



OPTO ENGINEERING

# ITA51-GC-20C | DATASHEET

Area scan camera 5.1MP, Sony IMX547, CMOS Global shutter, 1/1.8", Color, 1 GigE, POE, C mount



### KEY ADVANTAGES

#### MADE IN ITALY

Cameras designed and manufactured in Italy by Opto Engineering.

#### 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

GEN*i*CAM

**GigE**  
VISION



The **ITALA-G series** is a series of GigE Vision industrial cameras designed and manufactured in Italy by Opto Engineering®.

### KEY FEATURES



1 GIGE



12-24 VOLT



POWER OVER ETHERNET



PRECISION TIME PROTOCOL



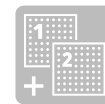
12-BIT DEPTH



BURST



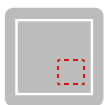
FAST TRIGGER MODE



DUAL EXPOSURE



SCHEDULED ACTION COMMAND



REGION OF INTEREST



BINNING AND DECIMATION



CHUNK DATA



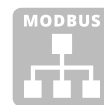
OPTO ISOLATED I/O



DUAL SERIAL INTERFACE



ENCODER



MODBUS



AUTO WHITE BALANCE



COLOR CORRECTION MATRIX



API C++



WINDOWS

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		5.1
Resolution		2472 x 2064
Sensor format		1/1.8"
Sensor diagonal	(mm)	8.8
Pixel size	( $\mu\text{m}$ )	2.74
Sensor model		IMX547
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		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)	3.8

### 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
Shock and vibration <sup>3</sup>		n.a.
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 <sup>1</sup>	(fps)	7.7
Frame rate burst	(fps)	39.5
Exposure time		2.47 $\mu\text{s}$ - 10 s
ADC resolution	(bit)	10/12
Dynamic range	(dB)	70.0
Gain range	(dB)	0-48
SNR	(dB)	40.2
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 <sup>4</sup>	(°C)	-25 - +65
Storage temperature <sup>5</sup>	(°C)	-10 - +60
Operating relative humidity	(%)	20-80, non condensing
IP rating		IP30

<sup>1</sup> Color-model's fps are calculated using RGB8 pixel format

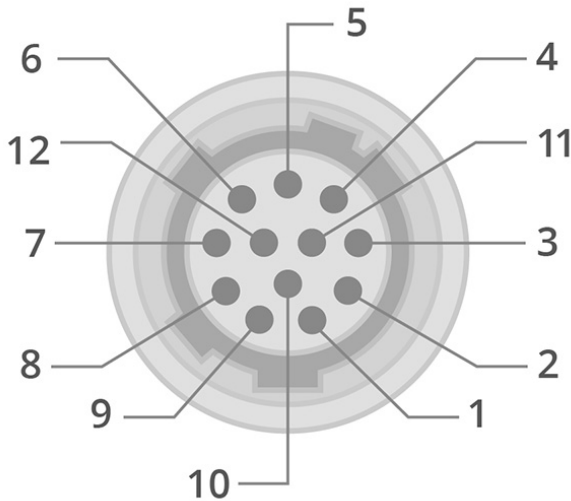
<sup>2</sup> Measured with 24V power supply

<sup>3</sup> To be measured after pre-series production

<sup>4</sup> Case temperature, measured on the front part of the camera body

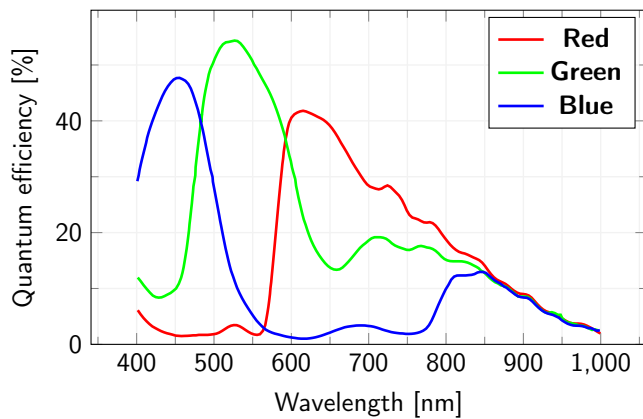
<sup>5</sup> Ambient temperature

### HIROSE PINOUT

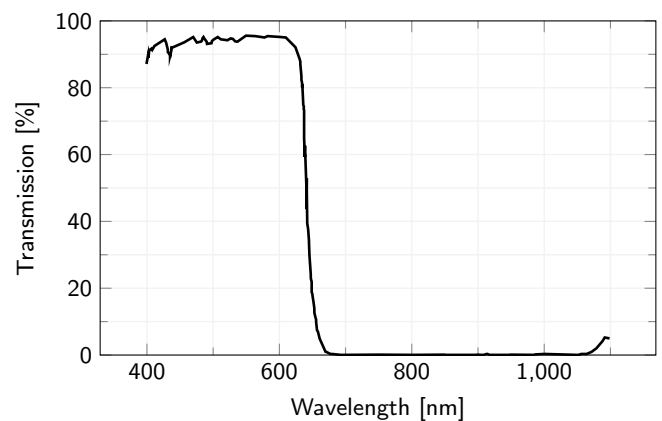


Pin	Signal
1	GND
2	+VIN
3	Opto OUT 3
4	Opto IN 0
5	Opto OUT 2
6	Opto OUT 0
7	Opto REF GND
8	RS232 RX
9	RS232 TX
10	Opto REF V+
11	Opto IN 1
12	Opto OUT 1

### SENSOR QUANTUM EFFICIENCY



### FILTERS TRANSMISSION



### RECOMMENDED ACCESSORIES

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

- **CBETH003**, Ethernet cable, CAT6, industrial level, high flexible cable with screw, 5 m
- **CBGPIO001**, I/O cable, side 1 HIROSE 12 pin, side 2 cable end, 3 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.