

ONLINE DATA SHEET
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Short range distance sensors (displacement)
DT20 Hi

DT20-P244BS04



SICK
Sensor Intelligence.

Short range distance sensors (displacement)
DT20 Hi

Model Name > DT20-P244BS04
Part No. > 1052829

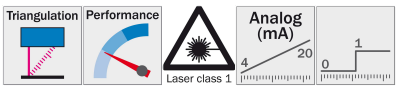


At a glance

- Four measuring ranges from 50 mm up to 1,000 mm
- Very high linearity of up to ± 0.5 mm
- CMOS receiving element enables accurate distance measurement independent of color or shininess
- Red laser
- Scaleable analog and switching output
- Display with easy to use setup menu
- Advanced settings (e.g., averaging function, external laser-off, etc.)

Your benefits

- Reliable, precise measurement, independent of surface, increases production quality
- Reliable and consistent measurements, regardless of color, reduce changeover time
- Advanced settings provide increased application flexibility to easily solve customer-specific applications
- Fast commissioning via button, remote or numerical teach
- Easy, precise alignment and verification based on red laser light and LC display, decreasing commissioning time
- Tough metal housing permits operation in harsh environments



Performance

Measurement range:	100 mm ... 300 mm, 6 % ... 90 % remission
Resolution [1]:	0.2 mm
Repeatability [2]: [3]: [4]:	1 mm/0.5 mm/0.25 mm
Linearity [5]: [6]:	± 1 mm
Response time [7]:	2,5 ms/10 ms/40 ms
Measuring frequency:	400 Hz
Light source:	Laser, red
Typ. light spot size (distance):	3 mm x 6 mm (300 mm)
Additional function:	Switch-off display, Teach-in of analog output, Teach-in of switching output, Set moving average fast/medium/slow, Invertible analog output, Switching output invertible, Multifunctional input: laser off/external teach-in/deactivated, Switching mode: distance to object (DtO), Lock user interface
Laser class:	1 (EN 60825-1)
Output time:	< 2.8 ms

[1] [2] 6 % ... 90 % remission [3] [7] Dependent on the set average: fast/medium/slow [4] [6] When calibrated in the application regularly [5] 90 % remision

Interfaces

Output type [1]:	1 x PNP (100 mA)
Analog output:	1 x 4 mA ... 20 mA (≤ 300 Ω)
Resolution analog output:	12 bit
Multifunctional input (MF) [2]:	1 x MF

[1] PNP: HIGH = V_S - (< 2 V)/LOW = < 2 V; NPN: HIGH = < 2 V/LOW = V_S [2] MF can be used as laser-off, external teach-in or deactivated

Mechanics/electronics

Connection type:	Male connector, M12, 5-pin
Supply voltage Vs [1]:	DC 10 V ... 30 V
Power consumption [2]:	≤ 1.8 W
Warm-up time:	≤ 10 min
Indication:	2 x LED, LC display
Weight:	135 g
Housing material:	Metal housing with PMMA lens
Ripple:	≤ 5 Vpp [3]

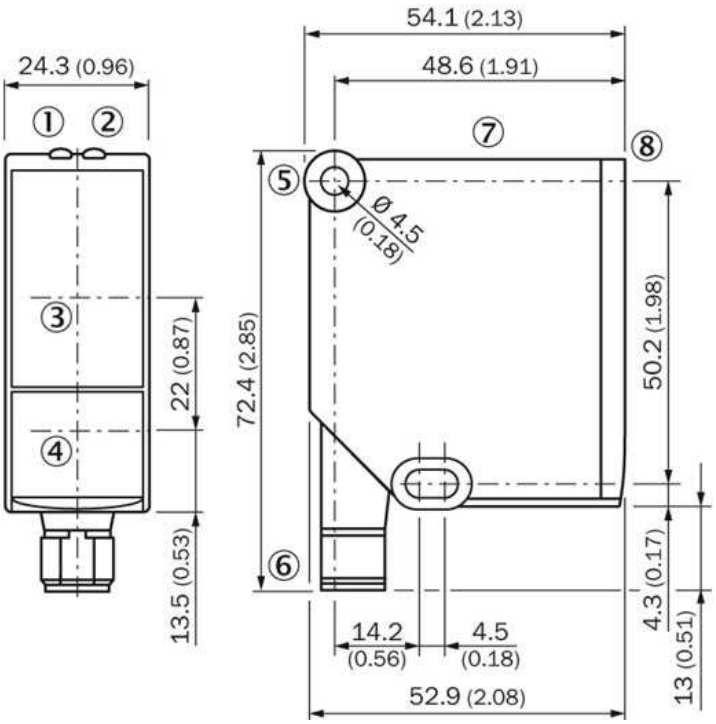
[1] Limit values, reverse-polarity protected, operation in short-circuit protected network: max. 8 A [2] Without load [3] May not fall short of or exceed V_S tolerances

Ambient data

Enclosure rating:	IP 65
Protection class:	II
Ambient temperature:	Operation: -20 ... +55 °C, Storage: -40 ... +60 °C [1]
Temperature drift [2]:	0.25 mm/K
Vibration resistance:	EN 60068-2-6/EN 60068-2-64
Shock resistance:	EN 60068-2-27
Typ. ambient light safety:	Artificial light: ≤ 3,000 lx, Sunlight: ≤ 10,000 lx

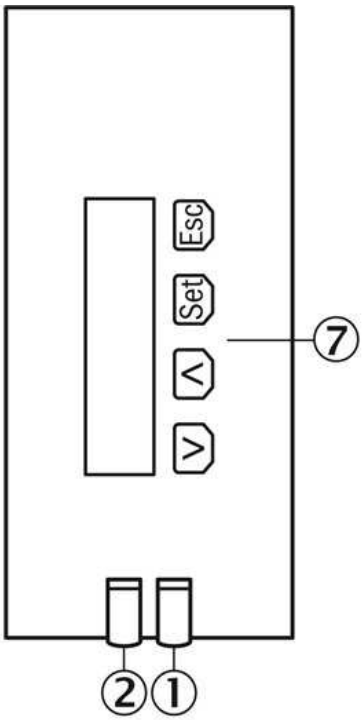
[1] Operating temperature at V_S = 24 V [2] 0,5 mm/K: for distances > 600 mm

Dimensional drawing



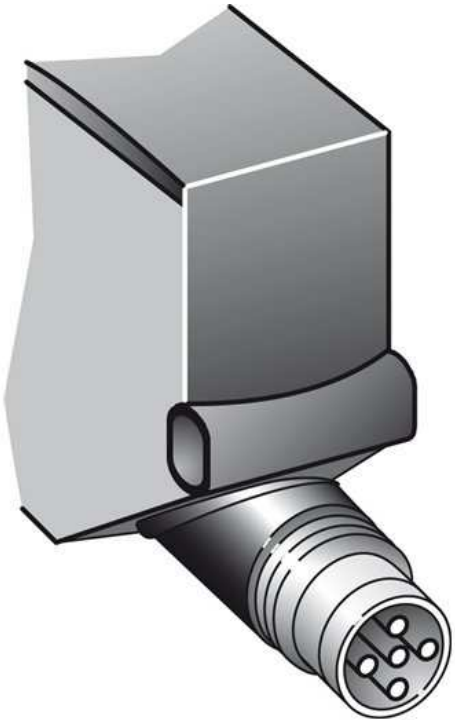
|1| Status indicator power on (green)
|2| Status indicator switching output (orange)
|3| Optical axis, receiver
|4| Optical axis, sender
|5| Mounting hole
|6| Connector M12, 5-pin, turnable
|7| Operating keys and display
|8| Reference surface = 0 mm

Adjustments

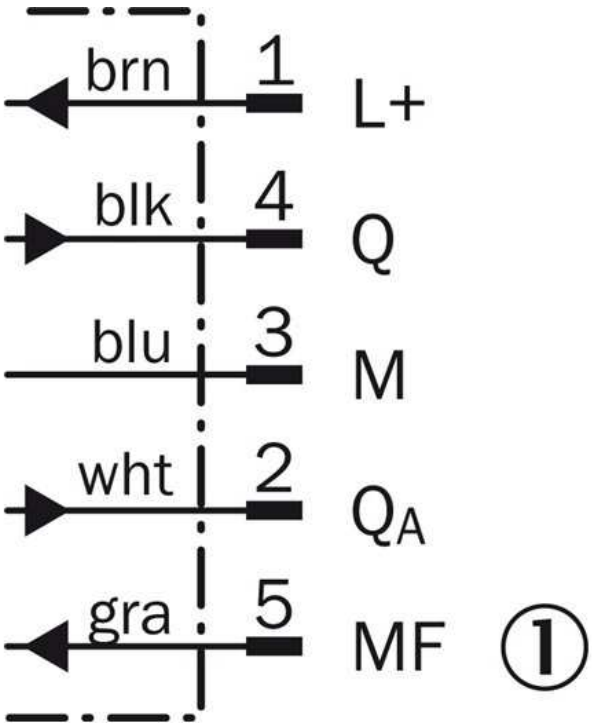


|1| Status indicator power on (green)
|2| Status indicator switching output (orange)
|7| Operating keys and display

Connection type



Connection diagram



|1| Multifunctional input (MF)

A4 4c int43

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