
APPLICATION NOTE: RANGE FINDING

Pulsed laser range finder is based on measuring the difference in properties of transmitted and back-reflected light from the target. The target changes the properties of the incident light and the back-reflected light is analyzed in the receiving equipment. Modulight manufactures range-finding lasers for various market segments.

The distance measurement techniques are required in determining the height, width, distance, volume or movement of the target. Applications for the technique are laser radar speed measurements, traffic safety, laser profiling of target dimensions, weapons simulation, aeroplane / satellite positioning and security area monitoring. Modulight's laser boasts a high peak-power and a short rise-time – laser characteristics which are important for high performance solutions.

Technological advances in the transmitters have followed the requirements in optical fiber communication. The wavelengths 900 nm, 1310 nm and 1550 nm are favored in fiber communication due to low fiber attenuation on these wavelengths.

Laser range finding applications set several requirements for the laser device. High output power is required at the same time in very short pulses of even picosecond range. However, the required power is defined by the distance and reflectivity of the target. High power can be achieved by constructing several emitter stacks or by increasing a single emitter dimensions. Light pulses up to 120-150 Watts can be generated using Modulight's laser diodes at 905 nm wavelength range. Though comparably lower output power with 1550 nm can be achieved, these lasers benefit in applications, where eye-safety is in key

role. Modulight is pioneering in the 1550 nm range-finding lasers.



Laser rangefinder applied in golf binoculars measures quickly an accurate distance from the golf pin.



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