

ELiXA+ 16k pixels



The power and speed of vision

Enabled by e2v multi-line CMOS technology

Key features

- 16,384 pixels, 5µm x 5µm pixel pitch, 4 active CMOS lines
- Line rate up to 100k lines/s
- Data rate up to 1.6G pixels/s
- Interface: CameraLink or CoaXPress
- Up to 12-bit depth
- Power consumption below 16W
- Vertical and horizontal binning
- Fast and easy configuration

Applications

- Flat panel display inspection
- Printed circuit board inspection
- Solar cell inspection
- Parcel and postal sorting
- High resolution document scanning

**EliiXA+ 16k pixels
e2v multi-line
CMOS technology**

e2v's next generation of line scan cameras are setting new, high standards for line rate and image quality. Thanks to e2v's recently developed multi-line CMOS technology, the camera provides an unmatched 100,000 lines/s in a 16k pixel format and combines high response with an extremely low noise level; this delivers high signal to noise ratio even when short integration times are required or when illumination is limited. The 5µm pixel size is arranged in four active lines, ensuring optimal spatial resolution in both scanning and sensor directions with off-the-shelf lenses. An outstanding data rate in excess of 1.6G pixels per second, delivered via a new CoaXPress interface, allows for extremely high throughput and opens up an array of new possibilities for the next generation of inspection systems for demanding applications such as flat panel display, PCB and solar cell inspection.

Detailed specification

Sensor characteristics			
Resolution	pixels	16384	16384
Pixel size (square)	µm	5	5
Max line rate	kHz	50	100
Camera interface		CameraLink	CoaXPress

Typical performances		
Bit depth	bits	8, 10 or 12
Spectral range	nm	300 - 1100 nm
Dynamic range	dB	73
Response at minimum gain	LSB12bit/(nl/cm²)	450
PRNU	%	1
Non linearity	%	1

Functionalities:		
Maximum analog gain	dB	12
Maximum digital gain	dB	20
Offset correction	LSB12bit/	-4096 to +4096
Trigger mode		Timed (free run) and triggered modes (Ext Trig, Ext ITC)

Mechanical and electrical interface		
Size (w x h x l)	mm	100 x 156 x 36
Lens mount		M95 x 1
Sensor alignment	µm	±100
Sensor flatness	µm	±35
Power supply	V	Single 12 to 24
Power consumption	W	16

General features:		
Operating temperature	°C	0 to 55 (Front face)
Storage temperature	°C	-40 to 70
Regulatory		CE, FFC and RoHS compliant

Connectors	
Power (CL version)	HR10 6-pins
Inputs (CXP version)	HR10 5-pins
Control & data	Camera Link: MDR 26-pins CoaXPress: 4 BNC

Overview of e2v line scan camera offer

Commercial name	M/C	Max data rate M Pixels/s	Interface	Resolution	Bit depth
AViVA EM1	Monochrome	120	GigE	512 to 4096	up to 12 bits
AViVA EM2	Monochrome	80	CL	2048 to 4096	up to 12 bits
AViVA EM4	Monochrome	160	CL	2048 to 4096	up to 12 bits
AViVA UM4	Monochrome	160	CL	8192	up to 12 bits
AViVA UM8	Monochrome	320	CL	12 288	up to 12 bits
AViVA SC2	Colour	60	CL/LVDS	4096	up to 12 bits
AViVA UC2	Colour	62	GigE	4096	up to 12 bits
DiViNA LM1	Monochrome	40	GigE	1024 to 4096	8 bits
DiViNA LM2	Monochrome	40	CL	1024 to 4096	8 bits
ELiXA UC4/UC8	Colour	320	CL	4 x 4096	up to 12 bits
ELiXA 3V	Monochrome	320	CL	3 x 4096	up to 12 bits
ELiXA 4S	Monochrome	80	CL	4 x 4096	up to 12 bits
ELiXA+ 16k	Monochrome	819	CL	16384	up to 12 bits
ELiXA+ 16k	Monochrome	1638	CXP	16384	up to 12 bits



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