



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 images with a thermal sensitivity of < 20 mK NETD and a spatial resolution of 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 ( <b>fewer export regulations</b> )			
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, MIPI CSI-2			
Control interface	Serial UART (MIPI over I2C/UART converter)			
Supply Voltage	3.3 V DC			
Power consumption (CMOS)	CMOS: approx. 0.9W @T <sub>Ambient</sub> = +25°C (w/o backend) MIPI: approx. 1.45W @T <sub>Ambient</sub> = +25°C (with backend)			
Housing temperature	-40 °C ... +70 °C			
Max. detector temperature	+85 °C			
Camera (standard)	30 x 30 x <20 mm <sup>3</sup> (width x height x length, without lens)			
Camera without shutter (on request)	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 640	H <sub>FoV</sub> × V <sub>FoV</sub> :	Focal length:	F-Number:
Coating: Anti Reflection or DLC		95.0° × 70.0°	4.9 mm	f/1.1
		75.0° × 55.0°	6.2 mm	f/1.0
		50.0° × 27.5°	9.2 mm	f/1.0
		32.0° × 24.0°	13.6 mm	f/1.0
		17.6° × 13.2°	25.0 mm	f/1.0
		8.7° × 6.6°	50.0 mm	f/1.0

## EVIDIR® alpha — camera core as Viewer

Spatial resolution	OEM Core Viewer: 640 x 480 pixels
Visualization Range	-20 °C ... +60 °C (see User Guide)
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 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