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 Астрахань (8512)99-46-04  
 Барнаул (3852)73-04-60  
 Белгород (4722)40-23-64  
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 Вологда (8172)26-41-59  
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### ATR3CMOS Series M42 USB3.0 TE-Cooling CMOS Camera

Standard C-Mount camera with SONY Exmor CMOS sensors from 10M to 26M;

Two-stage TE-cooling with controllable electric fan;

Sensor chip cooling up to 42°C below ambient temperature;

Working temperature can be regulated to specified temperature in 5 minutes;

Smart structure to assure the heat radiation efficiency and avoid the moisture problem;

IR-CUT/AR coated windows;

Up to 1 hour long time exposure;

USB3.0 5Gbit/second interface ensuring high speed data transmission;

Ultra-Fine color engine with perfect color reproduction capability;

With advanced video & image processing application ToupView;

Support both video and trigger modes;

Windows/Linux/macOS/Android multiple platform SDK;



### Specification

### ATR3CMOS Series M42 USB3.0 TE-Cooling CMOS Camera(14)

ATR3CMOS camera adopts SONY Exmor, Exmor R or Exmor RS CMOS sensor as the image-picking device with two-stage peltier cooling system. This will greatly increase the signal to noise ratio and decrease the image noise. Besides, smart internal heat transfer structure is used to transfer the heat radiation. Electric fan is used to increase the heat radiation power. USB3.0 is used as the data transfer interface.

ATR3CMOS comes with advanced video & image processing application ToupSky; Providing Windows/Linux/macOS/Android multiple platform SDK(Native C/C++, C#/VB.NET, Python, Java, DirectShow, Twain, etc);

The ATR3CMOS can be widely used in low light environment capture and analysis, as well as the astronomy application.

| Order Code       | Sensor & Size(mm) | Pixel(μm) | G Sensitivity Dark Signal | FPS/Resolution       | Binning | Exposure    |
|------------------|-------------------|-----------|---------------------------|----------------------|---------|-------------|
| ATR3CMOS26000KPA | 26M/IMX571(C)     | 3.76x3.76 | 485mv with 1/30s          | 6.8@6224x4168(16bit) | 1x1     | 0.1ms-3600s |

|   |                                      |            |  |   |                                 |              |
|---|--------------------------------------|------------|--|---|---------------------------------|--------------|
| ATRP126000A<br>20200301                     | 1.8"(23.48x15.67)                    |            | 0.07mv with 1/30s                      | 14.2@6224x4168(8bit)<br>37.1@3104x2084<br>109.8@2064x1388                         | 1x1<br>2x2<br>3x3               |              |
| ATR3CMOS26000KMA<br>ATRM126000A<br>20200301 | 26M/IMX571(M)<br>1.8"(23.48x15.67)   | 3.76x3.76  | 871mv with 1/30s<br>0.07mv with 1/30s  | 6.8@6224x4168(16bit)<br>14.2@6224x4168(8bit)<br>37.1@3104x2084<br>109.8@2064x1388 | 1x1<br>1x1<br>2x2<br>3x3        | 0.1ms-3600s  |
| ATR3CMOS21000KPA<br>ATRP1021000A            | 21M/IMX269(C)<br>4/3"(17.4x13.1)     | 3.3 x3.3   | 400mv with 1/30s<br>0.1mv with 1/30s   | 18@5280x3956<br>18@3952x3952<br>18@2640x1978<br>75@1760x1318<br>216@584x440       | 1x1<br>1x1<br>2x2<br>3x3<br>9x9 | 0.1ms-3600s  |
| ATR3CMOS20000KPA<br>ATRP1020000A            | 20M/IMX183(C)<br>1"(13.06x8.76)      | 2.4x2.4    | 462mv with 1/30s<br>0.21mv with 1/30s  | 17.8@5440x3648<br>41 @ 4096x2160<br>51@2736x1824<br>64@1824 x1216                 | 1x1,<br>2x2,<br>3x3             | 0.1ms-3600s  |
| ATR3CMOS20000KMA<br>ATRM1020000A            | 20M/IMX183(M)<br>1"(13.06x8.76)      | 2.4x2.4    | 388mv with 1/30s<br>0.21mv with 1/30s  | 17.8@5440x3648<br>41 @ 4096x2160<br>51@2736x1824<br>64@1824 x1216                 | 1x1,<br>2x2,<br>3x3             | 0.1ms-3600s  |
| ATR3CMOS16000KPA<br>ATRP1016000A<br>(New)   | 16M/MN34230(C)<br>4/3" (17.60x13.30) | 3.8x3.8    | 2413LSB<br>89.1LSB<br>(Gain = 0dB)     | 22.5 @4648x3506<br>43@2304x1750<br>48@1536x1168                                   | 1x1,<br>2x2,<br>3x3             | 0.15ms-3600s |
| ATR3CMOS16000KMA<br>ATRP1016000A<br>(New)   | 16M/MN34230(M)<br>4/3" (17.60x13.30) | 3.8x3.85   | 2560LSB<br>89.1 LSB<br>(Gain=0dB)      | 22.5 @4648x3506<br>43@2304x1750<br>48@1536x1168                                   | 1x1,<br>2x2,<br>3x3             | 0.15ms-3600s |
| ATR3CMOS10300KPA<br>ATRP1010300A(New)       | 10.3M/IMX294(C)<br>4/3"(19.11x13.0)  | 4.63x4.63  | 419mv with 1/30s<br>0.12mv with 1/30s  | 33.5@3704x2778<br>38.5@4096x2160<br>69.5@2048x1080<br>96.2@1360x720               | 1x1,<br>1x1,<br>2x2,<br>3x3     | 0.15ms-3600s |
| ATR3CMOS10300KMA<br>ATRM1010300A            | 10.3M/IMX492(M)<br>4/3 "(19.11x13.0) | 4.63 x4.63 | 701mv with 1/30s<br>0.12mv with 1/30s  | 33.3@4128*2808<br>8.0@ 8184*5616<br>69.5@2048*1080<br>96.2@1360*720               | 1x1<br>Quad*<br>2x2<br>3x3      | 0.1ms-3600s  |
| ATR3CMOS09000KPA<br>ATRP109000A<br>20200301 | 9M/IMX533(C)<br>1"(11.28x11.28)      | 3.76x3.76  | 534mv with 1/30s<br>0.10mv with 1/30s  | 20@3000x3000(14bit)<br>40@3000x3000(8bit)<br>123@1500x1500<br>186@1000x1000       | 1x1,<br>1x1,<br>2x2,<br>3x3     | 0.1ms-3600s  |
| ATR3CMOS07100KPA<br>ATRP107100A             | 7M/IMX428(C, GS)<br>1.1"(14.4x9.9)   | 4.5x4.5    | 2058mv with 1/30s<br>0.15mv with 1/30s | 51 @3200x2200<br>133 @1600x1100   | 1x1,<br>2x2                     | 0.1ms-3600s  |
| ATR3CMOS07100KMA<br>ATRM107100A             | 7M/IMX428(M, GS)<br>1.1"(14.4x9.9)   | 4.5x4.5    | 3354mv with 1/30s<br>0.15mv with 1/30s | 51 @3200x2200<br>133 @1600x1100   | 1x1,<br>2x2                     | 0.1ms-3600s  |
| ATR3CMOS01700KPA<br>ATRP101700A             | 1.7M/IMX432(C, GS)<br>1.1"(14.4x9.9) | 9.0x9.0    | 4910mv with 1/30s<br>0.15mv with 1/30s | 94 @1600x1100   | 1x1                             | 0.1ms-3600s  |
| ATR3CMOS01700KMA<br>ATRM101700A             | 1.7M/IMX432(M, GS)<br>1.1"(14.4x9.9) | 9.0x9.0    | 8100mv with 1/30s<br>0.30mv with 1/30s | 94 @1600x1100   | 1x1                             | 0.1ms-3600s  |

C:Color; M:Monochrome;

Quad\*: IMX492 sensor is originally designed as a sensor with 2.315 x 2.315 m pixel size. We set the default resolution as 4196 x 2808, so that users could have a better sensitivity. However, still open the original resolution option to the customers, which is 8184 x 5616. By doing so, the sensitivity will decrease to 175.38 mV.

| 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    | Ultra 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 -40 °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<br>External Power Adapter for Cooling System, DC12V,3A                                     |
| 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

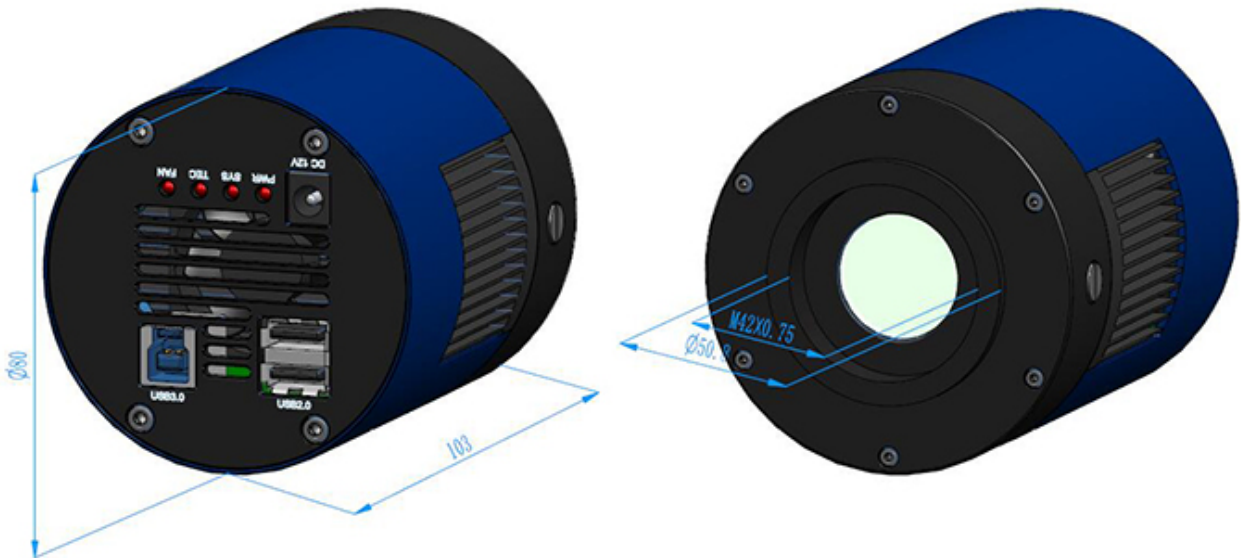
USB port: USB2.0 High-speed Port

Display: 17" or Larger

CD-ROM

## Dimension of ATR3CMOS Series Camera

Installation drawings(Click to enlarge). The ATR3CMOS body, made from CNC aluminium alloy, ensures a heavy duty, workhorse solution. The camera is designed with a high quality IR-CUT to protect the camera sensor. No moving parts included. This design ensures a rugged, robust solution with an increased lifespan when compared to other industrial camera solutions.



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