



MORE LIGHT

EVIDIR alpha infrared camera modules

Precisely visualize and analyze temperature distributions

Outstanding thermal imaging quality and optimized size, weight and power characterize the new family of EVIDIR alpha infrared camera modules dedicated for system integration.

Based on modern 12 μm uncooled micro-bolometer technology, EVIDIR alpha camera modules deliver sharp and detailed thermal images with a thermal sensitivity of better than 40 mK NETD and a spatial resolution of up to 640 x 480 pixels.

With optional radiometric calibration, the thermographic camera modules delivering most accurate, absolute temperature data.

Features & Benefits

- Precise thermal imaging: visualization and mapping of temperature distributions
- Accurate non-contact measurement of temperature data
- Easy integration into numerous applications due to modular toolbox approach with multiple configuration options
- Ready-to-use standard modules, infrared cores, and customized OEM solutions
- Various options for detector resolution, infrared optics, output interfaces, radiometric calibration, and longtime stable shutterless operation
- Perfectly suited for portable and mobile applications due to small size, low weight, and low power consumption
- European infrared detector technology

EVIDIR alpha infrared camera modules for thermal imaging

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Outstanding image quality and precision radiometry by experience

EVIDIR alpha infrared camera modules deliver thermal images that show all the details you need to see. They are based on Jenoptik's more than 40 years of experience in design, development, and production of high-end infrared technology solutions.

As the leading light in the application of photonics, Jenoptik takes control of the full photonic chain: from generating to shaping and transmitting and finally using light. Our in-house capabilities with respect to infrared cameras are unique: from infrared optics design & production, camera system design & production, precise sensor and optics adjustment to radiometric camera calibration we cover all the steps and ingredients for creating reliable and powerful infrared camera solutions.

Our goal: providing you with the **exact thermal imaging precision** you need for your individual application.

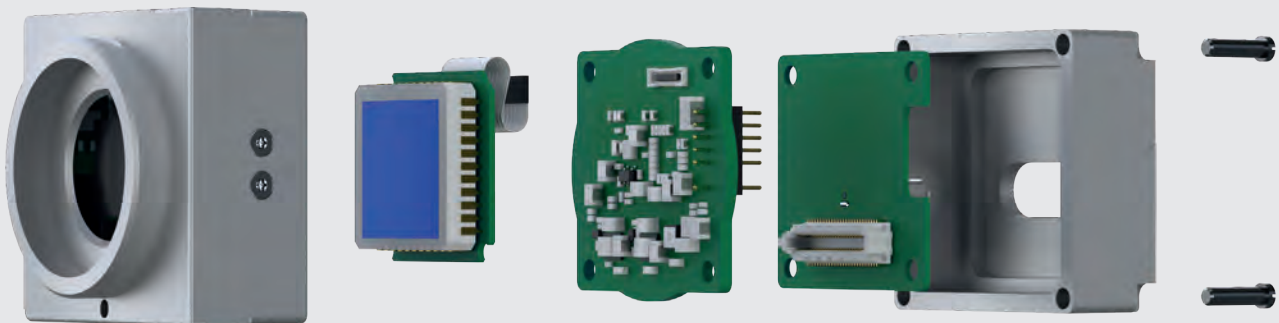
- Highest thermal sensitivity
- Great dynamic range
- Excellent image sharpness due to most exact optical alignment of sensor, housing and lens
- Minimal distortion
- In-camera image corrections
- Minimal image lag thanks to optional longtime stable shutterless operation
- In-house radiometric camera calibration available

Compact + lightweight = easy to integrate

EVIDIR alpha infrared camera modules are perfectly suited to mobile applications. Thanks to their small size, low weight and low power consumption, EVIDIR alpha infrared camera modules easily integrate into all kinds of vehicles, worn, handheld, or highly mobile devices, for example, into unmanned aerial or automated ground vehicles (UAV or AGV), as well as into bodycams of police and firefighters.

A modular camera platform that adapts to a multitude of thermal imaging application requirements and individual OEM customer needs

The modular toolbox approach of EVIDIR alpha infrared camera modules enables easy configuration and integration into numerous applications. You can combine different lenses, sensor sizes, and output interfaces that will fit to your specific application. If no standard configuration matches your requirements, the platform approach enables easy customization and adaption to specific customer needs. Just talk to us and we will find a solution for your demands.



The modular camera platform concept offers most flexible configuration and customization options for any possible application

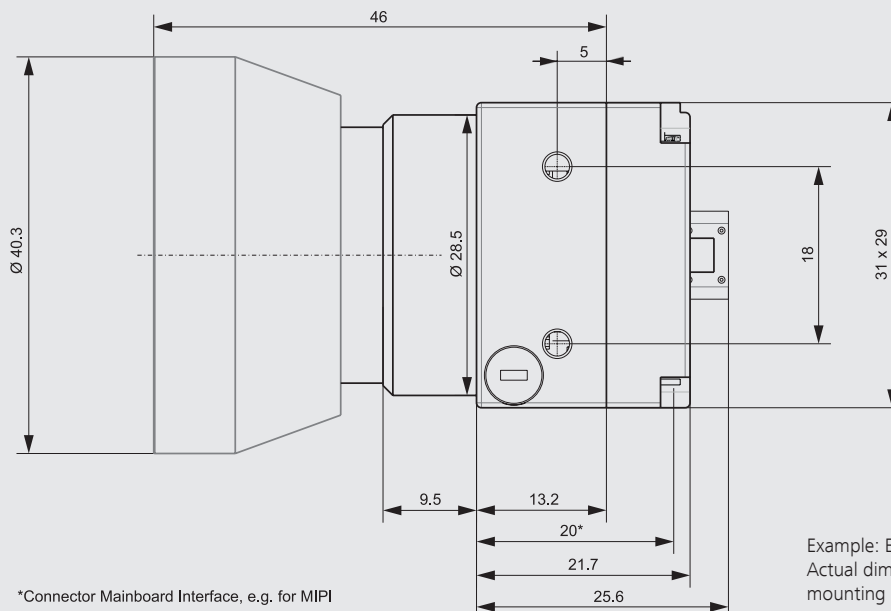
Technical Specifications

	EVIDIR alpha V: infrared vision camera modules			EVIDIR alpha R: infrared thermography modules	
	EVIDIR alpha 320V CMOS	EVIDIR alpha 640V CMOS	EVIDIR alpha 320V USB	EVIDIR alpha 320R USB	EVIDIR alpha 640R USB
Spatial resolution [pixels]	320 x 240 IR	640 x 480 IR	320 x 240 IR	320 x 240 IR	640 x 480 IR
Detector	uncooled microbolometer with 12 µm pixel pitch				
Spectral range [µm]	LWIR 8 ... 14				
Visualization range [°C]	- 40 ... + 120	- 40 ... + 120	- 40 ... + 120		
Measurement range [°C]				- 40 ... + 600	- 40 ... + 600
Thermal sensitivity	NETD ≤ 40 mK				
Measurement accuracy	-	-	-	± 2 K	± 2 K
Dynamic range	16 bit				
Frame rate options [Hz]	9 30 60	9 30 50	9 30 60	9 30 60	9 30 50
Non uniformity correction (NUC)	Mechanical shutter or Long-term & stable shutterless			Mechanical shutter	
Video interface	CMOS	CMOS	USB 3.0	USB 3.0	USB 3.0
Control interface	I2C	I2C	USB 3.0	USB 3.0	USB 3.0
Image data	24 bit RGB	24 bit RGB	24 bit RGB	16 bit temperature linear data	16 bit temperature linear data
Power supply [V]	3.3	3.3	5	5	5
Power consumption [mW]	≤ 800	≤ 800	≤ 1100	≤ 1100	≤ 1200
Dimensions (LxWxH) [mm]	shutterless with shutter	20 x 25 x 25 20 x 29 x 31	20 x 25 x 25 20 x 29 x 31	22 x 25 x 25 22 x 29 x 31	22 x 29 x 31
Weight (W/out lens) [g]	≤ 45	≤ 45	≤ 55	≤ 55	≤ 55
Lens options [HFOV, f-number]	15°, f/1.0 30°, f/1.0 60°, f/1.1	18°, f/1.0 30°, f/1.0 70°, f/1.0	15°, f/1.0 30°, f/1.0 60°, f/1.1	15°, f/1.0 30°, f/1.0 60°, f/1.1	18°, f/1.0 30°, f/1.0 70°, f/1.0

Vision functions: Auto-image, histogram equalization, 12 color palettes, 256 x 32 bit

Radiometry functions: Selection up to 7 ROIs (minimal, maximal and mean temperature, emissivity), 9 isotherms. Further functions on request.

Further information on mounting options, environmental conditions, standards, and tests (protection class, shock, vibration, ...) on request.



*Connector Mainboard Interface, e.g. for MIPI

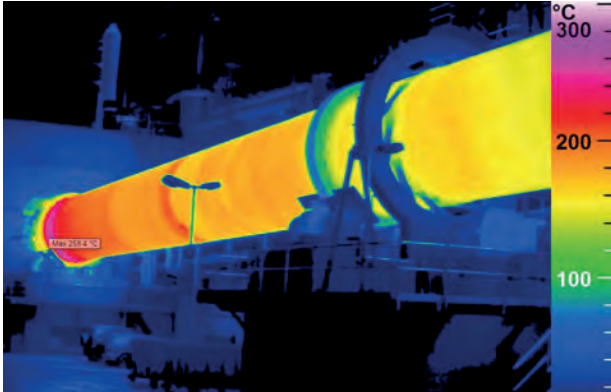
Example: EVIDIR alpha 640R USB with 18°, f/1.0 optics.
Actual dimensions and position of threads for mounting depend on module configuration

EVIDIR alpha infrared camera modules

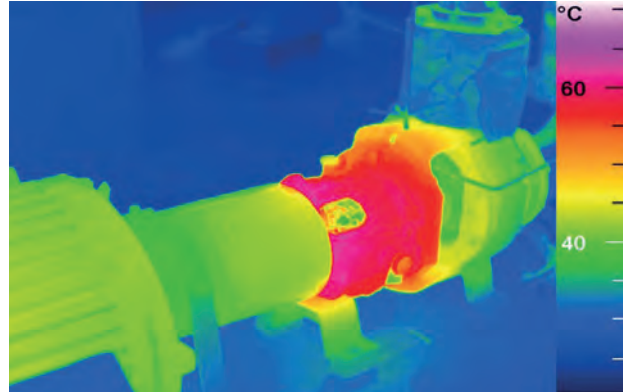
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Applications

- Industrial automation: Process control, predictive maintenance
- Safety & Security: Surveillance, search & rescue, firefighting, border control
- Mobility: Collision avoidance, situational awareness, UAV
- Automotive: Advanced driver assistance systems (ADAS)
- OEM: System integrators, UAV



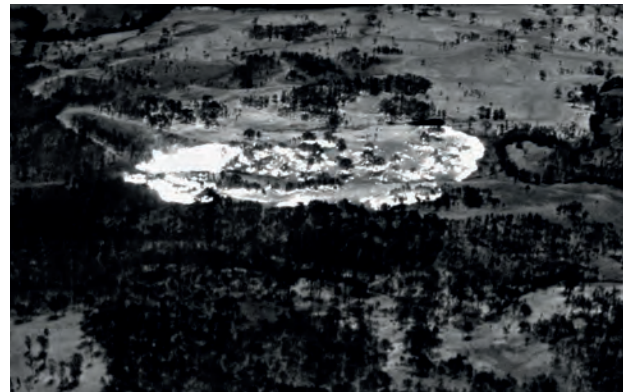
Industrial Automation (predictive maintenance): rotatory kiln insulation monitoring



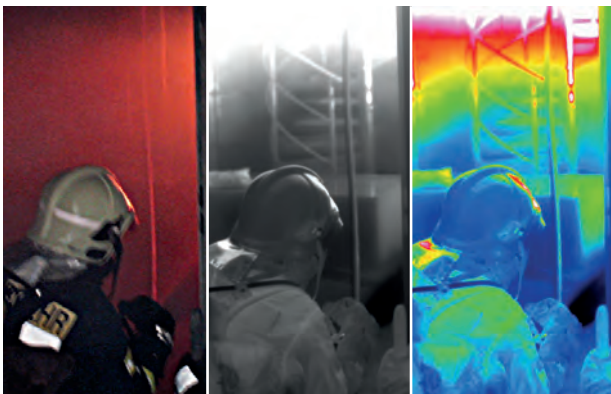
Industrial Automation (thermography): electric turbine temperature monitoring



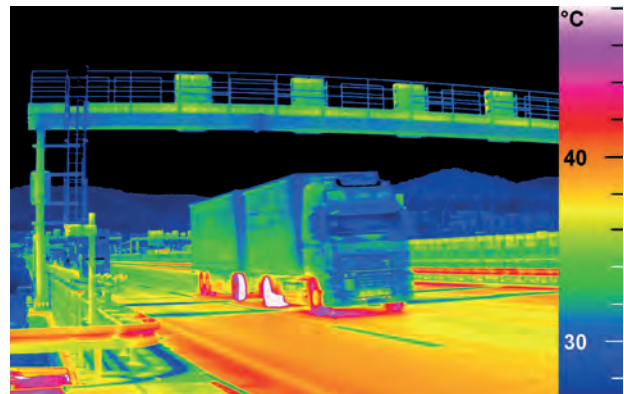
Safety & Security (surveillance): observation, border and intrusion detection



Mobility (drones, UAV, aerial imaging): bush fire monitoring



Safety & Security (personal assistance): vision enhancement for firefighters (from left to right - VIS, IR, IR color)



Mobility (traffic safety): vehicle and tire temperature monitoring

It is our policy to constantly improve the design and specifications. Accordingly, the details represented herein cannot be regarded as final and binding.