



Photoelectric sensors
TranspaTect, Photoelectric proximity sensor,
Foreground suppression

WTF12G-3P2432



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Model Name > **WTF12G-3P2432**
Part No. > **1065719**



Illustration may differ

At a glance

- High-performance SICK technology
- No reflectors required
- Existing machine parts are used as reference target
- AutoAdapt for continuous threshold adaptation in contaminated conditions
- PinPoint LED with bright and precise light spot
- Easy-to-use teach-in button
- Status LEDs visible from all sides
- Rugged metal housing (PTFE coating available on request)

Your benefits

- Reliable detection of transparent and semitransparent objects without a reflector
- Reliable detection of objects regardless of color or surface qualities
- Freedom of machine design: no mounting system for the installation of a reflector required
- Quick commissioning: there is no need to mount a reflector or precisely adjust the sensor
- High operational safety: if the background becomes contaminated, object detection will continue uninterrupted
- Machine downtime is minimized: the integrated AutoAdapt function extends the time between cleanings
- Heightened productivity: mechanical and chemical ruggedness due to the metal housing



Features

Sensor/detection principle:	Photoelectric proximity sensor, Foreground suppression
Dimensions (W x H x D):	15.6 mm x 48.5 mm x 42 mm
Housing design (light emission):	Rectangular
Sensing range max.:	150 mm ... 700 mm ¹⁾
Sensing range:	0 mm ... 450 mm ²⁾
Type of light:	Visible red light
Light source:	PinPoint LED ³⁾
Teach-in:	Single teach-in button
Adjustment:	Teach-in
Light spot size (distance):	Ø 8 mm (300 mm)

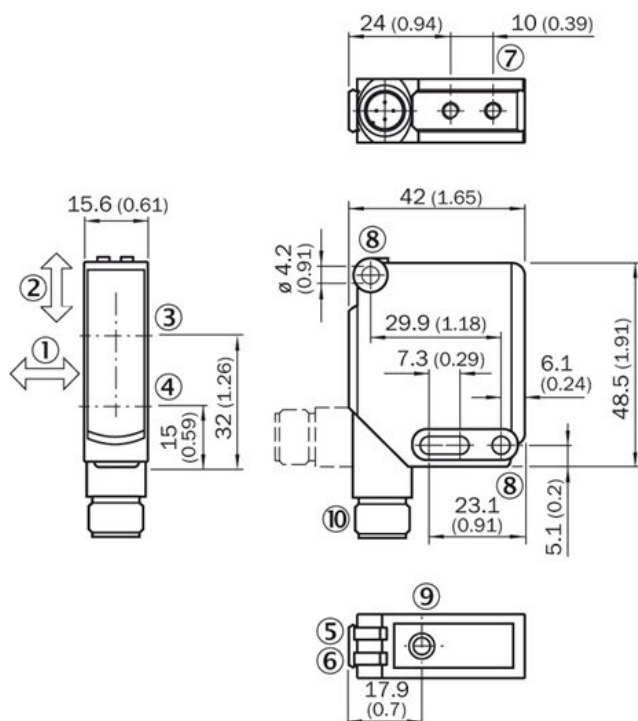
1) Adjustable background; referring to the background with 90 % remission (based on glass-bead blasted stainless steel, equivalent to standard white DIN 5033) 2)
 Detection range transparent objects 3) Average service life of 100,000 h at $T_A = +25\text{ °C}$

Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Ripple:	$\leq 5\text{ Vpp}$ ²⁾
Power consumption:	$\leq 55\text{ mA}$ ³⁾
Output type:	PNP
Output function:	Complementary
Switching mode:	Light/dark switching
Output current I _{max} :	100 mA
Response time:	2 ms ⁴⁾
Switching frequency:	250 Hz ⁵⁾
Connection type:	Connector M12, 4-pin
Circuit protection:::	A, C, D ⁶⁾ ⁷⁾ ⁸⁾
Protection class:	II
Weight:	120 g
Housing material:	Metal
Enclosure rating:	IP 66 IP 67
Special feature:	For transparent objects
Ambient operating temperature:	-40 °C ... +60 °C
Ambient storage temperature:	-40 °C ... +75 °C
UL File No.:	NRKH.E181493 & NRKH7.E181493
Signal voltage PNP HIGH/LOW:	> U _v - 2,5 V / ca. 0 V

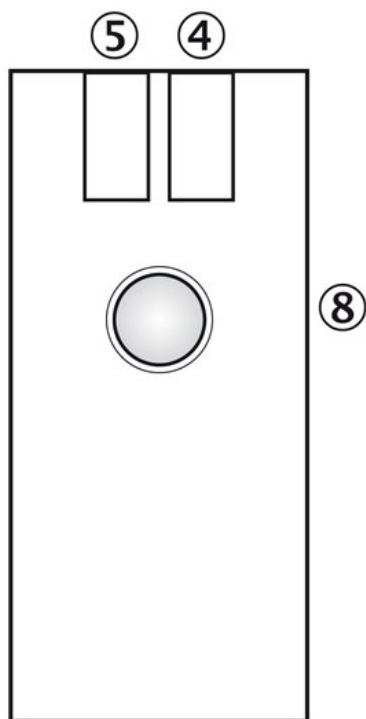
¹⁾ Limit values, operation in short-circuit protected network max. 8 A ²⁾ May not exceed or fall short of V_S tolerances ³⁾ Without load ⁴⁾ Signal transit time with resistive load ⁵⁾ With light/dark ratio 1:1 ⁶⁾ A = V_S connections reverse-polarity protected ⁷⁾ C = interference suppression ⁸⁾ D = outputs overcurrent and short-circuit protected

Dimensional drawing



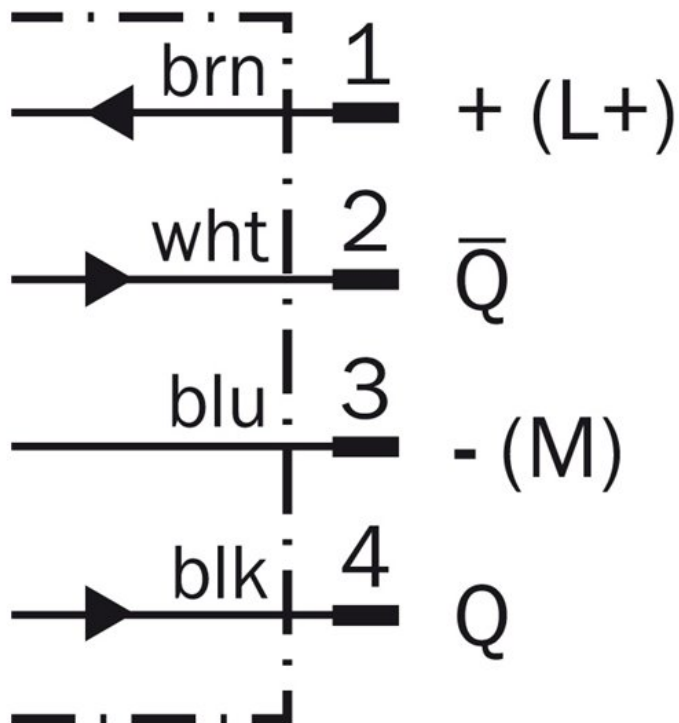
- [1] Recommended installation for the detection of transparent trays
- [2] Recommended installation for the detection of transparent bottles
- [3] Optical axis, receiver
- [4] Optical axis, sender
- [5] Status indicator LED green: power on
- [6] Status indicator LED, yellow: Status of received light beam
- [7] M4 threaded mounting hole, 4 mm deep
- [8] Mounting hole, \varnothing 4.2 mm
- [9] Adjustment sensing range: single teach-in button
- [10] Connection

Adjustments possible

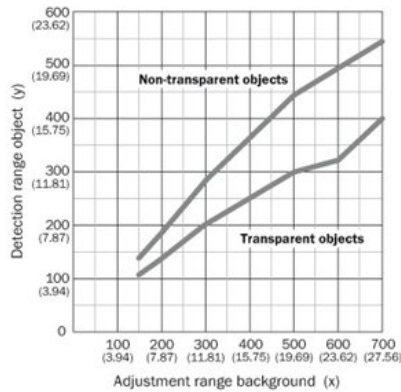


- [4] Status indicator LED green: power on
- [5] Status indicator LED, yellow: Status of received light beam
- [8] Adjustment sensing range: single teach-in button

Connection diagram



Characteristic curve



Legend:

x: Sensing range max. in mm (adjustment range background)
 = Distance sensor / background
 y: Sensing range in mm (detection range object)
 = Maximum distance sensor / front edge of the object

Minimum distance sensor / background : 150 mm*

*) Referring to the background with 90 % remission equivalent to standard white DIN 5033 (i.e. glass bead blasted stainless steel). The use of a shiny background can increase the minimum distance to the background (i.e. brushed and pickled stainless steel, minimum distance sensor to background: 300 mm).

How to use this diagram:

Measure the distance from the sensor to the metal surface in the background.
 This is the value for x (adjustment range background). If this is 500 mm for example,
 the maximum distance between the sensor and the leading edge of a transparent object is 300 mm.

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