IMAGO TECHNOLOGIES

PRODUCT SPECIFICATION

Vision Cam EB

YOUR EVENT-BASED VISION SENSOR

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The VisionCam EB offers a versatile, programmable camera with a unique new sensor class. Event-based contrast detection sensors constitute a new way of receiving dynamic visual information. The main advantages of these vision sensors, compared to frame-based image acquisition techniques, are low-latency response, wide-dynamic range operation and pixel-level data redundancy suppression. The in-pixel change detector is built around a fast continuous-time logarithmic photoreceptor with asynchronous event-driven signal processing. It returns accurate timings of relative increase or decrease in light intensity that exceeds tunable thresholds set over more than 6 decades of illumination (> 120 dB). This frame-free operation directly reduces data volume at the sensor output and benefits in lower required processing resources. The main processor is a dual-core ARM Cortex-A15 supported by a dual-core accelerator as used in other versions of the VisionCam XM. For communication with the machine/process, there are 2 / 4 digital I/Os, a serial interface and 1.000 Mbit/s Ethernet interface. The programmable camera is delivered, as usual, with a rounded-off software. The camera is freely programmable and runs under Debian based Linux, therefore programming in C++ or other languages quickly results in an application-specific intelligent camera.

Key Features

- Event-Based instead of traditional machine vision
- Detection of extremely fast processes
- Accurate Timestamps
- Reduce data processing

Processor

Type	Dual Core ARM Cortex-A15
Processor Clock	2 x 1.5 GHz
Floating-Point DSP Processor Clock	2 x 750 MHz
DDR RAM	1 GB DDR3L
Mass Storage	1 × µSD Card ≥ 32 GB

Interfaces

Ethernet	1000 Mbit/s
Digital In/Out	2 x Input & 4 x Output (24 V)
Fieldbus	1 × RS-232

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Sensor

Optical Size	3/4“
Resolution	640 × 480 pixels
Pixel Size	15 µm
Event Rate	30 000 000 events/s
Dynamic Range	> 120 dB
Nominal Contrast Threshold	0,25
Typical Response Latency	200µs
Max Object Speed	2500 pixels/s
Typical Accuracy	< 1 pixel
Throughput	> 1000 objects/s
Counting Accuracy @ 1000 objects/s	> 99,5%
Maximal Frequency	> 1000 Hz
Minimal Amplitude Detection	< 1 pixel
Motion Period Irregularity Detection	0,01
Motion Amplitude Deficiency Detection	1 pixel

Mechanical / Electrical

Power Supply	11 VDC – 26 VDC
Dimension W × H × D	50 mm x 105 mm × 30 mm
Weight	180 g
Temperature Range	+5 °C … +35 °C
Ethernet Connector	M12 - 8 Pin [Option: RJ 45]
I/O Connector	M12 - 17 Pin
Certification	IP50, CE
Mounting	6 × M4

Documentation

Hompage	Link
SDK Documentation	Link
Hardware Manual	Link

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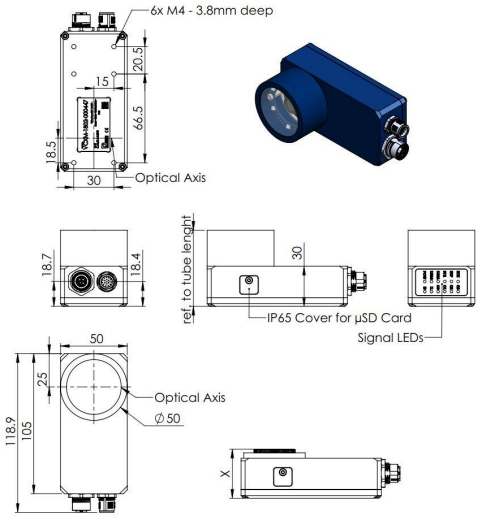
Dimensional Drawing



C-MOUNT SENSORS	X (FFD TO BACK PANEL DISTANCE) [mm]
e2v EV76C560M / EV76C560C	36.75 ± 0.2
e2v EV76C570M / EV76C570C	36.75 ± 0.2
On Semi PYTHON 5000 NOIP3SN5000A	37.15 ± 0.2

The smartest embedded vision components

For more than 30 years, IMAGO has been supplying machine vision technology to machine builders to improve product quality, make processes smoother, avoid production errors, reduce manufacturing costs and make systems more efficient.

What we do

With the focus on what counts for our customers, we develop hardware components for industrial image processing. Be it in factory automation, the printing industry, for the food and beverage industry, pharmaceutical or logistics industry. IMAGO supplies vision systems, smart cameras, vision sensors and the appropriate software for the optimized use of our products. We pay special attention to miniaturization, high frame rates, increasing computing power and environmentally friendly power consumption. These characteristics already distunguish our products today.
And we are proud of them.