



ITA246-GM-20C-EL-IP | DATASHEET

OPTO ENGINEERING

Area scan camera 24.55MP, Sony IMX540, CMOS Global shutter, 1.2", Mono, 1 GigE, POE, C mount

KEY ADVANTAGES

Integrated Liquid Lens Control

Built-in liquid lens driver enables fast and precise focus control directly from the camera, eliminating the need for external controllers.

IP67 Industrial Design

Fully IP67-rated housing ensures reliable operation in harsh industrial environments, with protection against dust and water.

Support for Leading Liquid Lens Technologies

Native compatibility with the most widely used liquid lens technologies, enabling flexible system design and long-term scalability.

Modular IP67 Optical Integration

Compatibility with the modular IPT accessory platform allows the integration of a wide range of optics while maintaining full IP67 protection.

Simplified System Architecture

Integrated liquid lens control, PoE operation, and reduced cabling result in a compact, robust, and easy-to-install vision system.



GEN<i>i>CAM

GigE VISION

1288 EMVA Standard Compliant



ITALA-G.EL.IP series series is a series of GigE Vision industrial cameras featuring an IP67-rated housing with integrated liquid lens control. By adding sealed lens tubes from IPT series and IP67 cables, ITALA G.EL.IP cameras ensure protection against solid particles like dust, dirt, and sand and water while keeping active focus control of the lens.

KEY FEATURES



IP67



1 GIGE



12-24 VOLT



POWER OVER 12-BIT DEPTH ETHERNET



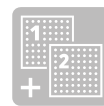
BURST



IMAGE COMPRESSION



FAST TRIGGER MODE



DUAL EXPOSURE



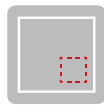
SEQUENCER



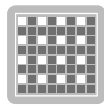
PRECISION TIME PROTOCOL



SCHEDULED ACTION COMMAND



REGION OF INTEREST



BINNING AND DECIMATION



CHUNK DATA



LIQUID LENS CONTROLLER



AUTOFOCUS



OPTO ISOLATED I/O



ENCODER



API C



API C++



API C#



API Python



WINDOWS



LINUX



ARM

All product specifications and data are subject to change without notice to improve reliability, functionality, design or other. Photos and pictures are for illustration purposes only. Data are reported by design, actual lens performance may vary due to manufacturing tolerances.

SPECIFICATIONS

Sensor Specification

| | | |
|-----------------|-------------------|-------------|
| Megapixel | | 24.55 |
| Resolution | | 5328 x 4608 |
| Sensor format | | 1.2" |
| Sensor diagonal | (mm) | 19.3 |
| Pixel size | (μm) | 2.74 |
| Sensor model | | IMX540 |
| Sensor type | | CMOS |
| Shutter | | Global |
| Chroma | | Mono |

Connectivity

| | | |
|------------------------------------|-----|---|
| Data connector | | M12 X-Coded Female IP67 |
| Data interface | | 1 GigE |
| I/O connector | | M12 A-Coded Male IP67 |
| I/O interface | | 2x opto-isolated input 1x opto-isolated output |
| Serial interface | | no |
| Liquid lens controller | | yes, Optotune and Corning |
| Encoder interface | | yes, incremental |
| Power supply | (V) | 12-24, PoE (IEEE 802.3af class 2) |
| Max power consumption ² | (W) | 6 |

Compliance

| | | |
|---------------------|---------|--|
| Standards | | GigE Vision 2.2, GenICam, GenTL |
| Client software | | ITALA View or other GigE Vision 2.x software |
| Operating systems | | 64-bit Windows 10/11 Ubuntu 18.04 or higher |
| Shock and vibration | | EN 60068-2-27 EN 60068-2-6 EN 60068-2-64 |
| Warranty | (years) | 5 |

Mechanical Specifications

| | | |
|-----------------|------|--------------------------------------|
| Mount | | C |
| Dimensions | (mm) | 54 x 54 x 51.3 |
| Clamping system | | 16x M3 threaded holes (on all sides) |
| Mass | (g) | 200 |

Camera Specification

| | | |
|-------------------------|-------|---|
| Filter | | AR glass |
| Frame rate ¹ | (fps) | 4.8 |
| Frame rate burst | (fps) | 9.1 |
| Exposure time | | 1.01 μs - 10 s |
| ADC resolution | (bit) | 10/12 |
| Dynamic range | (dB) | 70.4 |
| Gain range | (dB) | 0-48 |
| SNR | (dB) | 39.8 |
| Image buffer | (MB) | 384 |
| Image processing | | Binning, decimation, ROI, gamma, black level, LUT, defective pixel correction |
| Pixel formats | | Mono 8/ 10p/ 10Packed/ 12p/12Packed |
| Chunk data | | yes |
| User sets | | 3 |
| Timers/Counters | | 2/4 |
| Synchronization | | Free run, software trigger, hardware trigger, PTP (IEEE 1588) |

Environment

| | | |
|------------------------------------|------------------------|-----------------------|
| Operating temperature ³ | ($^{\circ}\text{C}$) | -25 - +65 |
| Storage temperature ⁴ | ($^{\circ}\text{C}$) | -10 - +60 |
| Operating relative humidity | (%) | 20-80, non condensing |
| IP rating | | IP67 |

¹ Color-model's fps are calculated using BayerRG8 pixel format

² Measured with 24V power supply

³ Case temperature, measured on the front part of the camera body

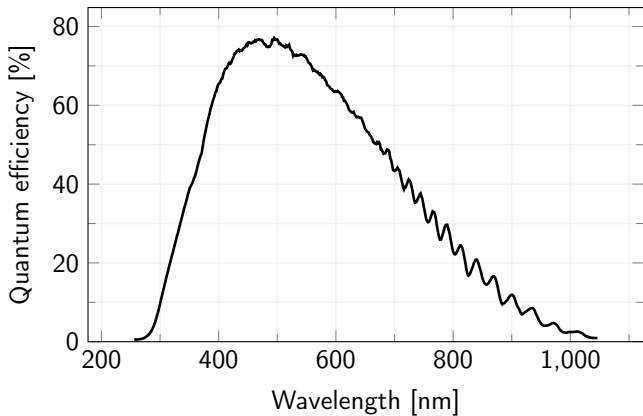
⁴ Ambient temperature

M12 PINOUT

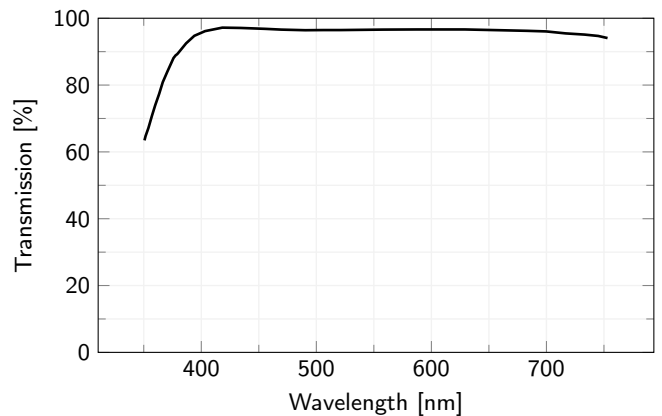


| Pin | Signal |
|-----|--------------|
| 1 | GND |
| 2 | +VIN |
| 3 | Lens - |
| 4 | Opto IN 0 |
| 5 | Lens + |
| 6 | Opto OUT 0 |
| 7 | Opto REF GND |
| 8 | Lens SCL |
| 9 | Lens SDA |
| 10 | Opto REF V+ |
| 11 | Opto IN 1 |
| 12 | Lens +3.3V |

SENSOR QUANTUM EFFICIENCY



FILTERS TRANSMISSION



RECOMMENDED ACCESSORIES



Opto-Engineering® offers sealed lens tubes of different diameters to be used with varying lens sizes (IPT-Series) and sealed M12 cables (CB series) to complete your vision system.

COMPATIBLE PRODUCTS

Full list of compatible products available [here](#).



A wide selection of innovative machine vision components.

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