

NocturaSys

PRODUCT BROCHURE 2025

DIGITAL NIGHTVISION / THERMAL IMAGING / VRTX

**Master the
Unseen.**

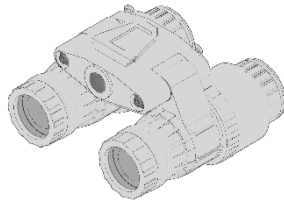


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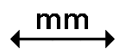
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DNV Series



DNV2 Ranger V3



117x55x77mm



422g



42.1°(H)/23.7°(V)



0,001lux

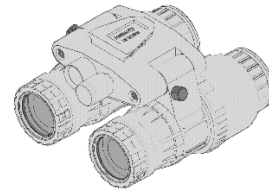


1/1.8" CMOS Sensor

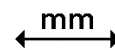


AI Enhancement

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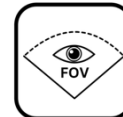
DNV2 Operator



117x55x77mm



483g



42.1°(H)/23.7°(V)



0,001lux



1/1.8" CMOS Sensor



AI Enhancement

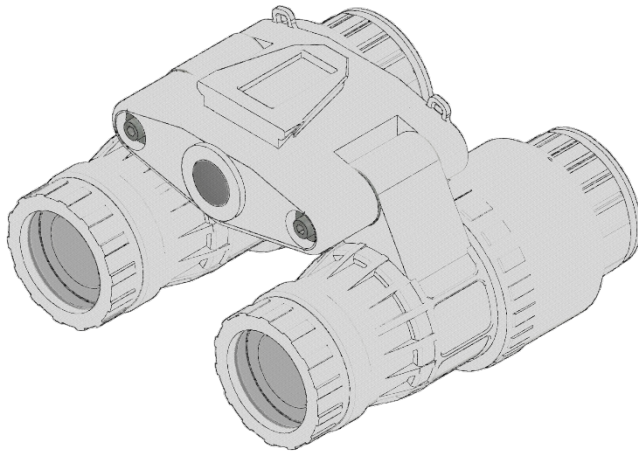


VRTX Compatible



DNV2 Ranger V3

Binocular digital AI enhanced night vision device for enthusiasts.



Scan for more information

The DNV2 Ranger V3 sets a new standard with AI-assisted image processing for enhanced low-light performance. Its lightweight, modular design makes it a reliable choice for both field use and training environments.

Mechanical Properties

Element	Specification
Dimensions	116,83 × 11,72 × 78,65mm
Weight	422g
Housing Material	PETG CF*
Eyepiece Diopter	+/- 4dpt

Display Properties

Element	Specification
Technology	OLED
Resolution	800 × 600px
Format	4:3
Signal	PAL

*Material can be customized according to customer requirements – see page 14 for details.



Optical Components

Element	Specification
Sensor	1/1.8" 2MP CMOS
Field of View	42,1°(H)/23,7°(V)
Min. Illumination	0.001Lux
Resolution	1500TVL
WDR	50dB
Lens	M16 / F1.0 / 8mm
FPS	50 / 60fps
Latency	~20ms

Environmental Properties

Element	Specification
Operating Temperature	-10°C to 50°C
Storage Temperature	-20°C to 60°C
Humidity Resistance	20% to 80%
Protection Class	None – Similar to IP44

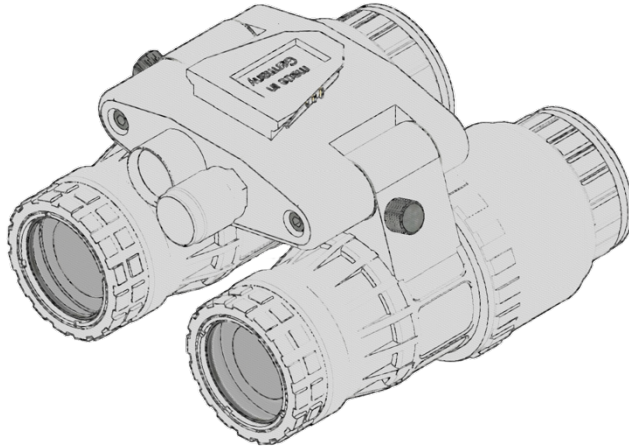
Electrical Properties

Element	Specification
Operating System Voltage	5VDC
Operating Time	External Battery Required



DNV2 Operator

Binocular digital AI enhanced night vision device for professionals.



Scan for more information

The DNV2 Operator is designed for professional use and training. Lightweight and easy to deploy, it delivers reliable performance in demanding environments. The goggles are fully compatible with our VRTX system for transmitting and receiving drone images.

Mechanical Properties

Element	Specification
Dimensions	116,83 × 11,72 × 78,65mm
Weight	483g
Housing Material	PETG CF*
Eyepiece Diopter	+/- 4dpt

Display Properties

Element	Specification
Technology	OLED
Resolution	800 × 600px
Format	4:3
Signal	PAL

*Material can be customized according to customer requirements – see page 14 for details.



Optical Components

Element	Specification
Sensor	1/1.8" 2MP CMOS
Field of View	42,1°(H)/23,7°(V)
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Electrical Properties

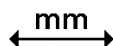
Element	Specification
Operating System Voltage	5VDC
Operating Time	External Battery Required



PREDATOR Series



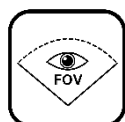
Predator Micro



98x50x65mm



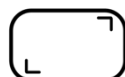
TBD



Wide^{*1}



50 mK

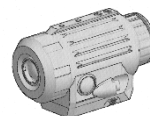


256 x 192 px

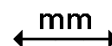


3h – Battery^{*3}
10h – Powerbank^{*4}

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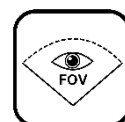
Predator X



101x50x65mm



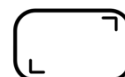
TBD



Optional:
Wide^{*1}
Narrow^{*2}



30 mK



384 x 288 px or 640 x 512 px



3h – Battery^{*3}
10h – Powerbank^{*4}



VRTX Compatible

^{*1} Wide FOV, ideal for helmet mounted use
and situational awareness

^{*2} Narrow FOV, ideal for long distance use

^{*3} using an 18650 Battery with 2500mAh

^{*4} using a Powerbank with 10000mAh



ADAPTABILITY

With our innovative adapter interface, enabling power and data transmission, you can adapt your device to your needs. Adapters are changed in less than a minute, allowing you to quickly change your device's role and suit any mission. Our Adapter-Interface Design allows us to future proof our devices and add even more capabilities later.

Adapters:

Adapter	PREDATOR Micro	PREDATOR X
18650 Battery	✓	✓
13340 Battery	✓	✓
DC-Jack	✓	✓
USB-C	✓	✓
Laser-Rangefinder	X	✓

Lens Protection

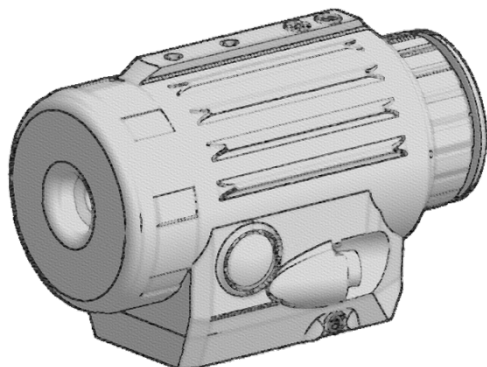
Adapter	PREDATOR Micro	PREDATOR X
Killflash	✓	✓
ZnSE Protection Lens	✓	✓



PREDATOR Serie

PREDATOR Micro

Monocular thermal vision device for enthusiasts.



Scan for more information

Compact, intuitive thermal for outdoor enthusiasts and personal security. Sees heat in total darkness and through smoke, fog or light foliage. Lightweight, durable build for quick setup and effortless handling. Grab-and-go design that delivers instant situational awareness, even during fast, unpredictable moments.

Mechanical Properties

Element	Specification
Dimensions	98 x 50 x 65mm
Weight	TBD
Housing Material	PETG CF*
Eyepiece Diopter	+/- 4dpt

*Material can be customized according to customer requirements – see page 14 for details.

Display Properties

Element	Specification
Technology	OLED
Resolution	800 × 600px
Format	4:3
Signal	PAL



PREDATOR Serie

Optical Components

Element	Specification
Sensor	256x192px
Pixel Size	12 μ m
NETD	≤ 50 mK
Spectral	8 ~ 14 μ m
FPS	50
Lens	3.2mm
Field of View	30°(D)

Environmental Properties

Element	Specification
Operating Temperature	-10°C to 50°C
Storage Temperature	-20°C to 60°C
Humidity Resistance	20% to 80%
Protection Class	None – Similar to IP44

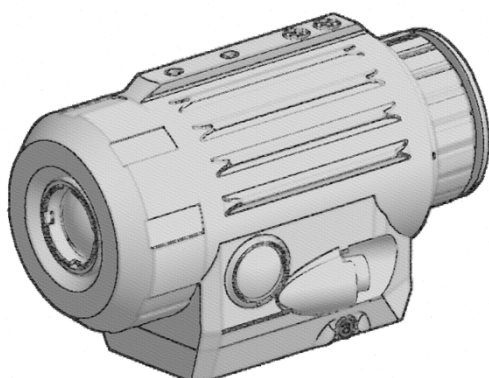
Electrical Properties

Element	Specification
Operating System Voltage	5VDC
Operating Time	External Battery Required



PREDATOR X

Monocular thermal vision device for professionals.



Scan for more information

Professional thermal imaging for law enforcement, security and harsh operations. Detects long-range heat signatures, clear visuals through smoke, fog and dust. Advanced sensor, rugged housing; streamlined form for rapid deployment. Reliable, precise performance for decisive action in the field.

Mechanical Properties

Element	Specification
Dimensions	101 x 50 x 65mm
Weight	TBD
Housing Material	PETG CF*
Eyeiece Diopter	+/- 4dpt

*Material can be customized according to customer requirements – see page 14 for details.

Display Properties

Element	Specification
Technology	OLED
Resolution	800 x 600px
Format	4:3
Signal	PAL



PREDATOR Serie

Optical Components

Element	Specification	
Sensor	384x288px	640x512px
Pixel Size	12 μ m	
NETD	≤ 30 mK	
Spectral	8 ~ 14 μ m	
FPS	50	
Lens	a. 9.1mm b. 19.mm	a. 13.4mm b. 19.0mm c. 25.0mm
Field of View	a. 29.1°(H) / 21.8°(V) b. 13.8°(H) / 10.4°(V)	a. 32.0°(H) / 25.8°(V) b. 22.7°(H) / 18.3°(V) c. 17.5°(H) / 14.0°(V)

Environmental Properties

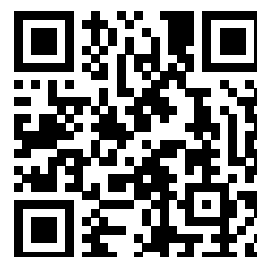
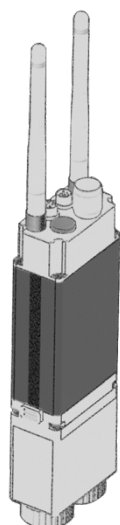
Element	Specification
Operating Temperature	-10°C to 50°C
Storage Temperature	-20°C to 60°C
Humidity Resistance	20% to 80%
Protection Class	None – Similar to IP44

Electrical Properties

Element	Specification
Operating System Voltage	5VDC
Operating Time	External Battery Required



VRTX



Scan for more information

Developed for mission-critical environments, the NocturaSys VRTX platform delivers real-time wireless video transmission from night vision and thermal imaging devices directly to mobile displays. By providing stable connectivity and dependable performance in the field, VRTX extends the operator's situational awareness beyond the device itself—enabling teams to share live visuals as they unfold. Its compact architecture, ruggedized design, and seamless integration make VRTX the essential link between cutting-edge optics and decisive field action.

Housing Properties

Element	Specification
Dimensions (No Battery and Antennas)	115 x 55 x 30mm
Weight (No Battery)	140g
Environmental	Similar to IP44
Operational Temperature	-10°C to 40°C
Material	Aluminum, PETG-CF



Electrical properties

Element	Specification
Operation Voltage	5VDC
Battery Connector	2-Pin DC slide lock
Battery Compatibility	2x CR123A
Max. Power Consumption (TX)	850mW
Max. Power Consumption (RX)	290mW
Max. Runtime under max. Power Consumption (TX)	10,6h

Inputs and Outputs

Element	Specification
RF-Connectors	RP-SMA
Video IN	WEIPU SF06 4 Pin
Video OUT	WEIPU SF06 4 Pin

Networking Properties

Element	Specification
Frequency Band	5,8GHz
Frequency	5645 ~5945MHZ
Channels	150CH RX, 48CH TX
Max. Transmitting Distance	10.000m



Materials

All our products are available in a range of high-quality materials, including components manufactured through advanced 3D printing processes. We also offer our clients the opportunity to collaborate with us in identifying and selecting the most suitable materials for their specific application and design needs.

PETG-CF (FDM)

Property	Value
Tensile Strength (MPa)	47 ± 2 (horizontal) 52 ± 2 (vertical xz)
Tensile Modulus (GPa)	1.7 ± 0.1 (horizontal) 1.8 ± 0.1 (vertical xz)
Impact Strength (kJ/m ²)	29 ± 6 (horizontal) 43 ± 8 (vertical xz)
Heat Deflection Temperature	approx. at 1.8 MPa = 80°C approx. at 0.45 MPa = 96°C
Chemical Resistance	Resistant to oils and greases; not resistant to strong acids, bases, or some solvents

ASA-CF (FDM)

Property	Value
Tensile Strength (X-Y)	approx. 34 ± 3 MPa
Young's Modulus	approx. 4200 ± 270 MPa
Impact Strength (notched)	approx. 6.2 ± 1.4 kJ/m ²
Heat Deflection Temperature	approx. 110 °C (at 0.45 MPa)
Vicat Softening Temperature	approx. 108 °C
Chemical Resistance	Good resistance to acids, bases, oils; not resistant to acetone and some solvents

PAHT-CF (FDM)

Property	Value
Tensile Strength (X-Y)	approx. 92 ± 7 MPa
Young's Modulus	approx. 3860 ± 230 MPa
Impact Strength (notched)	approx. 22.8 ± 1.8 kJ/m ²
Heat Deflection Temperature	approx. 194 °C (at 0.45 MPa)
Vicat Softening Temperature	approx. 220 °C
Chemical Resistance	Resistant to oils and greases; limited resistance to strong acids, bases, and solvents



PPS-CF (FDM)

Property	Value
Tensile Strength (X-Y)	approx. 87 ± 5 MPa
Young's Modulus	approx. 8230 ± 270 MPa
Impact Strength (notched)	approx. 6.2 ± 1.6 kJ/m ²
Heat Deflection Temperature	approx. 264 °C (at 0.45 MPa)
Vicat Softening Temperature	approx. 268 °C
Chemical Resistance	Excellent resistance to acids, bases, solvents, oils, and grease

PA11-CF (SLS)

Property	Value
Tensile Strength (MPa)*	71 (horizontal) 37 (vertical xz)
Tensile Modulus (GPa)*	4.55 (horizontal) 1.7 (vertical xz)
Notched Impact Strength (kJ/m ²) *	6.7 (horizontal) 2.9 (vertical xz)
Melting Temperature	202°C

*Measured after conditioning 14 days at 70°C / 62% r.h. Water content is about 0.6% acc. to DIN EN ISO 15512

PA12 (SLS)

Property	Value
Tensile Strength (MPa)	47 ± 2.3 (horizontal) 45 ± 2.2 (vertical xz)
Tensile Modulus (GPa)	1.75 ± 0.1 (horizontal) 1.7 ± 0.1 (vertical xz)
Notched Impact Strength (kJ/m ²)	4.17 (horizontal) 3.36 (vertical xz)
Heat Deflection Temperature	approx. at 1.82 MPa = 77°C approx. at 0.45 MPa = 173°C



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