CMOS Camera

**MV1-D2048X1088-3D03-760-G2-8**

2.2 Megapixel 3D camera for laser triangulation applications

**Features**
- CMOSIS CMV2000 CMOS image sensor
- 2048 x 1088 pixel resolution
- Realtime DUAL laserline Peak Detection algorithm on camera
- Additional peak information (width and quality) for scatter measurements
- Combined 3D and linescan mode
- Up to 10204 profiles/s @ 2048 x 23 resolution
- Global shutter
- Monochrome
- Gigabit Ethernet Interface
- 8 bit greyscale resolution with subpixel accuracy
- Boardlevel or OEM solution available
- Halcon toolkit available

**Advantages**
- Dual Peak eliminates the need of a 2nd camera for various setups
- Scatter measurement with additional peak information possible
- Dual 2D single line for 2D surface inspection and overlay
- No additional calculations on CPU
- Reduction of vision system computer CPU load
- PF 3D Suite a free GUI for an easy system set up and visualisation of 3D scan
- Higher accuracy and robustness through new Peak Detection algorithm
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### Image Sensor
- **Image sensor**: CMOSIS CMV2000
- **Technology**: CMOS active pixel (APS)
- **Scanning system**: Progressive scan
- **Optical format / diagonal**: 2/3'' (12.76 mm diagonal)
- **Resolution**: 2048 x 1088 pixels (2048 x 1024 for 3D measurement)
- **Pixel size**: 5.5 µm x 5.5 µm
- **Active optical area**: 11.26 mm x 5.984 mm (maximum)
- **Dark current**: 125 e⁻/s @ 25°C
- **Full well capacity / SNR**: ~13.5 ke⁻
- **Spectral range**: < 350 to 900 nm (to 10% of peak responsivity)
- **Sensitivity**: 5.56 V / lux.s
- **Quantum Efficiency**: 60% @ 550 nm with micro lenses
- **Optical fill factor**: 42% without micro lenses
- **Dynamic range**: 60 dB in linear mode
- **Colour format**: Monochrome
- **Characteristic curve**: Linear, Piecewise linear
- **Shutter mode**: Global shutter
- **Read out mode**: Simultaneous read out (read out during exposure)

### Camera
- **Exposure time**: 12.56 µs … 0.349
- **Frame rate**: 348 fps (full resolution) / 10204 fps (2048 x 23 resolution)
- **Pixel clock**: 64 MHz
- **Camera taps**: 1
- **Greyscale resolution**: 8 bit / 10 bit
- **Fixed pattern noise (FPN)**: < 1 DN RMS @ 10 bit / gain = 1 / offset correction ON
- **Digital gain**: 0.1 to 15.99 (fine gain)
- **Configuration interface**: GigE (GigE Vision & GenICam compliant)
- **Trigger modes**: Free running (non triggered) • Interface trigger • External trigger input
- **Features**: Region of Interest (ROI) • Decimation Y
- **Constant frame rate • Extended trigger input and strobe output functionality • Dual Peak Detector with dual 2D single line for 2D surface inspection • A/B RS-422 shaft encoder interface**
- **Interface**: Gigabit Ethernet
- **Operating temperature**: 0°C … +50°C
- **Power supply**: +12 V … +24 V DC (±10 %)
- **Power consumption**: < 5 W
- **Lens mount**: C-Mount (C-Mount optional)
- **Dimensions (H x W x L)**: 55 x 55 x 51.5 mm³
- **Mass**: 265 g
- **Conformity**: CE / RoHS / WEEE
- **Specials**: Adjustable backfocus; isolated I/Os; A/B RS-422 shaft encoder interface; dual peak; combined 3D and linescan mode

### Software
- **Camera control**: PF 3D Suite graphical user interface (GUI) and PF3DLib (SDK); Graphical user interface GEV Player and SDK; All 3rd party tools providing full support for GigE Vision and GenICam
- **OS**: Windows and Linux (32 & 64 Bit); other OS (QNX, etc) on request

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(1) **3D and 2D data extraction must be done by the user**
(2) **Output 3D only with additional 2D line (max. 2048 x 1024)**

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