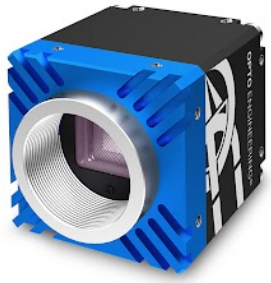
ITA120-GC-11C-PL | DATASHEET

OPTO ENGINEERING

Area scan camera 12.3MP, Sony IMX253, CMOS Global shutter, 1.1", Polar 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

PATENTED

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

KEY FEATURES

POLARIZED SENSOR
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
CHUNK DATA
AUTO WHITE BALANCE
OPTO ISOLATED I/O
ENCODER
DUAL SERIAL INTERFACE
MODBUS
API C
API C++
API C#
API Python
WINDOWS
LINUX
ARM

SPECIFICATIONS

Sensor Specification

Megapixel		12.3
Resolution		4112 x 3008
Sensor format		1.1"
Sensor diagonal	(mm)	17.6
Pixel size	(µm)	3.45
Sensor model		IMX253
Sensor type		CMOS
Shutter		Global
Chroma		Polar 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
Enconder interface		yes, incremental
Power supply	(V)	12-24, PoE (IEEE 802.3af class 2)
Max power consumption[2]	(W)	3.9

Camera Specification

Filter		IR cut
Frame rate[1]	(fps)	9.5
Frame rate burst	(fps)	17.9
Exposure time		1.51 µs - 10 s
ADC resolution	(bit)	10/12
Dynamic range	(dB)	69.3
Gain range	(dB)	0-48
SNR	(dB)	39.9
Image buffer	(MB)	384
Image processing		ROI, gamma, black level, LUT, defective pixel correction
Pixel formats		Bayer GR 8/ 10p/10Packed/ 12p/12Packed, Polarized00BayerGR8, Polarized00BayerGR10p, Polarized00BayerGR10Packed, Polarized00BayerGR12p, Polarized00BayerGR12Packed
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 or higher
Shock and vibration		EN 60068-2-27 EN 60068-2-6 EN 60068-2-64
Warranty	(years)	5

Environment

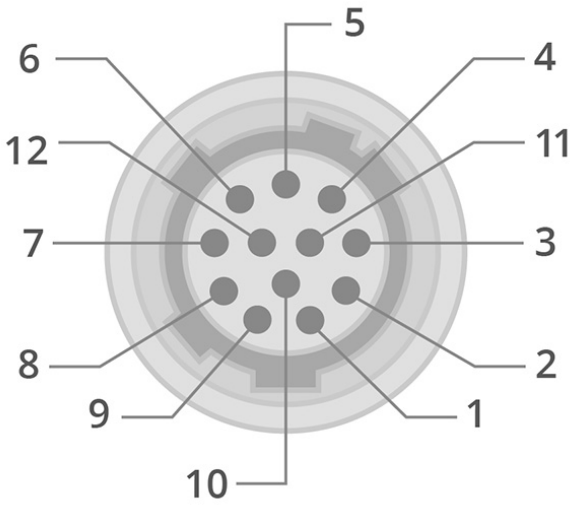
Operating temperature[3]	(°C)	-25 - +65
Storage temperature[4]	(°C)	-10 - +60
Operating relative humidity	(%)	20-80, non condensing
IP rating		IP30

[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

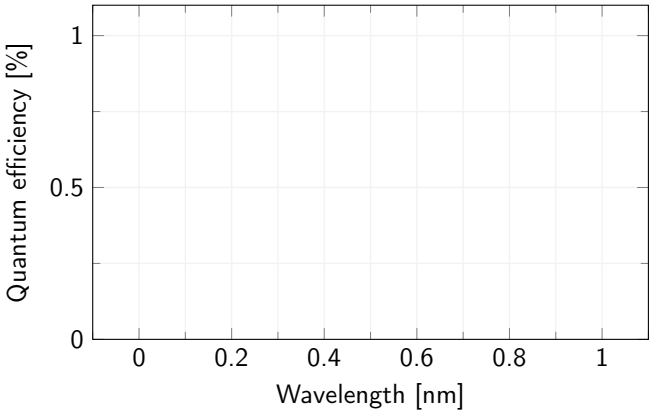
Mount		C
Dimensions	(mm)	40.5 x 40.5 x 51.2
Clamping system		16x M3 threaded holes (on all sides)
Mass	(g)	142

HIROSE PINOUT

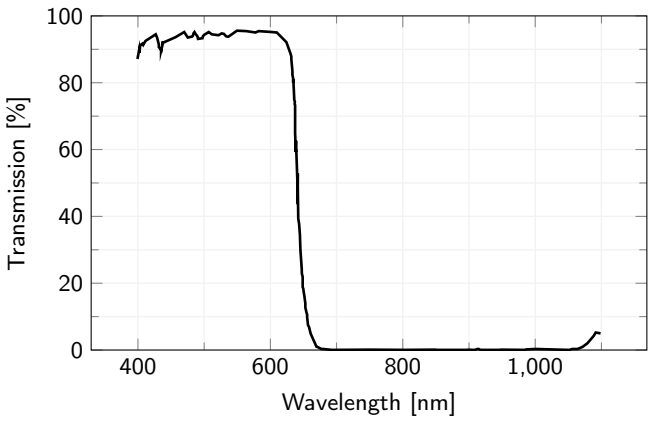


Pin	Signal
1	GND
2	+VIN
3	Opto OUT 3
4	Opto IN 0
5	Opto OUT 2
6	Opto OUT 0
7	Opto REF GND
8	RS232 RX
9	RS232 TX
10	Opto REF V+
11	Opto IN 1
12	Opto OUT 1

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.