



## Laser Scanner CP

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The OPTIMESS CP is a robust laser scanner for precise all-round vision. Whether tunnel, overhead contact line with rail or clearance profile, the OPTIMESS CP scans every situation. The distance is measured by the phase shift of the modulated laser – at the speed of light. This time-of-flight scanner offers measurement rates of one million points per second at scan rates up to 200 profiles per second.

Mounted on a vehicle, the OPTIMESS laser scanner CP provides a millimeter-precise image of its surroundings as a three-dimensional point cloud.

This powerful laser scanner stays true to the promise of OPTIMESS. Compact and portable, the OPTIMESS CP guarantees maximum reliability and durability even in harsh environments.

## Features

- **One million measuring points per second**
- **Up to 200 profile scans per second**
- **Measuring range up to 20 m**
- **Insensitive to sunlight**
- **Compact and lightweight**
- **Robust, protection class IP 67**
- **Temperature -20 to +50 °C**

## Interface

The OPTIMESS Laser Scanner CP is connected via two sturdy Fischer® Core Series connectors. One connector is used for power supply, the second can be connected directly to a computer for data transfer. The measurement data is transmitted via Gigabit Ethernet and can be easily processed with the included SDK.

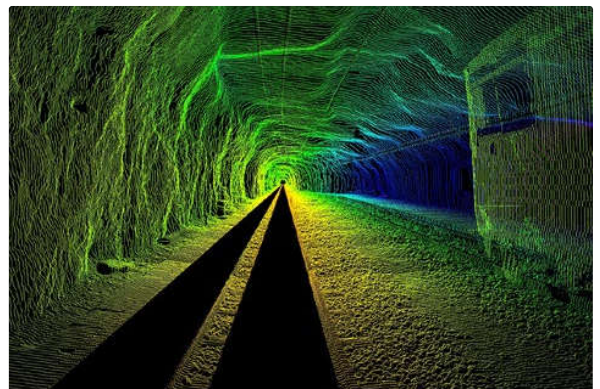
## Applications

The OPTIMESS Laser Scanner CP is a versatile measuring device. It can be used wherever a surface is to be measured in two or three dimensions.



*Measuring at the Jungfrauoch 3454 m above sea level.*

Mounted on the front of a vehicle, the OPTIMESS CP scans its surroundings in a spiral pattern as it moves forward.



*Tunnel survey in the north face of the Eiger*

The high measuring and scanning rates result in a dense network of measuring points. This creates a realistic 3D representation of the measured object.

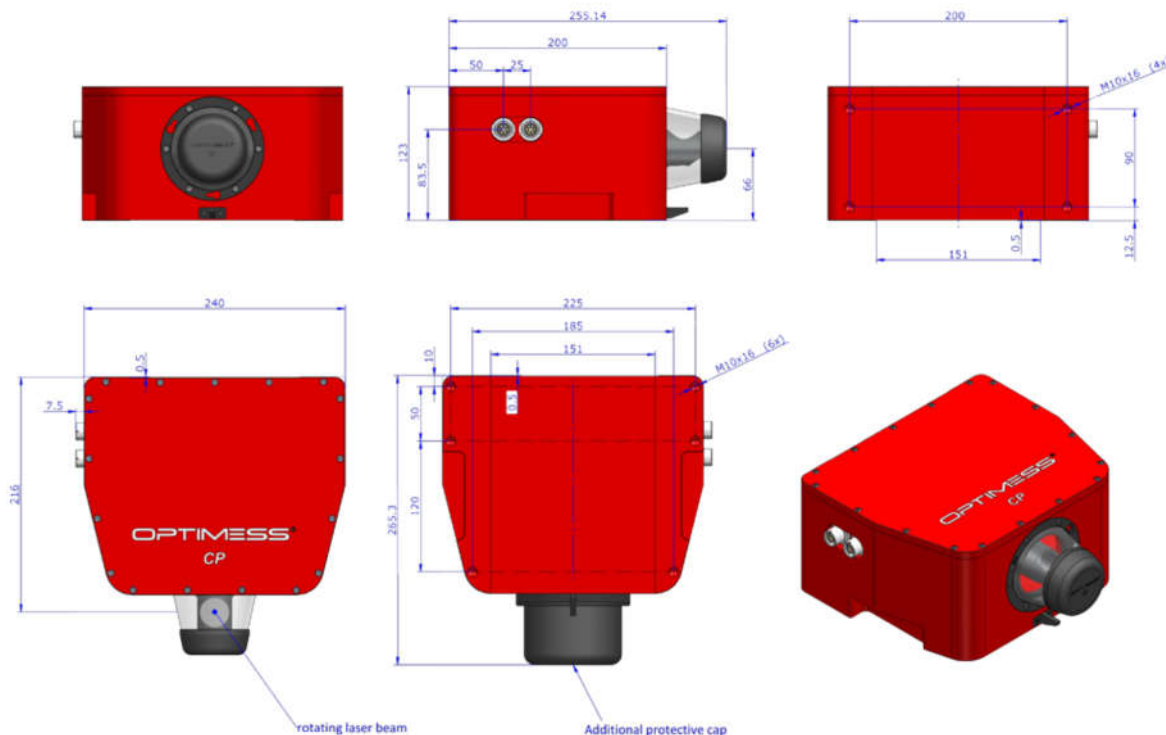
## Specifications

| OPTIMESS           |                           | CP                            |
|--------------------|---------------------------|-------------------------------|
| Measurement        | Field of view*            | 360°                          |
|                    | Max. Measurement rate     | 1 MHz                         |
|                    | Scan rate                 | 20 ... 200 Hz                 |
|                    | Measuring range           | 0.5 ... 20 m                  |
|                    | Measurement uncertainty** | 0.4 mm                        |
|                    | Linearity***              | ±4 mm                         |
|                    | Angular resolution        | 0.005°                        |
|                    | Angular accuracy          | ±0.03°                        |
| Ambient conditions | Humidity                  | 5 ... 95%, non-condensing     |
|                    | Protection rating         | IP67                          |
|                    | Ambient light             | Dark to sunlight              |
|                    | Temperature range         | -20 ... 50°C                  |
| Laser              | Class                     | 2                             |
|                    | Wavelength                | 660 nm                        |
| Connections        | Supply voltage            | 20 ... 30 VDC                 |
|                    | Power                     | < 100 W                       |
|                    | data transfer             | Gigabit Ethernet, 1000/BASE-T |
| Housing            | Dimensions                | 265 x 250 x 123 mm            |
|                    | Weight                    | 11.1 kg                       |

\* 10° are shaded at the bottom by the reference plate

\*\* 1 sigma value at 5 m measuring distance, white target (80%), measuring rate 200 kHz

\*\*\* In the measuring range 0.5 ... 5 m, otherwise ±10 mm





ELAG Elektronik AG has been developing and supplying measuring systems world-wide since 1983, setting the highest quality standards.

From laser sensors to complete ready-to-use measuring systems, including sensors, mechanics and user software, everything is developed and manufactured in-house at ELAG Elektronik AG by a powerful, innovative team of engineers. This means that you, as our customer, can benefit from sophisticated sensors and seamlessly integrated measuring systems, where we can guarantee highly precise results and simple operation.

We consciously want to be close to you. We are convinced that short communication channels are decisive in ensuring that your requirements are implemented by us in consistent high quality.

This also includes that we accompany you competently, from the sales consultation, commissioning up to the maintenance of your devices.

**ELAG Elektronik AG**

Stegackerstrasse 14  
8409 Winterthur  
Switzerland  
Phone +41 52 577 50 77

[optimess@elag.com](mailto:optimess@elag.com)  
[www.elag.com](http://www.elag.com)

