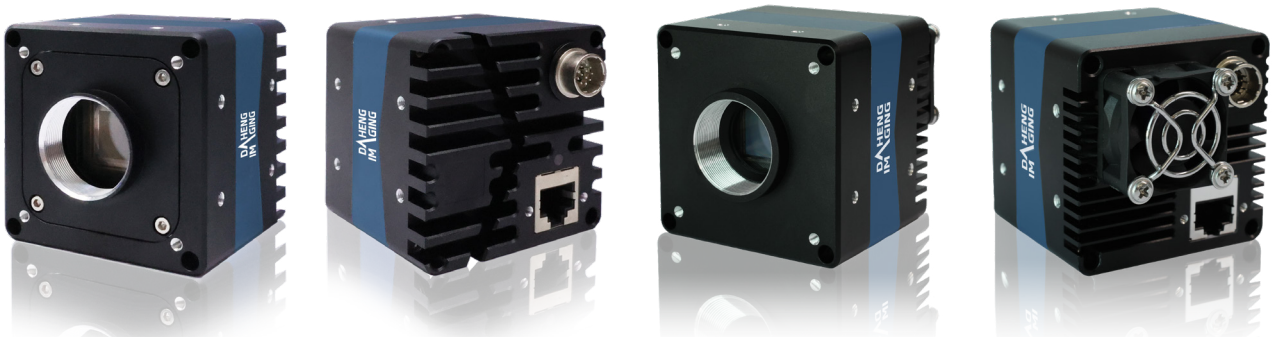
MARS-2020-42GTM/C(-NF)

20MP CMOS 10GigE Area Scan Camera



The MARS-2020-42GTM/C(-NF) is a monochrome/color GigE Vision camera with the Sony IMX541 CMOS sensor. The MARS-2020-42GTM/C(-NF) is capable of 10Gbit/s maximum transfer data rate, and has opto-isolated I/Os. Thanks to locking screw connectors, the MARS cameras can secure the reliability of cameras deployed in harsh environments. The MARS cameras are industrial cameras with high reliability and high performance ratio.

Applications

Suitable for 3C, lithium battery, photovoltaic, railway, AR and other industrial applications.

Features

- Time Stamp, Horizontal Binning, Decimation, Reverse X/Y
- The Sequencer Control supports multiple sets of parameters configuration
- Gain, GainAuto, Gamma, Black Level, Digital Shift, Flat Field Correction
- Color models support Light Source Preset, Color Transformation Control and Saturation
- Static Defect Correction, Sharpness, Noise Reduction(Mono)
- Timer, Counter, LUTs and User Set Control
- Remove Parameter Limit to expand the range of Parameter
- Data storage area for saving algorithm coefficients and parameter configuration

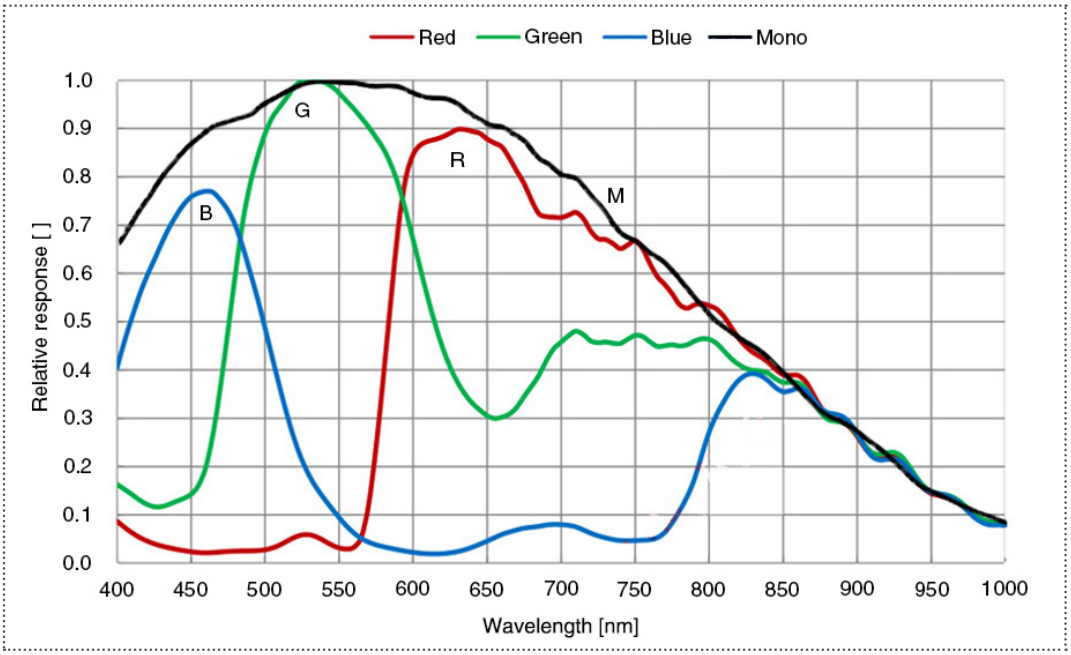
Specifications

Model	MARS-2020-42GTC	MARS-2020-42GTC-NF	MARS-2020-42GTM	MARS-2020-42GTM-NF
Resolution	4512(H) × 4512(V)			
Sensor	Sony IMX541 Global shutter CMOS			
Sensor Format	1.1"			
Pixel Size	2.74μm × 2.74μm			
Frame Rate	38.3fps			
ADC	12 bit			
Pixel Bit Depth	8 bit, 10 bit, 12 bit			
Mono/Color	Color		Mono	
Pixel Formats	Bayer RG8 / Bayer RG10 / Bayer RG12		Mono8 / Mono10 / Mono12	
SNR	40.38 dB		40.11 dB	
Exposure Time	UltraShort: 1μs~2.4μs, Actual Steps: 0.1μs; Standard: 3μs~20μs, Decimation 1×1 Actual Steps: 1μs, Decimation 2×2 Actual Steps: 1 row period; Standard: 21μs~1s, Actual Steps: 1 row period			
Gain	0dB~24dB, Default: 0dB, Step: 0.1dB			
Binning	Not Supported		Sensor: 1×1, 2×2	
Decimation	Sensor: 1×1, 2×2			
Synchronization	Hardware trigger, software trigger			
Acquisition Control	Single frame, Continuous, Software trigger, Hardware trigger			
Reverse X/Y	Reverse X/Y			
I/O Interface	1 input and 1 output with opto-isolated, 1 bidirectional programmable GPIO			
Data Interface	10GigE			
Power Supply	12VDC-10% ~ 24VDC+10%			
Typical Power	10.2W @ 24VDC (without fan), 11.0W @ 24VDC (with fan)			
Operating Temp.	0° C ~ +50° C			
Storage Temp.	-20° C ~ +70° C			
Operating Humidity	10% ~ 80%			
Lens Mount	C			
Cooling	-NF: Fan cooling			
Dimensions	60(W) × 60(H) × 54(L) mm (without lens adapter, fan or connectors)			
Weight	320g (without fan), 340g (with fan)			
OS	Win10/Win11 32bit, 64bit OS, 64bit OS is recommended			
Conformity	CE, RoHS, FCC, ICES, UKCA, GigE Vision®, GenICam®			

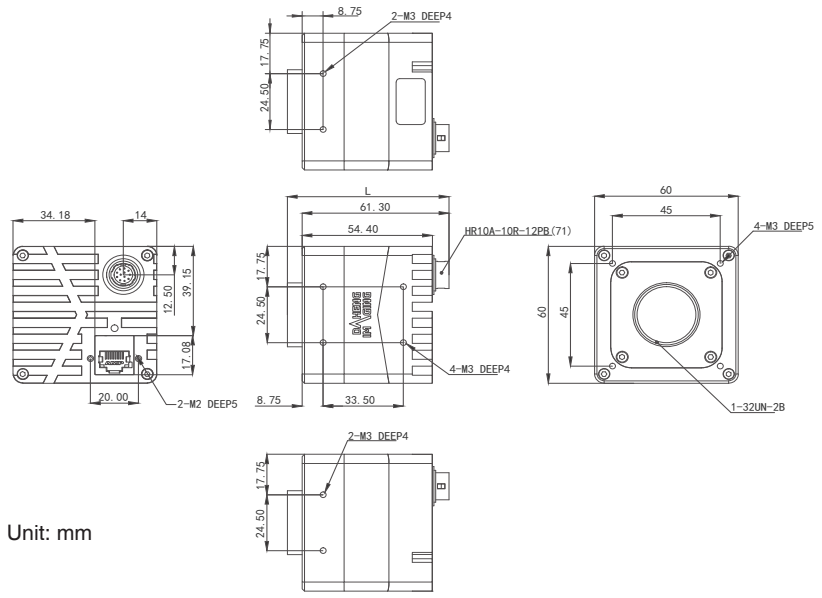
I/O Interface

Pin	Definition	Description
1	Line 0+	Opto-isolated input +
2	GND	PWR GND & GPIO GND
3	Line 0-	Opto-isolated input -
4	POWER_IN	Camera external power 12V (-10%) ~ +24V (+10%)
5	Line 2	GPIO input/output
6	RS232 Rx	RS232 receive
7	Line 1-	Opto-isolated output -
8	Line 1+	Opto-isolated output +
9	GND	PWR GND & GPIO GND
10	GND	PWR GND & GPIO GND
11	POWER_IN	Camera external power 12V (-10%) ~ +24V (+10%)
12	RS232 Tx	RS232 transmit

Spectral Response

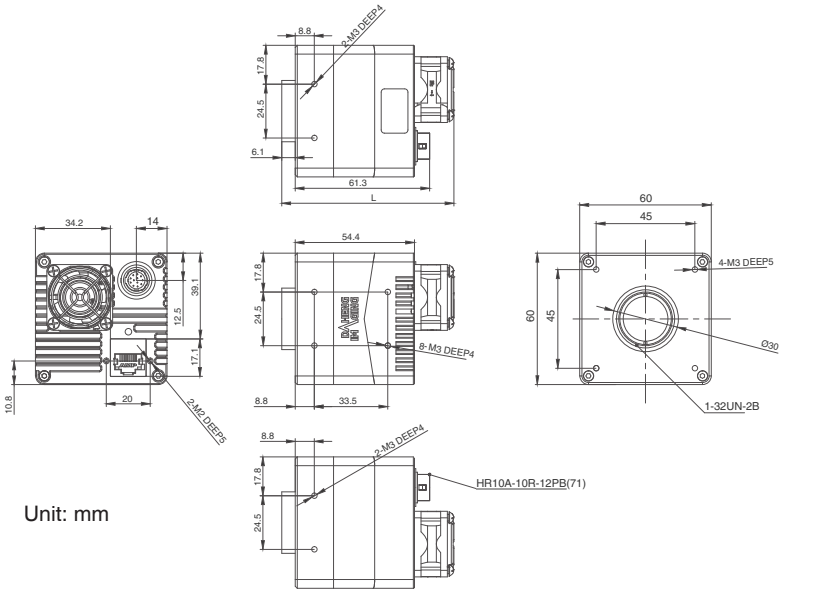


Technical Drawing



	MARS-561/900	MARS-1261	MARS-1840	MARS-2621/2622	MARS-1610/2020/2440
L	67.2	66.6	67.3	67.45	66.45

MARS-2020-42GTM/C



	MARS-561/900	MARS-1261	MARS-1840	MARS-2621/2622	MARS-1610/2020/2440
L	78.4	77.9	78.5	78.8	77.7

MARS-2020-42GTM/C-NF

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