

Manx SQ Series

Linescan SWIR Camera with Square Pixels

- ▤ Linescan SWIR Camera with 512, 1024, 2048 resolution
- ▤ In-house developed InGaAs sensor



World's fastest InGaAs linescan camera

Based on a brand new, in-house developed InGaAs linear detector, the Manx is a high-performance short-wave infrared (SWIR) camera providing high speed and quality linescan imaging. At unprecedented line rates of 260 kHz, the Manx stands as the fastest linescan InGaAs camera available in the world.

The Manx is able to provide up to 2048 pixel resolution. It also presents the lowest noise performance record for a 2048 pixel SWIR linear camera, combined with excellent dynamic range.

The use of CoaXPress interfacing enables fast and reliable data transfer.

The Manx is offered in 3 different resolutions of 512, 1024 or 2048 pixels.

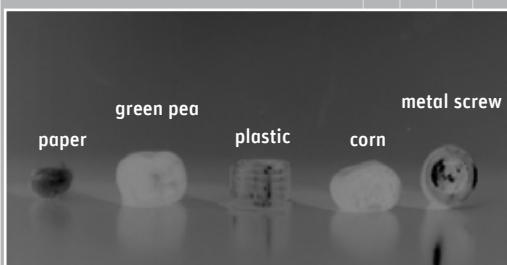
Silicon wafer inspection, TFT screen inspection, food and agricultural produce sorting are some industrial applications that would benefit from this new line of ultra fast linear SWIR cameras.

Designed for use in

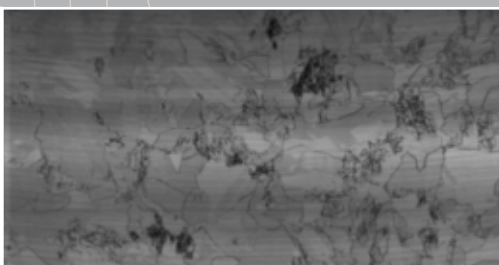
- Machine Vision
- Process Monitoring

Advantages

- World's fastest SWIR linescan imaging up to 260 kHz
- High resolution
- Low noise, low dark current
- CoaXPress interfacing for reliable streaming of data
- Versatility with 4 gain modes



▤ Food sorting



▤ Photoluminescence (solar wafer)



▤ Crack inspection (solar wafer)

► Camera Specifications

Camera Specifications	Manx 512 SQ CXP		Manx 1024 SQ CXP	Manx 2048 SQ CXP
Mechanical specifications				
Approximate dimensions - excluding lens [width x height x length] [mm]	102 x 102 x 40			
Weight [gr] - excluding lens	900			
Optical interface	C-mount or M42 [M42 to F-mount adapter optional]			
Connector CXP	4 connectors - type DIN 1.0/2.3			
Connector power	Only PoCXP			
Connector trigger	Lemo 1B.310 [unified connector]			
Environmental & power specifications				
Operating case temperature [°C]	From -40 to +60			
Storage temperature [°C]	From -40 to +85			
Power consumption [W]	11			
Power supply voltage	DC 12 V			
Shock	40 g, 11 ms, according to MIL-STD810G			
Vibration	5 g [20 to 2000 Hz], according to MIL-STD810G			
IP rating	IP40			
Regulatory compliance	CE, RoHS			
Electro-optical specifications				
Sensor format [pixels]	512	1024	2048	
Pixel pitch [µm]	12.5			
Pixel height [µm]	12.5			
Detector type	InGaAs photodiode array with CTIA ROIC			
Sensor temperature stabilization	TE cooler			
Integration type	Snapshot - global shutter			
Optical fill factor	100%			
Spectral range [nm]	900 - 1700			
Quantum efficiency	~80% [typical peak value]			
Gain modes	4 different gain modes selectable: High Gain [HG], Medium Gain [MG], Medium Low [ML], Low Gain [LG]			
Full well capacities [electrons]	200k; 1.2M; 5.6M; 25M			
Read noise [electrons]	300 [HG]; 750 [MG]; 2600 [ML]; 10200 [LG]			
Dark current [electrons/second]	1.17M [at 35°C sensor temp and 100 mV reverse bias]			
Read out mode	IWR			
Pixel operability	>99.6%	>99%	>98%	
Max line rate [kHz]	260			
Analog-to-Digital [ADC] [bits]	14			
Command and control	CoaXPress			
Digital output format	CoaXPress [16 bit]			
Trigger	2 trigger in & 2 trigger out - LVCMOS 3.3 V			
Product selector guide				
Part Number	XEN-000654	XEN-000655	XEN-00656	



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