



Mid range distance sensors Dx35, DT35

DT35-B15851



Type > [DT35-B15851](#)
Part No. > [1057653](#)

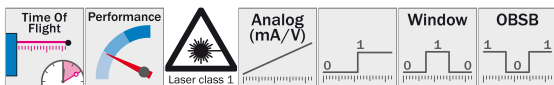


At a glance

- 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)} : | 2.5 ms/6.5 ms/12.5 ms/24.5 ms/96.5 ms |
| Switching frequency ^{9), 10)} : | 333 Hz/100 Hz/50 Hz/25 Hz/6 Hz |
| Light source ¹¹⁾ : | Laser, infrared |
| Typ. light spot size (distance): | 15 mm x 15 mm (at 2 m) |

| | |
|--|--|
| Additional function: | Set speed: Super Fast ... Super Slow IO-Link Reset to factory default Output Q2, selectable: 4 mA ... 20 mA/0 V ... 10 V/switching output Multifunctional input: laser off/external teach/deactivated Switching mode: Distance to Object (DtO)/switching window/object between sensor and background (ObSB) Teach-in of analog output and invertible analog output Teach-in of switching output and switching output invertible |
| Laser class: | 1 (EN 60825-1) |
| Laser service life (MTTF at 25 °C): | 100,000 h |
| Output time ^{12), 13)} : | 1 ms/2 ms/4 ms/8 ms/32 ms |
| 1) For speed setting Slow ^{2) 4)} See characteristic curves repeatability ³⁾ Equivalent to 1 σ ^{5) 6)} 6 % ... 90 % remission ^{7) 9) 13)} Dependent on the set speed: Super Fast ... Super Slow ^{8) 10)} Lateral entry of object into measuring range ¹¹⁾ Wavelength: 827 nm; max. output: 130 mW; pulse duration: 3.5 ns; duty cycle: 1/250 ¹²⁾ | |

Continuous change of distance in measuring range.

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 ^{2), 3), 4)} : | 1 x/2 x push-pull: PNP/NPN (100 mA), IO-Link |
| 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

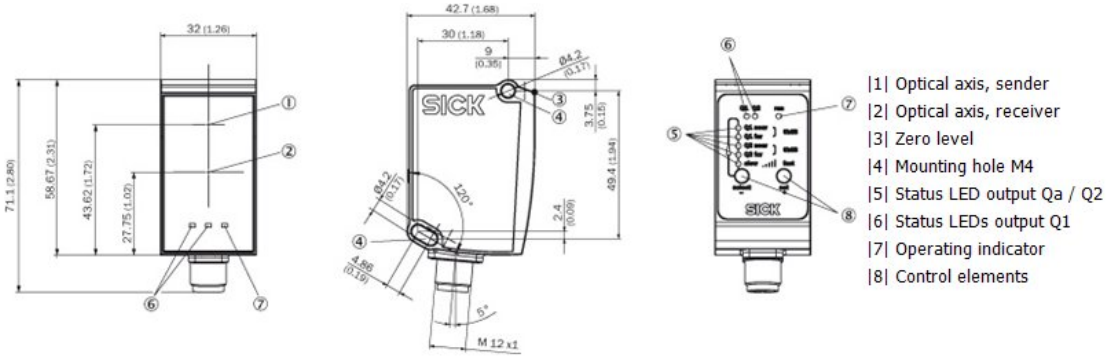
| | |
|---|--|
| Supply voltage V_s ^{1), 2)} : | DC 12 V ... 30 V |
| Ripple ³⁾ : | ≤ 5 Vpp |
| Power consumption ^{4), 5)} : | ≤ 1.7 W |
| Initialization time: | ≤ 500 ms |
| Warm-up time: | ≤ 20 min |
| Housing material: | Plastic (ABS and PC) acrylic glass (PMMA) |
| Connection type: | Male connector, 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 | |

Ambient data

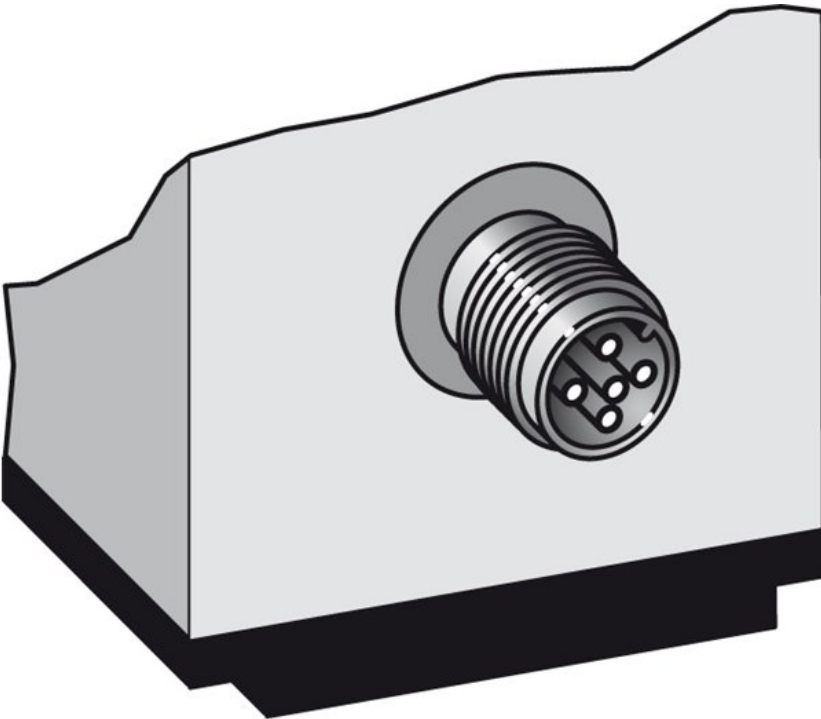
| | |
|-------------------------------------|--|
| Enclosure rating: | IP 65, IP 67 |
| Protection class: | III |
| Ambient temperature ¹⁾ : | Operation: -30 ... +55 °C, Storage: -40 ... +75 °C |
| Vibration resistance: | EN 60068-2-6/EN 60068-2-64 |
| Shock resistance: | EN 60068-2-27 |
| Typ. Ambient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

1) $U_V \leq 24 V$

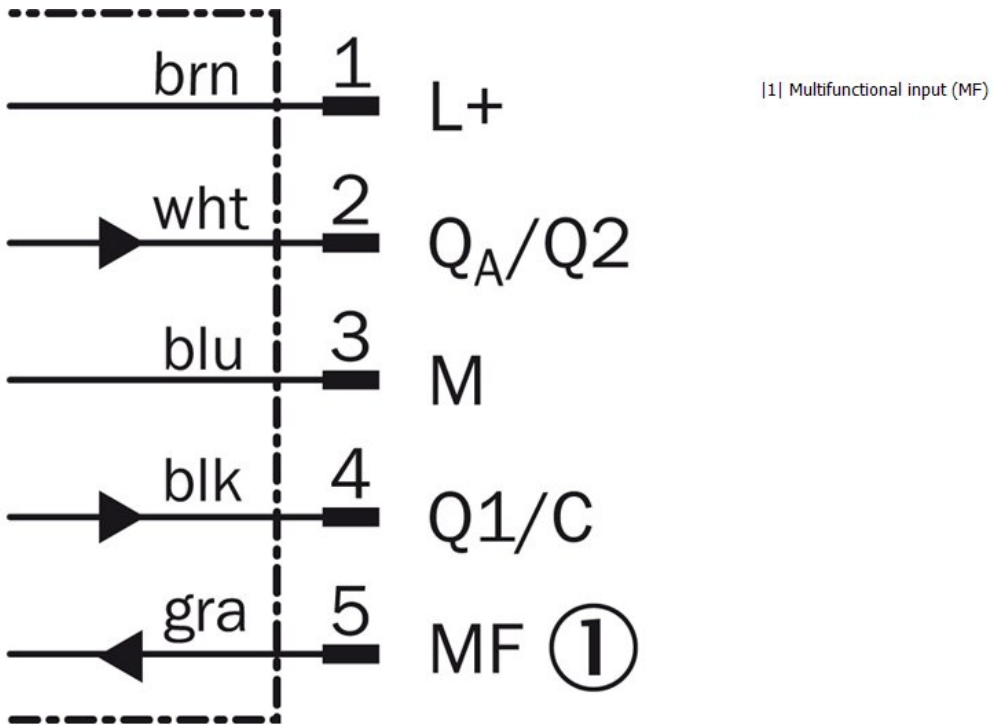
Dimensional drawing



Connection type

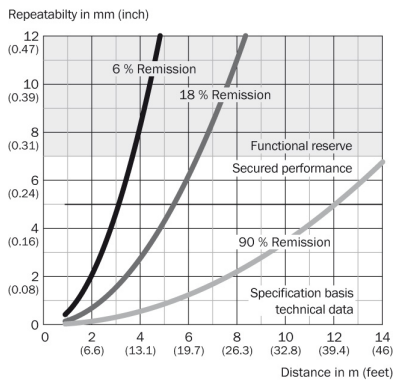


Connection diagram



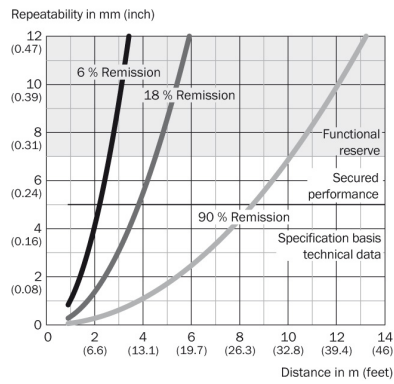
Characteristic curve 1) Super Slow

Super Slow



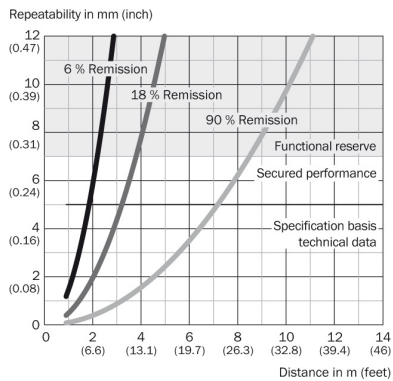
Characteristic curve 2) Slow

Slow



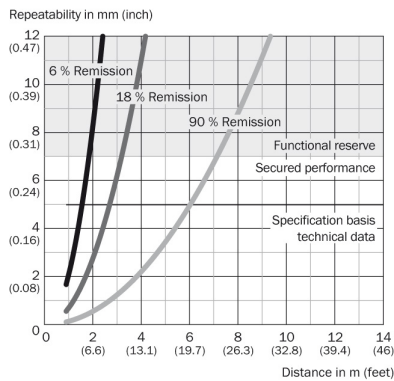
Characteristic curve 3) Medium

Medium



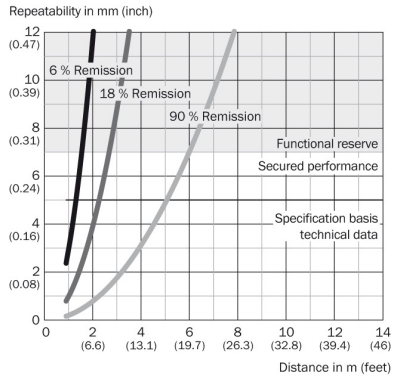
Characteristic curve 4) Fast

Fast



Characteristic curve 5) Super Fast

Super Fast



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