

# VarioCAM® HD head security Infrared Thermal Imaging System for Security and Monitoring Tasks



- 1) Vehicle-based surveillance
- 2) Monitoring of a parking lot

## INFRA<sup>TEC</sup>.

Europe's leading specialist for infrared sensors and measurement technology

- Uncooled detector with up to (1,024 × 768) IR pixels
- Opto-mechanical MicroScan with up to (2,048 × 1,536) IR pixels
- Spectral range (7.5 ... 14) μm
- Personnel detection range 6.1 km
- Vehicle detection range 10.7 km
- Solid light metal housing (IP67)
- No US export license required



Spectral range	(7.5 ... 14) $\mu\text{m}$
Detector	Uncooled Microbolometer Focal Plane Array
Detector format (IR pixels)	(1,024 $\times$ 768), with built-in opto-mechanical MicroScan unit (2,048 $\times$ 1,536)* (640 $\times$ 480), with built-in opto-mechanical MicroScan unit (1,280 $\times$ 960)*
Temperature measuring range	(-40 ... 2,000) $^{\circ}\text{C}$ *
Measurement accuracy	$\pm 1$ $^{\circ}\text{C}$ or $\pm 1$ %*
Temperature resolution @ 30 $^{\circ}\text{C}$	Up to 0,02 K*
Frame rate	Full-frame: 30 Hz (1,024 $\times$ 768), sub-frame formats*: 60 Hz (640 $\times$ 480)/120 Hz (384 $\times$ 288)/240 Hz (1,024 $\times$ 96) Full-frame: 60 Hz (640 $\times$ 480), sub-frame formats*: 120 Hz (384 $\times$ 288)/240 Hz (640 $\times$ 120)
Storage media	SDHC Card, external control computer for camera control and data acquisition*
Image storage	Time-, trigger- and temperature controlled recording of 16 bit single frames or image sequences with timestamp, video streaming in MPEG format
Realtime storage*	Computer-aided storage of radiometric sequences by GigE interface with up to 240 Hz
Lens mount	Bayonet to comfortably switch objectives, automatic objective detection and data transfer; screw-on interface*
Focus	Motor-driven, automatic or manual, accurately adjustable
Zoom	Up to 32 $\times$ digital, stepless
Personnel detection range	Up to 6.1 km
Vehicle detection range	Up to 10.7 km
Dynamic range	16 bit
Interfaces; Trigger*	GigE Vision*, DVI-D (HDMI), C-Video, RS232, USB 2.0, WLAN*; 2 $\times$ digital I/O, 2 $\times$ analogue I/O
Tripod adapter	1/4" photo thread
Power supply	AC adapter, (12 ... 24) V DC, PoE*
Storage and operation temperature	(-40 ... 70) $^{\circ}\text{C}$ , (-25 ... 55) $^{\circ}\text{C}$
Protection degree	IP54, IEC 60529, IP67 with screw-on interface*
Impact strength; vibration resistance in operation	25 G (IEC 68 - 2 - 29); 2 G (IEC 68 - 2 - 6)
Dimensions; weight	(221 $\times$ 90 $\times$ 94) mm; 1.15 kg (basic configuration with standard lens)
Further functions	Camera internal emissivity correction, shutter free operation, use of various colour sets, contrast enhancement, user profile, language selection
Analysis and evaluation software*	IRBIS <sup>®</sup> 3, IRBIS <sup>®</sup> 3 report, IRBIS <sup>®</sup> 3 view, IRBIS <sup>®</sup> 3 plus*, IRBIS <sup>®</sup> 3 professional*, IRBIS <sup>®</sup> 3 remote HD, IRBIS <sup>®</sup> 3 control*, IRBIS <sup>®</sup> 3 online*, IRBIS <sup>®</sup> 3 process*, IRBIS <sup>®</sup> 3 active*, IRBIS <sup>®</sup> 3 mosaic*, IRBIS <sup>®</sup> 3 vision*

\* Depending on model

The **thermographic high-resolution system VarioCAM<sup>®</sup> HD head security** was conceived for demanding monitoring and measurement tasks in stationary or vehicle-mounted operation. Images with resolutions of up to 3.1 Megapixels can be taken in combination with the integrated MicroScan feature, which was designed for continuous operation. The VarioCAM<sup>®</sup> HD head security generates **brilliant 16-bit thermographic images of highest quality** and offers unprecedented measurement ranges and efficiency, especially during **day and night detection and identification of distant persons and vehicles**. The **various sets of equipment** make it easy to adjust the setup to the respective measurement task: The application range includes automatic threshold recognition and signalling up to digital realtime image acquisition via Gigabit-Ethernet. The **all-weather light metal housing (IP67)** allows **trouble-free and inexpensive operation** under harsh weather conditions. The **big standard temperature range**, a complete optical assortment as well as the extensive equipment and the **powerful IRBIS<sup>®</sup> 3 software** for thermographic data acquisition and evaluation make the VarioCAM<sup>®</sup> HD head security an **ideal tool for monitoring and investigation**. With the application-specific configuration, this stationary thermographic system is even suited for tasks, which require continuous and automatic operation.

#### Application examples:

- Remote sensing and monitoring
- Integration in system solutions for ground vehicles, helicopters and maritime applications
- Undercover investigations from greater distances
- Stationary protection of critical infrastructure

Detector format (IR pixels)		(640 $\times$ 480)	(1,024 $\times$ 768)
Lens	Focal length (mm)	FOV ( $^{\circ}$ )	FOV ( $^{\circ}$ )
Super wide-angle lens	7.5	(93.7 $\times$ 77.3)	(98.5 $\times$ 82.1)
Wide-angle lens	15	(56.1 $\times$ 43.6)	(60.3 $\times$ 47.0)
Standard lens	30	(29.9 $\times$ 22.6)	(32.4 $\times$ 24.6)
Telephoto lens	60	(15.2 $\times$ 11.4)	(16.5 $\times$ 12.4)
Telephoto lens	120	(7.6 $\times$ 5.7)	(8.3 $\times$ 6.2)

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