

## VLXT-126C.I

Gigabit Ethernet, 12,2 Megapixel, Color

Article number: 11702304

### Overview

- 4096 × 2992 px
- Sony IMX535
- 1/1.1" CMOS
- 100 fps
- 10 GigE



GEN<i>i>CAM



### Technical data

#### Sensor information

|               |                    |
|---------------|--------------------|
| Sensor        | Sony IMX535 Gen4   |
| Mono/Color    | Color              |
| Sensor type   | 1/1.1" CMOS        |
| Shutter type  | Global shutter     |
| Resolution    | 4096 × 2992 px     |
| Pixel size    | 2.74 × 2.74 µm     |
| Exposure time | 0.001 ... 60000 ms |

#### Data quality (EMVA 1288 typical)

|                       |   |
|-----------------------|---|
| Dark noise            | 2.41 e-   |
| Saturation capacity   | 9155 e-   |
| Dynamic range         | 69.5 dB   |
| Signal-to-noise ratio | 39.6 dB   |
| Quantum efficiency    | 42.1 % @ 465 nm<br>48.2 % @ 535 nm<br>38.2 % @ 630 nm<br>42 % @ 467 nm<br>49 % @ 533 nm |

#### Acquisition formats

|  |  |
|--|--|
| Image formats, interface frame rate max.               | Full Frame, 4096 × 2992 px, max. 100 fps<br>Binning 2×2, 2048 × 1496 px, max. 119 fps<br>Binning 1×2, 4096 × 1496 px, max. 119 fps |
| Image formats, aquisition frame rate max. (Burst Mode) | Full Frame, 4096 × 2992 px, max. 119 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                     |

#### 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)<br>Multi ROI |
| 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>Advanced 5x5 Color Processing (RGB, BGR, Mono)<br>Color Enhancement (with optimized ColorTransformationMatrix)<br>LUT / Gamma<br>Shading Correction<br>Edge Sharpening<br>Noise Reduction   |
| 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   |
| Process Synchronization        | Events<br>Timer<br>Trigger Delay<br>Debouncer<br>Counter<br>Sequencer<br>Trigger via Action CMD (GigE)<br>Action CMD Request ID<br>Trigger ID inside Chunk<br>Additional Output Modes (e.g. Trigger Ready)<br>PWM (PWM Duration / PWM Duty Cycle)<br>Selectable Output format (e.g. Tri State, Push Pull)<br>Chunk data inside transferred image<br>Encoder support via Counter End trigger source<br>4 power outputs with up to 120 W (max. 48 V / 2.5 A) |
| Time synchronization IEEE 1588 | IEEE 1588 / Master and Slave function<br>IEEE 1588 / Scheduled Action CMD<br>IEEE 1588 / Synchronized Acquisition Framerate  |
| Additional Functions           | User Set<br>Integrated temperature sensor<br>Readable additional information (e.g. sensor information)<br>Save Custom Data   |
| Lens control                   | Corning liquid lens  |
| Sequencer                      | Automated control for series of images using different sets of parameters  |
| Sequencer parameter            | Exposure time<br>gain factor<br>Output<br>ROI Offset x<br>ROI Offset y   |

### Camera features

|                       |  |
|-----------------------|--|
| Internal image buffer | 1024 MB<br>84 images (Trigger Mode)<br>1 image (Free Running Mode) |
|-----------------------|--|

### Interfaces and connectors

|                   |  |
|-------------------|--|
| Data interface    | 10 Gigabit Ethernet, Transfer rate 10000 Mbits/sec, Gigabit Ethernet, Transfer rate 1000 Mbits/sec, Fast Ethernet, Transfer rate 100 Mbits/sec, Connector: M12 / 8-pol x-coded (SACC-CI-M12FS-8CON-L180-10G) |
| 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      | 60 mm                   |
| Height     | 60 mm                   |
| Depth      | 99.7 mm                 |
| Weight     | ≤ 485 g                 |
| Material   | aluminum, hard-anodized |

### Electrical data

|                          |  |
|--------------------------|--|
| Voltage supply range +Vs | 19.2 ... 28.8 V DC (external power supply) |
| Power consumption        | approx. 12.6 W @ 24 VDC and 100 fps        |

### Non-volatile memory

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

### Environmental conditions

|                       |  |
|-----------------------|--|
| Operating temperature | 0 ... +60 ° @ 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) |

### Digital I/Os

|                     |   |
|---------------------|---|
| Lines               | 2 input lines<br>4 power output lines with pulse width modulation (PWM) (max. 48 V / max. 2,5 A)<br>RS232 |
| Output line sources | Off<br>Exposure Active<br>Timer1<br>Readout Active<br>User0<br>User1<br>User2<br>TriggerReady             |

### Conformity

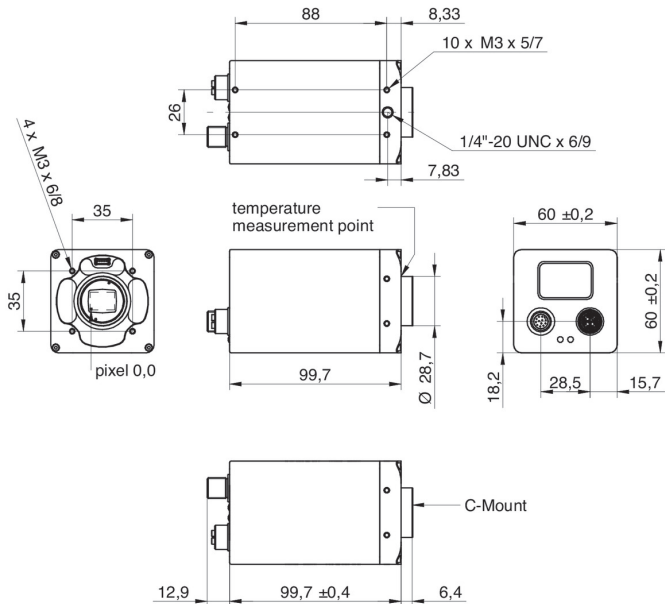
|            |                             |
|------------|-----------------------------|
| Conformity | CE<br>RoHS<br>UL recognized |
|------------|-----------------------------|

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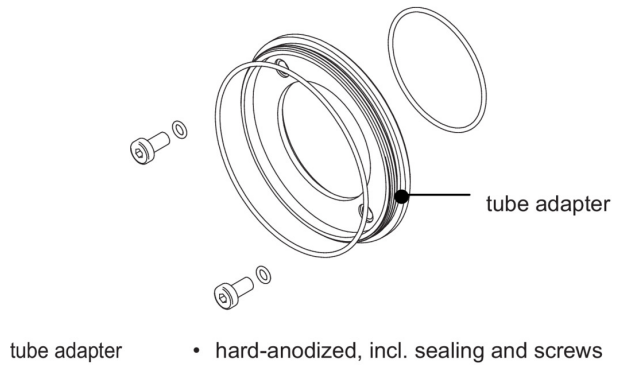
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### Dimension drawing

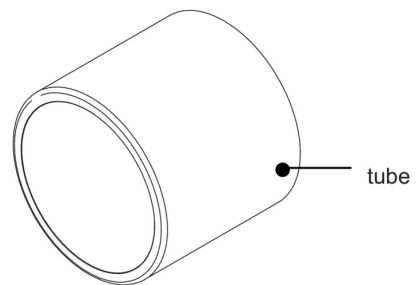


### Principle

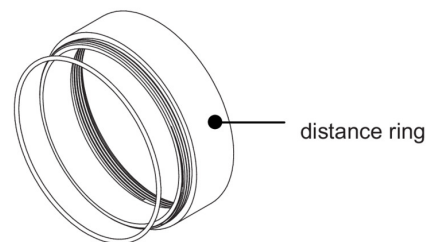
Optional accessories for protection class IP 65/67:



- hard-anodized, incl. sealing and screws  
Ø 49.5 mm (VCXG.I 11185373)  
Ø 65 mm (VCXG.I 11185377)  
Ø 65 mm (VLXT 11193125)



- hard-anodized, cover glass PMMA  
Ø 49.5 mm, length 44 mm (11185370)  
Ø 65 mm, length 58 mm (11185374)
- hard-anodized, tempered laminated safety glass  
Ø 49.5 mm, length 44 mm (11701124)  
Ø 65 mm, length 58 mm (11701125)



- 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)
- hard-anodized, incl. sealing  
Ø 65 mm, length 6 mm (11185376)  
Ø 65 mm, length 12 mm (11185375)  
Ø 65 mm, length 36 mm (111988906)