

# AViVA EM1

GigE Vision  
Line Scan Camera



## Easy, accurate and fast, quite simple

### Key Features

- ❖ New generation of sensors:  
2048 pixels 14µm, 4096 pixels 10µm
- ❖ Excellent dynamic range: 68 dB
- ❖ High sensitivity CCD sensor
- ❖ Interface: High reliability Gigabit Ethernet
- ❖ Interoperability: GigE Vision and GenCam fully compliant
- ❖ Advanced GPIO
- ❖ Line rate: up to 54 kHz
- ❖ Bit depth: up to 12 bits
- ❖ Mechanics: 93x56x49 mm (w,h,l)

### Typical Applications

- ❖ Web inspection : metallurgy, wood, paper, textile ...
- ❖ Process control : pick and place, positioning
- ❖ Print inspection
- ❖ Sorting : food, postal, parcel, checks, ...
- ❖ Surface inspection : wafers, PCB, ...
- ❖ Document archiving, data archiving
- ❖ OCR and bar code reading

e2v's AViVA cameras have been leaders in the field of line scan imaging for over 10 years, largely due to their unique sensor technology. e2v has now developed a new generation of line scan sensors, with resolution up to 4K pixels with various pitches. These sensors feature unmatched performance in terms of sensitivity, dynamic range and PRNU and are embedded in the new EM1 GigE series of cameras.

Coupled to an advanced GigaBit Ethernet interface and an easy-to-use software package, EM1 is the ideal candidate for the most demanding of inspection applications.

## Detailed Specifications

Sensor Characteristics			
Resolution	pixels	2048	4096
Pixel Size (square)	µm	14	10
Maximum Line Rate	kHz	54	28

Connectors	
Power	HR10 6-pins
Inputs/Outputs	HR10 12-pins
Gigabit Ethernet	RJ45

Radiometric Performances		
Bit Depth	bits	8.12
Spectral Range	nm	250 - 1100
Non-linearity	%	< 1
Dynamic Range	dB	68

Networking Features	
GigE-based	1 Gb/s, long reach: 100m point-to-point Effective data rate up to 122.5 MB/s with 8kB packet size
GigE Vision Protocol	Zero-loss packet resend technology, delivery of all packets Comprehensive data transfer diagnostics Multicast capabilities

Functionalities (Programmable by Control Interface)	
Gain	up to 32dB
Offset (Contrast Expansion)	-4096 to +4096 LSB
Trigger Mode	Free Run or External Trigger
Flat Field Correction	Auto
GPIO	3 inputs 2 outputs TTL, RSS422, RS644 general purpose counters and timers

Characteristic		
Size (w x h x l)	mm	60 x 56 x 49 without heat sinks
Optional Lens Mount		F, T2, M42 x 1, C
Sensor Alignment	µm	± 100
Power Supply	V	Single 12 to 24
Power Dissipation	W	< 11
Operating Temperature	°C	0 to 60 (front face)
Storage Temperature	°C	-40 to 70
Regulatory		RoHS, CE and FCC compliant

Software Package:	
eBUS Driver Suite	eBUS Universal Driver (Filter Driver) eBUS Optimal Driver Driver Installation Tool
iPORT PureGEV Suite	SDKs Software tools Documentation Sample applications



## Overview of e2v's Line Scan Camera offer

Commercial Name	M/C	Max Data Rate M Pixels/s	Interface	Resolution	Bit Depth
AViVA EM1	Monochrome	120	GigE	2048 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

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