



# DT20-P214B

DT20 Hi

DISPLACEMENT MEASUREMENT SENSORS

**SICK**  
Sensor Intelligence.



### Ordering information

Type	Part no.
DT20-P214B	1040012

Other models and accessories → [www.sick.com/DT20\\_Hi](http://www.sick.com/DT20_Hi)



### Detailed technical data

#### Performance

<b>Measuring range</b>	100 mm ... 600 mm <sup>1)</sup>
<b>Target</b>	Natural objects
<b>Repeatability</b>	≥ 0.5 mm <sup>1) 2) 3)</sup>
<b>Linearity</b>	± 2 mm <sup>3) 4)</sup>
<b>Response time</b>	≥ 2.5 ms <sup>2)</sup>
<b>Measuring frequency</b>	≤ 400 Hz <sup>1)</sup>
<b>Output time</b>	≥ 2.5 ms
<b>Light source</b>	Laser, red
<b>Laser class</b>	2 (IEC 60825-1:2014, EN 60825-1:2014)
<b>Typ. light spot size (distance)</b>	3 mm x 6 mm (600 mm)
<b>Additional function</b>	Set moving average fast/medium/slow, switching mode: distance to object (DtO), teach-in of switching output, Invertable switching output, teach-in of analog output, Invertable analog output, Multifunctional input: laser off / external teach-in / deactivated, switch-off display, lock user interface

<sup>1)</sup> 6 % ... 90 % remission.

<sup>2)</sup> Dependent on the set average or sensitivity.

<sup>3)</sup> When calibrated in the application regularly.

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

#### Interfaces

<b>Analog output</b>	1 x 4 mA ... 20 mA (≤ 300 Ω)
<b>Resolution analog output</b>	12 bit
<b>Switching output</b>	1 x PNP (100 mA) <sup>1)</sup>
<b>Multifunctional input (MF)</b>	1 x MF <sup>2)</sup>

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

<sup>2)</sup> MF can be used as laser-off, external teach-in or deactivated.

## Mechanics/electronics

<b>Supply voltage <math>V_s</math></b>	DC 10 V ... 30 V <sup>1)</sup>
<b>Ripple</b>	$\leq 5 V_{pp}$ <sup>2)</sup>
<b>Power consumption</b>	$\leq 1.8 W$ <sup>3)</sup>
<b>Warm-up time</b>	$\leq 10$ min
<b>Housing material</b>	Metal
<b>Window material</b>	PMMA
<b>Connection type</b>	Male connector, M12, 5-pin, swivel connector unit
<b>Indication</b>	LC display, 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  $V_S$  tolerances.

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

## Ambient data

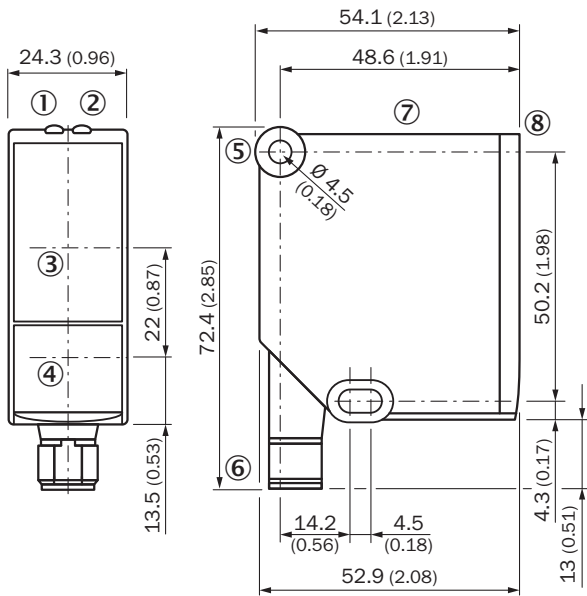
<b>Ambient temperature operation</b>	-20 °C ... +55 °C, Operating temperature at $V_S = 24 V$
<b>Ambient storage temperature</b>	-40 °C ... +60 °C
<b>Temperature drift</b>	0.25 mm/K <sup>1)</sup>
<b>Typ. Ambient light immunity</b>	Artificial light: $\leq 3,000$ lx Sunlight: $\leq 10,000$ lx
<b>Vibration resistance</b>	EN 60068-2-6, EN 60068-2-64
<b>Shock resistance</b>	EN 60068-2-27

<sup>1)</sup> 0,5 mm/K: for distances > 600 mm.

## 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

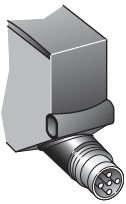
**Dimensional drawing** (Dimensions in mm (inch))



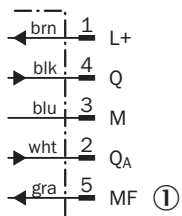
- ① Status indicator operating voltage active (green)
- ② Status indicator switching output (orange)
- ③ Optical axis, receiver
- ④ Optical axis, sender
- ⑤ Fixing hole
- ⑥ Connector M12, 5-pin, turnable
- ⑦ Operating keys and display
- ⑧ Reference surface = 0 mm

**Connection type**

Male connector M12, 5-pin

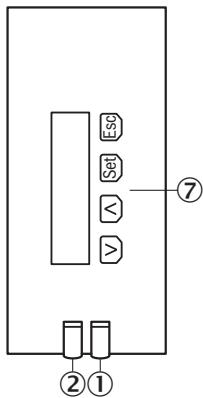


**Connection diagram**



- ① Multifunctional input (MF)






## Adjustment possible



- ① Status indicator operating voltage active (green)
- ② Status indicator switching output (orange)
- ⑦ Operating keys and display

## Recommended accessories

Other models and accessories → [www.sick.com/DT20\\_Hi](http://www.sick.com/DT20_Hi)

	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
	Stainless-steel mounting bracket, stainless steel	BEF-WN-OD1000	4089813
<b>Terminal and alignment brackets</b>			
	Galvanized steel alignment bracket with mounting accessories, steel, zinc coated, mounting hardware for the sensor included	BEF-AH-OD1000	2087355
<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)