

DH-MV-A3200CU120E

Area Scan Camera



- 2.07MP USB area scan
- Sony IMX290
- Max 120fps
- 128MB on-board frame buffer
- Color
- Mechanical dimension:29x29x29(mm)
- Conforms to USB 3.0 vision protocol and GenICam vision
- CE&FCC



System Overview

As we all know machine vision is a mature technology widely used in condition monitoring and product inspection. It not only provides more consistent and reliable consequents resulting in improved product quality but also higher yields and lower production cost. As the core component of the machine vision system, industrial camera requires high image quality, high transmission rate, standard interface and reliable & stable performance. As one of the worlds' best security product suppliers, Dahua is able to provide serialized industrial cameras with excellent image, high frame rate and related software. Our area scan cameras portfolio includes matrix cameras in color versions and 2.07MP resolution, which enables customers to flexibly integrate the camera with general standard interfaces with USB vision.

Functions

CMOS Area Sensor

Dahua MV-A3200CU120E area scan camera embeds 2.07MP rolling shutter and 2.9 x 2.9 pixel size CMOS sensor that can provide high quality and original image. Every pixel in CMOS sensor has its own amplifier and there are multiple A/D converters so each picture element can be read out individually, which means that pixels can be randomly addressed and accessed with AOI (automated optical inspection) and realize lower power dissipation than the CCD cameras. Combined with the advantage of the words' leading image processing technology we can effectively overcome the noise issue and output excellent picture equivalent to CCD camera.

USB Vision

USB 3.0 vision is a plug and play interface standard that provides secure and cost-effective transmission of image data. Industrial cameras with high resolution image sensor need a high data throughput interface. USB 3.0 vision is the best choice to satisfy the requirement by providing high bandwidth up to 5 Gbit/sec. On the other hand USB 3.0 vision can drive 900mA current which is equal to total power supply of 4.5 Watts. Meanwhile it is recommended to connect cable with max length of 7m for the USB 3.0 vision according to our recent tests, which guarantees effective signal transmission and power supply.

Multi Trigger Modes

In the application field of the machine vision, Dahua industrial camera is capable of capturing image via signal trigger and exposure frequency set on SDK. Besides, image capture will not be affected in case of induced network load and processing time of machine vision system.

High Capacity Buffer

With the stable 128MB on-board frame buffer, the camera leaves more time for the host computer to process pictures and realizes no frame loss. 128MB buffer is able to store different number of pictures according to specific sensor.

Rich SDK Functions

Embedded with industry leading SDK software programming and debugging capability, original pictures can still be clearly captured even in harsh and low light industrial environment by adjusting the sharpness/noise reduction/gamma correction/LUT(look-up-table:make adjustments to the picture within the camera)/black level correction/brightness/contrast and other ISP functions which are set in the SDK.

Several Image Formats Output

Dahua industrial cameras output raw data with wide spectral range such as bayerRG8, bayerGB8 etc. Different types of format is equipped with corresponding data capacity which makes it suit various application scenarios.

Camera

Specification	Model	DH-MV-A3200CU120E
Lens Interface		C-mount
Sensor		Sony IMX290
Sensor Spec		CMOS 1/2.8" rolling shutter
Resolution		2.07MP 1920(H) x 1080(V)
Framerate		120fps
Pixel Size		2.9 x 2.9
Interface		USB 3.0
Mono/Color		Color
S/N Ratio		>38dB
WDR		66dB
GPIO Interface		6-pin Hirose connector:1 opto-isolated input, 1 opto-isolated output, 2 configurable inputs/outputs without opto-isolation
Image Format		BayerRG8, bayerGB8
Gain		0db~72dB
Gamma		Range:0~4, supports LUT
Exposure Time		208.6μs~1s
Image Buffer		Supports 64MB
User Set		Supports two sets of user-defined configurations
Dimension		29mmx29mmx29mm(Not including the lens mount and the rear case connectors)
Net Weight		88g(0.194lb)
Power Supply		Power supply via USB connector
Power Consumption		2.8w
Operating Conditions		-30° C ~ +50° C (-22° F ~ +122° F) / Less than 95% RH
Storage Conditions		-30° C ~ +80° C (-22° F ~ +176° F) / Less than 95% RH

Ordering Information

Type	Part Number	Description
DH-MV-A3200CU120E USB Cameras	DH-MV-A3200CU120E	2.07 Megapixel color 120 framerate USB area scan camera
Lens	DH-MV-MH5028ME	2/3" Image circle with 200lp/mm(2.4μm pixel size) 50mm focal length F2.8
	DH-MV-MH3520ME	2/3" Image circle with 200lp/mm(2.4μm pixel size) 35mm focal length F2.0
	DH-MV-MH2520ME	2/3" Image circle with 200lp/mm(2.4μm pixel size) 25mm focal length F2.0
	DH-MV-MH1620ME	2/3" Image circle with 200lp/mm(2.4μm pixel size) 16mm focal length F2.0
	DH-MV-MH1220ME	2/3" Image circle with 200lp/mm(2.4μm pixel size) 12mm focal length F2.0
	DH-MV-MH0824ME	2/3" Image circle with 200lp/mm(2.4μm pixel size) 8mm focal length F2.4

Dimensions (mm)

