Photoelectric sensors
TranspaTect, Photoelectric proximity sensor, Foreground suppression

WTF12G-3P2432

SICK
Sensor Intelligence.

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

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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)

Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC [1]
Ripple:	≤ 5 Vpp [2]
Power consumption:	≤ 55 mA [3]
Output type:	PNP
Output function:	Complementary
Switching mode:	Light/dark switching
Output current Imax.:	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 temperature operation:	-40 °C ... +60 °C
Ambient storage temperature:	-40 °C ... +75 °C
UL File No.:	NRKH.E181493 & NRKH7.E181493
Signal voltage PNP HIGH/LOW:	> Uv - 2,5 V ∕ ca. 0 V

## Dimensional drawing

24 (0.94) 10 (0.39)

⑦

15.6 (0.61)

② ③ ④

ø 4.2 (0.91)

⑧

42 (1.65)

29.9 (1.18)

7.3 (0.29)

6.1 (0.24)

48.5 (1.91)

15 (0.59) 32 (1.26)

⑩ ⑧

23.1 (0.91)

5.1 (0.2)

⑨

⑤ ⑥

17.9 (0.7)
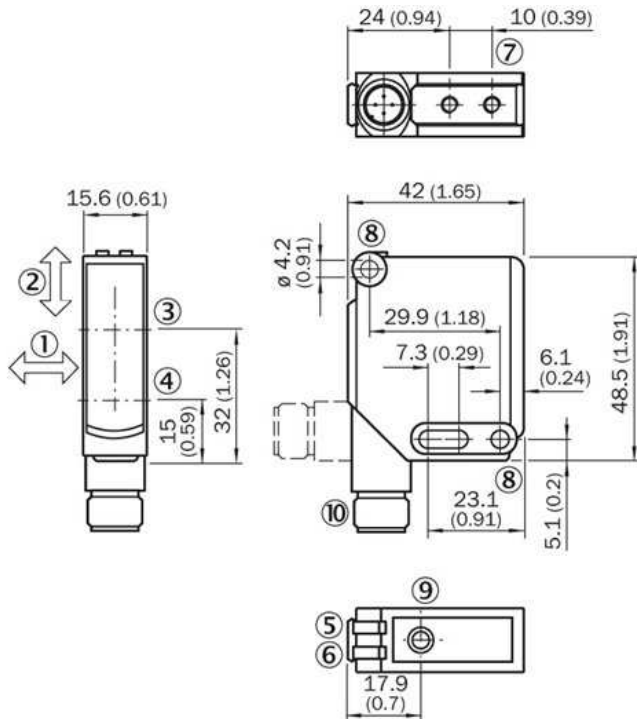
|1| Recommended installation for
   the detection of transparent trays
|2| Recommended installation for
   the detection of transparent bottles
|3| Optical axis, receiver
|4| Optical axis, sender
|5| Status indicator LED green: power on
|6| Status indicator LED,
   yellow: Status of received light beam
|7| M4 threaded mounting hole, 4 mm deep
|8| Mounting hole, Ø 4.2 mm
|9| Adjustment sensing range: single teach-in button
|10| Connection

Adjustments possible

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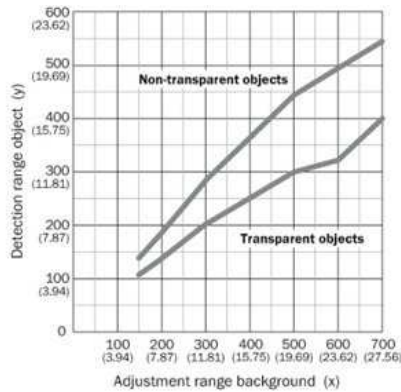
⑧
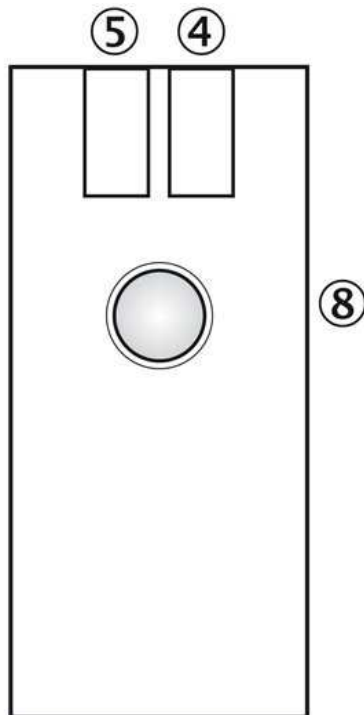
|4| Status indicator LED green: power on
|5| Status indicator LED,
   yellow: Status of received light beam
|8| Adjustment sensing range: single teach-in button

Connection diagram

brn	1	+ (L+)
wht	2	$\overline{Q}$
blu	3	- (M)
blk	4	Q
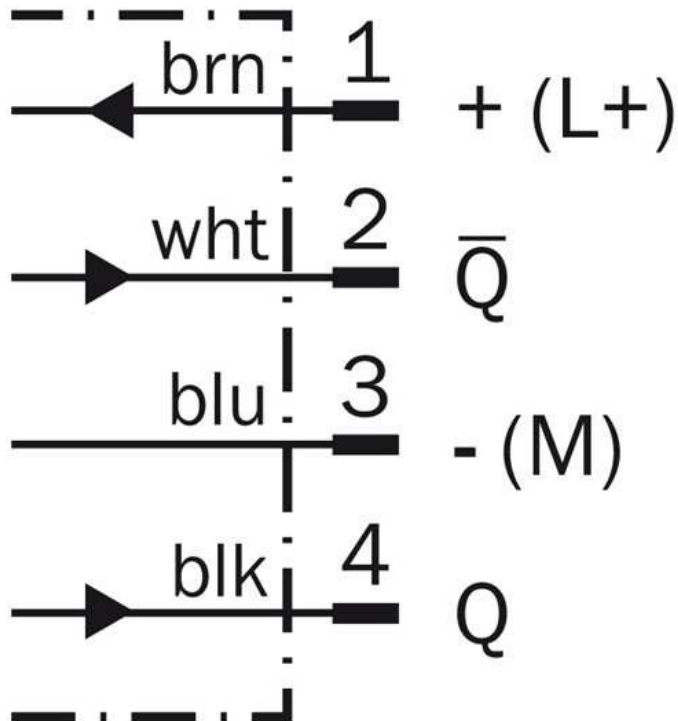
Characteristic curve

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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