

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

1288
EMVA Standard Compliant



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	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	5.1
Resolution	2472 x 2064
Sensor format	1/1.8"
Sensor diagonal (mm)	8.8
Pixel size (μm)	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 ² (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)	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)	23.0
Frame rate burst (fps)	39.6
Exposure time	1.02 μs - 10 s
ADC resolution (bit)	10/12
Dynamic range (dB)	69.7
Gain range (dB)	0-48
SNR (dB)	39.7
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 ³ (°C)	-25 - +65
Storage temperature ⁴ (°C)	-10 - +60
Operating relative humidity (%)	20-80, non condensing
IP rating	IP30

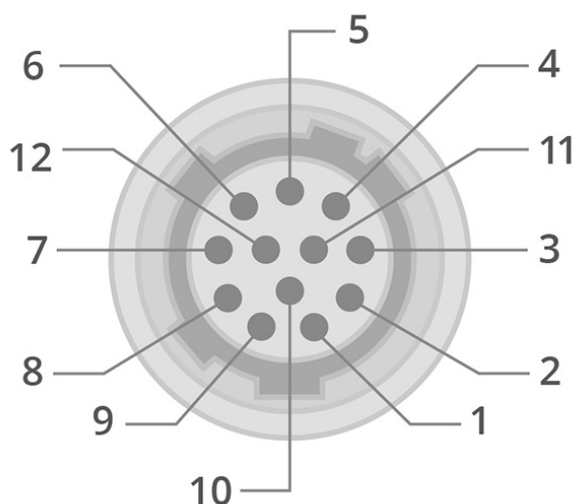
¹ Color-model's fps are calculated using BayerRG8 pixel format

² Measured with 24V power supply

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

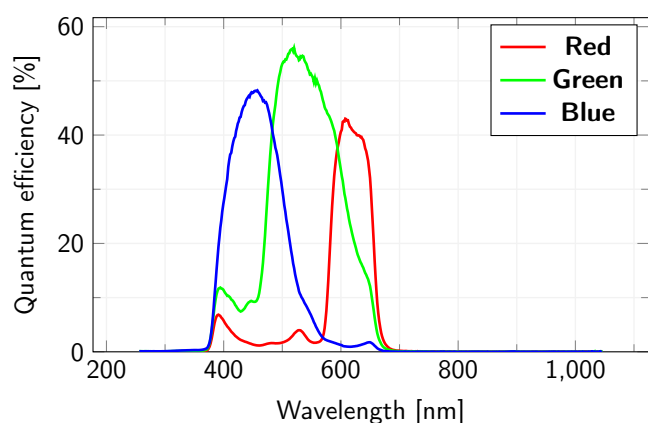
⁴ Ambient temperature

HIROSE PINOUT

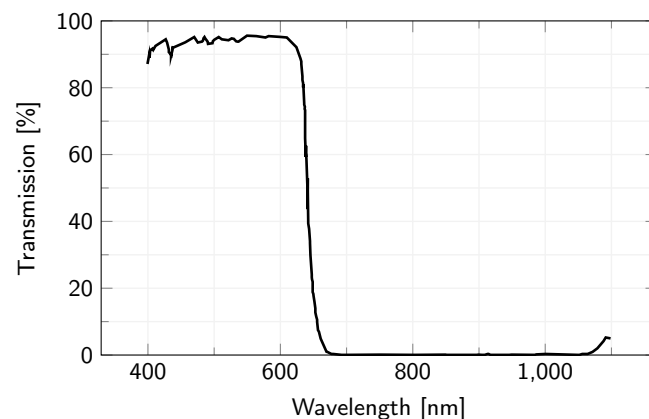


Pin	Signal
1	GND
2	+VIN
3	Opto OUT 3
4	Opto IN 0
5	Opto OUT 2
6	Opto OUT 0
7	Opto REF GND
8	RS232 RX
9	RS232 TX
10	Opto REF V+
11	Opto IN 1
12	Opto OUT 1

SENSOR QUANTUM EFFICIENCY



FILTERS TRANSMISSION



RECOMMENDED ACCESSORIES

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

- **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.