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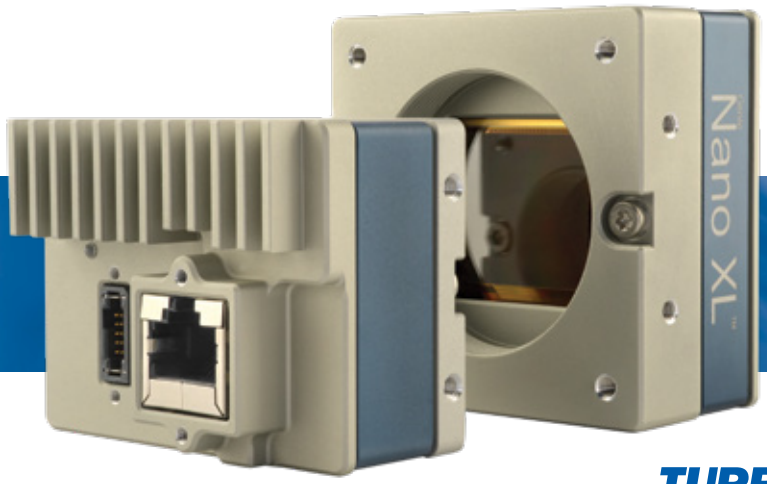
TELEDYNE DALSA
Everywhereyoulook™
Part of the Teledyne Imaging Group

# Genie™ Nano 5GigE Cameras

## Smaller, faster, stronger, cheaper.

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

Introducing the Genie Nano-5G, a GigE Vision CMOS area scan camera that redefines **high** performance. Genie Nano starts with industry leading image CMOS sensors from 3.2 to 45 megapixel 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. Like all Teledyne DALSA GigE cameras, the Genie Nano-5G is based on AIA GigE Vision Standard to directly link the camera to a PC.




TURBODRIVE™
BY TELEDYNE DALSA

### Key Features

- 5 GigE Ethernet port & hardware
- Supports cable lengths up to 100 m (CAT-5e, CAT-6) or (4T-6A)
- 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
- Aerial Imaging
- Sport and Entertainment

### 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 |
|---|---|---|---|---|---|---|---|---|
| **Nano-5G-M2050** | 2064 x 1544 | Sony IMX252 | 187 fps | 3.45 µm | 76.46 dB | 1/1.8" Optical Format | 8 or 12-bit* Mono | G5-GM30-M2050 |
| **Nano-5G-C2050** | 2064 x 1544 | Sony IMX252 | 187 fps | 3.45 µm | 76.46 dB | 1/1.8" Optical Format | 8 or 12-bit* Bayer | G5-GC30-C2050<br>G5-GC30-C2050IF (with IR cut-off filter) |
| **Nano-5G-M2450** | 2464 x 2056 | Sony IMX250 | 141 fps | 3.45 µm | 76.46 dB | 2/3" Optical Format | 8 or 12-bit* Mono | G5-GM30-M2450 |
| **Nano-5G-C2450** | 2464 x 2056 | Sony IMX250 | 141 fps | 3.45 µm | 76.46 dB | 2/3" Optical Format | 8 or 12-bit* Bayer | G5-GC30-C2450<br>G5-GC30-C2450IF (with IR cut-off filter) |
| **Nano-5G-M4060** | 4112 x 2176 | Sony IMX255 | 87.5 fps | 3.45 µm | 76.46 dB | 1" Optical Format | 8 or 12-bit* Mono | G5-GM30-M4060 |
| **Nano-5G-C4060** | 4112 x 2176 | Sony IMX255 | 87.5 fps | 3.45 µm | 76.46 dB | 1" Optical Format | 8 or 12-bit* Bayer | G5-GC30-C4060<br>G5-GC30-C4060IF (with IR cut-off filter) |
| **Nano-5G-M4040** | 4112 x 3008 | Sony IMX253 | 63 fps | 3.45 µm | 76.46 dB | 1.1" Optical Format | 8 or 12-bit* Mono | G5-GM30-M4040 |
| **Nano-5G-C4040** | 4112 x 3008 | Sony IMX253 | 63 fps | 3.45 µm | 76.46 dB | 1.1" Optical Format | 8 or 12-bit* Bayer | G5-GC30-C4040<br>G5-GC30-C4040IF (with IR cut-off filter) |
| **Nano-5G-M4500** | 4500 x 4500 | On-semi XGS20000 | 30 fps | 3.2 µm | 66.06 dB | 1.3" Optical Format | 8 or 12-bit* Mono | G5-GM31-M4505 |
| **Nano-5G-C4500** | 4500 x 4500 | On-semi XGS20000 | 30 fps | 3.2 µm | 66.0 dB | 1.3" Optical Format | 8 or 12-bit* Bayer | G5-GC31-C4505 |
| **Nano-5G-M5420** | 5420 x 5420 | On-semi XGS30000 | 19.3 fps | 3.2 µm | 66.06 dB | APS-C | 8 or 12-bit* Mono | G5-GM31-M5425 |
| **Nano-5G-C5420** | 5420 x 5420 | On-semi XGS30000 | 19.3 fps | 3.2 µm | 66.0 dB | APS-C | 8 or 12-bit* Bayer | G5-GC31-C5425 |
| **Nano-5G-M8100** | 8192 x 5420 | On-semi XGS45000 | 19.3 fps | 3.2 µm | 66.06 dB | Super 35MM Format | 8 or 12-bit* Mono | G5-GM31-M8105 |
| **Nano-5G-C8100** | 8192 x 5420 | On-semi XGS45000 | 19.3 fps | 3.2 µm | 66.0 dB | Super 35MM Format | 8 or 12-bit* Bayer | G5-GC31-C8105 |

*Available with the 12-bit firmware

GiGE VISION TURBODRIVE BY TELEDYNE DALSA

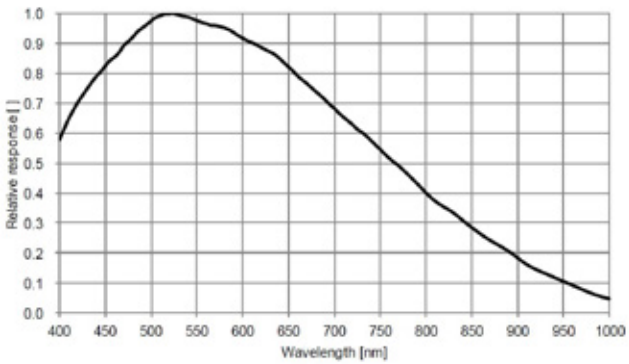
## GENIE NANO FAMILY SPECIFICATIONS (COMMON TO ALL MODELS)

| | GENIE NANO-5G (Medium Casing)<br>Applicable to p/n : G5-Gxxx-xxxx0 | GENIE NANO-5G (XL Casing)<br>Applicable to p/n : G5-Gxxx-xxxx5 |
|---|---|---|
| **Data Output Transfer** | Gigabit Ethernet (1 Gbps, 2.5 Gbps or 5 Gbps — auto-negotiate) | |
| **Exposure Control** | Automatic, programmable, or via external trigger | |
| **I/O Ports** | 2 opto-isolated inputs, 3 opto-isolated ouputs | |
| **Image Buffers (On-board memory)** | 450 MB | |
| **Lens Mount** | C-Mount | M42-mount |
| **Size (L x H x W)<br>(C-mount option)** | 32 mm x 44 mm x 59 mm (no lens adapter)<br>42 mm x 44 mm x 59 mm (with lens adapter and connectors) | 41 mm x 59 mm x 59 mm |
| **Mass** | 124 g | 183 g |
| **Operating Temp** | -20 to +65°C (housing temperature) | |
| **Power Supply** | 10 to 36V or Power Over Ethernet (POE) | |
| **Power Dissipation (model dependent)** | 9.4 W to 9.6 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 DALSA Sapera LT 8.50 for Windows, Teledyne DALSA GigE-V for Linux or 3rd Party GenICam compliant SDK | |

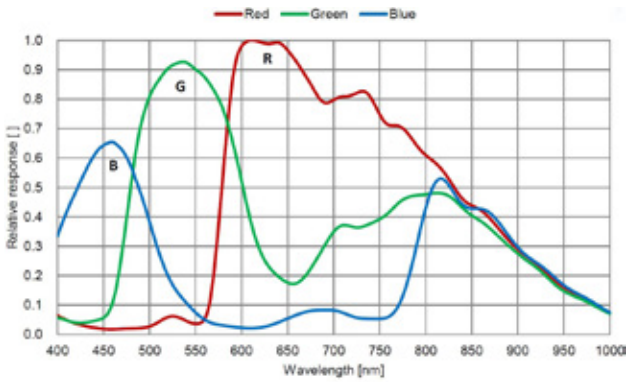
## RESPONSIVITY GRAPHS

### Spectral Sensitivity Characteristics

Excludes lens characteristics and light source characteristics

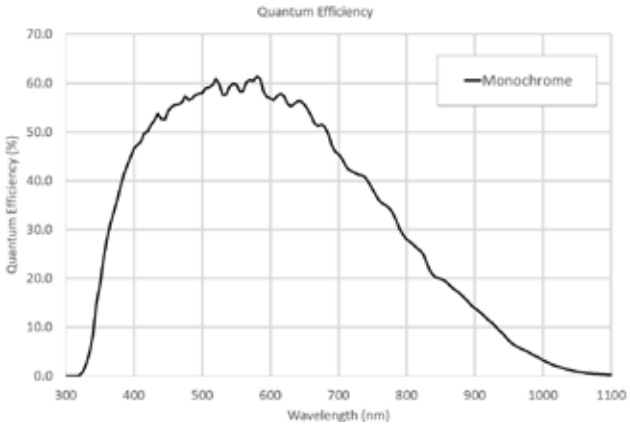



M4060
M4040
M2050
M2450

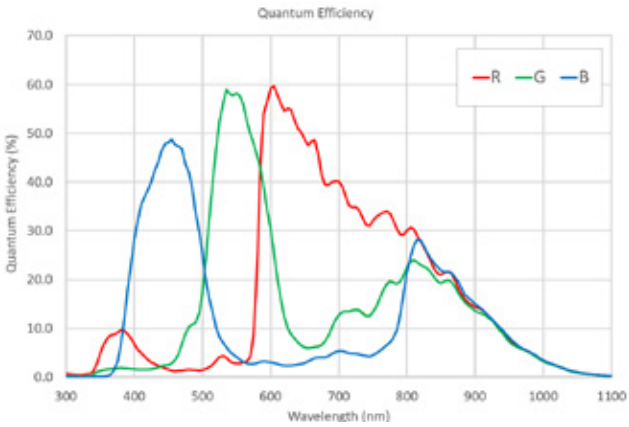



C4060
C4040
C2050
C2450

### Models M4500 / M5400 / M8100




### Models C4500 / C5400 / C8100

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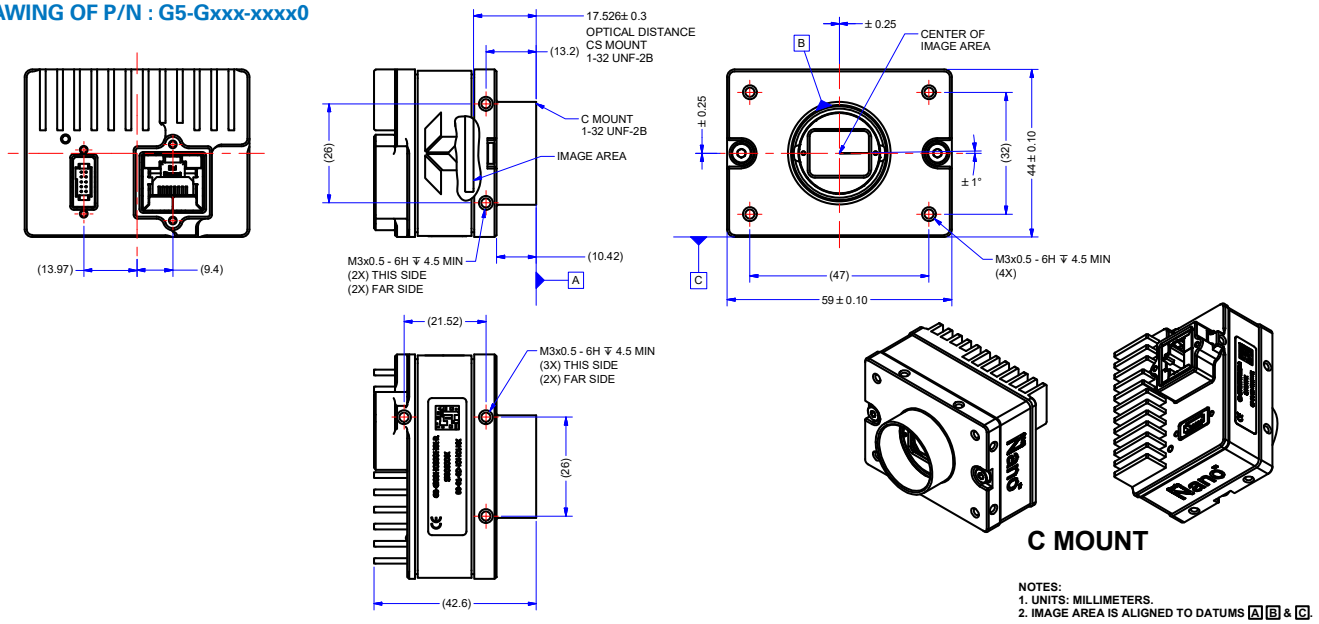
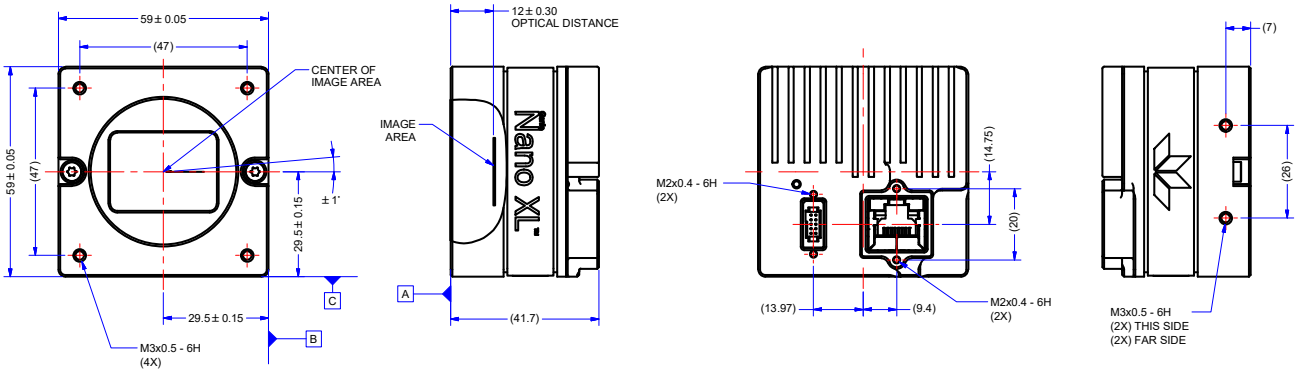
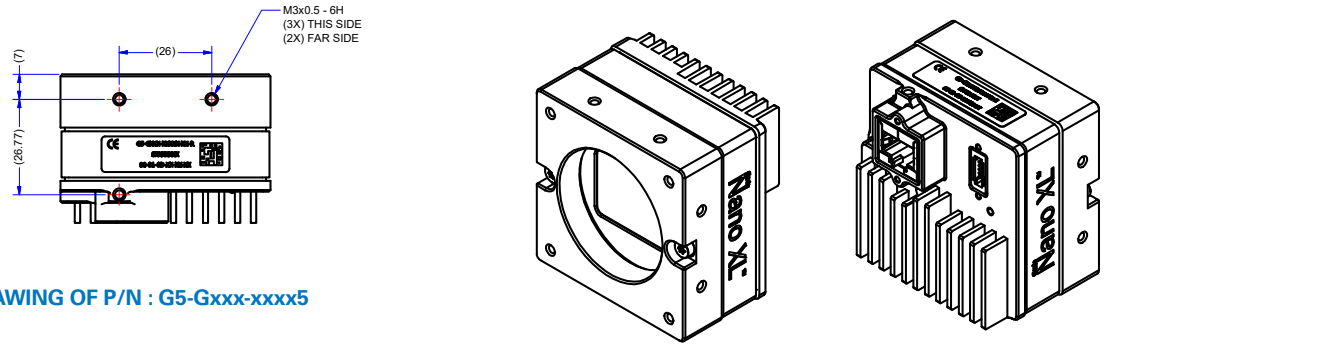
## DRAWING OF P/N : G5-Gxxx-xxxx0




**C MOUNT**

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




## DRAWING OF P/N : G5-Gxxx-xxxx5

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

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