



# DT20-P130B1000

DT20

DISPLACEMENT MEASUREMENT SENSORS

**SICK**  
Sensor Intelligence.



## Ordering information

Type	Part no.
DT20-P130B1000	1028800

Other models and accessories → [www.sick.com/DT20](http://www.sick.com/DT20)



## Detailed technical data

### Performance

<b>Measuring range</b>	100 mm ... 1,000 mm, 18 % ... 90 % remission <sup>1)</sup>
<b>Target</b>	Natural objects
<b>Resolution</b>	1 mm / 2 mm <sup>2)</sup>
<b>Repeatability</b>	± 1.5 mm / ± 3 mm <sup>3)</sup>
<b>Accuracy</b>	± 4 mm <sup>4) 5)</sup>
<b>Response time</b>	≥ 10 ms <sup>2)</sup>
<b>Light source</b>	LED, infrared
<b>Typ. light spot size (distance)</b>	15 mm x 15 mm (at 1 m)
<b>Additional function</b>	Plug-and-play, Customer specific scaled measuring range, Switching output to monitor the measuring range
<b>Average laser service life (at 25 °C)</b>	100,000 h

<sup>1)</sup> On 6 % remission the maximal measurable distance is 820 mm.

<sup>2)</sup> Depending on measurement range: 90 ... 600 mm / > 600 mm.

<sup>3)</sup> 18 % ... 90 % remission.

<sup>4)</sup> 6 % ... 90 % remission.

<sup>5)</sup> ± 4 mm up to 600 mm; ≤ ± 7 mm at distance < 600 mm; see accuracy diagram.

### Interfaces

<b>Analog output</b>	1 x 4 mA ... 20 mA (≤ 300 Ω)
<b>Switching output</b>	1 x PNP (100 mA) <sup>1)</sup>

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

### Mechanics/electronics

<b>Supply voltage <math>V_S</math></b>	DC 10 V ... 30 V <sup>1)</sup>
<b>Ripple</b>	≤ 5 $V_{pp}$ <sup>2)</sup>

<sup>1)</sup> Limit values, reverse-polarity protected, operation in short-circuit protected network: max. 8 A.

<sup>2)</sup> May not fall short of or exceed  $V_S$  tolerances.

<sup>3)</sup> Without load.

<b>Power consumption</b>	≤ 1.5 W <sup>3)</sup>
<b>Initialization time</b>	≤ 250 ms
<b>Warm-up time</b>	≤ 30 min
<b>Housing material</b>	Metal
<b>Window material</b>	PMMA
<b>Connection type</b>	Male connector, M12, 5-pin
<b>Indication</b>	2 x LED
<b>Weight</b>	135 g
<b>Enclosure rating</b>	IP65
<b>Protection class</b>	II

<sup>1)</sup> Limit values, reverse-polarity protected, operation in short-circuit protected network: max. 8 A.

<sup>2)</sup> May not fall short of or exceed  $V_G$  tolerances.

<sup>3)</sup> Without load.

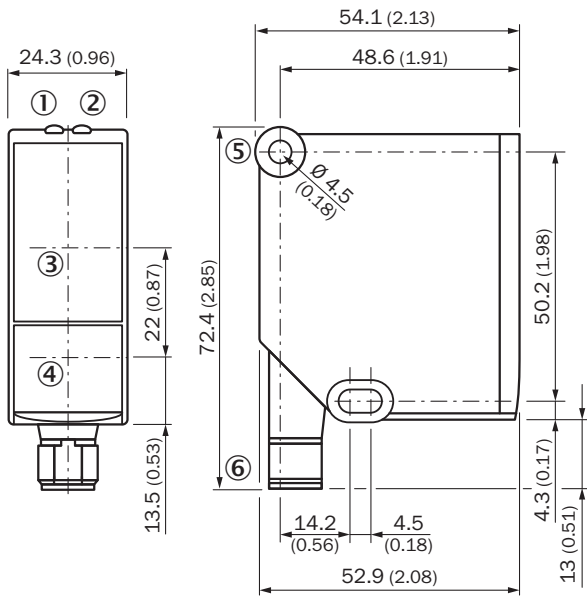
### Ambient data

<b>Temperature drift</b>	0.25 mm/K
<b>Vibration resistance</b>	EN 60068-2-6, EN 60068-2-64
<b>Shock resistance</b>	EN 60068-2-27

### Classifications

<b>ECl@ss 5.0</b>	27270801
<b>ECl@ss 5.1.4</b>	27270801
<b>ECl@ss 6.0</b>	27270801
<b>ECl@ss 6.2</b>	27270801
<b>ECl@ss 7.0</b>	27270801
<b>ECl@ss 8.0</b>	27270801
<b>ECl@ss 8.1</b>	27270801
<b>ECl@ss 9.0</b>	27270801
<b>ETIM 5.0</b>	EC001825
<b>ETIM 6.0</b>	EC001825
<b>UNSPSC 16.0901</b>	41111613

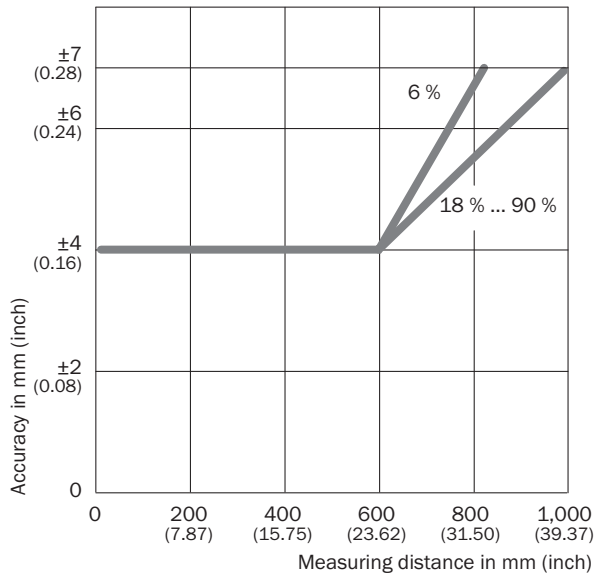
**Dimensional drawing** (Dimensions in mm (inch))



- ① Status indicator operating voltage active (green)
- ② Status indicator switching output (orange)
- ③ Optical axis, receiver
- ④ Optical axis, sender
- ⑤ Fixing hole
- ⑥ Male connector M12, 5-pin

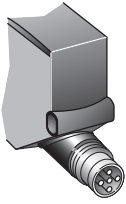
**Characteristic curve**

Characteristic curve: accuracy

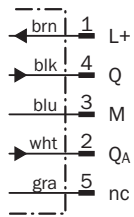


### Connection type

Male connector M12, 5-pin






### Connection diagram



### Recommended accessories

Other models and accessories → [www.sick.com/DT20](http://www.sick.com/DT20)

	Brief description	Type	Part no.
<b>Mounting brackets and plates</b>			
	Mounting bracket, stainless steel, without mounting material, for DT20 Hi, without mounting hardware	BEF-WN-DT20	4043524
<b>Plug connectors and cables</b>			
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 2 m	YF2A15-020VB5XLEAX	2096239
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m	YF2A15-050VB5XLEAX	2096240
	Head A: female connector, M12, 5-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 2 m	YG2A15-020VB5XLEAX	2096215
	Head A: female connector, M12, 5-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m	YG2A15-050VB5XLEAX	2096216

## SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

## WORLDWIDE PRESENCE:

Contacts and other locations –[www.sick.com](http://www.sick.com)