MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

LEUZE ELECTRONIC

96BM/C6-2000-S12

ODSL 96B LASER DISTANCE SENSOR

Used with the applicable Leuze ODSL 96B optical distance sensors configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: Official Leuze Electronic technical documentation for 96BM/C6-2000-S12

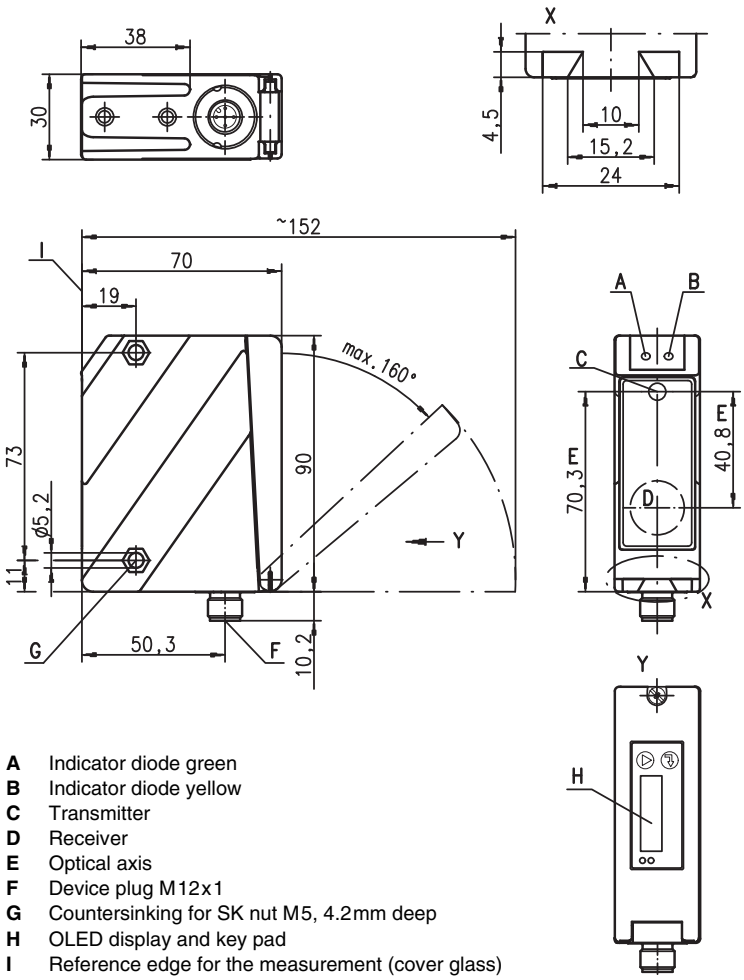
ODSL 96B — Optical laser distance sensors



150 … 2000 mm

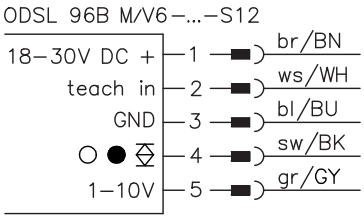
- Reflection-independent distance information
- Highly insensitive to extraneous light
- Analogue current or voltage output
- PC/OLED display and key pad for configuration
- Measurement value is indicated in mm on OLED display
- Measurement range and mode adjustable
- Teachable switching output and analogue output

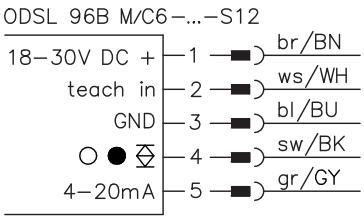
Dimensioned drawing



A Indicator diode green
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)

Electrical connection





IEC 60947... IEC 60947... IP 69K IP 67

Accessories:

(available separately • see page 88)

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

We reserve the right to make changes • ods_40gb.fm

Specifications

Optical data

Measurement range [1]	150 … 2000mm
Resolution [2]	1 … 3mm
Light source	laser
Wavelength	655nm (visible red light)
Light spot	divergent, 2x6mm² at 2m
Laser warning notice	see remarks

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]	18 … 30VDC (incl. residual ripple)
Residual ripple	≤ 15% of U_B
Bias current	≤ 150mA
Switching output	push-pull switching output [6], PNP light switching, NPN dark switching
Signal voltage high/low	≥ (U_B-2 V)/≤ 2V
Analogue output	voltage 1 … 10V, R_L ≥ 2kΩ current 4 … 20mA, R_L ≤ 500Ω

Indicators		**teach-in on GND**	**teach-in on +U_B**
LED green	continuous light	ready	
	flashing	fault	teaching procedure
	off	no voltage	
LED yellow	continuous light	object inside teach-in measurement distance	
	flashing		teaching procedure
	off	object outside teach-in measurement distance	

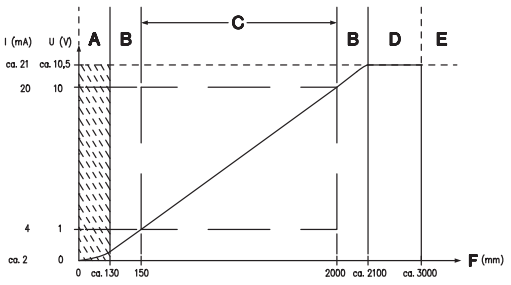
Mechanical data — **Metal housing**

Housing	diecast zinc
Optics cover	glass
Weight	380g
Connection type	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 (acc. to EN 60825-1)
Standards applied	IEC 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 acc. to DIN 40050 part 9 simulated, high pressure cleaning conditions without the use of additives. Acids and bases are not part of the test.



A Area not defined
B Linearity not defined
C Measurement range
D Object present
E No object detected
F Measurement distance

Order guide

	Designation	**Part No.**	**UL**
With M12 connector			
Current output	ODSL 96B M/C6-2000-S12	501 06593	
Voltage output	ODSL 96B M/V6-2000-S12	501 06594	

Tables

Diagrams

Remarks

- Measurement time depends on the reflectivity of the measurement object and on the measurement mode.



