



ENGLISH

Datasheet

RS PRO Background Suppression Photoelectric Sensor with Block Sensor

Stock No: 729-5173





Illustration may differ



Detailed technical data

Features

| | |
|------------------------------------|--------------------------------|
| Functional principle | Photoelectric proximity sensor |
| Functional principle detail | Background suppression |
| Sensing range max. | 5 mm ... 250 mm ¹⁾ |
| Sensing range | 35 mm ... 140 mm |
| Polarisation filters | No |
| Key LED figures | |
| | Wave length 650 nm |
| Adjustment | Mechanical spindle, 5 turns |

¹⁾ Object with 90 % reflectance (referred to standard white, DIN 5033).

Electrical data

| | |
|-------------------------------------|-----------------------------------|
| Supply voltage U_B | 10 V DC ... 30 V DC ¹⁾ |
| Ripple | ± 10 % ²⁾ |
| Power consumption | 30 mA ³⁾ |
| Protection class | III |
| Digital output | |
| | Type NPN |

¹⁾ Limit values when operated in short-circuit protected network: max. 8 A.

²⁾ May not exceed or fall below U_v tolerances.

³⁾ Without load.

⁴⁾ At U_v > 24 V, I_A max. = 50 mA.

⁵⁾ Signal transit time with resistive load.

⁶⁾ With light/dark ratio 1:1.

⁷⁾ A = V_S connections reverse-polarity protected.

⁸⁾ B = inputs and output reverse-polarity protected.

⁹⁾ D = outputs overcurrent and short-circuit protected.

| | |
|---------------------------------|---|
| Signal voltage NPN HIGH/LOW | Approx. $V_S / \leq 3 \text{ V}$ |
| Output current I_{max} | $\leq 100 \text{ mA}$ ⁴⁾ |
| Response time | $< 625 \mu\text{s}$ ⁵⁾ |
| Switching frequency | $1,000 \text{ Hz}$ ⁶⁾ |
| Switching mode | Light/dark switching |
| Switching mode selector | Selectable via light/dark selector |
| Circuit protection | A ⁷⁾ B ⁸⁾ D ⁹⁾ |

1) Limit values when operated in short-circuit protected network: max. 8 A.

2) May not exceed or fall below U_V tolerances.

3) Without load.

4) At $U_V > 24 \text{ V}$, $I_A \text{ max.} = 50 \text{ mA}$.

5) Signal transit time with resistive load.

6) With light/dark ratio 1:1.

7) A = V_S connections reverse-polarity protected.

8) B = inputs and output reverse-polarity protected.

9) D = outputs overcurrent and short-circuit protected.

Mechanical data

| | |
|-------------------------------|--|
| Housing | Rectangular |
| Dimensions (W x H x D) | 12 mm x 31.5 mm x 21 mm |
| Connection | Male connector M8, 4-pin |
| Material | |
| | Housing Plastic, ABS/PC |
| | Front screen Plastic, PMMA |
| Weight | 20 g |
| Items supplied | Stainless steel mounting bracket (1.4301/304) BEF-W100-A |

Ambient data

| | |
|--------------------------------------|---|
| Enclosure rating | IP67 |
| Ambient operating temperature | $-25 \text{ }^\circ\text{C} \dots +55 \text{ }^\circ\text{C}$ ¹⁾ |
| Ambient temperature, storage | $-40 \text{ }^\circ\text{C} \dots +70 \text{ }^\circ\text{C}$ |
| UL File No. | NRKH.E348498 & NRKH7.E348498 |

1) Temperature stability following adjustment $\pm 10 \text{ }^\circ\text{C}$.

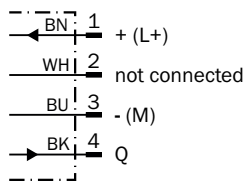
Classifications

| | |
|---------------------|----------|
| ECl@ss 5.0 | 27270904 |
| ECl@ss 5.1.4 | 27270904 |
| ECl@ss 6.0 | 27270904 |
| ECl@ss 6.2 | 27270904 |
| ECl@ss 7.0 | 27270904 |
| ECl@ss 8.0 | 27270904 |
| ECl@ss 8.1 | 27270904 |
| ECl@ss 9.0 | 27270904 |

| | |
|-----------------------|----------|
| ECI@ss 10.0 | 27270904 |
| ECI@ss 11.0 | 27270904 |
| ETIM 5.0 | EC002719 |
| ETIM 6.0 | EC002719 |
| ETIM 7.0 | EC002719 |
| UNSPSC 16.0901 | 39121528 |

Connection diagram

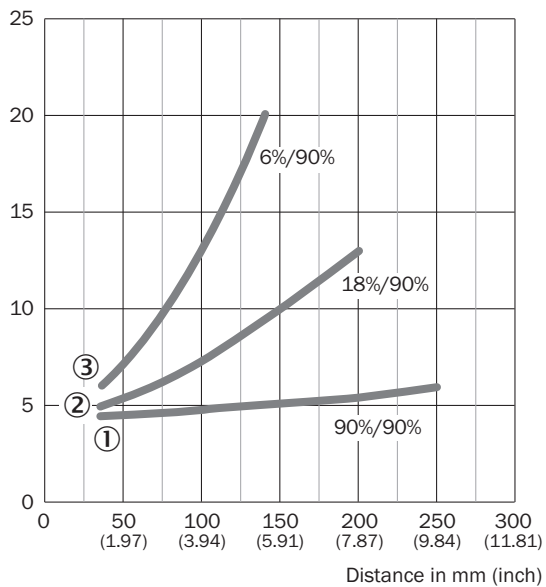
Cd-066



Characteristic curve

GTB6

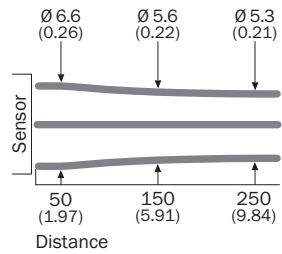
% of sensing distance



- ① Object with 90% remission (based on standard white DIN 5033)
- ② Sensing range on gray, 18% remission
- ③ Sensing range on black, 6% remission

Light spot size

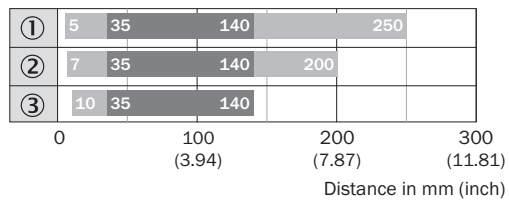
GTB6



All dimensions in mm (inch)

Sensing range diagram

GTB6

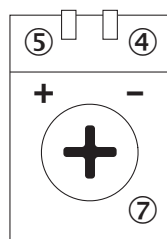


■ Sensing range max. ■ Sensing range

- ① Object with 90% remission (based on standard white DIN 5033)
- ② Sensing range on gray, 18 % remission
- ③ Sensing range on black, 6% remission

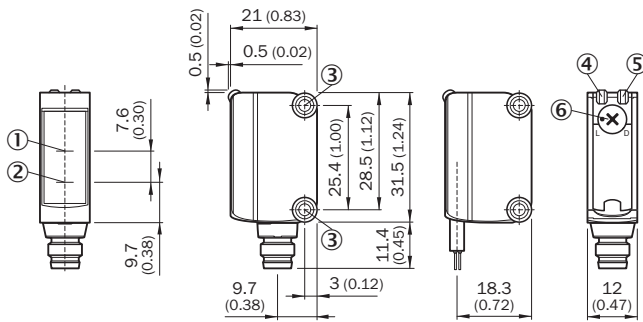
Adjustments

Adjustment possibility



- ④ LED indicator green: Supply voltage active
- ⑤ LED indicator yellow: Status of received light beam
- ⑦ Sensitivity control: potentiometer

Dimensional drawing (Dimensions in mm (inch))



- ① Optical axis, receiver
- ② Optical axis, sender
- ③ Mounting holes M3
- ④ LED indicator green: Supply voltage active
- ⑤ LED indicator yellow: Status of received light beam
- ⑥ Light/ dark rotary switch: L = light switching, D = dark switching

Brief description

Mounting brackets and plates



Stainless steel (1.4301)

Plug connectors and cables



Head A: female connector, M8, 4-pin, straight, A-coded
 Head B: Flying leads
 Cable: Sensor/actuator cable, PVC, unshielded, 5 m



Head A: male connector, M8, 4-pin, straight
 Head B: -
 Cable: unshielded