This datasheet describes the specification according to the standard 1288 for Characterization and Presentation of Specification Data for Image Sensors and Cameras of the European Machine Vision Association (EMVA) (see www.standard1288.org). The measurements were performed with an AEON ACC3 RGB Release 3, 20.01.2104, SN 0005. The performance parameters and estimated accuracy of the measurements are described in the technical report for the instrument, its calibration in the corresponding calibration report.

**Vendor** | MATRIX VISION
--- | ---
**Model** | mvBlueCOUGAR-X102eG
**Serial number** | GX007985
**Sensor diagonal** | 8.69 mm
**Lens category** | C-Mount
**Resolution** | 1280 × 1024, 12 bit
**Pixel size** | 5.30 μm × 5.30 μm
**Sensor type** | CMOS
**Shutter type** | Global
**Overlap capabilities** | Overlapping
**Maximum frame rate** | 50.0 Hz
**Interface type** | GigE Vision

**Type of data presented** | Single
**Operation point 1, (page 3)**
**Wavelength centroid** | 534.2 nm
**Wavelength FWHM** | 30.9 nm
**Gain, offset** | Gain = 0dB, Offset = 0

**Optional data measured** | None

### Spectral sensitivity m0126, 07.08.2014

![Spectral sensitivity graph](image)
EMVA 1288 Summary Sheet for Operating Point 1

<table>
<thead>
<tr>
<th>Type of data</th>
<th>Single</th>
<th>Gain, offset</th>
<th>Gain = 0dB, Offset = 0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure time</td>
<td>500.0 µs</td>
<td>Environmental temperature</td>
<td>27.3°C</td>
</tr>
<tr>
<td>Frame rate</td>
<td>0.0 Hz</td>
<td>Camera temperature</td>
<td>36.2°C</td>
</tr>
<tr>
<td>Data transfer mode</td>
<td>Mono12</td>
<td>Wavelength, centr.,</td>
<td>534 nm, 30.9 nm FWHM</td>
</tr>
</tbody>
</table>

### Photon transfer m0126, 534nm, 07.08.2014

- **Gray value - dark value (DN)**
  - 0
  - 500
  - 1.000
  - 1.500
  - 2.000

- **Variance gray - dark value (DN²)**
  - 0
  - 500
  - 1.000
  - 1.500
  - 2.000

- **Gain (DN/e)**: 0.412
- **1/K (e/DN)**: 2.427

### Dark noise & DSNU

- **σ_d (DN)**: 8.86
- **σ_0 (e)**: 21.5
- **DSNU1288 (DN)**: 9.66
- **DSNU1288 (e)**: 23.45

### Signal-to-noise ratio & PRNU

- **SNR_max (%)**: 1.02
- **PRNU1288 (%)**: 1.885

### Nonlinearity

- **LE (%)**: 0.35

### Sensitivity & saturation

- **µ_p, min (p)**: 42.2
- **µ_e, min (e)**: 22.0
- **µ_p, sat (p)**: 18489
- **µ_e, sat (e)**: 9640

### Dynamic range

- **DR**: 438
- **DR (dB)**: 52.8
- **DR (bit)**: 8.8

### Dark current

- **µ_c, mean (DN/s)**: -645.83
- **µ_c, mean (e/s)**: -1567.17
- **µ_c, var (e/s)**: -10519.20
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<tr>
<td>Model</td>
<td>mvBlueCOUGAR-X102eG</td>
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<td>Resolution</td>
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<tr>
<td>Pixel size</td>
<td>5.30 μm × 5.30 μm</td>
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<tr>
<td>Sensor type</td>
<td>CMOS</td>
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<tr>
<td>Shutter type</td>
<td>Rolling Shutter Mode</td>
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<tr>
<td>Maximum frame rate</td>
<td>50.0 Hz</td>
</tr>
<tr>
<td>Interface type</td>
<td>GigE Vision</td>
</tr>
</tbody>
</table>

| Type of data presented  | Single                      |
| Operation point 1, (page 3) |
| Wavelength centroid     | 534.2 nm                    |
| Wavelength FWHM         | 30.9 nm                     |
| Gain, offset            | Gain = 0dB, Offset = 4      |
| Optional data measured  | None                        |

Spectral sensitivity m0128, 07.08.2014

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EMVA 1288 Summary Sheet for Operating Point 1

Type of data: Single
Exposure time: 500.0 μs
Frame rate: 0.0 Hz
Data transfer mode: Mono12

Gain, offset
Gain = 0 dB, Offset = 4

Environmental temperature: 27.4°C
Camera temperature: 37.3°C
Wavelength, centr., FWHM: 534 nm, 30.9 nm

Quantum efficiency: η = 0.541

Gain
K (DN/e) = 0.398
1/K (e/DN) = 2.509

Dark noise & DSNU
σ_d (DN) = 3.52
σ_0 (e) = 8.8
DSNU_{1288} (DN) = —
DSNU_{1288} (e) = —

Signal-to-noise ratio & PRNU
SNR_{max} = 99
SNR_{max} (dB) = 39.9
SNR_{max} (bits) = 6.6
1/SNR_{max} (%) = 1.01
PRNU_{1288} (%) = —

Nonlinearity
LE (%) = 0.14

Sensitivity & saturation
μ_p, min (p) = 17.3
μ_e, min (e) = 9.3
μ_p, sat (p) = 18136
μ_e, sat (e) = 9814

Dynamic range
DR = 1051
DR (dB) = 60.4
DR (bit) = 10.0

Dark current
μ_c, mean (DN/s) = —
μ_c, mean (e/s) = —
μ_c, var (e/s) = —