Product data sheet

WTD20E-W1145

DeltaPac

MULTITASK PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

Illustration may differ

Ordering information

Type	Part no.
WTD20E-W1145	1065773

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

Detailed technical data

Features

Sensor/ detection principle	Photoelectric proximity sensor
Dimensions (W x H x D)	42 mm x 42 mm x 45 mm
Housing design (light emission)	Rectangular
Sensing range max.	30 mm ... 40 mm [1]
Sensing range	30 +/- 2 mm
Type of light	Visible red light
Light source	PinPoint LED [2]
Light spot size (distance)	Ø 1 mm (30 mm) [3]
Wave length	635 nm
Adjustment	None
Special applications	Zero gap detection
Background suppression	≥ 60 mm
Key feature of the object	Edges

[1] The sensing range max. refers to the object leading edge. The individual object leading edges must be within the operating range.
[2] Average service life: 100,000 h at T_U = +25 °C.
[3] 4 x.

Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC [1]
Ripple	≤ 5 V_{pp} [2]
Power consumption	70 mA [3]
Switching output	NPN
Output current $I_{max.}$	≤ 100 mA [4]
Connection type	Cable, 4-wire, 2 m [5]
Cable material	PVC
Conductor cross-section	0.14 mm²
Circuit protection	A [6] B [7] C [8]
Protection class	III
Weight	130 g
Housing material	Plastic, Novodur
Enclosure rating	IP67
Ambient operating temperature	–40 °C ... +55 °C
Ambient storage temperature	–40 °C ... +75 °C
Productivity max.	40,000 pcs./h
Object speed max.	≤ 0.6 m/s
Radius of the object contour	1 mm ... 2 mm
Switching accuracy	≤ 2 x radius
Repeatability (T_a not constant)	typ. < 1 mm
Switch on delay Q_1 & Q_2	≤ 80 ms
Time delay off Q_1	≤ 80 ms
Object width min.	≥ 10 mm
Object height min.	≥ 30 mm

[1] Limit values, reverse-polarity protected, operation in short-circuit protected network: max. 8 A.
[2] May not exceed or fall below U_V tolerances.
[3] At 24 V.
[4] 2 switching outputs with Imax = 100 mA.
[5] Do not bend below 0 °C.
[6] A = V_S connections reverse-polarity protected.
[7] B = inputs and output reverse-polarity protected.
[8] C = interference suppression.

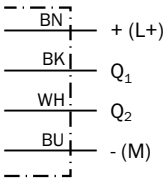
Classifications

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
ECl@ss 10.0	27270904
ECl@ss 11.0	27270904
ETIM 5.0	EC002719
ETIM 6.0	EC002719
ETIM 7.0	EC002719
UNSPSC 16.0901	39121528

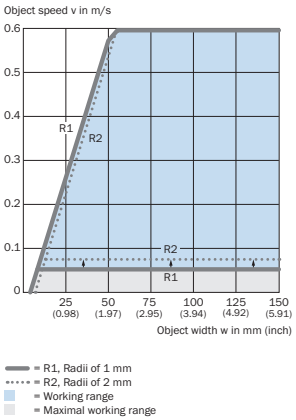
Connection diagram

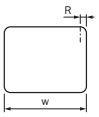
Cd-242



Characteristic curve

Characteristic curve, edge, rounded edges, speed

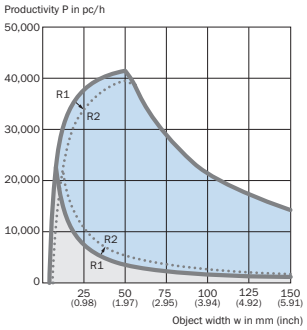




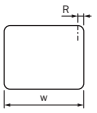
Parameter example, dimensions in mm (inch)

Object width	Object radii	Object speed min.	Object speed max.
25 (0.98)	1 (0.04)	0.05 m/s	0.26 m/s
75 (2.95)	2 (0.08)	0.08 m/s	0.6 m/s

Characteristic curve, productivity



= R1, Radii of 1 mm
= R2, Radii of 2 mm
= Working range
= Maximal working range

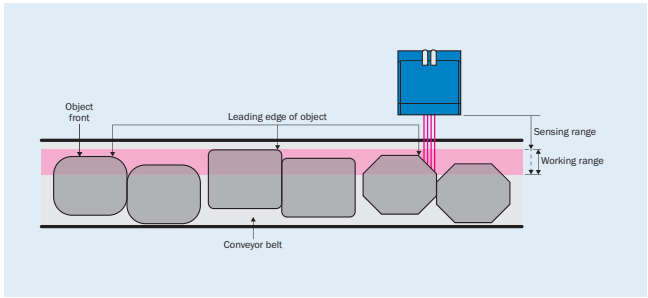


Parameter example, dimensions in mm (inch)

Object width	Object radii	Productivity min.	Productivity max.
25 (0.98)	1 (0.04)	7,500 pc/h	38,000 pc/h
75 (2.95)	2 (0.08)	3,500 pc/h	28,500 pc/h

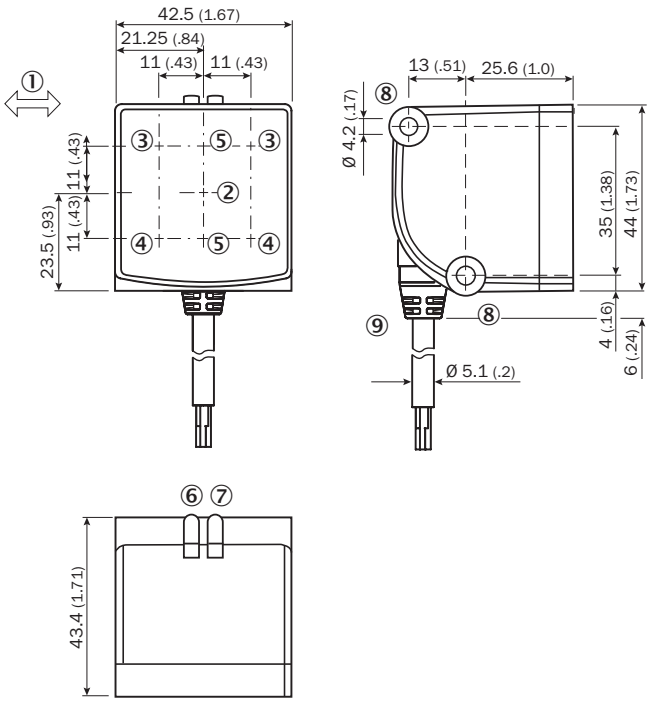
Functional principle

Sensing range in detail



Dimensional drawing (Dimensions in mm (inch))

WTD20E-V/W11xx, cable



① Standard direction
② Center of optical axis, sender
③ Center of optical axis, receiver (first energy scale)
④ Center of optical axis, receiver (second energy scale)
⑤ Optical axis, receiver
⑥ LED indicator orange: status of received light beam, presence signal Q1
⑦ LED indicator green: Supply voltage active
⑧ Fixing hole
⑨ Connection (rotatable)

Recommended accessories

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

	Brief description	Type	Part no.
Plug connectors and cables			
	Head A: male connector, M8, 4-pin, straight Head B: - Cable: unshielded	STE-0804-G	6037323

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.”

WORLDWIDE PRESENCE:

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