VIPER
Laser Target Designator & Locator

VIPER is a compact, lightweight, advanced ground laser target designator and target locator.

VIPER can operate at all Band I and Band II PRF codes of NATO STANAG 3733, hence is compatible with all NATO laser guided munitions with semi-active laser seekers, such as Paveway, Hellfire and Copperhead.

Besides designation, VIPER can also measure the range of the target, automatically calculate target location, and capture digital photographs.

Basic Functions
- Designation
- Range Finding
- Target Location Calculation
- Capturing Digital Photographs

Accessories
- Tripod with Angulation Head
- Rechargeable Battery
- Battery Charger
- Remote Firing Switch
- Carry Case
- Optional - Thermal Camera

Features
- Lightweight and Compact
- PRF Coded per STANAG 3733
- Built-in Digital Magnetic Compass & Inclinometer
- Automatic Target Coordinates Calculation
- Built-in Digital Still Camera
- High Resolution Display

Data Interface
- Digital Goniometer Interface (RS-232)
- External GPS Interface (RS-232)
- Remote Operation Control Interface (RS-422)
- Thermal Camera Interface

Designation Performance
- Typical Designation Range (*): 5km (tank); 10km (building)
- Coding: PRF per STANAG 3733, Band I & II
- Continuous Designation Duration: 6min (10Hz); 3min (20Hz)

Laser Source
- Wavelength: 1064 nm

Measurement Performance
- Range Measurement Capability: 300 m - 20 km
- Ranging Resolution / Accuracy: 2.5m / ±5 m
- Target Discrimination: Selectable First / Last / Adj.Gate
- Automatic Target Coordinates Calculation

Sighting Optics
- Magnification: X10
- Field of View: 3°
- Dioptry: +/- 4
- Display: SVGA+ OLED Microdisplay in Ocular

Physical Properties
- Weight: <6 kg (w/o accessories)
- Maximum Dimensions: 28.2 x 26.8 x 11.7 cm
- Endure Military Environmental Conditions (MIL-STD-810)
- Power Source: Battery or 18-32Vdc External Power Supply (*): Depends on weather conditions.
LTD-POD Laser Target Designator

LTD-POD Laser Target Designator is an advanced, dual wavelength (Tactical and Eye-Safe Training Modes), compact and lightweight target designator, designed for ASELPOD and similar airborne targeting pods. Together with the external receiving optics, it also measures range of the targets at both wavelengths.

LTD-POD Laser Target Designator uses a high efficiency diode pumped Nd:YAG laser source. Eye-safe wavelength conversion is performed by an Optical Parametric Oscillator (OPO).

Technical Characteristics
• Designed for ASELPOD
• Lightweight and Compact
• PRF Coded per STANAG 3733
• Dual Wavelength (Tactical / Eye-Safe Training Modes)
• Dual Wavelength Range Finder (uses ASELPOD Receiver Optics)
• Built in Test
• High Efficiency
• Solid State (TEC) Cooled

Laser Source
• Laser Diode Pumped Nd:YAG + Switchable OPO
• Wavelength: 1064 nm (Tactical Mode)
  : 1570 nm – nominal (Eye-Safe Training Mode)

Elektriksel Arayüzler
• Power Input: 90Vdc and 28Vdc
• System Control Interface: RS-422

Fiziksel Özellikler
• Weight : <4.5 kg
• Maximum Dimensions : 100 x 185 x 265 mm
• Endure Military Environmental Conditions (MIL-STD-810)

LTD-POD Laser Target Designator can operate at all Band I and Band II PRF codes of NATO STANAG 3733, hence is compatible with all NATO laser guided munitions with semi-active laser seekers, such as Paveway, Hellfire and Copperhead.

LTD-POD Laser Target Designator, has a built in test function and can be controlled via RS422 serial data interface.
ADLR-01
Air Defence Laser Ranger

ADLR-01 is a high performance, eye-safe laser rangefinder, designed for air defense systems.

ADLR-01 Laser Range Finder employs a high power and high repetition rate, diode pumped Nd:YAG laser source, which enables measurement of small and high speed targets. Eye-safe wavelength conversion is performed by an OPO.

Applications
• Air Defense Weapon Systems
• Target Tracking Systems
• Multi Sensor Platforms

Technical Characteristics
• Ranging Performance
  • Range : 150m - 20,000m
  • Rate : 20 Hz
  • Resolution / Accuracy : 2.5m / ±5 m
  • Target Selection : Selectable First/Last/Adjustable Gating
  • Multiple Target : 5

Transmitter
• Type : Diode Pumped Nd:YAG + OPO (Eye-Safe)
• Wavelength : 1.57 um nominal
• Pulse Energy : >20 mJ typical
• Beam Divergence : < 0.7 mrad
• Safety Class : Class 3b per ANSI-Z136.2000

Receiver
• Entrance Aperture : 80 mm
• Field of View : 1 mrad
• Detector : APD

Electrical Interface
• Operating Voltage Range : 28Vdc nominal
• Control & Data-out Interface : RS-422

Physical Properties
• Weight : <8kg
• Dimensions : 22.3 x 18.9 x 30.4 cm
• Operational Temp. Range : -32°C / +55°C
• Storage Temperature Range : -40°C / +70°C

A built in daylight camera is provided for easy boresighting.

ADLR-01 Laser Range Finder, has a built in test function and can be controlled via RS422 serial data interface.
GZM Modules are open frame eyesafe laser rangefinder OEM modules, designed for integration into electro-optical surveillance, targeting systems, weapon stations and thermal cameras for land, airborne and naval applications.

GZM Modules have robust, lightweight frame which can withstand vibration shock and temperature extremes. To simplify the integration, laser transmitter is located in a sealed compartment and flashlamp visible light is filtered.

GZM Modules have built in test function and can be controlled via serial data interface RS422 or RS232

<table>
<thead>
<tr>
<th>Laser Type</th>
<th>GZM-01-M</th>
<th>GZM-02-M</th>
<th>GZM-04-M</th>
<th>MRLR-M</th>
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<tr>
<td>Laser Type</td>
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<td>Er: Glass</td>
<td>Er: Glass</td>
<td>Diode Pumped Er: Glass</td>
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<td>Wavelength</td>
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<td>100m - 20,000m</td>
<td>100m - 20,000m</td>
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<td>Detector FOV</td>
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<td>12-24 VDC</td>
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</table>
GZM-01
Eye-Safe Laser Range Finder

GZM-01 is an eye-safe laser rangefinder, designed for integration into electrooptical surveillance/targeting systems for land, airborne and naval applications.

For easy boresighting, a collimated visible LED is provided. An optional CMOS boresight camera can be replaced with the LED.

GZM-01 has a built in test function and can be controlled via serial data interface RS422 or RS232.

Applications
• Surveillance Systems
• Targeting Systems
• Electro-Optical Weapon systems
• Multi Sensor Platforms

Technical Characteristics

Ranging Performance
• Range : 100m - 20,000m
• Rate : 30 ppm (1 pps burst)
• Resolution / Accuracy : 2.5m / 5 m
• Target Selection : Selectable First / Last / Adjustable Gating
• Multiple Target : 5

Transmitter
• Type : Er:Glass - flashlamp pumped
• Wavelength : 1.54 um
• Pulse Energy : >5 mJ typical
• Beam Divergence : < 1 mrad
• Safety Class : Eyesafe / Class 1 per ANSI-Z136.2000

Receiver
• Entrance Aperture : 50 mm
• Field of View : < 2 mrad
• Detector : PIN (optional APD)

Electrical Interface
• Operating Voltage Range : 18-32VdC nominal
• Control and Data-out Interface : RS-422 or RS-232

Physical Properties
• Weight : <1.2 kg
• Dimensions : 11.3 x 7.5 x 15.3 cm (excluding the connector)
• Operational Temperature Range : -32°C / +52°C
• Storage Temperature Range : -40°C / +70°C
# GZM-03

**Eye-Safe Laser Range Finder/Target Locator**

GZM-03 is a lightweight and compact, eye-safe laser rangefinder and target locator, designed for handheld and remote use.

GZM-03, measures range and angle of the target to calculate its location. Target photograph can be captured and saved in internal memory together with target data.

GZM-03, has 2 built in cameras; one with narrow, other with wide FOVs, which eases finding and aiming to the targets.

GZM-03 has built in test function, RS422 and RS232 serial data interfaces.

### Applications
- Mobile Surveillance & Reconnaissance
- Range Finding
- Target Location Calculation
- Capturing Digital Photographs

### Main Features
- Eyesafe Operation
- Lightweight and Compact Design
- High Ranging Performance
- Built-in GPS
- Built-in DMC & Inclinometer
- Automatic Target Coordinates Calculation
- Azimuth & Elevation Calculation
- Target Data Storage
- Built-in Digital Still Camera
- High Resolution Display

### Accessories
- Tripod with Angulation Head
- Rechargeable Battery
- Battery Charger
- Remote Firing Switch
- Carry Case

### Ranging Performance
- **Range**: 200m - 20,000m
- **Rate**: >10 ppm
- **Resolution / Accuracy**: 2.5m / 5 m
- **Target Selection**: First / Last / Gate

### Transmitter
- **Type**: Er-Glass - flashlamp pumped
- **Wavelength**: 1.54 um
- **Safety Class**: Eye-safe
  - Class 1 per ANSI-Z136.2000

### Sighting Optics
- **Narrow FOV**: <3.5°
- **Wide FOV**: >9°
- **Sensor**: ¼” CMOS, 1600x1200 pixels
- **Display**: OLED Microdisplay
- **Display Resolution**: SVGA+ (852 x 600)
- **Display Dioptry**: +/- 4
- **Reticle**: Electronic

### Physical Properties
- **Weight**: <2.5 kg
- **Operational Temp. Range**: -32°C / +55°C
- **Storage Temp. Range**: -40°C / +70°C

### Electrical Interface
- **Power Source**: rechargeable Battery/12Vdc
- **Data-out Interface**: RS-422 or RS-232
GZM-04 is an eye-safe laser rangefinder, designed for integration into electro-optical surveillance/targeting systems for land, airborne and naval applications.

GZM-04 has a built in test function and can be controlled via serial data interface RS422 or RS232.

**Applications**
- Surveillance Systems
- Targeting Systems
- Electro-Optical Weapon systems
- Multi Sensor Platforms

**Technical Characteristics**

**Transmitter**
- Type: Er:Glass - flashlamp pumped
- Wavelength: 1.54 um
- Pulse Energy: >5 mJ typical
- Beam Divergence: < 1 mrad
- Safety Class: Eyesafe / Class 1 per ANSI-Z136.2000

**Receiver**
- Entrance Aperture: 40 mm
- Field of View: 2.2 mrad
- Detector: APD

**Physical Properties**
- Weight: <1.15 kg
- Dimensions: 9.7 x 6.1 x 18.4 cm (excluding the connector)
- Operational Temperature Range: -32°C / +52°C
- Storage Temperature Range: -40°C / +70°C

**Electrical Interface**
- Operating Voltage Range: 18-32Vdc nominal
- Control and Data-out Interface: RS-422 or RS-232
**Temren IR Laser Pointer** is an environmentally sealed, high power yet compact pointer designed to be part of airborne surveillance and targeting systems.

For easy boresighting, a wedge pair is provided. Temren laser output is designed to follow an external control signal, and can be operated either continuous or pulsed. During operation laser output is continuously monitored.

### Optical Characteristics
- **Wavelength**: 808 nm ± 6 nm
- **Power**: 750 mW - typical
- **Divergence**: ≤ 1.1 mrad mean
- **Beam diameter**: < 9 mm.
- **Safety Class**: Class 4, per ANSI-Z136.2000

### Physical Properties
- **Weight**: <0.4kg
- **Dimensions**: 4.0 x 9.2 x 11.3 cm
- **Operational Temperature Range**: -32°C / +52°C
- **Storage Temperature Range**: -40°C / +70°C

### Electrical Interface
- **Operating Voltage Range**: 5 or 12Vdc
- **Power Requirement**: <15W
- **Control Interface**: Discrete TTL