ONLINE DATA SHEET
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Short range distance sensors (displacement)
OD Value, 4 mA ... 20 mA (≤ 300 Ω)

OD2-N30W04I0

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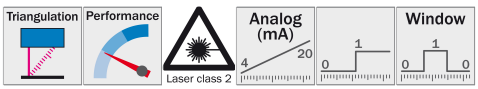
Model Name > OD2-N30W04I0
Part No. > 6036572

At a glance

- Several measurement ranges from 26 mm ... 34 mm to 100 mm ... 500 mm
- CMOS receiving element for measurement independent of surface
- Easy, LED-based user and teach-in concept
- Wide range of models and a wide range of standard interfaces
- Laser technology for precise measurement of very small objects
- Compact stand-alone device
- Excellent price-performance ratio

Your benefits

- Reliable measurement independent of surface, minimizes machine downtime
- Extremely simple sensor teach-in makes setup faster and more costeffective
- Minimal space requirements and less wiring due to its compact, standalone design
- Many measurement ranges and output interfaces make it ideal for cost-effective integration into any production environment
- Low investment costs make consistent, regular quality inspection possible
- Non-contact measurement technology from a safe distance allows the inspection to be carried out directly during the production process
- Wear and damage-free inspection, due to non-contact measurement



Performance

Measuring range:	26 mm ... 34 mm, 6 % ... 90 % remission
Resolution:	2 µm [1)]
Repeatability::::	6 µm [2) 3) 4) 5)]
Linearity::::	± 8 µm [6) 7) 8) 9)]
Response time [10)]:	1 ms/10 ms/35 ms
Measuring frequency:	2 kHz
Light source:	Laser, red
Typ. light spot size (distance):	0.1 mm x 0.1 mm (30 mm)
Additional function:	Automatic sensitivity adjustment, Teach-in of analog outputs, Teach-in of switching output, Invertable analog output, Invertable switching output, Averaging 1 ... 64x, Multifunctional input: laser-off/external teach-in/ trigger, Switching mode: distance to object (DtO), Switching mode: window (Wnd)
Laser class:	2 (EN 60825-1) [11)]

[1] [3] [6] At averaging function medium [2] 6 % ... 90 % remission [4] Constant ambient conditions [5] [8] For best performance consider warm up time ≤ 5 minutes [7] Measurement on 90 % remission (ceramic, white) [9] When calibrated in the application regularly [10] Automatic sensitivity adjustment ≤ 4 ms, 6 ms for the models with measuring range of 100 mm ... 400 mm [11] Wavelength: 655 nm, max. output: 1 mW

Interfaces

Data interface:	4 mA ... 20 mA (≤ 300 Ω)
Output type [1]:	2 x NPN (100 mA)
Multifunctional input (MF) [2]:	1 x MF

[1] PNP: HIGH = V_S - (< 2 V)/LOW = < 2 V; NPN: HIGH = < 2 V/LOW = V_S [2] MF can be used as laser-off, trigger, external teach-in or deactivated; response time ≤ 3 ms

Mechanics/electronics

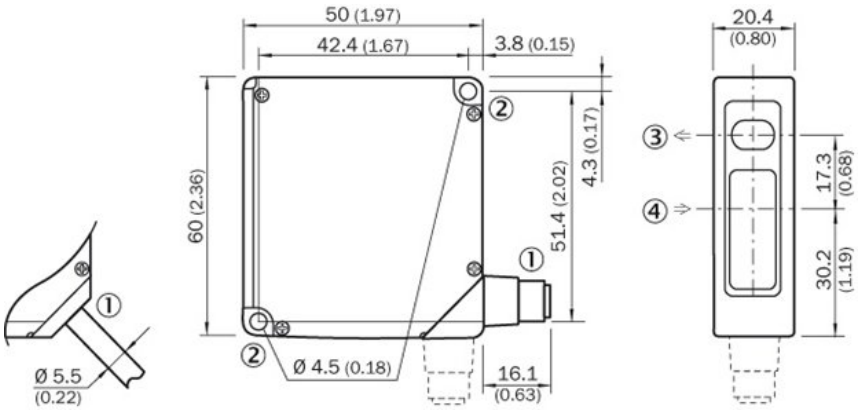
Connection type:	Connector, M12, 8-pin
Supply voltage Vs [1]:	DC 12 V ... 24 V
Power consumption [2]:	≤ 2.88 W
Warm-up time:	≤ 5 min
Indication:	Distance bar graph, up to 8 status LEDs
Weight:	70 g
Housing material:	PBT housing with PMMA lens

[1] DC 12 V (-5 %) ... 24 V (+10 %); DC 18 V (-5 %) ... DC 24 V (+10 %) when using analog voltage output [2] Without load, with current output

Ambient data

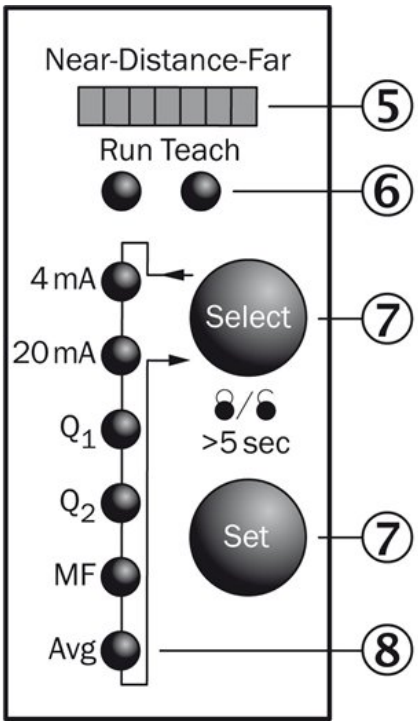
Enclosure rating:	IP 67
Protection class:	III
Ambient temperature:	Operation: -10 ... 40 °C, Storage: -20 ... 60 °C
Temperature drift:	± 0.08 % FS/K (FS = Full Scale = Measuring range of sensor)
Typ. ambient light safety:	Artificial light: ≤ 3,000 lx Sunlight: ≤ 10,000 lx
Vibration resistance:	10 Hz ... 55 Hz (amplitude 1.5 mm, x-, y-, z-axis 2 hours each)
Shock resistance:	50 G (x-, y-, z-axis 3 times each)
Relative humidity (not condensing):	35 % ... 95 %

Dimensional drawing



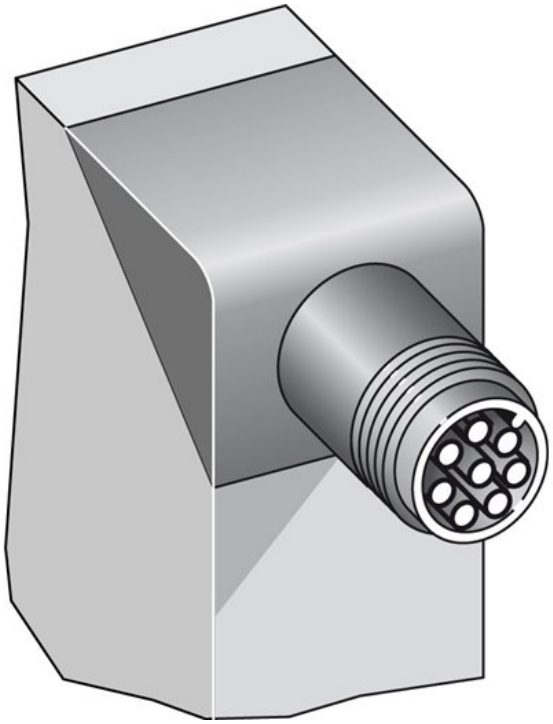
|1| 2 m cable or M12 connector; 90° rotatable
|2| Mounting hole, Ø 4.5 mm
|3| Optical axis sender
|4| Optical axis receiver

Adjustment possible

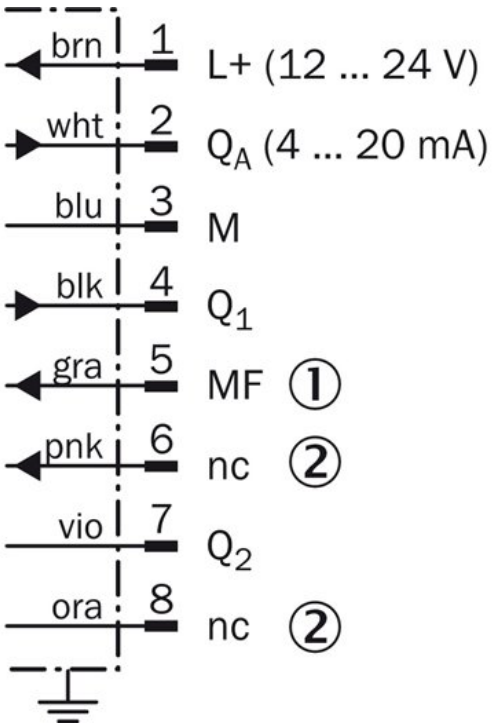


|5| Distance indicator
|6| mode indicator (Run/Teach)
|7| Control elements
|8| status indicator in- and outputs (Run-mode)/menu indicator (Teach-mode)

Connection type

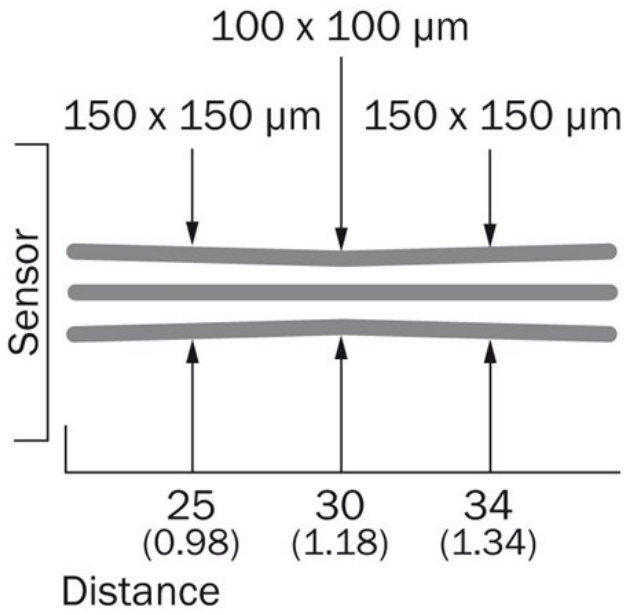


Connection diagram



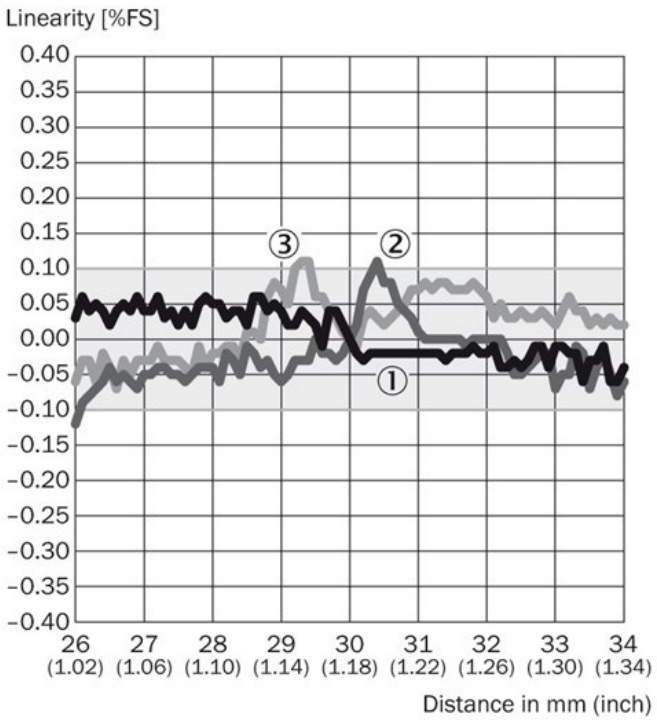
|1| Multifunctional input (MF)
|2| not connected

Light spot size



All dimensions in mm (inch)

Linearity



|1| White ceramic
|2| Black paper
|3| Stainless steel

· USmod 4c int40

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