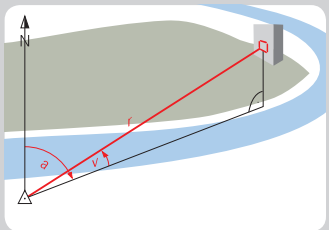
VECTOR™

Rangefinder Binoculars

Features	Benefits
Single multifunctional optronic device	Simpler to use, greater mobility and agility
Stereoscopic view	Fatigue-free observation with higher success rate
Large objective aperture	Earlier recognition of objects even in poor weather conditions
Class 1 eyesafe laser rangefinder	Unrestricted realistic training and operational deployment
Digital magnetic compass	Full three dimensional measurement capabilities

Available now!
+ VECTOR Nite with day and night vision
+ VECTOR 23 with the best range performance you can get in a handheld binocular

vectronix

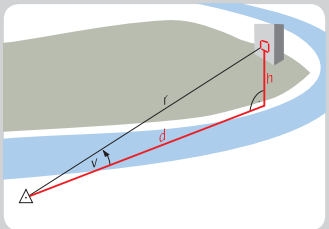


VECTOR measures the polar vector from the observer's position to the target object:

r range (slope/slant distance)

a azimuth (bearing, angle between north and object)

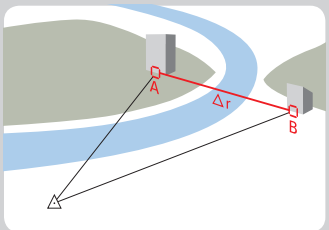
v vertical angle (inclination, elevation)



VECTOR also displays:

d horizontal distance

h height difference



VECTOR also computes and displays relative values between two remote objects such as:

Δr slope distance from A to B

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.

VECTOR is in service with 55 nations, including 17 NATO countries, a sound basis for safe investment decisions. The successful product family incorporates the following **essential capabilities**:

- A 100 % eyesafe laser rangefinder, based on semiconductor diode lasers in combination with a multi-pulse measurement system. This technology provides the longest service life and consumes the least energy.
- Two seven times (7x) 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. Full three dimensional capabilities ensure correct readings even in inclined and tilted positions.
- Night option: the image intensifier tube integrated in VECTOR IV Nite or VECTOR 21 Nite creates night capabilities.

Handling

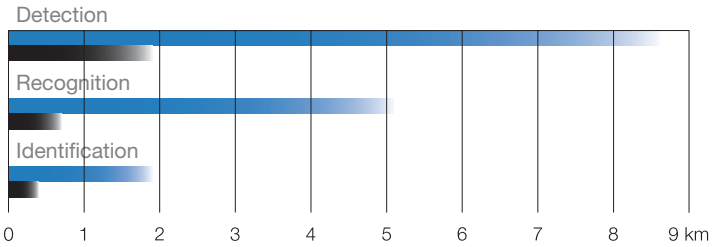
- Two-button control reduces the training and retraining effort allowing new users to operate quickly and correctly in any situation.
- Results are superimposed on the scene being observed. The brightness-controlled display ensures that they are readable day or night without being distracting.
- Digital output via RS232 port for instant, error-free data transfer.

Available accessories and options expand the VECTOR family into a full system

- 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° to +90° (zenith).
- Anti-reflective caps with honeycomb-type inserts minimize the risk of being detected.
- Communication with widely used GPS receivers (Garmin, PLGR/DAGR) converts measured vector data into target grid coordinates.
- Bluetooth wireless technology eliminates cables for data transfer between VECTOR and peripheral devices.
- Data recall redisplays the last nine measurements again.
- Fall-of-shot software computes and displays the corrections from a missed round to the target.
- Non-magnetic monopods and tripods facilitate accurate and steady pointing to exploit VECTOR to its full potential.
- Pouch and transit case protect the equipment from loss and damage.

How far can you see?

From dawn to dusk, in daylight mode, all VECTOR models have a binocular field of view of 6.75° (120 mils) at 7x magnification.
At night, in image intensified mode, VECTOR IV Nite and VECTOR 21 Nite present a monocular field of view of 8° (142 mils) at 4.5x magnification.
The corresponding observation ranges under defined conditions are shown in the diagram below.



Day: NATO Target (2.3 x 2.3 m, reflectivity 10 %), observer visibility 10 km
Night: 10 mlux, quarter moon

VECTOR has earned the confidence of military users from special forces to engineers, infantry, artillery, air force, navy and UN peacekeepers.

Tough mission, harsh environment, extreme cold, heat, water – VECTOR is up to the challenge.

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

Photo: ili gis-services

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.

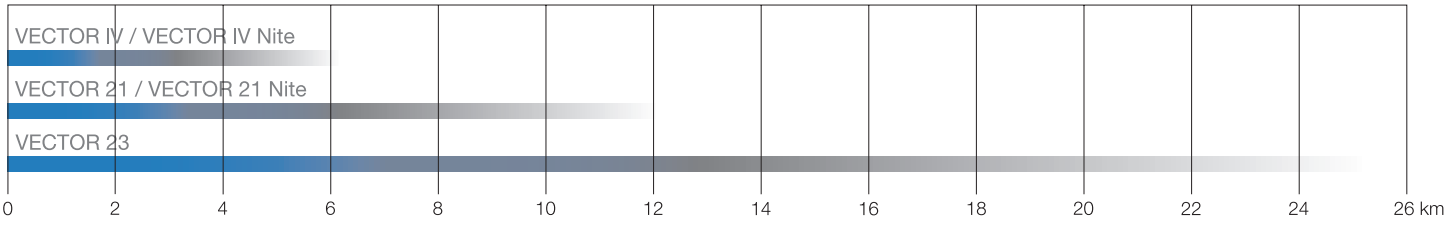
The VECTOR Family

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.

VECTOR IV: the all-purpose infantry device
VECTOR 21: the typical forward observer device
VECTOR 21 AERO: the law enforcement device
VECTOR 23: the ultimate rangefinder

How far can you measure?
VECTOR benefits from Vectronix's proprietary know-how to measure great distances at amazingly low laser output power. How far you can actually measure in practice depends on a number of factors as illustrated in the diagram.*

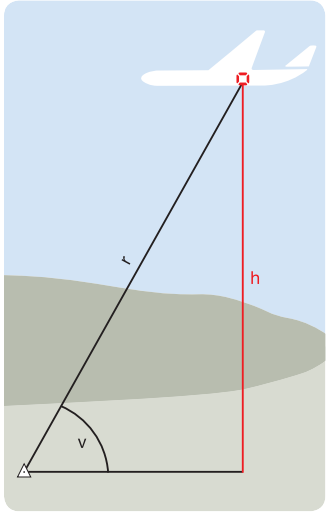
*For range specifications please refer to the product technical data sheet.



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)

One 6 V battery lasts for more than 5000 measurements. The 2CR5 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 2000 measurements.



With an extended inclination range of -30° to +90° VECTOR 21 AERO allows measurements such as aircraft position and height above ground, cloud height, flight path of large migratory birds, etc.

r range
h height above ground
v vertical angle

LASER CLASS 1
Eye-safe
in accordance with
IEC 60825-1 Ed 1.2 (2001-08)

VECTOR™ is a trademark of Vectronix AG, Heerbrugg, Switzerland.

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