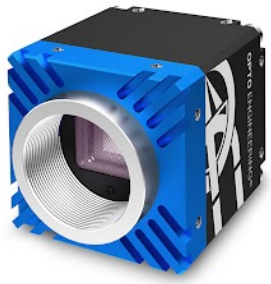
ITA81-GC-20C-EL | DATASHEET

OPTO ENGINEERING

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

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

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

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		Color

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)
Enconder 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 18.04/20.04/22.04
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

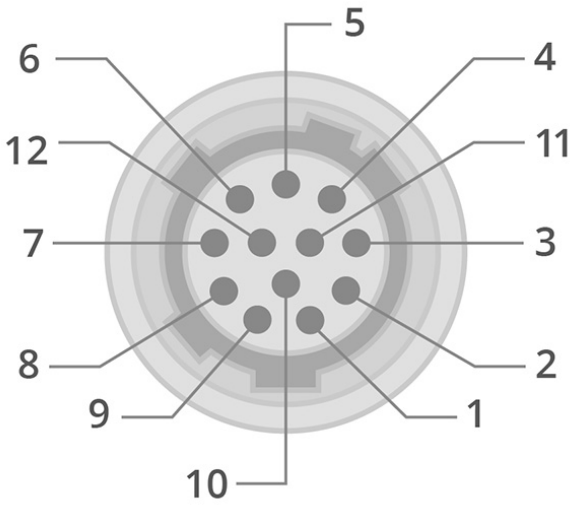
Filter		IR cut
Frame rate[1]	(fps)	14.4
Frame rate burst	(fps)	25.6
Exposure time		1.02 µs - 10 s
ADC resolution	(bit)	10/12
Dynamic range	(dB)	69.6
Gain range	(dB)	0-48
SNR	(dB)	39.8
Image buffer	(MB)	384
Image processing		Binning, decimation, ROI, gamma, black level, LUT, defective pixel correction, white balance, color corection matrix
Pixel formats		Mono 8, RGB8, Bayer GR 8/10p/10Packed/12p/12Packed, YUV 422_8, YUV411_8_UYYVYY
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

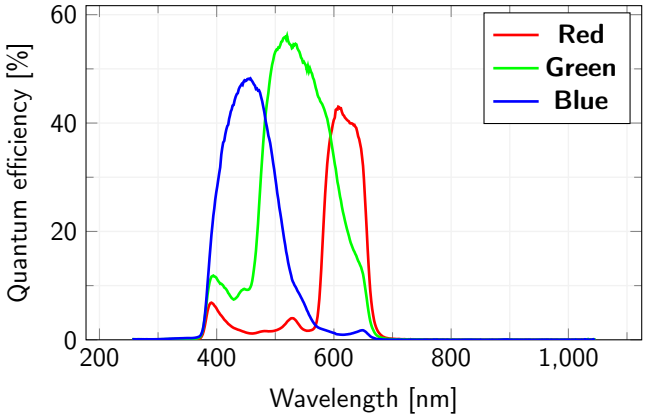
[1] Color-model's fps are calculated using BayerRG8 pixel format
[2] Measured with 24V power supply and liquid lens connected to the camera
[3] Case temperature, measured on the front part of the camera body
[4] Ambient temperature

HIROSE PINOUT

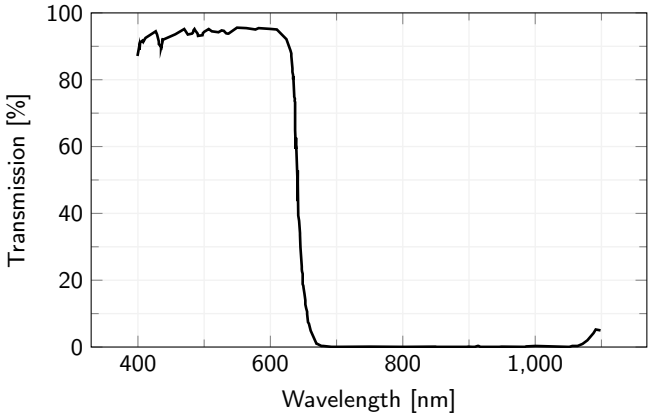


Pin	Signal
1	GND
2	+VIN
3	Lens -
4	Opto IN 0
5	Lens +
6	Opto OUT 0
7	Opto REF GND
8	Lens SCL
9	Lens SDA
10	Opto REF V+
11	Opto IN 1
12	Lens +3.3V

SENSOR QUANTUM EFFICIENCY



FILTERS TRANSMISSION



RECOMMENDED ACCESSORIES

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

- **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.