



Mid range distance sensors Dx35, DT35, IO-Link

DT35-B15551



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

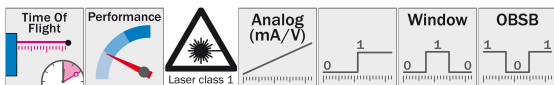


At a glance

- 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 ^{1), 2)} :	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 ^{3), 4), 5)} :	0,5 mm ... 5 mm
Accuracy ⁶⁾ :	Typ. ± 10 mm
Response time ^{7), 8)} :	4.5 ms/12.5 ms/24.5 ms/48.5 ms/192.5 ms
Switching frequency ^{9), 10)} :	166 Hz/50 Hz/25 Hz/12 Hz/3 Hz
Output rate ^{11), 12)} :	2 ms/4 ms/8 ms/16 ms/64 ms
Light source ¹³⁾ :	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
¹⁾ For speed setting Super Slow ^{2) 4)} See characteristic curves repeatability ³⁾ Equivalent to 1 σ ^{5) 6)} 6 % ... 90 % remission ^{7) 9) 12)} Dependent on the set speed: Super Fast ... Super Slow ^{8) 10)} Lateral entry of object into measuring range ¹¹⁾ Continuous change of distance in measuring range. ¹³⁾ Wavelength: 658 nm; max. output: 250 mW; pulse duration: 3 ns; pulse repetition rate: 1/500	

Interfaces

Analog output ¹⁾ :	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 ^{2) 3) 4)}
Hysteresis ⁵⁾ :	0 mm ... 11,950 mm
Data interface:	IO-Link
Multifunctional input (MF) ⁶⁾ :	1 x
^{1) 4)} Output Q ₂ , selectable: 4 mA ... 20 mA/0 V ... 10 V/switching output ²⁾ Output Q short-circuit protected ³⁾ Voltage drop < 3 V ⁵⁾ Adjustable via IO-Link ⁶⁾	
Response time ≤ 60 ms	

Mechanics/electronics

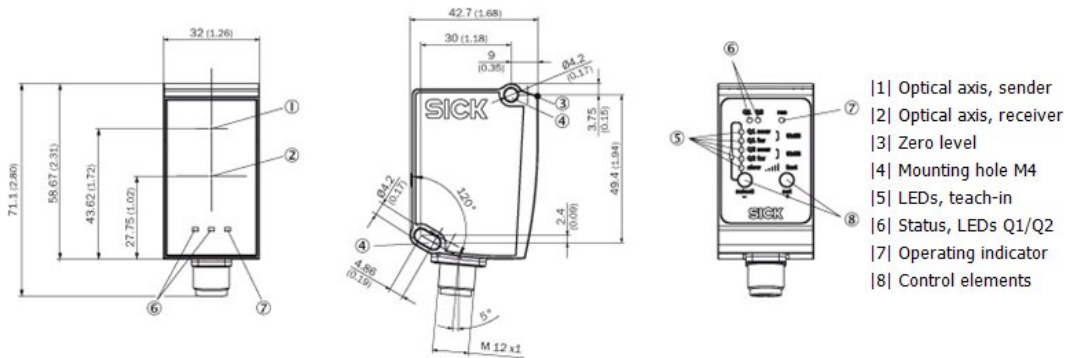
Supply voltage V _s ^{1), 2)} :	DC 12 V ... 30 V
Ripple ³⁾ :	≤ 5 Vpp
Power consumption ^{4), 5)} :	≤ 1.7 W
Initialization time:	≤ 500 ms
Warm-up time:	≤ 20 min
Housing material:	Plastic (ABS and PC) acrylic glass (PMMA)
Connection type:	Connector M12, 5-pin
Indication:	LEDs
Weight:	65 g
¹⁾ Limit values,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

Ambient data

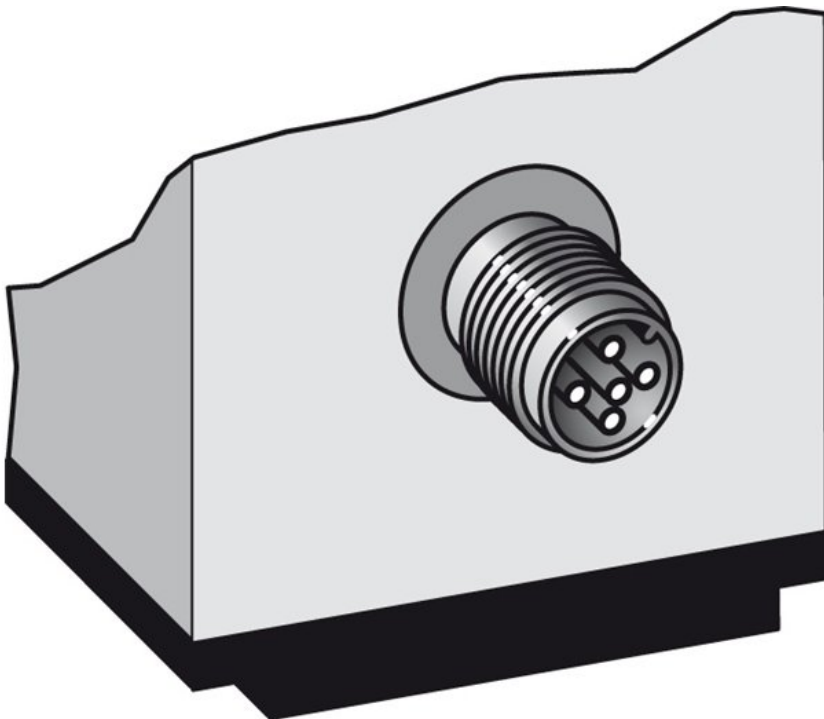
Enclosure rating:	IP 65, IP 67
Protection class:	III
Ambient temperature ¹⁾ :	Operation: -30 ... 55 °C, Storage: -40 ... 75 °C
Vibration resistance:	EN 60068-2-6/EN 60068-2-64
Shock resistance:	EN 60068-2-27
Typ. ambient light safety:	40 klx

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

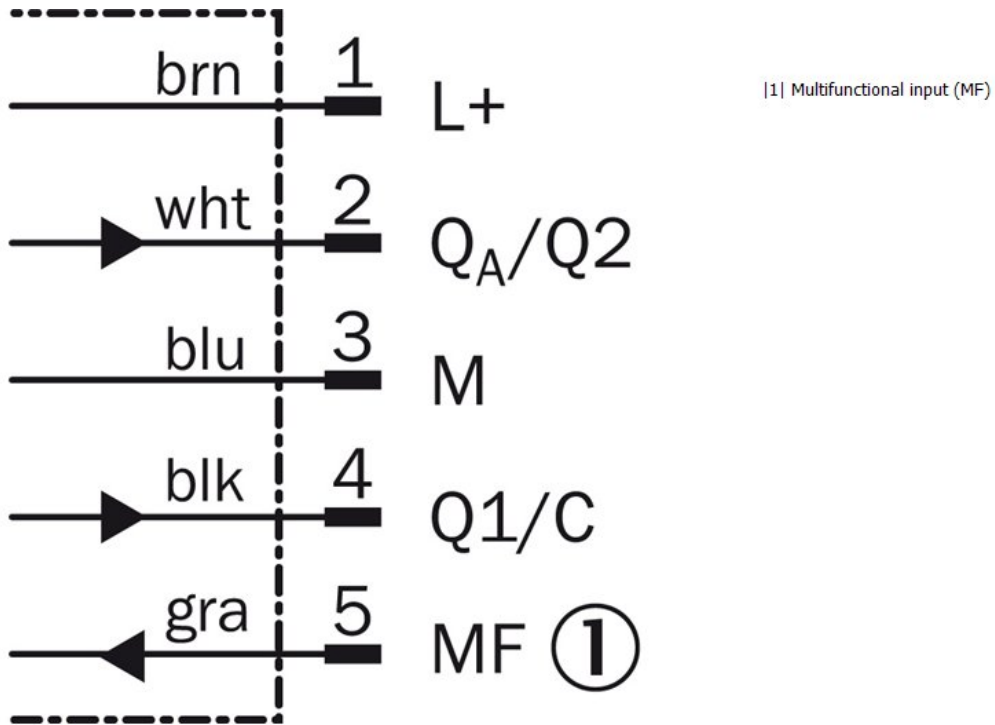
Dimensional drawing



Connection type



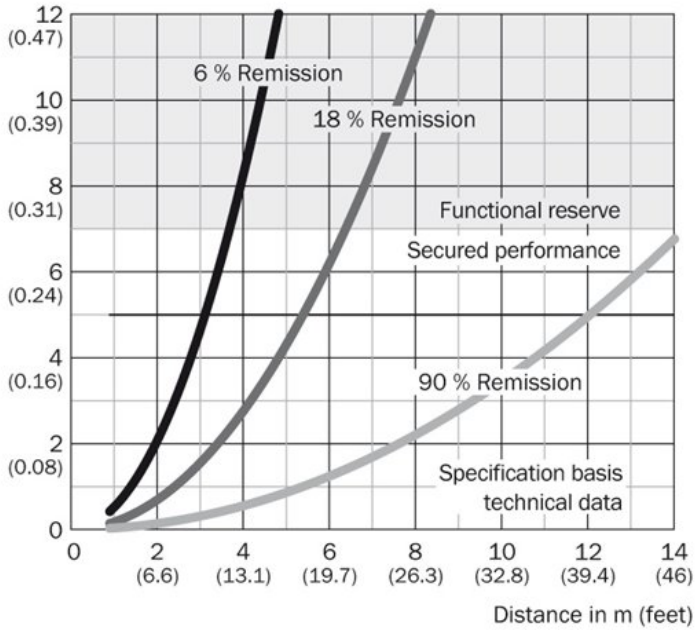
Connection diagram



Characteristic curve 1) Super Slow

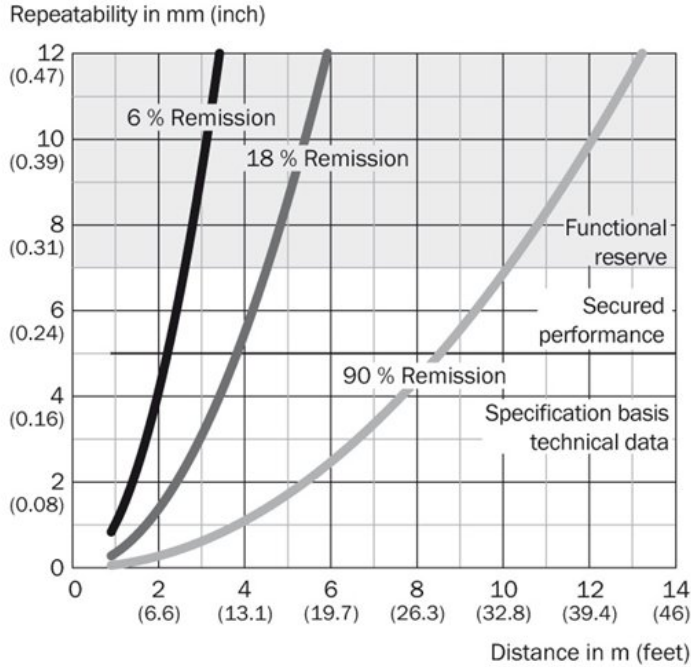
Super Slow

Repeatability in mm (inch)



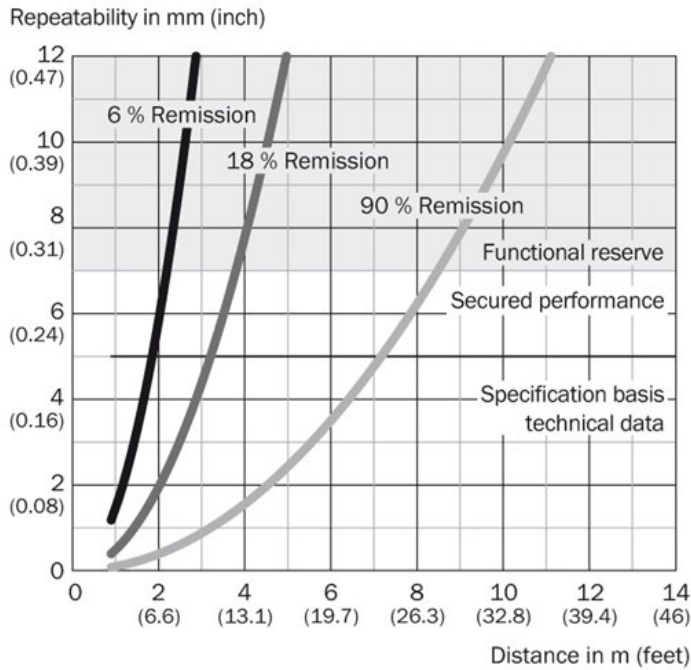
Characteristic curve 2) Slow

Slow



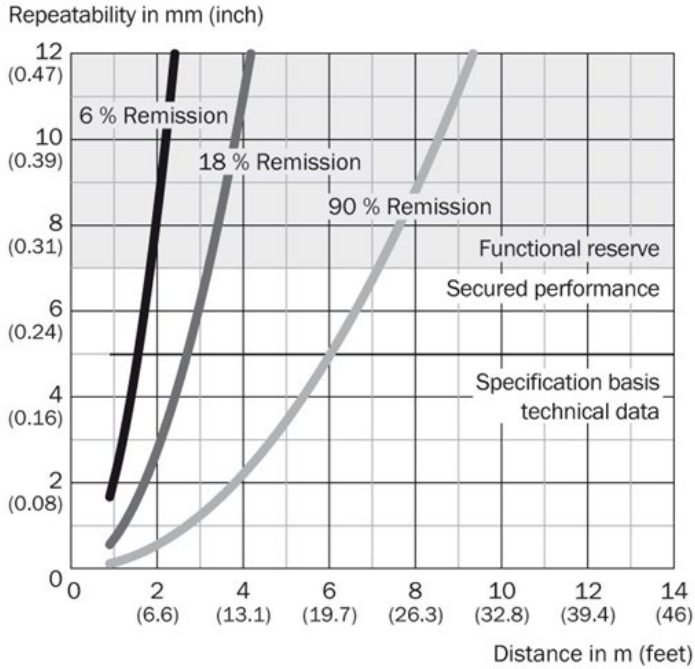
Characteristic curve 3) Medium

Medium



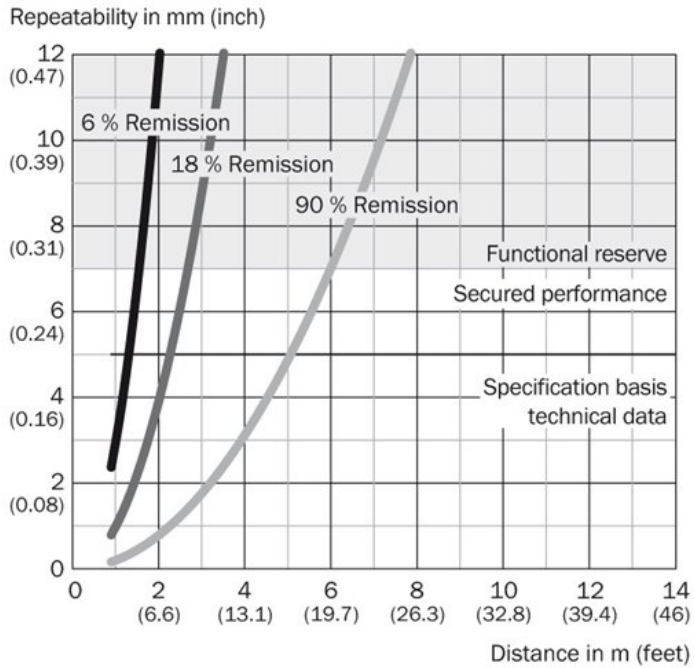
Characteristic curve 4) Fast

Fast



Characteristic curve 5) Super Fast

Super Fast



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