



Photoelectric sensors
W27-2, Photoelectric proximity sensor,
Background suppression

WT27-2R830S24



Model Name > [WT27-2R830S24](#)
Part No. > [1016496](#)



Illustration may differ

At a glance

- Intense visible red emitter LED with consistent light spot for PinPoint versions
- Long sensing ranges with IR LED achieve up to 2500 mm
- Precise background suppression for detection of multi-colored objects
- Universal DC or DC/AC supply voltage
- IO-Link provides access to sensor information and optimizes operating processes.
- Reflex Array Sensor: Minimum Detectable Object > 12 mm with a 50 mm detection area for the standard resolution variant
- Reflex Array Sensor: Minimum Detectable Object > 5 mm with a 24 mm detection area for the high resolution variant
- Classification: EX II 3D IP67 T70°C, EX II 3G EEx nA II T4 X according to Directive 94/9/EC (ATEX)
- Corresponds to category 3D/3G
- Conform to standards and ready-to-install: Sensor + protective housing (stainless steel 1.4301)
- UL approval

Your benefits

- Quick and easy commissioning due to a highly visible red PinPoint LED
- PinPoint technology can replace laser photoelectric proximity sensors in some applications. No laser safety regulations and a longer operating life due to PinPoint technology
- Resistant to ambient light, optical reflections, and crosstalk from other photoelectric devices
- Less contamination due to high operating reserves, reducing downtime
- Resistant to vibrations, reducing downtime
- Operation in harsh environments with temperatures as low as -40 °C
- Reflex Array Sensor: Reliable detection regardless of target position within the array: detection height 50 mm (MDO: > 12 mm) or detection height 24 mm (MDO: > 5 mm)
- Reflex Array Sensor: Less installation effort compared to light grids or multiple single-point photoelectric sensors
- Ready-to-install sensors including metal housing conform with the 3G/3D category for explosive zones (ATEX)



Features

Sensor/detection principle:	Photoelectric proximity sensor, Background suppression
Dimensions (W x H x D):	24.6 mm x 80 mm x 53.5 mm
Housing design (light emission):	Rectangular

Sensing range max.:	100 mm ... 1,000 mm ¹⁾
Sensing range:	100 mm ... 1,000 mm
Type of light:	Visible red light
Light source:	LED ²⁾
Time type:	Off delay, On delay, Switch on delay and time delay off
Delay time:	Adjustable via time delay selector switch: 0.5 ... 10 s
Adjustment:	Potentiometer
Light spot size (distance):	Ø 15 mm (500 mm)

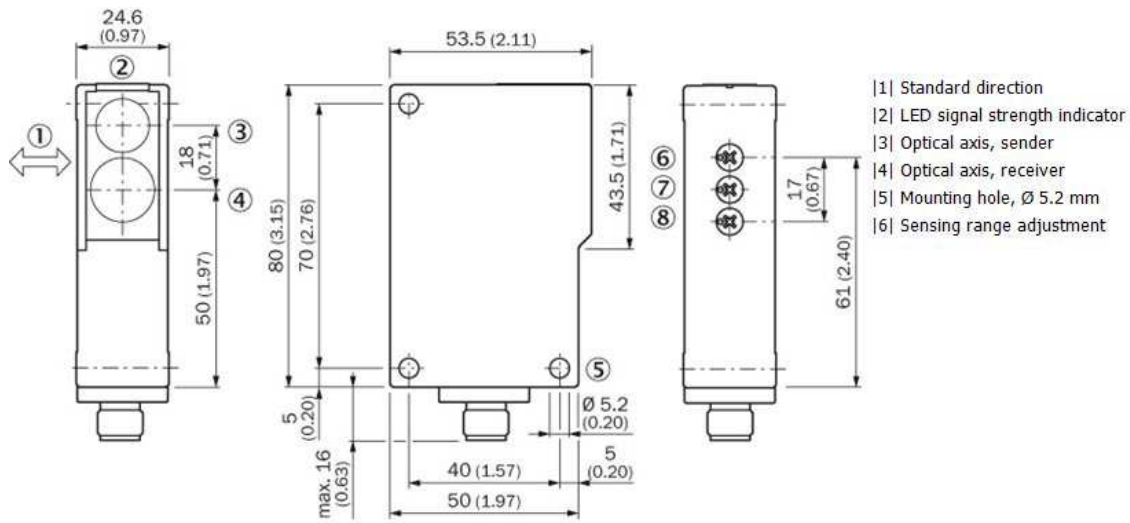
¹⁾ Object with 90 % reflectance (referred to standard white DIN 5033) ²⁾ Average service life of 100,000 h at $T_A = +25\text{ °C}$

Mechanics/electronics

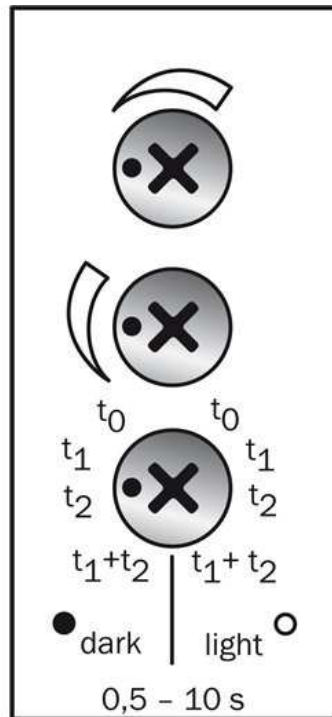
Supply voltage:	24 V AC/DC ... 240 V AC/DC ¹⁾
Power consumption:	< 2 VA
Output type:	Relay, electrically isolated ²⁾
Output function:	Change-over contacts
Switching mode:	Light/dark switching ³⁾
Switching mode selector:	Selectable via time delay selector switch
Switching current (switching voltage):	0.2 A (120 V DC), 4 A (24 V DC), 4 A (240 V AC)
Response time:	< 6 ms ⁴⁾
Switching frequency:	10 Hz ⁵⁾
Connection type:	Mini connector 7/8", 5-pin
Circuit protection:	A, C ^{6) 7)}
Protection class:	II ⁸⁾
Weight:	100 g
Special device:	✓
Housing material:	ABS, Plastic
Enclosure rating:	IP 65
Ambient operating temperature:	-40 °C ... 60 °C
Ambient storage temperature:	-40 °C ... 75 °C
UL File No.:	NRKH.E181493 & NRKH7.E181493

¹⁾ + 10 %, -20 % ^{2) 3)} Provide suitable spark suppression for inductive or capacitive loads ⁴⁾ Signal transit time with resistive load ⁵⁾ With light/dark ratio 1:1 ⁶⁾ A = V _S
connections reverse-polarity protected ⁷⁾ C = interference suppression ⁸⁾ Reference voltage 250 V AC

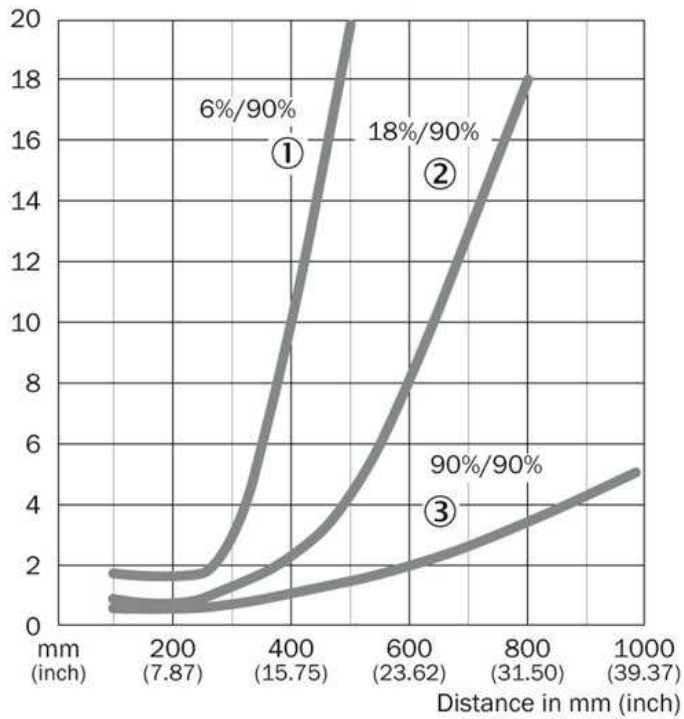
Dimensional drawing



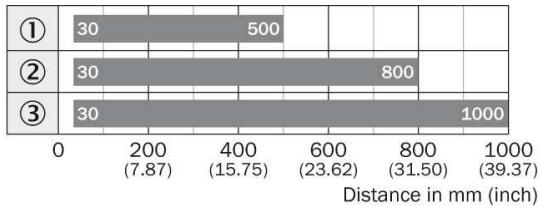
Adjustments possible



Characteristic curve



Sensing range diagram



■ Sensing range

- ① Sensing range on black, 6 % remission
- ② Sensing range on gray, 18 % remission
- ③ Sensing range on white, 90 % remission

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