A man with a beard and tactical gear is shown from the chest up, looking through binoculars. He is wearing a dark blue t-shirt, a tan tactical vest with various pouches and straps, and black tactical gloves. The background is a clear blue sky and a body of water, suggesting an outdoor setting. The binoculars are a light brown color with black eyepieces.

ULTIMATE RANGE

**VECTOR™**

RANGEFINDER BINOCULARS



# VECTOR™

## THE SAFER WAY TO OBSERVE AND MEASURE WITH SPEED AND PRECISION

VECTOR is an easy-to-use multifunctional optronic device that replaces four separate devices. The reduced weight and volume translate into greater mobility, agility, and operational readiness.

### Essential capabilities

- + A Class I eye-safe laser rangefinder: VECTOR IV (diode laser), VECTOR 21 (diode laser), VECTOR 23 (fiber laser). These technologies provide the longest service life and consume the least energy.
- + Two seven-times (7 x) magnifying eyepieces. The large exit pupils of 6 mm diameter are extremely easy to place so that both eyes receive as much light as possible.
- + Two 42 mm objectives with extended contrast and resolution characteristics. This wide aperture produces images that are clear and bright - even when scene illumination is not ideal.
- + A digital magnetic compass (DMC) incorporating magnetic and gravitation sensors for inclination and bank ( $\pm 45^\circ$ ).

Full three-dimensional capabilities ensure correct readings even in inclined and tilted positions.

### Handling

- + Two-button control reduces the training and retraining effort allowing new users to operate quickly and correctly in any situation.
- + Digital output via RS232 port for instant, error-free data transfer.

### Available accessories and options

- + Binocular Enhancer increases the magnification by 40% to 10x, with a 25% gain in distance measurement.
- + VECTOR AERO features an increased elevation range from  $-30^\circ$  to  $+90^\circ$  (zenith).
- + Communication with widely used GPS receivers converts measured vector data into target grid coordinates.
- + Fall-of-shot software computes and displays the corrections from a missed round to the target.
- + Data Recall software
- + Bluetooth for VECTOR IV and VECTOR 21
- + Night Vision for VECTOR IV and VECTOR 21 (integrated I<sup>2</sup>-tube)

### Night option

- + The image intensifier tube integrated in VECTOR IV Nite or VECTOR 21 Nite creates night capabilities.

### Power concept

- + One 6V battery lasts for more than 5,000 measurements. The 2CR5 battery is a standard type with worldwide commercial availability for quick and easy procurement/replacement. VECTOR Nite: Even 24-hours of image intensified night operation will still leave power for 2,000 measurements.

### Communication

- + Wired data-transfer via RS232
- + Optional Bluetooth wireless technology eliminates cables for data transfer between VECTOR and peripheral devices.

### Measurements

- + Measured data is displayed in the field of view and simultaneously can be sent to a computer, data terminal or GPS receiver.

### Battlefield-tested

- + VECTOR has earned the confidence of military users such as engineers, infantry, and artillery in the Army, Special Forces, Air Force, and Navy as well as UN peacekeepers.
- + More than 35,000 units sold.
- + In service within more than 55 nations including 17 NATO countries.



**VECTOR IV:** The all-purpose infantry device  
**VECTOR 21:** The typical forward observer device  
**VECTOR 23:** The ultimate rangefinder

### Geographic Information System (GIS)

- + VECTOR captures data for geographic information systems (GIS) with speed and from a convenient distance for such subjects as volcanos, whales, penguins, trees, archeological sites, etc.

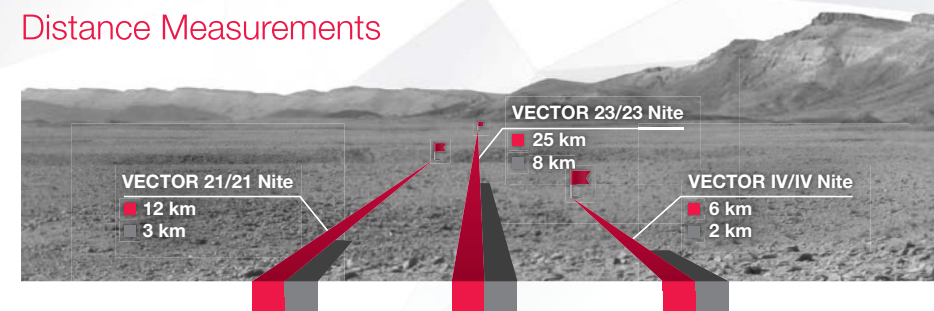
### 2-Buttons

- + Two-button control reduces the training and retraining effort allowing new users to operate quickly and correctly in any situation.

### Range Performance

- + Range performance is the chief distinction between the various models within the VECTOR family. The more sophisticated the design, the smaller the divergence of the laser beam, and the greater the maximum measurable distance.

### Distance Measurements



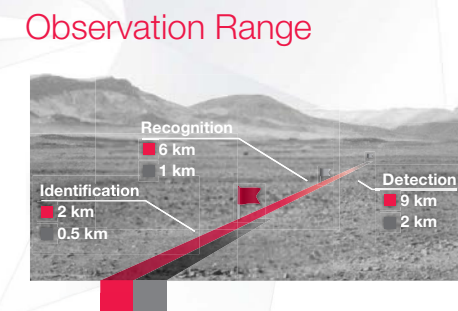
#### Distance measurement under ideal conditions

- + Clear atmosphere, overcast sky, or twilight
- + Good reflectivity of target object (smooth, bright wall)
- + Target surface roughly perpendicular to laser beam
- + Steady hold or support (to ensure that the laser beam will not miss the target)

#### Distance measurement under poor conditions

- Snow, fog, rain, dust, high humidity, heat
- Small object (does not "capture" and reflect the whole laser beam)
- Difficult object (dark, uneven, gaping such as a leafless tree)

### Observation Range



**Day:** NATO Target (2.3 x 2.3 m, reflectivity 10%), observer visibility 10 km

**Night:** 10 mlux, quarter moon

# VECTOR

## TECHNICAL SPECIFICATIONS

Optics	VECTOR IV	VECTOR IV Nite	VECTOR 21	VECTOR 21 Nite	VECTOR 23
Magnification	7 x	7 x (day) 4.5 x (night)	7 x	7 x (day) 4.5 x (night)	7 x (optional 10 x)
Field of View	120mil/6.75°	120mil/6.75° 125mil/7°	120mil/6.75°	120mil/6.75° 125mil/7°	120mil/6.75° (84 mil/4.7°)
<b>Rangefinder</b>					
Laser Type	1,550nm	1,550nm	1,550nm	1,550nm	1,550nm
Range capability	5m to 6,000m	5m to 6,000m	5m to 12,000m	5m to 12,000m	25m to 25,000m
Accuracy	±2m (50m to 2,000m) ±3m (< 50m/> 2,000m)	±2m (50m to 2,000m) ±3m (< 50m/> 2,000m)	±5m	±5m	±5m (500 to 12,000m)
<b>Digital Magnetic Compass</b>					
Azimuth accuracy (1σ) with PPS calibration on tripod, typical (1σ)	±10mil/±0.6° ±5mil/±0.3°	±10mil/±0.6° ±5mil/±0.3°	±10mil/±0.6° ±5mil/±0.3°	±10mil/±0.6° ±5mil/±0.3°	±10mil/±0.6° ±5mil/±0.3°
Inclination accuracy	±3mil/±0.2°	±3mil/±0.2°	±3mil/±0.2°	±3mil/±0.2°	±3mil/±0.2°
<b>Physical</b>					
Dimensions (l x w x h) mm	205 x 178 x 82	205 x 178 x 82	205 x 178 x 82	205 x 178 x 82	205 x 178 x 82
Dimensions (l x w x h) in	8.1 x 7.0 x 3.2	8.1 x 7.0 x 3.2	8.1 x 7.0 x 3.2	8.1 x 7.0 x 3.2	8.1 x 7.0 x 3.2
Weight (with battery)	< 1.7 kg/3.75lb	< 2.0 kg/4.4lb	< 1.7 kg/3.75lb	< 2.0 kg/4.4lb	< 1.8 kg/3.97lb
<b>Data interface</b>					
Standard	RS232	RS232	RS232	RS232	RS232
Optional	Bluetooth 2.0		Bluetooth 2.0		

For further specifications please refer to the product technical data sheet.



Optics 1 may at any time and without notice, make changes or improvements to the products and services offered and/or cease production or sales. Illustrations, descriptions and technical data are not binding and may be changed.  
Copyright Optics 1, Inc., USA, 2015 - All rights reserved - US VEC.IX.15. OSR Approved for public release.

**Optics 1**

2 Cooper Lane - Bedford, NH 03110 - USA  
Phone 603 430 9755 - info@optics1.com - [www.optics1.com](http://www.optics1.com)

