

ONLINE DATA SHEET
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Photoelectric sensors
W2 Flat, Photoelectric proximity sensor, energetic

WT2F-P180



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Type > WT2F-P180
Part No. > 6030573





Illustration may differ

At a glance

- V-optic sensor with fixed sensing ranges of 9 mm or 18 mm for detecting transparent and glossy objects
- Energetic proximity sensor with fixed sensing ranges of 34 or 115 mm
- Rugged housing with metal sleeves for 2 mm fixing screws included with delivery
- 0.5 ms response time
- IP 67 enclosure rating
- Red light

Your benefits

- Variants with V-optics reliably detect transparent and glossy objects, resulting in a low-cost application solution - even for demanding applications
- Smart, optimal design fits into small spaces, providing increased application flexibility
- Sensors with four fixed sensing ranges provides a wide range of application options
- Quick and easy installation since sensors can be mounted directly to the machine

Features

Sensor/detection principle:	Photoelectric proximity sensor, 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.:	4 mm ... 115 mm [1]
Sensing range:	4 mm ... 115 mm [2]
Type of light:	Visible red light
Light source:	LED [3]
Wave length:	660 nm
Focus adjustable:	-

[1] [2] Object with 90 % reflectance (referred to standard white, DIN 5033) [3] Average service life: 100,000 h at T_U = +25 °C

Mechanics/electronics

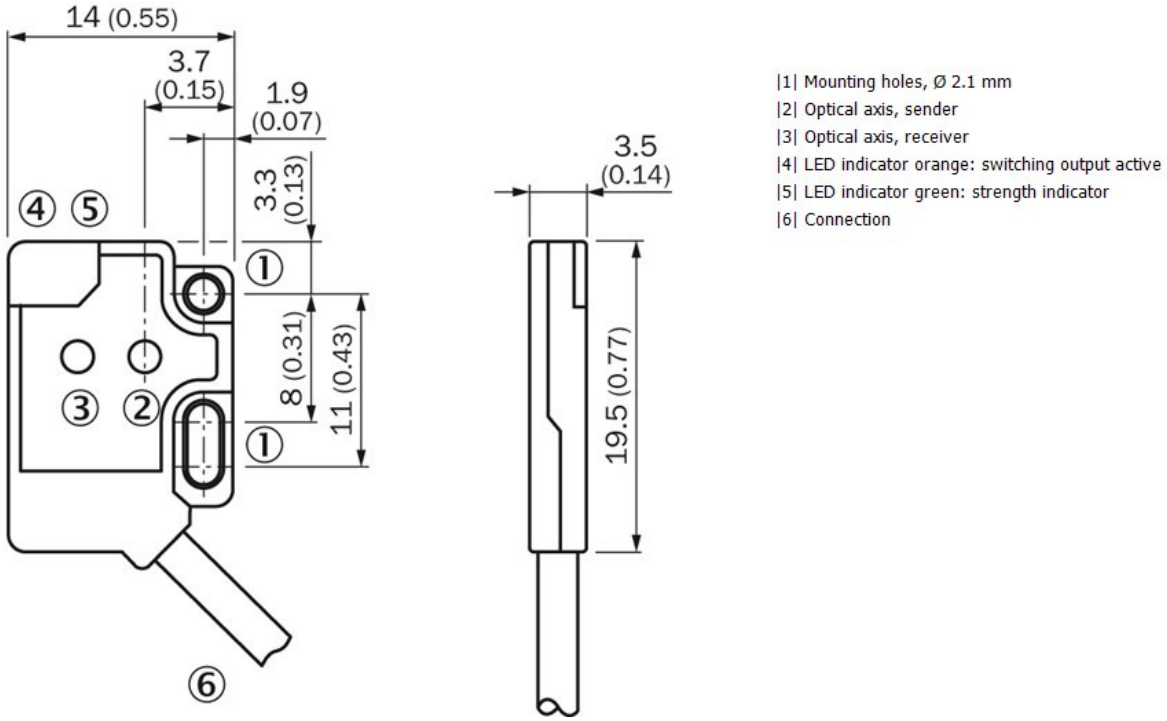
Supply voltage:	12 V DC ... 24 V DC [1]
Ripple:	≤ 5 Vpp [2]
Output type:	PNP
Switching mode:	Light switching
Output current Imax.:	≤ 50 mA
Response time:	≤ 0.5 ms [3]

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Switching frequency:	1,000 Hz [4]
Connection type:	Cable, 3-wire, 2 m [5]
Cable material:	PVC
Cable diameter:	2.4 mm
Circuit protection:::	A, C, D [6] [7] [8]
Weight:	20 g
Polarisation filter:	-
Special device:	-
Reverse polarity protection:	✓
Short-circuit protection:	✓
Optics material:	PC
Enclosure rating:	IP 67
Ambient operating temperature:	-20 °C ... +55 °C
Ambient storage temperature:	-40 °C ... +75 °C
Signal voltage PNP HIGH/LOW:	Approx. VS - 1.8 V / 0 V
Signal voltage NPN HIGH/LOW:	Approx. VS / < 1.8 V
Housing material:	Plastic, PC

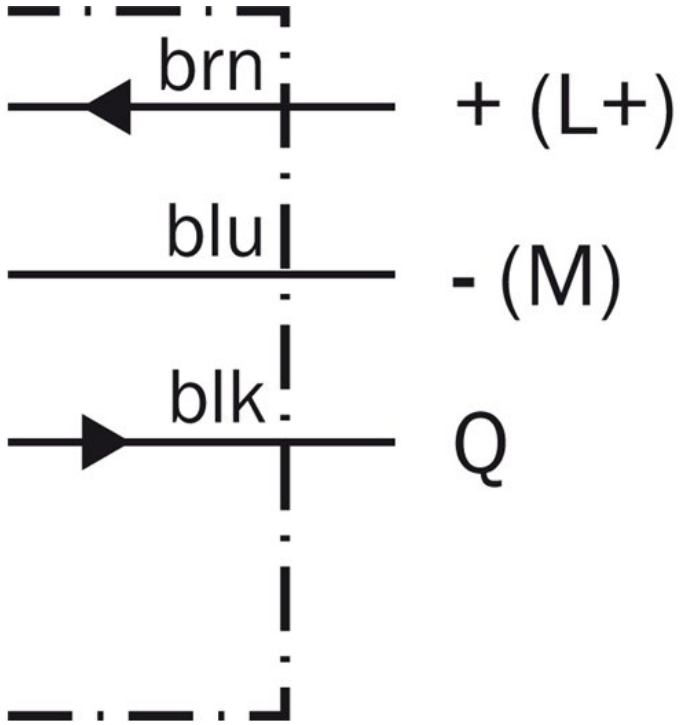
[1] +- 10 % [2] May not exceed or fall below U_v tolerances [3] Signal transit time with resistive load [4] With light/dark ratio 1:1 [5] Do not bend below 0 °C [6] A = V_S connections reverse-polarity protected [7] C = interference suppression [8] D = outputs overcurrent and short-circuit protected

Dimensional drawing

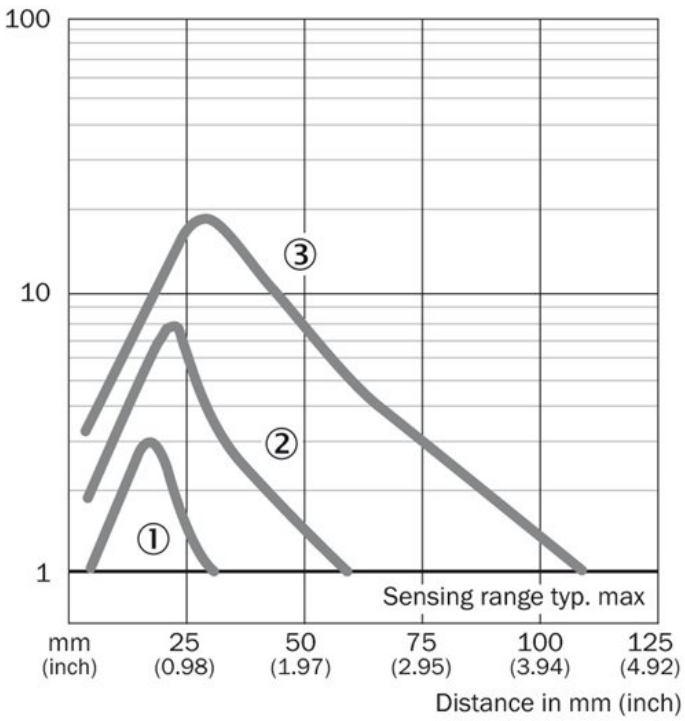


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Connection diagram



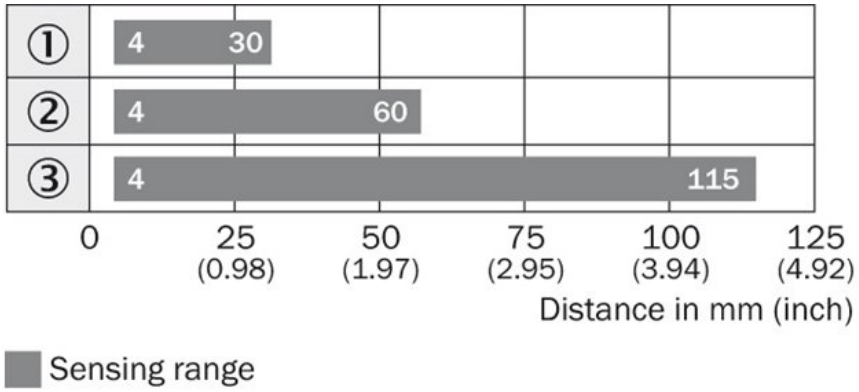
Characteristic curve



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

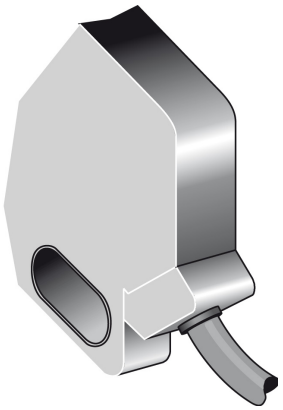
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Sensing range diagram



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

Connection type



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