



OPTO ENGINEERING

ITA23-GC-10C-EL | DATASHEET

Area scan camera 2.4MP, Sony IMX249, CMOS Global shutter, 1/1.2", Color, 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, serial communication.

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®.

KEY FEATURES



1 GIGE



12-24 VOLT



POWER OVER ETHERNET



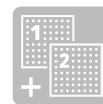
12-BIT DEPTH



BURST



FAST TRIGGER MODE



DUAL EXPOSURE



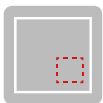
SEQUENCER



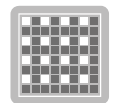
PRECISION TIME PROTOCOL



SCHEDULED ACTION COMMAND



REGION OF INTEREST



BINNING AND DECIMATION



CHUNK DATA



AUTO WHITE BALANCE



COLOR CORRECTION MATRIX



LIQUID LENS



OPTO ISOLATED I/O



ENCODER



API C



API C++



API C#



WINDOWS



LINUX

SPECIFICATIONS

Sensor Specification

Megapixel	2.4
Resolution	1936 x 1216
Sensor format	1/1.2"
Sensor diagonal (mm)	13.4
Pixel size (μm)	5.86
Sensor model	IMX249
Sensor type	CMOS
Shutter	Global
Chroma	Color

Connectivity

Data connector	RJ45
Data interface	1 GigE
I/O connector	12-pin Hirose
I/O interface	2x opto-isolated input 4x 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 ² (W)	5.5

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	IR cut
Frame rate ¹ (fps)	31.6
Frame rate burst (fps)	31.6
Exposure time	39 μs - 10 s
ADC resolution (bit)	10/12
Dynamic range (dB)	71.8
Gain range (dB)	0-48
SNR (dB)	45
Image buffer (MB)	384
Image processing	Binning, decimation, ROI, gamma, black level, LUT, defective pixel correction, white balance, color correction matrix
Pixel formats	Mono 8/10/12, RGB8, Bayer GR 8/10p/10Packed/12p/12Packed, YUV 422Packed
Chunk data	yes
User sets	3
Timers/Counters	2/4
Synchronization	Free run, software trigger, hardware trigger, PTP (IEEE 1588)

Environment

Operating temperature ³ (°C)	-25 - +65
Storage temperature ⁴ (°C)	-10 - +60
Operating relative humidity (%)	20-80, non condensing
IP rating	IP30

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

² Measured with 24V power supply and liquid lens connected to the camera

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

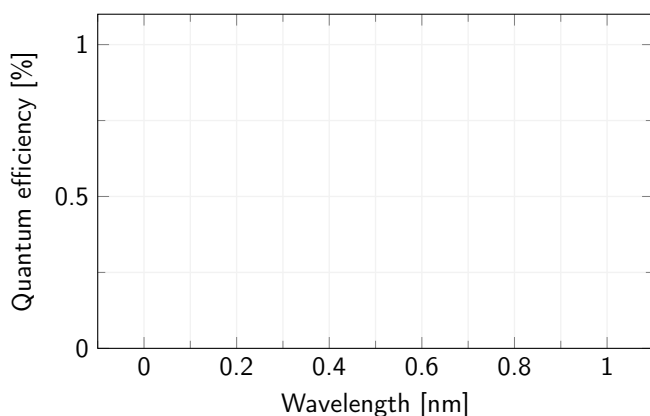
⁴ Ambient temperature

HIROSE PINOUT

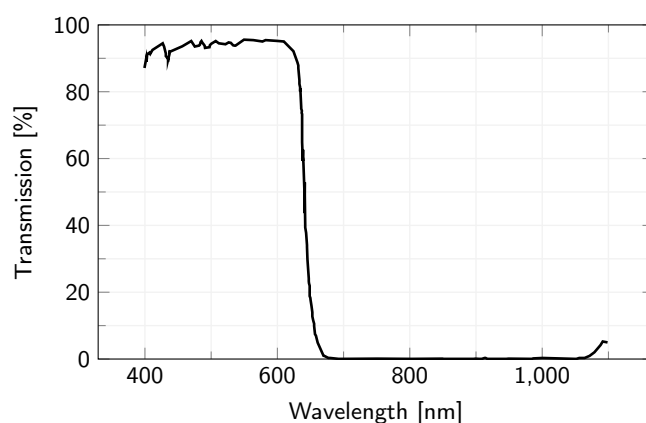


Pin	Signal
1	GND
2	+VIN
3	Lens -
4	Opto IN 0
5	Lens +
6	Opto OUT 0
7	Opto REF GND
8	Lens SCL
9	Lens SDA
10	Opto REF V+
11	Opto IN 1
12	Lens +3.3V

SENSOR QUANTUM EFFICIENCY



FILTERS TRANSMISSION



RECOMMENDED ACCESSORIES

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

- **CBETH003**, Ethernet cable, CAT6, industrial level, high flexible cable with screw, 5 m
- **CBGPEL12P6P-03M**, I/O cable, side 1 HIROSE 12 pin, side 2 HIROSE 6 pin, 0.3 m
- **CBGPI012PY6P-3M**, I/O cable, side 1 HIROSE 12 pin, side 2 HIROSE 6 pin, side 3 cable end, 3m+0.3m
- **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.