



Short range distance sensors (displacement) DT10

DT10-P10B5

Model Name > [DT10-P10B5](#)**Part No.** > [1027325](#)**At a glance**

- Measuring range of 50 mm ... 500 mm
- Repeatability of ± 3 mm
- High output rate - distance outputs are provided every millisecond
- Visible red light
- Analog output with fixed scaling
- Switching output - simple one-button teach-in

Your benefits

- Compact sensor design and short stand-off make it ideal for applications with limited space
- Red light and pre-set analog output ensure easy alignment and fast commissioning
- Non-scalable, tamper-proof analog output increases machine uptime
- Low investment costs and good performance provide quick return on investment
- Fast measurement frequency and good repeatability help improve process control
- Analog and switching output make it possible to solve several applications at once, reducing investment costs

**Performance**

Measuring range:	50 mm ... 400 mm, 6 % remission	50 mm ... 500 mm, 90 % remission	50 mm ... 500 mm, 18 % remission
Resolution:	1.5 mm, 6 % ... 90 % remission		
Repeatability:	3 mm ¹⁾		
Response time:	20 ms		
Light source:	LED, red		
Typ. light spot size (distance):	20 mm x 20 mm (at 400 mm)		
Additional function:	Multi functional input: external teach, Switching output Q		
Output rate:	1 ms		
Accuracy:	± 3 mm ^{2) 3)}		
Service life:	100,000 h		

¹⁾ 90 % remission ²⁾ 6 % ... 90 % Remission = ± 3 mm ... 8 mm, at room temperature ³⁾ See accuracy diagram

Interfaces

Multifunctional input:	1 x PNP
Output type ¹⁾ :	1 x PNP (100 mA)
Analog output:	4 mA ... 20 mA ($\leq 200 \Omega$) ²⁾

1) PNP: HIGH = Vs - (< 1 V), LOW ≤ 1 V. NPN: HIGH = Vs - (< 1 V), LOW ≤ 1 V. 2) At Us ≥ 16 V max. load < 500 Ω

Mechanics/electronics

Connection type:	Connector M12, 5-pin
Supply voltage Vs ¹⁾ :	DC 10 V ... 30 V
Power consumption ²⁾ :	≤ 1.2 W
Warm-up time:	≤ 30 min
Indication:	2 x LED
Weight:	40 g
Housing material:	Plastic
Initialization time:	≤ 650 ms
Ripple:	≤ 5 Vpp ³⁾

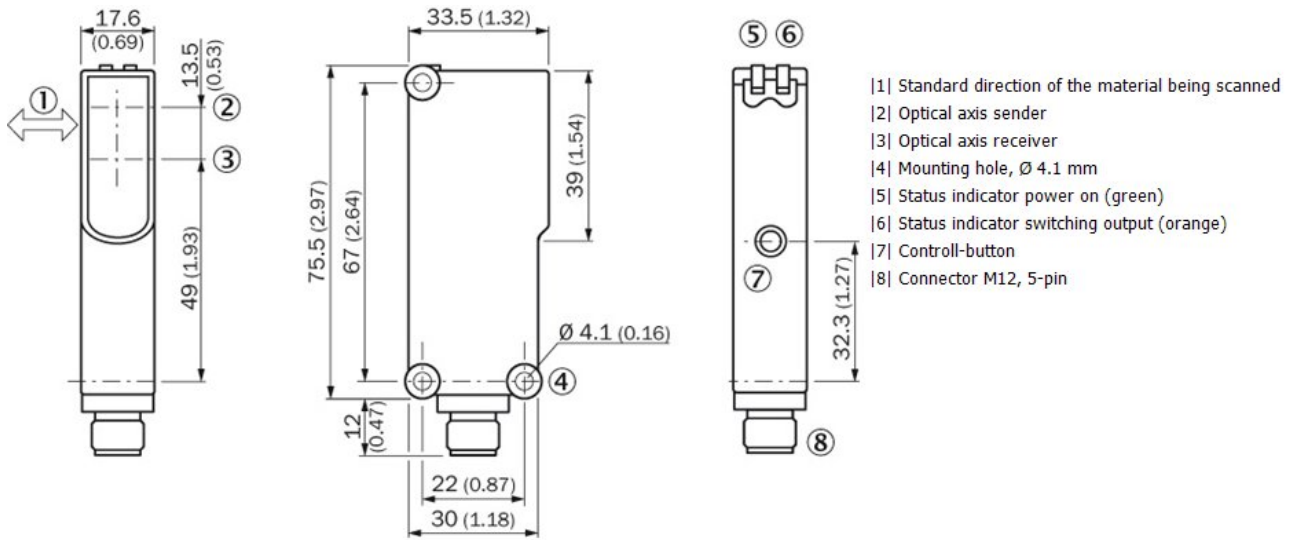
1) Limit values, reverse-polarity protected, operation in short-circuit protected network, max. 8 A 2) Without load 3) May not fall short of or exceed V_S tolerances

Ambient data

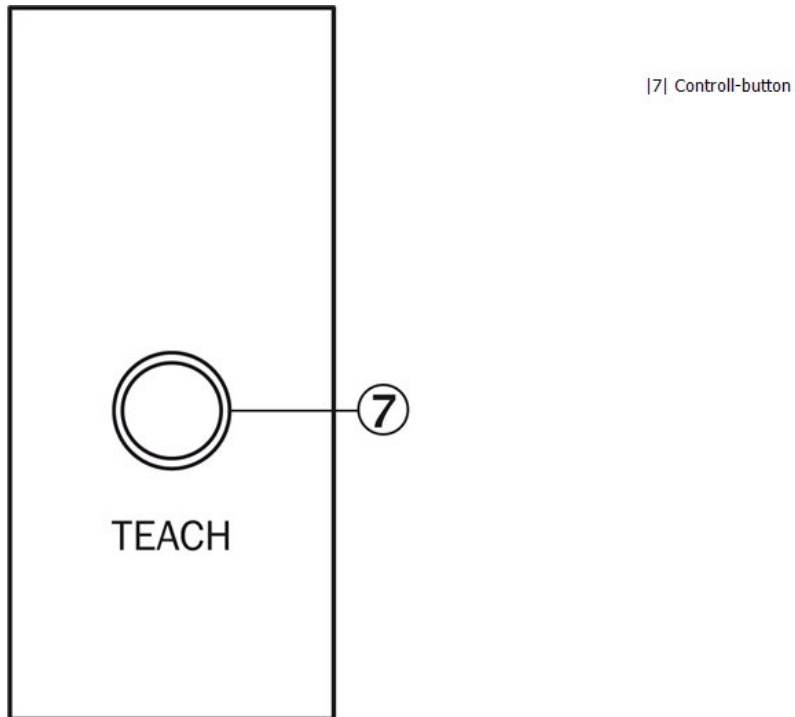
Enclosure rating:	IP 67
Protection class:	II ¹⁾
Ambient temperature:	Operation: -25 ... 50 °C, Storage: -40 ... 75 °C
Temperature drift:	1 mm/K
Vibration resistance:	EN 60068-2-6/-2-64
Shock resistance:	EN 60068-2-27

1) Reference voltage DC 50 V

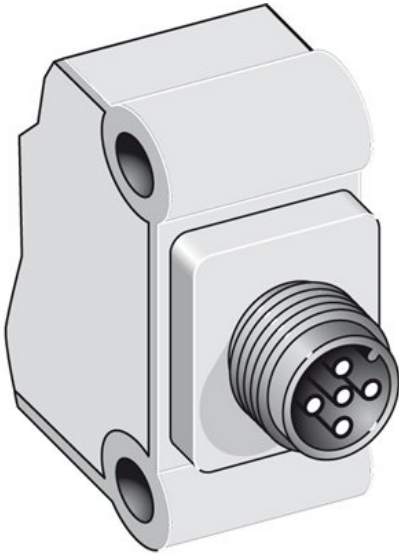
Dimensional drawing



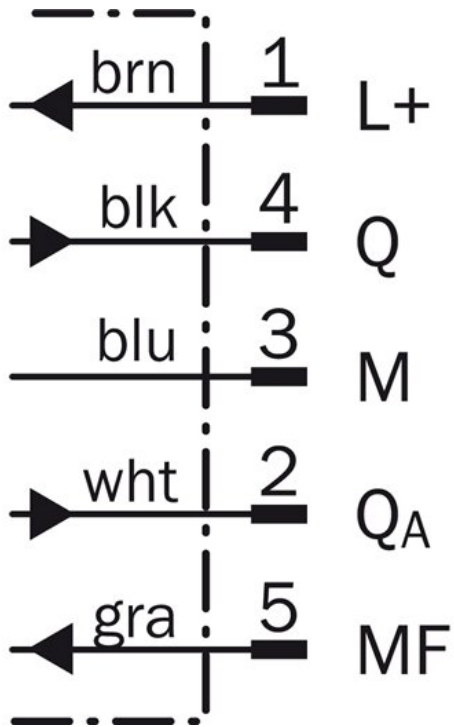
Adjustments



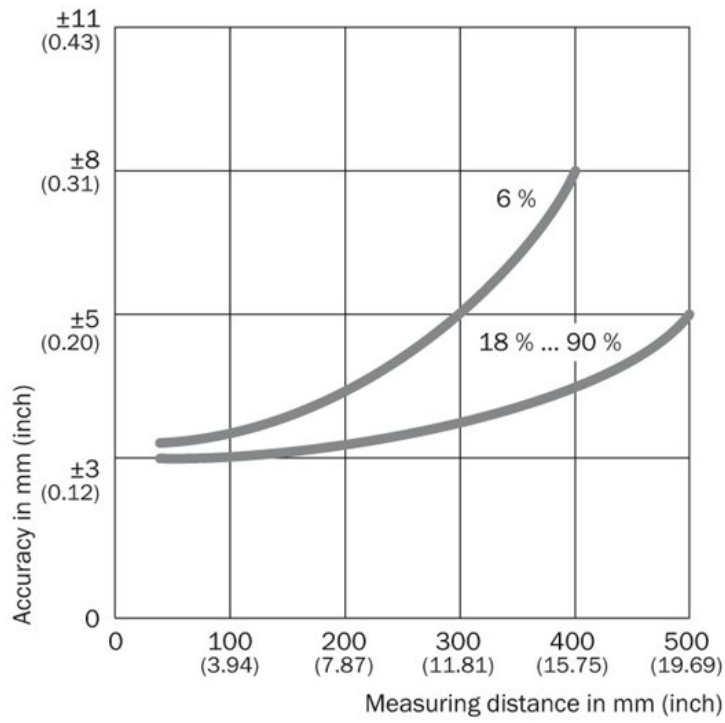
Connection type



Connection diagram



Characteristic curve: accuracy



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