

6Hz MOLEM

MOdular Laser Rangefinder, **E**ye-Safe **M**easurement



- High Range
- High Repetition Rate
- Lightweight
- Compact
- Eye-Safe



We make it visible.

Applications

6Hz MOLEM completes the line of successful eye-safe Laser Rangefinders designed and produced by Carl Zeiss Optronics GmbH. Never before such a compact and lightweight rangefinder reached a comparable high range and repetition rate.

6Hz MOLEM fulfils as independent sensor unit the requirements of modern optronic reconnaissance and target tracking systems that require a high repetition rate of measured ranges from fast moving targets.

6Hz MOLEM has already been successfully applied as component of the Multi-Sensor-Platform MSP 500 on ships of the German Navy and for the light navy gun MLG 27.

6Hz MOLEM may be adapted optimally and cost-effectively to a multitude of applications by modification of the performance data and/or the functions.

Configurations

- Range-finding up to 12 pps Burst
- Switchable transmitter divergence (option)
- Optional filters integrated for extended laser protection (option)
- Harmonisation of additional sensors in a platform to the transmitter and receiver axis
 - using a target point visible in the optical interface
 - using a reticle that is visible in the video of CCD camera optionally integrated into the 6Hz MOLEM
- Attachment options in various plans
- Adaptable data interface

Features

- Eye-safe range-finding
- Compact, lightweight
- Coaxial transmitter and receiver optics
- Full performance from the first range-finding on
- Ruggedized, meets severe environmental conditions
- High reliability, low maintenance
- Integrated BITE

Technical Data

Transmitter

Laser type	Nd:YAG, Raman shifted
Wavelength	1543 nm
Maximum pulse energy	8 mJ
Pulse width (FWHM)	4 ± 2 ns
Maximum repetition rate	12.5 pps
On time	6 pps (typ. 5 min), 12 pps (max. 10 s)
Duty Cycle	1:2 at 6 pps, 1:9 at 12 pps
Beam divergence (1/e)	0.5 to 2.5 mrad (according to value fixed by customer)
Laser class	1M IEC 60825/2001
Nominal Ocular Hazard	
Distance (NOHD)	0 m at 6 pps, 20 m at 12 pps

Receiver

Detector type	InGaAs APD
Field of view	1.0 to 3.0 mrad (according to value fixed by customer)

Range Data

Accuracy	± 5 m
Range	50 m to 39995 m
Resolution	5 m
Multiple target discrimination	20 m
Range gate	50 m to 39995 m, steps of 5 m
Logic	First-/Last echo, selectable

Mechanical Interface

Mass	3.8 kg
Dimensions (length x width x height)	230 mm x 125 mm x 87 mm

Optical Interface

Coaxial transmitter/receiver aperture	70 mm x 45 mm
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Electrical Interface

Power	18 - 32 VDC, ≤ 8.5 A at 28 VDC
Data Interface	RS 422 or CAN-Bus at choice
Video signal (optional)	CCIR 624-4 B/G

Environmental Conditions

Operating temperature	- 35 °C to + 63 °C
Storage temperature	- 40 °C to + 70 °C

Reliability

MTBF (GF, + 40 °C)	> 10.000 h
Life	> 10 ⁶ range measurements

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