



## Fotoprzełączniki W24-2, Fotoprzełącznik refleksyjny, Standard optics

WL24-2B440



Nazwa modelu > **WL24-2B440**

Numer części > **1017879**



#### At a glance

- Metal housing that has been IP 69k tested
- Switch selectable PNP or NPN output
- Switch selectable Light or Dark operating mode
- Variants with DC voltage and universal AC/DC voltage with UL approval
- Optional test input, adjustable ON and OFF time delays, alarm output and front screen heating
- M12 or terminal chamber connection: 90° rotatable

#### Your benefits

- Metal housing that has been IP 69K tested provides reliability and a long service life
- High operating reserve at a long sensing range reduces downtime
- Alarm output signals marginal operation to provide an early warning
- Test input provides diagnostic feedback for example misalignment
- Selectable output type, operating mode, and adjustable time delays makes integration easier and reduce the number of devices needed
- Ensuring reliable operation in environments with temperatures fluctuation due to standard or high-power front lens heating (prevention and reduction of condensation water on the front lens)
- Variants with DC voltage and universal AC/DC voltage provide installation flexibility
- Red light provides easy alignment, which saves time



#### Cechy

|                                            |                                                         |
|--------------------------------------------|---------------------------------------------------------|
| Zasada działania czujnika/Sposób detekcji: | Fotoprzełącznik refleksyjny, Standard optics            |
| Wymiary (Szer. x Wys. x Głęb.):            | 27 mm x 87,5 mm x 65 mm                                 |
| Housing design (light emission):           | Prostopadłościenna                                      |
| Maks. strefa działania:                    | 0 m ... 22 m <sup>1)</sup>                              |
| Sensing range:                             | 0 m ... 15 m <sup>2)</sup>                              |
| Rodzaj światła:                            | Widzialne światło czerwone                              |
| Nadajnik światła:                          | LED <sup>3)</sup>                                       |
| Light spot diameter (distance):            | Ø 250 mm (15 m)                                         |
| Nastawienie czułości:                      | Sensitivity adjustment                                  |
| Typ czasu:                                 | Przełącznik z opóźniaczem                               |
| Czas opóźnienia:                           | Adjustable via time delay selector switch: 0,5 ... 10 s |

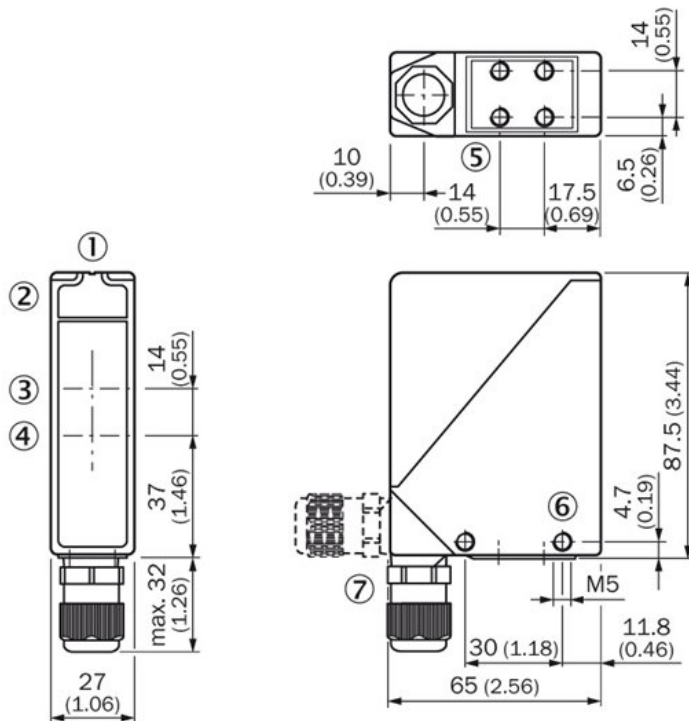
1) 2) PL80A <sup>3)</sup> Average service life 100,000 h at Ta = +25 °C

## Mechanika/elektronika

|                                      |                                                                                                                     |
|--------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| Napięcie zasilania:                  | 10 V DC ... 30 V DC                                                                                                 |
| Tętnienia resztkowe:                 | < 5 V <sub>ss</sub> <sup>2)</sup>                                                                                   |
| Pobór prądu:                         | ≤ 70 mA <sup>3)</sup>                                                                                               |
| Switching output:                    | NPN, przełączanie jasno/ciemno, wybierane, selectable via NPN/PNP selector, PNP, selectable via light/dark selector |
| Switching mode selector:             | Selectable via light/dark selector, Selectable via NPN/PNP selector                                                 |
| Output current I <sub>max</sub> ..:  | 100 mA                                                                                                              |
| Czas reakcji:                        | ≤ 500 μs <sup>4)</sup>                                                                                              |
| Switching frequency:                 | 1.000 Hz <sup>5)</sup>                                                                                              |
| Typ połączenia:                      | Connector M12, 4-pin <sup>6)</sup>                                                                                  |
| Układ zabezpieczenia:::              | A, C, D <sup>7) 8) 9)</sup>                                                                                         |
| Klasa ochronności:                   | II <sup>10)</sup>                                                                                                   |
| Ciężar:                              | 330 g                                                                                                               |
| Filtr polaryzacyjny:                 | ✓                                                                                                                   |
| Ogrzewanie przedniej szyby:          | ✓                                                                                                                   |
| Tworzywo, obudowa:                   | Cynkowa, odlewana                                                                                                   |
| Tworzywo, układ optyczny:            | PMMA                                                                                                                |
| Rodzaj zabezpieczenia:               | IP 69K                                                                                                              |
| Wejście testowe, nadajnik wyłączony: | TE to 0 V                                                                                                           |
| Ambient operating temperature:       | -40 °C ... 60 °C                                                                                                    |
| Ambient storage temperature:         | -40 °C ... 75 °C                                                                                                    |
| UL File-No.:                         | UL No. NRKH.E181493 & cUL No. NRKH7.E181493                                                                         |

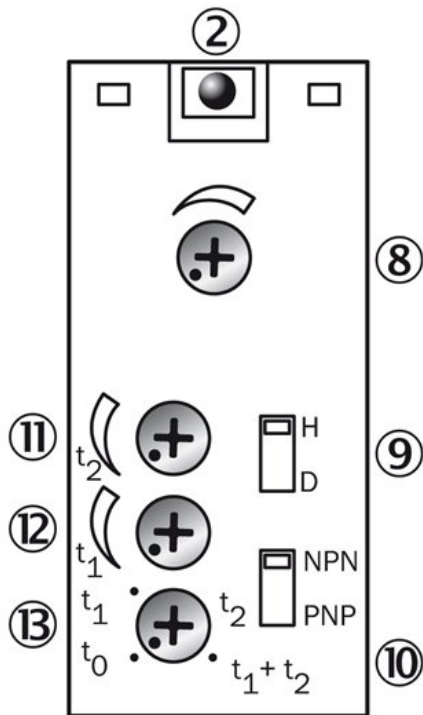
1) Limit values 2) May not exceed or fall short of V<sub>S</sub> 3) Without load 4) Signal transit time with resistive load 5) With light/dark ratio 1:1 6) Connection rotatable by 90° 7)  
A = V<sub>S</sub> connections reverse-polarity protected 8) C = interference suppression 9) D = outputs overcurrent and short-circuit protected 10) Reference voltage 50 V DC

## Dimensional drawing



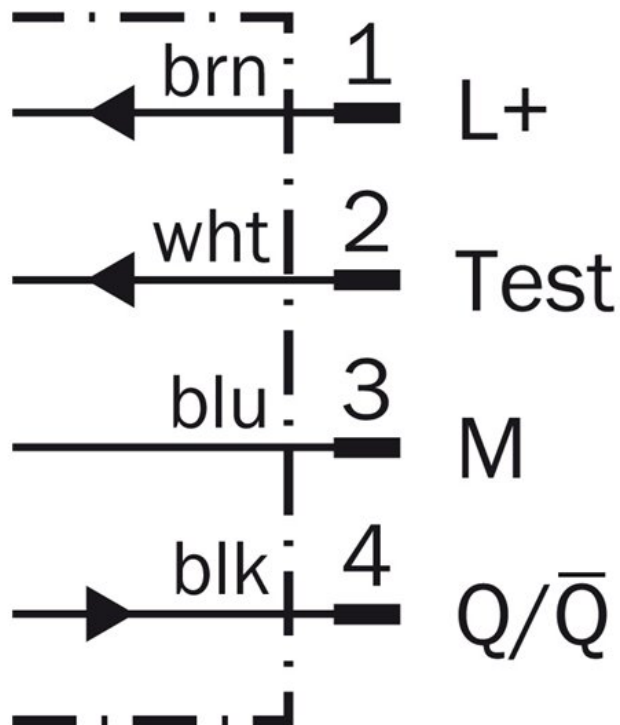
- |1| Alignment sight
- |2| LED signal strength indicator
- |3| Center of optical axis, sender
- |4| Center of optical axis, receiver
- |5| M5 threaded mounting hole, 6 mm deep
- |6| M5 threaded mounting hole, through-hole
- |7| M16 screw fixing and plug rotatable by 90°

## Adjustments possible

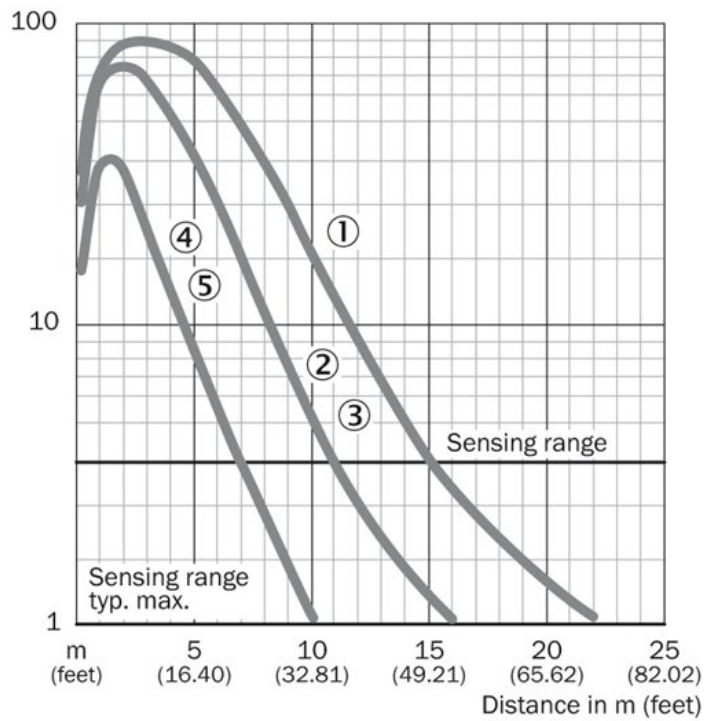


- |2| LED signal strength indicator
- |8| Sensitivity adjustment
- |9| Light/dark selector
- |10| NPN/ PNP selector
- |11| Time control t2=OFF-delay
- |12| Time control t1=ON-delay
- |13| time delay selector switch

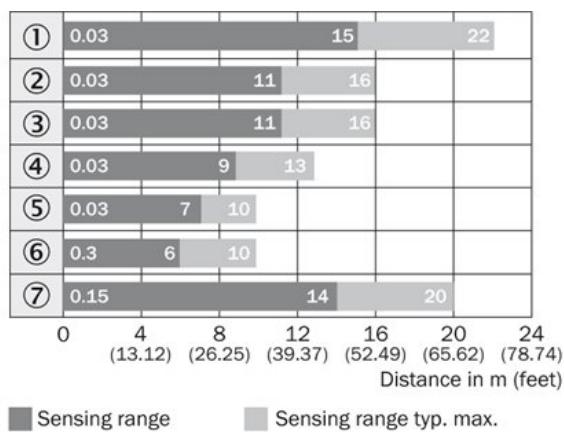
## Connection diagram



## Characteristic curve



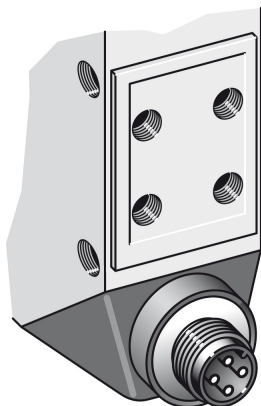
Sensing range diagram



Reflector type

- ① PL80A
- ② PL50A
- ③ PL40A
- ④ PL30A
- ⑤ PL20A
- ⑥ Diamond Grade (20 cm x 20 cm)
- ⑦ C110

Connection type



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