

# VAX-50C.I.NVX

5 Megapixel, Color, NVIDIA Jetson Xavier NX

Article number: 11702239

## Overview

- Sony IMX250
- 2448 x 2048 px, 2/3" CMOS, 77 fps
- 6-Core NVIDIA Carmel ARM
- 384 Core NVIDIA Volta GPU
- 8 GB 128-bit LPDDR4x
- Gigabit Ethernet, USB 3.0, RS232



Picture similar



## Technical data

### Processor data

|                         |                         |
|-------------------------|-------------------------|
| Processor configuration | NVIDIA Jetson Xavier NX |
| GPU data                | 384 Core Volta GPU      |
| CPU data                | 6-Core Carmel ARM       |
| AI data                 | 2 x NVDLA Engines       |
| Memory RAM              | 8 GB LPDDR4x            |
| Memory Flash            | 16 GB eMMC 5.1          |

### Sensor information

|               |                    |
|---------------|--------------------|
| Sensor        | Sony IMX250 Gen2   |
| Mono/Color    | Color              |
| Sensor type   | 2/3" CMOS          |
| Shutter type  | Global shutter     |
| Resolution    | 2448 × 2048 px     |
| Pixel size    | 3.45 × 3.45 μm     |
| Exposure time | 0.001 ... 60000 ms |

### Data quality (EMVA 1288 typical)

|                       |   |
|-----------------------|---|
| Dark noise            | 2.08 e-   |
| Saturation capacity   | 9360 e-   |
| Dynamic range         | 70.6 dB   |
| Signal-to-noise ratio | 39.7 dB   |
| Quantum efficiency    | 45.9 % @ 465 nm<br>58.2 % @ 535 nm<br>53.8 % @ 630 nm |

### Acquisition formats

|   |   |
|---|---|
| Image formats, interface frame rate max.                | Full Frame, 2448 × 2048 px, max. 73 fps<br>Binning 2×2, 1224 × 1024 px, max. 76 fps<br>Binning 2×1, 1224 × 2048 px, max. 76 fps<br>Binning 1×2, 2448 × 1024 px, max. 76 fps |
| Image formats, acquisition frame rate max. (Burst Mode) | Full Frame, 2448 × 2048 px, max. 77 fps   |

### Acquisition formats

|               |  |
|---------------|--|
| Pixel formats | BayerRG8<br>BayerRG10<br>BayerRG12<br>BayerRG12 Packed<br>Mono8<br>Mono10<br>Mono12<br>Mono12 Packed<br>RGB8<br>BGR8 |
|---------------|--|

### Image preprocessing

|                  |   |
|------------------|---|
| Analog controls  | Gain (0 ... 48 dB)<br>Offset (0 ... 255 LSB 12 Bit)           |
| Color models     | Mono<br>Raw Bayer<br>RGB<br>BGR                               |
| Color processing | Integrated color processor for high quality color calculation |

### Camera features

|                         |  |
|-------------------------|--|
| Auto Functions          | Exposure Auto<br>Gain Auto<br>White Balance Auto<br>Color Transformation Auto  |
| Image Pre-processing    | Image Flipping (X/Y)<br>Color Processing (RGB, BGR, Mono)<br>Color Enhancement (with optimized ColorTransformationMatrix)<br>LUT / Gamma |
| Acquisition / Interface | Burst Mode<br>Adjustable Framerate<br>Short Exposure Time Enable<br>Device Link Throughput Limit<br>Internal Image Buffer                |

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## Technical data

### Camera features

|                         |  |
|-------------------------|--|
| Synchronization         | free running trigger   |
| Trigger sources         | Hardware<br>Software<br>ActionCommand  |
| Trigger delay           | 0 ... 2 sec, tracking and buffering of up to 256 trigger signals   |
| Process Synchronization | Events<br>Timer<br>Trigger Delay<br>Debouncer<br>Counter<br>Sequencer<br>Trigger via Action CMD (GigE)<br>Additional Output Modes (e.g. Trigger Ready)<br>PWM (PWM Duration / PWM Duty Cycle)<br>4 power outputs with up to 120 W (max. 48 V / 2.5 A)<br>Selectable Output format (e.g. Tri State, Push Pull)<br>Chunk data inside transferred image<br>Encoder support via Counter End trigger source |
| Additional Functions    | User Set<br>Integrated temperature sensor<br>Readable additional information (e.g. sensor information)<br>Save Custom Data   |
| Internal image buffer   | 445 MB<br>31 images (Trigger Mode)<br>1 image (Free Running Mode)  |

### Interfaces and connectors

|                |                          |
|----------------|--------------------------|
| Data interface | GigE<br>USB 3.0<br>RS232 |
|----------------|--------------------------|

### Interfaces and connectors

|                   |  |
|-------------------|--|
| Process interface | M12 / 12 pins a-coded (SACC-CI-M12MS-12CON-L180) |
| Power supply      | via M12/12 pins a-coded                          |

### Mechanical data

|            |                         |
|------------|-------------------------|
| Lens mount | C-mount                 |
| Width      | 70 mm                   |
| Height     | 70 mm                   |
| Depth      | 120 mm                  |
| Weight     | ≤ 650 g                 |
| Material   | aluminum, hard-anodized |

### Electrical data

|                   |                         |
|-------------------|-------------------------|
| Power consumption | Approx. 17.9 W @ 73 fps |
|-------------------|-------------------------|

### Environmental conditions

|                       |  |
|-----------------------|--|
| Operating temperature | 0 ... +60 ° @ T = measurement point  |
| Humidity              | 10 ... 90 % (non-condensing)   |
| Protection class      | IP 65 (with mounted tube and cable)<br>IP 67 (with mounted tube and cable) |

### Digital I/Os

|                     |   |
|---------------------|---|
| Lines               | 1 input line<br>4 power output lines with pulse width modulation (PWM) (max. 48 V / max. 2,5 A) |
| Output line sources | Off<br>Exposure Active<br>Timer1<br>Readout Active<br>User0<br>User1<br>User2<br>TriggerReady   |

### Conformity

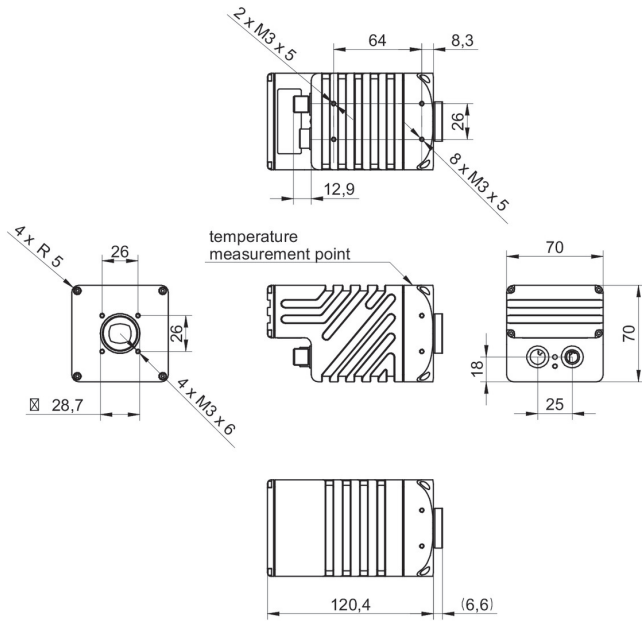
|            |            |
|------------|------------|
| Conformity | CE<br>RoHS |
|------------|------------|

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## Dimension drawing



## Principle

