



## Mid range distance sensors Dx35, DT35, IO-Link

DT35-B15551



**Model Name** > [DT35-B15551](#)  
**Part No.** > [1057651](#)

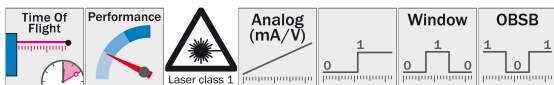


**At a glance**

- Maximum reliability, immunity to ambient light, and best price/performance ratio thanks to HDDM™ technology
- Reliable detection and broad measuring range of 0.05 m to 12 m
- Very good accuracy of ±10 mm
- Fast measurement with a output rate of down to 1 ms or 2 ms
- Small housing size
- IO-Link as well as analog and switching output
- Choice of infrared or red lasers in class 1 or class 2

**Your benefits**

- Precise and reliable measurement regardless of object color extends run time and process quality
- Optimum application solution thanks to flexible settings for speed, range and repeatability
- A small size and blind zone make flexible mounting possible when space is limited
- Many interfaces available in one device, reducing stock-keeping: 4 mA to 20 mA, 0 V to 10 V, PNP output, NPN output, and IO-Link
- Offering easy alignment, optimal performance or inconspicuous measurement, versatile light senders make it an ideal solution for all scenarios
- Low investment costs and high performance levels guarantee a quick return on investment
- A wide variety of control options ensures rapid commissioning and fast batch changes
- IO-Link offers full process control, from commissioning to service



**Performance**

Measuring range <sup>1), 2)</sup> :	50 mm ... 12,000 mm, 90 % remission 50 mm ... 3,100 mm, 6 % remission 50 mm ... 5,300 mm, 18 % remission
Resolution:	0.1 mm
Repeatability <sup>3), 4), 5)</sup> :	0,5 mm ... 5 mm
Accuracy <sup>6)</sup> :	Typ. ± 10 mm
Response time <sup>7), 8)</sup> :	4.5 ms/12.5 ms/24.5 ms/48.5 ms/192.5 ms
Switching frequency <sup>9), 10)</sup> :	166 Hz/50 Hz/25 Hz/12 Hz/3 Hz
Output rate <sup>11), 12)</sup> :	2 ms/4 ms/8 ms/16 ms/64 ms
Light source <sup>13)</sup> :	Laser, red

Typ. light spot size (distance):	15 mm x 15 mm (at 2 m)
Additional function:	Set speed: Super Fast ... Super Slow Teach-in of analog output Teach-in of switching output IO-Link Reset to factory default Multifunctional input: laser off/external teach/inactive Output Q2, selectable: 4 mA ... 20 mA/0 V ... 10 V/switching output Invertible analog output Switching output invertible Switching mode: Distance to Object (DtO)/switching window (Wnd)/ object between sensor and background (OBSB)
Laser class:	1 (EN 60825-1)
Laser service life (MTTF at 25 °C):	100,000 h
<sup>1)</sup> For speed setting Super Slow <sup>2) 4)</sup> See characteristic curves repeatability <sup>3)</sup> Equivalent to 1 $\sigma$ <sup>5) 6)</sup> 6 % ... 90 % remission <sup>7) 9) 12)</sup> Dependent on the set speed: Super Fast ... Super Slow <sup>8) 10)</sup> Lateral entry of object into measuring range <sup>11)</sup> Continuous change of distance in measuring range. <sup>13)</sup> Wavelength: 658 nm; max. output: 250 mW; pulse duration: 3 ns; pulse repetition rate: 1/500	

## Interfaces

Analog output <sup>1)</sup> :	1 x 4 mA ... 20 mA ( $\leq 450 \Omega$ )/1 x 0 V ... 10 V ( $\geq 50 \text{ k}\Omega$ )/-
Resolution analog output:	12 bit
Output type:::	1 x/1 x/2 x push-pull: PNP/NPN (100 mA), IO-Link <sup>2) 3) 4)</sup>
Hysteresis <sup>5)</sup> :	0 mm ... 11,950 mm
Data interface:	IO-Link
Multifunctional input (MF) <sup>6)</sup> :	1 x
<sup>1) 4)</sup> Output Q <sub>2</sub> , selectable: 4 mA ... 20 mA/0 V ... 10 V/switching output <sup>2)</sup> Output Q short-circuit protected <sup>3)</sup> Voltage drop < 3 V <sup>5)</sup> Adjustable via IO-Link <sup>6)</sup> Response time $\leq 60 \text{ ms}$	

## Mechanics/electronics

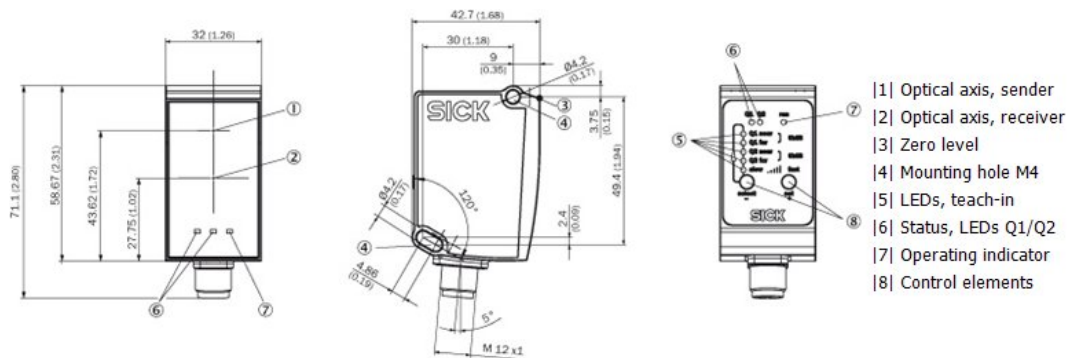
Supply voltage V <sub>s</sub> <sup>1), 2)</sup> :	DC 12 V ... 30 V
Ripple <sup>3)</sup> :	$\leq 5 \text{ Vpp}$
Power consumption <sup>4), 5)</sup> :	$\leq 1.7 \text{ W}$
Initialization time:	$\leq 500 \text{ ms}$
Warm-up time:	$\leq 20 \text{ min}$
Housing material:	Plastic (ABS and PC) acrylic glass (PMMA)
Connection type:	Connector M12, 5-pin
Indication:	LEDs
Weight:	65 g
<sup>1)</sup> Limit values, reverse-polarity protected, operation in short-circuit protected network: max. 8 A <sup>2)</sup> When using IO-Link output V <sub>s</sub> > 18 V. When using analog voltage output V <sub>s</sub> > 13 V. <sup>3)</sup> May not fall short of or exceed V <sub>S</sub> tolerances <sup>4)</sup> At 20°C <sup>5)</sup> Without load <sup>6)</sup>	

## Ambient data

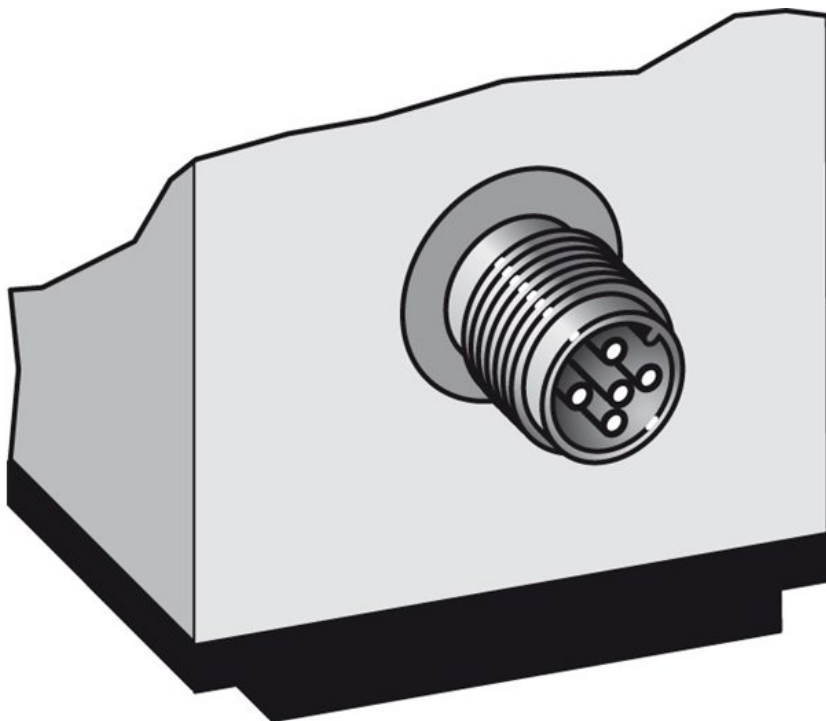
Enclosure rating:	IP 65, IP 67
Protection class:	III
Ambient temperature <sup>1)</sup> :	Operation: -30 ... 55 °C, Storage: -40 ... 75 °C
Vibration resistance:	EN 60068-2-6/EN 60068-2-64
Shock resistance:	EN 60068-2-27
Typ. ambient light safety:	40 klx

1)  $U_v \leq 24\text{ V}$

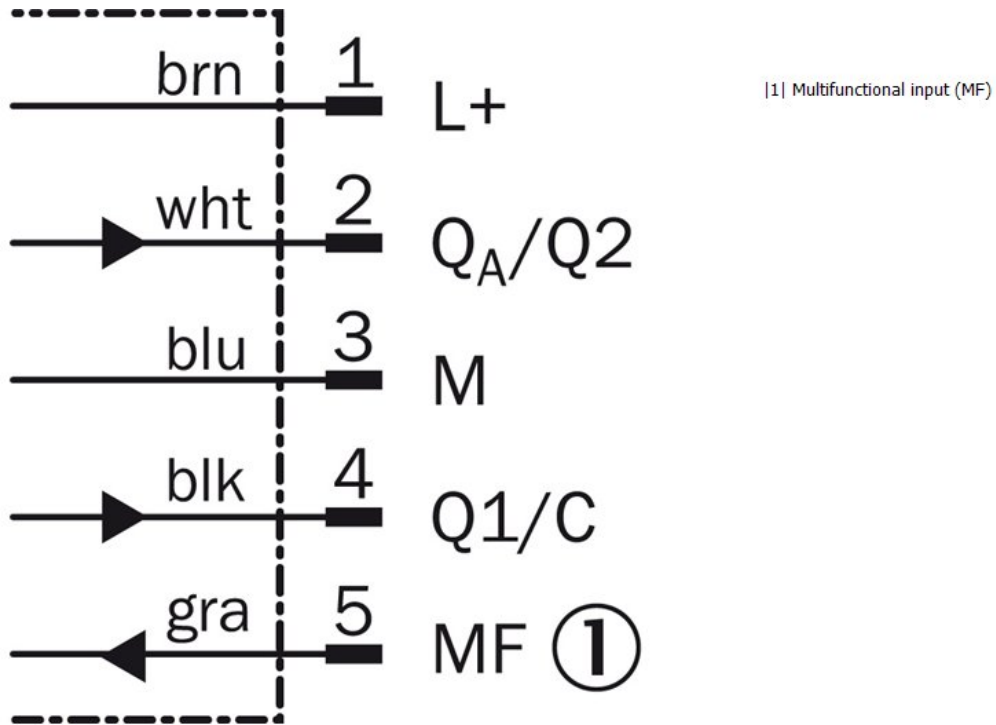
## Dimensional drawing



## Connection type



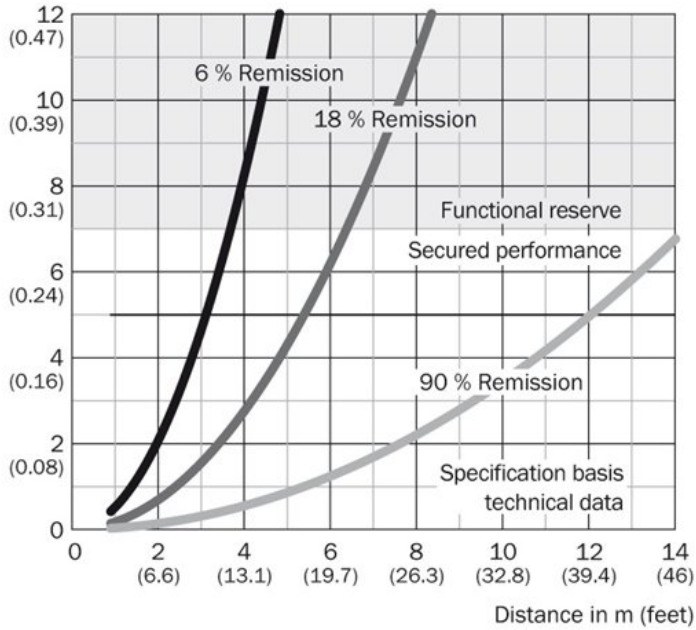
Connection diagram



Characteristic curve 1) Super Slow

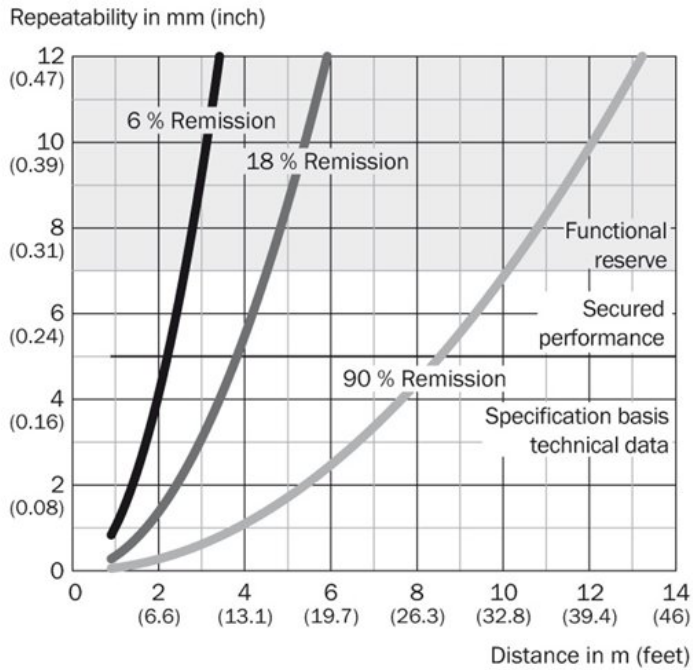
Super Slow

Repeatability in mm (inch)



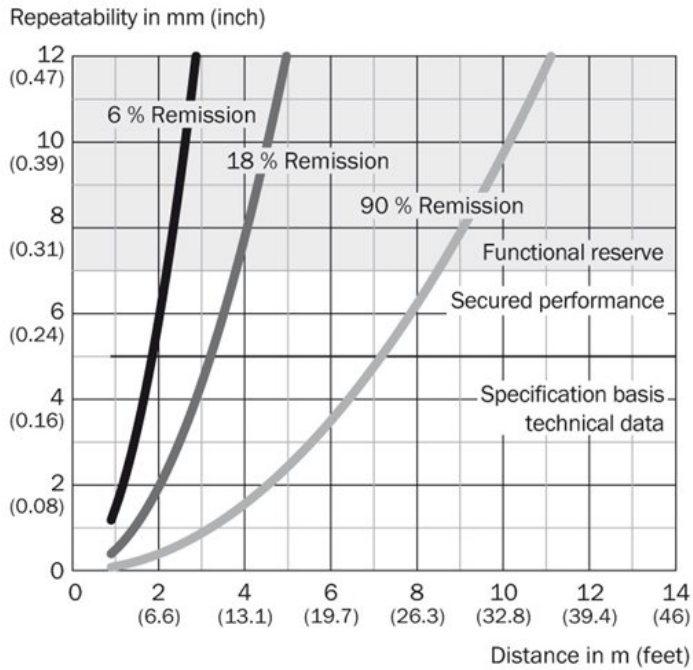
## Characteristic curve 2) Slow

### Slow



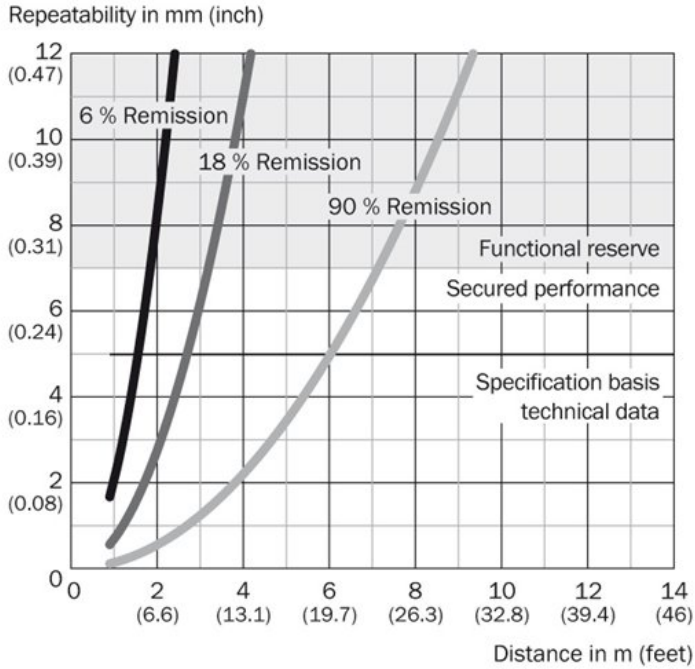
## Characteristic curve 3) Medium

### Medium



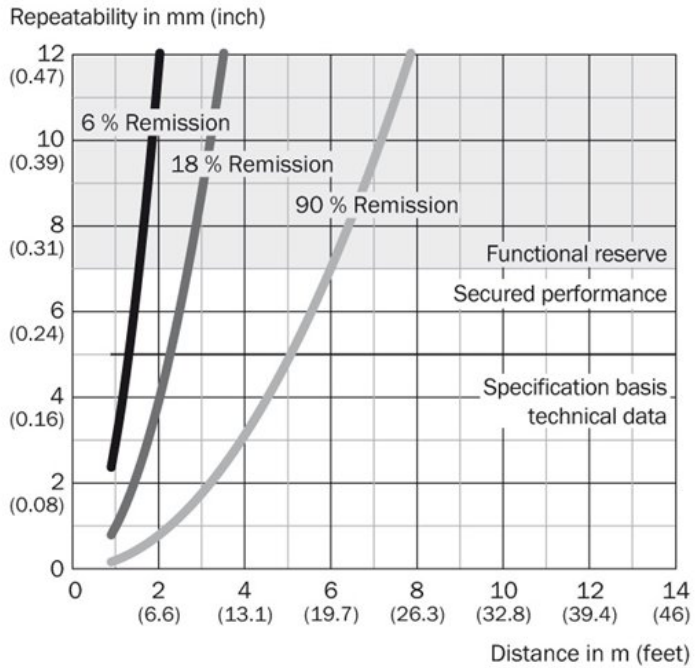
### Characteristic curve 4) Fast

#### Fast



### Characteristic curve 5) Super Fast

#### Super Fast



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