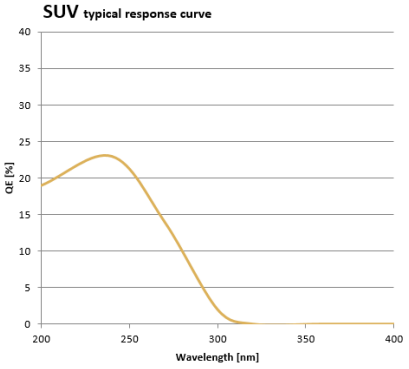
Property of the Photonis Group.
Reproduction, or disclosure to third parties, in any form whatsoever not allowed without written consent of Photonis.

Propriété du groupe Photonis.
La reproduction ou la diffusion à une tierce partie, sous quelque forme que ce soit, sans accord écrit de Photonis, est strictement interdite.

Eigendom van de Photonis Groep.
Vermenigvuldigen of mededeling aan derden, in welke vorm ook is zonder schriftelijke toestemming van Photonis niet geoorloofd.

General Description

18 mm MCP based intensified camera with a SUV photocathode on a Quartz input window. Direct fiber bonded to a Photonis NOCTURN XL camera. The versatile Camera Link interface enables easy conversion to other interface standards, e.g. USB3, using off-the-shelf converters. The SUV I-NOCTURN features single photon sensitivity. Compact, lightweight design with C-mount lens interface.



Supply Voltages

Input voltage	USB powered or external +5 to +15 VDC
Power (typical)	60/50 fps mode: < 1.8 W; 100 fps mode: < 2.25 W
EGAC	External gain control via 12-pin camera connector 0 to +5 VDC

Image Intensifier section

Optical Specification at 20°C and nominal operating conditions and within effective aperture

Input window:	Quartz, synthetic silica
Photocathode type:	SUV, CsTe
MCP:	High resolution
Output window:	Fiber-optic
Phosphor type:	P43

Property of the Photonis Group.
Reproduction, or disclosure to third parties, in any form whatsoever not allowed without written consent of Photonis.

Propriété du groupe Photonis.
La reproduction ou la diffusion à une tierce partie, sous quelque forme que ce soit, sans accord écrit de Photonis, est strictement interdite.

Eigendom van de Photonis Groep.
Vermenigvuldigen of mededeling aan derden, in welke vorm ook is zonder schriftelijke toestemming van Photonis niet geoorloofd.

Optical Specification *continued*

		Minimal	Typical	Maximal	Unit
Input useful diameter		17.5			mm
Effective aperture			9.9 x 12.4		mm
Photocathode sensitivity					
Quantum efficiency	@240 nm	18			%
	@270 nm	11			%
	@320 nm		0.2	1.2	%
Single photon response	% pixel well cap.		50		%
Max Output Brightness	% pixel well cap.	100			%
Resolution			51		lp/mm
Dark rate				10	c/s
Non-uniformity				40	%

Image Quality

Dark spots

The number of spots, exceeding a contrast with their surrounding area of 20%, is less or equal to the number indicated in the table below. The size of non-circular spots is determined on the basis of equal area to circular spots. When the distance between two spots is less than the maximum dimension of either spot, the two spots are considered to be one spot.

Size of spots	for reference	Maximal number of spots allowed within effective aperture
> 150 µm	> 10 pixels	0
80 - 150 µm	8 - 15 pixels	3
50 - 80 µm	5 - 8 pixels	3
30 - 50 µm	3 - 5 pixels	20
< 30 µm	< 3 pixels	minimal

Property of the Photonis Group.
Reproduction, or disclosure to third parties, in any form whatsoever not allowed without written consent of Photonis.

Propriété du groupe Photonis.
La reproduction ou la diffusion à une tierce partie, sous quelque forme que ce soit, sans accord écrit de Photonis, est strictement interdite.

Eigendom van de Photonis Groep.
Vermenigvuldigen of mededeling aan derden, in welke vorm ook is zonder schriftelijke toestemming van Photonis niet geoorloofd.

Image Quality *continued*

Bright spots

There shall be no bright spots in the active area.

External Gain Control (EGAC)

The gain of the image intensifier is adjustable by means of an external control voltage from its factory pre-set maximum value at VEGAC = 0 V down to a value which is at least a factor of 100 lower at VC = 5 V. EGAC voltage can be regulated via the 12-pin camera connector.

SUV I-NOCTURN camera section

Magnification

	Magnification of coupling fiber typical 1.00

Image Sensor

Type	LYNX
Image area	12.4 mm (H) x 9.9 mm (V). Pixel pitch 9.7 µm (H) x 9.7 µm (V)
Resolution	1280 x 1024 Pixels, 1.3 Mpx
Read Noise	< 4 e^- median @ 60 fps
Frame Rate	50, 60 or 100 fps with full field resolution (set on user request)
Shutter mode	Rolling

Camera electronics

Dynamic Range	60 dB
Image Lag	< 0.1%

Property of the Photonis Group.
Reproduction, or disclosure to third parties, in any form whatsoever not allowed without written consent of Photonis.

Propriété du groupe Photonis.
La reproduction ou la diffusion à une tierce partie, sous quelque forme que ce soit, sans accord écrit de Photonis, est strictement interdite.

Eigendom van de Photonis Groep.
Vermenigvuldigen of mededeling aan derden, in welke vorm ook is zonder schriftelijke toestemming van Photonis niet geoorloofd.

Features

Imaging Start Up Time	< 5 s
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 (0.0001 increment resolution)
Contrast Enhancement	Histogram stretching, equalization and adaptive equalization

Housing

Dimensions W x H x L	34/37 x 37 x 85 mm excluding connectors
Weight	< 170 g

Environmental Conditions (*preliminary*)

	Minimum	Typical	Maximum	Unit
Operating temperature	-10	20	55	°C
Storage temperature (4 h max)	-10	20	65	°C
Storage temperature (long term)	-10	20	35	°C