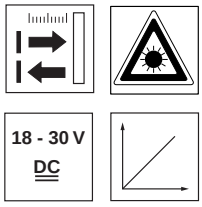
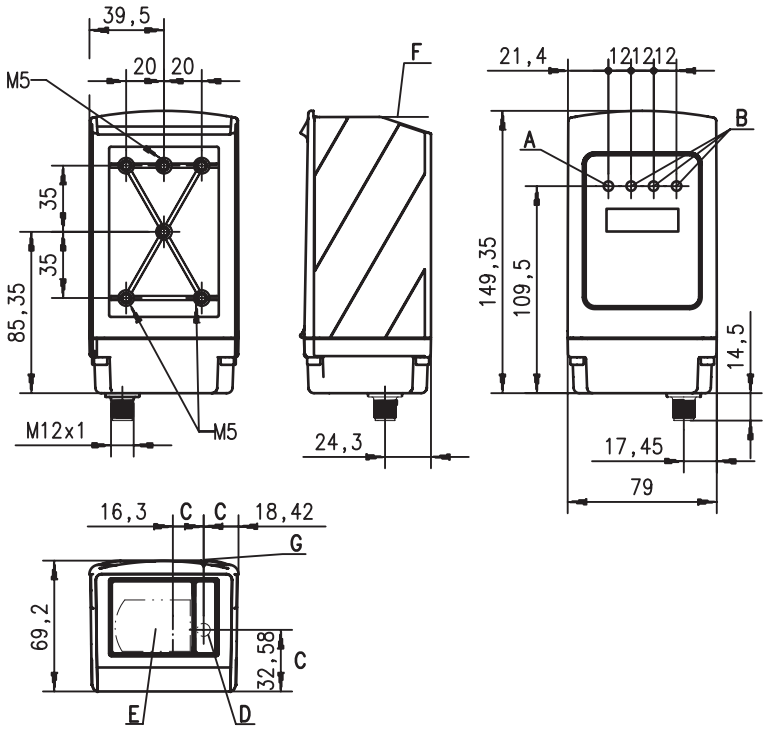
ODSL 30 — Optical laser distance sensors



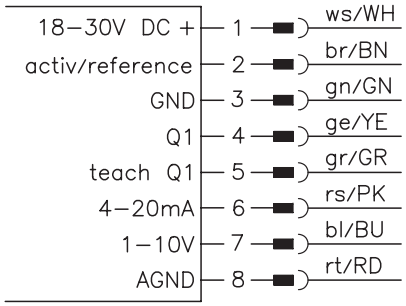
- Reflection-independent distance information
- Analogue current and voltage output
- 1 teachable switching output
- LC display and key pad for parameterisation
- M 12 pin connector
- Mounting device included

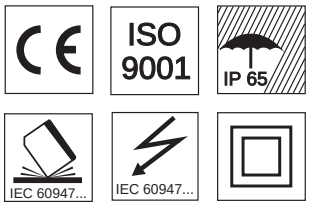
Dimensioned drawing



A 1 Indicator diode green/ready
B 3 Indicator diodes yellow/switching output Q1, Q2, Q3
C Optical axes
D Transmitter
E Receiver
F Reference edge for the measurement (distance zero point)
G Sight for coarse alignment

Electrical connection





Accessories:

(available separately)

- Ready-made cable KB 448-2000-8A

Specifications

Optical data

Measurement range [1]	0.2 … 30m (adjustable)
Resolution	1mm
Light source	laser (modulated light)
Wavelength	650nm (visible red light)
Light spot diameter	divergent, ∅ 6mm at 10m
Laser warning notice	see remarks

Error limits (for current output)

Absolute measurement accuracy [1]	measurement range from range "0.2>x" to 2.5m **without referencing** ± 2%/**with referencing** ± 1% measurement range: 2.5m … 5m **without referencing** ± 1.5%/**with referencing** ± 1% measurement range: 5m … 30m
Repeatability [2]	**without referencing** ± 1%/**with referencing** ± 1% 0.5% of measurement value

Timing

Measurement time	100ms (luminosity coefficient 90%)
Delay before start-up	≤ 1s

Electrical data

Operating voltage U_B	18 … 30VDC (incl. residual ripple)
Residual ripple	≤ 15% of U_B
Power consumption	≤ 4 W
Switching output	PNP transistor, HIGH active (default), NPN transistor or push-pull through parameterisation
Signal voltage high/low	≥ (U_B-2V)/≤ 2V
Analogue output	R_L ≥ 2kΩ (voltage) R_L ≤ 500Ω (current)

Indicators

LED green	continuous light	ready
	off	no voltage
LED yellow	continuous light	object inside teach-in measurement distance
	off	object outside teach-in measurement distance

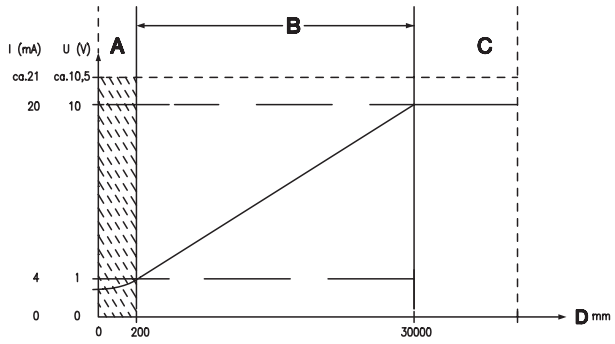
Mechanical data

Housing	metal
Optics cover	glass
Weight	650g
Connection type	M12 connector, 8-pin

Environmental data

Ambient temp. (operation/storage)	0°C … +45 °C/-40°C … +70°C
Protective circuit [3]	2, 3
VDE safety class [4]	II, all-insulated
Protection class	IP 65
Standards applied	IEC 60947-5-2

1) Luminosity coefficient 6% ... 90%, over mentioned temperature range, measured object ≥ 50x50mm²
2) Same object, measured object ≥ 50x50mm²
3) 2=polarity reversal protection, 3=short-circuit protection for all outputs
4) Rating voltage 250VAC



A Area not defined
B Measurement range
C Object present
D Measurement distance

Order guide

	Designation	Part No.
M12 connector	ODSL 30/V-30M-S12	500 39447

Note

- Switching frequency depends on the reflectivity of the measured object and on the measurement mode.
- **Teaching procedure:**
  Position measurement object at the desired measurement distance.
  Apply +U_B to the teach input. Take teach input back to GND, switching output has now been taught.
  Edge on line **teach Q1** teaches output Q1.
  It is also possible to teach by entering the distance value via the keyboard.
  During the teaching of Q1, LED Q1 will flash.
- **Activation/referencing input:**
  Referencing is carried out e.g. by applying the voltage (for a duration of about 300ms).
  If this process is activated before the measurement, the highest possible accuracy is achieved.
- The enclosed laser warning signs must be attached to the sensor or in its immediate vicinity such that they are well visible.