Baumer
Passion for Sensors

Industrial cameras / CX series

# VCXG-13M.I.XT

Gigabit Ethernet, 1,3 Megapixel, Monochrome

Article number: 11188957

## Overview

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


*Picture similar*

## 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 | 9.92 e- |
| Saturation capacity | 7619 e- |
| Dynamic range | 57 dB |
| Signal-to-noise ratio | 38.8 dB |
| Quantum efficiency | 54.6 % @ 536 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, aquisition frame rate max. (Burst Mode) | Full Frame, 1280 × 1024 px, max. 146 fps |
| Pixel formats | Mono8<br>Mono10 |
| **Image preprocessing** | |
| Analog controls | Gain (0 … 18 dB)<br>Offset (0 … 63 LSB 10 Bit) |

| | |
|---|---|
| **Image preprocessing** | |
| 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>Short Exposure Time Enable<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 sec, 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>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 | 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: M12 / 8 pol x-coded, screwable type |
| Process interface | M12 / 12 pins a-coded (SACC-CI-M12MS-12CON-L180) |
| Power supply | via M12/12 pins a-coded or Power over Ethernet (PoE) |

| Mechanical data | |
|---|---|
| Lens mount | C-mount |
| Width | 40 mm |
| Height | 40 mm |
| Depth | 50.8 mm |
| Weight | ≤ 137 g |
| Material | aluminum, hard-anodized |
| **Electrical data** | |
| Voltage supply range +Vs | 12 … 24 V DC (external power supply)<br>36 … 57 V DC (Power over Ethernet) |
| Power consumption | Approx. 2.4 W @ 12 VDC and 94 fps<br>Approx. 3.1 W @ 48 VDC (PoE) and 94 fps |
| **Non-volatile memory** | |
| Flash memory size | 128 kB |
| **Environmental conditions** | |
| Operating temperature | -40 ... +70 °C @ T = measurement point |
| Humidity | 10 … 90 % (non-condensing) |
| Protection class | IP 40<br>IP 54 (with mounted tube and cable)<br>IP 65 (with mounted tube and cable)<br>IP 67 (with mounted tube and cable)<br>IP 69K (with stainless steel housing accessory) |
| **Digital I/Os** | |
| Lines | 4 input lines<br>4 power output lines with pulse width modulation (PWM) (max. 48 V / max. 2,5 A) |
| **Conformity** | |
| Conformity | CE<br>RoHS<br>EAC |

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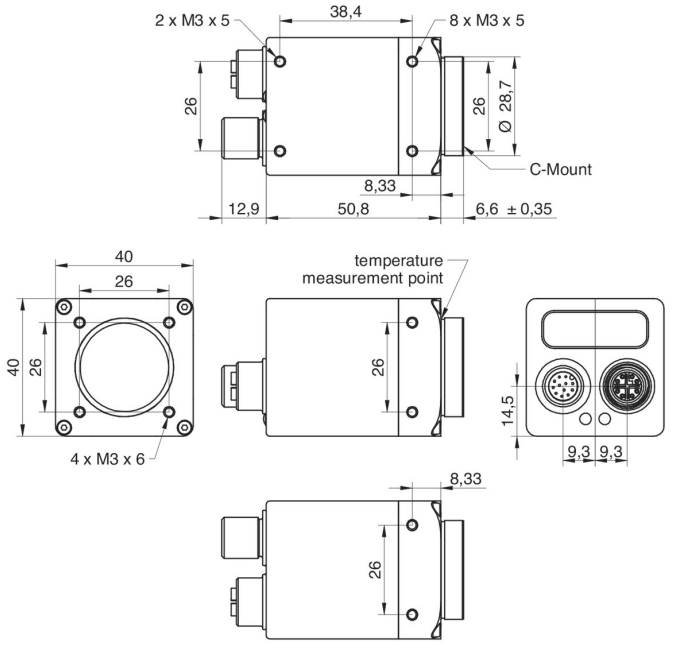
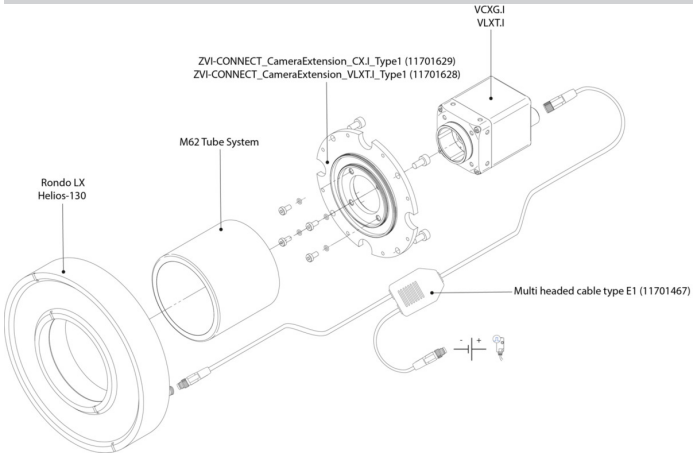
## Dimension drawing

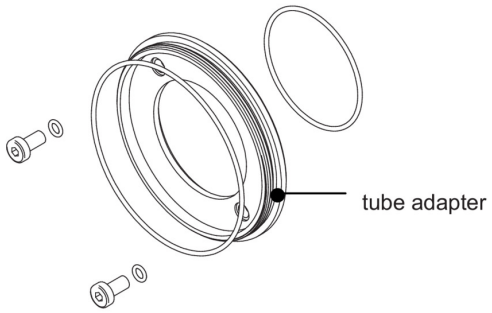



## Principle



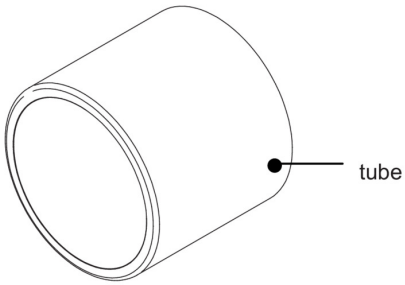

## Principle

Optional accessories for protection class IP 65/67:




tube adapter

- hard-anodized, incl. sealing and screws
  Ø 49,5 mm (VCXG.I 11185373)
  Ø 65 mm (VCXG.I 11185377)
  Ø 95 mm (VCXG.I 11704311)
  Ø 65 mm (VLXT 11193125)
  Ø 95 mm (VLXT.EF 11704315)




tube

- hard-anodized, cover glass PMMA
  Ø 49,5 mm, Length 44 mm (11185370)
  Ø 65 mm, Length 58 mm (11185374)
  Ø 95 mm, length 70 mm (11704312)

- hard-anodized, tempered laminated safety glass
  Ø 49,5 mm, Length 44 mm (11701124)
  Ø 65 mm, Length 58 mm (11701125)

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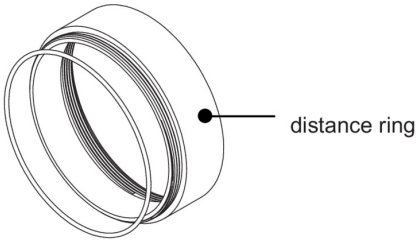


distance ring

- hard-anodized, incl. sealing
  Ø 49,5 mm, Length 6 mm (11185372)
  Ø 49,5 mm, Length 12 mm (11185371)
  Ø 49,5 mm, Length 36 mm (11211571)

  Ø 65 mm, Length 6 mm (11185376)
  Ø 65 mm, Length 12 mm (11185375)
  Ø 65 mm, Length 36 mm (111988906)

  Ø 95 mm, length 6 mm (11704395)
  Ø 95 mm, length 12 mm (11704397)
  Ø 95 mm, length 36 mm (11704394)