

# VCXG-124C

Gigabit Ethernet, 12,3 Megapixel, Color

Article number: 11172609

## Overview

- 4096 x 3000 px
- Sony IMX304
- 1.1" CMOS
- 9 fps
- Gigabit Ethernet



GEN<i>i>CAM



## Technical data

### Sensor information

|               |                    |
|---------------|--------------------|
| Sensor        | Sony IMX304 Gen2   |
| Mono/Color    | Color              |
| Sensor type   | 1.1" CMOS          |
| Shutter type  | Global shutter     |
| Resolution    | 4096 × 3000 px     |
| Pixel size    | 3.45 × 3.45 μm     |
| Exposure time | 0.001 ... 60000 ms |

### Data quality (EMVA 1288 typical)

|                       |   |
|-----------------------|---|
| Dark noise            | 2.11 e-   |
| Saturation capacity   | 9191 e-   |
| Dynamic range         | 70.4 dB   |
| Signal-to-noise ratio | 39.6 dB   |
| Quantum efficiency    | 45.9 % @ 465 nm<br>58.2 % @ 536 nm<br>53.3 % @ 631 nm |

### Acquisition formats

|   |  |
|---|--|
| Image formats, interface frame rate max.                | Full Frame, 4096 × 3000 px, max. 9 fps<br>Binning 2×2, 2048 × 1500 px, max. 15 fps<br>Binning 2×1, 2048 × 3000 px, max. 15 fps<br>Binning 1×2, 4096 × 1500 px, max. 15 fps |
| Image formats, acquisition frame rate max. (Burst Mode) | Full Frame, 4096 × 3000 px, max. 15 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                            |

### Camera features

|                 |   |
|-----------------|---|
| Basic Functions | Exposure<br>Gain / Color Gain<br>Trigger / Exposure Active (Flash)<br>Binning 2x2<br>Partial Scan<br>Offset<br>Free Running Mode (Live Image) |
| Auto Functions  | Exposure Auto<br>Gain Auto<br>White Balance Auto<br>Color Transformation Auto   |

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### Camera features

|                         |   |
|-------------------------|---|
| 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   |
| 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>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   | 36 MB<br>1 image (Trigger Mode)<br>1 image (Free Running Mode)  |

### Interfaces and connectors

|                |   |
|----------------|---|
| Data interface | Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer Rate 100 Mbits/sec, Connector: 8P8C Modular Jack (RJ45), screwable type |
|----------------|---|

### Interfaces and connectors

|                   |  |
|-------------------|--|
| Process interface | M8 / 8 pins (SACC-DSI-M8MS-8CON-M8-L180)     |
| Power supply      | via M8 / 8 pins or Power over Ethernet (PoE) |

### Mechanical data

|            |   |
|------------|---|
| Lens mount | C-mount   |
| Width      | 29 mm   |
| Height     | 29 mm   |
| Depth      | 49 mm   |
| Weight     | ≤ 120 g   |
| Material   | zinc die casting, baked varnish (until 02-2020 nickel-chrome-plated), IP 40 |

### Electrical data

|                          |  |
|--------------------------|--|
| Voltage supply range +Vs | 12 ... 24 V DC (external power supply)<br>36 ... 57 V DC (Power over Ethernet) |
| Power consumption        | approx. 2,8 W @ 12 VDC and 9 fps<br>approx. 3,7 W @ 48 VDC (PoE) and 9 fps     |

### Non-volatile memory

|                   |        |
|-------------------|--------|
| Flash memory size | 128 kB |
|-------------------|--------|

### Environmental conditions

|                       |                                     |
|-----------------------|-------------------------------------|
| Operating temperature | 0 ... +65 ° @ T = measurement point |
| Humidity              | 10 ... 90 % (non-condensing)        |
| Protection class      | IP 40                               |

### Digital I/Os

|       |  |
|-------|--|
| Lines | 1 input line<br>1 output line<br>2 general purpose lines |
|-------|--|

### Conformity

|            |  |
|------------|--|
| Conformity | CE<br>RoHS<br>KC (MISP-REI-BkR-VCXG-124M)<br>EAC<br>BIS-CRS (R-41207004) |
|------------|--|

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## Dimension drawing

