



# Short range distance sensors (displacement) DT20

DT20-P130B2560



**Model Name** > [DT20-P130B2560](#)  
**Part No.** > [1028723](#)



**At a glance**

- Different measuring ranges from 90 mm ... 1,000 mm
- Repeatability up to  $\pm 1.5$  mm
- Infrared sender, which is not visible to the human eye
- Analog and switching output provide distance and out of range information
- Plug and play sensor that is factory-programmed based on customer specifications
- High output rate - distance outputs are provided every millisecond
- Rugged, metal housing

**Your benefits**

- Fast, easy commissioning based on customer-specific presets saves time
- Tamper-proof sensor concept ensures high machine availability
- Inconspicuous and therefore non distracting by use of infrared light
- High ambient light immunity increases machine availability
- Solid, IP 67-rated metal housing permits operation in harsh environments, making the sensor suitable for a wide range of applications



**Performance**

Measurement range:	250 mm ... 600 mm, 18 % ... 90 % remission <sup>1)</sup>
Resolution <sup>2)</sup> :	1 mm/2 mm
Repeatability <sup>3)</sup> :	$\pm 1.5$ mm/ $\pm 3$ mm
Response time <sup>4)</sup> :	10 ms/15 ms
Light source:	LED, infrared
Typ. light spot size (distance):	15 mm x 15 mm (at 1 m)
Additional function:	Customer specific scaled measuring range, Plug & Play, Switching output to monitor the measuring range
Accuracy::	$\pm 4$ mm <sup>5) 6)</sup>
Laser service life (MTTF at 25 °C):	100,000 h
Output time:	1 ms

<sup>1)</sup> On 6 % remission the maximal measurable distance is 820 mm <sup>2) 4)</sup> Depending on measurement range: 90 ... 600 mm/> 600 mm. <sup>3)</sup> 18 % ... 90 % remission <sup>5) 6)</sup> % ... 90 % remission <sup>6)</sup>  $\pm 4$  mm u to 600 mm;  $\leq \pm 7$  mm for distances larger < 600 mm; refer to accuracy diagram

**Interfaces**

Output type <sup>1)</sup> :	1 x PNP (100 mA)
Analog output:	1 x 4 mA ... 20 mA ( $\leq 300 \Omega$ )

1) PNP: HIGH =  $V_S - (< 2 V)$ /LOW = 0 V

## Mechanics/electronics

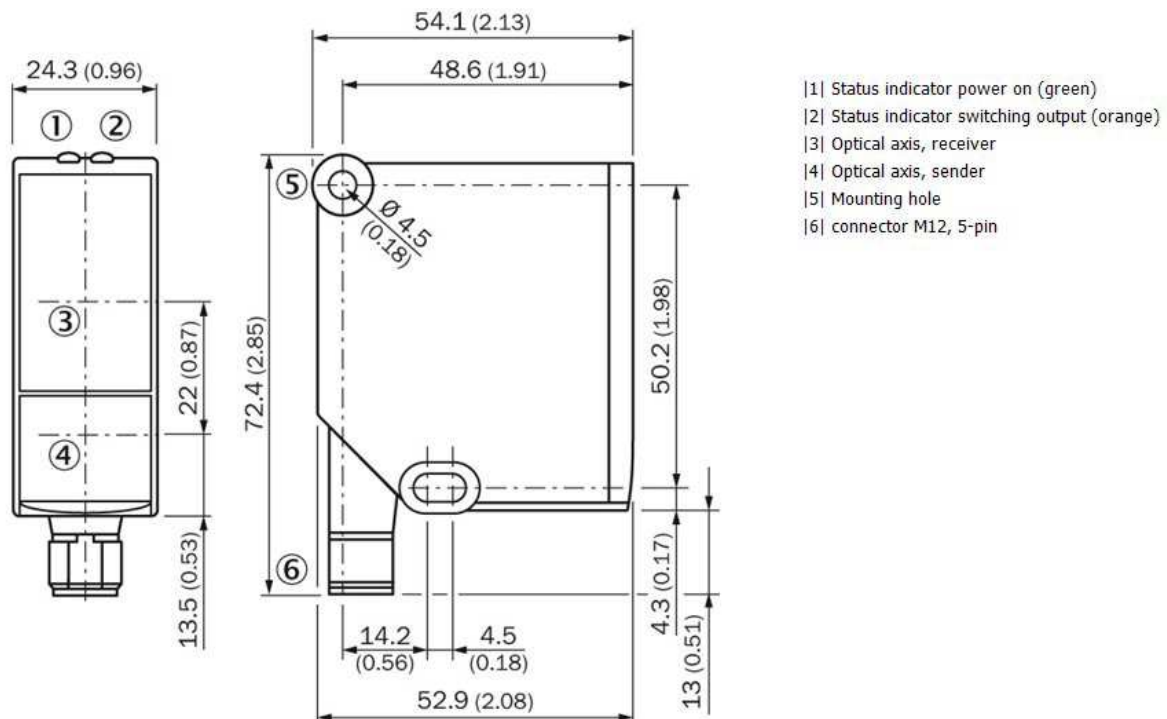
Connection type:	Male connector, M12, 5-pin
Supply voltage $V_S$ <sup>1)</sup> :	DC 10 V ... 30 V
Power consumption <sup>2)</sup> :	$\leq 1.5$ W
Warm-up time:	$\leq 30$ min
Indication:	2 x LED
Weight:	135 g
Housing material:	Metal housing with PMMA lens
Initialization time:	$\leq 250$ ms
Ripple:	$\leq 5$ Vpp <sup>3)</sup>

1) Limit values, reverse-polarity protected, operation in short-circuit protected network: max. 8 A <sup>2)</sup> Without load <sup>3)</sup> May not fall short of or exceed  $V_S$  tolerances

## Ambient data

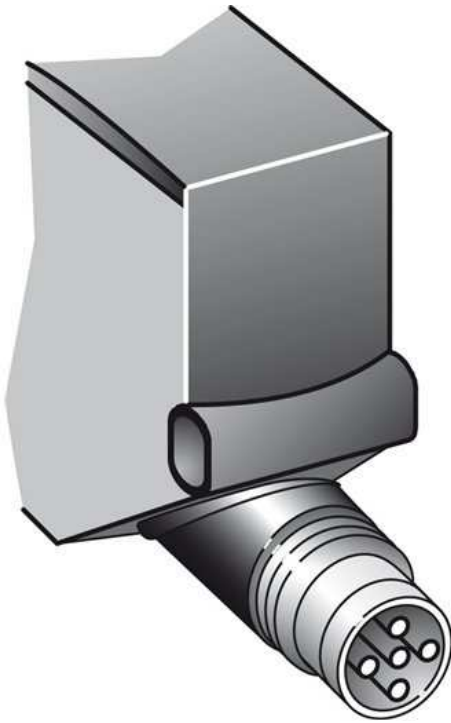
Enclosure rating:	IP 65
Protection class:	II
Ambient temperature:	Operation: -25 ... +55 °C, Storage: -40 ... +75 °C
Temperature drift:	0.25 mm/K
Vibration resistance:	EN 60068-2-6/EN 60068-2-64
Shock resistance:	EN 60068-2-27

## Dimensional drawing



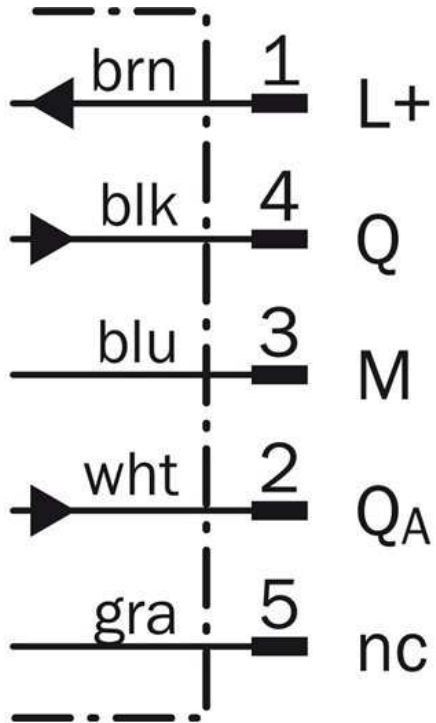
Connection type

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Connection diagram

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