

# FORGE® 5GigE

Industrial Machine Vision Camera | FG-P5G-51S4M-C and FG-P5G-51S4C-C

## KEY FEATURES

### Building Reliable and Powerful Systems, Faster

Constructed on an all-new platform, the Forge camera is designed to offer the richest combination of on-camera pre-processing features, leverage the industry's most advanced sensors, and support the Trigger-to-Image Reliability (T2IR) framework for you to easily build robust systems.

### Beyond 5GigE Performance

In addition to supporting link speeds of 1, 2.5, and 5GigE, the Forge offers burst mode to capture images into memory at speeds up to 10 Gb/s. This combined with a 500 MB image buffer allows engineers to control data transfer without overwhelming the host.

### Ease of Integration

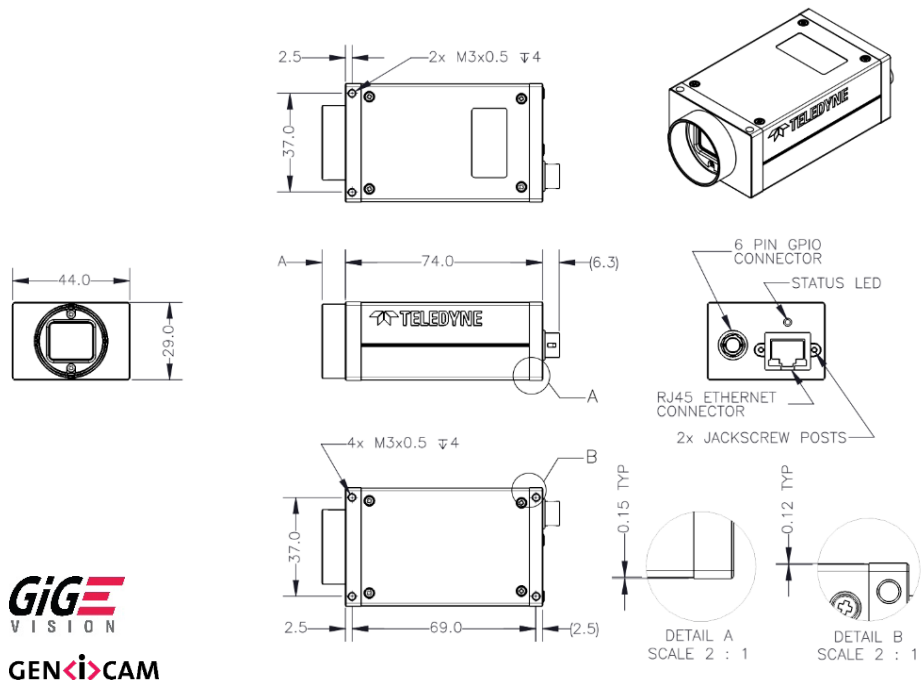
Forge is designed to simplify OEM integration with features including PoE, strong thermal management, and isolated triggering for streamlined peripherals and easier camera control. Forge supports both Teledyne Spinnaker and Sapera SDKs and GigE Vision compliant software packages.

## APPLICATIONS

- Electronics Inspection
- Food Processing
- Pharmaceuticals
- Sports Analytics
- Virtual Reality Motion Capture

## High Speed, High Precision Image Acquisition

Forge is based on an all-new camera platform designed to support a feature and sensor set to easily built robust and powerful systems faster. It offers flexibility link speeds as well as the ability to go beyond 5GigE performance and control data transfer to the host. With OEMs in mind, Forge provides features for easy integration, a seamless upgrade path from 1GigE systems, and supports a choice of SDK's and GigE Vision compliant software packages.


**GEN<i>i>CAM**

## SPECIFICATIONS

|                                   | FG-P5G-51S4M/C-C                                                                             |
|-----------------------------------|----------------------------------------------------------------------------------------------|
| <b>Resolution</b>                 | 2448 x 2048                                                                                  |
| <b>Frame Rate*</b>                | 122 FPS Base / 207 Burst Mode                                                                |
| <b>Megapixels</b>                 | 5.1 MP                                                                                       |
| <b>Sensor Size</b>                | 1/1.8"                                                                                       |
| <b>Readout Method</b>             | Global Shutter                                                                               |
| <b>Pixel Size</b>                 | 2.74 µm                                                                                      |
| <b>Spectrum</b>                   | Mono or Color                                                                                |
| <b>Lens Mount</b>                 | C-mount                                                                                      |
| <b>ADC</b>                        | 8-bit / 10-bit / 12-bit                                                                      |
| <b>Minimum Frame Rate*</b>        | 1 FPS                                                                                        |
| <b>Gain Range*</b>                | 0 – 48 dB                                                                                    |
| <b>Exposure Range*</b>            | 5 µs to 30 seconds                                                                           |
| <b>Acquisition Modes</b>          | Continuous, Single Frame, Multi Frame                                                        |
| <b>Partial Image Modes</b>        | Pixel binning, decimation, ROI                                                               |
| <b>Image Processing</b>           | Gamma, lookup table                                                                          |
| <b>Image Buffer</b>               | 500 MB                                                                                       |
| <b>User Sets</b>                  | 2 user configuration sets for custom camera settings                                         |
| <b>Flash Memory</b>               | 4 MB (for user-defined data)                                                                 |
| <b>Opto-isolated I/O</b>          | 1 input, 1 output                                                                            |
| <b>Non-isolated I/O</b>           | 1 bi-directional, 1 input                                                                    |
| <b>Serial Port</b>                | 1 over non-isolated I/O                                                                      |
| <b>Auxiliary Output</b>           | 3.3 V 120 mA                                                                                 |
| <b>Interface</b>                  | Gigabit Ethernet 5 Gbps / 2.5 Gbps / 1 Gbps                                                  |
| <b>Power Requirements</b>         | Power over Ethernet (PoE); or 12 V nominal (9.5 - 24 V)                                      |
| <b>Power Consumption</b>          | 9.1 W maximum PoE / 7.3 W maximum GPIO                                                       |
| <b>Dimensions / Mass</b>          | 29 mm x 44 mm x 74 mm / 132 g                                                                |
| <b>Machine Vision Standard</b>    | GigE Vision v2.0                                                                             |
| <b>Compliance</b>                 | CE, FCC, KCC, RoHS, REACH. The ECCN for this product is: EAR099                              |
| <b>Temperature</b>                | Operating: 0°C to 65° (measured at the front face of the camera) /<br>Storage: -30°C to 60°C |
| <b>Humidity (no condensation)</b> | Operating: 20% - 85% / Storage: 20% - 95%                                                    |
| <b>Warranty</b>                   | 3 years                                                                                      |

\* Frame rates are in free running mode. Exposure and gain values are the same in binning and no binning modes.

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