

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

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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