

MV3-D640I-M01-144-CL

The camera series MV3-D640I-CL is based on the Sofradir SNAKE InGaAs image sensors with CMOS read out

Features

- Sofradir SNAKE InGaAs image sensor
- 640 x 512 pixel resolution
- Very good SWIR spectral response
- Exceptional SNR up to 1200: 1
- Up to 300fps @ full resolution
- Global shutter
- Available in monochrome SWIR
- Extended sensor and camera features
- Reduction of ROI in x- and y-direction increases frame rate
- 256 MROI for hyperspectral imaging
- Up to 12 bit greyscale resolution
- 16 bit in 1 tap output mode
- CameraLink® interface



Quantum Efficiency Image Sensor

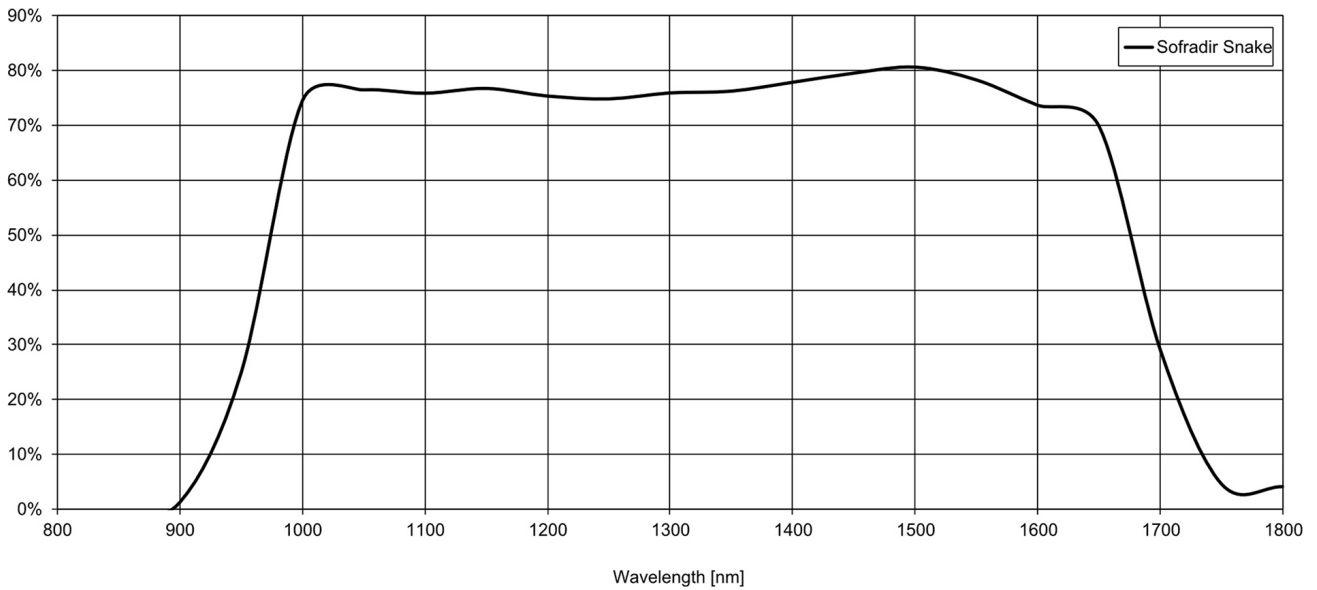


Image Sensor Specifications

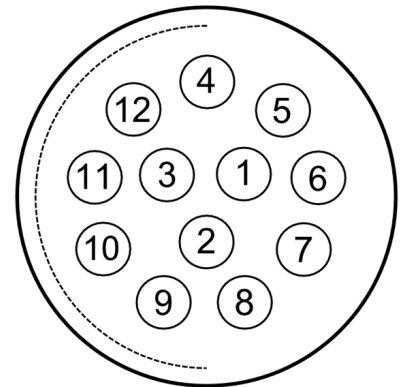
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|--------------------------|-----------------------------------|---|
| Manufacturer / Type | Sofradir / SNAKE | |
| Technology | InGaAs with CMOS read out circuit | |
| Optical format | 1" | |
| Optical diagonal | 12.3mm | |
| Resolution | 640 x 512 | |
| Pixel size | 15µm x 15µm | |
| Active optical area | 9.60mm x 7.68mm | |
| Dark current | TBD | |
| Read out noise | 30e ⁻ | |
| Full well capacity / SNR | 1.44Me ⁻ / 1200: 1 | |
| Spectral range | SWIR: | < 930 to 1700nm (to 10% of peak responsivity) |
| Responsivity | SWIR: | TBD DN / (J/m ²) @ 1550nm / 8bit |
| Quantum Efficiency | SWIR | > 70% from 1000 to 1600nm |
| Optical fill factor | > 95% | |
| Dynamic range | 60dB in linear mode | |
| Characteristic curve | Linear | |
| Shutter mode | Global shutter | |

Camera Specifications

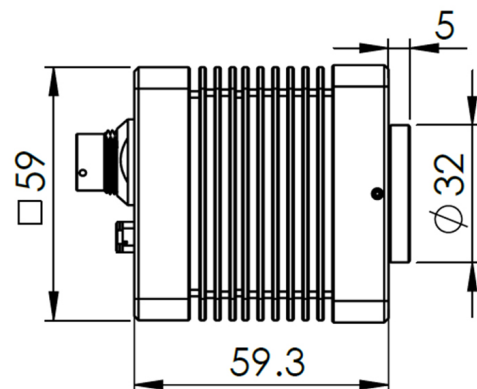
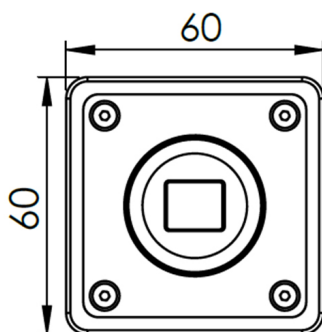
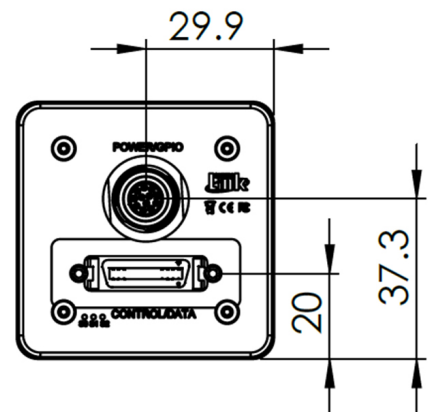
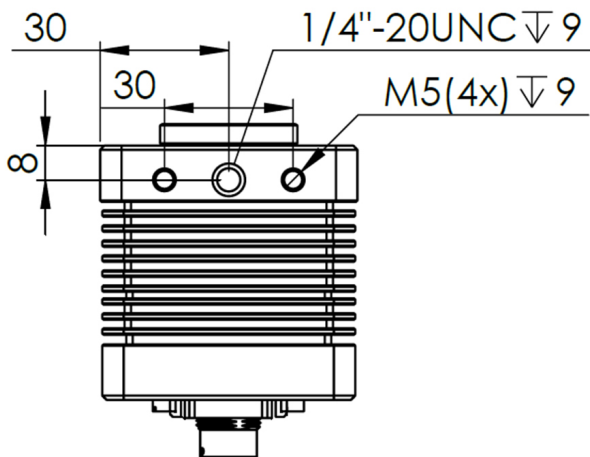
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|----------------------------------|--|
| Interface | Camera Link |
| Frame rate | 300fps |
| Pixel clock | 72MHz |
| Camera taps | 2 |
| Greyscale resolution | 8Bit / 10Bit / 12Bit / 16Bit single tap in binning mode |
| Fixed pattern noise (FPN) | < 1DN RMS @ 8bit |
| Exposure time range | 11µs - 460ms |
| Analog gain | n/a |
| Digital gain | 0.1 to 15.99 (FineGain) |
| Trigger Modes | Free running (non triggered), external Trigger, SWTrigger |
| Features | Configurable region of interest (ROI), Up to 256 regions of interest (MROI), Image correction, 2 look-up tables (12-to-8Bit) on user-defined image region (Region-LUT), Constant frame rate independent of exposure time, Crosshairs overlay on the image, Temperature stabilisation with Peltier cooler (TEC), Temperature monitoring of sensor and camera, Camera informations readable over SDK, Low trigger delay and low trigger jitter, Extended trigger input and strobe output functionality, Status line in picture |
| Operation temperature / moisture | 0°C ... + 50°C / 20% ... 80% |
| Storage temperature / moisture | -25°C ... 60°C / 20% ... 95% |
| Power supply | +12VDC (-10%) ... +12VDC (+10%) |
| Power consumption | < 4.5W without TEC |
| Lens mount | C-Mount (CS-Mount optional) |
| I/O Inputs | 2x Opto-isolated |
| I/O Outputs | 2x Opto-isolated |
| Dimensions | 60 x 60 x 60.8mm ³ |
| Mass | 265g |
| Connector I/O (Power) | Fischer S1031Z012-130 |
| Connector Interface | CameraLink Base (MDR26) |
| Conformity | CE / RoHS / WEEE |
| IP Code | IP40 |

Connectors

| Pin | I/O Type | Name | Description |
|-----|----------|----------|--|
| 1 | O | ISO_OUT0 | General purpose output 0 (opto-isolated) |
| 2 | O | ISO_OUT1 | General purpose output 1 (opto-isolated) |
| 3 | O | RESERVED | Do not connect |
| 4 | PWR | GND | Camera ground |
| 5 | PWR | VDD | Camera power +12 V DC ($\pm 10\%$) |
| 6 | PWR | ISO_GND | Signal ground for opto-isolated output signals |
| 7 | I | ISO_IN0 | General purpose input 0 (opto-isolated) |
| 8 | I | ISO_IN1 | General purpose input 1 (opto-isolated) |
| 9 | O | RESERVED | Do not connect |
| 10 | O | RESERVED | Do not connect |
| 11 | O | RESERVED | Do not connect |
| 12 | O | RESERVED | Do not connect |



Dimensions



Explanation

| | |
|----------------|-------------------------------|
| DN | DigitalNumber (equals to LSB) |
| e ⁻ | Electrons |

Order Information

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|-------------------------|------------|
| MV3-D640I-M01-144-CL-12 | SWIR model |
|-------------------------|------------|

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