

# VCXG.2-13M

Gigabit Ethernet, 1,3 Megapixel, Monochrome

Article number: 11708146

## Overview

- 1280 x 1024 px
- onsemi PYTHON1300
- 1/2" CMOS
- 94 fps
- Gigabit Ethernet



Picture similar



GEN<i>i>CAM



## Technical data

### Sensor information

|               |                   |
|---------------|-------------------|
| Sensor        | onsemi PYTHON1300 |
| Mono/Color    | Mono              |
| Sensor type   | 1/2" CMOS         |
| Shutter type  | Global shutter    |
| Resolution    | 1280 × 1024 px    |
| Pixel size    | 4.8 × 4.8 μm      |
| Exposure time | 0.02 ... 1000 ms  |

### Data quality (EMVA 1288 typical)

|                       |                                    |
|-----------------------|------------------------------------|
| Dark noise            | 19.6 e-                            |
| Saturation capacity   | 7248 e-                            |
| Dynamic range         | 51.1 dB                            |
| Signal-to-noise ratio | 38.6 dB                            |
| Quantum efficiency    | 52.2 % @ 535 nm<br>54.4 % @ 533 nm |

### Acquisition formats

|   |  |
|---|--|
| Image formats, interface frame rate max.                | Full Frame, 1280 × 1024 px, max. 94 fps<br>Binning 2×2, 640 × 512 px, max. 148 fps<br>Binning 2×1, 640 × 1024 px, max. 148 fps<br>Binning 1×2, 1280 × 512 px, max. 148 fps |
| Image formats, acquisition frame rate max. (Burst Mode) | Full Frame, 1280 × 1024 px, max. 146 fps   |
| Pixel formats   | Mono8<br>Mono10  |

### Image preprocessing

|                 |  |
|-----------------|--|
| Analog controls | Gain (0 ... 12 dB)<br>Offset (0 ... 63 LSB 10 Bit) |
|-----------------|--|

|              |      |
|--------------|------|
| Color models | Mono |
|--------------|------|

### Camera features

|                 |  |
|-----------------|--|
| Basic Functions | Exposure<br>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 |
|----------------|----------------------------|

|                      |                                     |
|----------------------|-------------------------------------|
| Image Pre-processing | Image Flipping (X/Y)<br>LUT / Gamma |
|----------------------|-------------------------------------|

|                         |   |
|-------------------------|---|
| Acquisition / Interface | Burst Mode<br>Adjustable Framerate<br>Device Link Throughput Limit<br>Internal Image Buffer |
|-------------------------|---|

|                 |                         |
|-----------------|-------------------------|
| Synchronization | free running<br>trigger |
|-----------------|-------------------------|

|                 |                                       |
|-----------------|---------------------------------------|
| Trigger sources | Hardware<br>Software<br>ActionCommand |
|-----------------|---------------------------------------|

|               |  |
|---------------|--|
| Trigger delay | 0 ... 2 s, tracking and buffering of up to 256 trigger signals |
|---------------|--|

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### Camera features

|                         |   |
|-------------------------|---|
| 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) |
|----------------------|--|

|                  |  |
|------------------|--|
| Calibration data | Camera calibration data (user defined storage for intrinsic / extrinsic camera parameters, and geometry distortion values)<br>Customer data storage (128 bytes user defined) |
|------------------|--|

|                       |  |
|-----------------------|--|
| Internal image buffer | 60 MB<br>16 images (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 TYPE090 (according to GigE Vision Mechanical Supplement) |
|----------------|---|

|                   |  |
|-------------------|--|
| Process interface | M8 / 8 pins (SACC-DSI-M8MS-8CON-M8-L180) |
|-------------------|--|

### Interfaces and connectors

|              |  |
|--------------|--|
| 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 |

### Electrical data

|                          |  |
|--------------------------|--|
| Voltage supply range +Vs | 12 ... 24 V DC (external power supply)<br>36 ... 57 V DC (Power over Ethernet) |
| Power consumption        | Approx. 3.0 W @ 12 VDC and 94 fps<br>Approx. 3.7 W @ 48 VDC (PoE) and 94 fps   |

### Non-volatile memory

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

### Environmental conditions

|                       |                                     |
|-----------------------|-------------------------------------|
| Operating temperature | 0 ... +65 ° @ T = measurement point |
| Storage temperature   | -20 ... +70 °C                      |
| Humidity              | 10 ... 90 % (non-condensing)        |
| Protection class      | IP 40 (with mounted lens and cable) |

### Digital I/Os

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

### Conformity

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

## Dimension drawing

