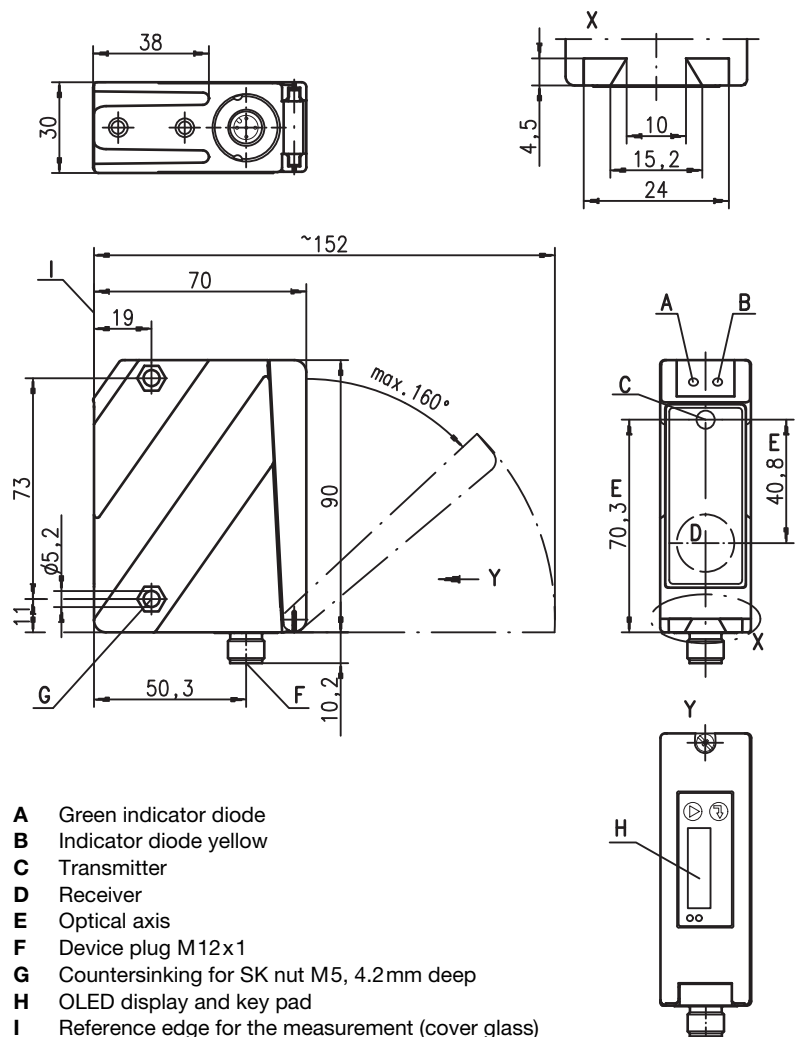


ODSL 96B

Optical distance sensors

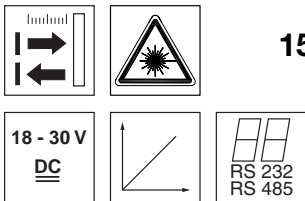


Dimensioned drawing



- A Green indicator diode
- B Indicator diode yellow
- C Transmitter
- D Receiver
- E Optical axis
- F Device plug M12x1
- G Countersinking for SK nut M5, 4.2mm deep
- H OLED display and key pad
- I Reference edge for the measurement (cover glass)

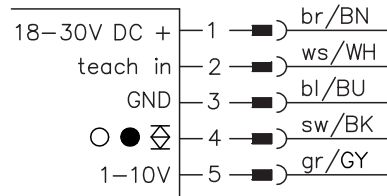
150 ... 800mm



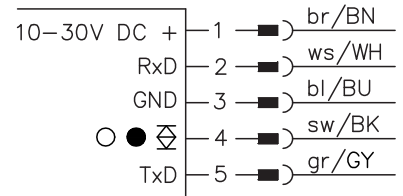
- Reflection-independent distance information
- Highly insensitive to extraneous light
- PC/OLED display and key pad for configuration
- Measurement value is indicated in mm on OLED display
- Configurable measure mode
- Configurable measurement data preprocessing and filter

Electrical connection

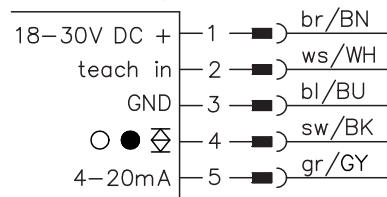
ODSL 96B M/V6...-S12



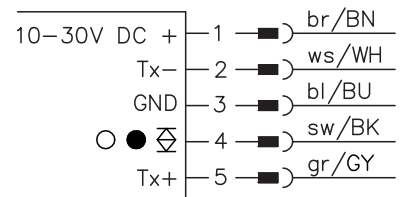
ODSL 96B M/D26...-S12



ODSL 96B M/C6...-S12



ODSL 96B M/D36...-S12



Accessories:

(available separately)

- Mounting systems
- Cable with M12 connector (K-D ...)
- Configuration software



We reserve the right to make changes • DS_ODSL96B_M...S_800_S12_en.fm

Specifications

Optical data

Measurement range ¹⁾	150 ... 800mm
Resolution ²⁾	0.1 ... 0.8mm
Light source	laser
Wavelength	655nm (red light) ²⁾
Light spot	approx. 1 x 1mm ² at 800mm

Error limits (relative to measurement distance)

Absolute measurement accuracy ¹⁾	± 1.5%
Repeatability ³⁾	± 0.5%
B/w detect. thresholds (6 ... 90% rem.)	≤ 1%
Temperature compensation	yes ⁴⁾

Timing

Measurement time	1 ... 5 ¹⁾ ms
Response time ¹⁾	≤ 15ms
Delay before start-up	≤ 300ms

Electrical data

Operating voltage U _B ⁵⁾ .../C6..., .../V6...	18 ... 30VDC (incl. residual ripple)
.../D26..., .../D36...	10 ... 30VDC (incl. residual ripple)
Residual ripple	≤ 15% of U _B
Open-circuit current	≤ 150mA
Switching output	push-pull switching output ⁶⁾ , PNP light switching, NPN dark switching
Signal voltage high/low	≥ (U _B -2 V)/≤ 2V
Analog output	.../V6... voltage 1 ... 10V / 0 ... 10V / 1 ... 5V / 0 ... 5V, R _L ≥ 2kΩ
.../C6...	current 4 ... 20mA, R _L ≤ 500Ω
Serial interface .../D26..., .../D36...	RS 232/RS 485, 9600 ... 57600Bd, 1 start bit, 8 data bits, 1 stop bit, no parity
Transmission protocol	14 bit, 16 bit, ASCII, Remote Control

Indicators

Green LED	continuous light	teach-in on GND	teach-in on +U_B
	flashing	ready	
	off	fault	teaching procedure
Yellow LED	continuous light	no voltage	object inside teach-in measurement distance
	flashing		teaching procedure
	off		object outside teach-in measurement distance

Mechanical data

Housing	metal housing
Optics cover	diecast zinc
Weight	glass
Connection type	380g
	M12 connector

Environmental data

Ambient temp. (operation/storage)	-20°C ... +50°C / -30°C ... +70°C
Protective circuit ⁷⁾	1, 2, 3
VDE safety class ⁸⁾	II, all-insulated
Protection class	IP 67, IP 69K ⁹⁾
Laser class	2 (in accordance with EN 60825-1 and 21 CFR 1040.10 with Laser Notice No. 50)
Standards applied	IEC/EN 60947-5-2, UL 508

1) Luminosity coefficient 6% ... 90%, complete measurement range, at 20°C, medium range of U_B, measurement object ≥ 50x50mm²

2) Minimum and maximum value depend on measurement distance

3) Same object, identical environmental conditions, measurement object ≥ 50x50mm²

4) Typ. ± 0.02 %/K

5) For UL applications: for use in class 2 circuits according to NEC only

6) The push-pull switching outputs must not be connected in parallel

7) 1=transient protection, 2=polarity reversal protection, 3=short circuit protection for all outputs

8) Rating voltage 250VAC, with cover closed

9) IP 69K test in accordance with DIN 40050 part 9 simulated, high pressure cleaning conditions without the use of additives. Acids and bases are not part of the test

Tables

Diagrams

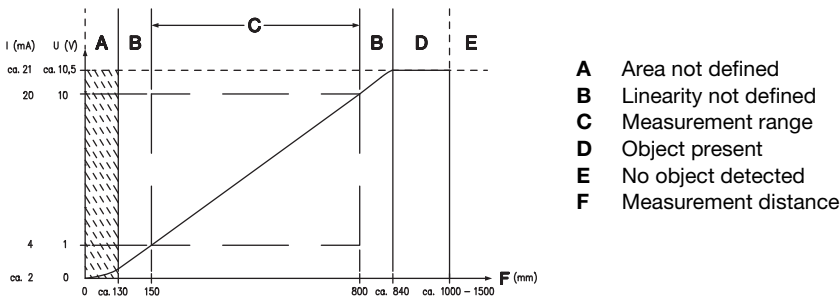
Remarks

- Measurement time depends on the reflectivity of the measurement object and on the measurement mode.
- **Approved purpose:** This product may only be used by qualified personnel and must only be used for the approved purpose. This sensor is not a safety sensor and is not to be used for the protection of persons.

Order guide

	Designation	Part No.
With M12 connector		
Current output	ODSL 96B M/C6.S-800-S12	50106728
Voltage output	ODSL 96B M/V6.S-800-S12	50106729
RS 232 interface	ODSL 96B M/D26.S-800-S12	50111035
RS 485 interface	ODSL 96B M/D36.S-800-S12	50112065

Analog output: characteristic curve for factory setting



Serial output: transmission protocol for factory setting

9600Bd, 1 start bit, 8 data bits, 1 stop bit,
transmission protocol ASCII measurement values

Transmission format: **MMMMM<CR>**

MMMMM = 5-digit measurement value in 0.1 mm (resolution 0.1 mm)

<CR> = ASCII character "Carriage Return" (x0D)

