



MICAPS HPTEC3CMOS7100MA

C-mount USB 3.0 CMOS Cameras
SONY PREGIUS CMOS Sensor



The HPTEC3CMOS7100MA camera utilizes a SONY PREGIUS CMOS sensor for capturing images, and it connects via USB 3.0 for efficient data transfer. The HPTEC3CMOS7100MA hardware resolutions is 7.0MP, housed in a compact CNC aluminum alloy casing with Two-stage TE-cooling. Equipped with a two-stage peltier cooling system, the sensor chip can reach temperatures as low as -42 degrees below the ambient temperature. This feature significantly improves the signal-to-noise ratio and reduces image noise. The camera is designed with a smart structure to enhance heat radiation efficiency and prevent moisture-related issues. An controllable electric fan is incorporated to expedite the heat dissipation process.

The HPTEC3CMOS7100MA comes bundled with the advanced Micaps MicroView application for video and image processing. It supports multiple platforms, including Windows, Linux, macOS, and Android, with SDKs for various programming languages such as Native C/C++, C#/VB.NET, Python, Java, DirectShow, Twain, and more. This camera is well-suited for applications in low-light environments, as well as capturing and analyzing microscope fluorescence images. Additionally, it can be utilized for deep-sky astronomy applications.

Features

- SONY PREGIUS CMOS sensor with USB 3.0 interface
- Peltier Sensor chip cooling up to 42°C below ambient temperature
- Working temperature can be regulated to specified temperature in 5 minutes
- Global Shutter
- IR-CUT/AR coated windows
- Up to 1 hour long time exposure
- Super-Fine™ color engine with perfect color reproduction capability Support both video and trigger modes

Applications

- Scientific research, education (teaching, demonstration and academic exchanges)
- Digital laboratory, medical research
- Industrial visual (PCB examination, IC quality control)
- Medical treatment (pathological observation)
- Food (microbial colony observation and counting)
- Aerospace, military (high sophisticated weapons)

Model No.	Sensor & Size(mm)	Pixel(μm)	G Sensitivity Dark Signal	FPS/Resolution	Binning	Exposure
HPTEC3CMOS7100MA	7.0M/IMX428(M, GS) 1.1 "(14.4x9.9)	4.5 x4.5	3354mv with 1/30s 0.15mv with 1/30s	51.3@3200x2200 133.8@ 1584x1100 8 Bit / 12 Bit	1x1 1x1	0.1ms~1h

Other Hardware Configuration

Spectral Range	380-650nm (with IR-filter), for Monochromatic Camera, AR Is Used
White Balance	ROI White Balance/ Manual Temp-Tint Adjustment
Color Rendering Technique	Super Fine Color Engine
Capture/Control SDK	Windows/Linux/macOS/Android Multiple Platform SDK (Native C/C++, C#/VB.NET, Python, Java, DirectShow, Twain, etc)
Recording System	Still Picture and Movie
Cooling System*	Two-stage TE-cooling System -42 °C below Camera Body Temperature

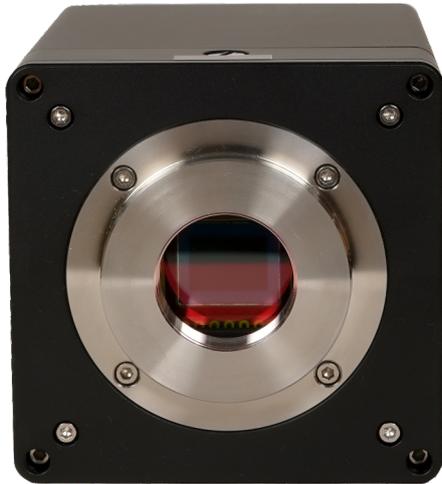
Operating Environment

Operating Temperature	-10 °C~ 50 °C
Storage Temperature	-20 °C~ 60 °C
Operating Humidity	30~80%RH
Storage Humidity	10~60%RH
Power Supply	DC 5V over PC USB Port, External Power Adapter for Cooling System, DC12V,3A

M: Monochrome, GS: Global Shutter

Software Environment

Operating System	Support Microsoft Windows XP / Vista / 7 / 8 / 10(32 & 64 bit) OS X (Mac OS X), Linux
PC Requirements	CPU: Equal to Intel Core2 2.8GHz or Higher
	Memory: 2GB or More
	USB port: USB2.0 High-speed Port
	Display: 17" or Larger
	CD-ROM



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