



# MICAPS HPTEC3CMOS7100CA

C-mount USB 3.0 CMOS Cameras  
SONY PREGIUS CMOS Sensor



The HPTEC3CMOS7100CA camera utilizes a SONY PREGIUS CMOS sensor for capturing images, and it connects via USB 3.0 for efficient data transfer. The HPTEC3CMOS7100CA 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 HPTEC3CMOS7100CA 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<br>Dark Signal           | FPS/Resolution                                       | Binning    | Exposure |
|------------------|---------------------------------------|-----------|----------------------------------------|------------------------------------------------------|------------|----------|
| HPTEC3CMOS7100CA | 7.0M/IMX428[C, GS]<br>1.1 "(14.4x9.9) | 4.5 x4.5  | 2058mv with 1/30s<br>0.15mv with 1/30s | 51.3@3200x2200<br>133.8@ 1584x1100<br>8 Bit / 12 Bit | 1x1<br>1x1 | 0.1ms~1h |

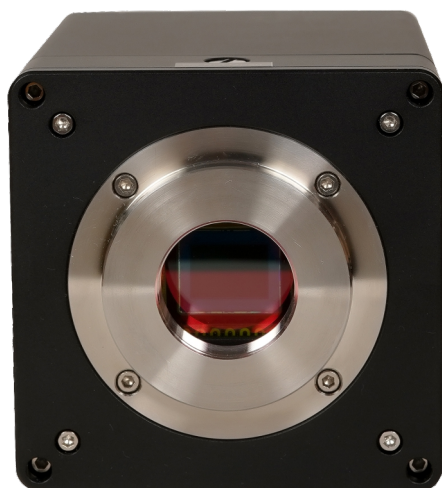
| Other Hardware Configuration |                                                                                                                   |
|------------------------------|-------------------------------------------------------------------------------------------------------------------|
| Spectral 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 |

C: Color, GS: Global Shutter

### Software Environment

|                  |                                                                                          |
|------------------|------------------------------------------------------------------------------------------|
| Operating System | Support Microsoft Windows XP / Vista / 7 / 8 / 10(32 & 64 bit)<br>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                                                                                   |



#### LABLINK INSTRUMENTS

- Plot no. 337, Sector 2, HSIIDC Saha, Saha, Ambala (Haryana) India - 133104.
- Plot no 3-6-164/2, 2nd Street, Hyderguda Himayatnagar, Hyderabad (Telangana )India - 500029

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