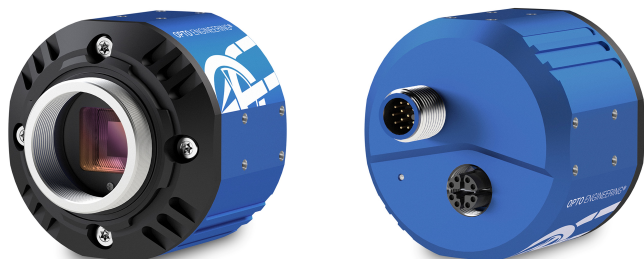




OPTO ENGINEERING

# ITA81-GC-20C-IP | DATASHEET

Area scan camera 8.1MP, Sony IMX546, CMOS Global shutter, 2/3", Color, 1 GigE, POE, C mount



## KEY ADVANTAGES

### IP67-RATED HOUSING

Protection against water and dust.

### MADE IN ITALY

Cameras designed and manufactured in Italy by Opto Engineering.

### TOP QUALITY SERVICE

5 years warranty.

### RUGGEDIZED

-25° C to 65° operating temperature. Stainless steel mount, milled aluminum body. Tested for shock and vibration resistance.

### 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

**ITALA-G.IP series** is a series of GigE vision PoE area scan cameras featuring an IP67-rated housing. By adding sealed lens tubes from IPT series and IP67 cables, ITALA G.IP cameras ensure protection against solid particles like dust, dirt, and sand and water.

GEN*i*CAM

**GigE**  
VISION

1288  
EMVA Standard Compliant



## 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	OPTO ISOLATED I/O
ENCODER	DUAL SERIAL INTERFACE	MODBUS	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	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	M12 X-Coded Female IP67
Data interface	1 GigE
I/O connector	M12 A-Coded Male IP67
I/O interface	2x opto-isolated input 4x opto-isolated output
Serial interface	RS232, RS485
Liquid lens controller	no
Encoder interface	yes, incremental
Power supply (V)	12-24, PoE (IEEE 802.3af class 2)
Max power consumption <sup>2</sup> (W)	3.5

## 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)	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)	14.4
Frame rate burst (fps)	25.6
Exposure time	1.02 μs - 10 s
ADC resolution (bit)	10/12
Dynamic range (dB)	69.8
Gain range (dB)	0-48
SNR (dB)	39.9
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> (°C)	-25 - +65
Storage temperature <sup>4</sup> (°C)	-10 - +60
Operating relative humidity (%)	20-80, non condensing
IP rating	IP67

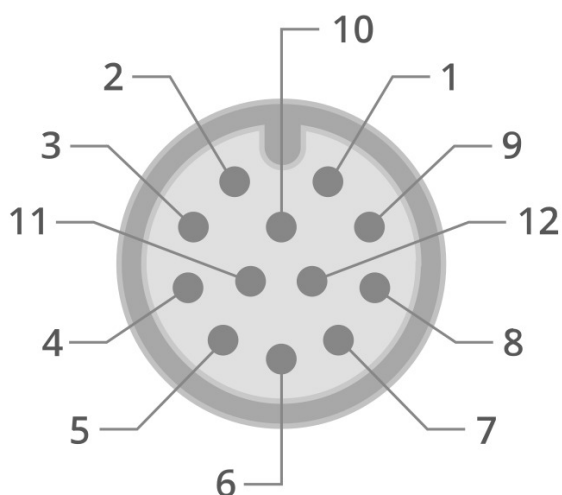
<sup>1</sup> Color-model's fps are calculated using BayerRG8 pixel format

<sup>2</sup> Measured with 24V power supply

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

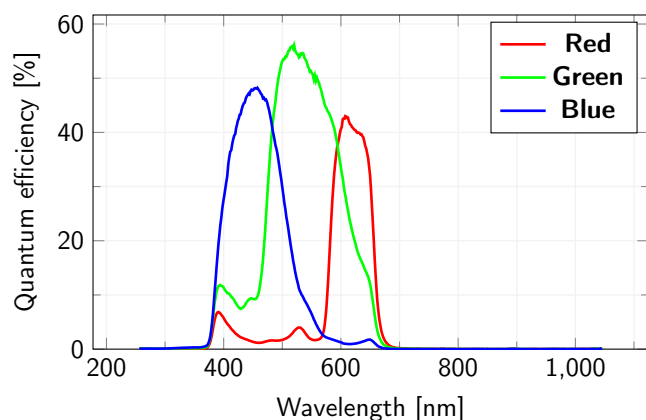
<sup>4</sup> Ambient temperature

## M12 PINOUT

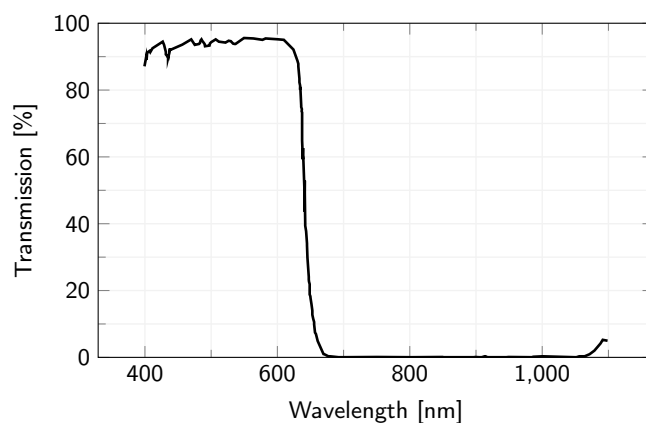


Pin	Signal
1	GND
2	+VIN
3	Opto OUT 3
4	Opto IN 0
5	Opto OUT 2
6	Opto OUT 0
7	Opto REF GND
8	RS232 RX
9	RS232 TX
10	Opto REF V+
11	Opto IN 1
12	Opto OUT 1

## SENSOR QUANTUM EFFICIENCY



## FILTERS TRANSMISSION



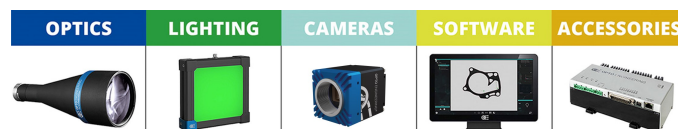
## RECOMMENDED ACCESSORIES



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.