



ITA81-GM-20C-EL-IP | DATASHEET

OPTO ENGINEERING

Area scan camera 8.1MP, Sony IMX546, CMOS Global shutter, 2/3", 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

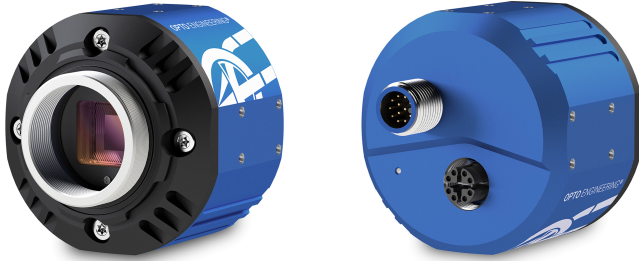
Native compatibility with the most widely used liquid lens technologies, enabling flexible system design and long-term scalability.

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</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	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		8.1
Resolution		2856 x 2848
Sensor format		2/3"
Sensor diagonal	(mm)	11.1
Pixel size	(μm)	2.74
Sensor model		IMX546
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)	5.2

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)	14.4
Frame rate burst	(fps)	25.6
Exposure time		1.02 μs - 10 s
ADC resolution	(bit)	10/12
Dynamic range	(dB)	69.7
Gain range	(dB)	0-48
SNR	(dB)	39.7
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

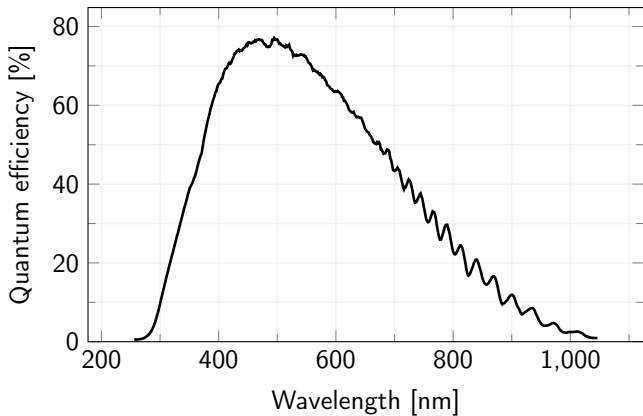
⁴ Ambient temperature

M12 PINOUT

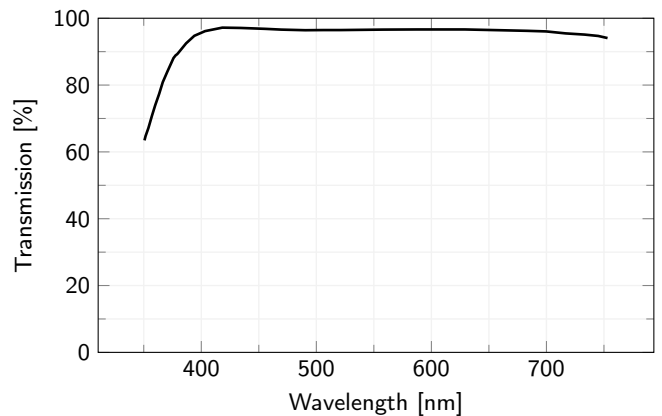


Pin	Signal
1	GND
2	+VIN
3	Lens -
4	Opto IN 0
5	Lens +
6	Opto OUT 0
7	Opto REF GND
8	Lens SCL
9	Lens SDA
10	Opto REF V+
11	Opto IN 1
12	Lens +3.3V

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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