



Mid range distance sensors Dx35, DS35

DS35-B15221



Model Name > [DS35-B15221](#)
Part No. > [1057655](#)

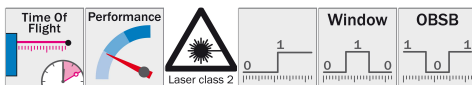


At a glance

- Maximum reliability, immunity to ambient light, and best price/performance ratio thanks to HDDM™ technology
- Reliable detection and wide measuring range up to 12 m
- Very good accuracy of ±10 mm
- Fast detection with a switching frequency of up to 333 Hz or 166 Hz
- Small housing size
- IO-Link as well as two switching outputs offering three switching modes
- Choice of infrared or red lasers in class 1 or class 2

Your benefits

- Two switching outputs, each with three switching modes, provide a simple solution for demanding applications
- 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
- Precise and reliable measurement regardless of object color extends run time and process quality
- Offering easy alignment, optimal performance or inconspicuous detection, 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

Measurement 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, red
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 Multifunctional input: laser off/external teach/deactivated Switching mode: Distance to Object (DtO)/switching window/object between sensor and background (ObSB) Teach-in of switching output and switching output invertible
Laser class:	2 (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: 658 nm; max. output: 250 mW; pulse duration: 3 ns; pulse repetition rate: 1/250 ¹²⁾ Continuous change of distance in measuring range.	

Interfaces

Output type ¹⁾ , ²⁾ , ³⁾ :	2 x push-pull: PNP/NPN (100 mA), IO-Link
Hysteresis ⁴⁾ :	0 mm ... 11,950 mm
Data interface:	IO-Link
Multifunctional input (MF) ⁵⁾ :	1 x
¹⁾ Output Q short-circuit protected ²⁾ Voltage drop < 3 V ³⁾ Output Q ₂ , selectable: 4 mA ... 20 mA/0 V ... 10 V/switching output/Q ₁ not/ deactivated ⁴⁾ Adjustable via IO-Link ⁵⁾ Response time \leq 60 ms	

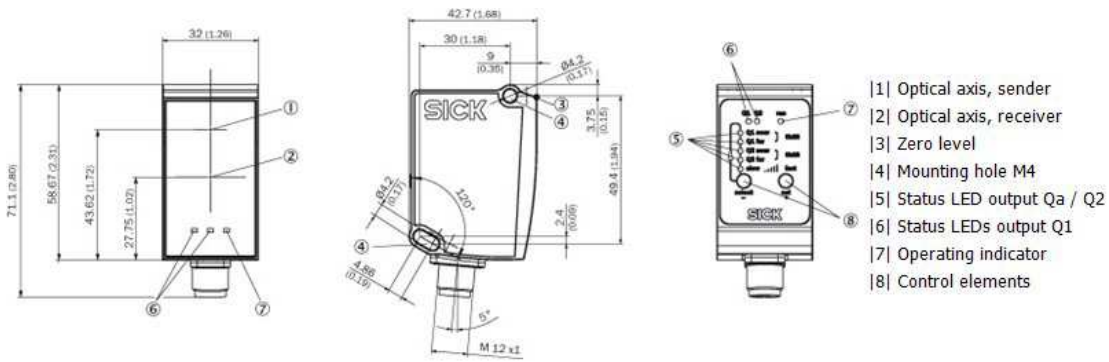
Mechanics/electronics

Supply voltage V_s ¹⁾ , ²⁾ :	DC 12 V ... 30 V
Ripple ³⁾ :	\leq 5 Vpp
Power consumption ⁴⁾ , ⁵⁾ :	\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:	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. ³⁾ May not fall short of or exceed V_s tolerances ⁴⁾ At 20 °C ⁵⁾ Without load	

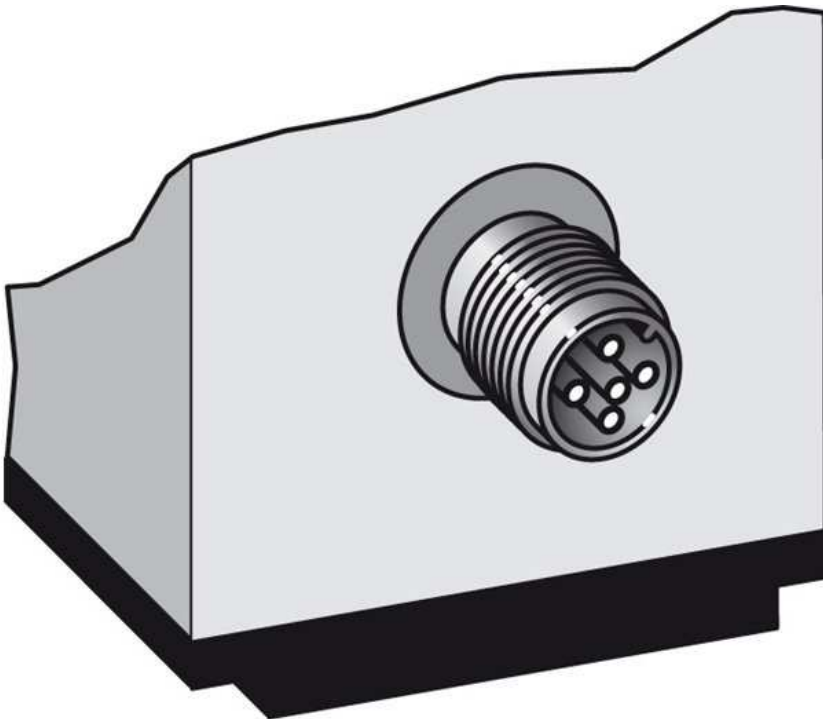
Ambient data

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 safety:	40 klx
¹⁾ $U_v \leq 24$ V	

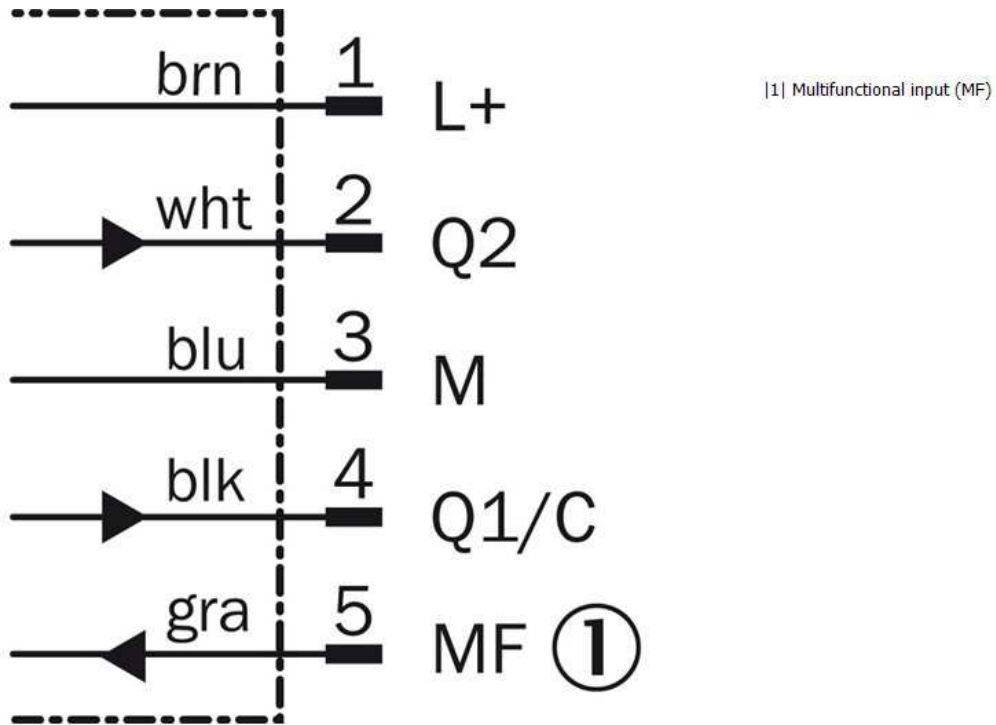
Dimensional drawing



Connection type

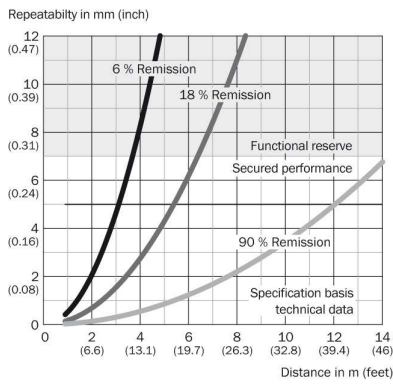


Connection diagram



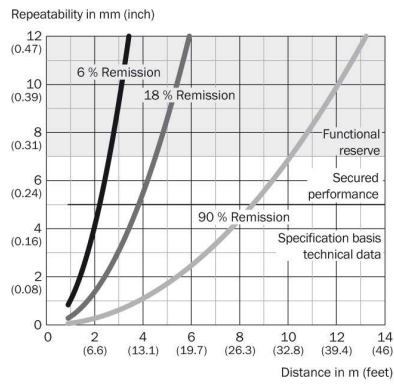
Characteristic curve 1) Super Slow

Super Slow



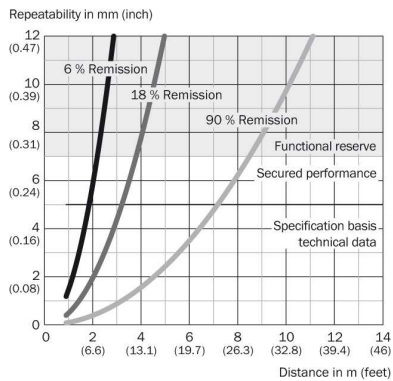
Characteristic curve 2) Slow

Slow



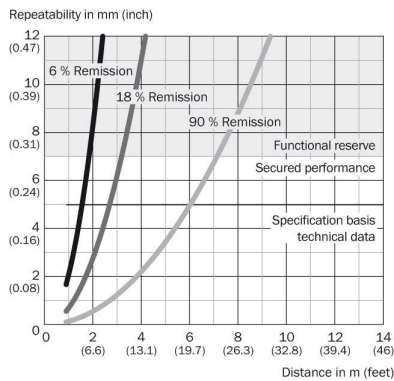
Characteristic curve 3) Medium

Medium



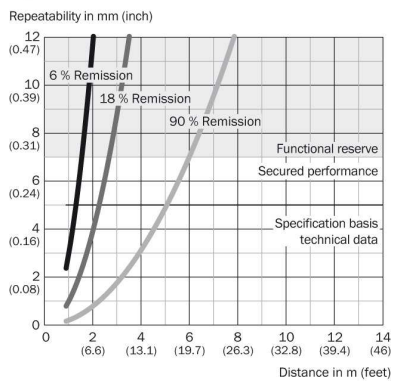
Characteristic curve 4) Fast

Fast



Characteristic curve 5) Super Fast

Super Fast



Australia

Phone +61 3 9457 0600
1800 33 48 02 – tollfree
E-Mail sales@sick.com.au

Belgium/Luxembourg

Phone +32 (0)2 466 55 66
E-Mail info@sick.be

Brasil

Phone +55 11 3215-4900
E-Mail marketing@sick.com.br

Canada

Phone +1 905 771 14 44
E-Mail information@sick.com

Česká republika

Phone +420 2 57 91 18 50
E-Mail sick@sick.cz

China

Phone +86 4000 121 000
E-Mail info.china@sick.net.cn
Phone +852-2153 6300
E-Mail ghk@sick.com.hk

Danmark

Phone +45 45 82 64 00
E-Mail sick@sick.dk

Deutschland

Phone +49 211 5301-301
E-Mail info@sick.de

España

Phone +34 93 480 31 00
E-Mail info@sick.es

France

Phone +33 1 64 62 35 00
E-Mail info@sick.fr

Great Britain

Phone +44 (0)1727 831121
E-Mail info@sick.co.uk

India

Phone +91-22-4033 8333
E-Mail info@sick-india.com

Israel

Phone +972-4-6881000
E-Mail info@sick-sensors.com

Italia

Phone +39 02 27 43 41
E-Mail info@sick.it

Japan

Phone +81 (0)3 5309 2112
E-Mail support@sick.jp

Magyarország

Phone +36 1 371 2680
E-Mail office@sick.hu

Nederland

Phone +31 (0)30 229 25 44
E-Mail info@sick.nl

Norge

Phone +47 67 81 50 00
E-Mail sick@sick.no

Österreich

Phone +43 (0)22 36 62 28 8-0
E-Mail office@sick.at

Polska

Phone +48 22 837 40 50
E-Mail info@sick.pl

România

Phone +40 356 171 120
E-Mail office@sick.ro

Russia

Phone +7-495-775-05-30
E-Mail info@sick.ru

Schweiz

Phone +41 41 619 29 39
E-Mail contact@sick.ch

Singapore

Phone +65 6744 3732
E-Mail sales.gsg@sick.com

Slovenija

Phone +386 (0)1-47 69 990
E-Mail office@sick.si

South Africa

Phone +27 11 472 3733
E-Mail info@sickautomation.co.za

South Korea

Phone +82 2 786 6321/4
E-Mail info@sickkorea.net

Suomi

Phone +358-9-25 15 800
E-Mail sick@sick.fi

Sverige

Phone +46 10 110 10 00
E-Mail info@sick.se

Taiwan

Phone +886 2 2375-6288
E-Mail sales@sick.com.tw

Türkiye

Phone +90 (216) 528 50 00
E-Mail info@sick.com.tr

United Arab Emirates

Phone +971 (0) 4 88 65 878
E-Mail info@sick.ae

USA/México

Phone +1(952) 941-6780
1 (800) 325-7425 – tollfree
E-Mail info@sickusa.com

More representatives and agencies
at www.sick.com