

The power and speed of vision



Key benefits

- 4,096 pixels, 5µm x 5µm pixel size (NBASE-T) or 10µm x 10µm pixel size (CameraLink)
- Available in monochrome (four active CMOS lines) or colour (two active CMOS lines)
- Compatible with full exposure control
- Cycling preset modes and memories (NBASE-T)
- Multi ROI (NBASE-T)
- Metadata (NBASE-T)
- Rotary encoder (NBASE-T)
- Compatible with standard F-mount lenses
- Line rate up to 140kHz in monochrome and 50kHz in colour (NBASE-T)
- Line rate up to 100kHz in monochrome and 66kHz in colour (CameraLink)
- CameraLink and NBASE-T interface
- Power consumption below 12W (NBASE-T) and 7W (CameraLink)

Applications

- Printing inspection
- High resolution document scanning
- Electronic inspection
- High quality raw material
- Surface inspection
- High quality food and pharmaceutical inspection
- Rail inspection
- Industrial inspection

Teledyne e2v's next generation of line scan cameras are setting new, high standards for line rate and image quality. Due to Teledyne e2v's recently developed multi-line CMOS technology, the cameras provide high line rates and combine high response with extremely low noise levels. This delivers high signal to noise ratio even when short integration times are required or when illumination is limited. The 5µm or 10µm pixel size is arranged in two active lines and dual line filter configuration allows the camera to be operated in several modes.

The availability of the EliiXA+ cameras with an NBASE-T™ connection offers a straightforward solution, providing:

- High throughput – enabling high resolution and colour imaging without a frame grabber at speeds of up to 5 Gigabits per second (Gbps) over Category 5e standard Ethernet cable
- Easy integration – compatible with GigE Vision protocol
- Long-length (100 metres+), field terminable, inexpensive cabling – reduces costs and enables easier integration in imaging systems compared with optical fibre cabling

Sensor characteristics

	Mono	Colour
Resolution – pixels	4,096	
Pixel size – square µm	5 (NBASE-T) and 10 (CameraLink)	
Max line rate – kHz	140 (NBASE-T) and 100 (CameraLink)	100 (NBASE-T) and 66 (CameraLink)
Number of active lines	4/2	
Camera interface	CameraLink and NBASE-T	

Functionalities

Maximum analogue gain – dB	12	
White balance gain – dB	-	8
Offset correction – LSB8bit	-256 to +256	-4,096 to +4,096
Trigger mode	Time (free run) and triggered modes (Ext Trig, Ext ITC)	
White balance	-	yes
Flat field correction	yes	
Scan direction	yes	

Typical performances

Bit depth – bits	8/10/12 (NBASE-T) and 8/12 (CameraLink)	3x8
Spectral range – nm	300 - 1,100	
Dynamic range – dB	73	65
PRNU – %	<3 (NBASE-T) and <1 (CameraLink)	
Non Linearity – %	<1	

Mechanical and electrical interface

	Mono	Colour
Size – W x H x L mm	60 x 60 x 55 (NBASE-T) and 60 x 125 x 35 (CameraLink)	
Lens mount	C, F, T2, M42 x 1 (NBASE-T) and F, T2, M42 x 1 (CameraLink)	
Sensor alignment – µm	± 100	
Sensor flatness – µm	± 50 (NBASE-T) and ± 35 (CameraLink)	
Power supply – V	Single 12 to 24	
Power consumption – W	<11 (NBASE-T) and <7 (CameraLink)	

Connectors

Control & data	GPIO 12 connector (NBASE-T) and 2x SDR (CameraLink)
Power	Hirose 6 pins

General features

Operating temperature – °C	0 to 60 (NBASE-T) and 0 to 70 (CameraLink)
Storage temperature – °C	-40 to 70
Regulatory	CE, FCC and RoHS compliant

Part number	No. of lines	Pixel size (µm x µm)	Mono/Colour	Interface	Max line rate
EV71YC4MNT4005-BA0	4	5 x 5	Mono	NBASE-T	140
EV71YC4CCL4010-BH0	2	10 x 10	Colour	CameraLink	66
EV71YC4CNT4005-BA0	2	5 x 5	Colour	NBASE-T	50
EV71YC4MCL8005 BH0	4	5 x 5	Mono	CameraLink	40
EV71YC4MCL8005 BH1	4	5 x 5	Mono	CameraLink	100
EV71YC2MCL8005 BA0	2	5 x 5	Mono	CameraLink	40
EV71YC2MCL8005 BA1	2	5 x 5	Mono	CameraLink	100

EliiXA+ 8k can also be operated in binning mode to achieve 4k resolution.