TELEDYNE

Teledyne DALSA
Industrial Vision Solutions

GENIE™ NANO-10GigE CAMERAS

KEY FEATURES

- 10 GigE Ethernet port & hardware
- Industry's smallest 67M 10GigE Vision camera
- Simplified set-up with field proven Sapera LT software featuring CamExpert
- Engineered to accommodate industrial environment with a ruggedized screw mount RJ-45 connector

PROGRAMMABILITY

- Higher frame rates achievable in partial scan mode
- Global electronic shutter with exposure control
- Multi-exposure feature
- Multi-ROI feature up to 16 x Regions of Interest
- Metadata support
- IEEE1588 (Precision Time Protocol) support
- Binning
- Look-up-table and More

RELIABILITY

- Robust all-metal body
- 3 year warranty
- Trigger to Image Reliability (T2IR) framework improves the reliability of your inspection system and protects you from data loss

TYPICAL APPLICATIONS

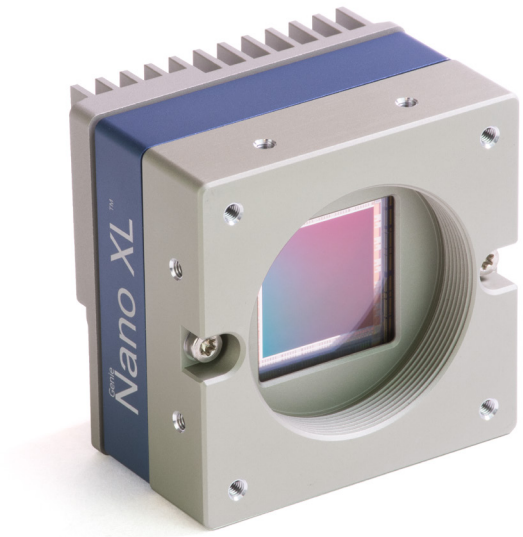
- Electronics manufacturing inspection
- Intelligent traffic systems
- Aerial Imaging
- Sport and Entertainment

REGULATORY COMPLIANCE

- GenICam, GigE Vision 2.0, CE, FCC, and RoHS compliant

Compact GigE Vision cameras with unprecedented speed and uncompromised image quality.

The new Genie™ Nano-10GigE series delivers a futureproof and scalable solution with significantly higher interface speeds and resolutions, offering system designers an easy integration path for application upgrades requiring higher speed data capture and transfers. Coupling a compact 59 mm x 59 mm form factor, system designers can transition from 1, 2.5, 5GigE to 10GigE Vision without the need for software changes.



GiGE VISION

GENIE NANO-10GigE INDIVIDUAL MODEL SPECIFICATIONS

	Active Resolution	Sensor Model	Frame Rate	Pixel Size	Dynamic Range	Max. Image Circle	Data Format	Model Part Numbers
Nano-10GigE-M6200	6,144 x 6,144	Teledyne e2v Emerald 36M	18.5 fps	2.5 µm	62 dB	1.4"	8 or 10-bit Mono	G6-GM31-M6205
Nano-10GigE-C6200	6,144 x 6,144	Teledyne e2v Emerald 36M	18.5 fps	2.5 µm	62 dB	1.4"	8 or 10-bit Bayer	G6-GC31-C6205
Nano-10GigE-M8200	8,192 x 8,192	Teledyne e2v Emerald 67M	13.8 fps	2.5 µm	62 dB	APS-C	8 or 10-bit Mono	G6-GM31-M8205
Nano-10GigE-C8200	8,192 x 8,192	Teledyne e2v Emerald 67M	13.8 fps	2.5 µm	62 dB	APS-C	8 or 10-bit Bayer	G6-GC31-C8205

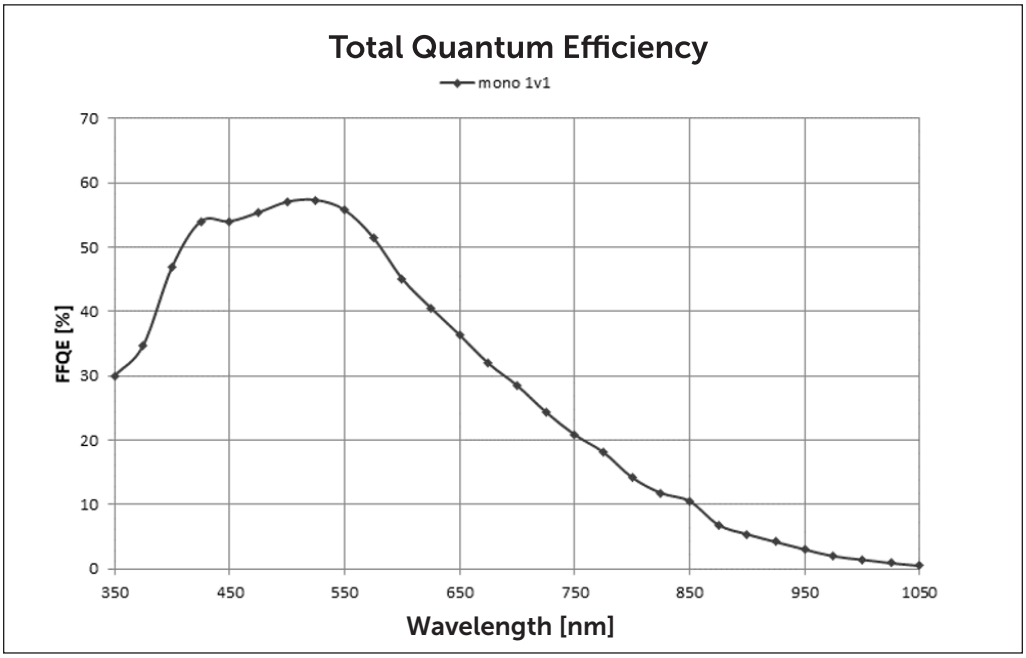
GENIE NANO-10GigE FAMILY SPECIFICATIONS (COMMON TO ALL MODELS)

Feature	GENIE NANO-10GigE (XL Casing) Applicable to p/n : G6-Gxxx-xxxx5
Data Output Transfer	Gigabit Ethernet (10Gbps, 5Gbps, 2.5Gbps, and 1Gbps auto-negotiated)
Exposure Control	Automatic, programmable, or via external trigger
I/O Ports	2 opto-isolated inputs, 3 opto-isolated ouputs
Lens Mount	M42-mount
Size (L x H x W)	41 mm x 59 mm x 59 mm
Mass	183 g
Operating Temp	-20 to +60°C (Housing Temperature)
Power Supply	10 to 36V or Power Over Ethernet (POE)
Power Dissipation (model dependent)	12.5 W
Data Connector	Standard or screw mount RJ-45
Power and I/O Connector	SAMTEC TFM-105 type
Camera Specification	GigE Vision v2.0
Software Platform	Teledyne Sapera LT 8.6 or newer for Windows, Teledyne DALSA GigE-V for Linux or 3rd Party GenICam compliant SDK

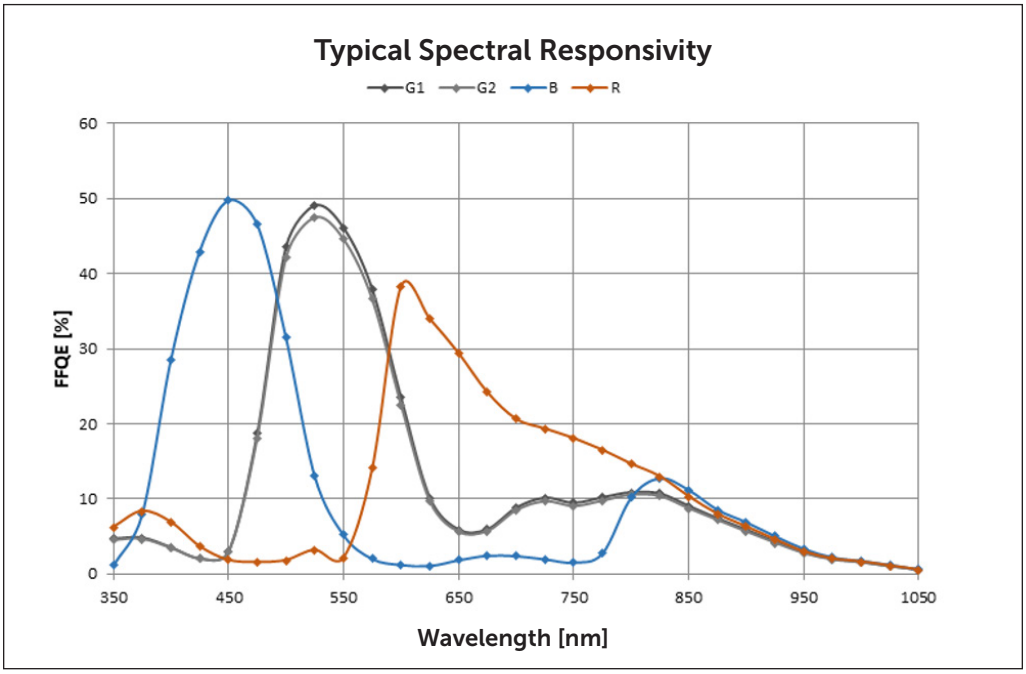
RESPONSIVITY GRAPHS

Spectral Sensitivity Characteristics
Excludes lens characteristics and light source characteristics

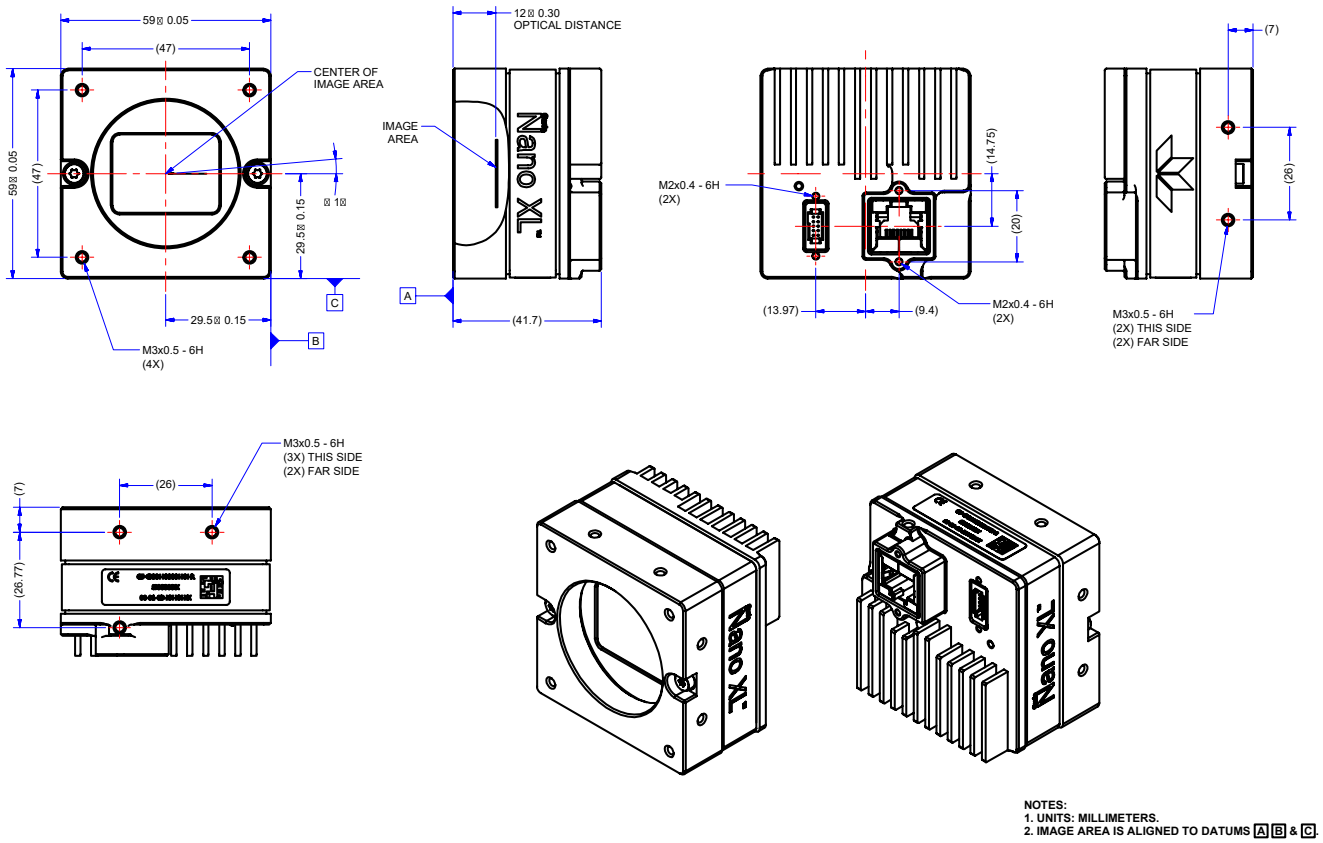
GENIE NANO-10GigE M8200 / M6200



GENIE NANO-10GigE C8200 / C6200



DRAWING OF P/N : G6-Gxxx-xxxx5



NOTES:
1. UNITS: MILLIMETERS.
2. IMAGE AREA IS ALIGNED TO DATUMS A B & C.

For more information please contact:

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Revision Number: 07
Revision Date: 2023 03 14

TELEDYNE DALSA
Everywhereyoulook™
Part of the Teledyne Imaging Group

Genie™ Nano Cameras

Smaller, faster, stronger, cheaper.

Compact GigE Vision cameras with unprecedented speed and uncompromised image quality.

Introducing Genie Nano, a GigE vision CMOS area scan camera that redefines **low cost** performance. Genie Nano starts with industry leading image CMOS sensors from VGA to 25 megapixel resolution and adds proprietary camera technology for **breakthrough speed**, a robust build quality for wide operating temperature, and an unmatched feature set—all at an **incredible price**. Teledyne DALSA's proprietary **TurboDrive**™ technology allows Genie Nano to deliver its full image quality at faster frame rates—often 150% or higher—with no changes to your GigE network. Like all Teledyne DALSA GigE cameras, the Genie Nano is based on AIA GigE Vision Standard to directly link the camera to a PC.

TURBODRIVE™
BY TELEDYNE DALSA

Key Features

- Uses standard PC Ethernet port & hardware
- Supports cable lengths up to 100 m (CAT-5e or CAT-6)
- Simplified set-up with field proven Sapera LT software featuring CamExpert
- Engineered to accommodate industrial environment with a ruggedized screw mount RJ-45 connector

Programmability

- Higher frame rates achievable in partial scan mode
- Global electronic shutter with exposure control
- Multi-exposure feature
- Multi-ROI feature
- Metadata support
- IEEE1588 (Precision Time Protocol) support
- Binning
- Look-up-table and More

Reliability

- Robust all-metal body
- 3 year warranty
- Trigger to Image Reliability (T2IR) framework improves the reliability of your inspection system and protects you from data loss

Typical Applications

- Electronics manufacturing inspection
- Industrial metrology
- Intelligent traffic systems

Regulatory Compliance

- CE, FCC and RoHS

GENIE NANO INDIVIDUAL MODEL SPECIFICATIONS

	Active Resolution	Sensor Model	Frame Rate (Burst Mode)	Pixel Size	Dynamic Range	Max. Image Circle	Data Format	Part Number (for C-mount option)
M640/M640-NIR	640 x 480	On-Semi Python300	862 fps	4.8 µm	62.1 dB	1/4" Optical Format	8 or 10-Bit Mono	G3-GM10-M0640 G3-GM12-M0640 (NIR)
C640	640 x 480	On-Semi Python300	862 fps	4.8 µm	62.1 dB	1/4" Optical Format	8 or 10-Bit Bayer/RGB/YUV*	G3-GC10-C0640 G3-GC10-C0640IF (with IR cut-off filter)
M700	728 x 544	Sony IMX287	311 fps	6.9 µm	73.6 dB	1/3" Optical Format	8 or 12-Bit Mono	G3-GM10-M0700
C700	728 x 544	Sony IMX287	311 fps	6.9 µm	73.6 dB	1/3" Optical Format	8 or 12-Bit Bayer/RGB/YUV*	G3-GC10-C0700
M800	800 x 600	On-Semi Python500	566 fps	4.8 µm	62.1 dB	1/3.3" Optical Format	8 or 10-Bit Mono	G3-GM10-M0800
C800	800 x 600	On-Semi Python500	566 fps	4.8 µm	62.1 dB	1/3.3" Optical Format	8 or 10-Bit Bayer/RGB/YUV*	G3-GC10-C0800 G3-GC10-C0800IF (with IR cut-off filter)
M810	816 x 624	Sony IMX433	160 fps	9 µm	72.1dB	1/1.7" Optical Format	8 or 12-Bit Mono	G3-GM11-M0810
C810	816 x 624	Sony IMX433	160 fps	9 µm	72.1 dB	1/1.7" Optical Format	8 or 12-Bit Bayer/RGB/YUV*	G3-GC11-C0810 G3-GC11-C0810IF (with IR cut-off filter)
M1240	1280 x 1024	On-Semi Python1300 P3	83 fps	4.8 µm	62.1 dB	1/2" Optical Format	8 or 10-Bit Mono	G3-GM11-M1240
C1240	1280 x 1024	On-Semi Python1300 P3	83 fps	4.8 µm	62.1 dB	1/2" Optical Format	8 or 10-Bit Bayer/RGB/YUV*	G3-GC11-C1240 G3-GC11-C1240IF
M1280/M1280-NIR	1280 x 1024	On-Semi Python1300	213 fps	4.8 µm	62.1 dB	1/2" Optical Format	8 or 10-Bit Mono	G3-GM10-M1280 G3-GM12-M1280 (NIR)
C1280	1280 x 1024	On-Semi Python1300	213 fps	4.8 µm	62.1 dB	1/2" Optical Format	8 or 10-Bit Bayer/RGB/YUV*	G3-GC10-C1280 G3-GC10-C1280IF (with IR cut-off filter)
M1450	1456 x 1080	Sony IMX273	160 fps	3.45 µm	76.4 dB	1/3" Optical Format	8 or 12-Bit Mono	G3-GM10-M1450
C1450	1456 x 1080	Sony IMX273	160 fps	3.45 µm	76.4 dB	1/3" Optical Format	8 or 12-Bit Bayer/RGB/YUV*	G3-GC10-C1450 G3-GC10-C1450IF (with IR cut-off filter)
M1610	1608 x 1104	Sony IMX432	90 fps	9 µm	72.1 dB	1.1" Optical Format	8 or 12-Bit Mono	G3-GM11-M1610
C1610	1608 x 1104	Sony IMX432	90 fps	9 µm	72.1 dB	1.1" Optical Format	8 or 12-Bit Bayer/RGB/YUV*	G3-GC11-C1610 G3-GC11-C1610IF (with IR cut-off filter)
M1630	1632 x 1248	Sony IMX430	85 fps	4.5 µm	73 dB	1/1.7" Optical Format	8 or 12-Bit Mono	G3-GM11-M1630
C1630	1632 x 1248	Sony IMX430	85 fps	4.5 µm	73 dB	1/1.7" Optical Format	8 or 12-Bit Bayer/RGB/YUV*	G3-GC11-C1630 G3-GC11-C1630IF (with IR cut-off filter)
M1920	1920 x 1200	Sony IMX249	39 fps	5.86 µm	75.5 dB	1/1.2" Optical Format	8 or 12-Bit Mono	G3-GM11-M1920
C1920	1920 x 1200	Sony IMX249	39 fps	5.86 µm	75.5 dB	1/1.2" Optical Format	8 or 12-Bit Bayer/RGB/YUV*	G3-GC11-C1920 G3-GC11-C1920IF (with IR cut-off filter)
M1940	1920 x 1200	Sony IMX174	84 fps	5.86 µm	68.3 dB	1/1.2" Optical Format	8 or 10-Bit Mono	G3-GM10-M1940
C1940	1920 x 1200	Sony IMX174	84 fps	5.86 µm	68.3 dB	1/1.2" Optical Format	8 or 10-Bit Bayer/RGB/YUV*	G3-GC10-C1940 G3-GC10-C1940IF (with IR cut-off filter)
M1930/M1930-NIR	1920 x 1200	On-Semi Python2000	116 fps	4.8 µm	62.1 dB	2/3" Optical Format	8 or 10-Bit Mono	G3-GM10-M1930 G3-GM12-M1930 (NIR)
C1930	1920 x 1200	On-Semi Python2000	116 fps	4.8 µm	62.1 dB	2/3" Optical Format	8 or 10-Bit Bayer/RGB/YUV*	G3-GC10-C1930 G3-GC10-C1930IF (with IR cut-off filter)
M1950	1936 x 1216	Sony IMX392	151 fps	3.4 µm	75 dB	1/2.3" Optical Format	8 or 12-Bit Mono	G3-GM10-M1950
C1950	1936 x 1216	Sony IMX392	151 fps	3.4 µm	75 dB	1/2.3" Optical Format	8 or 12-Bit Bayer/RGB/YUV*	G3-GC10-C1950 G3-GC10-C1950IF (with IR cut-off filter)
M2020	2048 x 1536	Sony IMX265	55 fps	3.45 µm	76.4 dB	1/1.8" Optical Format	8 or 12-Bit Mono	G3-GM11-M2020
C2020	2048 x 1536	Sony IMX265	55 fps	3.45 µm	76.4 dB	1/1.8" Optical Format	8 or 12-Bit Bayer/RGB/YUV*	G3-GC11-C2020 G3-GC11-C2020IF (with IR cut-off filter)
M2050	2048 x 1536	Sony IMX252	140 fps	3.45um	56.4 dB	1/1.8" Optical Format	8-Bit Mono	G3-GM10-M2050
C2050	2048 x 1536	Sony IMX252	140 fps	3.45 µm	56.4 dB	1/1.8" Optical Format	8-Bit Bayer/RGB/YUV*	G3-GC10-C2050 G3-GC10-C2050IF (with IR cut-off filter)
M2420	2448 x 2048	Sony IMX264	35 fps	3.45 µm	76.4 dB	2/3" Optical Format	8 or 12-Bit Mono	G3-GM11-M2420
C2420	2448 x 2048	Sony IMX264	35 fps	3.45 µm	76.4 dB	2/3" Optical Format	8 or 12-Bit Bayer/RGB/YUV*	G3-GC11-C2420 G3-GC11-C2420IF (with IR cut-off filter)
M2450	2448 x 2048	Sony IMX250	90 fps	3.45 µm	56.4 dB	2/3" Optical Format	8-Bit Mono	G3-GM10-M2450
C2450	2448 x 2048	Sony IMX250	90 fps	3.45 µm	56.4 dB	2/3" Optical Format	8-Bit Bayer/RGB/YUV*	G3-GC10-C2450 G3-GC10-C2450IF (with IR cut-off filter)
M2590/M2590-NIR	2592 x 2048	On-Semi Python5000	51 fps	4.8 µm	62.1 dB	1" Optical Format	8 or 10-Bit Mono	G3-GM10-M2590 G3-GM12-M2590 (NIR)
C2590	2592 x 2048	On-Semi Python5000	51 fps	4.8 µm	62.1 dB	1" Optical Format	8 or 10-Bit Bayer/RGB/YUV*	G3-GC10-C2590 G3-GC10-C2590IF (with IR cut-off filter)

*User selectable. Refer to user manual for complete configuration detail.

GENIE NANO INDIVIDUAL MODEL SPECIFICATIONS CONT.

	Active Resolution	Sensor Model	Frame Rate (Burst Mode)	Pixel Size	Dynamic Range	Max. Image Circle	Data Format	Part Number
M4060	4112 x 2176	Sony IMX255	56 fps	3.45 µm	56.4 dB	1" Optical Format	8-Bit Mono	G3-GM10-M4060
C4060	4112 x 2176	Sony IMX255	56 fps	3.45 µm	56.4 dB	1" Optical Format	8-Bit Bayer/RGB/YUV*	G3-GC10-C4060 G3-GC10-C4060IF (with IR cut-off filter)
M4040	4112 x 3012	Sony IMX253	40 fps	3.45 µm	56.4 dB	1.1" Optical Format	8-Bit Mono	G3-GM10-M4040
C4040	4112 x 3012	Sony IMX253	40 fps	3.45 µm	56.4 dB	1.1" Optical Format	8-Bit Bayer/RGB/YUV*	G3-GC10-C4040 G3-GC10-C4040IF (with IR cut-off filter)
M4030	4112 x 2176	Sony IMX267	30 fps	3.45 µm	76.4 dB	1" Optical Format	8 or 12-Bit Mono	G3-GM-11-M4030
C4030	4112 x 2176	Sony IMX267	30 fps	3.45 µm	76.4 dB	1" Optical Format	8 or 12-Bit Bayer/RGB/YUV*	G3-GC-11-C4030 G3-GC-11-C4030IF (with IR cut-off filter)
M4020	4112 x 3012	Sony IMX304	20 fps	3.45 µm	76.4 dB	1.1" Optical Format	8 or 12-Bit Mono	G3-GM-11-M4020
C4020	4112 x 3012	Sony IMX304	20 fps	3.45 µm	76.4 dB	1.1" Optical Format	8 or 12-Bit Bayer/RGB/YUV*	G3-GC-11-C4020 G3-GC-11-C4020IF (with IR cut-off filter)
C4900	4912 x 3684	On-Semi AR1820HS	13 fps	1.25 µm	65.8 dB	1/2.3" Optical Format	User selectable Bayer/RGB/YUV*	G3-GC10-C4900 (for C-mount option)
XL M4090	4096 x 4096	On-Semi Python 16K	31 fps	4.5 µm	55.2 dB	APS-H Optical Format	8 or 10-Bit Mono	G3-GM30-M4095
XL C4090	4096 x 4096	On-Semi Python 16K	31 fps	4.5 µm	55.2 dB	APS-H Optical Format	8 or 10-Bit Bayer	G3-GC30-C4095
XL M5100	5120 x 5120	On-Semi Python 25K	20 fps	4.5 µm	55.2 dB	APS-H Optical Format	8 or 10-Bit Mono	G3-GM30-M5105
XL C5100	5120 x 5120	On-Semi Python 25K	20 fps	4.5 µm	55.2 dB	APS-H Optical Format	8 or 10-Bit Bayer	G3-GC30-C5105

*User selectable. Refer to user manual for complete configuration detail.

GENIE NANO INDIVIDUAL MODEL SPECIFICATIONS — POLARIZATION

M2450 POLARIZED	2448 x 2048	Sony IMX250MZR	34.4 fps	3.45 µm	76.4 dB	2/3" Optical Format	8 or 12-Bit Mono	G3-GM14-M2450

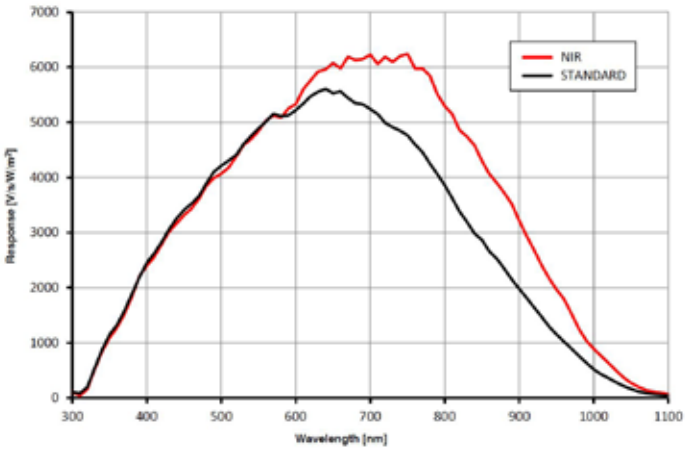
GENIE NANO FAMILY SPECIFICATIONS (COMMON TO ALL MODELS)

	GENIE NANO	GENIE NANO XL
Data Output Transfer	Gigabit Ethernet (1000 Mbit/s) only	
Exposure Control	Automatic, programmable, or via external trigger (Note: C4900 rolling shutter supports only programmable exposure control)	
I/O Ports	2 opto-isolated inputs, 2 opto-isolated ouputs, 1 input/3 outputs option available on demand	2 opto-isolated inputs, 3 opto-isolated ouputs
Image Buffers (On-board memory)	90MB for VGA to 5 Mpixel models 200 MB for the 9M, 12M and 18 Mpixels models	500 MB for the 16 and 25 Mpixels models
Lens Mount	C and CS-Mount available	M42
Size (L x H x W) (C-mount option)	21.2 mm x 29 mm x 44 mm (no lens adapter or connectors) 38.9 mm x 29 mm x 44 mm (with lens adapter and connectors)	30 mm x 59 mm x 59 mm (no lens adapter or connectors) 30 mm x 59 mm x 59 mm (with lens adapter and connectors)
Mass	~46 g	~163 g
Operating Temp	-20 to +60°C (housing temperature)	
Power Supply	10 to 36V or Power Over Ethernet (POE)	
Power Dissipation (model dependent)	3.6 W to 4.6 W(12V) 4.0 W to 4.9 W (PoE)	6.5 W @ 24 Volt Aux.
Data Connector	Standard or screw mount RJ-45	
Power and I/O Connector	SAMTEC TFM-105 type	
Camera Specification	GigE Vision v1.2 compliant	
Software Platform	Teledyne DALSA Sapera LT 8.0 for Windows, Teledyne DALSA GigE-V for Linux or 3rd Party GenICam compliant SDK	

RESPONSIVITY GRAPHS

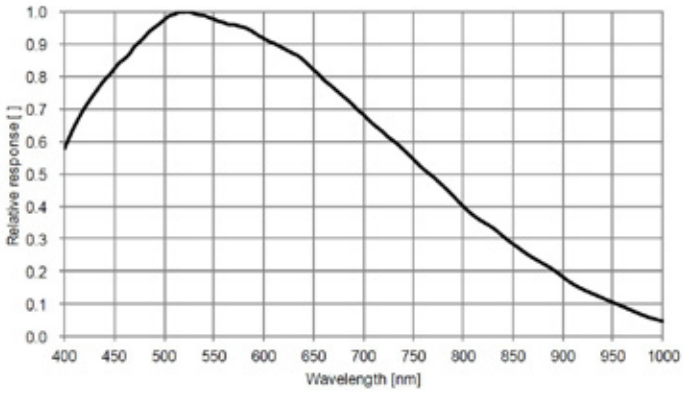
Spectral Response

Standard Monochrome Models

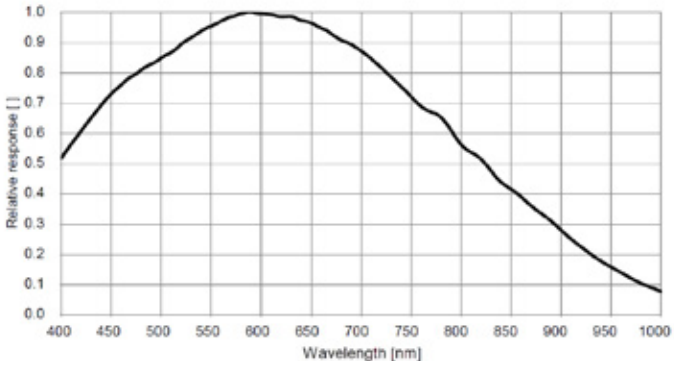


M640/NIR
M800/NIR
M1280/NIR
M2590/NIR
M1930/NIR
M4090
M5100

(Excludes lens characteristics and light source characteristics.)



M4060
M4040
M4030
M4020
M2020
M2050
M2420
M2450



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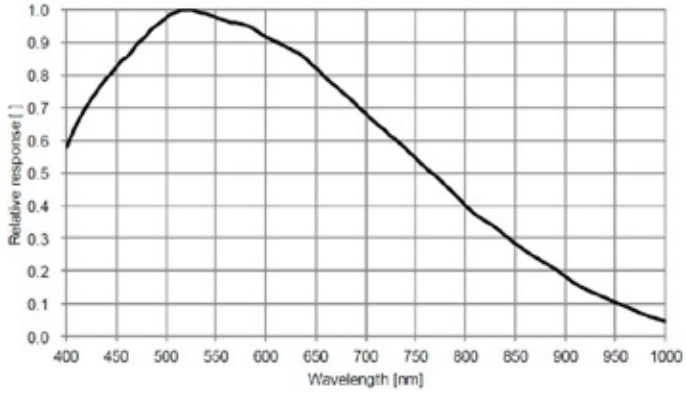
M1610
M1630

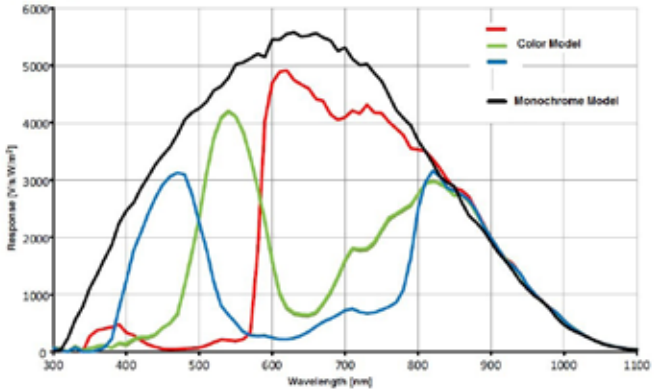


M1920
M1940

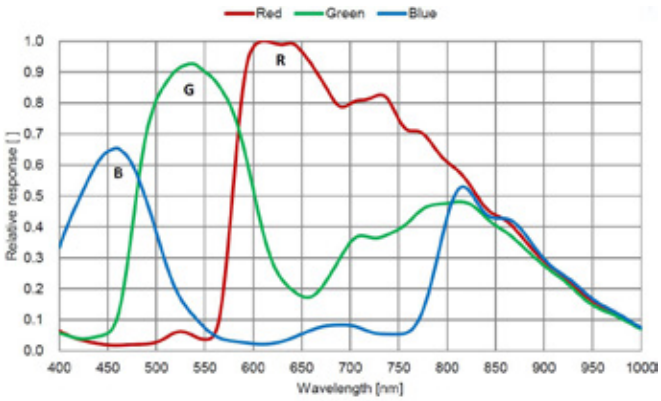
RESPONSIVITY GRAPHS

Spectral Response

Standard Colour Models



C640
C800
C1280
C1930
C2590
C4090
C5100



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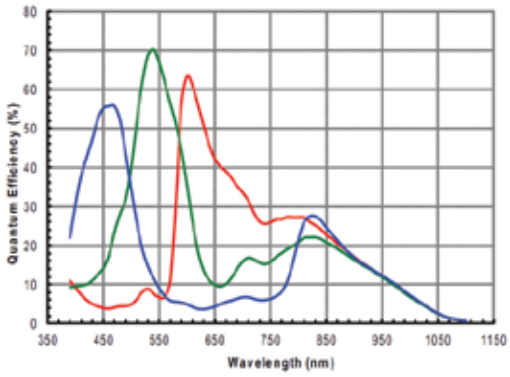
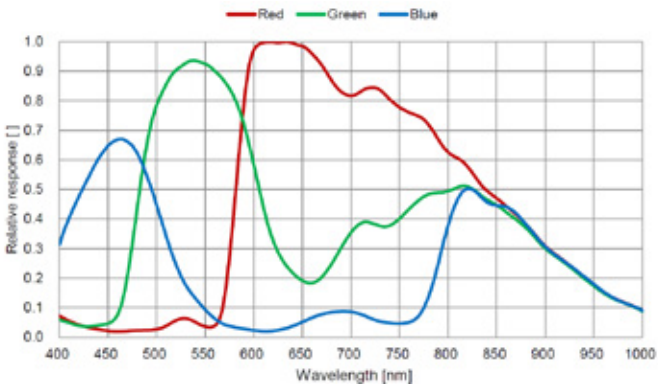
C4040
C4030
C4020
C2020
C2050
C2420
C2450



C4900



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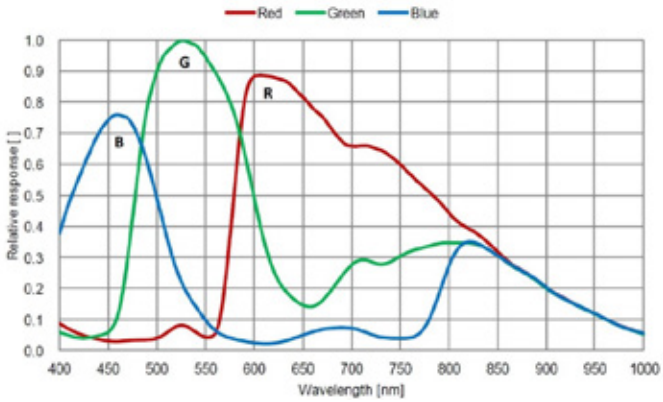
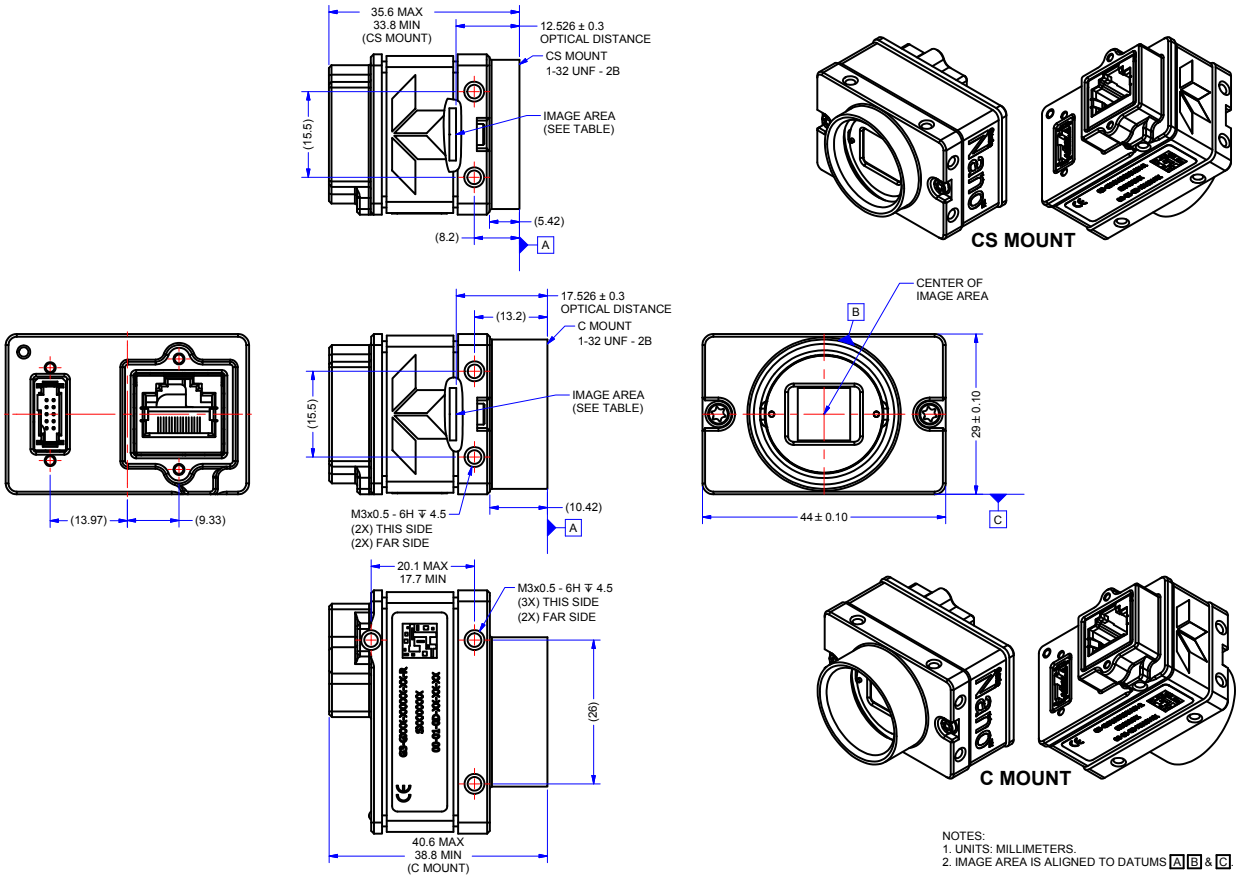
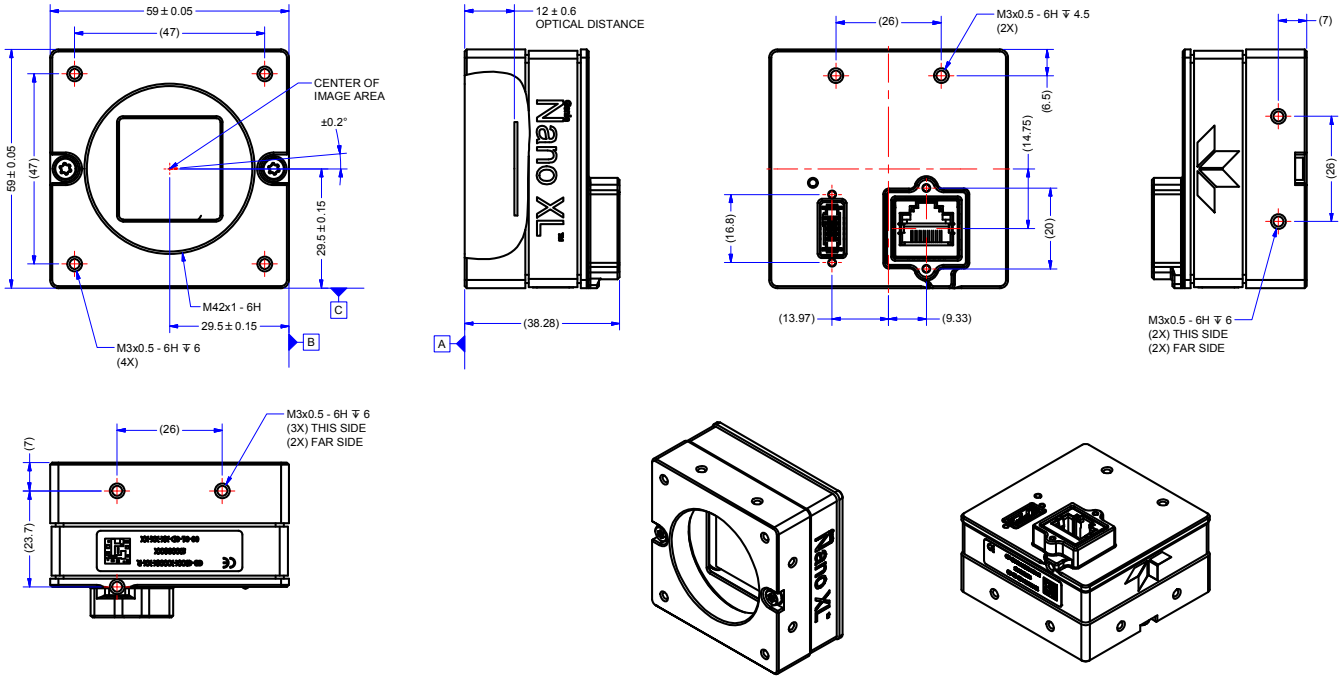
C1610
C1630



C1920
C1940





www.teledynedalsa.com

NOTES: See user manual for more detail. See product web page for downloadable 3D models.

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TELEDYNE DALSA
Everywhereyoulook™
Part of the Teledyne Imaging Group

Versatile camera series featuring Pregius® and Python® sensors

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