

LDS30A

Laser Distance Sensor

The LDS30A laser distance sensor is intended for general distance measurements that require extremely fast data acquisition.

It provides up to 30,000 centimeter-precise measuring values per second – up to 30 m without a reflector. With appropriate reflectors the LDS30A reaches objects at distances of up to 250 m.

The sensor has been optimized for easy system integration and has a shock-proof and impact-resistant IP 67 housing. Thus, it is most suitable for applications that impose high impact on the sensor, such as harsh industrial environments.

Due to the invisible and eye safe laser (905 nm) the LDS30A can also be used in public areas.



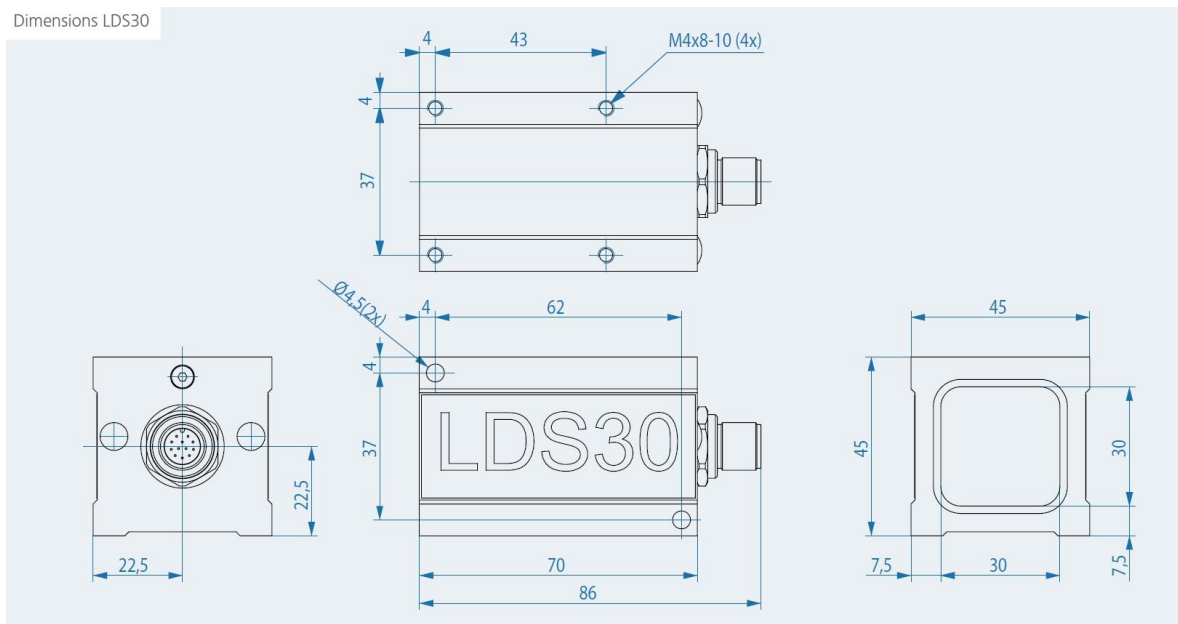
Key Features

- Compact design, low weight
- Extremely high measuring rate
- Long measuring range
- Eye safe operation
- Housing in IP 67, shock-proof and impact-resistant
- Industrial interfaces
- Digital and analogue outputs
- Easy system integration

Application

- Distance measurement
- Fast object detection
- Use as proximity switch
- 2D and 3D scanning applications
- Altimeter

Dimensions LDS30



Technical Data

Measurement principle	Laser pulse - Time of flight measurement
Measuring range ¹⁾	0,2 m ... 30 m for target reflectance $\geq 10\%$ Up to 250 m for high target reflectance or use of special reflectors ²⁾
Measuring accuracy ³⁾	± 5 cm
Reproducibility	± 2 cm
Resolution	1 cm
Maximum measuring rate	30 kHz in FT mode 15 kHz in DT mode using binary output
Maximum output rate	30 kHz in FT mode 10 kHz in DT mode with binary output format 4 kHz in DT mode with ASCII coded decimal output
Laser divergence	3 mrad x 1 mrad
Laser class	Laser class 1, EN 60825-1:2007 (905 nm, infrared)
Operating temperature	-20 °C ... +50 °C
Storage temperature	-40 °C ... +70 °C
Power supply	10 V ... 30 V direct current
Power consumption (maximum)	3 W
Serial interface	RS232 or RS422 ⁴⁾ , Max. Baud rate 921600, ASCII or binary encoded
Digital switching output	2x "High-Side" switch, max load 0.2 A
Analog output	Programmable distance range, 4 mA ... 20 mA
Connector	Standard M12, male connector, 12-pin, (e.g. Binder 713 series)
Humidity	10 % ... 90 %, not condensing
EMV	EN 61000-6-2 EN 55011
Shock / Vibration	DIN ISO 9022-3
Weight	125 g
Protection class	IP 67
Size (incl. connector)	86 mm x 45 mm x 45 mm
MTTF	> 5 years (> 44.000 hours)

¹⁾ Dependent on target reflectance, influence of extraneous light and atmospheric conditions

²⁾ e.g. Scotchlite Cube 3000x

³⁾ For single measurement, 1 sigma

⁴⁾ Please state when placing the order. Maximum output rate can only be achieved with RS422 interface