# MV1-D2048x1088-240-CL

The camera series MV1-D2048x1088(I/C)-240-CL is based on the CMOSIS CMV2000 CMOS image sensor

## Features

- CMOSIS CMV2000 CMOS image sensor
- 2046 x 1088 pixel resolution
- Good NIR spectral response
- Suitable for standard and low light applications
- Up to 85fps @ full resolution
- Global shutter
- Available in monochrome, NIR and color
- Extended sensor and camera features
- Boardlevel and OEM solution available
- CameraLink® interface

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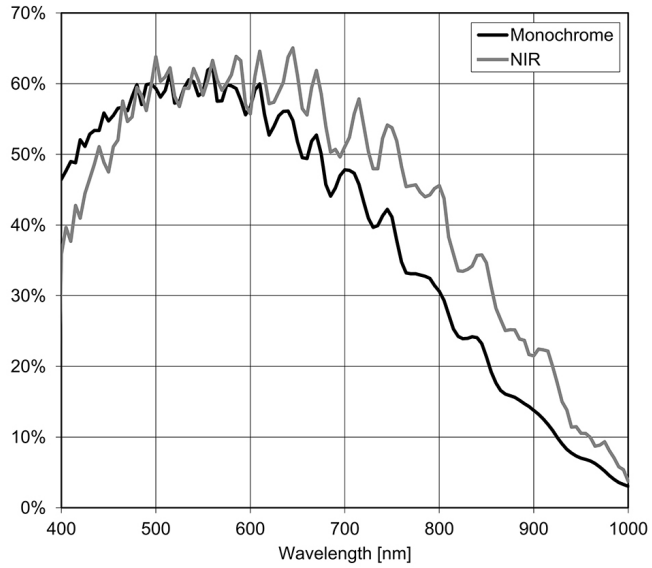
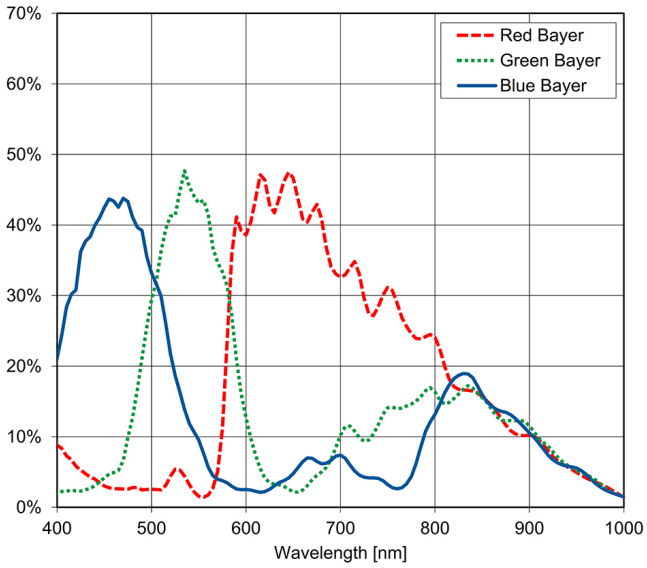
## Quantum Efficiency Image Sensor




## Image Sensor Specifications

| | |
|---|---|
| Manufacturer / Type | CMOSIS, CMV2000 |
| Technology | CMOS |
| Optical format | 2/3" |
| Optical diagonal | 12.75mm |
| Resolution | 2046 x 1088 |
| Pixel size | 5.5µm x 5.5µm |
| Active optical area | 11.26mm x 5.98mm |
| Dark current | 125e-/s |
| Read out noise | 13e- |
| Full well capacity / SNR | 11ke- / 105:1 |
| Spectral range | Monochrome: 350 to 950nm (to 10% of peak responsivity)<br>NIR: 350 to 1000nm (to 10% of peak responsivity)<br>Color: 380 to 670nm (to 10% of peak responsivity) |
| Responsivity | Monochrome: 1100 x $10^3$ DN / (J/m²) @ 520nm / 8bit<br>NIR: 900 x $10^3$ DN / (J/m²) @ 850nm / 8bit<br>Color: 857 x $10^3$ DN / (J/m²) @ 540nm / 8bit |
| Quantum Efficiency | Monochrome: < 60%<br>NIR: < 60%<br>Color: < 45% |
| Optical fill factor | 42% without micro lenses |
| Dynamic range | 60dB |
| Characteristic curve | Linear, Piecewise linear |
| Shutter mode | Global shutter |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## Camera Specifications

| | |
|---|---|
| Interface | Camera Link |
| Frame rate | 85fps |
| Pixel clock | 80MHz |
| Camera taps | 3 |
| Greyscale resolution | 8Bit |
| Fixed pattern noise (FPN) | < 1DN RMS @ 8Bit |
| Exposure time range | 13µs - 349ms |
| Analog gain | yes |
| 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 8 regions of interest (MROI), Decimation in y-direction, 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 monitoring of camera, Camera informations readable over SDK, Ultra 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 | < 4.2W |
| Lens mount | C-Mount (CS-Mount optional) |
| I/O Inputs | 1x Opto-isolated |
| I/O Outputs | 1x Opto-isolated |
| Dimensions | 55 x 55 x 42mm³ |
| Mass | 230g |
| Connector I/O (Power) | Binder 7-pole (mating plug 99-0421-00-07) |
| Connector Interface | CameraLink Base (MDR) |
| Conformity | CE / RoHS / WEEE |
| IP Code | IP40 |


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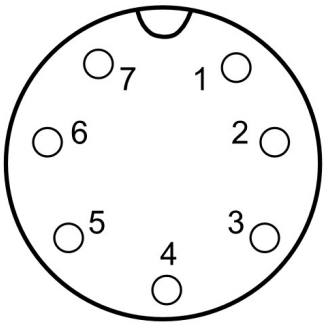
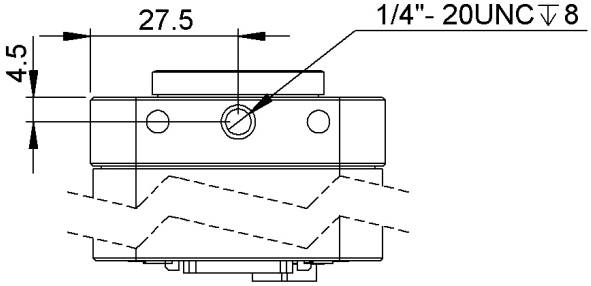
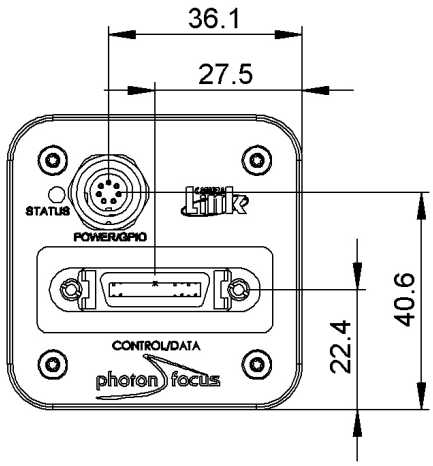
## Connectors

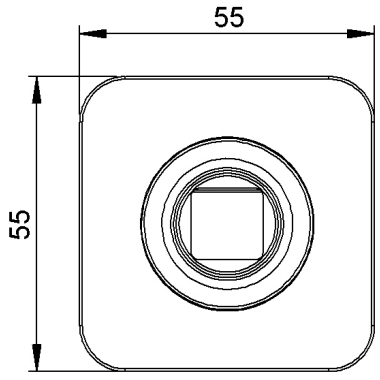
| Pin | I/O Type | Name | Description |
|---|---|---|---|
| 1 | PWR | CAMERA_PWR | Camera Power 12VDC |
| 2 | PWR | CAMERA_GND | Camera GND 0V |
| 3 | O | RESERVED | Do not connect |
| 4 | PWR | STROBE-VDD | +5 ... +15 VDC |
| 5 | O | STROBE | Strobe control (opto-isolated) |
| 6 | I | TRIGGER | External trigger (opto-isolated), +5 .. +15VDC |
| 7 | PWR | GROUND | Signal ground (for opto-isolated strobe signal) |

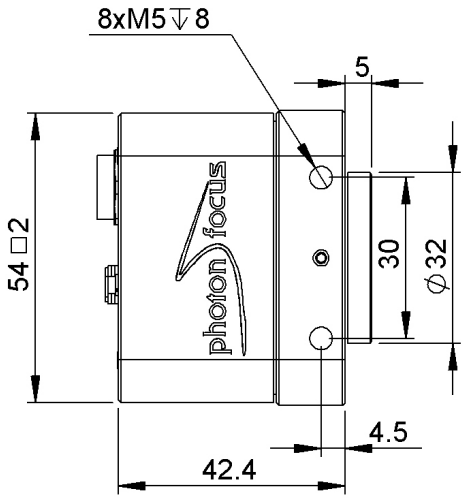



## Dimensions





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## Explanation

DN DigitalNumber (equals to LSB)

$e^-$ Electrons

## Order Information

| | |
|---|---|
| MV1-D2048x1088-240-CL-8 | BW model |
| MV1-D2048x1088I-240-CL-8 | NIR model |
| MV1-D2048x1088C-240-CL-8 | Color imager model |

## Compatibility

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