



Nocturn HD-SDI

Features

- Color or Monochrome
- Night time broadcasting
- Remote sensing
- Vehicle dashboard camera
- Security or Surveillance
- Unmanned ground or aerial



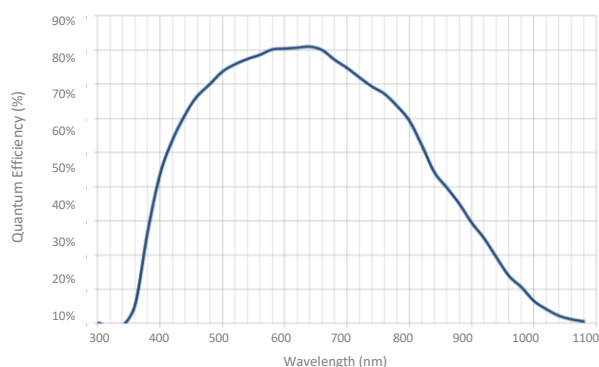
Camera	Specifications
Resolution	1280 x 720 Pixels
Pixel Pitch	9.7 μm x 9.7 μm
Shutter Mode	Rolling
Spectral range	Monochrome 350-1100nm Smart Color 350-650nm
Read Noise	< 4e- median at 60 Hz
Frame Rate	50 Hz or 60 Hz
Sensitivity	Full daylight to bright starlight conditions

Imaging enhancements	
Non-uniformity correction	Factory calibrated
Image processing	Noise removal, sharpening, contrast enhancement
Gain and exposure controls	Fully automatic or manual
Digital Zoom	4x

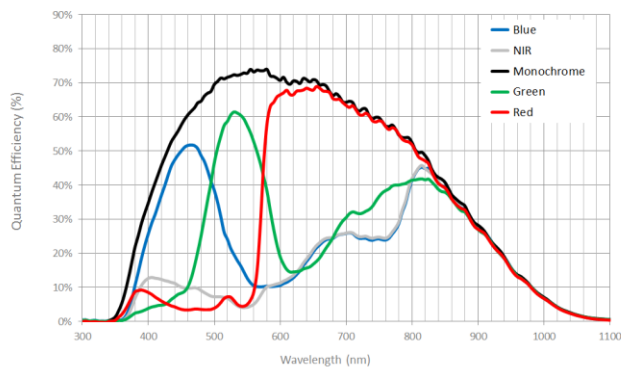
Camera format and dimensions	
Optical format	1 inch
Lens mount	C-mount
Mounting interface	1/4-20" tripod mount adapter
Dimensions	35mm x 37mm x 54mm
Weight	< 95g

Quantum Efficiency

Monochrome



Color



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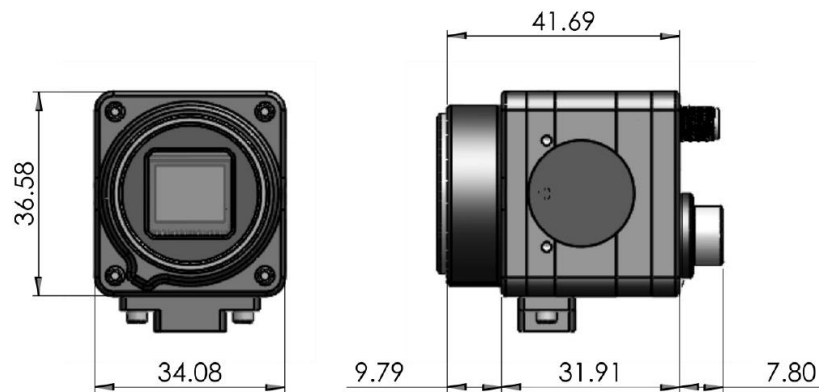
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Input/Output	
Digital Video Output	HD-SDI 720p 60Hz or 50Hz
Communications	Serial over USB or TS-422

Environmental and Power	
Operating Temperature	-40°C to +60°C
Storage Temperature	-50°C to +80°C
Input Voltage	+5 to +12 VDC over GPIO Interface
Power dissipation	Monochrome < 2W (Typical) Smart Color < 2,5W (Typical)

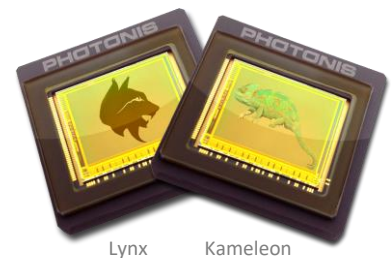
Mechanical Dimensions for HD-SDI Camera Body (in mm)



Nocturn HD-SDI Camera is powered by the Kameleon Color CMOS imaging sensor, or the Lynx CMOS monochrome sensor, both optimized for low light level imaging.

These fully solid-state CMOS sensors provide excellent imaging across varying light conditions, from daylight to low-light levels such as those found during a quarter moon.

Both Lynx and Kameleon CMOS imaging sensors provide full SXGA resolution at 60 frames per second, with < 4e- read out noise and without cooling.



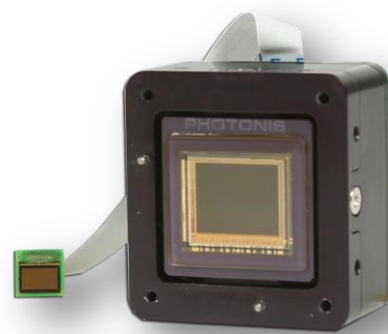


NOCTURN MD

DATA SHEET

Features

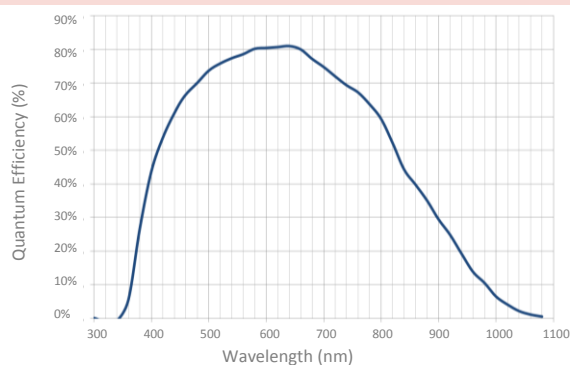
- Ideal for 24/7 operations
- Less than 4e-read-out noise
- 860 nm and 1064 nm laser line detection
- 1.3 Mpx
- 60 fps
- Digital zoom up to 8x



Camera	Specifications
Resolution	1280 x 1024 Pixels
Pixel Pitch	9.7 μm x 9.7 μm
Well Capacity	> 25000 e-
Dynamic Range	> 60 dB
Read Noise	< 4e- median at 60 Hz
Quantum Efficiency	> 80% at 650 nm
Frame Rate	Adjustable up to 60 Hz
Image Lag	< 0.1%
Shutter Mode	Rolling
Display	
Display Type	High resolution monochrome (black/white) OLED micro display
Resolution Modes	1746 x 1000 or 1280 x 1000 Pixels
Pixel Pitch	5 μm x 5 μm
Maximum Luminance	250 cd/m ² , 75 fL
Frame Rate	60 Hz

Features	
Imaging Start Up Time	< 5 sec
Image Correction	Bad pixel replacement and 2 points non-uniformity correction (NUC)
Gain Control	Automatic gain and exposure control or manual
On-Screen Display	Full on-screen display capability with text, standard geometrical shapes and graphics
Digital Zoom	Up to 8X (0.001 increment resolution)
Contrast Enhancement	Contrast stretching, equalization and adaptive equalization

Quantum Efficiency Curve shows > 80% at peak with micro lenses



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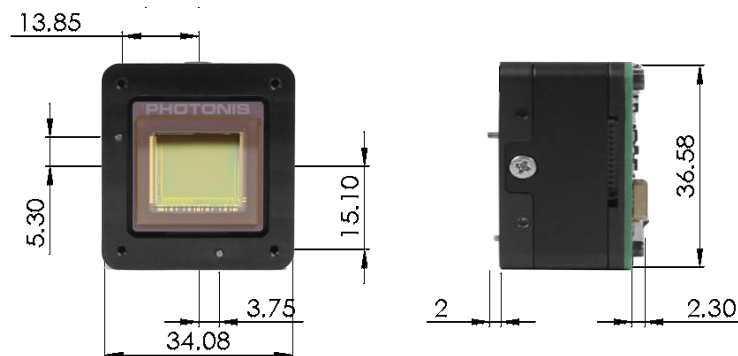


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Housing	
Dimensions (excluding connectors) (Width x Height x Depth)	34.1 mm x 36.6 mm x 25 mm
Weight	< 50 g
Display Connection	Commercial flex cable
Input/Output	
Analog Video Output	User-selectable NTSC/PAL
Communications	Industry-standard USB 2.0 Full Speed USB 2.0 Mass Storage for SD Card Support
User Interface	Logic level RS-232 serial port
Snapshots	On-board capture of *,JPG or *, PGM (8/10b)
Environmental and Power	
Operating Temperature	-40°C to +60°C
Storage Temperature	-50°C to +80°C
Input Voltage	USB powered or external +2.6 to +12 VDC
Power (typical)	1.8 W

Mechanical Dimensions for MD Camera Body (in mm)

NOCTURN MD Camera is powered by the LYNX CMOS imaging sensor, optimized for low light level imaging.

This fully solid-state CMOS sensor provides excellent imaging across varying light conditions, from daylight to low-light levels such as those found during a quarter moon.

The LYNX CMOS imaging sensor provides full SXGA resolution at 100 frames per second, with < 4e- read out noise and without cooling.



LYNX



NOCTURN XL

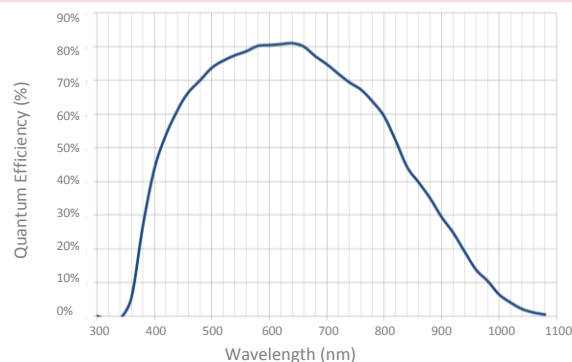


Features

- Ideal for 24/7 operations
- Less than 4e-read-out noise
- 860 nm and 1064 nm laser line detection
- 1.3 Mpx
- 100 fps
- Digital zoom up to 8x

Camera	Specifications
Resolution	1280 x 1024 Pixels
Pixel Pitch	9.7 μm x 9.7 μm
Well Capacity	> 25000 e-
Dynamic Range	> 60 dB
Read Noise	< 4e- median at 60 Hz
Quantum Efficiency	> 80% at 650 nm
Frame Rate	50, 60, or 100 Hz with full field resolution (user selectable)
Image Lag	< 0.1%
Shutter Mode	Rolling
Features	
Imaging Start Up Time	< 5 sec
Image Correction	Bad pixel replacement and 2 points non-uniformity correction (NUC)
Gain Control	Automatic gain and exposure control or manual
Windowing	Full field of view down to 1/2 vertical resolution
On-Screen Display	Full on-screen display capability with text, standard geometrical shapes and graphics
Digital Zoom	Up to 8X (0.001 increment resolution)
Contrast Enhancement	Histogram stretching, equalization and adaptive equalization
Snapshots	On-board capture of *, JPG or *, PGM (8/10b)
Housing	
Lens Mount	CS-mount
Dimensions (excluding connectors) (Width x Height x Depth)	34.1 mm x 36.6 mm x 37.4 mm
Weight	< 85g

Quantum Efficiency Curve shows > 80% at peak with micro lenses



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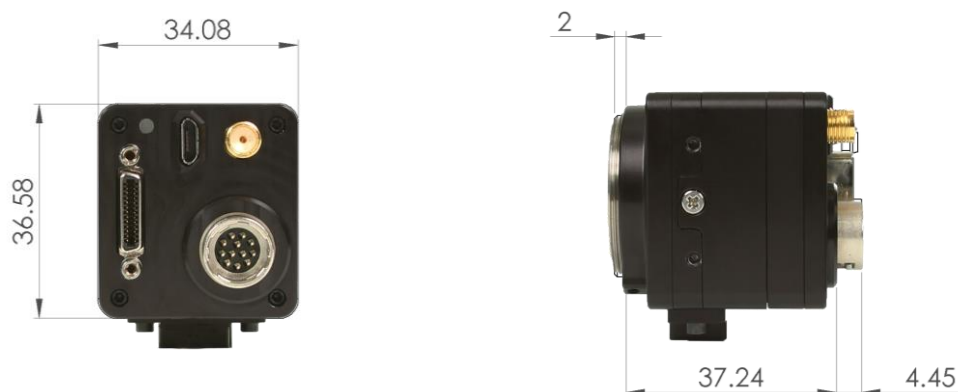


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Input/Output	
Digital Video Output	10/8 bit CameraLink® Compatible
Analog Video Output	NTSC/PAL (user selectable)
Communications	Serial via CameraLink® Compatible or USB
Synchronization	Frame start trigger (2 to 12 V) Analog output strobe reference (2 to 12V)
Environmental and Power	
Operating Temperature	-40°C to +60°C
Storage Temperature	-50°C to +80°C
Input Voltage	USB powered or external +5 to +15 VDC
Power (typical)	60/50 Hz mode: < 1.8 W; 100 Hz mode: <2.25 W

Mechanical Dimensions for XL Camera Body (in mm)

NOCTURN XL Camera is powered by the LYNX CMOS imaging sensor, optimized for low light level imaging.

This fully solid-state CMOS sensor provides excellent imaging across varying light conditions, from daylight to low-light levels such as those found during a quarter moon.

The LYNX CMOS imaging sensor provides full SXGA resolution at 100 frames per second, with < 4e- read out noise and without cooling.



LYNX



NOCTURN XS

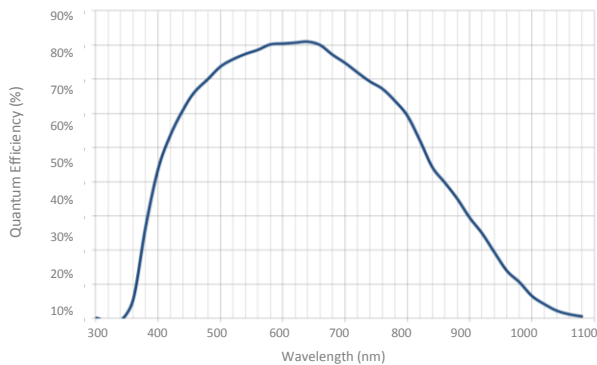


Features

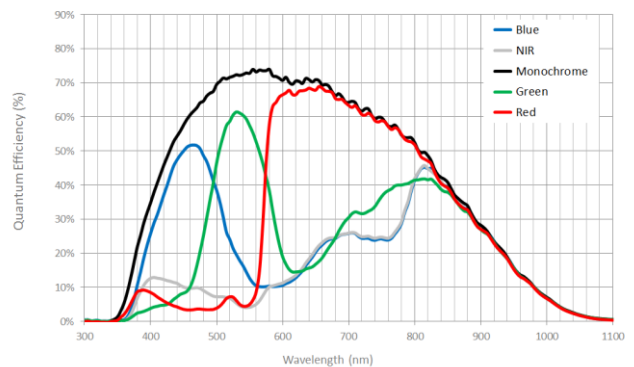
- Color or Monochrome
- Ideal for 24/7 operations
- Less than 4e-read-out noise
- 860 nm and 1064 nm laser line detection
- 1.3 Mpx up to 100 fps
- Digital zoom up to 8x

Camera	Specifications
Resolution	1280 x 1024 Pixels
Pixel Pitch	9.7 μm x 9.7 μm
Well Capacity	> 25000 e-
Dynamic Range	> 60 dB
Read Noise	< 4e- median at 60 Hz
Frame Rate	50, 60, or 100 Hz with full field resolution (user selectable)
Image Lag	< 0.1%
Shutter Mode	Rolling
Features	
Imaging Start Up Time	< 5 sec
Image Correction	Bad pixel replacement and 2 points non-uniformity correction (NUC)
Gain Control	Automatic gain and exposure control or manual
Synchronization	Frame start trigger (2 to 12 V) - Analog output strobe reference (2 to 12 V)
Windowing	Full field of view down to 1/2 vertical resolution
On-Screen Display	Full on-screen display capability with text, standard geometrical shapes and graphics
Digital Zoom	Up to 8X (0.001 increment resolution)
Contrast Enhancement	Histogram stretching, equalization and adaptive equalization
Snapshots	On-board capture of *, JPG (8b) or *, PGM (8/10b)
Housing	
Dimensions (excluding connectors) (Width x Height x Depth)	34.1 mm x 36.6 mm x 17.3 mm
Weight	< 45g
Quantum Efficiency	

Monochrome



Color



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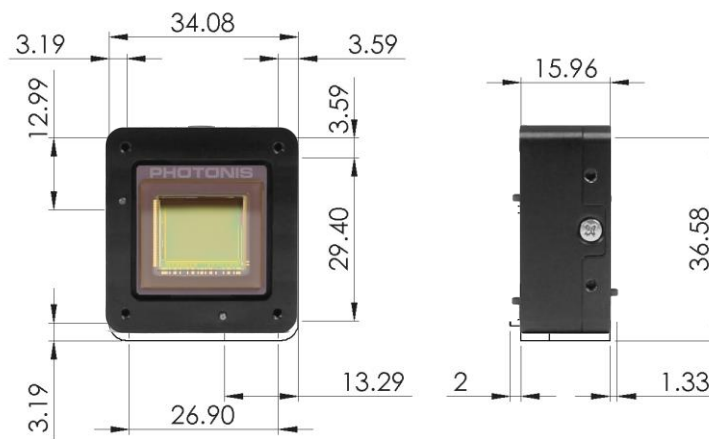


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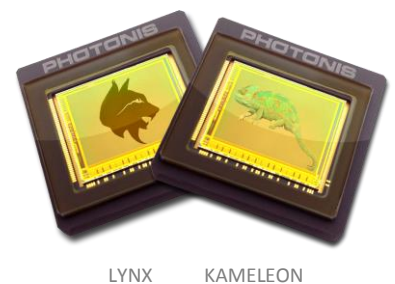
Input/Output	
Digital Video Output	CameraLink® Compatible or parallel LVCMOS
Communications	Logic Level serial port
Synchronization	LVTTTL output
Environmental and Power	
Operating Temperature	-40°C to +60°C
Storage Temperature	-50°C to +80°C
Input Voltage	2.25 to +5.5 VDC
Power (typical)	< 1.5 W

Mechanical Dimensions for XS Camera Body (in mm)

NOCTURN XS Camera is powered by the LYNX CMOS or KAMELEON Color imaging sensor, optimized for low light level imaging.

These fully solid-state CMOS sensors provide excellent imaging across varying light conditions, from daylight to low-light levels such as those found during a quarter moon.

Both LYNX and KAMELEON CMOS imaging sensors provide full SXGA resolution at 60 frames per second, with < 4e- read out noise and without cooling.



LYNX KAMELEON



NOCTURN U3

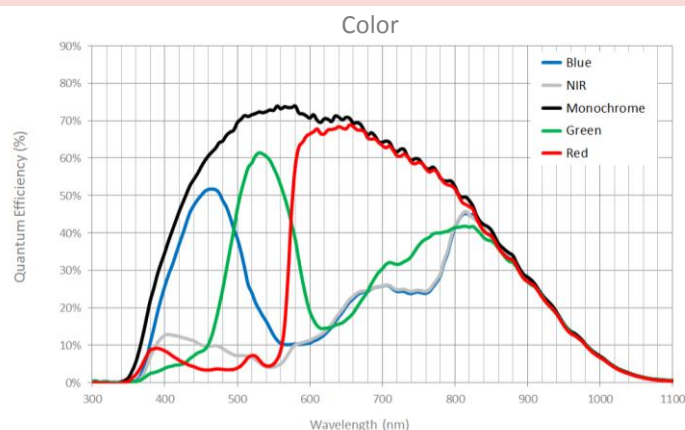
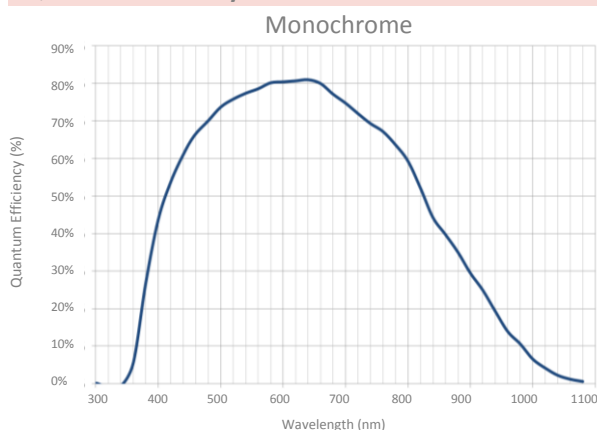
DATA SHEET



Features

- Color or Monochrome
- Ideal for 24/7 operations
- Less than 4e-read-out noise
- 860 nm and 1064 nm laser line detection
- 1.3 Mpx up to 60 fps
- Digital Zoom up to 8x

Camera	Specifications
Resolution	1280 x 1024 Pixels
Pixel Pitch	9.7 μm x 9.7 μm
Well Capacity	> 25000 e-
Dynamic Range	> 60 dB
Read Noise	< 4e- median at 60 Hz
Frame Rate	50 or 60 Hz with full field resolution (user selectable)
Image Lag	< 0.1%
Shutter Mode	Rolling
Features	
Imaging Start Up Time	< 10 seconds
On-screen Display	Full on-screen display capability with text, standard geometrical shapes and graphics
Image Correction	Bad pixel replacement and 2 points non-uniformity correction (NUC)
Gain Control	Automatic gain and exposure control or manual
Digital Zoom	Up to 8X (0.001 increment resolution)
Color/Monochrome image	Full color to ~200mLx; auto-switch to monochrome User-selectable monochrome for all light conditions
Contrast Enhancement	Contrast stretching, equalization and adaptive equalization
Housing	
Lens Mount	CS-mount
Dimensions (excluding connectors) (Width x Height x Depth)	41 x 41 x 58 mm
Weight	< 150g
Quantum Efficiency	



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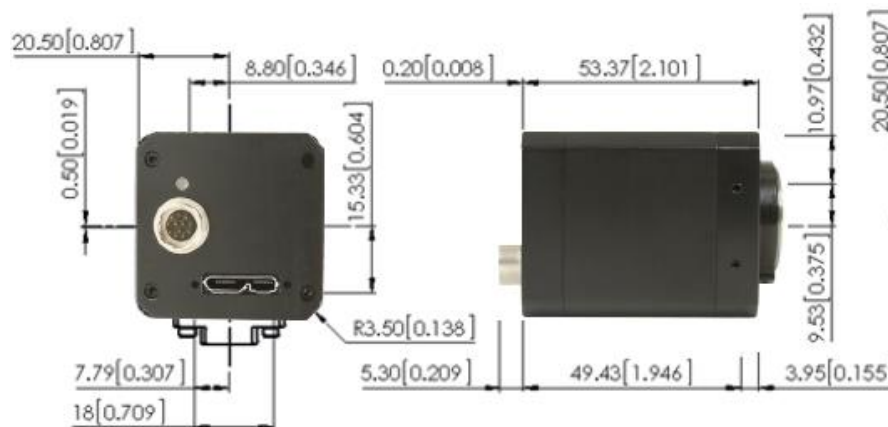
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Input/Output	
Digital Video Output	Monochrome: Monochrome 8/10 bit over USB3 Color: Monochrome 8/10 bit over USB3 or 24-bit YCbCr or YUV (4:2:2 format) over USB3
Communications	Serial via external interface or Micro-B USB 3.0
Synchronization via USB3 serial	Frame start trigger (2 to 12 V) Analog output strobe reference (2 to 12V)
Environmental and Power	
Operating Temperature	0°C to +50°C
Storage Temperature	-50°C to +80°C
Input Voltage	USB powered
Power (typical)	60/50 Hz mode: 3.5 W

Mechanical Dimensions for U3 Camera Body (in mm)



NOCTURN U3 Camera is powered by the KAMELEON Color CMOS imaging sensor, or the LYNX CMOS monochrome sensor, both optimized for low light level imaging.

The KAMELEON Color and LYNX Monochrome CMOS imaging sensors are the first operational sensors specifically designed with Night Vision, Homeland Security and Surveillance applications in mind. These fully solid-state CMOS sensors provide excellent imaging across varying light conditions, from daylight to low-light levels such as those found during a quarter moon. Both LYNX and KAMELEON CMOS imaging sensors provide full SXGA resolution at 100 frames per second, with < 4e- read out noise and without cooling.

