



MORE LIGHT

Eyesafe, compact Long-Range Laser Rangefinder Module

Er:Glass Laser Rangefinder ELEM 10k

Description and Features

ELEM 10k is a compact Laser rangefinder for measuring distances of up to 40 kilometers with an accuracy of better than 5 meters. Based on a flashlamp pumped Er:Glass Laser, the ELEM 10k provides pulse repetition rates of up to 1 Hz. Working at a wavelength of $1.54 \mu\text{m}$, the Laser spot is invisible to the human eye and not detectable by I²-based night vision equipment. It is eyesafe according to Laser class 1M.

Robust and easy to integrate

The compact design allows for easy integration into various measuring systems. The rangefinder has a single interface for the power supply and different serial and bus communication interfaces. It is suited for usage under harsh environmental conditions. For co-alignment with other sensors, a red LED collimator is integrated.

Benefits

- Compact and lightweight design
- Eyesafe operation
- Easy system integration
- Long distance measurements

Applications

- Optronic surveillance and reconnaissance
- Mobile and stationary fire control systems for remote controlled weapon station (RCWS)
- EO payloads for high performance gimbals for manned and unmanned systems

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Specifications

Measurement parameters

Measuring performance ¹⁾	≥ 10 km
Total measurement range	50 m ... 40,000 m
Measuring accuracy	5 m
Measuring resolution	1 m
Multiple target detection	up to 5 targets
Target discrimination	20 m
Measuring rate	max. 1 Hz max. 30 measurements within 90 sec

Transmitter

Laser type	Flashlamp-pumped Er:Glass Laser
Operating wavelength	~ 1.54 μm
Beam divergence ²⁾	~ 0.6 mrad
Laser classification	1M (EN 60825-1:2014)
Guaranteed number of measurements	≥ 100,000
Alignment LED	~ 635 nm

¹⁾ measured at standard target 2.3 m x 2.3 m, 10 % albedo, visibility $V_n = 10 \text{ km}$ | ²⁾ full angle, containing ≥ 80 % of the pulse energy

Receiver

Detector type	Avalanche photo diode
Receiver optics diameter	38 mm x 58 mm

Communication interfaces

Data interface	CAN-Bus, RS422, RS232
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Electrical parameters

Input voltage range	18...32 VDC
Current consumption in stand-by	≤ 0.1 A
Maximum current consumption	3 A

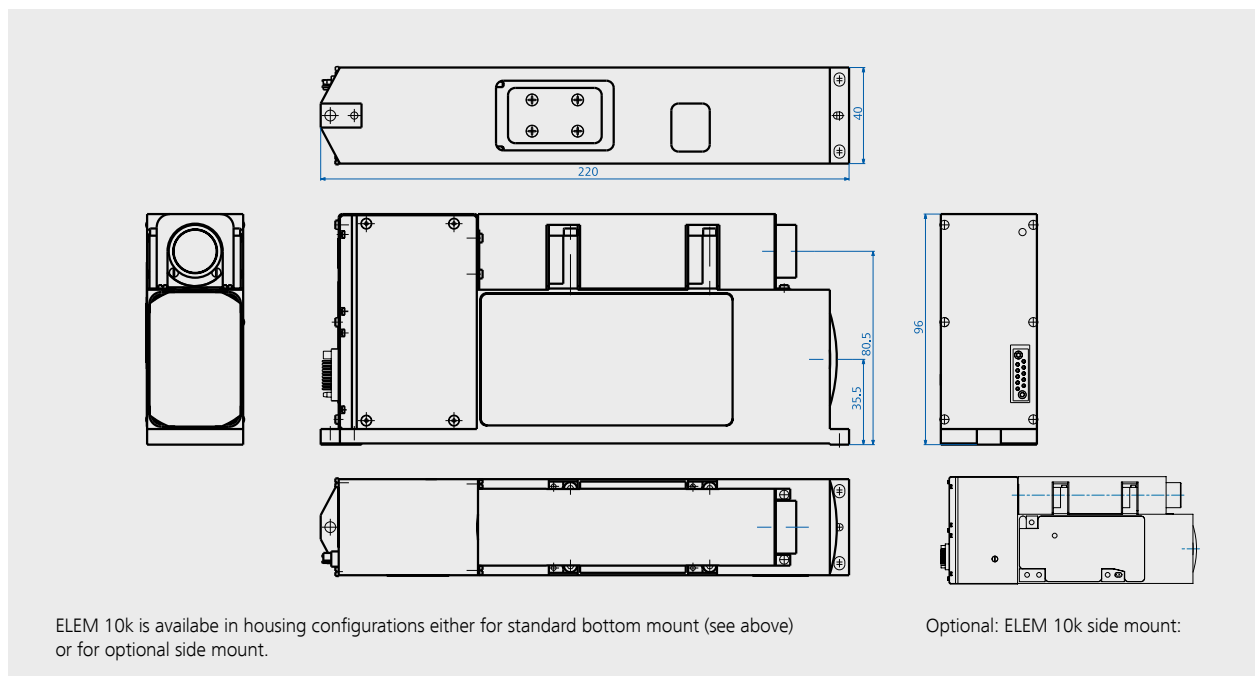
Mechanical Dimensions

(approx., depending on actual device configuration)

Weight	≤ 940 g
Dimensions (L x W x H)	210 mm x 40 mm x 90 mm

Ambient conditions

Operation temperature	- 40 °C ... + 70 °C
Storage temperature	- 55 °C ... + 70 °C



It is our policy to constantly improve the design and specifications. Accordingly, the details represented herein cannot be regarded as final and binding.