

# Manx R Series

## Linescan SWIR Camera with Rectangular Pixels

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



### World's fastest InGaAs linescan camera

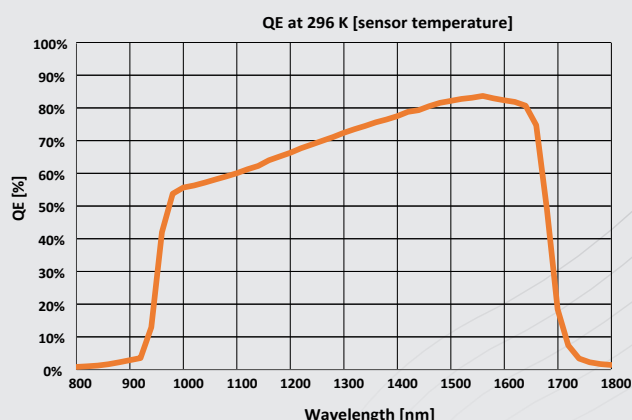
Based on a brand new, in-house developed InGaAs linear detector, the Manx rectangular (R) is a high-performance short-wave infrared (SWIR) camera providing high speed and quality linescan imaging. At unprecedented line rates of up to 256 kHz (or 128 kHz), the Manx rectangular (R) stands as the fastest linescan InGaAs camera available in the world.

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

The Manx rectangular (R) products are suitable for spectroscopy and spectral-domain optical coherence (OCT).



### Designed for use in

- Spectroscopy
- Spectral-domain optical coherence tomography

### Advantages

- World's fastest SWIR linescan imaging up to 256 kHz
- High resolution
- Low noise, low dark current
- CoaXPress interfacing for reliable streaming of data
- Versatility with 4 gain modes

## ► Camera Specifications

Camera Specifications	Manx 512 R CXP 130/260	Manx 1024 R CXP 130/260	Manx 2048 R CXP 130/260
<b>Mechanical specifications</b>			
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 [unified connector]		
<b>Environmental &amp; power specifications</b>			
Operating case temperature [°C]	From -40 to +60		
Storage temperature [°C]	From -40 to +85		
Power consumption [W]	Up to 11 [without TEC]		
Power supply voltage	DC 24 V [via CoaXPress]		
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		
<b>Electro-optical specifications</b>			
Sensor format [pixels]	512	1024	2048
Pixel pitch [µm]	12.5		
Pixel height [µm]	250		
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: 100x [HG], 20x [MG], 5x [ML], 1x [LG]		
Full well capacities [electrons]	290k; 1.6M; 8.1M; 35M		
Read noise [electrons]	350 [HG]; 700 [MG]; 2600 [ML]; 12000 [LG]		
Dark current [electrons/second]	1.6M [at 20°C sensor temp and 100 mV reverse bias]		
Read out mode	IWR		
Pixel operability	>99.6%	>99%	>98%
Max line rate [kHz]	128 ["130" version], 256 ["260" version]		
Analog-to-Digital [ADC] [bits]	14		
Command and control	CoaXPress		
Digital output format	CoaXPress [16 bit]		
Trigger	Trigger connector: 2 trigger in & 2 trigger out - LVCMOS 3.3 V; CXP trigger: 1 trigger in		
<b>Product selector guide</b>			
Part Number	XEN-000657 [130] XEN-000686 [260]	XEN-000658 [130] XEN-000687 [260]	XEN-000659 [130] XEN-000688 [260]

XDS-021-01 | Information furnished by Xenics is believed to be reliable. However, no responsibility is assumed for possible inaccuracies or omissions. Specifications are typical values and subject to change without notice. This information supersedes all previously supplied information.



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