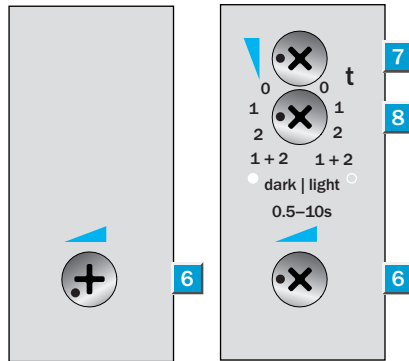
Dimensional drawing



Adjustments possible

WL27-3S1531
 WL27-3S3731

WL27-3R2631



- 1 Optical axis sender
- 2 Optical axis receiver
- 3 Mounting hole Ø 5.2 mm
- 4 LED indicator green; power on
- 5 LED indicator yellow; status of received light beam
- 6 Sensitivity adjustment: Poti
- 7 Time control
- 8 Time delay selector switch
- 0 Light-switching (L)
- Dark-switching (D)



Switch-selectable time delay

| D L | 0.5 - 10s |
|-------|---|
| 0 0 | Without time delay |
| 2 1 | Time delay from trailing edge of object |
| 1 2 | Time delay from leading edge of object |
| 1 + 2 | Time delay from trailing and leading edge of object |

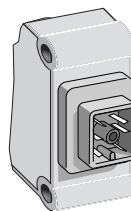


Connection type

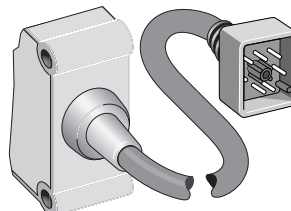
WL27-3R2631

WL27-3S3731

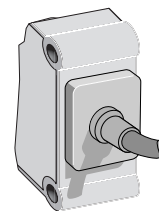
WL27-3S1531



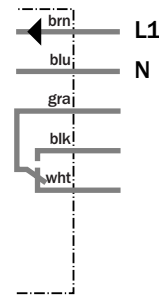
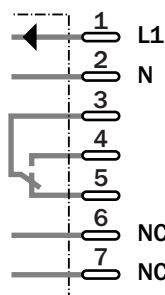
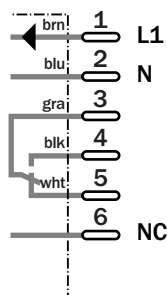
Q6, 6-pin, AC/UC



Q7, 7-pin, AC/UC



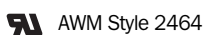
5 x 0.25 mm²



See chapter Accessories*

- Connector, Q6, 6-pin, UC-coding
- Connector, Q7, 7-pin, UC-coding
- Mounting systems
- Reflectors
- Weather protection

* Recommendation for connectors:



| Technical data | | WL27-3 | R2631 | S1531 | S3731 | | | | | | | |
|--------------------------------------|--|--------|-------|-------|-------|--|--|--|--|--|--|--|
| Scanning range typ. max. | 0.1 ... 15 m | | | | | | | | | | | |
| Scanning range, recommended | 0.1 ... 11 m | | | | | | | | | | | |
| Relating to | Reflector PL80 A | | | | | | | | | | | |
| Sensitivity adjustment | Potentiometer | | | | | | | | | | | |
| Light source, light type | LED, Red light, 660 nm ¹⁾ | | | | | | | | | | | |
| Light spot diameter | Approx. 220 mm at 10 m distance | | | | | | | | | | | |
| Angle of dispersion | Approx. 1.5 ° | | | | | | | | | | | |
| Polarisation filter | ✓ | | | | | | | | | | | |
| Supply voltage V_s | 24 ... 240 V UC ²⁾ | | | | | | | | | | | |
| Switching outputs | Relay 1 x c/o, electrically isolated ³⁾ | | | | | | | | | | | |
| | Relay 1 x c/o, electrically isolated ⁴⁾ | | | | | | | | | | | |
| Switching mode | Light-/dark-switching, selectable | | | | | | | | | | | |
| | Light-switching | | | | | | | | | | | |
| Power consumption | ≤ 2.5 VA | | | | | | | | | | | |
| Max. switching voltage | 250 V AC / 250 V DC (max. 0.11 A) | | | | | | | | | | | |
| Switching current max. | 3 A @ 250 V AC o. 24 V DC ⁵⁾ | | | | | | | | | | | |
| Max. switching power | 750 W AC / 72 W DC | | | | | | | | | | | |
| Response time | ≤ 10 ms | | | | | | | | | | | |
| Switching frequency | 10 Hz ⁶⁾ | | | | | | | | | | | |
| Time delay | Selectable: 0.5 ... 10 s | | | | | | | | | | | |
| Time type | OFF, T _{off} , T _{on} , T _{off} + T _{on} | | | | | | | | | | | |
| Connection type | Connector, Q6, 6-pin, AC/UC | | | | | | | | | | | |
| | Cable, PVC, 2 m ⁷⁾ | | | | | | | | | | | |
| | Cable with plug, Q7, 7-pin, AC/UC, PVC, 150 mm ⁷⁾ | | | | | | | | | | | |
| VDE protection class | □ ⁸⁾ | | | | | | | | | | | |
| Circuit protection | V _s connections reverse-polarity protected / Interference suppression | | | | | | | | | | | |
| Enclosure rating | IP 65 | | | | | | | | | | | |
| | IP 66, IP 67 | | | | | | | | | | | |
| Ambient temperature operation | -40 °C ... +60 °C ⁹⁾ | | | | | | | | | | | |
| Ambient temperature storage | -40 °C ... +75 °C | | | | | | | | | | | |
| Weight | Approx. 120 g | | | | | | | | | | | |
| | Approx. 200 g | | | | | | | | | | | |
| | Approx. 140 g | | | | | | | | | | | |
| Housing material | ABS, PMMA | | | | | | | | | | | |

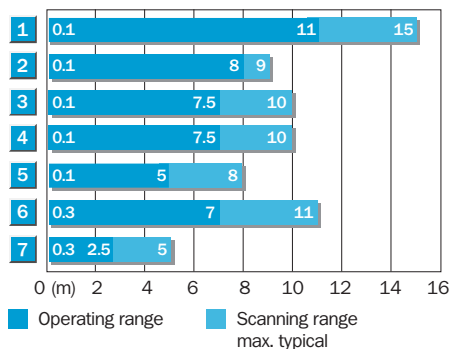
¹⁾ Average service life 100,000 h at T_a = +25 °C
²⁾ ± 10 %
³⁾ Provide suitable spark suppression for

inductive or capacitive loads. Relay contacts are separated from the power supply by a basic isolation of 3 mm. Depending on the application, additional

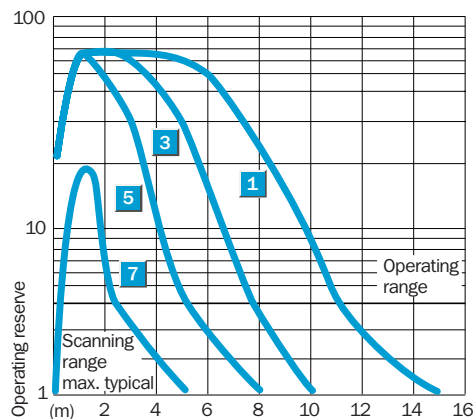
isolation might have to be applied in the user's circuit
⁴⁾ Provide suitable spark suppression for inductive or capacitive loads

⁵⁾ Usage category to EN 60947-1, AC-15, DC-13
⁶⁾ with light/dark ratio 1:1
⁷⁾ do not bend below 0 °C
⁸⁾ Reference voltage 250 V AC

Scanning range and operating reserve



| Reflector type | Operating range |
|----------------|---|
| 1 | PL 80 A 0.1 ... 11.0 m |
| 2 | PL 50 A 0.1 ... 8.0 m |
| 3 | PL 40 A 0.1 ... 7.5 m |
| 4 | PL 30 A 0.1 ... 7.5 m |
| 5 | PL 20 A 0.1 ... 5.0 m |
| 6 | C 110 0.3 ... 7.0 m |
| 7 | Reflective tape Diamond Grade 0.3 ... 2.5 m |



| Order information | |
|-------------------|-----------|
| Type | Order no. |
| WL27-3R2631 | 1 027 776 |
| WL27-3S1531 | 1 027 775 |
| WL27-3S3731 | 1 027 777 |

Through-beam photoelectric switch, WSE27-3, red light - DC

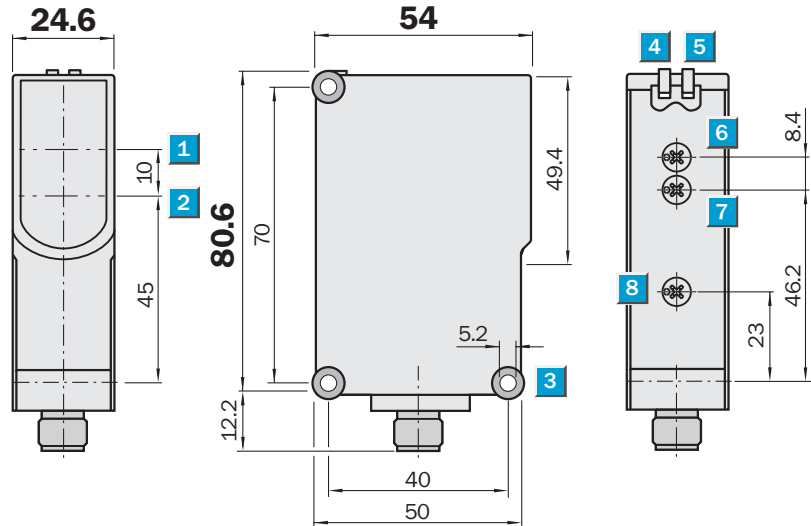


Scanning range
0 ... 35 m

Through-beam photoelectric switch

- Red light for easier alignment
- Long range, high operating reserve
- Reliable in industrial environments; secure against the effects of ambient light and temperatures from -40 °C ... +60 °C
- Alarm output, front screen heating, test input, time delays

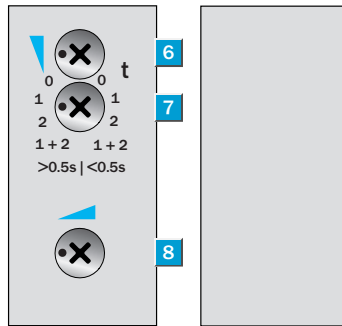
Dimensional drawing



Adjustments possible

| | |
|--------------|--------------|
| WSE27-3E2631 | WSE27-3P2430 |
| WSE27-3F2631 | WSE27-3P2450 |
| | WSE27-3P3730 |

- 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
- 6 Time control
- 7 Time delay selector switch
- 8 Sensitivity adjustment: Poti



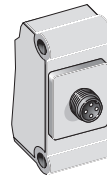
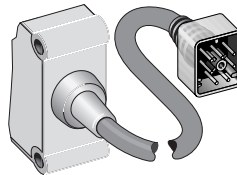
Switch-selectable time delay

0.02 - 0.5s or 0.5 - 10s

- 0 Without time delay
- 1 Time delay from trailing edge of object
- 2 Time delay from leading edge of object
- 1 + 2 Time delay from trailing and leading edge of object

Connection type

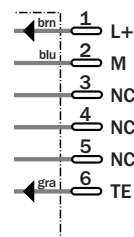
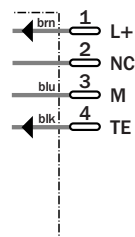
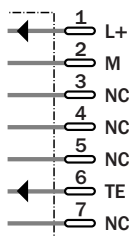
| | | |
|--------------|------------------------------|------------------------------|
| WSE27-3P3730 | WSE27-3P2430 WSE27-3P2450 | WSE27-3E2631 WSE27-3F2631 |
|--------------|------------------------------|------------------------------|



Sender Q7, 7-pin, DC

M12, 4-pin

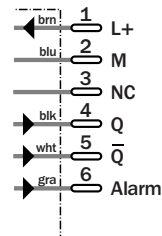
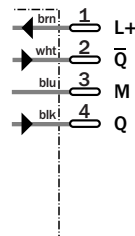
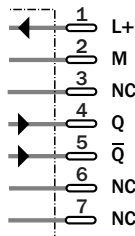
Q6, 6-pin, DC



Receiver Q7, 7-pin, DC

M12, 4-pin

Q6, 6-pin, DC



See chapter Accessories

- Connector, M12, 4-pin
- Connector, Q6, 6-pin, DC-coding
- Connector, Q7, 7-pin, DC-coding
- Mounting systems
- Weather protection



| Technical data | | WSE27-3 | E2631 | F2631 | P2430 | P2450 | P3730 | | | | | | |
|-------------------------------|---|---------|-------|-------|-------|-------|-------|--|--|--|--|--|--|
| Scanning range typ. max. | 0 ... 35 m | | | | | | | | | | | | |
| Scanning range, recommended | 0 ... 25 m | | | | | | | | | | | | |
| Sensitivity adjustment | Potentiometer | | | | | | | | | | | | |
| Light source, light type | LED, Red light, 645 nm ¹⁾ | | | | | | | | | | | | |
| Light spot diameter | Approx. 600 mm at 25 m distance | | | | | | | | | | | | |
| Angle of dispersion | Approx. 1.5 ° | | | | | | | | | | | | |
| Angle of reception | Approx. 3 ° | | | | | | | | | | | | |
| Supply voltage V_s | 10 ... 30 V DC ²⁾ | | | | | | | | | | | | |
| Ripple | $\leq 5 V_{pp}$ ³⁾ | | | | | | | | | | | | |
| Power consumption, sender | ≤ 35 mA without front screen heating ≤ 50 mA with front screen heating | | | | | | | | | | | | |
| Power consumption, receiver | ≤ 20 mA without front screen heating ⁴⁾ ≤ 35 mA with front screen heating ⁴⁾ | | | | | | | | | | | | |
| Switching outputs | NPN antivalent PNP antivalent | | | | | | | | | | | | |
| Signal voltage PNP HIGH / LOW | $> V_s - 2.5$ V / approx. 0 V | | | | | | | | | | | | |
| Signal voltage NPN HIGH / LOW | Approx. $V_s / < 2.5$ V | | | | | | | | | | | | |
| Output current I_a max | 100 mA | | | | | | | | | | | | |
| Response time | $\leq 500 \mu s$ ⁵⁾ | | | | | | | | | | | | |
| Switching frequency | 1,000 Hz ⁶⁾ | | | | | | | | | | | | |
| Time delay | Selectable: 0.5 ... 10 s / 0.02 ... 0.5 s | | | | | | | | | | | | |
| Time type | OFF, T_{off} , T_{on} , $T_{off} + T_{on}$ | | | | | | | | | | | | |
| Test input sender off | TE to 0 V | | | | | | | | | | | | |
| Alarm output | Alarm ⁷⁾ | | | | | | | | | | | | |
| Connection type | Connector, Q6, 6-pin, DC Connector, M12, 4-pin Cable with plug, Q7, 7-pin, DC, PVC, 150 mm ⁸⁾ | | | | | | | | | | | | |
| VDE protection class | \square ⁹⁾ | | | | | | | | | | | | |
| Circuit protection | V_s connections reverse-polarity protected / All outputs short-circuit protected / Interference suppression | | | | | | | | | | | | |
| Enclosure rating | IP 65 IP 66, IP 67 | | | | | | | | | | | | |
| Ambient temperature operation | -40 °C ... +60 °C | | | | | | | | | | | | |
| Ambient temperature storage | -40 °C ... +75 °C | | | | | | | | | | | | |
| Weight | Approx. 200 g Approx. 240 g | | | | | | | | | | | | |
| Front screen heating | ✓ | | | | | | | | | | | | |
| Housing material | ABS, PMMA | | | | | | | | | | | | |

¹⁾ Average service life 100,000 h at $T_a = +25$ °C

²⁾ Limit values, operation in short-circuit

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

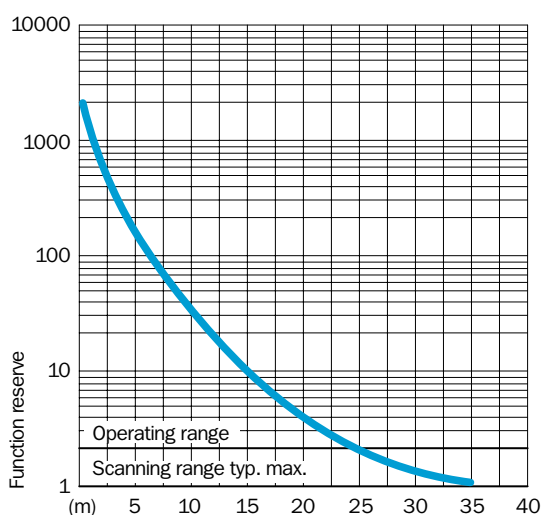
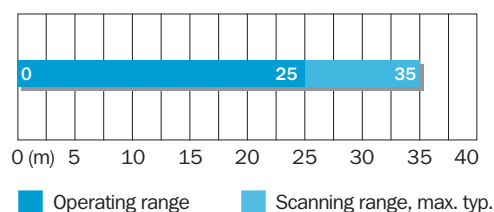
⁷⁾ NPN: Signal reserve > 50 % HIGH.

PNP: Signal reserve > 50 % LOW

⁸⁾ do not bend below 0 °C

⁹⁾ Reference voltage 50 V DC

Scanning range and operating reserve



Order information

| Type | Order no. |
|--------------|-----------|
| WSE27-3E2631 | 1 027 793 |
| WSE27-3F2631 | 1 027 792 |
| WSE27-3P2430 | 1 027 790 |
| WSE27-3P2450 | 1 027 791 |
| WSE27-3P3730 | 1 027 794 |

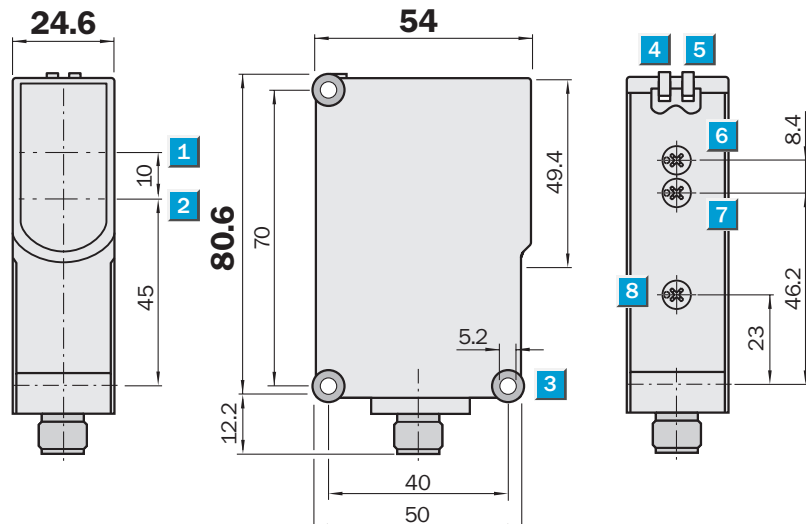
Through-beam photoelectric switch, WSE27-3, red light - UC

Scanning range
0 ... 35 m

Through-beam photoelectric switch

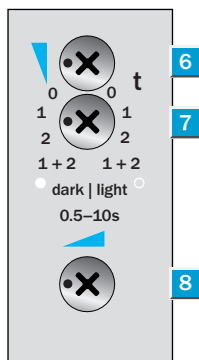
- Universal supply voltage
- Red light for easier alignment
- Long range, high operating reserve
- Reliable in industrial environments; secure against the effects of ambient light and temperatures from -40 °C ... +60 °C
- Time delays

Dimensional drawing



Adjustments possible

WSE27-3R2631



- 1 Optical axis sender
- 2 Optical axis receiver
- 3 Mounting hole Ø 5.2 mm
- 4 LED indicator green; power on
- 5 LED indicator yellow; status of received light beam
- 6 Time control
- 7 Time delay selector switch
- 8 Sensitivity adjustment: Poti
- 0 Light-switching (L)
- Dark-switching (D)

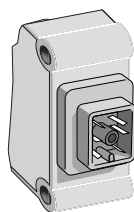
Switch-selectable time delay

| D L | 0.5 - 10s |
|-------|---|
| 0 0 | Without time delay |
| 2 1 | Time delay from trailing edge of object |
| 1 2 | Time delay from leading edge of object |
| 1 + 2 | Time delay from trailing and leading edge of object |

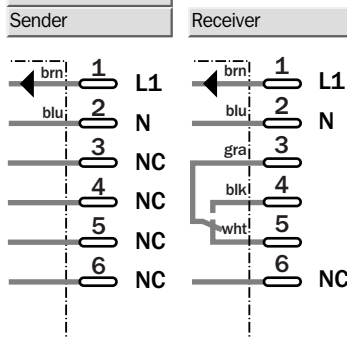


Connection type

WSE27-3R2631



Q6, 6-pin, AC/UC



See chapter Accessories*

Connector, Q6, 6-pin, UC-coding

Mounting systems

Weather protection

* Recommendation for connectors:

AWM Style 2464

| Technical data | | WSE27-3 | R2631 | | | | | | | | | | | | |
|--------------------------------------|--|---------|-------|--|--|--|--|--|--|--|--|--|--|--|--|
| Scanning range typ. max. | 0 ... 35 m | | | | | | | | | | | | | | |
| Scanning range, recommended | 0 ... 25 m | | | | | | | | | | | | | | |
| Sensitivity adjustment | Potentiometer | | | | | | | | | | | | | | |
| Light source, light type | LED, Red light, 645 nm ¹⁾ | | | | | | | | | | | | | | |
| Light spot diameter | Approx. 600 mm at 25 m distance | | | | | | | | | | | | | | |
| Angle of dispersion | Approx. 1.5 ° | | | | | | | | | | | | | | |
| Angle of reception | Approx. 3 ° | | | | | | | | | | | | | | |
| Supply voltage V_s | 24 ... 240 V UC ²⁾ | | | | | | | | | | | | | | |
| Switching outputs | Relay 1 x c/o, electrically isolated ³⁾ | | | | | | | | | | | | | | |
| Switching mode | Light-/dark-switching, selectable | | | | | | | | | | | | | | |
| Power consumption, sender | ≤ 2 VA | | | | | | | | | | | | | | |
| Power consumption, receiver | ≤ 2.5 VA | | | | | | | | | | | | | | |
| Max. switching voltage | 250 V AC / 250 V DC (max. 0.11 A) | | | | | | | | | | | | | | |
| Switching current max. | 3 A @ 250 V AC o. 24 V DC ⁴⁾ | | | | | | | | | | | | | | |
| Max. switching power | 750 AC / 72 W DC | | | | | | | | | | | | | | |
| Response time | ≤ 10 ms ⁵⁾ | | | | | | | | | | | | | | |
| Switching frequency | 10 Hz ⁶⁾ | | | | | | | | | | | | | | |
| Time delay | Selectable: 0.5 ... 10 s | | | | | | | | | | | | | | |
| Time type | OFF, T _{off} , T _{on} , T _{off} + T _{on} | | | | | | | | | | | | | | |
| Connection type | Connector, Q6, 6-pin, AC/UC | | | | | | | | | | | | | | |
| VDE protection class | □ ⁷⁾ | | | | | | | | | | | | | | |
| Circuit protection | V _s connections reverse-polarity protected / Interference suppression | | | | | | | | | | | | | | |
| Enclosure rating | IP 65 | | | | | | | | | | | | | | |
| Ambient temperature operation | -40 °C ... +60 °C ⁸⁾ | | | | | | | | | | | | | | |
| Ambient temperature storage | -40 °C ... +75 °C | | | | | | | | | | | | | | |
| Weight | Approx. 240 g | | | | | | | | | | | | | | |
| Housing material | ABS, PMMA | | | | | | | | | | | | | | |

¹⁾ Average service life 100,000 h at T_a = +25 °C

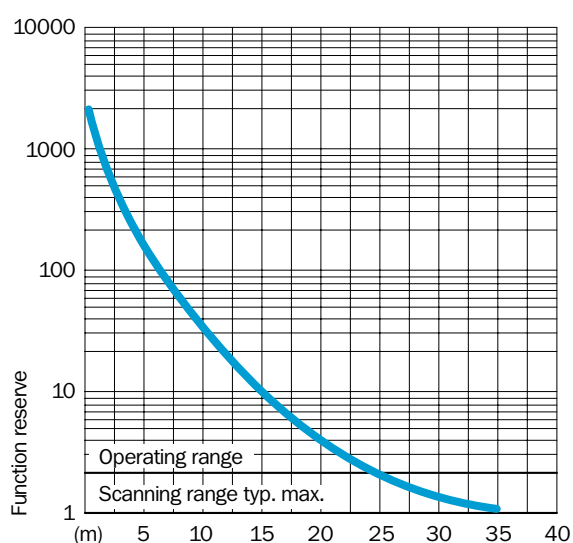
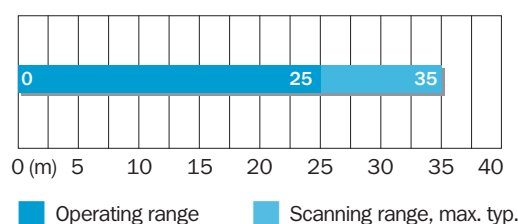
²⁾ ± 10 %

³⁾ Provide suitable spark suppression for

inductive or capacitive loads. Relay contacts are separated from the power supply by a basic isolation of 3 mm. Depending on the application, additional

isolation might have to be applied in the user's circuit
⁴⁾ Usage category to EN 60947-1, AC-15, DC-13

⁵⁾ Signal transit time with resistive load
⁶⁾ with light/dark ratio 1:1
⁷⁾ Reference voltage 250 V AC
⁸⁾ UL: 0 °C ... +60 °C



Order information

| Type | Order no. |
|--------------|-----------|
| WSE27-3R2631 | 1 027 795 |