

Micro-G1 – miniature rugged high speed camera



Micro-G1 – An ultra small, rugged high speed camera

**Hi-G-rated for 200+ G and ready to function in the most limited spaces.
A camera for spots that can't be reached otherwise.**

The Micro-G1 is particularly suited for all applications where space restrictions apply. The highly light sensitive sensor is built around extremely compact electronics, combined with unique mechanical design. This makes Micro-G1 the world's smallest stand-alone high speed camera.

The camera is designed to withstand G-forces in excess of 200 G / 10 msec (all axes) and spikes of up to 250 G. The Micro-G1 is a small camera for automotive crash test applications where space is limited.

Unique features and benefits

- **Size** – The world's smallest stand-alone high speed camera
- **Camera that fits** – A 2 Mpixel sensor and built-in memory
- **Easy connectivity** – Gigabit Ethernet data interface with Power-Over-Ethernet and additional discrete trigger input
- **Standalone** – No PC connection for recording required
- **Small** – A camera the size of a matchbox!

Micro-G1 – Key Specifications

Typical frame rates vs resolution

| | 1920 | 1280 | 900 | 800 | 512 |
|------|------|------|------|------|------|
| 1080 | 250 | 380 | 530 | 600 | 700 |
| 1024 | 270 | 400 | 560 | 640 | 730 |
| 720 | 390 | 580 | 800 | 900 | 1020 |
| 700 | 400 | 600 | 820 | 920 | 1050 |
| 600 | 460 | 690 | 950 | 1050 | 1200 |
| 512 | 500 | 800 | 1100 | 1200 | 1400 |
| 256 | 1000 | 1500 | 2000 | 2300 | 2600 |
| 128 | 1980 | 2800 | 3700 | 4100 | 4500 |

Table shows typical resolution vs. fps, Resolution is freely adjustable within limitations of camera/sensor

Memory

| Resolution | Maximum speed | Number of frames |
|-------------|---------------|------------------|
| 800 x 600 | 1050 fps | 500 |
| 1920 x 1080 | 250 fps | 115 |
| 1280 x 720 | 580 fps | 260 |
| 512 x 128 | 4500 fps | 3600 |

Optical/Sensor specifications

| | |
|--------------------------|--|
| Image Sensor | CMOS Sensor |
| Pixel size | 4.8 micron |
| Light Sensitivity | ISO 3000 (monochrome), ISO 2000 (color) |
| Dynamic Range | 8 Bit |
| Shutter Type | Global, independent of frame rate |
| Exposure Time | Free adjustable from 50 µsec to 1 / framing rate by software |
| Lens Mount | C-Mount or CS-Mount |

Camera and control features

| | |
|---------------------------------|---|
| Power | Power-over-Ethernet (PoE) 48 VDC / 5 Watts |
| I/O Tolerance | TTL level, all I/O are 0–24 V tolerant |
| Power On/Off | By PoE power supply |
| Trigger Modes, Positions | Pre-post recording, freely adjustable in number of frames of total camera memory |
| Auto-Download | Auto download to PC for 24/7 recording when PC is connected |
| OSD | Information on camera, recording features and time stamp may be added in image data, Position of OSD is set by user. |
| Recording | Recording parameters are stored in camera permanently. Upon power up camera goes into recording mode as in pre-sets defined. No connection or PC required. After recording re-connect camera for downloading data |

Imaging studio features

| | |
|--------------------------------|--|
| Imaging Studio | Software suite to parameterize and control camera, handle data download and conversion of native files into most common single images and movie formats. Runs on Win 7/8/10, 32/64 Bit |
| Parameterization | Set all camera parameters for recording by convenient and easy-to-use software interface supports graphical setting of resolution |
| Display | Display up to multiple cameras simultaneously in live mode or compare saved sequences with live view of cameras |
| Editing | Play back, edit and save sequences after recording with few clicks |
| OSD (on screen display) | OSD with per-defined information such as camera, resolution fps etc. Free user text input for customer specific comments. |
| Overlay | Overlay of recorded image with user adjustable opacity |
| Export | Export of AOS native file format to avi, mpeg, mpeg4, bmp, tif, png, jpg |
| Image Processing | Manual or automatic color correction and white balance functionality, Image data compression in camera |
| Batch Converter | Convert native files to movie files using off-line batch conversion |

Data interface

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|-------------------------------|--|
| Data and I/O Interface | All in one LEMO Gigabit Ethernet and I/O connector |
| Synchronization | Phase-lock sync input |
| Trigger In | Trigger input, rising, falling edge, TTL, switch closing/opening |

Physical specifications

| | |
|---|---|
| Size & Weight | width: 59 mm / height 30 mm / length: 32 mm / 200 gr width: 2.32" / height: 1.18" / length: 1.26" / 0.5 lb |
| Operating Temperature | -10 ... + 45 °C / +14 ... + 113 °F |
| Storage Temperature | -40 ... + 70 °C / -40 ... + 158 °F |
| Shock Resistance | 200 G / 10 msec all axis, spikes up to 250 G |
| Connector (mating connector for cable) | LEMO FPG.0B.312.CLAD56 |
| CE | In compliance with relevant standards |
| Mounting | 4 x M4 mounting threads on 3 sides |



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