WTF12G-3K2432

TranspaTect

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

WTF12G-3K2432 | TranspaTect

PHOTOELECTRIC SENSORS

Illustration may differ

Ordering information

Type	part no.
WTF12G-3K2432	1066211

Other models and accessories ➜ www.sick.com/TranspaTect

Detailed technical data

Features

Functional principle	Photoelectric proximity sensor
Functional principle detail	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 … 400 mm [2]
Type of light	Visible red light
Light source	PinPoint LED [3]
Light spot size (distance)	Ø 8 mm (300 mm)
Wave length	660 nm
Adjustment	Single teach-in button
Special feature	Detecting transparent objects
Special applications	Detecting transparent objects, Detecting uneven, shiny objects

[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: 100,000 h at T_U = +25 °C.

Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC [1]
Ripple	< 5 V_{pp} [2]
Current consumption	55 mA [3]
Switching output	PNP
Output function	Complementary
Switching mode	Light/dark switching
Signal voltage PNP HIGH/LOW	> Uv - 2,5 V / ca. 0 V
Output current $I_{max.}$	≤ 100 mA
Response time	2 ms [4]
Switching frequency	250 Hz [5]
Connection type	Male connector M12, 4-pin
Circuit protection	A [6] C [7] D [8]
Protection class	II
Weight	120 g
Housing material	Metal
Enclosure rating	IP66 IP67
Special feature	Detecting transparent objects
Ambient operating temperature	–40 °C ... +60 °C
Ambient temperature, storage	–40 °C ... +75 °C
UL File No.	NRKH.E181493 & NRKH7.E181493

[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] 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.

Safety-related parameters

$MTTF_D$	457 years
DC_{avg}	0%
T_M (mission time)	20 years

Certificates

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
ECOLAB certificate	✓

cULus certificate	✓
Photobiological safety (DIN EN 62471) cer-tificate	✓

Classifications

ECLASS 5.0	27270904
ECLASS 5.1.4	27270904
ECLASS 6.0	27270904
ECLASS 6.2	27270904
ECLASS 7.0	27270904
ECLASS 8.0	27270904
ECLASS 8.1	27270904
ECLASS 9.0	27270904
ECLASS 10.0	27270904
ECLASS 11.0	27270904
ECLASS 12.0	27270903
ETIM 5.0	EC002719
ETIM 6.0	EC002719
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

Connection diagram Cd-102

Pin	Wire	Signal
1	BN	+ (L+)
2	WH	Q
3	BU	- (M)
4	BK	$\overline{Q}$
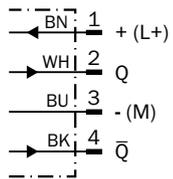
Characteristic curve

Legend of axes:
- Detection range object (y): 0, 100 (3.94), 200 (7.87), 300 (11.81), 400 (15.75), 500 (19.69), 600 (23.62)
- Adjustment range background (x): 100 (3.94), 200 (7.87), 300 (11.81), 400 (15.75), 500 (19.69), 600 (23.62), 700 (27.56)

Curves labeled: Non-transparent objects, Transparent objects
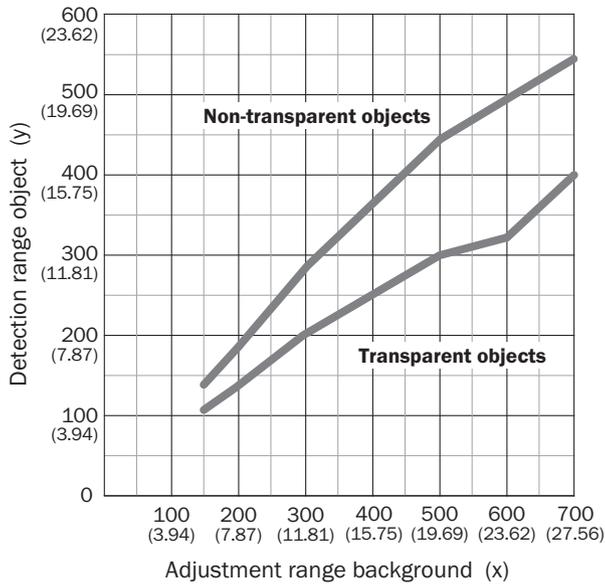
Legend:

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,
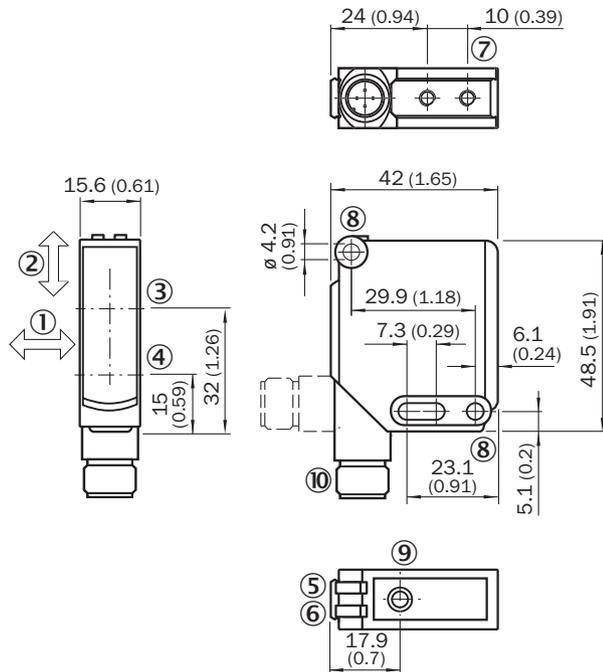the maximum distance between the sensor and the leading edge of a transparent object is 300 mm.

Adjustments
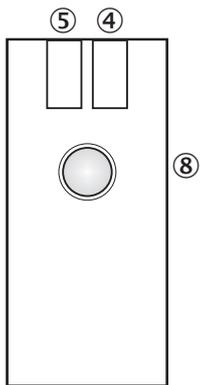
④ LED indicator green: Supply voltage active
⑤ LED indicator yellow: Status of received light beam

⑧ Adjustment sensing range: single teach-in button

Dimensional drawing

Dimensions in mm (inch)
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 LED indicator green: Supply voltage active
⑥ LED indicator 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

Recommended accessories

Other models and accessories ➜ www.sick.com/TranspaTect

	Brief description	Type	part no.
connectors and cables			
	• **Connection type head A:** Female connector, M12, 4-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 5 m, 4-wire, PVC • **Description:** Sensor/actuator cable, unshielded • **Application:** Zones with chemicals, Uncontaminated zones	YF2A14-050VB3XLEAX	2096235
	• **Connection type head A:** Male connector, M12, 4-pin, straight, A-coded • **Description:** Unshielded • **Connection systems:** Screw-type terminals • **Permitted cross-section:** ≤ 0.75 mm²	STE-1204-G	6009932
	• **Connection type head A:** Female connector, M12, 4-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 5 m, 4-wire, PUR, halogen-free • **Description:** Sensor/actuator cable, unshielded • **Application:** Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF2A14-050UB3XLEAX	2095608
Mounting systems			
	• **Description:** Mounting bracket, large • **Material:** Stainless steel • **Details:** Stainless steel • **Items supplied:** Mounting hardware included • **Suitable for:** W11-2, W12-3, W16	BEF-WG-W12	2013942
	• **Description:** Plate N11N for universal clamp bracket • **Material:** Stainless steel • **Details:** Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp) • **Items supplied:** Universal clamp (5322627), mounting hardware • **Usable for:** DeltaPac, Glare, WTD20E	BEF-KHS-N11N	2071081

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is "Sensor Intelligence."

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