



Short range distance sensors (displacement)  
Profiler™, Profiler™ 2

PRO2-N100B25A1



**Model Name** > [PRO2-N100B25A1](#)  
**Part No.** > [6052874](#)



**At a glance**

- Measure complex profiles with just one laser line
- Analyze up to four areas at the same time
- More than 10 integrated measurement functions, e.g., height, width, and inclination
- Sensor head and evaluation unit in one device
- Commissioning via software or integrated display with operating elements
- High-quality CMOS receiver unit

**Your benefits**

- Measuring a 2D profile with just one sensor saves on hardware and installation costs
- Cost-effective solution for 2D profile measurement
- Real-time visualization of the measurement results via the integrated LC display
- Intuitive and quick commissioning via the software or display reduces installation time
- Thanks to the stand-alone concept of the Profiler™ 2, there is no need for cabling or to mount an additional evaluation unit
- Reliable measuring regardless of color, material, or shape
- More than 10 integrated measurement functions allow profiles to be measured and analyzed quickly



**Performance**

Measuring range:	100 mm, ± 25 mm
Resolution <sup>1), 2)</sup> :	X-direction 25 µm, Z-direction 2 µm
Linearity <sup>3), 4), 5)</sup> :	X-direction ± 1 % FS, Z-direction ± 0.1 % FS
Response time <sup>6)</sup> :	5 ms
Light source:	Laser, red
Typ. light spot size (distance):	0.3 mm x 32 mm
Additional function:	Sensitivity (adjustable), Measurement functions (average, peak height, bottom height, width, peak position, bottom position, edge position, edge count, tilt, size, length, diameter), Averaging 1 ... 1,023, Timer (on/off delay, one shot, off)
Accuracy:	X-direction ± 5 % FS, Z-direction ± 1 % FS
Laser class:	2 (EN 60825-1/21 CFR 1040.10) <sup>7)</sup>
Measuring width (at measuring distance):	17 mm (75 mm), 22 mm (100 mm), 27 mm (125 mm)

<sup>1)</sup> Typical value; actual value depends on settings and environmental conditions. For details see field of view <sup>2) 4)</sup> Measurement on 90 % remission (ceramic, white) <sup>3)</sup> Constant ambient conditions <sup>5)</sup> FS = Full Scale = Measuring range of sensor <sup>6)</sup> Typical value, high-res mode <sup>7)</sup> Wavelength: 655 nm, max. output: 1 mW

## Interfaces

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Data interface:	RS-485 <sup>1)</sup>
Output type <sup>2)</sup> :	3 x NPN
Analog output:	1 x 4 mA ... 20 mA (< 300 Ω) <sup>3)</sup>
External input:	Selectable from blank, trigger, hold, reset, laser off and offset

<sup>1)</sup> Half-duplex (9.6 kbit/s ... 4 Mbit/s) <sup>2)</sup> Maximum current output 100 mA <sup>3)</sup> 24 mA for measuring out of range

## Mechanics/electronics

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Electrical connection:	Female connector, HRS, 12-pin (I/O, power supply)
Supply voltage $V_s$ <sup>1)</sup> :	DC 12 V (-5 %) ... DC 24 V (+10 %)
Power consumption:	≤ 180 mA
Warm-up time:	≤ 30 min
Indication:	2 LEDs (operational status, laser on/off), Dot matrix display
Weight:	Ca. 300 g
Dimensions:	40 mm x 60 mm x 94.5 mm
Housing material:	Die-cast zinc Polycarbonat

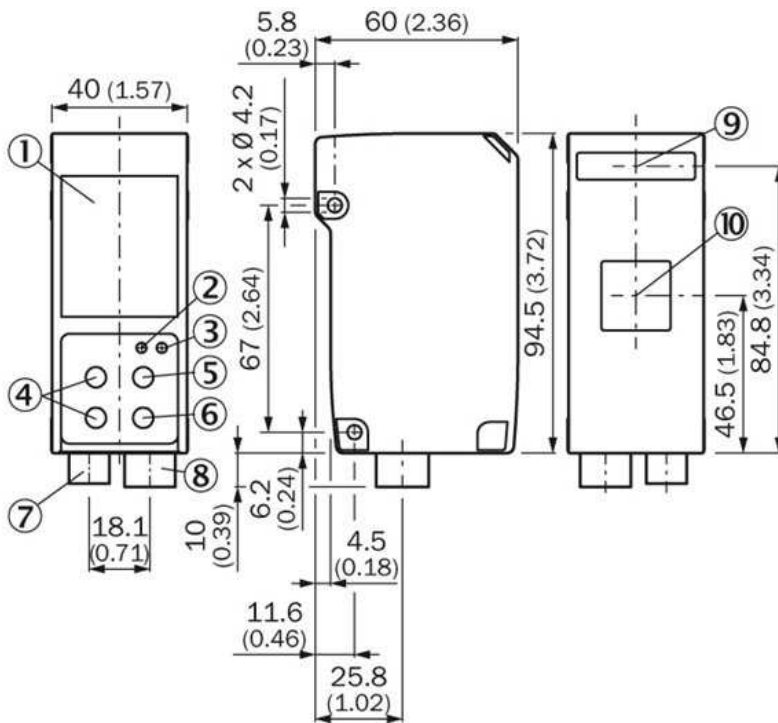
<sup>1)</sup> When using analog voltage output reduced to DC 18 V (-5 %) ... DC 24 V (+10 %)

## Ambient data

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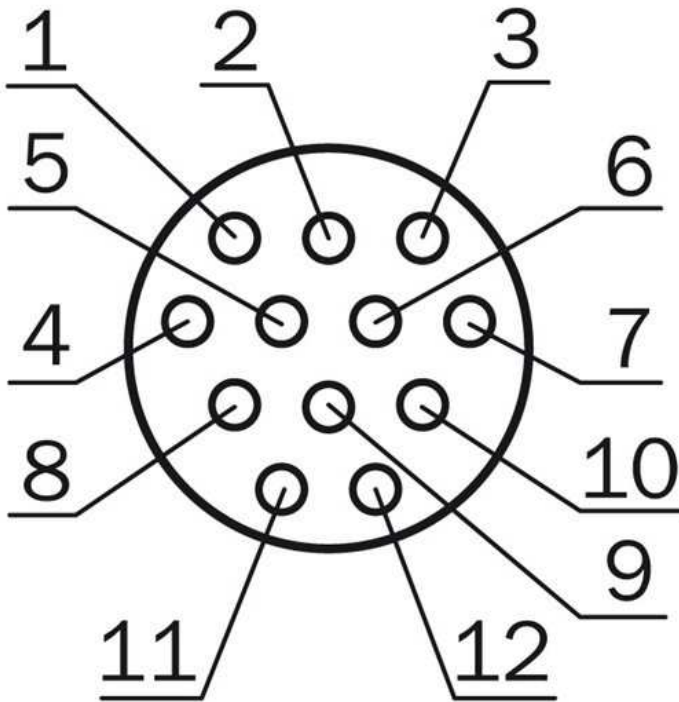
Enclosure rating:	IP 67
Protection class:	III
Ambient temperature:	Operation: -10 ... +40 °C, Storage: -20 ... +60 °C
Max. rel. humidity (not condensing):	85 %
Temperature drift:	± 0.05 % FS/K (FS = Full Scale = Measuring range of sensor)
Vibration resistance:	10 Hz ... 55 Hz (amplitude 1.5 mm, x-, y-, z-axis 2 hours each)
Shock resistance:	50 G (x-, y-, z-axis 3 times each)
Typ. ambient light safety:	Artificial light: ≤ 3,000 lx, Sunlight: ≤ 10,000 lx

**Dimensional drawing**

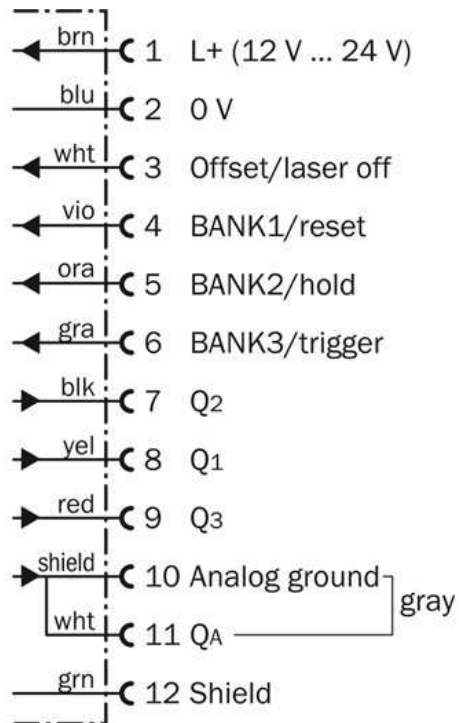


- |1| LCD display
- |2| LED indicator for laser on (green)
- |3| LED indicator for power on (green)
- |4| cursor keys
- |5| exit button
- |6| set button
- |7| male connector, HRS, 6-pin (communication interface)
- |8| female connector, HRS, 12-pin (I/O, power supply)
- |9| sender
- |10| receiver

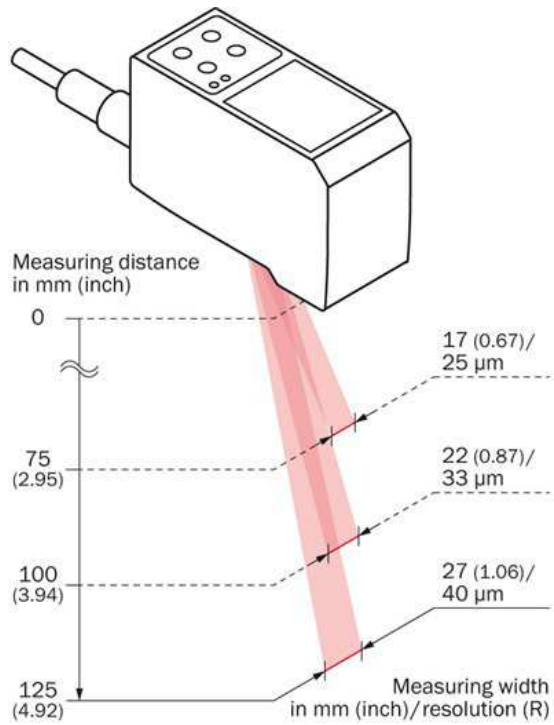
**Connection type**



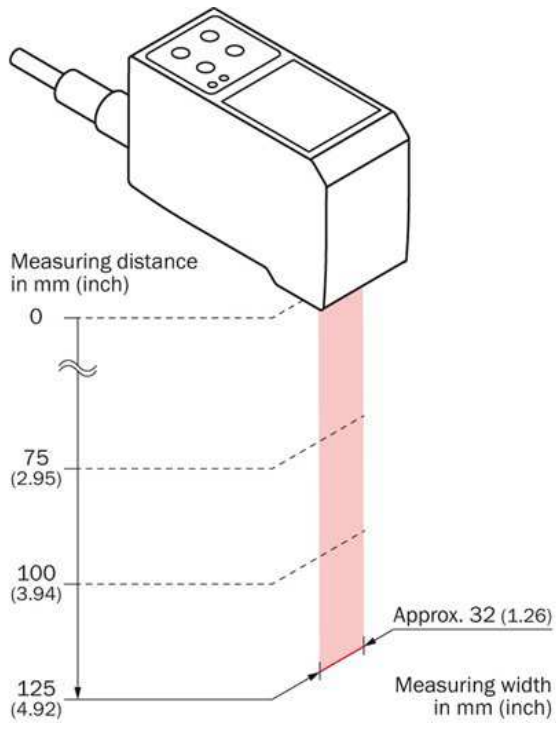
## Connection diagram



## Field of view: receiving area



Field of view: sending area



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