| Front View | Rear View |

C2820
CMOS 8.1 MP
GigE Vision® with Power over Ethernet (PoE)

PRELIMINARY

Imperx: *C2820*

The POE-C2820 ultraviolet camera features the Sony Pregius S™ IMX487 Global Shutter CMOS sensor with a native resolution of 2856 x 2848 in a 2/3" optical format capturing images in the UV spectral range from 200 nm to 400 nm and delivering up to 14.8 frames per second with GigE Vision® Power over Ethernet (PoE) output. The Pregius S technology uses a stacked back-illuminated pixel structure with or without a double A/R coated quartz glass window offering reduced pixel size, and quantum efficiency similar to the popular ICX407(UV) image sensor. The C2820's flexibility, image quality, and speed make it suitable for a broad range of diverse and demanding applications, but "one size doesn't fit all," and Imperx can help optimize the camera to your exact requirements.

Specifications

Feature	Description
Output Interface	GigE Vision® with Power over Ethernet (PoE)
Resolution	2856 (H) x 2848 (V)
Sensor	Sony Pregius S IMX487 CMOS Ultraviolet
Spectral Range	200 nm–400 nm
Sensor Format	7.8 mm (H) x 7.8 mm (V), 2/3" optical format (11.1 mm diagonal)
Pixel Size	2.74 microns square
Shutter	Global shutter (GS)
Sensor Digitization	12-bit
Frame Rate	14.8 fps (8-bit), 7.4 fps(10-bit/12-bit unpacked), 9.8 fps (10-bit/12-bit packed)
Dynamic Range	71 dB
Output Bit Depth	8, 10, 12-bit
Analog/Digital Gain	Manual, Auto; 0 dB – 48 dB, 480 steps
Digital Gain	1x (0 dB) to 4x (12 dB) with a precision of 0.001x
Black Level Offset	Manual (0 – 4095), Auto
White Balance	Manual, Auto, Once, Off
Shutter Speed	26 µs to 16.0 s
Exposure Control	Off, Manual, Auto, External
Regions of Interest (ROI)	2 ROI
Binning	1x1, 2x2
Sub-sampling	1x1, 2x2
Trigger Inputs	External, Pulse generator, Software
Trigger Options	Edge, Pulse width, Trigger delay, Debounce, Trigger over Ethernet
Trigger Modes	Free run, Standard, Fast
External Inputs/Outputs	2 IN (OPTO, LVTTL) / 2 OUT (OPTO, TTL)

Feature	Description
Strobe Output	2 strobes, programmable position and duration
Pulse Generator	Yes, programmable
Data Corrections	2 LUTs pre-programmed with Gamma 0.45, 2 LUTs pre-programmed with Negative LUT Bad pixel correction (static), Flat field correction
Lens Mount	C-Mount (default)
P-Iris	Optional
P-Iris Control	Auto, Programmable
Supply Voltage Range	12 VDC (6 V – 30 V), 1.5 A inrush @ 12 V PoE (IEEE 802.3af / IEEE 802.3at)
Power Consumption	Typical: 3.96 W @ 12 V; PoE: 5.95 W
Camera Current	Typical: 330 mA @ 12 V
Size - Width/Height/Length	37 mm (W) x 37 mm (H) x 61.6 mm (L)
Weight	125.2 g
Vibration, Shock	20G (20 – 200 Hz XYZ)/100G
Environmental	-30 °C to +75 °C Operating (-40 °C to +85 °C tested) -40 °C to +85 °C Storage
Humidity	10% to 90% non-condensing
MTBF (Telcordia SR-332)	Not Specified[1]
Military Standard	MIL-STD-810G
Regulatory	FCC Part 15 Class A, CE, RoHS, UKCA

[1] UV illumination inherently damages the image sensor increasing image sensor dark current with dose.
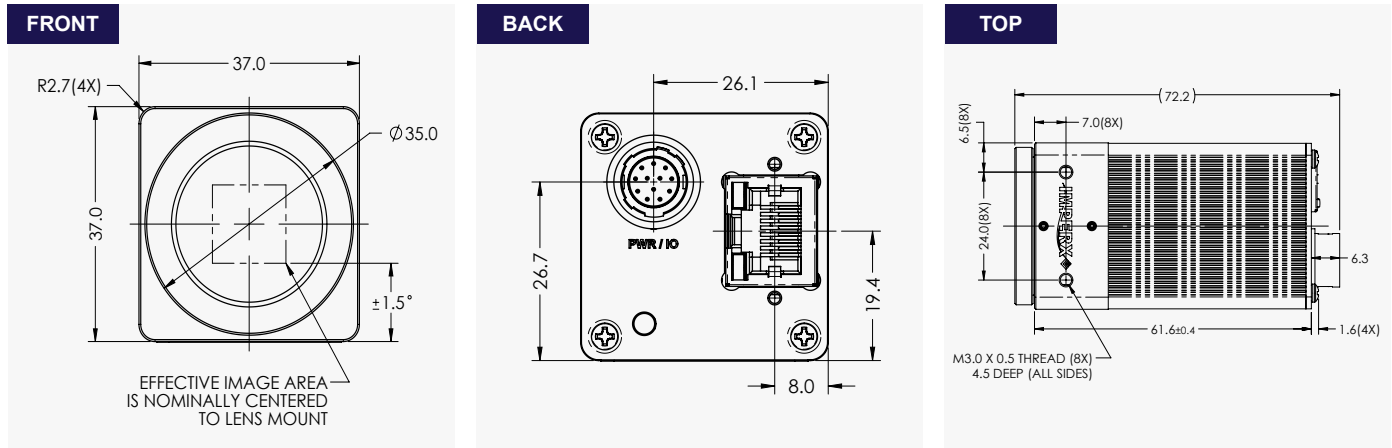The amount of damage and the useful life of the image sensor is dependent upon the radiant power and duration. For more information, contact Imperx.

IMPERX
Industrial Cameras & Imaging Systems

Imperx: *C2820 Applications*

The POE-C2820 incorporates a number of unique features tailored to reduce system complexity, maximize interface bandwidth, and expand the usable operational range.

Infrastructure Inspection ● Sorting Materials ● Mask Inspection ● Printing Inspection ● Semiconductor Manufacturing ● Printed Circuit Board Inspection ● Flat Panel Display Inspection ● Scientific Imaging ● Metrology ● High-Resolution Microscopy ● UV Spectroscopy ● Fluorescence Analysis ● Food Processing ● Astronomy ● Machine Vision ● Aerial Imaging ● Unmanned Aerial Vehicles
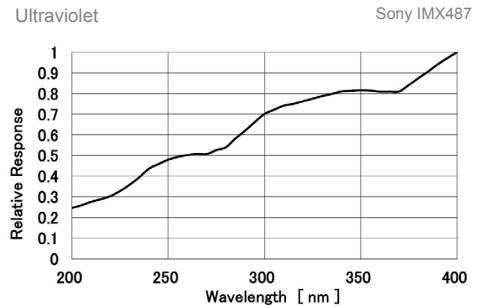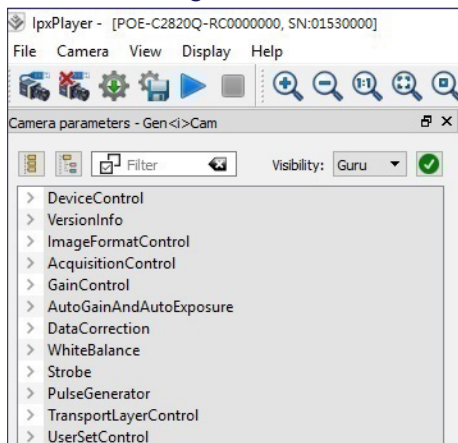
Dimensions

FRONT

EFFECTIVE IMAGE AREA IS NOMINALLY CENTERED TO LENS MOUNT

BACK

PWR / IO

TOP

M3.0 X 0.5 THREAD (8X) 4.5 DEEP (ALL SIDES)

Ordering Information

Output Interface
GigE Vision® with Power over Ethernet (PoE®)

Sensor Types available
Q – Ultraviolet with quartz glass cover
W – Ultraviolet without glass cover

Lens Mounts	
C-Mount (Default)	P-Iris (Optional)

Accessories (Sold separately)
PS12V14A – Power Supply w/ 1 input and 1 output
PS12V18A – Power Supply w/ 1 input, 1 output, and a P-Iris connector
CBL-PWIO01–I/O Cable; Hirose 12p (F) to loose end; 2 m

Spectral Sensitivity

Ultraviolet — Sony IMX487

Gen<I>Cam Compliant Camera Configurator

Hirose Connectors

Power and I/O Interface

1. 12 VDC Return
2. +12 VDC Power
3. Reserved
4. Reserved
5. OUT2 RTN (OPTO)
6. OUT1 RTN
7. OUT1 (TTL)
8. IN1 (OPTO)
9. IN2 (LVTTL)
10. IN1 RTN
11. IN2 RTN
12. OUT2 (OPTO)

Connector: Hirose HR10A-10R-12PB(71)

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