

Surveillance Equipment

made by

JENOPTIK

NYXUS BIRD

Thermal Imager for day and night target acquisition



NYXUS BIRD integrates the following main components in one compact and lightweight device:

- Uncooled IR-Thermal Imager
- Day View Glass Channel
- Laser Range Finder
- Digital Magnetic Compass
- GPS
- Blue Tooth
- RFID

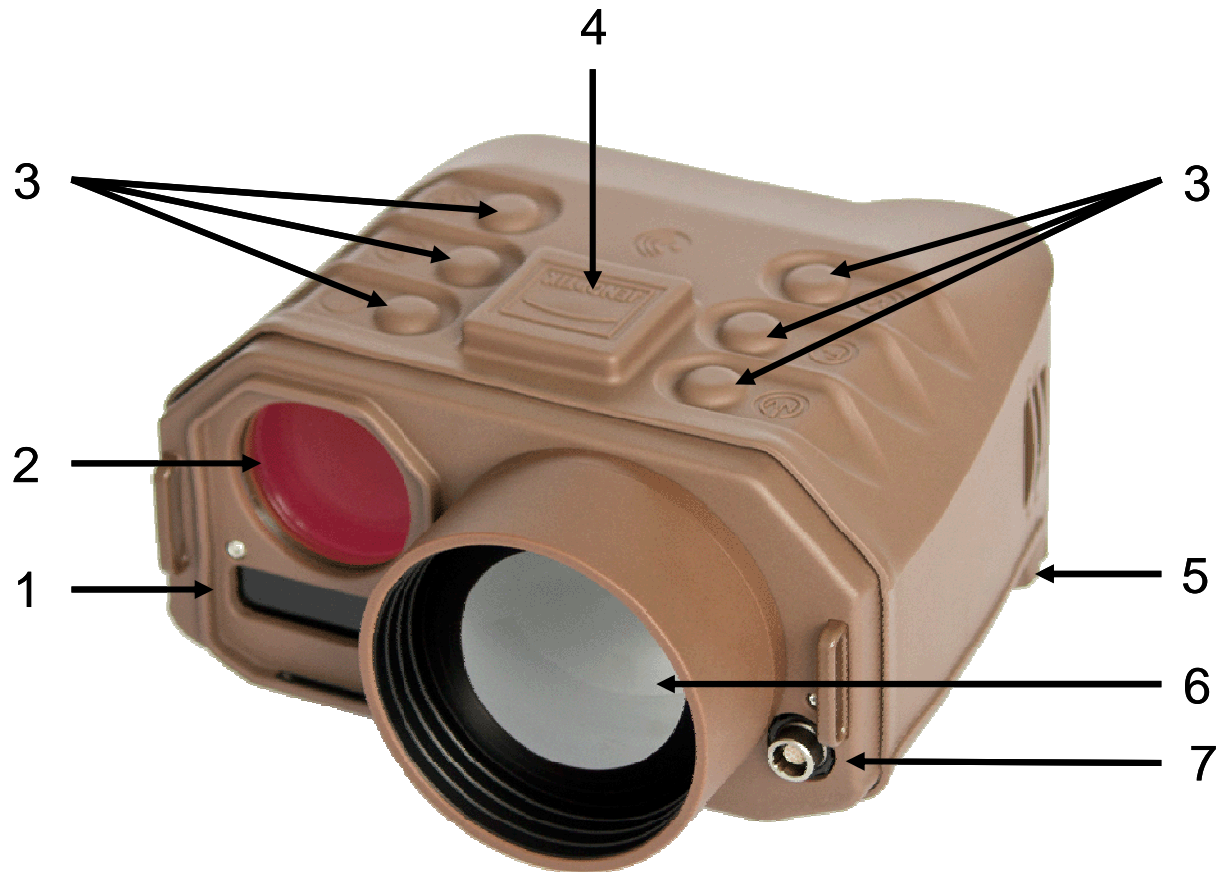


NYXUS BIRD

Thermal Imager for day and night target acquisition



- 1 Laser output window
- 2 Day view channel lens
- 3 Control keys
- 4 GPS antenna
- 5 Battery compartment
- 6 IR channel lens
- 7 ODU (socket)

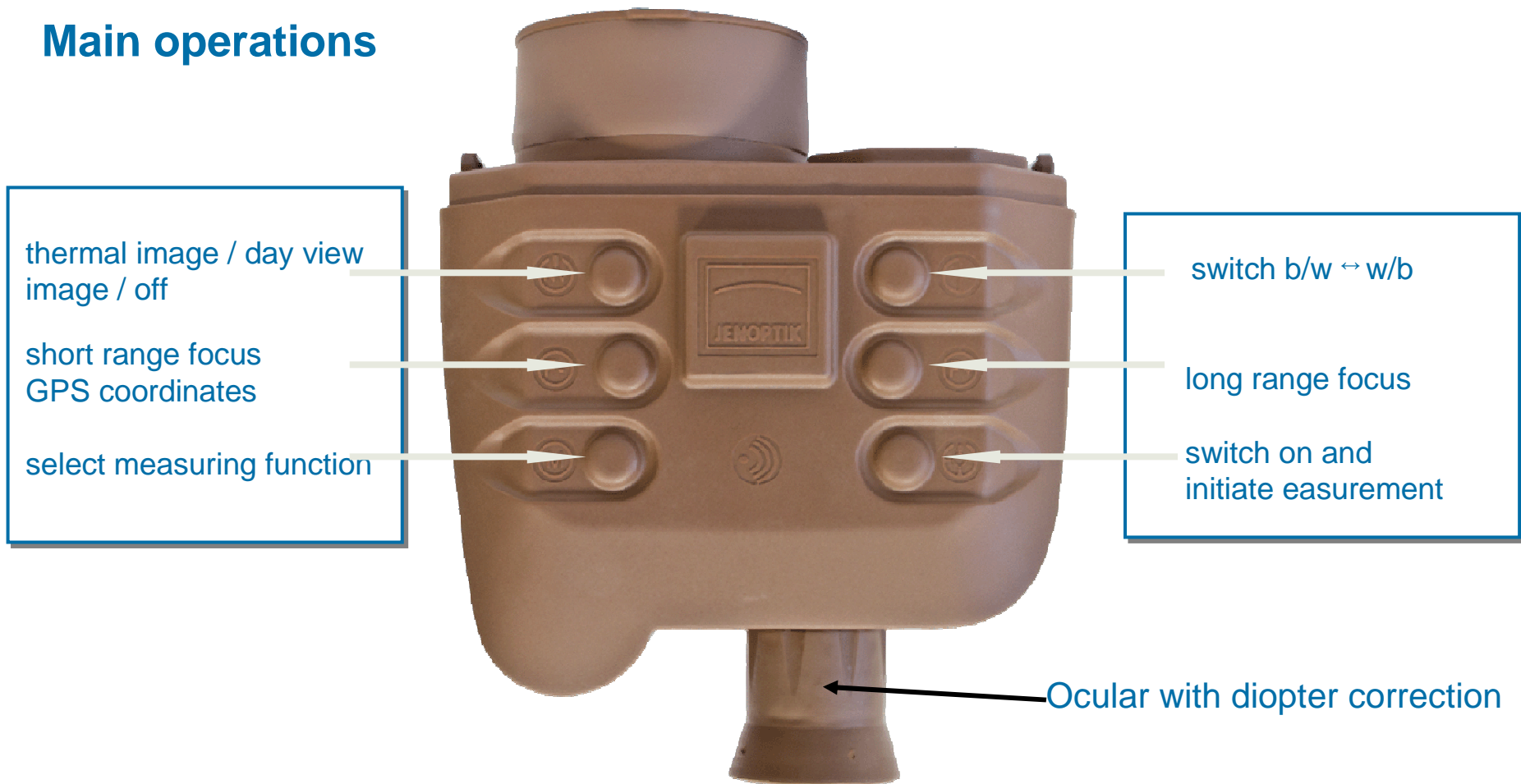


NYXUS BIRD

Thermal Imager for day and night target acquisition



Main operations



NYXUS BIRD High Performance & Compactness

Weight reduction & Energetic efficiency



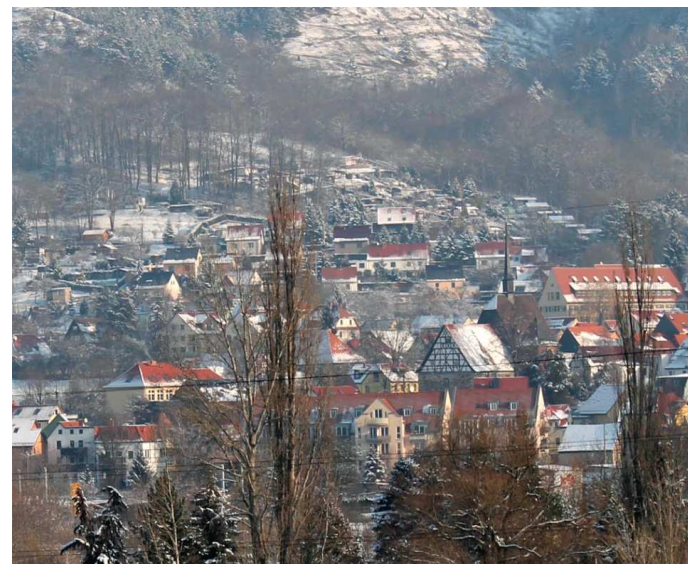
GENERAL TECHNICAL CHARACTERISITICS

Technical Data	
Weight	1.5 kg
External dimensions (L x W x H)	130 x 180 x 75 mm
Interfaces	USB; Bluetooth
Operating Temperature	- 33°C ... + 55°C
Time of operation	> 6 hrs continuous operation (50% thermal imager switched on)
Laser Measurement Range at Nato Standard Target 2.3 m x 2.3 m / 30 %, Visibility 10 km	Typically > 3,500 m
Measuring accuracy	± 2m
Time to IR picture	15 sec
Time to measure	1 sec
Mechanical / Enviromental conditions	MIL-STD-810-F



CHARACTERISTICS Day light channel

<i>Day view vision</i>	
Glass optics	Monocular, high resolution
Field of View	6.75°
Optics diameter	40 mm
Magnification	7 x standard
Detection vehicles	7 km
Recognition vehicles	> 3 km
Identification vehicles	> 2 km



CHARACTERISTICS Thermal imager

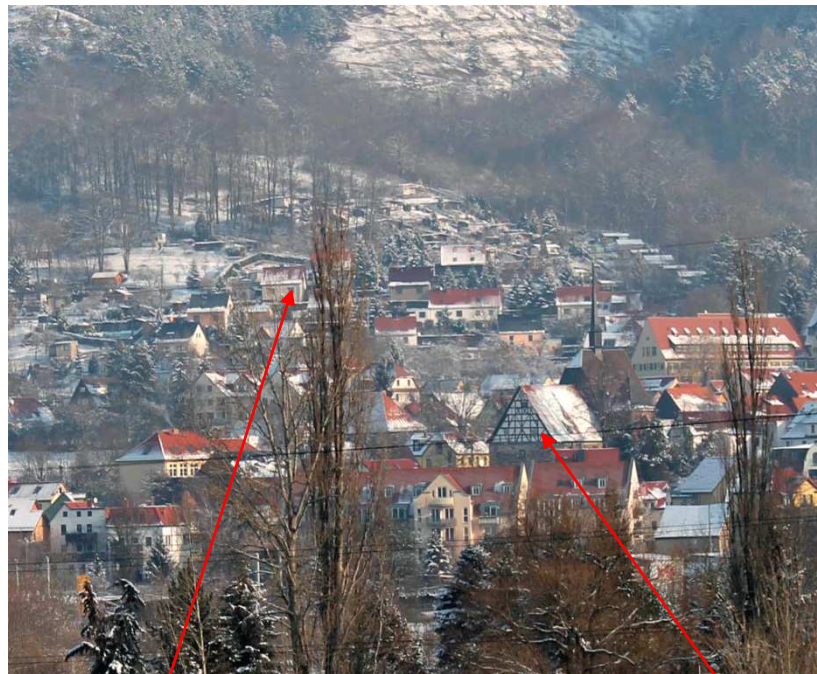
<i>Night vision</i>	
Sensor type	uncooled Microbolometer
Thermal resolution	< 60 mK
Sensor resolution	640 x 480 pixel 17µm
Wavelength	8 µm ...14 µm
Field of view	11° x 8°
Zoom (electronic)	2 x and 4 x
Detection vehicles	3.0 km
Recognition vehicles	1.2 km
Identification vehicles	0.6 km



NYXUS BIRD



high resolution optical day view channel



1,200m

782m

high resolution night view channel



Advantages of NYXUS BIRD



- VIS channel

Advantages of NYXUS BIRD



- IR-cannel behind camouflage

Advantages of NYXUS BIRD

Observation by using 3 spectral bands:

- ▶ VIS (day view optics),
- ▶ IR (uncooled thermal imager)
- ▶ NIR (in combination with image intensifier) Soldier

in urban operation benefits from using both the light intensifier and the magnifying optical channel of NYXUS BIRD at the same time (without removing the night vision goggles in front of his eyes !)

Minimised burden due to universal and light weight system for day and night application!

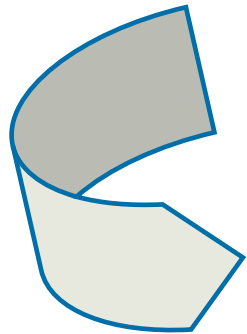
NYXUS BIRD

High resolution thermal Imager for day and night observation



Additional advantages:

- Inbuilt **LRF**: measurement of target distance and size
- Inbuilt **DMC**: digital magnetic compass necessary for target acquisition and measurement of object size
- Inbuilt **GPS**: necessary for target acquisition, reconnaissance and orientation in confusing areas



NYXUS BIRD

**the smallest target locator
for day and night on the market!**



NYXUS Rangefinder



Handheld Laser-Rangefinder for fast and precise distance measurement



Dimension:	135 x 87 x 40 mm
Weight:	450 g
Measuring range:	> 1,500 m
Wavelength:	1.550 nm
Accuracy:	±1 m
Field of View	6.75°
Magnification	7 x
Measurements / battery:	> 6.000 (at 20°C)

NYXUS Rangefinder

Handheld Laser-Rangefinder



Advantages:

- ▶ fast and precise distance measurement
- ▶ high accuracy in a wide range of temperature
- ▶ no detectable with light amplifier
- ▶ distance measurement at night
in connection with light amplifier
- ▶ low power consumption
- ▶ multi targets indicator
- ▶ small and lightweight
- ▶ eye-safe laser class 1

Surveillance Station for stationary or mobile (vehicle or rail-bound) use.

- external sight for light military vehicles

Surveillance System for military facilities

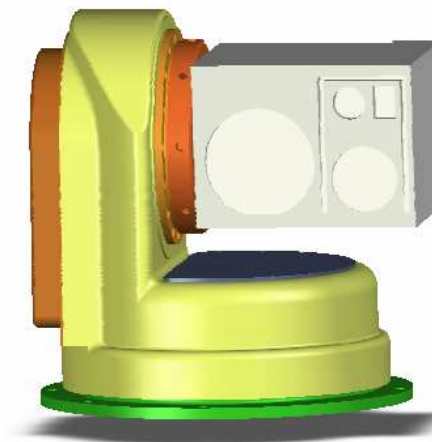
- Surveillance System for commercial facilities

Features

- Customizable Sensor configuration
- Daysight / Nightsight overlay
- Data overlay
- Optional GPS and / or compass available
- Absolute position feedback
- 2 Axis stabilization (optional)
- “Stand alone system”, no external electronic necessary
- compliant and certified with the EU CE standard
- compliant with DIN EN 61508,
- EMV and environmental tested

Technical Data

- Positioning accuracy ± 1 mrad
- Elevation -45° to $+90^\circ$; Azimuth $n \times 360^\circ$
- Speed azimuth and elevation $45^\circ/s$ (enhancement optional)
- Power 24 VDC (< 5 A)
- Operational temperature -10°C to $+60^\circ\text{C}$ (enhancement for military use optional)
- Overload safety coupling in azimuth and elevation drive



Light remote operable surveillance Station



Sensor System

	surveillance use	
Thermal View	<ul style="list-style-type: none">•IR-TCM 640 compact, 8-14 μm, uncooled•Resolution 640x480, FoV 12°x 9,1°;•Discover 1.5 km	
Optical View	<ul style="list-style-type: none">•CCD professional 795x596 px•Motor-Zoom-Lenses x22	
Laser Distance Meter	<ul style="list-style-type: none">•DLEM1k 1,55μm•Range: 1600m	

The Sensor System is customizable to any special use

Interfaces

- CAN controlled input
- Joystick or other input device optional
- Ethernet Video output, GigE Vision Standard (operable with standard PC devices)
- Complete live video stream, no compression
- Analog (composite, component etc.) output optional
- Digital Video output (DVI, HDMI) optional