



Short range distance sensors (displacement) OD Hi

OD100-40N152



Model Name > OD100-40N152
Part No. > 6025045



At a glance

- Many measurement ranges from 26 mm ... 34 mm to 100 mm ... 400 mm
- CMOS receiving element for accurate measurement independent of surface
- High-visibility LC display on the device
- Laser technology for measurement of very small objects
- Tough and compact stand-alone device

Your benefits

- Reliably measure targets regardless of color or reflectivity, minimizing machine downtime
- Fast, cost-effective setup due to easy-to-read LC display
- Less wiring ensures low installation cost due to its compact, stand-alone design
- Tough, metal housing for reliable operation and reduced machine downtime
- Non-contact measurement enables quality inspection during production
- 100% inspection with optical distance sensors ensures consistent high product quality



Performance

Measuring range:	60 mm ... 140 mm, 6 % ... 90 % remission
Resolution::	35 µm ^{1) 2)}
Repeatability:	105 µm ³⁾
Linearity:	± 800 µm ⁴⁾
Response time ⁵⁾ :	2 ms
Measuring frequency:	1 kHz
Light source:	Laser, red
Laser protection class:	2 (EN 60825-1) ⁶⁾
Typ. light spot size (distance):	1 mm x 1.5 mm (100 mm)
Additional function:	3 memory banks, Automatic sensitivity adjustment, Teach-in of analog output, Teach-in of switching output, Set hysteresis, Manual sensitivity adjustment, Averaging function 1 ... 1,024x, Switching mode Distance to object (DtO), Switching mode Window (Wnd)

^{1) 4)} 6 % ... 90 % remission ²⁾ Averaging function set to: 64 ³⁾ Averaging function set to: 64; constant ambient conditions ⁵⁾ Automatic sensitivity adjustment ≤ 15 ms

⁶⁾ Wavelength 650 nm, max. output 1 mW

Interfaces

Output type ¹⁾ :	1 x NPN (100 mA)
Analog output:	1 x 4 mA ... 20 mA ($\leq 300 \Omega$)
Teach input:	1 x ET
Trigger input:	1 x trigger

¹⁾ PNP: HIGH = $V_S - (< 2 V)$ /LOW = $< 2 V$; NPN: HIGH = $< 2 V$ /LOW = V_S

Mechanics/electronics

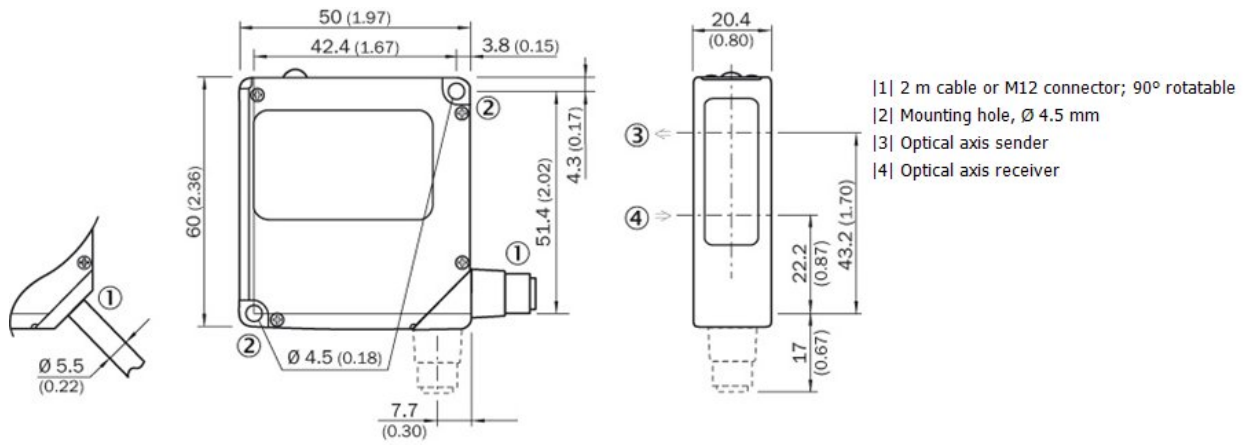
Connection type:	Cable 2 m
Supply voltage V_S ¹⁾ :	DC 12 V ... 24 V
Power consumption ²⁾ :	$\leq 2.88 W$
Warm-up time:	$\leq 5 \text{ min}$
Indication:	LC display
Weight:	200 g ³⁾
Housing material:	Zinc housing with glass lens

¹⁾ DC 12 V (-5 %) ... DC 24 V (+10 %) ²⁾ Exclusive load, inclusive current output ³⁾ 300 g with cable

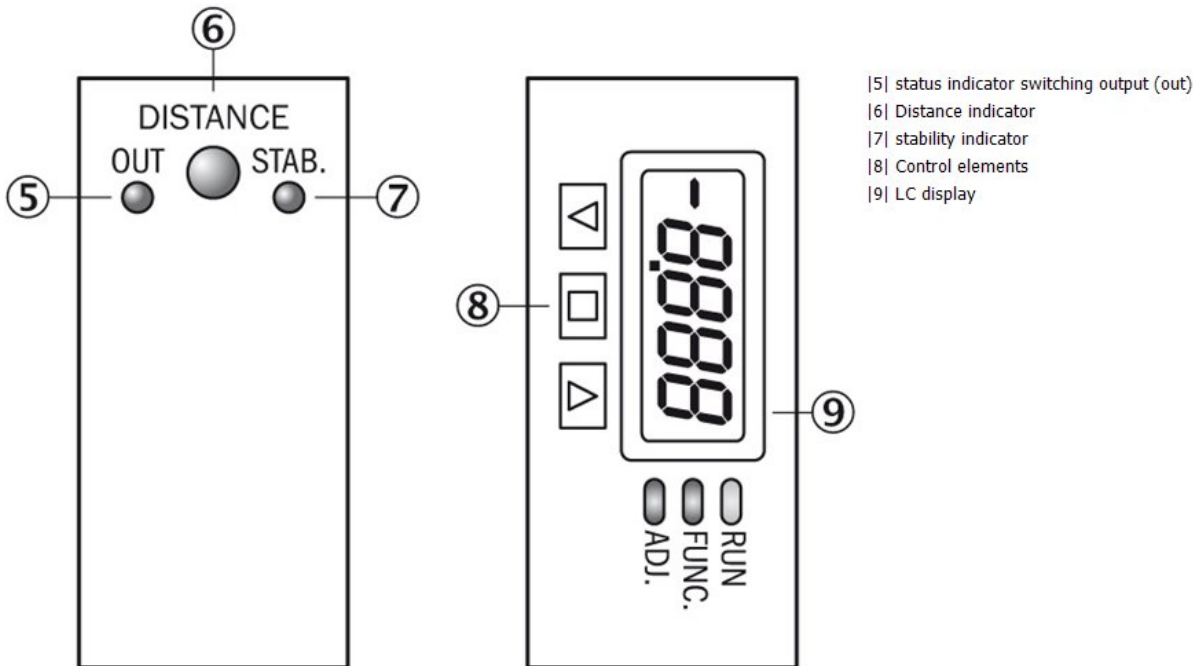
Ambient data

Enclosure rating:	IP 67
Protection class:	III
Ambient temperature:	Operation: -10 ... 40 °C, Storage: -20 ... 60 °C
Temperature drift:	$\pm 0.08 \% \text{ FS/K}$ (FS = Full Scale = Measuring range of sensor)
Typ. ambient light safety:	Artificial light: $\leq 3,000 \text{ lx}$ Sunlight: $\leq 10,000 \text{ lx}$
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 % ... 85 %

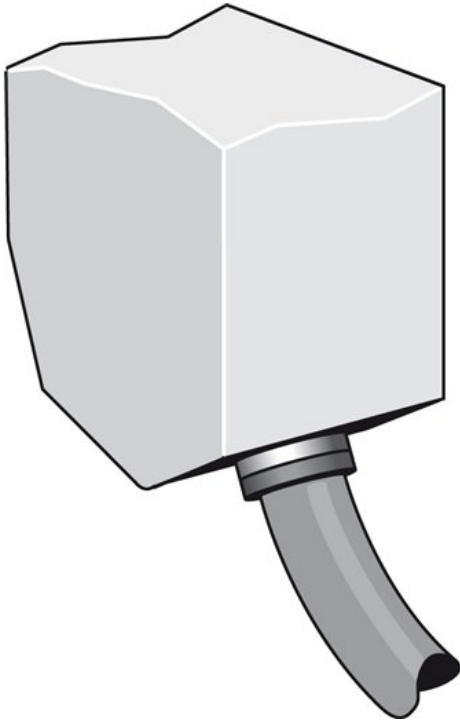
Dimensional drawing



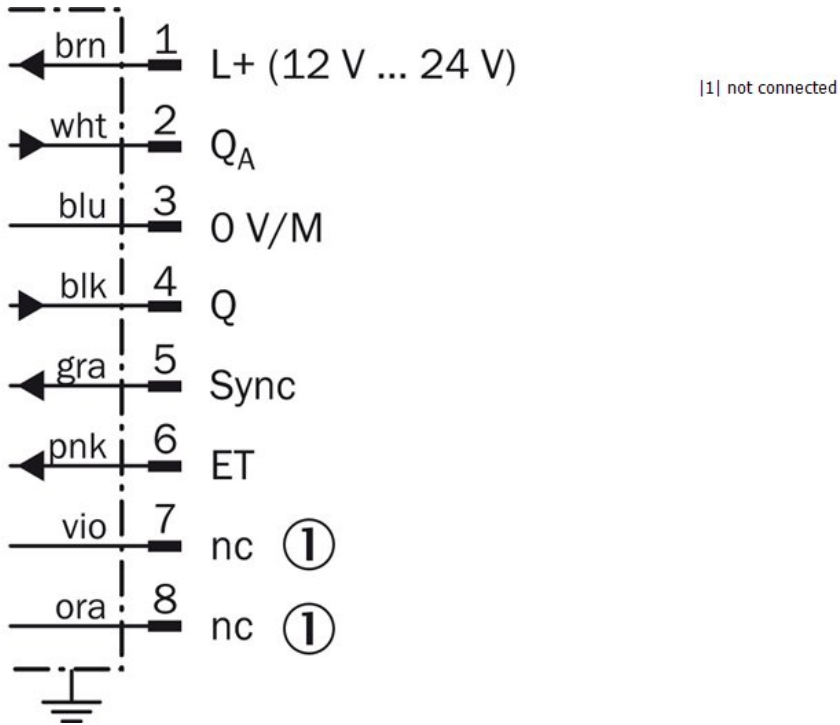
Adjustment possible



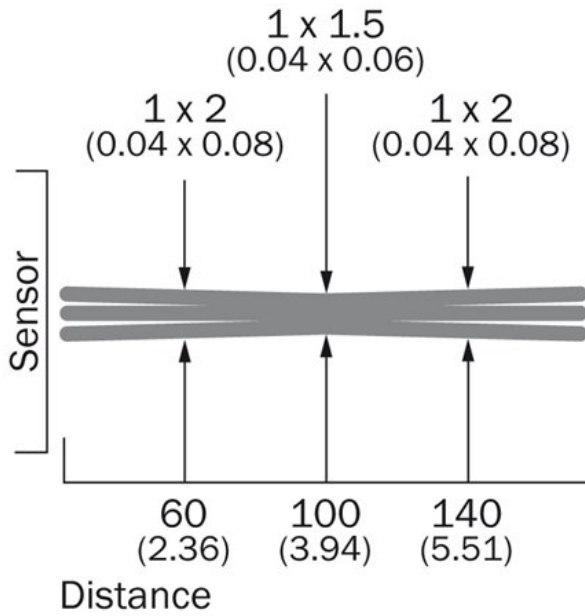
Connection type



Connection diagram



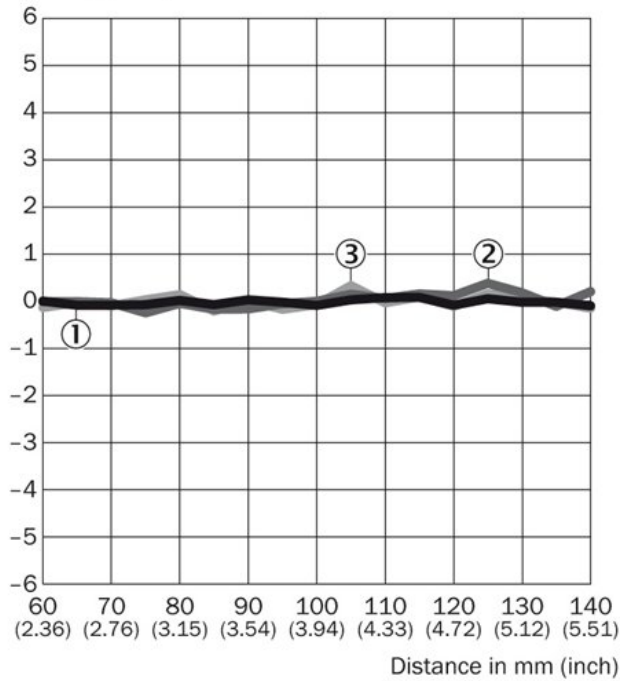
Light spot size



All dimensions in mm (inch)

Linearity

Linearity [% FS]



- [1] White ceramic
- [2] Stainless steel
- [3] black rubber

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