

MORE LIGHT

Defense and Security

## Unparalleled performance with our second-generation DLEM Laser Rangefinders.

The Jenoptik DLEM Laser Rangefinders offer the very best in accuracy and range.

If you are looking for the most reliable and powerful diode laser rangefinder solutions, you have come to the right place. Our diode laser rangefinder modules (DLEM) efficiently measure distances to noncooperative targets up to 20 kilometers away with very high precision. With their compact and robust design and very low weight starting at just 33 grams, they are the smallest and most lightweight modules in their performance class. Their high ranging rate of up to 25 hertz enables tracking of fast-moving objects. They are perfect for integration into mobile and

handheld systems, such as portable observation devices and weapon-mounted sights. The modules use 1.5-micrometer diode lasers and are totally eye-safe. The wavelength is invisible to the human eye and is not detectable by I<sup>2</sup>-based night vision equipment. Their theater-proven robustness, MIL qualification, and exceptional operational temperature range make the DLEM sensors the ideal solution for tactical use. They are primarily used in military defense technology where accurate and instant distance information enables a prompt response to threats, which greatly increases the overall safety of your forces. All DLEM Series modules offer the same communication interface, so you can use the control software for your devices across different models, saving integration efforts when switching from one model to another.

The DLEM modules are compact yet incredibly powerful when ranging noncooperative targets. **Small, lightweight, energy-efficient, and accurate – ideal for use in mobile and handheld devices.**

The second generation of DLEM Laser Rangefinder modules are the world's smallest, most lightweight, and most power-efficient laser modules in their performance class. They can measure targets up to a range of 17 kilometers, with sub-meter accuracy. Their high ranging rate of up to 25 hertz makes them ideal for ranging of fast-moving objects, e.g. in counter-UAV systems. Thanks to their exceptionally compact size, low energy consumption, and robust, shock-resistant construction, the DLEM modules are ideal for handheld and weapon-mounted optoelectronic and UAV applications.

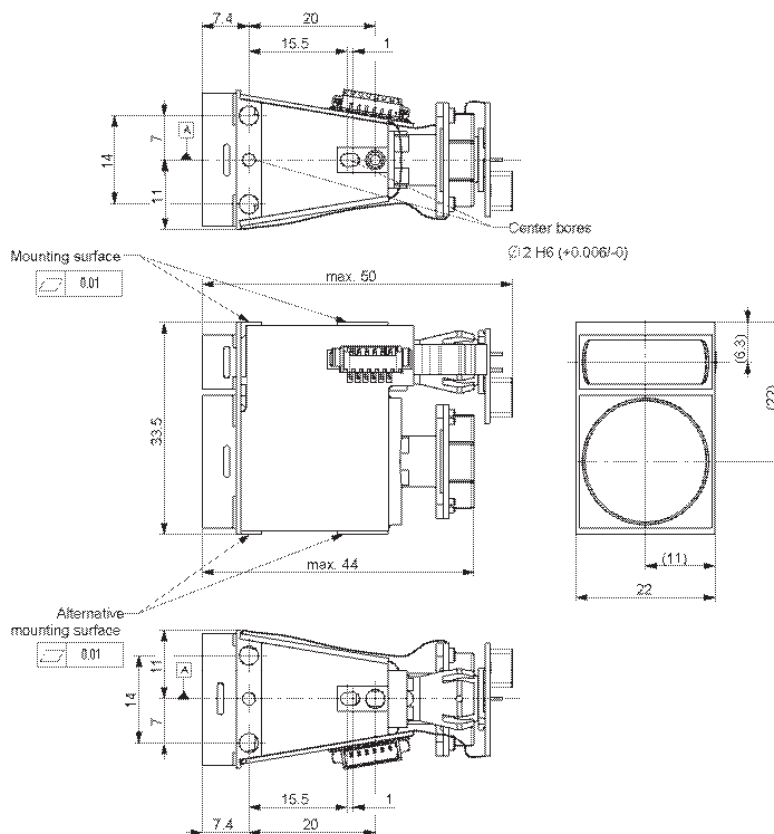
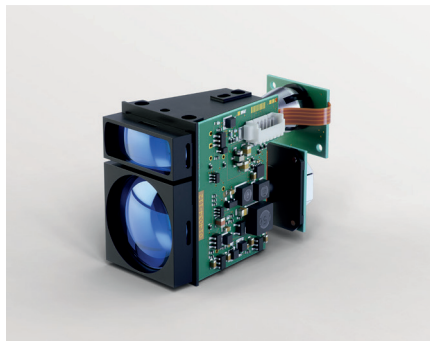
### Typical fields of application

- Handheld surveillance and reconnaissance systems and target locators
- Gated viewing and active imaging systems
- Weapon-mounted fire control systems (FCS)
- Airborne multi-sensor platforms (MSP) and gimbals
- Counter-drone systems
- Border and perimeter control
- Remote-controlled weapon stations (RCWS)
- Electro-optic tracking systems (EOTS)
- Dazzler safety
- Space and satellite technology
- Armored fighting vehicles (AMV) and main battle tanks (MBT)

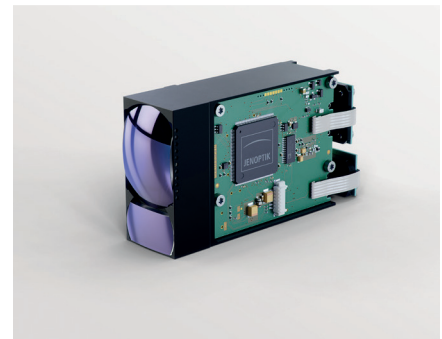
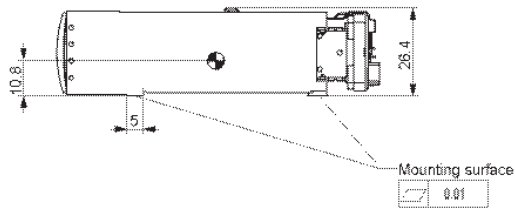
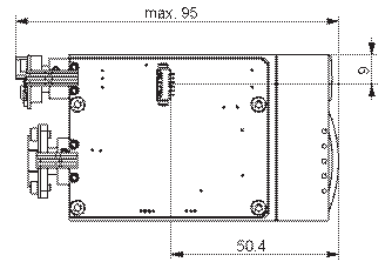
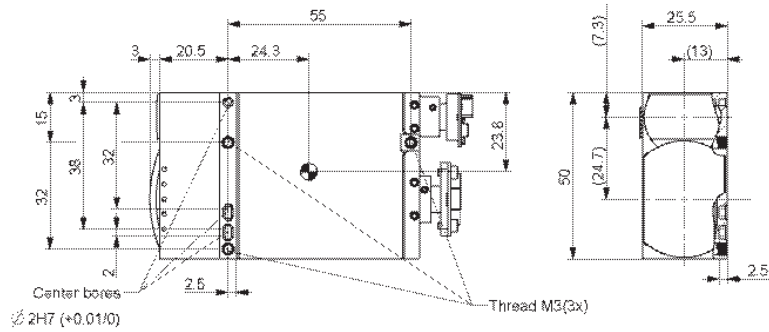
### The benefits speak for themselves:

- **Maximum flexibility for integration:** Extremely compact and lightweight, best size/performance ratio on market, same ICDs across all models allows single generic system design for wiring and software.
- **Low total cost of ownership:** Maintenance-free, high-reliability design; high MTBF levels.
- **Long mission times on a single battery:** Very low power consumption due to state-of-the-art laser diode technology and sophisticated power management.
- **Increased first hit probability:** Fast, reliable, and accurate ranging.
- **Invisible to I<sup>2</sup>-based night vision equipment:** 1.5 μm wavelength makes them ideal for tactical use.
- **Fast system readiness:** Passive cooling and fast startup time allows instantaneous range data availability after power-up.
- **100% safe when ranging cooperative targets:** Low single pulse energy makes them immune to self-induced receiver damage.
- **0 meter NOHD:** Totally eye-safe even when used with binoculars.
- **Comprehensive product portfolio:** Jenoptik is a one-stop shop for all laser rangefinder needs.

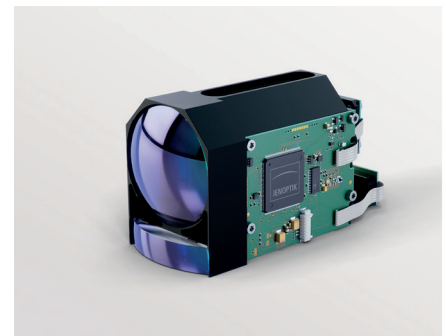
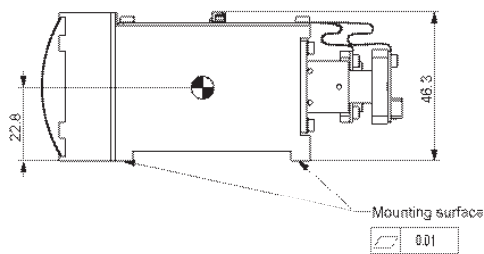
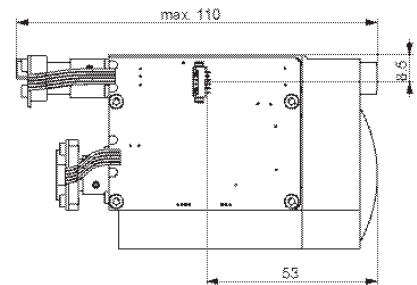
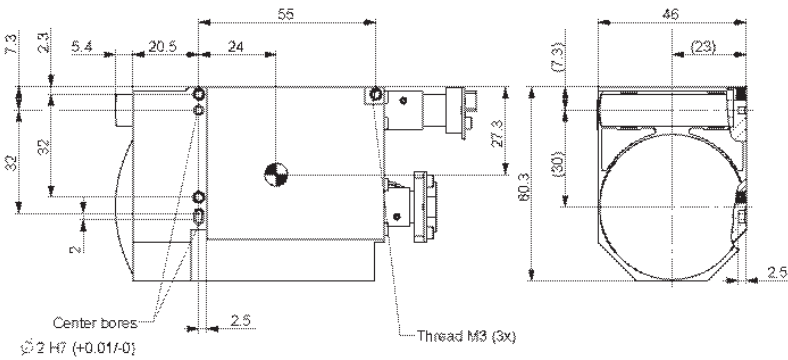
### DLEM 20



## DLEM 30



## DLEM 45



Model	DLEM 20	DLEM 30	DLEM 45
Revision	11-Mar-2022	30-Jul-2021	2-Nov-2021
MARA (P/N)	014034-002-22	014013-001-22	014014-001-22
<b>General</b>			
Measurement principle	Pulse accumulation		
Wavelength (nominal at 20°C) [µm]	~1.55 µm		
Laser classification (IEC 60825-1:2014)	Laser class 1 (IEC 60825-1:2014)		
Modes of operation	Single measurement, continuous ranging 1 Hz to 25 Hz		
Divergence [mrad]	~ 0.8	~ 0.7	~ 0.7
Measurement range [m]	10 to 5,000	10 m to 14,000	10 to 20,000
Range gate resolution [m]	1		
Measurement resolution [m]	0.1		
Measurement time (selectable) [ms]	10... 3,000		
Multiple target detection - number of targets	5		
Multiple target discrimination [m]	≤ 15	≤ 25	≤ 25
Measurement accuracy (1σ) [m]	≤ 0.5	≤ 1	≤ 1
<b>Typical measurement range [m]</b>			
Small target (0.75 m × 0.75 m, albedo 30%, 10 km visibility)	≥ 2,000	≥ 2,750	≥ 3,750
NATO standard target (2.3 m × 2.3 m, albedo 30%, 10 km visibility)	≥ 3,000	≥ 4,500	≥ 6,000
Extended target (Beam filling, albedo 50%, 23 km visibility)	≥ 4,500	≥ 8,000	≥ 11,000
Maximum range	5,000	14,000	20,000
<b>Mechanical</b>			
Weight [g]	≤ 30	≤ 95	≤ 160
Dimensions (L × W × H) [mm]	50 × 22 × 34	95 × 25 × 50	110 × 46 × 60
<b>Environmental</b>			
Operating temperature [°C]	From -40 to +80		
Storage temperature [°C]	From -46 to +85		
Protection class	IP00		
Mechanical shock	1,500 g, 0.7 ms	1,000 g, 1 ms	500 g, 1 ms
<b>Electrical and communication</b>			
Input voltage range [VDC]	2V... 5.5V (optional 4V DC to 16V DC)	4V...16V DC	4V... 16
Startup-time (off -> ready to measure) [ms]	≤ 85		
Power consumption			
Operational [W]	≤ 0.01	≤ 0.01	≤ 0.01
During measurement [W]	≤ 1.8	≤ 2	≤ 2
Data interface	UART (LVTTL 3.3V)		
Interface connector	Molex # 53261-0671 (connects to # 51021-0600)		
Qualification Standards	MIL-STD-810, MIL-STD-461F, MIL-C-675C		

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