

RF70A

OEM laser module for distance measurement

The RF70A is an OEM laser module made to integrate laser distance measurement capabilities into existing measurement equipment. It is intended for general distance measurements that require extremely fast data acquisition.

It provides up to 40000 centimeter-precise measuring values per second – up to 70 m without a reflector. With appropriate reflectors the LDS70A reaches objects at distances of up to 270 m.

Compared to the industrial laser distance measurement gauge LDS70A only the IP67-housing is omitted. The interfaces and power supply systems are designed for direct connection to microcontrollers or SoCs.

Due to the invisible and eye safe laser (905 nm) the LDS70A can also be used in public areas.

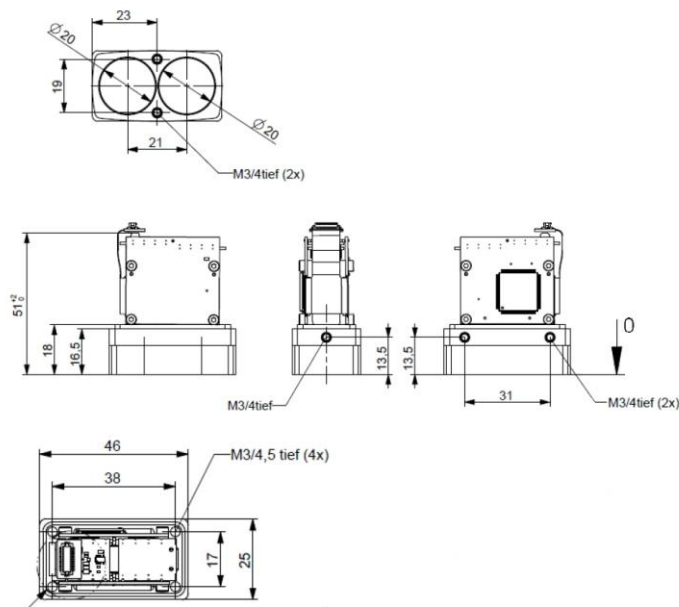


Key Features

- Compact design, low weight
- Extremely high measuring rate
- Long measuring range
- Eye safe operation
- Directly connectable to microcontrollers and SoC
- Easy system integration

Application

- Distance measurement
- Fast object detection
- Use as proximity switch or light barrier
- 2D and 3D scanning applications
- Altimeter (UAV)
- Distance sensing for collision avoidance (AGV)



Technical Data

Measurement principle	Laser pulse - Time of flight measurement
Measuring range	
Total range	0.2 m ... 270 m
On target board ¹⁾	0.5 m ... 270 m
Onto natural surface, 80 % reflectivity ²⁾	0.2 m ... 125 m
Onto natural surface, 10 % reflectivity ²⁾	0.2 m ... 70 m
Measuring accuracy ³⁾	±60 mm (single measurement, 1 σ)
Repeatability ¹⁾	±25 mm (1 σ)
Resolution	1 mm (decimal output \leq 15 kHz)
Maximum measuring rate	40 kHz
Laser wavelength	905 nm (invisible, near-infrared)
Laser divergence	2 mrad x 0.4 mrad
Laser class	Laser class 1, EN 60825-1:2014
Serial interface	UART, LVCMOS 3.3 V
Connector	DF12(3.0)-30DS-0.5V(86), provider: HIROSE
Power supply	+5 V \pm 10% DC, < 0.3A
Power consumption (maximum)	\leq 2 W
Operating temperature	-10° C ... +60 °C
Storage temperature	-40 °C ... +70 °C
Humidity	10 % ... 90 %, non-condensing
Protection class	IP 00
Size (l x w x h)	51 mm x 46 mm x 25 mm
Weight	60 g

¹⁾ e.g. Scotchlite Cube 3000x

²⁾ Dependent on target reflectance, influence of extraneous light and atmospheric conditions

³⁾ Accuracy can be \pm 100 mm for close-up ranges up to 1 m.