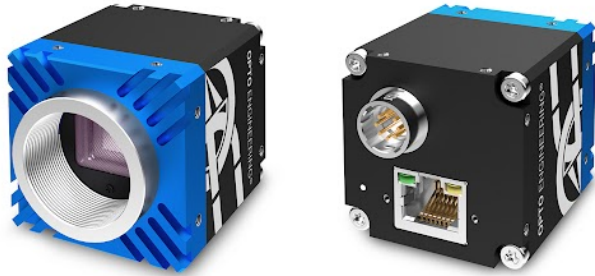




OPTO ENGINEERING

# ITA124-GM-20C-EL | DATASHEET

Area scan camera 12.4MP, Sony IMX545, CMOS Global shutter, 1/1.1", Mono, 1 GigE, POE, C mount, with integrated liquid lens controller



## KEY ADVANTAGES

### MADE IN ITALY

Cameras designed and manufactured in Italy by Opto Engineering.

### EASY INSTALLATION

Built-in liquid lens control: no external driver needed.

### TOP QUALITY SERVICE

5 years warranty.

### HIGH ROBUSTNESS

Aluminum body & steel lens mount, shock & vibration certified, wide temperature range.

### MAXIMUM CONNECTIVITY

Isolated PoE supply, broad range of I/Os.

### HIGH PROCESSING CAPABILITY

Large on-board image buffer, large FPGA.

### EXCELLENT QUALITY/PRICE RATIO

The **ITALA-G.EL series** is a series of GigE Vision industrial cameras with integrated liquid lens control designed and built in Italy by Opto Engineering®.

GEN*i*CAM

**GigE**  
VISION

1288  
EMVA Standard Compliant



## KEY FEATURES



1 GIGE



12-24 VOLT



POWER OVER ETHERNET



12-BIT DEPTH



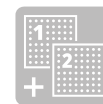
BURST



IMAGE COMPRESSION



FAST TRIGGER MODE



DUAL EXPOSURE



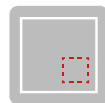
SEQUENCER



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

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		12.4
Resolution		4128 x 3008
Sensor format		1/1.1"
Sensor diagonal	(mm)	14.0
Pixel size	( $\mu\text{m}$ )	2.74
Sensor model		IMX545
Sensor type		CMOS
Shutter		Global
Chroma		Mono

### Connectivity

Data connector		RJ45
Data interface		1 GigE
I/O connector		12-pin Hirose
I/O interface		2x opto-isolated input 1x opto-isolated output
Serial interface		no
Liquid lens controller		yes (EL-3-10, EL-16-40)
Encoder interface		yes, incremental
Power supply	(V)	12-24, PoE (IEEE 802.3af class 2)
Max power consumption <sup>2</sup>	(W)	5.7

### 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 18.04/20.04/22.04
Shock and vibration		EN 60068-2-27 EN 60068-2-6 EN 60068-2-64
Warranty	(years)	5

### Mechanical Specifications

Mount		C
Dimensions	(mm)	40.5 x 40.5 x 51.2
Clamping system		16x M3 threaded holes (on all sides)
Mass	(g)	142

### Camera Specification

Filter		AR glass
Frame rate <sup>1</sup>	(fps)	9.5
Frame rate burst	(fps)	17.4
Exposure time		20.87 $\mu\text{s}$ - 10 s
ADC resolution	(bit)	10/12
Dynamic range	(dB)	69.6
Gain range	(dB)	0-48
SNR	(dB)	39.5
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 <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		IP30

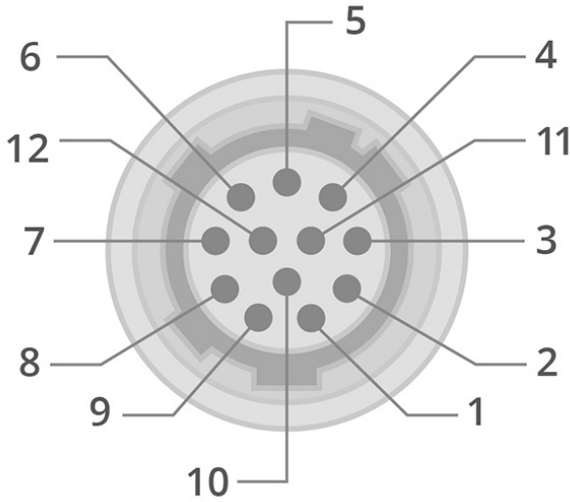
<sup>1</sup> Color-model's fps are calculated using BayerRG8 pixel format

<sup>2</sup> Measured with 24V power supply and liquid lens connected to the camera

<sup>3</sup> Case temperature, measured on the front part of the camera body

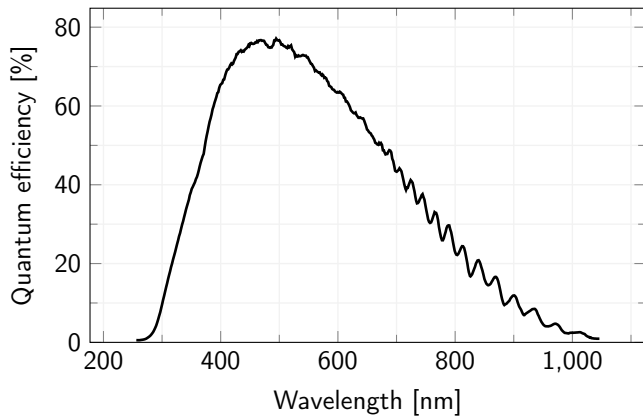
<sup>4</sup> Ambient temperature

**HIROSE PINOUT**

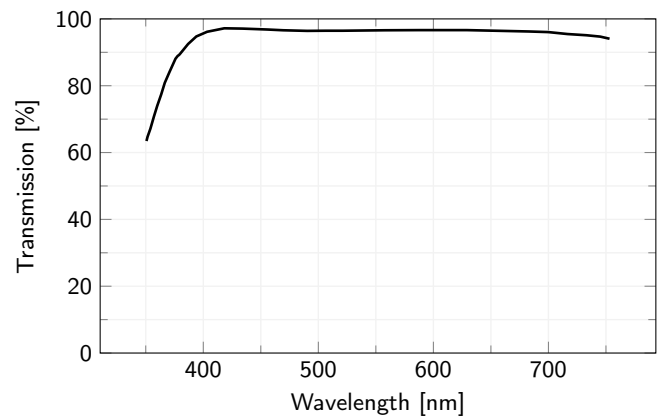


Pin	Signal
1	GND
2	+VIN
3	Lens -
4	Opto IN 0
5	Lens +
6	Opto OUT 0
7	Opto REF GND
8	Lens SCL
9	Lens SDA
10	Opto REF V+
11	Opto IN 1
12	Lens +3.3V

**SENSOR QUANTUM EFFICIENCY**



**FILTERS TRANSMISSION**



**RECOMMENDED ACCESSORIES**

Opto-Engineering® suggests the following accessories to power the camera:

- **RT-A72-0418-05**, Ethernet cable, CAT6A, industrial level, high flexible cable with screw, 5 m
- **RT-A65-7105-05**, I/O cable, side 1 HIROSE 12 pin, side 2 cable end, 5 m
- **RT-POE15M-1AFE-R**, 15.4W Single Port Power-over-Ethernet IEEE802.3af Power Injector

**COMPATIBLE PRODUCTS**

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



A wide selection of innovative machine vision components.

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.