

VarioVIEW™ Thermal Imaging Systems

Detection – Recognition – Identification



Maximum operating distance
High thermal und spatial resolution
Unlimited mobility
Intuitive usability

InfraTec

Just ask the specialists ...



(640 x 480) IR pixel
uncooled detector



1 Lens/Optics

High-resolution, fast germanium lens for unsurpassed ranges. Abrasion-proof DLC coating ensures maximum protection.

5 Battery

Commercial, quick-charging lithium-ion battery, operating up to 6 hours.

2 Laser Range Finder (LRF)

Integrated, high precision eye-safe laser range finder, distance range up to 5 km. Hardly detectable operating wavelength of 1,550 nm.

3 Control buttons

All imaging and measuring functions can be operated easily and fast even with gloves.

4 Interface

Serial multifunctional interface for analogue video signals, both power supply and external remote control. Optional FireWire interface to PC link for recording high-resolution digital video signals.

6 SD Card Slot

The integrated card slot permits using SD cards as a memory for single frames and frame sequences.





7 Housing

The machined lightweight housing consists of a very sturdy aluminium alloy, it provides perfect protection of the sensitive sensors and electronics.

9 Tripod Adapter

The standardised tripod adapter permits mounting on various tripod or pan/tilt solutions in both permanent and deployed operation.

8 Hand Strap

Increased carrying comfort thanks to a hand strap attached to the right handle.

10 Viewfinder

High-resolution binocular viewfinder of (800 x 600) IR pixels based on organic light-emitting diodes (OLED) for extensive surveillance without fatigue.



Model	VarioVIEW™ 150	VarioVIEW™ 150 ec*	VarioVIEW™ 75	VarioVIEW™ 75 ec*
Spectral range	(7.5 ... 14) µm	(7.5 ... 14) µm	(7.5 ... 14) µm	(7.5 ... 14) µm
Detector, Detector format (pixel)	Uncooled microbolo- meter Focal Plane Array, (640 x 480)	Uncooled microbolo- meter Focal Plane Array, (640 x 480)	Uncooled microbolo- meter Focal Plane Array, (640 x 480)	Uncooled microbolo- meter Focal Plane Array, (640 x 480)
Temperature resolution @ 30 °C	Better than 0.05 K	Better than 0.05 K	Better than 0.03 K	Better than 0.03 K
IR-frame rate	25/30 Hz	25/30 Hz	25/30 Hz	25/30 Hz
Lens (field of view)	150 mm (6.1 x 4.6)°	150 mm (6.1 x 4.6)°	75 mm (12.2 x 9.2)°	75 mm (12.2 x 9.2)°
Electronic zoom	2x and 4x	2x and 4x	2x and 4x	2x and 4x
Focus	Motorized; auto focus function	Motorized; auto focus function	Motorized; auto focus function	Motorized; auto focus function
Detection range (person)	Up to 5 km	Up to 5 km	Up to 2.7 km	Up to 2.7 km
Detection range (vehicle)	Up to 7 km	Up to 7 km	Up to 5.6 km	Up to 5.6 km
Laser range finder (LRF), type of laser	Diode laser 1,550 nm, eye-safe, hardly detectable	-	Diode laser 1,550 nm, eye-safe, hardly detectable	-
Measurement accuracy of LRF	±1 m (1σ)	-	±1 m (1σ)	-
Measurement range of LRF	(50 ... 5,000) m	-	(50 ... 5,000) m	-
Viewfinder	Binocular, mono- chrome with eye cup	Binocular, mono- chrome with eye cup	Binocular, mono- chrome with eye cup	Binocular, mono- chrome with eye cup
Type of viewfinder display (pixel)	OLED (800 x 600)	OLED (800 x 600)	OLED (800 x 600)	OLED (800 x 600)
A/D conversion	14 Bit	14 Bit	14 Bit	14 Bit
Interface Remote control optional	PAL/NTSC-FBAS, external power supply (12 ... 24) VDC	PAL/NTSC-FBAS, external power supply (12 ... 24) VDC	PAL/NTSC-FBAS, external power supply (12 ... 24) VDC	PAL/NTSC-FBAS, external power supply (12 ... 24) VDC
Power supply	High capacity Li-Ion battery (fast rechargeable)	High capacity Li-Ion battery (fast rechargeable)	High capacity Li-Ion battery (fast rechargeable)	High capacity Li-Ion battery (fast rechargeable)
Rechargeable battery capacity per charge	More than 5 hrs without battery change	More than 6 hrs without battery change	More than 5 hrs without battery change	More than 6 hrs without battery change
Operation temperature	(-20 ... 50) °C	(-20 ... 50) °C	(-20 ... 50) °C	(-20 ... 50) °C
Dimensions	(270 x 255 x 155) mm	(270 x 255 x 155) mm	(260 x 255 x 110) mm	(260 x 255 x 110) mm
Weight (without battery)	2.9 kg	2.8 kg	2.5 kg	2.4 kg

* Also available as model sl (without LRF, IR-frame rate 9 Hz)

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Unrivalled Detail Recognition

VarioVIEW™ is convincing in medium ranges in its unmatched detail recognition in identification jobs. A detector-FOV of up to 0.17 mrad can reliably recognise details of less than 20 cm at a distance of 1 km.



Laser Range Finder

VarioVIEW™ comes equipped with an eye-safe Class 1 laser range finder, which permits a range of up to 5 km at a measuring precision of ±1 m (actual range depends on target material). The applied wavelength of 1,550 nm is hardly detectable by common night vision devices.



Exemplary Thermal Resolution

The uncooled Focal Plane Array used for image acquisition is able to detect minute differences in temperature of as little as 0.03 K – a merit generated by the combination of fast optics and sophisticated signal-processing hardware and software. All this is enabled by modern European microbolometer technology based on amorphous silicon.

Optics

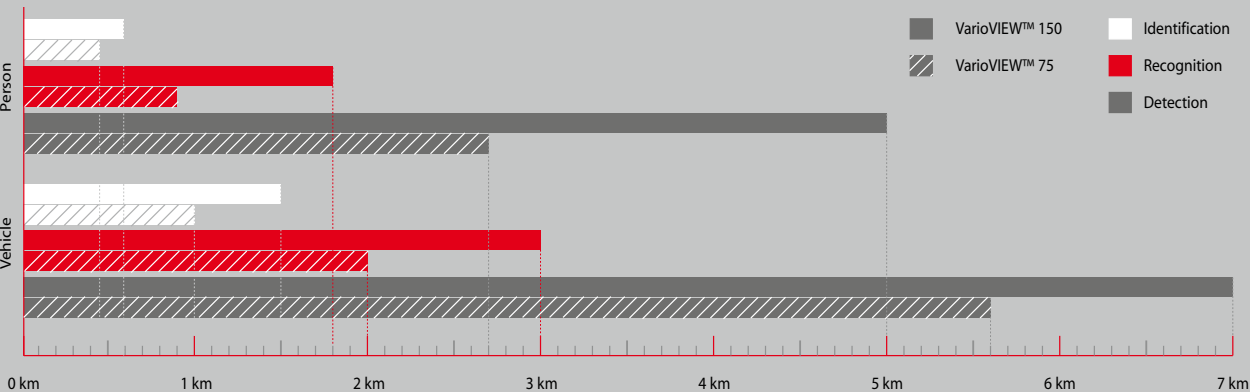
The combination of state-of-the-art germanium lens elements with the unique optics design generates unrivalled imaging quality with its weight minimised at the same time. The DLC coating of the lens elements increases transmission capability of the optics to more than 95 %, in addition it perfectly protects the optical surfaces for an enhanced lifetime.

Unsurpassed Range

The uncooled microbolometer detector features a geometric resolution of (640 x 480) IR pixels, in combination with the high-performance lens system it allows extreme ranges in target detection, recognition and identification - at any time during day and night.



Ranges



Imaging systems with unsurpassed ranges

Thermal imaging systems, such as the VarioVIEW™, are extremely efficient in observing large and open areas. They detect the characteristic thermal radiation of any surveillance scenery. Compared to conventional night-vision devices they offer the benefit of no need to apply infrared illumination or the presence of a residual light level. High-quality thermal images can be viewed at any time, in total darkness and even through smoke and light fog.



VarioVIEW™

VarioVIEW™ 75
VarioVIEW™ 75 ec
VarioVIEW™ 75 sl



VarioVIEW™

VarioVIEW™ 150
VarioVIEW™ 150 ec
VarioVIEW™ 150 sl

Mobility

With a total weight of 2.4 kg upwards and its fast, large aperture optics, VarioVIEW™ is perfectly suitable for all kind of mobile applications. This mobility is supported by the quick-charging and powerful lithium-ion batteries permitting operation of up to 6 hours. The standard battery charger can be used in any kind of vehicle with power outlet. During deployed operations power can be supplied via the supplied plug-in power supply unit.



More benefits

VarioVIEW™ is designed for 24/7 operation, under any circumstances its full spatial resolution is maintained. Excessive irradiation like turned-up headlights of a vehicle are not causing any blinding effects.

VarioVIEW™ benefits from simple operation given by the smart and sophisticated menu control. Additional users can be trained and instructed quickly and efficiently.

The high-resolution OLED displays create a well-differentiated and natural image. Due to the very large brightness adjustment range the binocular display works equally perfect under bright sunlight conditions as well as during cloud-covered moonless observing nights.

An external monitor can be connected to the VarioVIEW™ via the supplied video interface. Depending on the situation this allows simultaneous surveillance by a number of observers or deployed operation.

For the enhanced detection of subtle details, VarioVIEW™ comes with a 2x and 4x zoom function.

Further accessories, especially for deployed operation, are available. InfraTec offers rain-protection shelter, pan/tilt heads, weather-proof PCs and monitors. Just ask us for more information.

The use of an uncooled sensor system does not require a permanently operated cooler generating excessive, disturbing noise – a serious obstacle for covert observation. During its operation VarioVIEW™ is working silently without noise acoustically detected by counter intelligence.

Unlike cooled systems, VarioVIEW™ does not require any extensive maintenance. This permits considerably reduced operating costs with its lifecycle extended many times.



Accessories



1 **Covert and Open Investigation by Police Force Units**

With assistance of the SD card, the standard video output or the optional FireWire interface, high-resolution imaging material that may be recorded which can serve as evidence in court afterwards.

2 **Surveillance by Customs or Border Police**

Ergonomics, range and the capability of being permanently used are benefits for border surveillance. The various options of power supply offer a maximum of flexibility and operational reliability, regardless if VarioVIEW™ is used in combination with motorized vehicles or in stand-alone operation.

3 **Site Protection**

Both small and extended facilities can be protected with VarioVIEW™ – based observations. Its mobile capabilities allow very efficient safeguarding and monitoring.

4 **Surveillance and Reconnaissance**

Range and resolution capacity of VarioVIEW™ support all kinds of remote surveillance scenarios, commonly applied by secret service staff and similar units. Low noise level and high-performance batteries are further advantages for use in this field of application.

5 **Mobile SWAT Missions, Tracing and Investigation**

The easy handling simplifies instruction and training of the different operative forces – the result is a maximum support for effective and targeted observation.

6 **SAR Missions**

Civil defense and emergency management benefit from the high thermal resolution that facilitates the rescue of injured people or damaged vehicles enormously. VarioVIEW™ supports SAR missions in their coordination and accomplishment.

