ITA204-GM-20C | DATASHEET

OPTO ENGINEERING®

Area scan camera 20.36MP, Sony IMX541, CMOS Global shutter, 1.1", Mono, 1 GigE, POE, C mount

GEN<i>CAM

GigE VISION

1288 EMVA Standard Compliant

CE FCC UKCA KC RoHS REACH DOSSIER

INTERNATIONAL **PATENT** PENDING

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

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**	**OPTO ISOLATED I/O**
ENCODER	**DUAL SERIAL INTERFACE**	**MODBUS**

API C	**API C++**	**API C#**
API Python	**WINDOWS**	**LINUX**

SPECIFICATIONS

Sensor Specification

Megapixel		20.36
Resolution		4512 x 4512
Sensor format		1.1"
Sensor diagonal	(mm)	17.5
Pixel size	(µm)	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
Enconder interface		yes, incremental
Power supply	(V)	12-24, PoE (IEEE 802.3af class 2)
Max power consumption[2]	(W)	4.4

Camera Specification

Filter		AR glass
Frame rate[1]	(fps)	5.8
Frame rate burst	(fps)	10.8
Exposure time		1.01 µs - 10 s
ADC resolution	(bit)	10/12
Dynamic range	(dB)	70.6
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
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)

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

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
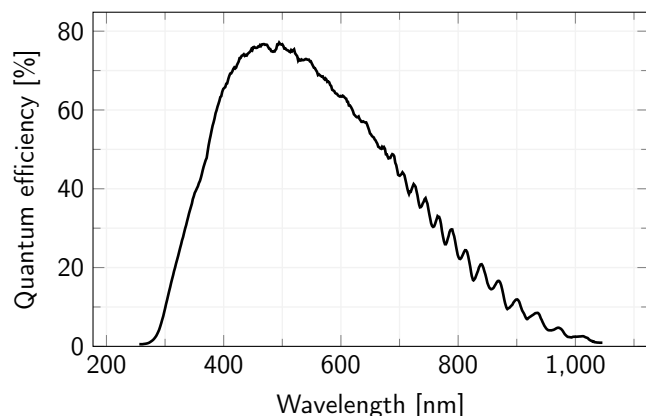[3] Case temperature, measured on the front part of the camera body
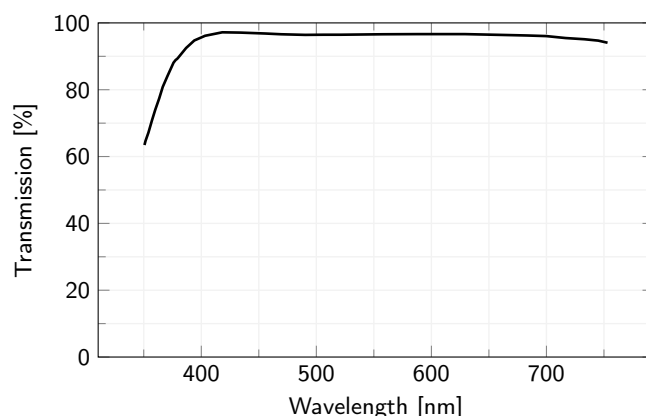[4] Ambient temperature

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

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.

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*.

| OPTICS | LIGHTING | CAMERAS | SOFTWARE | ACCESSORIES |

A wide selection of innovative machine vision components.