

CMOS Camera

DS1-D1024 SERIES

1 Megapixel resolution with proprietary Photonfocus sensor

Features

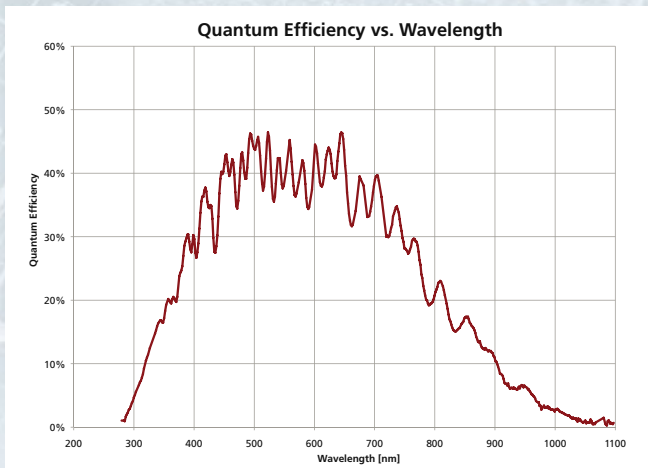
- Photonfocus A1024B CMOS image sensor
- 1024 x 1024 pixel resolution
- Dynamic range up to 60 dB
- Up to 150 fps @ full resolution
- Global shutter
- Monochrome
- Standard features
- CameraLink®, PoCL and USB 2.0 interface
- 10 bit greyscale resolution



Compatible with



Spectral response of the Photonfocus A1024B CMOS image sensor





| | | |
|--|--|--|
| DS1-D1024-40-CL-10 DS1-D1024-40-PC-10 DS1-D1024-40-U2-10 | DS1-D1024-80-CL-10 DS1-D1024-80-PC-10 | DS1-D1024-160-CL-10 DS1-D1024-160-PC-10 |
|--|--|--|

| Image Sensor | |
|---------------------------|--|
| Image sensor | Photonfocus A1024B (2. Generation) |
| Technology | CMOS active pixel (APS) |
| Scanning system | Progressive scan |
| Optical format / diagonal | 1" (15.42 mm diagonal) |
| Resolution | 1024 x 1024 pixels |
| Pixel size | 10.6 µm x 10.6 µm |
| Active optical area | 10.9 mm x 10.9 mm (maximum) |
| Dark current | 2 fA/pixel @ 30°C |
| Full well capacity | ~200 ke ⁻ |
| Spectral range | < 400 to 900 nm |
| Responsivity | 120 x 10 ³ DN / (J/m ²) @ 610 nm / 8 bit / gain = 1 (approximately 350 DN / (lux s) @ 610 nm / 8 bit / gain = 1) |
| Quantum Efficiency | 45 % @ 550 nm |
| Optical fill factor | 35 % (geometrical) |
| Dynamic range | Up to 60 dB |
| Colour format | Monochrome |
| Characteristic curve | Linear |
| Shutter mode | Global shutter |
| Read out mode | Sequential read out Sequential or simultaneous read out (read out during exposure) |

| Camera | | | |
|---------------------------|---|--|--------------------------------|
| Exposure time | 10 µs ... 0.41 s / 25 ns steps | 10 µs ... 0.83 s / 50 ns steps | 10 µs ... 0.41 s / 25 ns steps |
| Frame rate | 37 fps | 75 fps | 150 fps |
| Pixel clock | 40 MHz | | 80 MHz |
| Camera taps | 1 | 2 | |
| Greyscale resolution | 8 bit / 10 bit | | |
| Fixed pattern noise (FPN) | < 2.5 DN RMS @ 8 bit / gain = 1 | | |
| Analogue gain | 1 | | |
| Digital gain | 1 | | |
| Configuration interface | CL SERIAL (9600 Baud) | | |
| Trigger modes | <ul style="list-style-type: none"> • Free running (non triggered) • Interface trigger • External trigger input | | |
| Features | <ul style="list-style-type: none"> • Region of Interest (ROI) • Image correction • Image information • Standard trigger input and strobe output functionality | | |
| Interface | CameraLink® Base PoCL - Power over CameraLink® Base USB 2.0 | CameraLink® Base PoCL - Power over CameraLink® Base | |
| Operating temperature | 0°C ... +60°C | | |
| Power supply | +12 V DC (±10%) | | |
| Power consumption | 1.6 W (CL) / 3.0 W (USB 2.0) | 3.0 W | 3.2 W |
| Lens mount | C-Mount (CS-Mount optional) | | |
| Dimensions (H x W x L) | 55 x 55 x 32 mm ³ (CL) 55 x 55 x 43 mm ³ (USB 2.0) | 55 x 55 x 40 mm ³ | |
| Mass | 200 g | 210 g | |
| Conformity | CE / RoHS / WEEE | | |
| Specials | Adjustable backfocus; Opto-isolated I/Os | | |

| Software | |
|----------------|---|
| Camera control | PFRemote™ graphical user interface (GUI) and PFLib (SDK) USB 2.0: MicroDisplay (GUI) and PFLib (SDK) |
| OS | CL: Windows and Linux (32 & 64 Bit); other OS (QNX, etc) on request USB 2.0: win2k; winxp |

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