



# Genie™ Nano-CL Cameras

Smaller, faster, stronger, cheaper.

Compact Camera Link cameras with unprecedented speed and uncompromised image quality.

Introducing Genie Nano-CL, a Camera Link CMOS area scan camera that redefines **low cost** performance. Genie Nano-CL starts with industry leading image CMOS sensors from 5.1 to 25 megapixel resolution and adds proven Camera Link technology for **breakthrough speed**, a robust build quality for wide operating temperature, and an unmatched feature set—all at an **incredible price**.



## Key Features

- Industry's latest CMOS image sensors
- Simplified set-up with field proven Sopera LT software featuring CamExpert
- Engineered to accommodate industrial environment with a ruggedized screw mount SDR connectors
- GenICam GenCP compliant

## Programmability

- Higher frame rates achievable in partial scan mode
- Global electronic shutter with exposure control
- Multi-ROI feature

## 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

- Semiconductor wafer inspection
  - Surface and bump inspection
- Electronics manufacturing
  - 3D solder paste inspection
  - Package and bump inspection
  - Automated Optical Inspection (AOI)
- Solar panel inspection
- Aerial Imaging
- General machine vision

## Regulatory Compliance

- CE, FCC, RoHS, GenICam, IP30, Camera Link 2.01

## GENIE NANO-CL INDIVIDUAL MODEL SPECIFICATIONS

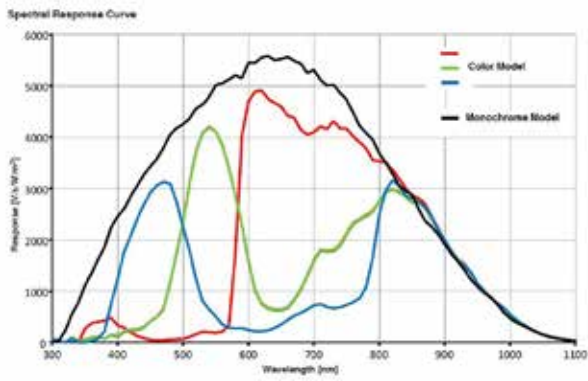
	Active Resolution	Sensor Model	Frame Rate**	Pixel Size	Dynamic Range	Max. Image Circle	Data Format	Part Number
●●● CL-M2450	2448 x 2048	Sony IMX250 (5.1M)	141 fps	3.45 µm	56.4 dB	2/3" Optical Format	8 or 10-Bit Mono	G3-CM30-M2450
●●● CL-C2450	2448 x 2048	Sony IMX250 (5.1M)	141 fps	3.45 µm	56.4 dB	2/3" Optical Format	8 or 10-Bit Bayer	G3-CC30-C2450 G3-CC30-C2450IF (with IR cut-off filter)
●●● CL-M4060	4112 x 2176	Sony IMX255 (8.9M)	88 fps	3.45 µm	56.4 dB	1" Optical Format	8 or 10-Bit Mono	G3-CM30-M4060
●●● CL-C4060	4112 x 2176	Sony IMX255 (8.9M)	88 fps	3.45 µm	56.4 dB	1" Optical Format	8 or 10-Bit Bayer	G3-CC30-C4060 G3-CC30-C4060IF (with IR cut-off filter)
●●● CL-M4040	4112 x 3012	Sony IMX253 (12M)	64 fps	3.45 µm	56.4 dB	1.1" Optical Format	8 or 10-Bit Mono	G3-CM30-M4040
●●● CL-C4040	4112 x 3012	Sony IMX253 (12M)	64 fps	3.45 µm	56.4 dB	1.1" Optical Format	8 or 10-Bit Bayer	G3-CC30-C4040 G3-CC30-C4040IF (with IR cut-off filter)
●●● CL-M4090	4096 x 4096	On-Semi Python 16K (16M)	45 fps	4.5 µm	55.2 dB	APS-H Optical Format	8 or 10-Bit Mono	G3-CM10-M4095
●●● CL-M4090-NIR	4096 x 4096	On-Semi Python 16K (16M)	45 fps	4.5 µm	55.2 dB	APS-H Optical Format	8 or 10-Bit Mono	G3-CM12-M4095
●●● CL-C4090	4096 x 4096	On-Semi Python 16K (16M)	45 fps	4.5 µm	55.2 dB	APS-H Optical Format	8 or 10-Bit Bayer	G3-CC10-C4095
●●● CL-M5100	5120 x 5120	On-Semi Python 25K (25M)	305 fps	4.5 µm	55.2 dB	APS-H Optical Format	8 or 10-Bit Mono	G3-CM10-M5105
●●● CL-M5100-NIR	5120 x 5120	On-Semi Python 25K (25M)	305 fps	4.5 µm	55.2 dB	APS-H Optical Format	8 or 10-Bit Mono	G3-CM12-M5105
●●● CL-C5100	5120 x 5120	On-Semi Python 25K (25M)	30 fps	4.5 µm	55.2 dB	APS-H Optical Format	8 or 10-Bit Bayer	G3-CC10-C5105

\*\* Using 10-tap @ 8-bit configuration

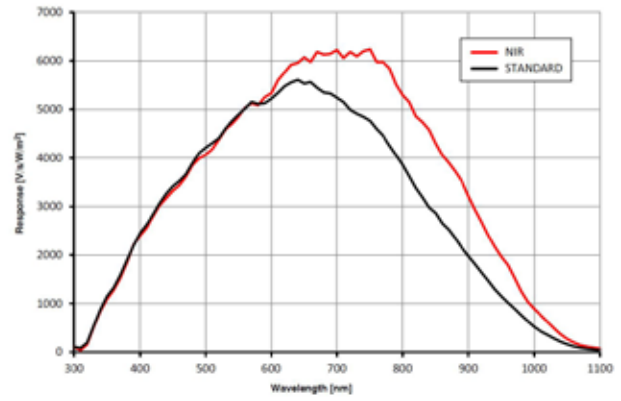
## GENIE NANO-CL FAMILY SPECIFICATIONS (COMMON TO ALL MODELS)

GENIE NANO CL (Medium Casing)		GENIE NANO CL (XL Casing)
Data Output Transfer	Camera Link (Deca Mode) 10-taps @ 85 Mhz	
Exposure Control	Automatic, programmable, or via external trigger	
I/O Ports	2 opto-isolated inputs, 2 opto-isolated outputs, 2 Camera Link CC lines (Camera Control)	2 Camera Link CC lines (Camera Control)
Lens Mount	C-Mount available	M42
Size (L x H x W) (C-mount option)	44 mm x 44 mm x 21 mm (without bar adapter and connectors) 44 mm x 44 mm x 39 mm (with lens adapter and connectors)	30 mm x 59 mm x 59 mm (no lens adapter or connectors)
Mass	TBD	~163 g
Operating Temp	-20 to +60° C (housing temperature)	
Power Supply	+10 to +30 V or Power Camera Link (PoCL)	
Power Dissipation (model dependent)	TBD	6.5 W @ 24 Volt Aux.
Data Connector	SDR x 2	
Power and I/O Connector	SAMTEC TFM-105 type	
Camera Specification	Camera Link v2.1, GeniCam GenCP compliant	
Software Platform	Teledyne DALSA Sapera LT 8.0 for Windows, or 3rd Party GeniCam GenCP compliant SDK	

## RESPONSIVITY GRAPHS



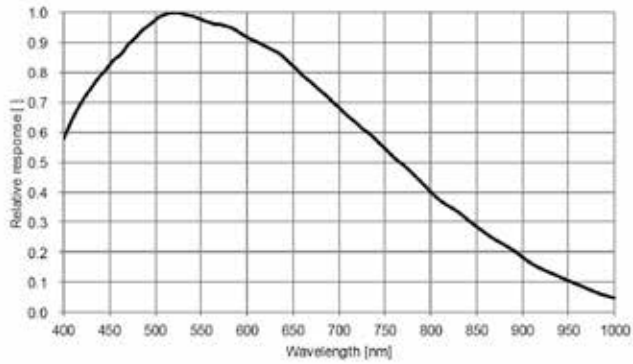
C4090 C5100



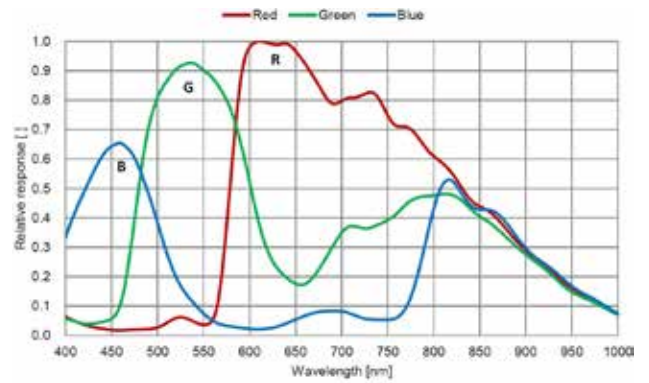
M4090 M5100

## Spectral Sensitivity Characteristics

(Excludes lens characteristics and light source characteristics.)



M4060 M4040 M2450

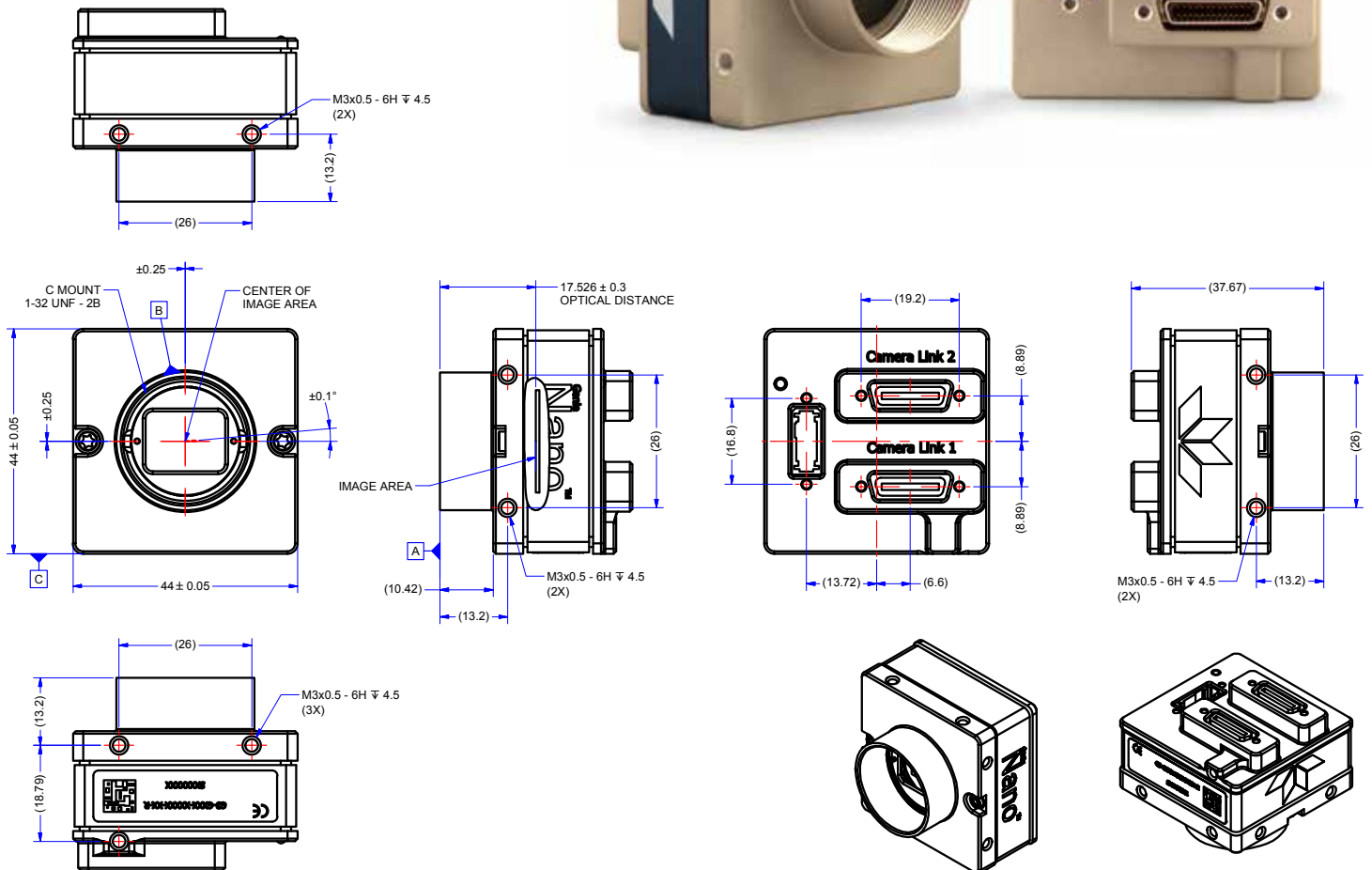


C4060 C4040 C2450



# Genie™ Nano-CL Specifications

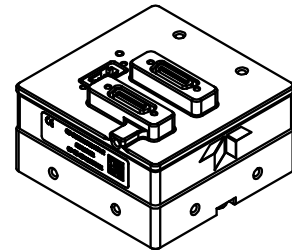
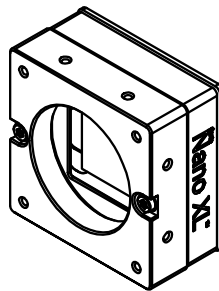
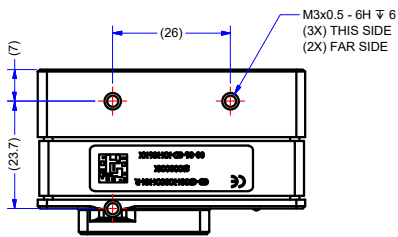
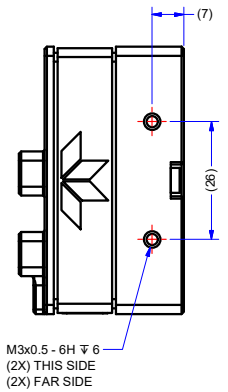
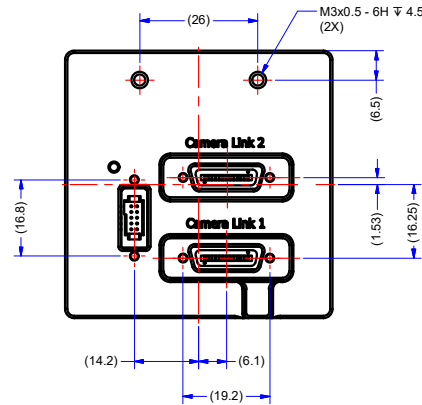
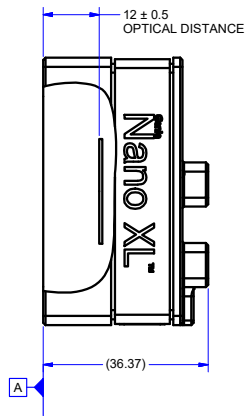
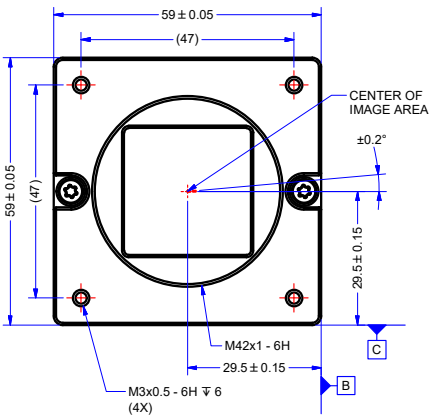
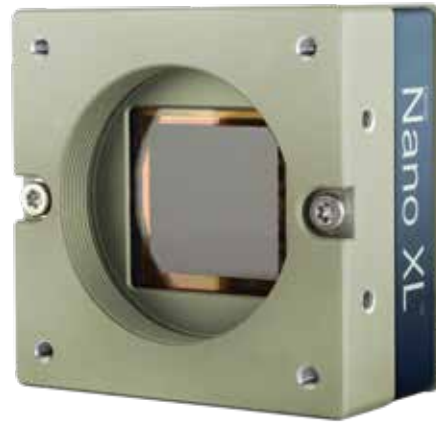
For Model 5.1M to 12M only



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

# Genie™ Nano-CL XL Specifications

For Model 16M to 25M only



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



# Versatile camera series featuring Pregius<sup>®</sup> and Python<sup>®</sup> sensors