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 μm, the Laser spot is invisible to the human eye and not detectible 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
### Specifications

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<th>Measurement parameters</th>
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| Measuring performance | ≥ 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: ~ 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 $V = 10 \text{ km}$ | 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  

**Electrical parameters**

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

**Mechanical Dimensions**

- 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

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**Notes:**

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

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ELEM 10k is available in housing configurations either for standard bottom mount (see above) or for optional side mount.

Optional: ELEM 10k side mount: