PEMBROKE INSTRUMENTS, LLC

SWIR CAMERA DATA SHEET

SenS 1280C STE

Manufacturer: New Imaging Technologies (NIT)

Technical data reproduced from the original manufacturer datasheet.

For a quote or more information email

sales@pembrokeinstruments.com

Ordering Information

Commercial Reference

Commercial reference	Description	Ordering information
SenS 1280 C-STE	SenS 1280 Embedded CoaXPress camera	9SEC1901AE31AC0# **#: product revision, A or higher**

Included Accessories

- Power and trigger Cable (Hirose HR10 connector)
- 12V power supply
- Heatsinks (unmounted)
- Cardboard shipping and storage box

Optional Accessories

- Hardened protective case

Custom variants (OEM)

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Products are only warranted by NIT to meet NIT's production data sheet specifications.

FUNCTIONALITIES

Camera

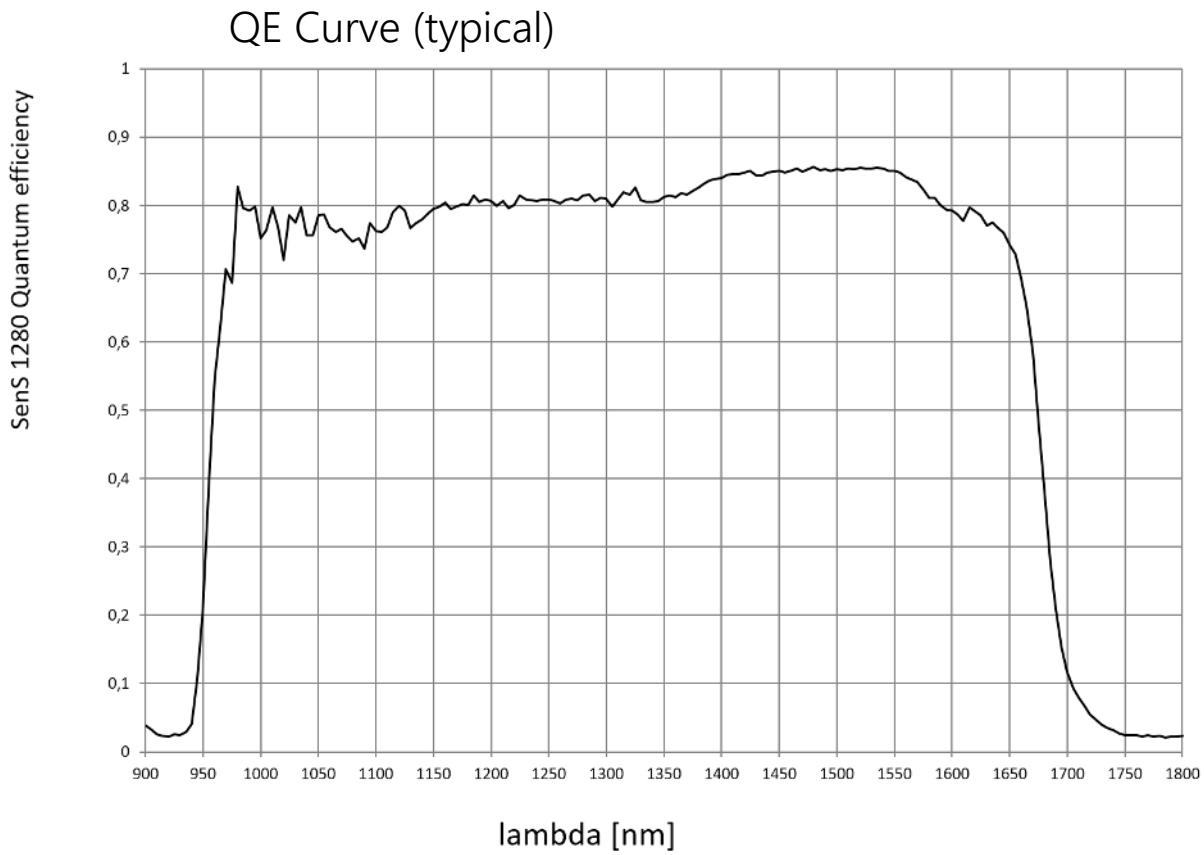
Main camera features (For full documentation contact):

Sensor characteristics	Sensor type	InGaAs (0.9-1.7 spectral response, see QE curve)
	Pixel pitch	$10\mu m$
	Resolution	1280x1024
	Sensor diagonal	16.4mm
	Sensor noise	• High gain (CDS): $30e^-$ typical • Low gain: $120e^-$
	Dynamic range	• High gain (CDS): 52dB typical • Low gain: 61dB typical
	Peak QE	>80%
Camera features	Frame rate	Up to 60Hz (full frame)
	Sensor Readout	Global shutter ITR (Integrate Then Read)
	Sensor modes	Low Gain / High gain (CDS)
	Output data range	14 bit ADC
	Output Type	8/10/12/14 bits pixel formats
	Exposure time	Minimum Integration time: 10us Controlled by camera register or Trigger width
	Trigger	Internal/External (LVTTL) Software Trigger Trigger over CoaXPress
	Trigger delay	User-Selectable
	Partial reading mode	Region of Interest (ROI). User-Selectable with a step of 8 pixels Maximum FPS increase with reduced ROI
	AGC (Histogram Stretching)	Auto/Once/Manual Auto: Automatic per frame gain and offset adjustment Manual: User-Selectable fixed gain and offset
	Histogram calculation	User Selectable parameters: % pixels to ignore, ROI
	NUC correction	Correction 1-Point or 2-Point. 2 Point factory calibrated. (25°C sensor Temperature)
	Bad pixel correction	Factory calibrated Bad Pixel Map
	File Management	Upload/Download via camera communication interface Firmware Update Correction table (NUC and BPM) download and upload File management software provided (Windows compatible)
	Temperature monitoring	Mainboard & Image Sensor
	Overlay	Histogram ROI + Crosshair
	User Configuration	4 User-defined presets Selectable boot-up preset
	Image Flip	Horizontal/Vertical

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Environment and mechanical characteristics	Power consumption (12V supply)	• Camera: <5.5W
		• Cooling: User-Selectable TEC power limit
		  ○ Off
		  ○ Low: <1W
		  ○ Medium: <2W
		  ○ High: <4W (Default, user defined value)

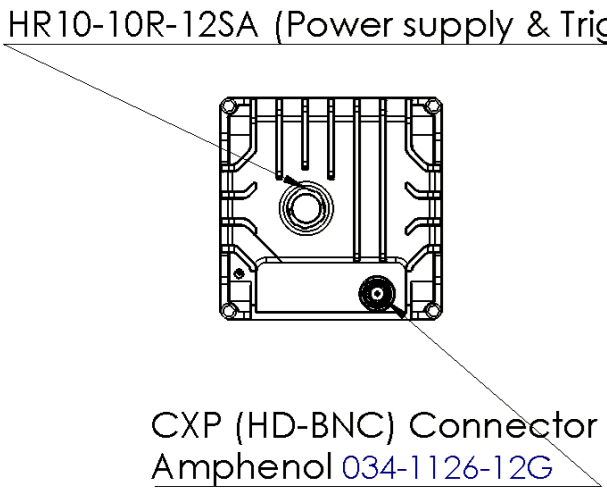
	Supply voltage range	9 to 35V (Overvoltage, reverse polarity protection) PoCXP available on request
	Storage temperature	-40 to +80°C
	Operating temperature	-40 to +71°C
	Size (WxHxL, mm)	58x58x78.7 without heatsink 118x58x78.7 with heatsinks
	Weight	<350g without optional heatsinks.
	Lens mount	C-Mount
Software	Control protocol	GenCP (Genicam) compliant
	NIT Software	NITGenicamControlTool (Windows, camera control only)
	Third party	Genicam/GenCP compliant software



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Electrical ICD

Reference	Designation	Manufacturer
HR10-10R-12SA	Connector Female 12 positions	Hirose



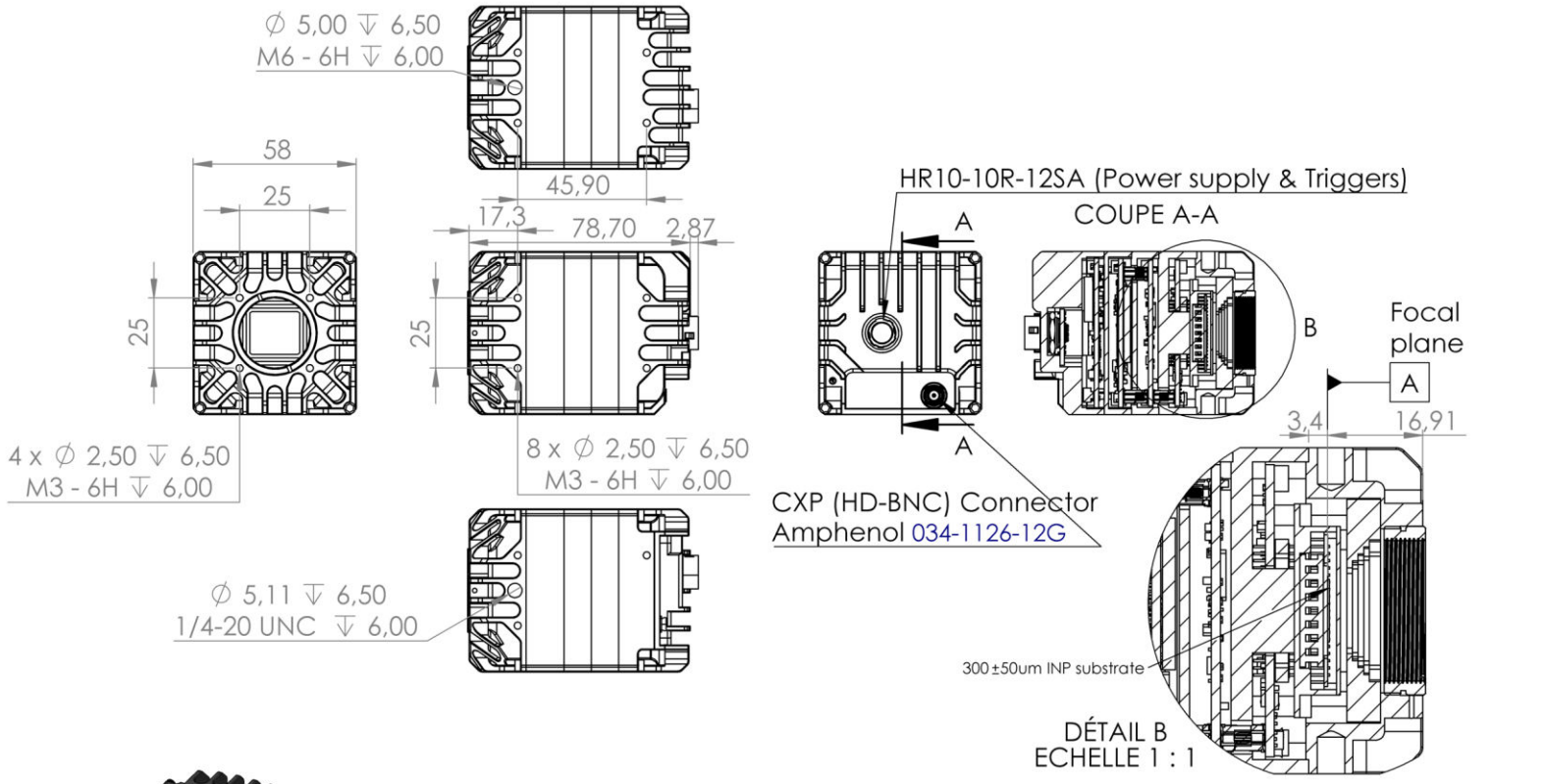
Reference	Designation	Manufacturer
034-1126-12G	HD-BNC connector	Amphenol

Power supply possible via the HR10 connector or the CXP with PoCXP (available on request).

Hirose Connector Pinout		
Pin	Signal Name	Cable color
1	Power (9-35V)	Red/Purple/(Orange)
2	Power GND	Blue/Brown
3	Trigger OUT2	White
4	Trigger OUT1	Yellow
5	NC	
6	NC	
7	Reserved	
8	Power GND	Blue/Brown
9	Power (6-24V)	Red/Purple/(Orange)
10	Trigger IN/OUT (LVTTL)	Green
11	Not connected	
12	Trigger GND	Black

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Mechanical ICD (SenS 1280 C-STE)



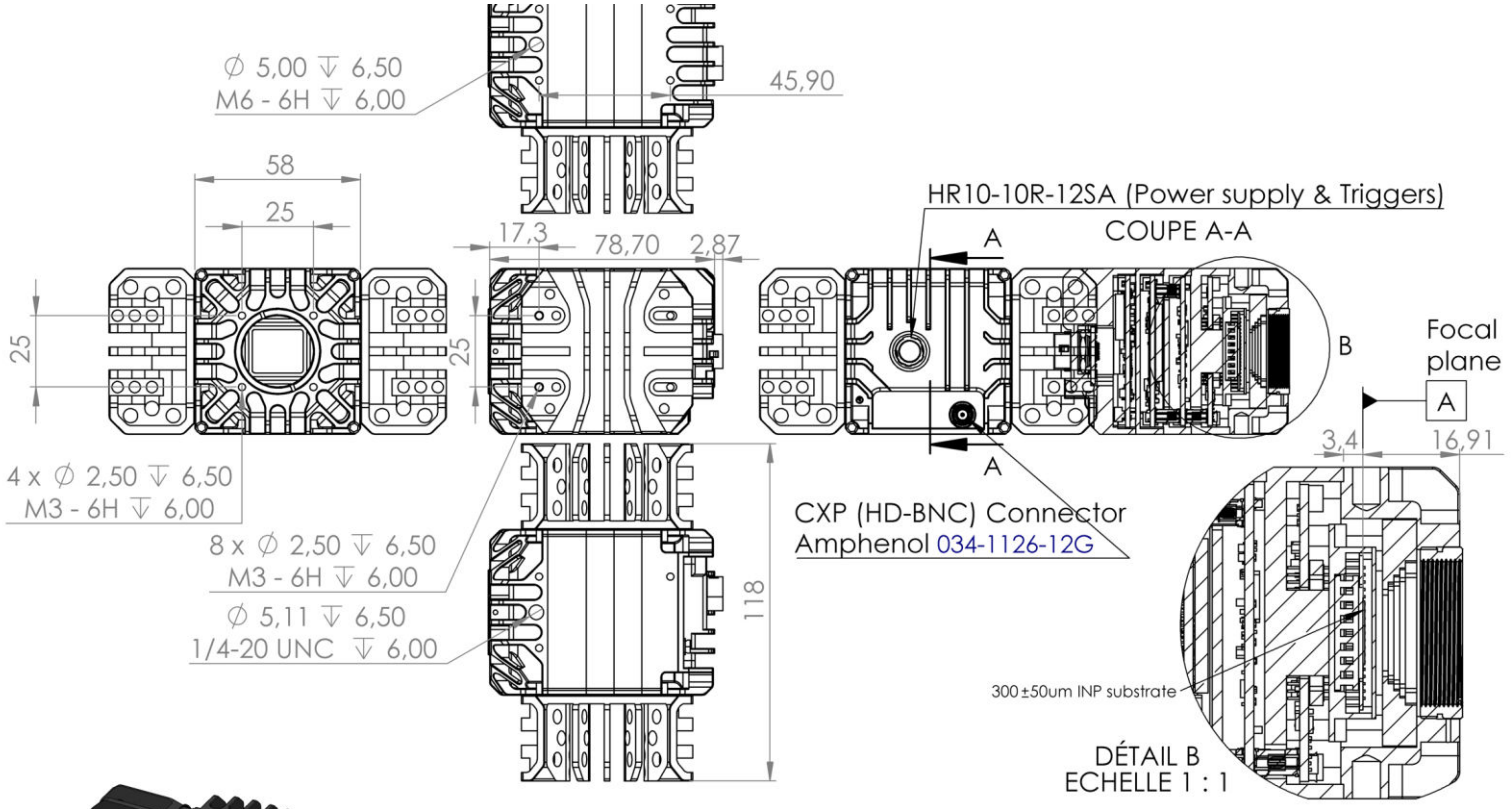


Gen. Tol. : +/- 0.100000mm All dimensions are in mm		E				
Surface Finishing: Sandblasting		D				
Treatment: Treatment: Anodized aluminum		C				
Material: Aluminium 7075		B				
Designer: MSC Date: 20/04/2024	A4	A	20/04/2024	Creation	Check	MSC
		Rev.	Date	Modification	Check	Author
1-4 impasse de la noisette, Bat D, 1er Etage, FRANCE - 91370 Verrières le buisson Tel : +33 1 64 47 88 58 www.new-imaging-technologies.com						SCALE 1:2
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Mechanical ICD – With Heatsinks (SenS 1280 C-STE)





Gen. Tol. : +/- 0.100000mm All dimensions are in mm		E				
Surface Finishing: Sandblasting		D				
Treatment: Treatment: Anodized aluminum		C				
Material: Aluminium 7075		B				
Designer: MSC Date: 20/04/2024	A4	A	20/04/2024	Creation	Check	MSC
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pembrokeinstruments.com
sales@pembrokeinstruments.com
+1-650-550-8618
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