

DT20-P130B2545



Model Name > [DT20-P130B2545](#)
Part No. > [1028724](#)



At a glance

- Different measuring ranges from 90 mm ... 1,000 mm
- Repeatability up to ± 1.5 mm
- Infrared sender, which is not visible to the human eye
- Analog and switching output provide distance and out of range information
- Plug and play sensor that is factory-programmed based on customer specifications
- High output rate - distance outputs are provided every millisecond
- Rugged, metal housing

Your benefits

- Fast, easy commissioning based on customer-specific presets saves time
- Tamper-proof sensor concept ensures high machine availability
- Inconspicuous and therefore non distracting by use of infrared light
- High ambient light immunity increases machine availability
- Solid, IP 67-rated metal housing permits operation in harsh environments, making the sensor suitable for a wide range of applications



Performance

Measuring range:	250 mm ... 450 mm, 18 % ... 90 % remission. On 6 % remission the maximal measurable distance is 820 mm.
Resolution:	1 mm/2 mm ¹⁾
Repeatability:	± 1.5 mm/ ± 3 mm ²⁾
Response time ³⁾ :	10 ms/15 ms
Light source:	LED, infrared
Typ. light spot size (distance):	15 mm x 15 mm (at 1 m)
Additional function:	Customer specific scaled measuring range, Plug & Play, Switching output to monitor the measuring range
Output rate:	1 ms
Accuracy:	± 4 mm ^{4) 5)}
Service life:	100,000 h

^{1) 3)} Depending on measurement range: 90 ... 600 mm / > 600 mm. ²⁾ 18 % ... 90 % remission. On 6 % remission the maximal measurable distance is 820 mm. ⁴⁾ 6 % ... 90 % remission ⁵⁾ ± 4 mm u to 600 mm; $\leq \pm 7$ mm for distances larger < 600 mm; refer to accuracy diagram

Interfaces

Output type ¹⁾ :	1 x PNP (100 mA)
Analog output:	1 x 4 mA ... 20 mA ($\leq 300 \Omega$)

¹⁾ PNP: HIGH = $V_S - (< 2 \text{ V})$ / LOW = 0 V

Mechanics/electronics

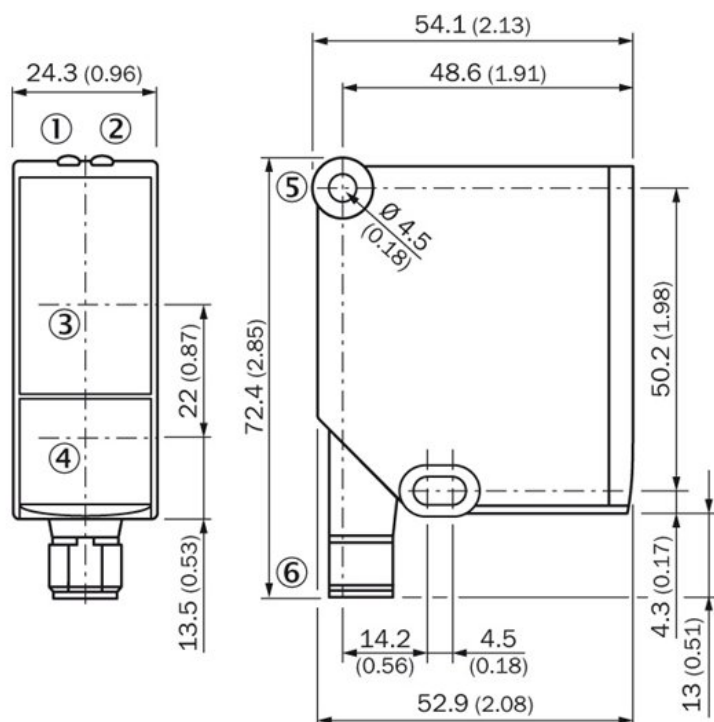
Connection type:	Connector M12, 5-pin
Supply voltage V_S ¹⁾ :	DC 10 V ... 30 V
Power consumption ²⁾ :	$\leq 1.5 \text{ W}$
Warm-up time:	$\leq 30 \text{ min}$
Indication:	2 x LED
Weight:	135 g
Housing material:	Metal housing with PMMA lens
Initialization time:	$\leq 250 \text{ ms}$
Ripple:	$\leq 5 \text{ Vpp}$ 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

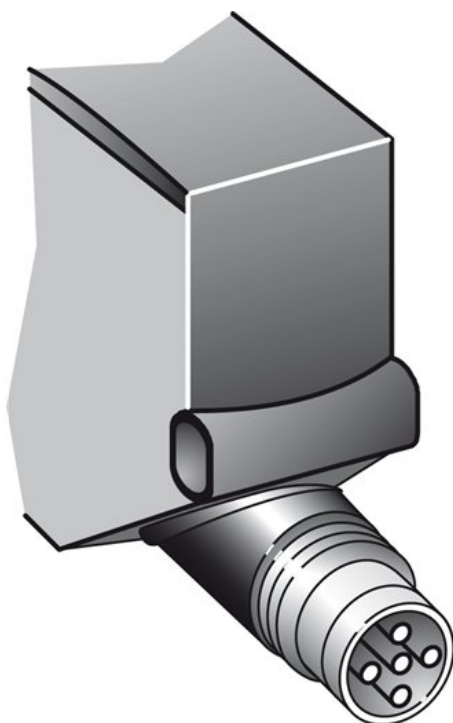
Enclosure rating:	IP 65
Protection class:	II
Ambient temperature:	Operation: -25 ... 55 °C, Storage: -40 ... 75 °C
Temperature drift:	0.25 mm/K
Vibration resistance:	EN 60068-2-6/-2-64
Shock resistance:	EN 60068-2-27

Dimensional drawing

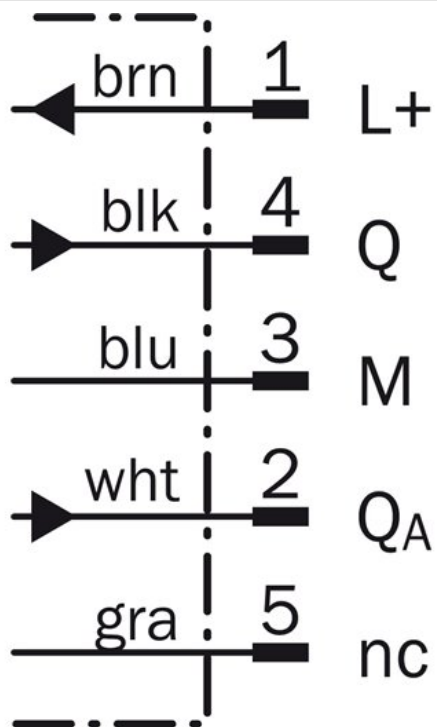


- [1] Status indicator power on (green)
- [2] Status indicator switching output (orange)
- [3] Optical axis, receiver
- [4] Optical axis, sender
- [5] Mounting hole
- [6] Connector M12, 5-pin

Connection type



Connection diagram



Einstellung der Tastensperre

The DT20 can be scaled ex factory for specific measurement ranges based on the type code.

The type code is: „DT20-X130Xbb“. The „bb“ part defines the measurement range as follows:

bb (begin) = distance value chosen by the customer for 4 mA output. The „bb“ value is in cm.

ee (end) = distance value chosen by the customer for 20 mA output. The „ee“ value is in cm.

Measurement ranges

–90 mm ... 600 mm, any configuration within this range can be chosen. (e.g. 0919, 4060, etc.).

–100 mm ... 1000 mm, any configuration within this range can be chosen. (e.g. 1070, 7000, etc.).

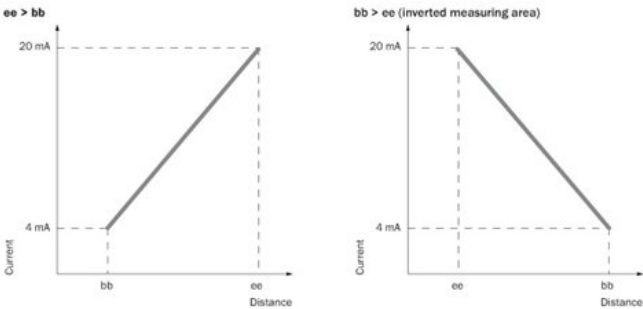
Examples

bbee = 0960 = measurement range of sensor: 90 mm ... 600 mm with 4 mA output at 9 cm and 20 mA output at 60 cm.

bbee = 7020 = measurement range of sensor: 700 mm ... 200 mm (inverted measurement range).

Be aware: ee/bb = 00 = 100 cm. (E.g.: bbee = 1000 = measurement range of 100 mm ... 1000 mm).

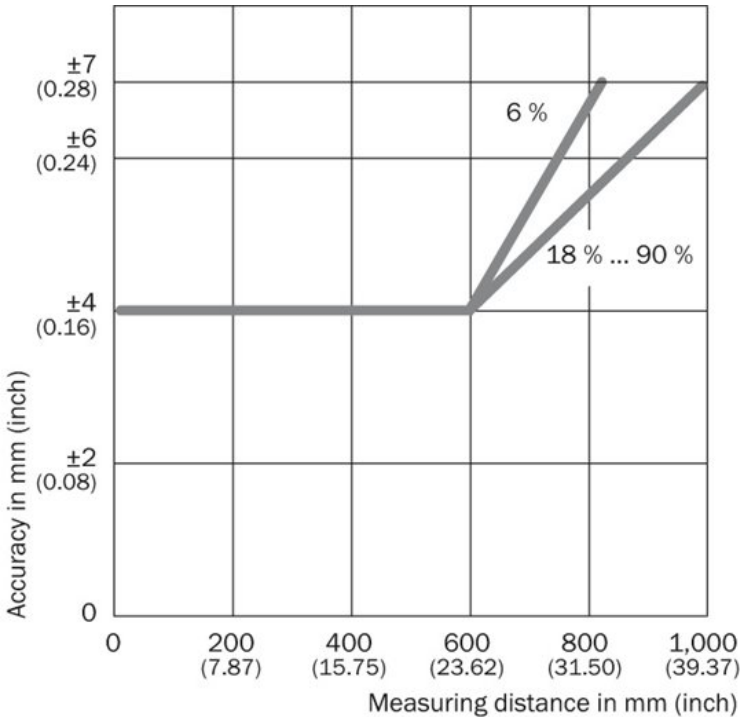
Model name	Description
DT20-P130B1000	DT20, switching output PNP, measurement range 100 mm ... 1.000 mm (4 mA ... 20 mA)
DT20-N130B0990	DT20, switching output NPN, measurement range 90 mm ... 900 mm (4 mA ... 20 mA)
DT20-P130B009	DT20, switching output PNP, measurement range (inverted measuring area) 600 mm ... 90 mm (4 mA ... 20 mA)



Please be aware:

There is a minimum difference between „bb“ and „ee“ of at least 10 units (100 mm). (e.g. bb = 09 → min. ee = 19)

Characteristic curve: accuracy



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