



OPTO ENGINEERING

ITA204-GC-20C-IP | DATASHEET

Area scan camera 20.36MP, Sony IMX541, CMOS Global shutter, 1.1", Color, 1 GigE, POE, C mount



KEY ADVANTAGES

IP67-RATED ENCLOSURE

High-level protection with water and dust ingress protection feature.

MADE IN ITALY

Cameras designed and manufactured in Italy by Opto Engineering.

COMPATIBLE IP67 LENS TUBES

Sealed lens tubes from IPT series ensure protection against solid particles and water.

RUGGED DESIGN

Aluminum body steel lens mount. Shock Vibration certified. Wide temperature range.

MAXIMUM CONNECTIVITY

Isolated PoE supply, broad range of I/Os, serial communication, M12 connectors.

GEN*i*CAM

GigE
VISION

1288
EMVA Standard Compliant



ITALA-G.IP series is a series of GigE vision PoE area scan cameras featuring an IP67-rated housing. By adding sealed lens tubes from IPT series and IP67 cables, ITALA G.IP cameras ensure protection against solid particles like dust, dirt, and sand and water.

KEY FEATURES



IP67



1 GIGE



12-24 VOLT



POWER OVER
ETHERNET



12-BIT DEPTH



BURST



IMAGE COMPRESSION



FAST TRIGGER MODE



DUAL EXPOSURE



SEQUENCER



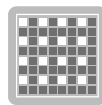
PRECISION TIME PROTOCOL



SCHEDULED ACTION COMMAND



REGION OF INTEREST



BINNING AND DECIMATION



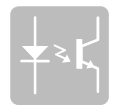
CHUNK DATA



AUTO WHITE BALANCE



COLOR CORRECTION MATRIX



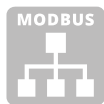
OPTO ISOLATED I/O



ENCODER



DUAL SERIAL INTERFACE



MODBUS



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 | | 20.36 |
| Resolution | | 4512 x 4512 |
| Sensor format | | 1.1" |
| Sensor diagonal | (mm) | 17.5 |
| Pixel size | (μm) | 2.74 |
| Sensor model | | IMX541 |
| Sensor type | | CMOS |
| Shutter | | Global |
| Chroma | | Color |

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 4x opto-isolated output |
| Serial interface | | RS232, RS485 |
| Liquid lens controller | | no |
| Encoder interface | | yes, incremental |
| Power supply | (V) | 12-24, PoE (IEEE 802.3af class 2) |
| Max power consumption ² | (W) | 4.4 |

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 | | IR cut |
| Frame rate ¹ | (fps) | 5.8 |
| Frame rate burst | (fps) | 10.8 |
| Exposure time | | 1.01 μs - 10 s |
| ADC resolution | (bit) | 10/12 |
| Dynamic range | (dB) | 70.7 |
| 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, white balance, color correction matrix |
| Pixel formats | | Mono 8, RGB8, Bayer GR 8/10p/10Packed/12p/12Packed, YUV 422_8, YUV411_8_UYVY |
| 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 |

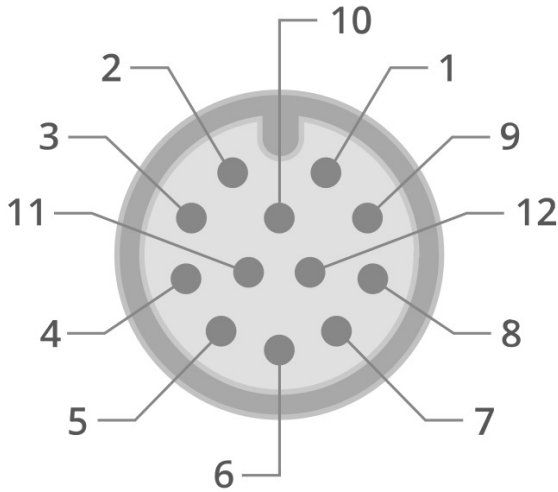
¹ Color-model's fps are calculated using BayerRG8 pixel format

² Measured with 24V power supply

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

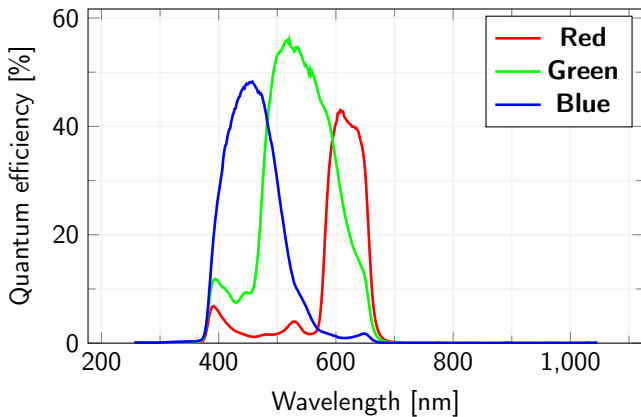
⁴ Ambient temperature

M12 PINOUT

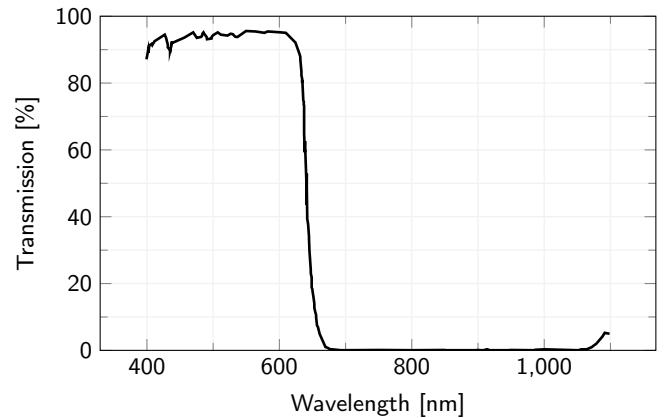


| Pin | Signal |
|-----|--------------|
| 1 | GND |
| 2 | +VIN |
| 3 | Opto OUT 3 |
| 4 | Opto IN 0 |
| 5 | Opto OUT 2 |
| 6 | Opto OUT 0 |
| 7 | Opto REF GND |
| 8 | RS232 RX |
| 9 | RS232 TX |
| 10 | Opto REF V+ |
| 11 | Opto IN 1 |
| 12 | Opto OUT 1 |

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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