



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

DT35-B15251



**Model Name** > [DT35-B15251](#)  
**Part No.** > [1057652](#)

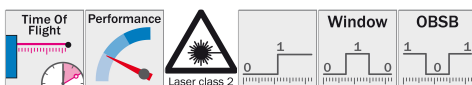


**At a glance**

- HDDM™ technology provides the best reliability, ambient light immunity and price/performance ratio
- Measuring range: 50 mm ... 12,000 mm, depending on individually adjustable response time
- Response time: 2.5 ms ... 192 ms
- Accuracy: ± 10 mm
- Repeatability: 0.5 mm ... 5 mm
- Small housing size
- Laser classes 1 and 2 available
- IO-Link as well as analog and switching output

**Your benefits**

- Smallest blind zone and reduced housing size allow for use in confined spaces
- Consistent, reliable and precise measurement even when measuring extremely shiny or dark objects
- Ideal solution for any application requirement by choosing response time and measurement range individually
- Three switching modes provide a simple solution to challenging applications
- No cross talk allows several sensors to be used simultaneously in confined spaces
- Simple and fast teach-in reduces commissioning costs
- IO-Link enables fast batch changes as well as simple maintenance and remote diagnostics
- Low investment costs and high performance guarantee quick return on investment



CE **CDRH** **IO-Link**

**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> :	± 10 mm
Response time <sup>7)</sup> :	2.5 ms/6.5 ms/12.5 ms/24.5 ms/96.5 ms
Switching frequency::	333 Hz/100 Hz/50 Hz/25 Hz/6 Hz <sup>8) 9)</sup>
Output rate <sup>10)</sup> :	1 ms/2 ms/4 ms/8 ms/32 ms
Light source:	Laser, red

Laser protection class <sup>11)</sup> :	2 (EN 60825-1)
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 Invertible analog output Output Q2 selectable: 4 mA ... 20 mA, 0 V ... 10 V or switching output Switching mode: Distance to Object (DtO)/switching window (Wnd)/object between sensor and background (OBSB) Teach-in of switching output Switching output invertible IO-Link Multifunctional input: laser off, external teach, inactive Reset to factory default
Service life:	100,000 h

<sup>1)</sup> For speed setting Super Slow <sup>2) 5)</sup> See characteristic curves <sup>3)</sup> Equivalent to  $1 \sigma$  <sup>4) 6)</sup> 6 % ... 90 % remission <sup>7) 8)</sup> Dependent on the set speed: Super Fast ... Super Slow <sup>9)</sup> Lateral entry of object into measuring range <sup>10)</sup> Continuous change of distance in measuring range. Dependent on the set speed: Super Fast ... Super Slow. <sup>11)</sup> Wavelength: 658 nm; max. output: 250 mW; pulse duration: 4 ns; pulse repetition rate: 1/250

## Interfaces

Analog output:	1 x 4 mA ... 20 mA ( $\leq 450 \Omega$ )/1 x 0V ... 10 V ( $\leq 50 \Omega$ ) / - <sup>1)</sup>
Resolution analog output:	12 bit
Switching output:::	1 x/1 x/2 x push-pull: PNP/NPN (100 mA), IO-Link <sup>2) 3) 4)</sup>
Multifunctional input <sup>5)</sup> :	1 x
Hysteresis:	0 mm ... 11,950 mm <sup>6)</sup>
Data interface:	IO-Link

<sup>1) 4)</sup> Output Q<sub>2</sub> selectable: 4 mA ... 20 mA, 0 V ... 10 V or switching output <sup>2)</sup> Output Q short-circuit protected <sup>3)</sup> Voltage drop < 3 V <sup>5)</sup> Response time  $\leq 60$  ms <sup>6)</sup> Adjustable via IO-Link

## Mechanics/electronics

Supply voltage $V_s$ <sup>1), 2)</sup> :	DC 12 V ... 30 V
Residual ripple <sup>3)</sup> :	$\leq 5$ Vpp
Power consumption <sup>4), 5)</sup> :	$\leq 1.7$ W
Initialization time:	$\leq 500$ ms
Warm-up time:	$\leq 20$ min
Housing material:	Plastic (ABS and PC) acrylic glass (PMMA)
Connection type:	Connector M12, 5-pin
Indication:	LED display
Weight:	65 g

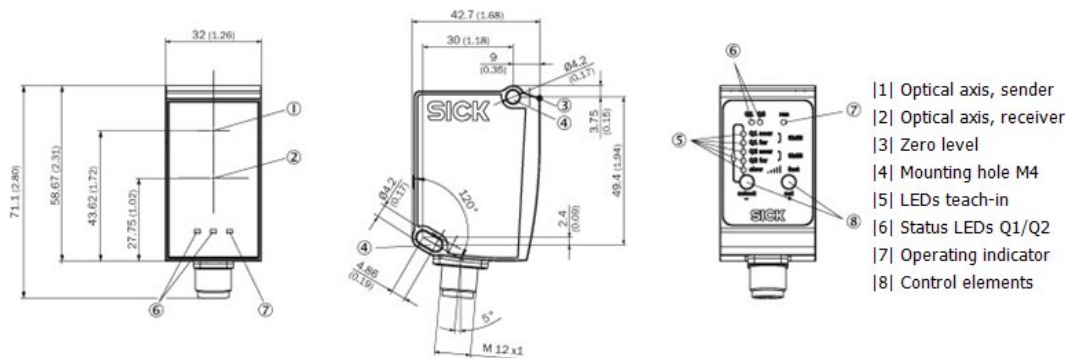
<sup>1)</sup> Limit values, reverse-polarity protected, operation in short-circuit protected network, max. 8 A <sup>2)</sup> When using analog voltage output  $V_s > 13$  V. When using IO-Link output  $V_s > 18$  V. <sup>3)</sup> May not fall short of or exceed  $V_s$  tolerances <sup>4)</sup> At 20°C <sup>5)</sup> Without load

## Ambient data

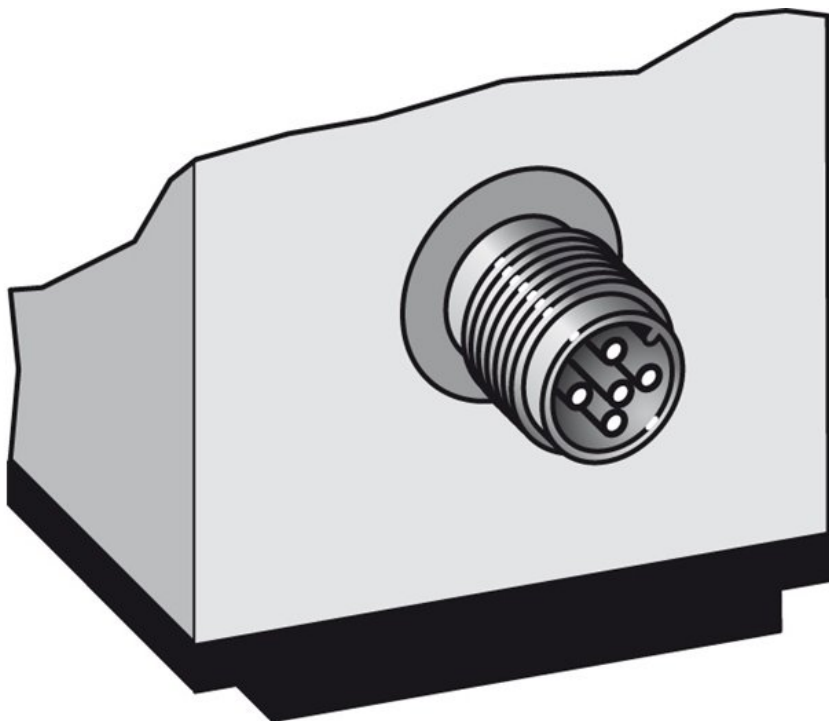
Enclosure rating:	IP 65, IP 67
Protection class:	III
Ambient temperature:	Operation: -30 ... 55 °C, Storage: -40 ... 75 °C <sup>1)</sup>
Vibration resistance:	EN 60068-2-6/-2-64
Shock resistance:	EN 60068-2-27
Typ. ambient light safety:	40 klx

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

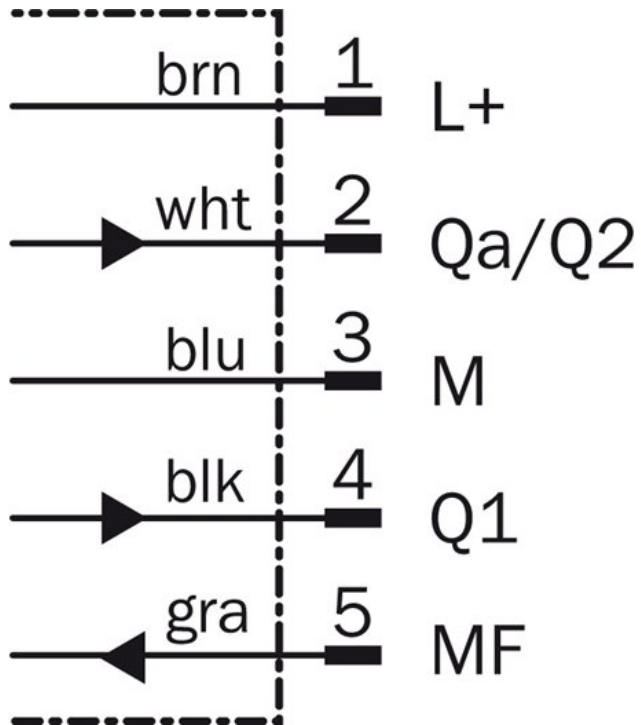
## Dimensional drawing



## Connection type



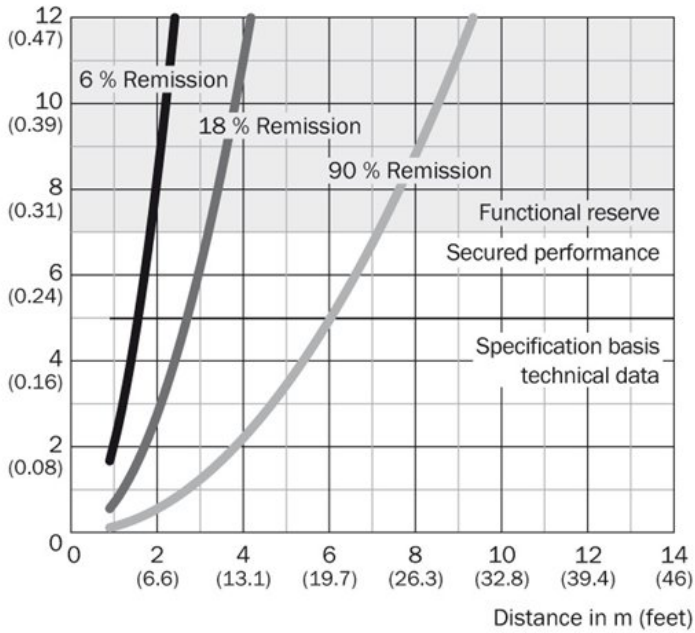
Connection diagram



Characteristic curve fast

Fast

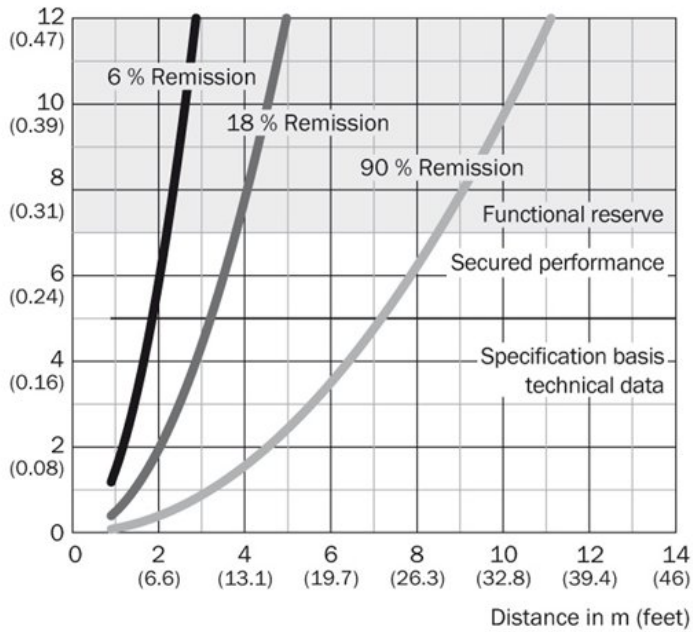
Repeatability in mm (inch)



## Characteristic curve medium

### Medium

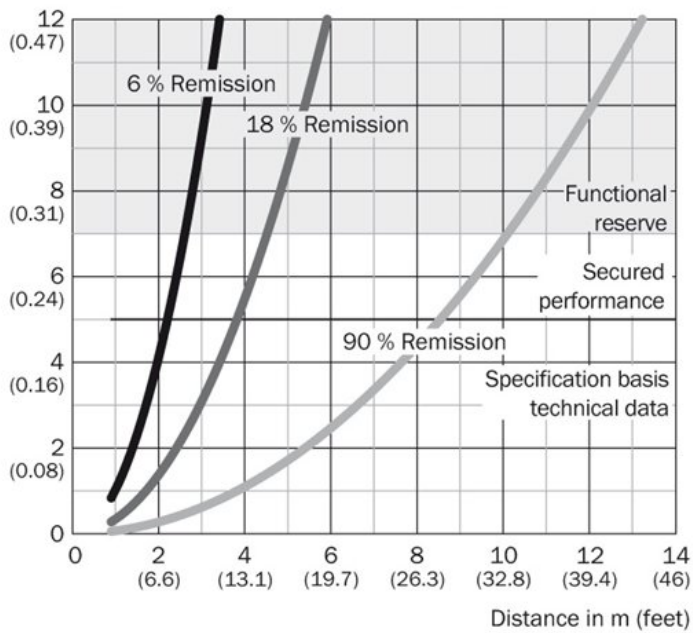
Repeatability in mm (inch)



## Characteristic curve slow

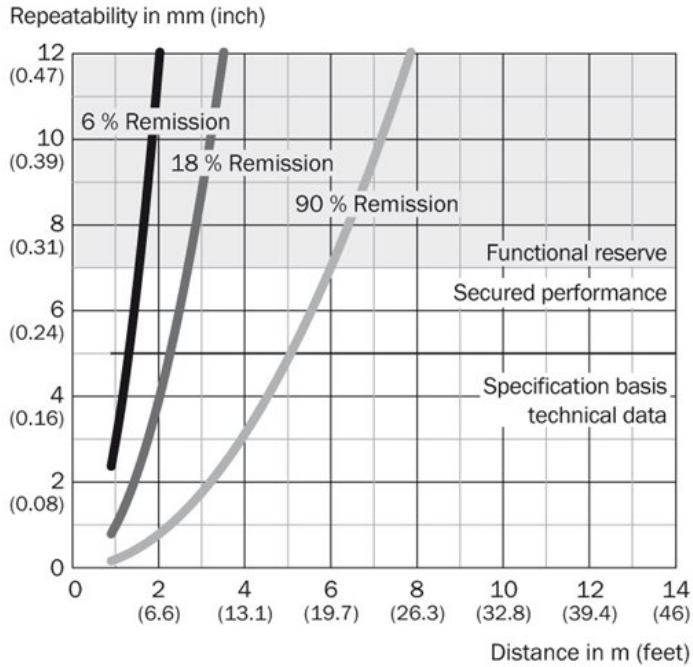
### Slow

Repeatability in mm (inch)



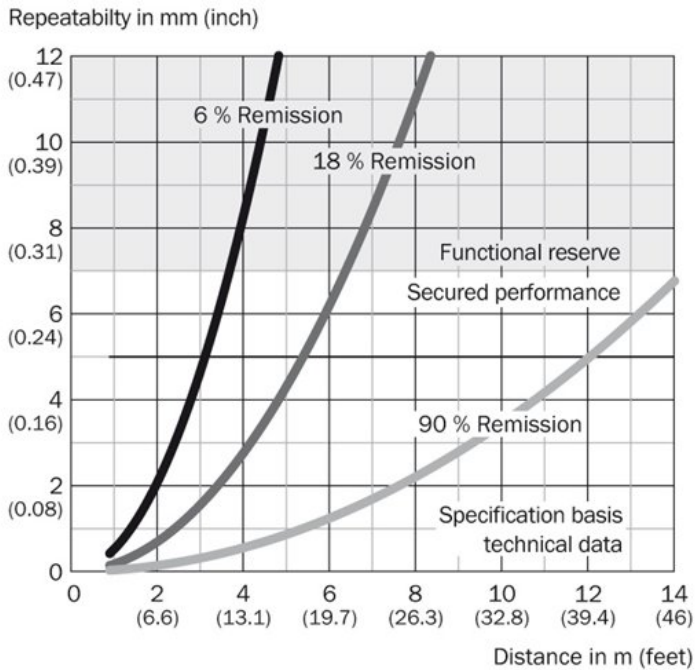
## Characteristic curve superfast

### Super Fast



## Characteristic curve superslow

### Super Slow



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