

VLXT-71C.I

Gigabit Ethernet, 7,0 Megapixel, Color

Article number: 11700337

Overview

- 3200 × 2200 px
- Sony IMX420
- 1.1" CMOS
- 174 fps
- 10 GigE



GEN*i*CAM



Technical data

Sensor information

| | |
|---------------|--------------------|
| Sensor | Sony IMX420 Gen3 |
| Mono/Color | Color |
| Sensor type | 1.1" CMOS |
| Shutter type | Global shutter |
| Resolution | 3200 × 2200 px |
| Pixel size | 4.5 × 4.5 µm |
| Exposure time | 0.001 ... 60000 ms |

Data quality (EMVA 1288 typical)

| | |
|-----------------------|---|
| Dark noise | 5.64 e- |
| Saturation capacity | 24609 e- |
| Dynamic range | 71.6 dB |
| Signal-to-noise ratio | 43.9 dB |
| Quantum efficiency | 52.5 % @ 465 nm 63.6 % @ 536 nm 60.4 % @ 631 nm |

Acquisition formats

| | |
|--|---|
| Image formats, interface frame rate max. | Full Frame, 3200 × 2200 px, max. 174 fps Binning 2×2, 1600 × 1100 px, max. 208 fps Binning 2×1, 1600 × 2200 px, max. 208 fps Binning 1×2, 3200 × 1100 px, max. 208 fps |
|--|---|

| | |
|---|--|
| Image formats, acquisition frame rate max. (Burst Mode) | Full Frame, 3200 × 2200 px, max. 209 fps |
|---|--|

Acquisition formats

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

Image preprocessing

| | |
|-----------------|---|
| Analog controls | Gain (0 ... 48 dB) Offset (0 ... 255 LSB 12 Bit) |
| Color models | Mono Raw Bayer RGB BGR |

Camera features

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

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Camera features

| | |
|--------------------------------|--|
| Image Pre-processing | Image Flipping (X/Y) Color Processing (RGB, BGR, Mono) Advanced 5x5 Color Processing (RGB, BGR, Mono) Color Enhancement (with optimized ColorTransformationMatrix) LUT / Gamma Shading Correction Edge Sharpening Noise Reduction |
| Acquisition / Interface | Burst Mode Adjustable Framerate Short Exposure Time Enable Device Link Throughput Limit Internal Image Buffer |
| Synchronization | free running trigger |
| Trigger sources | Hardware Software ActionCommand |
| Trigger delay | 0 ... 2 sec, tracking and buffering of up to 256 trigger signals |
| Process Synchronization | Events Timer Trigger Delay Debouncer Counter Sequencer Trigger via Action CMD (GigE) Action CMD Request ID Trigger ID inside Chunk Additional Output Modes (e.g. Trigger Ready) PWM (PWM Duration / PWM Duty Cycle) Selectable Output format (e.g. Tri State, Push Pull) Chunk data inside transferred image Encoder support via Counter End trigger source 4 power outputs with up to 120 W (max. 48 V / 2.5 A) |
| Time synchronization IEEE 1588 | IEEE 1588 / Master and Slave function IEEE 1588 / Scheduled Action CMD IEEE 1588 / Synchronized Acquisition Framerate |
| Additional Functions | User Set Integrated temperature sensor Readable additional information (e.g. sensor information) Save Custom Data |
| Lens control | Corning liquid lens |
| Sequencer | Automated control for series of images using different sets of parameters |

Camera features

| | |
|-----------------------|---|
| Sequencer parameter | Exposure time gain factor output line ROI Offset x ROI Offset y |
| Internal image buffer | 1024 MB 78 images (Trigger Mode) 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 |

Electrical data

| | |
|--------------------------|--|
| Voltage supply range +Vs | 19.2 ... 28.8 V DC (external power supply) |
| Power consumption | approx. 12.3 W @ 24 VDC and 174 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 IP 54 (with mounted tube and cable) IP 65 (with mounted tube and cable) IP 67 (with mounted tube and cable) |

Digital I/Os

| | |
|-------|---|
| Lines | 2 input lines 4 power output lines with pulse width modulation (PWM) (max. 48 V / max. 2.5 A) RS232 |
|-------|---|

Conformity

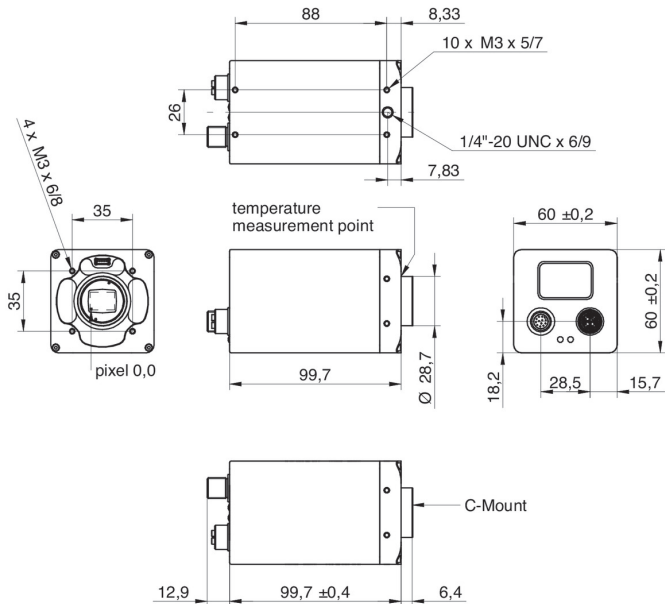
| | |
|------------|--|
| Conformity | CE RoHS EAC KC (R-R-BkR-VLXT-71MI) UL recognized |
|------------|--|

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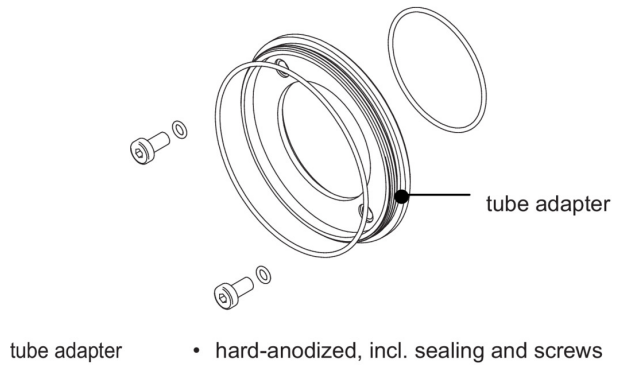
Article number: 11700337

Dimension drawing



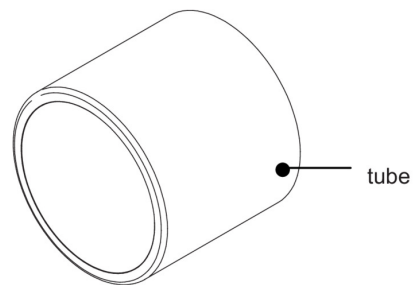
Principle

Optional accessories for protection class IP 65/67:



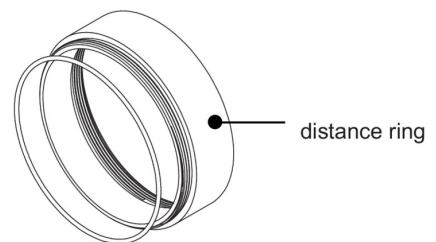
tube adapter

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



tube

- 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)



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)
- 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)