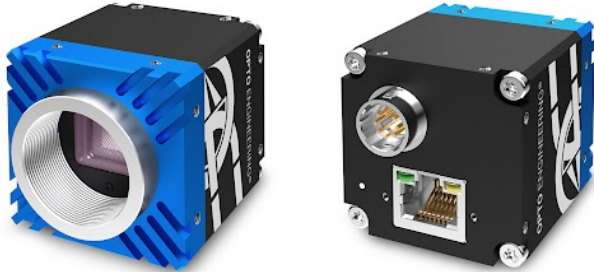




OPTO ENGINEERING

# ITA204-GM-20C | DATASHEET

Area scan camera 20.36MP, Sony IMX541, CMOS Global shutter, 1.1", Mono, 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



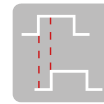
PRECISION  
TIME  
PROTOCOL



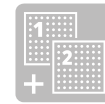
12-BIT DEPTH



BURST



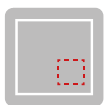
FAST  
TRIGGER  
MODE



DUAL  
EXPOSURE



SCHEDULED  
ACTION  
COMMAND



REGION OF  
INTEREST



BINNING  
AND  
DECIMATION



CHUNK DATA



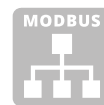
OPTO  
ISOLATED I/O



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		20.36
Resolution		4512 x 4512
Sensor format		1.1"
Sensor diagonal	(mm)	17.5
Pixel size	( $\mu\text{m}$ )	2.74
Sensor model		IMX541
Sensor type		CMOS
Shutter		Global
Chroma		Mono

### 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)	4

### 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		AR glass
Frame rate <sup>1</sup>	(fps)	5.8
Frame rate burst	(fps)	10.8
Exposure time		2.46 $\mu\text{s}$ - 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
Pixel formats		Mono 8/ 10p/ 10Packed/ 12p/12Packed
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>	( $^{\circ}\text{C}$ )	-25 - +65
Storage temperature <sup>5</sup>	( $^{\circ}\text{C}$ )	-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

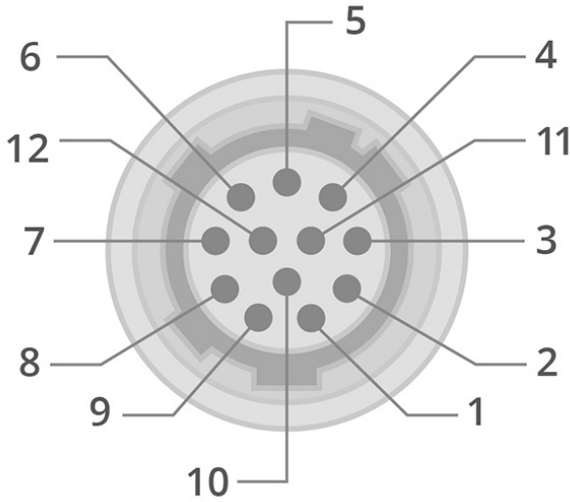
<sup>2</sup> Measured with 24V power supply

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

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

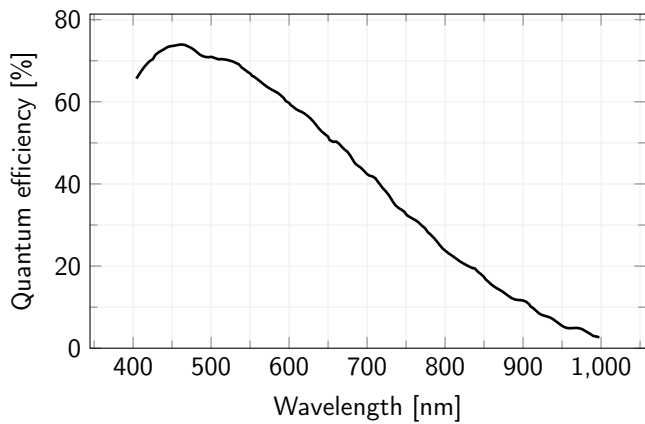
<sup>5</sup> Ambient temperature

**HIROSE PINOUT**

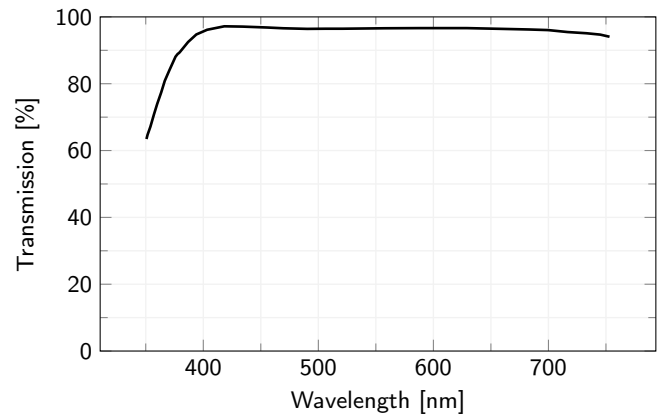


Pin	Signal
1	GND
2	+VIN
3	Opto OUT 3
4	Opto IN 0
5	Opto OUT 2
6	Opto OUT 0
7	Opto REF GND
8	RS232 RX
9	RS232 TX
10	Opto REF V+
11	Opto IN 1
12	Opto OUT 1

**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
- **CBGPI0001**, 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.

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