PEMBROKE INSTRUMENTS, LLC

SWIR CAMERA DATA SHEET

WIDY SenS 320V ST

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
WiDy SenS 320V-ST	WiDy SenS 320 USB3 (QVGA)	9SM*2001AE31VC0# *: H high speed mode #: product revision, A or higher

Included Accessories

- USB and trigger Cable (SMC connector)
- NITVision GUI/NITLibrary SDK
- Cardboard shipping and storage box

Optional Accessories

- Heatsinks
- Hardened protective case

Custom variants (OEM)

Various options may be available depending on your camera model:

- Open frame housing
- Sensor without cover glass
- Flex configuration (sensor board split from camera electronics)
- …

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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	$15\mu m$
	Resolution	320x256
	Sensor diagonal	9.1mm
	Sensor noise	• High gain (CDS): <50e^- • Low gain: < 270e^- • Log: <340e^-
	Dynamic range	• High gain (CDS): 49dB typical • Low gain: 63dB typical • Log: 120dB typical
	Peak QE	>70%
Camera features	Frame rate	1kHz (full frame)
	Sensor Readout	Global shutter ITR (Integrate Then Read) and IWR (Integrate While Read)
	Sensor modes	Global shutter: Log, Linear Low Gain, Linear High Gain and Linear High Gain with CDS High Speed (optional): Linear Low Gain, Linear High Gain and Linear High Gain with CDS
	Output Type	14 bits pixel format
	Exposure time	Minimum Integration time: 10us (Linear) / 100us (Log) Controlled by camera register or Trigger width
	Trigger	Internal/External (LVTTL) Software Trigger
	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
Software (Processing on host system)	NIT Software	NITVision GUI: • Windows/Linux, x64/aarch64 platforms NITLibrary SDK: • Windows/Linux, x64/aarch64 platform: C++/Python • Windows, x64 platform: .NET
	AGC (Histogram Stretching)	Automatic/Manual Automatic: continuous offset and gain adjustment based on current image histogram User Selectable parameters: % pixels to ignore, ROI Manual: User-Selectable low and high limits
	NUC correction	Correction 1-Point or 2-Point. 2 Point factory calibrated @ 25°C sensor temperature
	Bad pixel correction	Factory calibrated Bad Pixel Map
	Temperature monitoring	Image Sensor
	Image Flip	Horizontal/Vertical
	Image recording	JPEG, PNG, TIFF
	Video recording	AVI, PTW

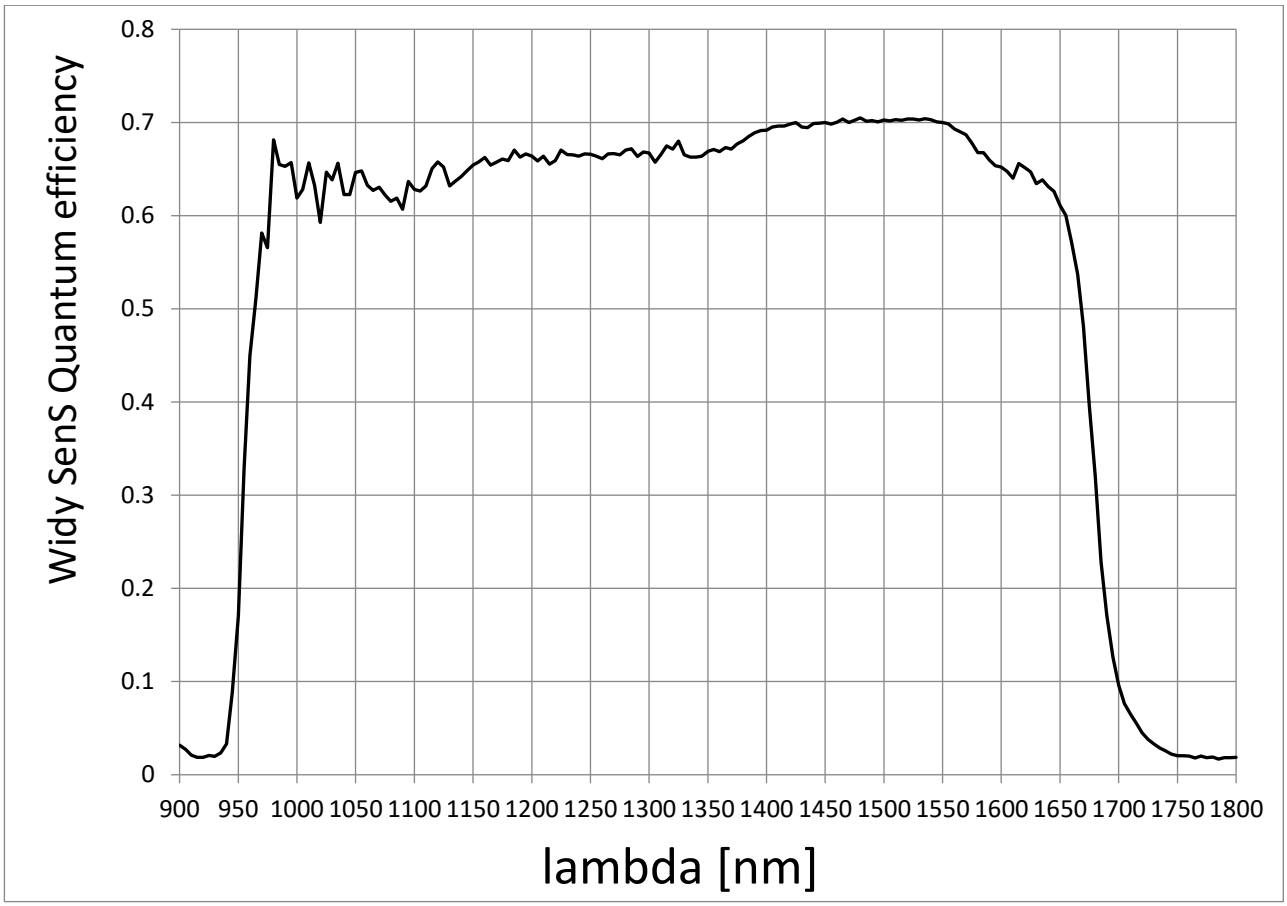
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Environment and mechanical characteristics	Power consumption (12V supply)	• Camera: <2.5W
		• Cooling: User-Selectable TEC power limit
		  ○ Off
		  ○ Low: <1Ws
		  ○ Medium: <2W
		  ○ High: <4W

	Storage temperature	-10°C to +80°C
	Operating temperature	-10°C to +65°C
	Size (WxHxL, mm)	46x46x53 90x46x53 with heatsinks
	Weight	<215g <315g with heatsinks
	Lens mount	C-Mount

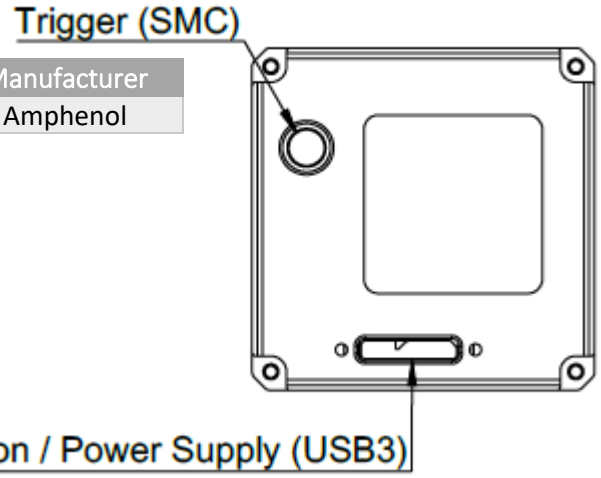
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QE Curve (typical)



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Electrical ICD

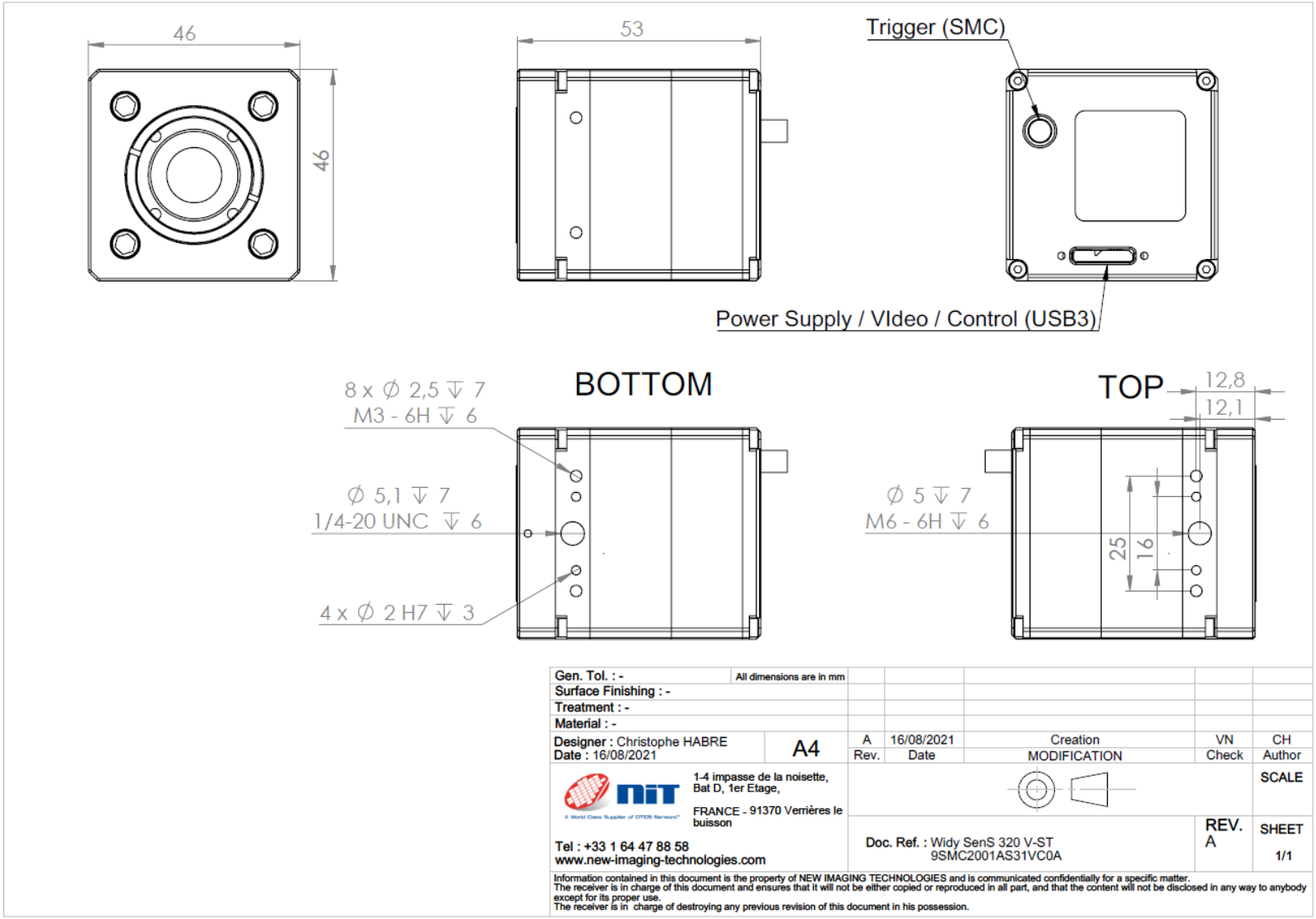


Reference	Designation	Manufacturer
152140	SMC connector	Amphenol

Reference	Designation	Manufacturer
897-10-010-00-300002	Mini USB 3.0	MILL-MAX

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Mechanical ICD (WiDy SenS 320 V-ST)



Gen. Tol. : - All dimensions are in mm						
Surface Finishing : -						
Treatment : -						
Material : -						
Designer : Christophe HABRE Date : 16/08/2021	A4	A Rev.	16/08/2021 Date	Creation MODIFICATION	VN Check	CH 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
				Doc. Ref. : Widy SenS 320 V-ST 9SMC2001AS31VC0A	REV. A	SHEET 1/1

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