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Product data sheet



WT2F-P140

W2

MINIATURE PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

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WT2F-P140 | W2

MINIATURE PHOTOELECTRIC SENSORS



Illustration may differ

Ordering information

Type	Part no.
WT2F-P140	6030584

Other models and accessories → www.sick.com/W2

Detailed technical data

Features

Functional principle	Photoelectric proximity sensor
Functional principle detail	Energetic
Dimensions (W x H x D)	14 mm x 19.5 mm x 3.5 mm
Housing design (light emission)	Rectangular
Sensing range max.	2 mm ... 18 mm [1]
Sensing range	2 mm ... 18 mm [1]
Type of light	Visible red light
Light source	LED [2]
Wave length	660 nm
Adjustment	None

[1] Object with 90% remission (based on standard white, DIN 5033).

[2] Average service life: 100,000 h at T_U = +25 °C.

Mechanics/electronics

Supply voltage U_B	12 V DC ... 24 V DC [1]
Ripple	< 5 V_{pp} [2]
Switching output	PNP
Switching mode	Light switching
Signal voltage PNP HIGH/LOW	Approx. V_S – 1.8 V / 0 V

[1] +- 10 %.

[2] May not exceed or fall below U_V tolerances.

[3] Signal transit time with resistive load.

[4] With light/dark ratio 1:1.

[5] Do not bend below 0 °C.

[6] A = V_S connections reverse-polarity protected.

[7] C = interference suppression.

[8] D = outputs overcurrent and short-circuit protected.

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Signal voltage NPN HIGH/LOW	Approx. V_S / < 1.8 V
Output current $I_{max.}$	≤ 50 mA
Response time	≤ 0.5 ms [3]
Switching frequency	1,000 Hz [4]
Connection type	Cable, 3-wire, 2 m [5]
Cable material	PVC
Cable diameter	Ø 2.4 mm
Circuit protection	A [6] C [7] D [8]
Weight	20 g
Reverse polarity protection	✓
Short-circuit protection	✓
Housing material	Plastic, PC
Optics material	Plastic, PC
Enclosure rating	IP67
Ambient operating temperature	–20 °C ... +55 °C
Ambient temperature, storage	–40 °C ... +75 °C

[1] +- 10 %.
[2] May not exceed or fall below U_V tolerances.
[3] Signal transit time with resistive load.
[4] With light/dark ratio 1:1.
[5] Do not bend below 0 °C.
[6] A = V_S connections reverse-polarity protected.
[7] C = interference suppression.
[8] D = outputs overcurrent and short-circuit protected.

Safety-related parameters

$MTTF_D$	1,526 years
DC_{avg}	0 %

Classifications

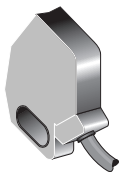
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ECLASS 5.1.4	27270903
ECLASS 6.0	27270903
ECLASS 6.2	27270903
ECLASS 7.0	27270903
ECLASS 8.0	27270903
ECLASS 8.1	27270903
ECLASS 9.0	27270903
ECLASS 10.0	27270904
ECLASS 11.0	27270904
ECLASS 12.0	27270903
ETIM 5.0	EC001821

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ETIM 6.0	EC001821
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

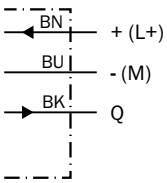
Connection type

Wx2F-x1xx



Connection diagram

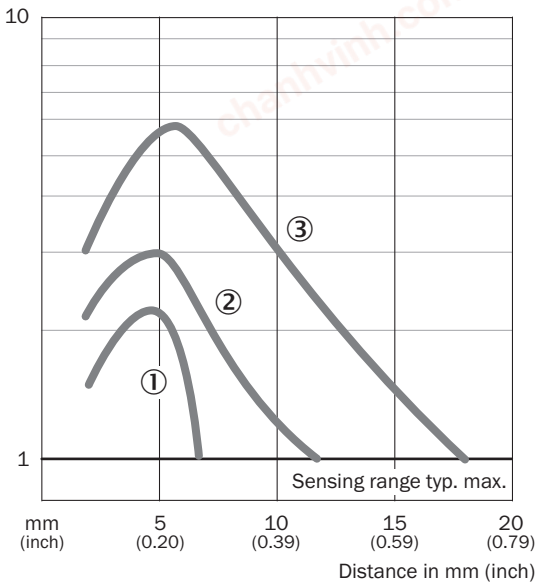
Cd-043



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Characteristic curve

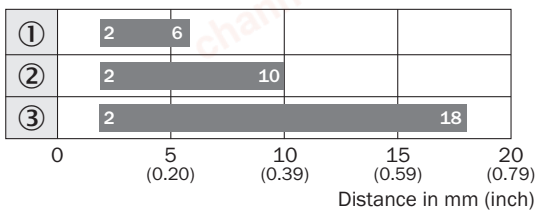
WT2F, 18 mm



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

Sensing range diagram

WT2F, 18 mm



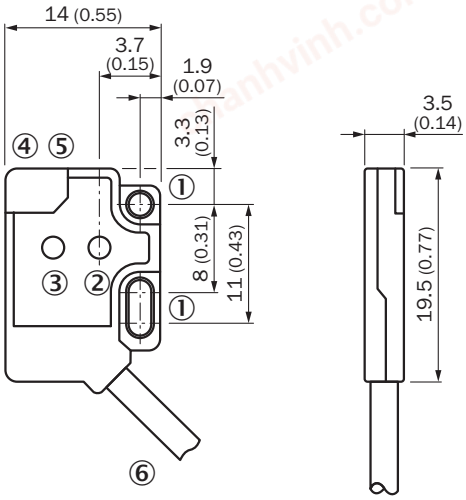
Sensing range

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

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Dimensional drawing (Dimensions in mm (inch))

WT2F



① Mounting holes, Ø 2.1 mm
② Optical axis, sender
③ Optical axis, receiver
④ LED indicator orange: switching output active
⑤ LED indicator green: strength indicator
⑥ Connection

Recommended accessories

Other models and accessories ➜ www.sick.com/W2

	Brief description	Type	Part no.
Plug connectors and cables			
	• **Connection type head A:** Male connector, M8, 3-pin, straight • **Description:** Unshielded • **Connection systems:** Screw-type terminals • **Permitted cross-section:** 0.14 mm² ... 0.5 mm²	STE-0803-G	6037322

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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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