



MORE LIGHT

## EVIDIR® alpha - infrared camera core

Precisely visualize and analyze temperature distributions

### EVIDIR alpha

Outstanding thermal imaging quality and optimized size, weight and power characterize the family of EVIDIR alpha dedicated for system integration. Based on modern 12  $\mu\text{m}$  uncooled micro-bolometer-technology, EVIDIR alpha camera modules deliver sharp and detailed thermal images with a thermal sensitivity of better than 20 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.

- Precise thermal imaging: contactless measurement, visualization and mapping of temperature distributions
- Easy integration into numerous applications thanks to modular approach (modules, infrared cores, customized OEM solutions)
- Perfectly suited for portable and mobile applications
- Very low latency
- High image quality even in low-contrast scenes



## EVIDIR® alpha — infrared camera core

Detector Type	Uncooled microbolometer with 12 µm pixel pitch			
Spectral range	LWIR 8 µm ... 14 µm			
Frame rate options	60 Hz, ≤ 9 Hz (fewer export regulations)			
Image Data (up to 2 data streams simultaneous)	Corrected RAW 16 bit; processed Mono 8/16 bit or YCbCr 4:2:2 or YCbCr 4:4:4 or RGB 24 bit			
Thermal sensitivity	≤ 20 mK			
Video interface	Parallel CMOS, Serial CameraLink, MIPI CSI-2			
Control interface	Serial UART, command line based			
Supply Voltage	3.3 V DC			
Power consumption (CMOS)	Camera with detector 320x240: ≤ 0.85 W, Camera with detector 640x480: ≤ 1.05 W			
Housing temperature	-40 °C ... +70 °C			
Max. detector temperature	+85 °C			
Camera with shutter	30 x 30 x <20 mm <sup>3</sup> (width x height x length, without lens)			
Camera without shutter	25 x 25 x <20 mm <sup>3</sup> (width x height x length, without lens)			
Weight	≤ 30 g (without lens)			
IP protection	Back side without protection; Front side (Lens) sealing to IP 67			
Standard lens options (further lenses on request)	OEM Core 320	H <sub>FoV</sub> x V <sub>FoV</sub> : 16.2° x 12.1° 30.0° x 23.0° 60.0° x 44.0°	Focal length: 13.6 mm 7.2 mm 3.9 mm	F-Number: f/1.0 f/1.0 f/1.1
Coating: Anti Reflection or DLC	OEM Core 640	H <sub>FoV</sub> x V <sub>FoV</sub> : 17.6° x 13.2° 32.0° x 24.0° 75.0° x 55.0°	Focal length: 25.0 mm 13.6 mm 6.2 mm	F-Number: f/1.0 f/1.0 f/1.0

## EVIDIR® alpha — camera core as Viewer

Spatial resolution	OEM Core 320 Viewer: 320 x 240 pixels, OEM Core 640 Viewer: 640 x 480 pixels
Visualization Range	-40 °C ... +70 °C
Non-Uniformity Correction	Shutter based NUC with mechanical shutter; longtime stable shutterless algorithms (without shutter)

## EVIDIR® alpha camera core as Radiometer

Spatial resolution	OEM Core 640 Radiometer: 640 x 480 pixels
Measurement range	Measurement range 1 @ T <sub>housing</sub> = +10 °C ... +50 °C: -40 °C ... +120 °C Measurement range 2 @ T <sub>housing</sub> = +10 °C ... +50 °C: 0 °C ... +600 °C
Measurement Accuracy	Measurement range 1: ± 2 K for T <sub>object</sub> = -10 °C ... +120 °C @ T <sub>housing</sub> = +10 °C ... +50 °C Measurement range 2: ± 5 K or ± 2% (the higher one) for T <sub>object</sub> = +120°C ... +600°C @ T <sub>housing</sub> = +10 °C ... +50 °C
Radiometer functions	Three output options: 1. Processed Viewer image (8/16 bit B/W or 16/24 bit false color) with add. temperature information (8 isotherms and 3 operator defined regions of interest ROI), 2. Camera generates temperature data of each pixel (16 bit), 3. Two data streams simultaneous - Viewer image combined with additional output of temperature data of each pixel*
Non-Uniformity Correction	Shutter based NUC with mechanical shutter

\*Mode and the number of bits depend on backend

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