

CMOS Camera

MV1-D1312 SERIES

1.4 Megapixel resolution with Photonfocus sensor

Features

- Photonfocus A1312 CMOS image sensor
- 1312 x 1082 pixel resolution
- Good NIR spectral response
- Exceptional SNR up to 300:1
- Dynamic range up to 120 dB via LinLog®
- Up to 170 fps @ full resolution
- Global shutter
- Monochrome
- Extended features
- CameraLink® and GigE interface
- 12 bit greyscale resolution
- Boardlevel or OEM solution available



LinLog® GIG E VISION GEN i> CAM

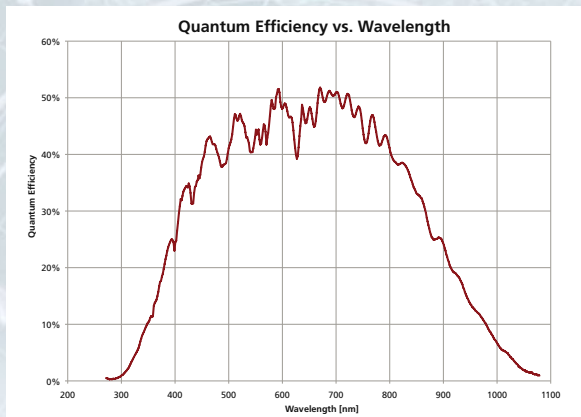


LinLog® CAMERA Link

Compatible with



Spectral response of the Photonfocus A1312 CMOS image sensor



| | | | |
|--|--|--|--------------------|
| MV1-D1312-40-CL-12 MV1-D1312-40-GB-12 | MV1-D1312-80-CL-12 MV1-D1312-80-GB-12 | MV1-D1312-160-CL-12 MV1-D1312-100-GB-12 | MV1-D1312-240-CL-8 |
|--|--|--|--------------------|

| Image Sensor | |
|---------------------------|--|
| Image sensor | Photonfocus A1312 (3. Generation) |
| Technology | CMOS active pixel (APS) |
| Scanning system | Progressive scan |
| Optical format / diagonal | 1" (13.6 mm diagonal) maximum resolution 2/3" (11.6 mm diagonal) 1024 x 1024 resolution |
| Resolution | 1312 x 1082 pixels |
| Pixel size | 8 µm x 8 µm |
| Active optical area | 10.48 mm x 8.64 mm (maximum) |
| Dark current | 0.65 fA/pixel |
| Full well capacity / SNR | ~90 ke / 300:1 |
| Spectral range | < 370 to 1000 nm (to 10% of peak responsivity) |
| Responsivity | 210 x 10 ³ DN / (J/m ²) @ 625 nm / 8 bit / gain = 1 (approximately 620 DN / (lux s) @ 625 nm / 8 bit / gain = 1) |
| Quantum Efficiency | > 50% |
| Optical fill factor | > 60% |
| Dynamic range | 60 dB in linear mode; 120 dB with LinLog® |
| Colour format | Monochrome |
| Characteristic curve | Linear, LinLog® |
| Shutter mode | Global shutter |
| Read out mode | Sequential read out or simultaneous read out (read out during exposure only in linear mode) for higher frame rates |

| Camera | | | |
|---------------------------|--|--------------------------------|--|
| Exposure time | 10 µs ... 1.68 s / 100 ns steps | 10 µs ... 0.83 s / 50 ns steps | 10 µs ... 0.67 s / 40 ns steps (GigE) / 10 µs ... 0.41 s / 25 ns steps (CL) / 10 µs ... 0.279 s / 16.67 ns steps |
| Frame rate | 27 fps | 55 fps | 68 fps (GigE) / 108 fps (CL) / 170 fps |
| Pixel clock | 40 MHz | | 50 MHz (GigE) / 80 MHz (CL) |
| Camera taps | 1 | 1 (GigE) / 2 (CL) | 3 |
| Greyscale resolution | 8 bit / 10 bit / 12 bit | | 8 bit |
| Fixed pattern noise (FPN) | < 1 DN @ 8 bit / correction ON | | |
| Analogue gain | 1 | | |
| Digital gain | 0.1 to 15.99 (Fine Gain) ⁽¹⁾ | | |
| Configuration interface | CL SERIAL (Baudrate user selectable) (CL); Gigabit Ethernet (GigE) | | |
| Trigger modes | <ul style="list-style-type: none"> Free running (non triggered) Interface trigger External trigger input Software trigger | | |
| Features | <ul style="list-style-type: none"> Region of Interest (ROI) 512 Multiple ROI (MROI) Decimation Y Image correction 2 Look-up tables (LUT) Constant frame rate Crosshair Convolver 3x3 Temperature Image information Extended trigger input and strobe output functionality | | |
| Interface | CameraLink® Base or GigE | | |
| Operating temperature | 0°C ... +50°C | | |
| Power supply | +12 V DC (±10%) (CL) / +12 V ... +24 V DC (±10%) (GigE) | | |
| Power consumption | 2.5 W (CL) / < 4.5 W (GigE) < 3.0 W (CL) / < 5.0 W (GigE) < 3.3 W (CL) / < 5.2 W (GigE) < 5.2 W | | |
| Lens mount | C-Mount (CS-Mount optional) | | |
| Dimensions (H x W x L) | 60 x 60 x 45 mm ³ (CL) / 60 x 60 x 51 mm ³ (GigE) | | |
| Mass | 265 g (CL) / 310 g (GigE) | | |
| Conformity | CE / RoHS / WEEE | | |
| Specials | Adjustable backfocus; Opto-isolated I/Os; Dual RS-422 Inputs (GigE) | | |

| Software | |
|----------------|---|
| Camera control | PFRremote™ graphical user interface (GUI) and PFLib (SDK); GigE: graphical user interface GEV Player and SDK; All 3rd party tools providing full support for GigE Vision and GenCam |
| OS | Windows and Linux (32 & 64 Bit); other OS (QNX, etc) on request |

⁽¹⁾ Some models may support only digital gain 1/2/4/8

All information provided in this flyer is believed to be accurate and reliable. No responsibility is assumed by Photonfocus AG for its use. Photonfocus AG reserves the right to make changes to this information without notice. Reproduction of this flyer in whole or in part, by any means, is prohibited without prior permission having been obtained from Photonfocus AG.