

# HR AREA SCAN CAMERAS

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## High resolution at high speed

**COE High Resolution Area Scan Cameras** are purpose built for inspection applications by utilizing the highest resolution sensors available. With COE HR AS-X (20, 26, 29 MP) and COE HR AS (29, 50, 71 MP) series we provide high resolution and high performance cameras to answer your needs. HR Area Scan Cameras are designed to work in harsh and demanding environments, continuously providing outstanding images. These area scan sensors are 3-point mounted for edge-to-edge sharpness and flatness across the entire image. Additional features include: low smear, blooming suppression, 12-bit data paths, advanced triggering and built-in detectors that analyze camera performance, and image processing to remove sensor defects. Combined with Opto Engineering® lenses and illuminators, we can in building a fast, reliable and cost-effective system.



Refer to specific datasheets available at [www.opto-e.com](http://www.opto-e.com) for product compliancy with regulations, certifications and safety labels.

# COE HR AS-X series

20 MP, 26MP and 29MP area scan cameras for high-speed applications

**NEW**



**COE High Resolution Area Scan-X Cameras** are built for high resolution and high speed inspections. They feature sensors up to 35mm format with large 5.5um pixels for excellent sensitivity and well matched optics from the Opto Engineering Macro 12K or Telecentric 16M series.

Mated with CameraLink, 10GigE or USB 3.0, they offer the fastest frame rates possible with the latest interfaces. COE HR AS-X are GigEVision®, USB3 Vision® and GenICam® compliant.

These cameras are specifically tested to work with the Opto Engineering® lenses and illuminators, to increase measurement accuracy when using telecentric backlighting to pull every last detail out of your inspection while maintaining a cost-effective system.

With many years of experience in the Machine Vision sector, Opto Engineering® offers a series of high resolution, high performance cameras to answer your needs.

## KEY ADVANTAGES

### The best cameras you can buy right now

The cameras feature the highest resolution sensors and best image quality maintaining an extremely interesting quality/price ratio.

### Available in GigE, USB 3.0, CameraLink, 10GigE

GigE allows flexible connectivity, while USB 3.0 offers high speed with easy access. Camera Link offers high speed data rates and direct accessing of the camera sensor while 10GigE gives highest throughput for Ethernet connectivity.

### Full GenICam® compliant: easy to integrate

COE HR AS-X are GigEVision®, USB3 Vision® and GenICam® compliant, making software integration quick and easy.



### 120 MB On-board image buffer

The internal memory up to 120MB guarantees no image loss and enables useful features like Record / Playback and sequence recordings.

### Optics to match

Many Opto Engineering® Telecentric and Macro lenses match these sensors for the best optical performance.

## FULL RANGE OF COMPATIBLE ACCESSORIES

	COE I/O cables	p. 266
	CBETH003, CBUSB3001	p. 266

# COE HR AS-X series

20 MP, 26MP and 29MP area scan cameras for high-speed applications

Part number	Sensor specifications								Camera specifications					Compatibility	
	Image sensor format	Resolution (pixel)	Mpixel	Pixel size ( $\mu\text{m}$ )	Sensor name	Sensor type	Shutter type	Mono/Color	Interface	Frame rate (Hz)	CL connector <b>3</b>	CL config-uration <b>3</b>	Mount	Filter	Optics
<b>COE-200-x-z-070-yy-C 1</b>	1"	5544 x 3692	20.4	2.4	IMX183	CMOS	Rolling	M/C	GIGE, USB 3.0	GIGE 6, USB 14	/	/	C	mono Glass, color Infrared cut	TC2MHR, TC4MHR, TCCR2M, TCCR4M, TCDCP Plus, TCXC2M, EN2M, ENUV2M, EN4K
<b>COE-260-M-10GIGE-100-yy 2</b>	APS-H	5120 x 5120	26.0	4.5	Python 25K	CMOS	Global	M	10GIGE	40	/	/	F mount, M58x0.75 FD11.48	mono Glass	TC16M, TC12M, MC12K
<b>COE-290-x-z-110-yy-B 2</b>	35 mm	6576 x 4384	29.0	5.5	KAI29050	CCD	Global	M/C	GIGE, CL	GIGE 4, CL 4.3	2x SDR	base/mid	F mount, M58x0.75 FD11.48	mono Glass, color Infrared cut	TC16M, MC12K, EN4K
<b>COE-290-M-z-110-yy-A 2</b>	35 mm	6576 x 4384	29.0	5.5	KAI29050	CCD	Global	M	GIGE, CL	GIGE 4, CL 4.3	2x SDR	base/mid	F mount, M58x0.75 FD11.48	mono Glass	
<b>COE-290-M-GIGE-110-yy-I-N</b>	35 mm	6576 x 4384	29.0	5.5	KAI29050	CCD	Global	M	GIGE	4	/	/	M58x0.75 FD11.48	mono Glass	

- 1 PoE supported.  
 2 Fan supported.  
 3 For Camera Link models only.

Some part numbers have been discontinued. Please check availability on [www.opto-e.com](http://www.opto-e.com)

## Ordering information:

### How to order

- Specific product datasheet, user manual and recommended Capture Card are available at [www.opto-e.com](http://www.opto-e.com)

**X** M = Monochrome  
C = Color

**YY** Glass/Infrared cut filter supported

**Z** POE = GigE PoE  
USB = USB 3 interface  
CL = Camera Link interface

- C = C mount
- F = F mount
- I = M58x0.75 FD11.48

# COE HR AS series

29 MP, 48MP and 71MP area scan cameras for high-speed applications

**NEW**



## KEY ADVANTAGES

### High quality rugged design

Using the latest industrial components, these cameras are built to last and allow for extended temperature ranges.

### Available in USB 3.0 and Camera Link

Camera Link offers high speed data rates, and direct accessing of the camera sensor.

### Excellent image quality

Built-in features include pixel correction, column defect correction, white balancing, flat-field correction.

### Optics to match

Many Opto Engineering® Telecentric lenses match these 35mm sensors for the best optical performance.

**COE High Resolution Area Scan cameras** are designed to provide high-resolution images, using the latest High Res sensors that offer both quality and speed. The rugged design allows these high-resolution sensors to perform under harsh conditions in the most demanding environments.

Several image quality enhancing features include pixel correction, column defect correction, flat-field correction, white balancing and much more. Combined with our large format TC16M telecentric optics, or our MC12K Macro Lens, you have a winning solution!

COE HR AS cameras are purpose built for inspection applications by utilizing the highest resolution sensors available. These cameras have all the rugged features, such as industrial design, military de-rated components, and a CNC machined case.

Fan cooling insures minimum dark current and excellent image quality. Sensors are 3-point mounted for edge-to-edge sharpness and flatness across the entire image. Additional features include: low smear, blooming suppression, 12-bit data paths, advanced triggering and built-in detectors that analyze camera performance, and image processing to remove sensor defects.

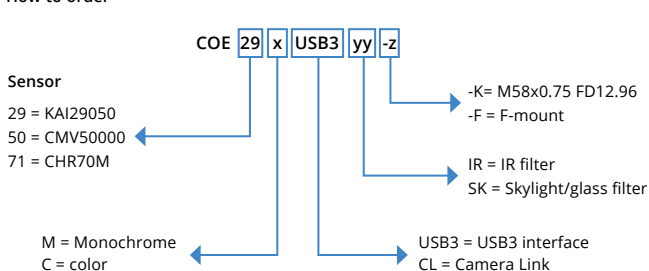
COE HR AS cameras are available in USB 3.0 or Camera Link, offering high speeds and reliability. Different filter options and a choice of lens mount allow for easy integration that is perfect for measurement applications, high resolution inspection, security and more.

Part number	Sensor specifications							Camera specifications				Compatibility	
	Image sensor format (mm)	Resolution (pixel)	Mpixel	Pixel size (µm)	Sensor name	Sensor type	Shutter type	Interface	Frame rate (Hz)	CL connector	CL configuration	Mount	Optics
<b>USB 3.0</b>													
COE 29xUSB3yy-z	35	6576 x 4384	29	5.5	KAI-29050	CCD	Global shutter	USB 3.0	2	-	-	F-mount, M58x0.75	TC16M, MC12K, EN4K
COE 50xUSB3yy-z	35	7920 x 6004	48	4.6	CMV50000	CMOS	Global shutter	USB 3.0	6.8	-	-	FD12.96	
COE 71xUSB3yy-z	35	10000 x 7094	71	3.1	CHR70M	CMOS	Rolling shutter	USB 3.0	3	-	-		
<b>Camera Link</b>													
COE 29xCLyy-z	35	6576 x 4384	29	5.5	KAI-29050	CCD	Global shutter	Camera Link	4	1X MDR	base	F-mount, M58x0.75	TC16M, MC12K, EN4K
COE 50xCLyy-z	35	7920 x 6004	48	4.6	CMV50000	CMOS	Global shutter	Camera Link	27.3	4x SDR	full/dual full	FD12.96	
COE 71xCLyy-z	35	10000 x 7094	71	3.1	CHR70M	CMOS	Rolling shutter	Camera Link	3	2x SDR	base/mid/full		

Some part numbers have been discontinued. Please check availability on [www.opto-e.com](http://www.opto-e.com)



## Ordering information:

### How to order



### Examples:

- COE50CCLSK-K is for a 48 megapixel, Camera Link, Skylight filter, K-mount camera.
- COE71MUSB3IR-F is for a 71MP, USB 3.0, IR filter, F-mount.
- All cameras are available in monochrome or color version at no extra cost.
- Custom OEM camera versions available upon request.

FULL RANGE OF COMPATIBLE ACCESSORIES		
	COE-6P-MALE, CBUSB3001	p. 266
	COE-PS-UNIVERSAL	p. 264