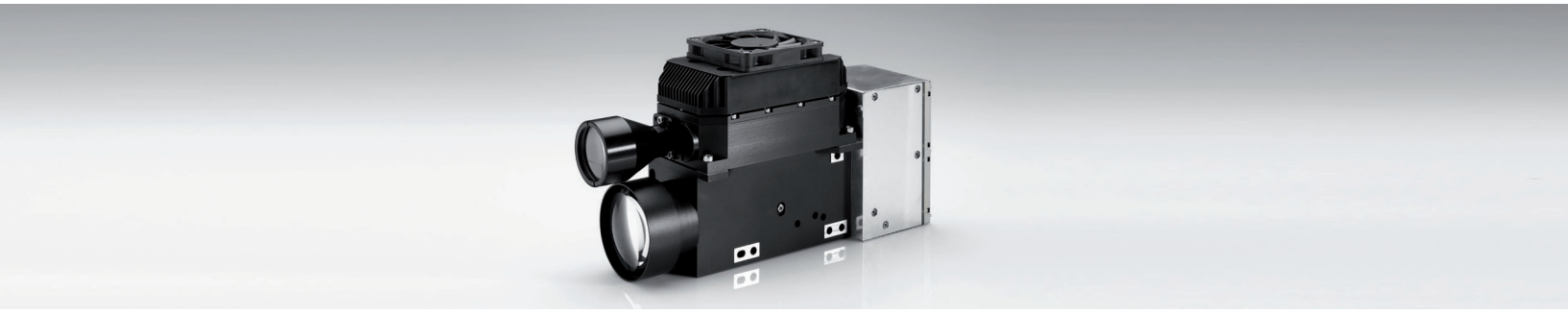
JENOPTIK

# Er:Glass Laser Rangefinder ELEM-DP 10k

## Eyesafe, high repetition rate long range laser rangefinder



### Description and Features

ELEM-DP 10k is a compact laser rangefinder for measuring distances of 10 kilometers and more with an accuracy of better than 5 meters. Based on a diode pumped Er:Glass laser, the ELEM-DP 10k provides fast pulse repetition rates of 10 Hz and higher. Working at an eyesafe wavelength of 1535 - 1554 nm, 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 is prepared for an external power net and can be controlled via a CAN-BUS interface. It is suited for usage under harsh environmental conditions. For alignment, a target-point LED diode is provided, working in the visible wavelength range.

### Benefits

- Compact and lightweight design
- Eyesafe operation
- High repetition rate
- Long distance measurements

### Applications

- Naval, army and airborne FCS (fire control systems)
- Target tracking systems and anti-aircraft systems
- Military surveillance
- Multi-sensor platforms
- For determination of flight altitudes
- To measure the height of airplanes above ground level
- In general for applications of position determination of moving objects

# Er:Glass Laser Rangefinder ELEM-DP 10k

## Eyesafe, high repetition rate long range laser rangefinder

## Specifications

### Measurement parameters

| | |
|---|---|
| Typical measuring range [1] | ≥ 10 km |
| Total measurement range | 50 m ... 40,000 m |
| Guaranteed minimum measuring range | 200 m |
| Measuring accuracy | ± 5 m |
| Measuring resolution | 1 m |
| Range gate | Full range |
| Multiple target detection | Max. 5 targets are stored and transmitted |
| Measuring rate (programmable) | max. 10 Hz continuous operation<br>20 Hz burst operation |
| Target discrimination | 20 m |

### Transmitter

| | |
|---|---|
| Laser type | Diode-pumped Er:Glass laser |
| Operating wavelength | 1535 nm ... 1554 nm |
| Beam divergence [2] | 0.5 mrad ± 0.1 mrad |
| Transmitter optics diameter | 30 mm |
| Pulse energy | 6 mJ ±1 mJ @ 10 Hz<br>4 mJ ±0.5 mJ @ 20 Hz |
| Pulse duration | ≤ 30 ns @ 10 Hz<br>≤ 40 ns @ 20 Hz |
| Laser classification | 1M (EN 60825-1:2007) |
| Shot number lifetime | ≥ 5,000,000 |
| Alignment LED | 635 nm; beam divergence approx 0.6 mrad |

*[1]) measured at standard target 2.3 m x 2.3 m, 10 % reflectance, visibility $V_n$ = 10 km*
*[2]) incorporates 80 % beam energy of full angle*

### Receiver

| | |
|---|---|
| Detector type | Avalanche photo diode |
| Receiver optics diameter | 50 mm |

### Communication interfaces

| | | |
|---|---|---|
| Data interface | standard<br>on request | CAN-Bus 2.0B (10 kBaud ... 1MBaud)<br>RS485, RS232 |

### Electrical parameters

| | |
|---|---|
| Power supply (external) | 24 V nominal voltage |
| Current consumption in stand-by | ≤ 0.15 A |
| Maximum current consumption | Approx. ≤ 8 A<br>(@ 20 Hz repetition rate) |

### Mechanical Dimensions

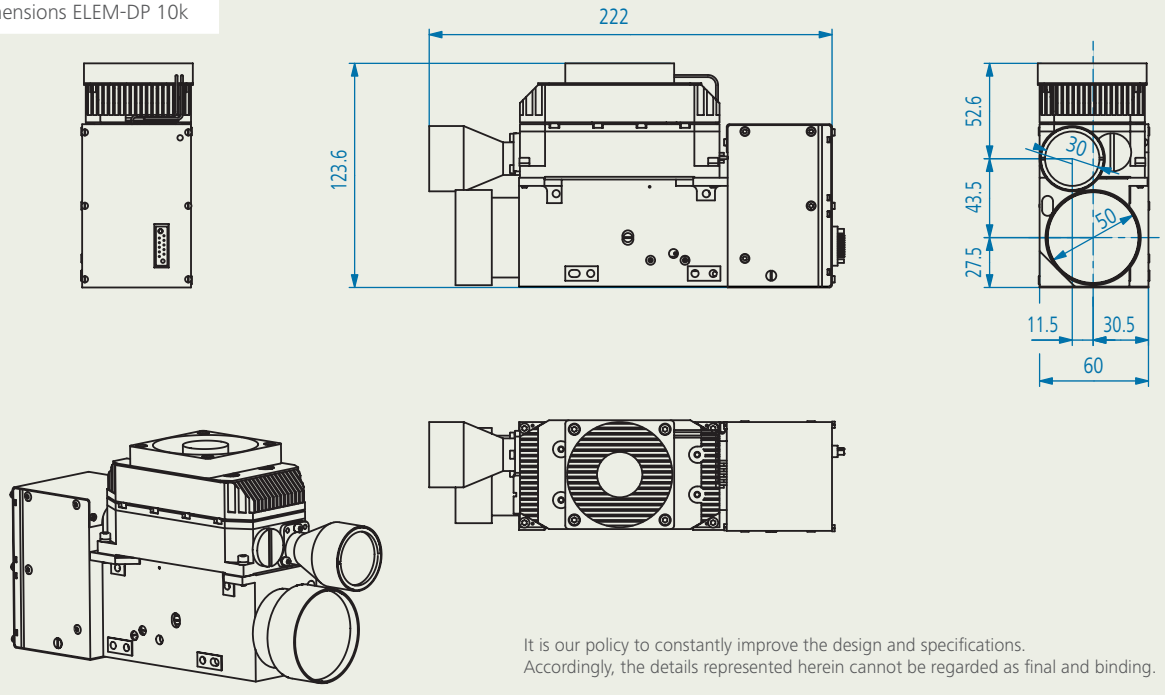
(approx., depending on actual device configuration)

| | |
|---|---|
| Weight | ≤1600 g |
| Dimensions (L x W x H) | 223 mm x 60 mm x 124 mm |

### Ambient conditions

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

Module dimensions ELEM-DP 10k




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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