

FCm-1300 High-Speed CMOS Camera

FCm-1300 CMOS Camera



- **1.3 Megapixel 1280 x 1024 pixels (H x V)**
- **Monochrome and Colour versions available**
- **10 bit digital output**
- **Compact design**
- **450 full frames per second (464 peak)**
- **In-camera image storage memory**
- **Full Camera Link interface**

The FCm-1300 camera is a very compact high resolution, high-speed CMOS camera. The camera is equipped with the Lupa 1300 image sensor. The user can define any Window Of Interest within the sensor area.

The digital camera can operate in single shot and in continuous mode, which makes it ideal for machine vision applications. In the single shot mode, the user has the freedom to decide when the camera has to capture an image, not the other way around as is the case with most analogue camera systems.

The camera has a dynamic range of 62 dB that can be extended up to 100 dB using the dual-slope feature.

C-Cam Technologies supply a Full Camera Link as the standard interface, with 10 taps of 8 bits. The camera can also be triggered through the flexible Camera Link interface cable that can be up to 7 metres long.

The FCm-1300 camera provides a complete solution for system designers who require a rapid solution with little or no involvement at chip level.

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Sensor Specifications

Imager type	CMOS integrating active pixel sensor (APS) Lupa-1300 designed by FillFactory with in-camera non-uniformity and gain correction
Sensor types	Monochrome or RGB Bayer colour pattern
Total pixels	1310720 (1280 x 1024)
Tot. light-sensitive pixels	1310720 (1280 x 1024)
Window-of-Interest (WOI)	Rectangle or line image format specified by the user
Active image area	17.9 x 14.3mm. (H x V)
Optical format	1.43" (3.6mm.)
Pixel pitch	14 x 14 µm
Fill factor	50 %
Spectral response	400 – 1000 nm.
Sensitivity	1500 V.m ² /W.s. 8.33 V/lux.s (Visible) 21.43 V/lux.s (Vis + NIR)
Temporal noise	45e ⁻ (Dark @ 21°C)
Well capacity	62,500 electrons
Dark current	300 bits / sec
Smear	None
Standard dynamic range	62 dB 100dB with multi-slope
Signal / Noise	1330
Grey level resolution	8 bits or 256 grey levels and 10 bits, 1024 grey levels
MTF	X:67%
PRNU	20% RMS at half saturation

Image Specifications

Pixel rate	640 MHz (typical)
Frame speed full resolution	450 frames/second 140,000 lines/second
Frame speed WOI	1024 x 1024 : 573 fps 800 x 600 : 1227 fps
Maximal Exposure time	33.0 milliseconds

Minimal exposure time	2 µsec
Shutter	On-chip pipelined snapshot
Shutter synchronisation	Via software and/or via external inputs:

Interface Specifications

Interface type	Full Camera Link 10 taps of 8 bits (compatible with Basler) or 8 taps of 10 bits
Remote control	Via digital LVDS interface
Interface connector	26p Camera Link type with latches and screw fastening
Cable lengths	1, 3, 5 or 7 meters from camera to PC interface

Mechanical Specifications

Dimensions	70 x 70 x 90 mm. (not incl. lens)
Weight	400 grams (not incl. lens)
Housing	Aluminium, black anodised
Lens adaptor	F-mount (with optional macro adaptor)
Tripod mount	1/4 inch mount (1 off)
Machine mount	M6 (4 off)

Environmental Requirements

Operating temperature	0°C to +50°C
Storage temperature	-30°C to +80°C in non-condensing conditions

Power Requirements

Power supply voltage	separate connector 8 - 12 Volts
Power consumption	(estimated) < 10 Watt

Ordering Information

B&W	FCm1300-M
RGB Bayer	FCm1300-B

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