



OPTO ENGINEERING

# ITA204-GC-20C-EL-IP | DATASHEET

Area scan camera 20.36MP, Sony IMX541, CMOS Global shutter, 1.1", Color, 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 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	LIQUID LENS CONTROLLER
AUTOFOCUS	OPTO ISOLATED I/O	ENCODER	API C	API C++	API C#	API Python	WINDOWS	LINUX

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.



ARM

## SPECIFICATIONS

## Sensor Specification

Megapixel		20.36
Resolution		4512 x 4512
Sensor format		1.1"
Sensor diagonal	(mm)	17.5
Pixel size	( $\mu\text{m}$ )	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 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 <sup>2</sup>	(W)	6.1

## 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 <sup>1</sup>	(fps)	5.8
Frame rate burst	(fps)	10.8
Exposure time		1.01 $\mu\text{s}$ - 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 corection matrix
Pixel formats		Mono 8, RGB8, Bayer GR 8/10p/10Packed/12p/12Packed, YUV 422_8, YUV411_8_UYVYVY
Chunk data		yes
User sets		3
Timers/Counters		2/4
Synchronization		Free run, software trigger, hardware trigger, PTP (IEEE 1588)

## Environment

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

<sup>1</sup> Color-model's fps are calculated using BayerRG8 pixel format<sup>2</sup> Measured with 24V power supply<sup>3</sup> Case temperature, measured on the front part of the camera body<sup>4</sup> Ambient temperature

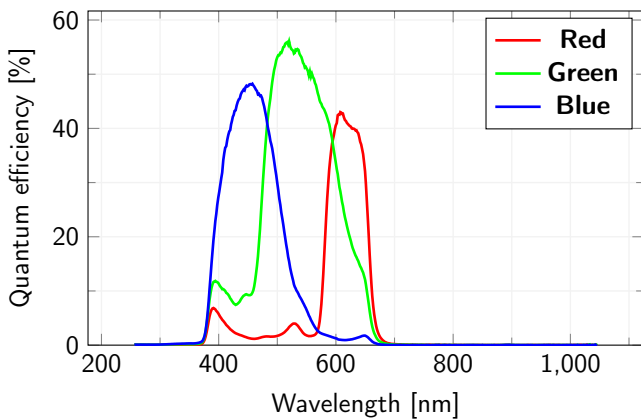
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**M12 PINOUT**

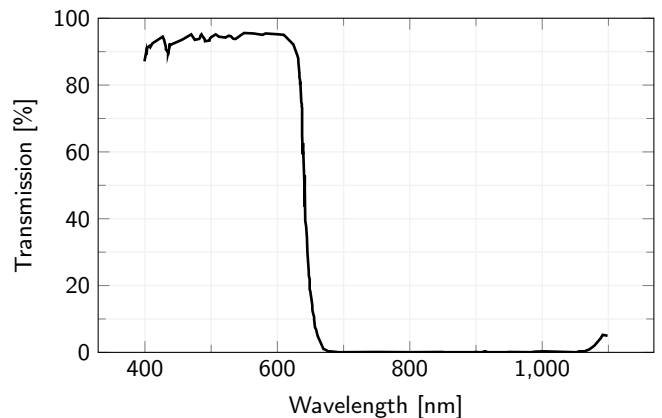


Pin	Signal
1	GND
2	+VIN
3	Lens -
4	Opto IN 0
5	Lens +
6	Opto OUT 0
7	Opto REF GND
8	Lens SCL
9	Lens SDA
10	Opto REF V+
11	Opto IN 1
12	Lens +3.3V

**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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