



# DT20-P130B1080

## DT20

DISPLACEMENT MEASUREMENT SENSORS

**SICK**  
Sensor Intelligence.



## Ordering information

| Type           | Part no. |
|----------------|----------|
| DT20-P130B1080 | 1028720  |

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



## Detailed technical data

### Performance

|   |  |
|---|--|
| <b>Measuring range</b>                    | 100 mm ... 800 mm, 18 % ... 90 % remission <sup>1)</sup>   |
| <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 / 15 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>Laser service life (MTTF 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 <sub>pp</sub> <sup>2)</sup> |
| <b>Power consumption</b>               | ≤ 1.5 W <sup>3)</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>Initialization time</b> | ≤ 250 ms                     |
| <b>Warm-up time</b>        | ≤ 30 min                     |
| <b>Housing material</b>    | Metal housing with PMMA lens |
| <b>Connection type</b>     | Male connector, M12, 5-pin   |
| <b>Indication</b>          | 2 x LED                      |
| <b>Weight</b>              | 135 g                        |

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

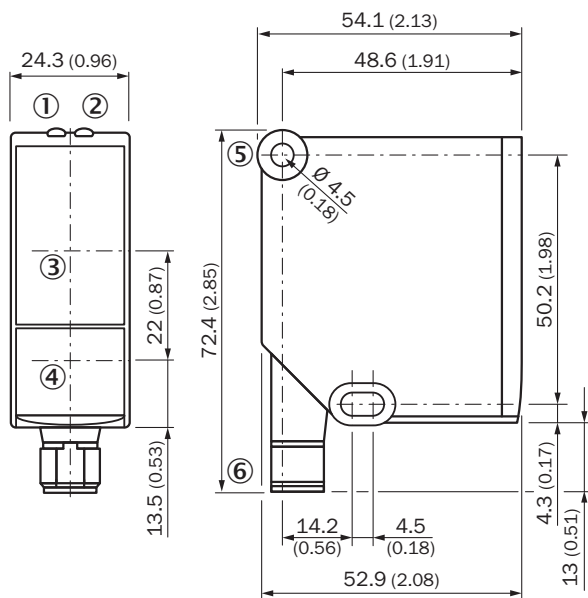
2) May not fall short of or exceed  $V_S$  tolerances.

3) Without load.

### Ambient data

|                             |  |
|-----------------------------|--|
| <b>Enclosure rating</b>     | IP 65  |
| <b>Protection class</b>     | II   |
| <b>Ambient temperature</b>  | Operation: -25 °C ... +55 °C<br>Storage: -40 °C ... +75 °C |
| <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  |

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



① Status indicator operating voltage active (green)

② Status indicator switching output (orange)

③ Optical axis, receiver

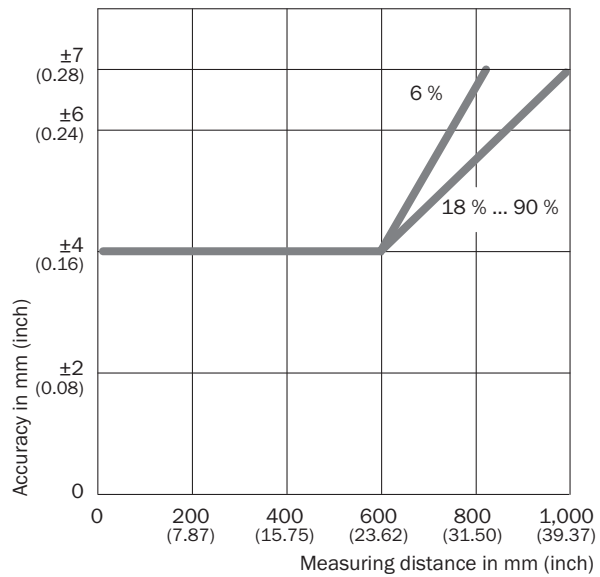
④ Optical axis, sender

⑤ Fixing hole

⑥ Male connector M12, 5-pin

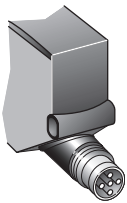
### Characteristic curve

Characteristic curve: accuracy

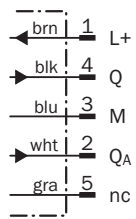


### Connection type

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 mounting plates</b>                                      |   |               |          |
|  | Mounting bracket, stainless steel (1.4404), 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<br>Head B: cable<br>Cable: PVC, unshielded, 2 m                | DOL-1205-G02M | 6008899  |
|   | Head A: female connector, M12, 5-pin, straight<br>Head B: cable<br>Cable: PVC, unshielded, 5 m                | DOL-1205-G05M | 6009868  |
|   | Head A: female connector, M12, 5-pin, straight<br>Head B: cable<br>Cable: PVC, unshielded, 10 m               | DOL-1205-G10M | 6010544  |
|  | Head A: female connector, M12, 5-pin, angled<br>Head B: cable<br>Cable: PVC, unshielded, 2 m                  | DOL-1205-W02M | 6008900  |
|   | Head A: female connector, M12, 5-pin, angled<br>Head B: cable<br>Cable: PVC, unshielded, 5 m                  | DOL-1205-W05M | 6009869  |
|   | Head A: female connector, M12, 5-pin, angled<br>Head B: cable<br>Cable: PVC, unshielded, 10 m                 | DOL-1205-W10M | 6010542  |

## 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)