

CAMELIA M1 8M MONOCHROME

AREASCAN CAMERA



CAMERA
Link

Key Features

- **Sensor range:** 8 megapixels, full frame, 10 x 10 μ m, 100% aperture.
- **Interface:** CAMERA LINK or LVDS.
- **Excellent Signal/noise ratio:** 65 dB SNR.
- **Data rate:** single output at 25 MHz - 12 bits digitization.
- **Region of interest capability.**
- **Other programmable settings:** binning, trigger, gain and offset adjustment, and test pattern generation.

Typical Applications

- **Scanning** (film scanning, document archiving).
- **X-RAY** (PCB inspection, medical/vet imaging).
- **Direct image capture** (metrology, fluorescence).

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REF: 5322A-IMAGE-02/03 3M

Atmel manages the whole chain, from the sensor to the camera.

The result is a 12-bit camera, featuring an excellent signal-to-noise ratio.

The programmable settings let you work at different integration time, gain, offset and trigger modes. A test pattern generator helps the user during the system integration.

The CCD sensor is able to work in 1 x 1, 2 x 2, 4 x 4 binning mode and in ROI mode. These features allow faster preview mode.

It is also possible to control an external shutter and read back the color filter wheel position for applications that require 3-shot color mode (film scanning, photo finishing,...).

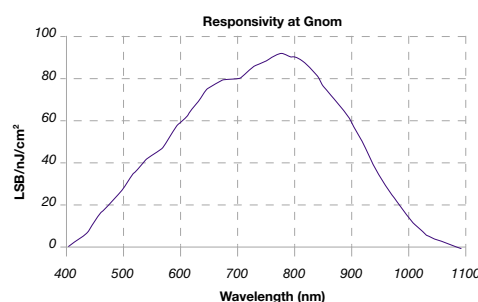
The Camelia M1 8M Monochrome Areascan Camera is CE & FCC compliant.

Detailed Specifications

Sensor Characteristics at Maximum Pixel Rate			
Binning	1 x 1	2 x 2	4 x 4
Resolution (H x V)	2300 x 3500	1150 x 1750	574 x 875
Max Frame Rate	2.7 fps	4.9 fps	8.8 fps
Anti Blooming	x 8		

Radiometric Performances at Maximum Pixel Rate			
Dynamic Range	12 bits		
Spectral Range	400 nm - 1000 nm		
Non Linearity	< 1.5%		
Gain Range (step of 0.04 dB)	Gmin -5.1 dB	Gnom 0 dB	Gmax 28.9 dB
SNR (typical)	68.1 dB	64.6 dB	37.5 dB
FTC	20%		

Spectral Response

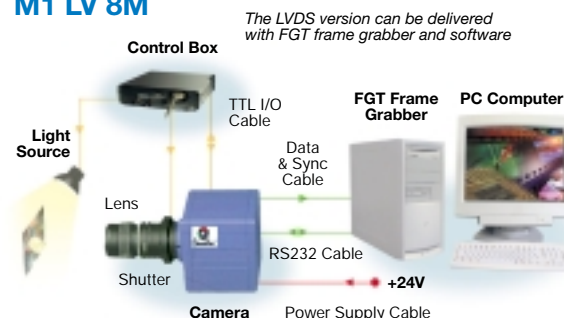


Mechanical & Electrical Interface	
Size (w x h x l)	111 x 112 x 114 mm³
Lens Mount	F
Sensor Alignment	$\Delta x, y = \pm 125 \mu m$ $\Delta \theta_{x,y} = \pm 0.2^\circ$ $\Delta z = 0-450 \mu m$ $\Delta tilt_z = 0-260 \mu m$
Options	± frame grabber for LVDS version
Power Supply	Single 24 VDC
Power Dissipation	< 6 W
Operating Temperature	0°C to 50°C (non condensing)
Storage Temperature	-20°C to 70°C (non condensing)

Connectors and Data Interface

Version	LVDS	Camera Link
Power Connector	HR10A 6-pin	HR10A 6-pin
Data & Sync Connector	MDR 50	MDR 26
RS232 Connector	D-Sub 9-pin	Camera Link
TTL Control Connector	D-Sub 9-pin	D-Sub 9-pin

Typical Application for the Camelia M1 LV 8M



Commercial Name	Resolution	M/C	Frame/Second	Interface	Pixel Size (μm)	Data Format
CAMELIA4M	2048 x 2048	Monochrome	4 fps	LVDS	14 x 14	1 tap, 12 bits
CAMELIACOL4M	2048 x 2048	Color	4 fps	LVDS	14 x 14	1 tap, 12 bits
CAMELIA4M-T20	1750 x 2300	Monochrome	20 fps	LVDS	10 x 10	4 taps, 12 bits, ROI
CAMELIA M1 8M	3500 x 2300	Monochrome	3 fps	CL*/LVDS	10 x 10	1 tap, 12 bits, ROI
CAMELIA C1 8M	3500 x 2300	Color	3 fps	CL*/LVDS	10 x 10	1 tap, 12 bits, ROI
CAMELIA8M-F10	3500 x 2300	Monochrome	10 fps	LVDS	10 x 10	4 taps, 12 bits, ROI

* Camera Link standard interface