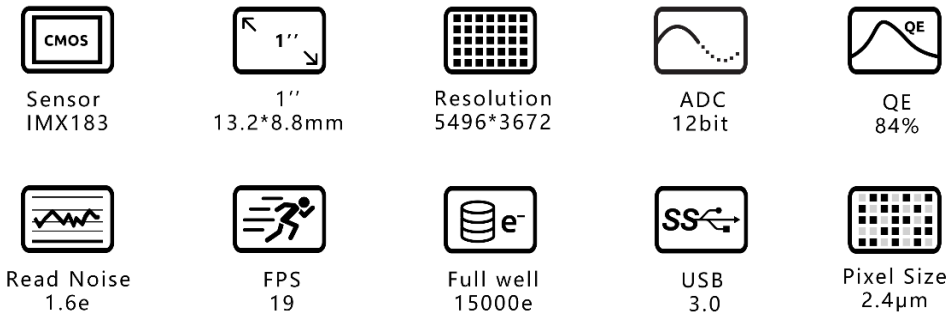
Product Description

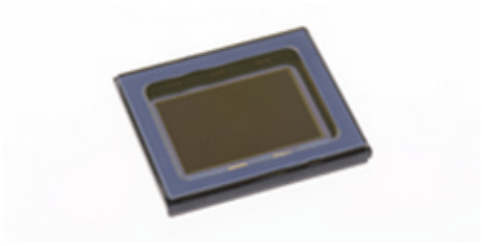
ASI183MM



Introducing the ASI183 camera series, the most sensitive cameras in ZWO history. Peak Q.E. of the mono sensor reaches 84%!

IMX183CLK-J/CQJ-J

Diagonal 15.86 mm Approx. 20.48M-Effective Pixel Monochrome/Color CMOS Image Sensor



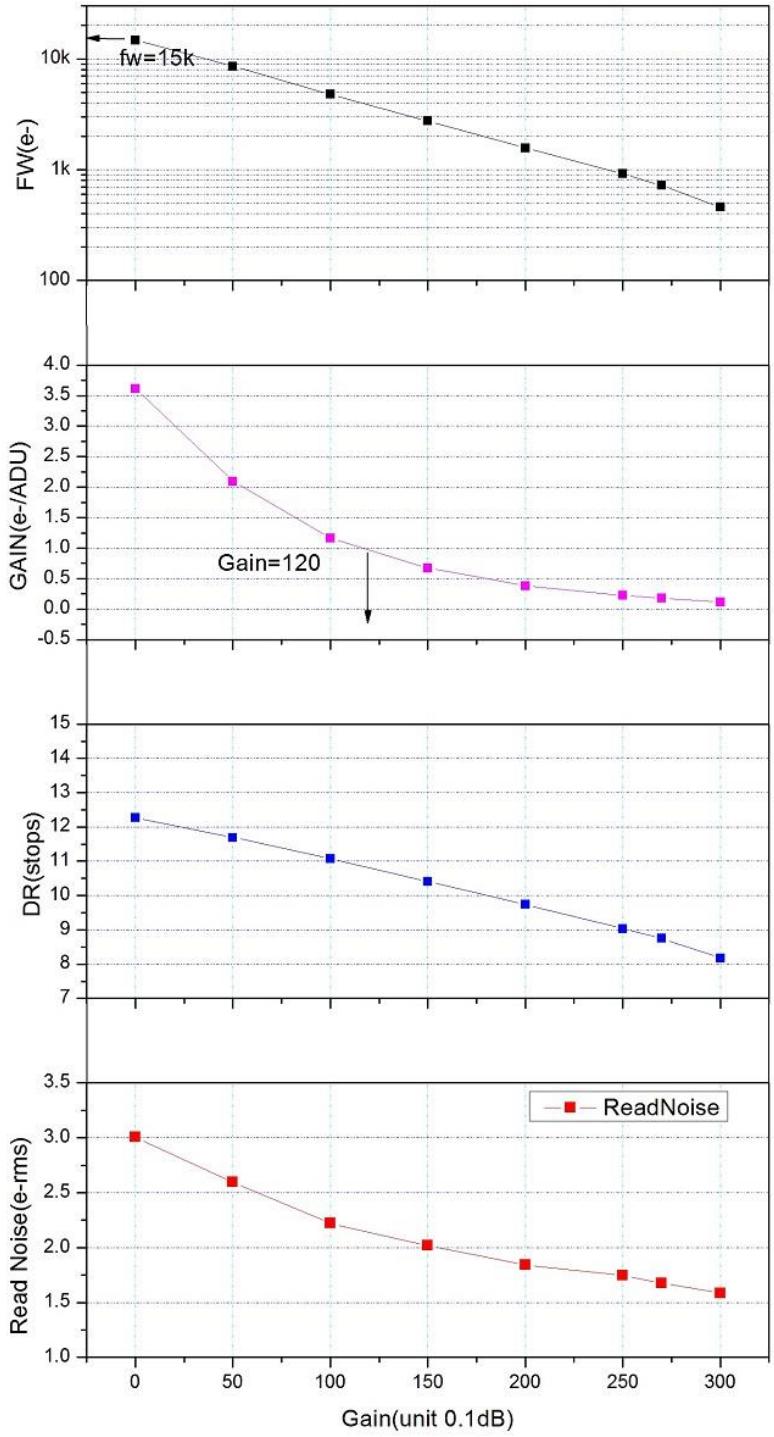
High-Speed and High-Picture-Quality Rolling Shutter-Type Back-Illuminated CMOS Image Sensors

In the astronomic application field, Sony IMX183CLK-J (monochrome) and IMX183CQJ-J (color) sensors uses a very high sensitivity back-illuminated structure with high resolution 2.4 μm square unit pixel. The optical size is **1 inch**.

Astrophotography Performance

The ASI183 cameras has a very large full well capacity（**15000e**） for such small pixel size, **1.6e**read noise @ 30DB, and **12stops** dynamic range @ Gain=0. The ASI183 cameras also utilize firmware features to minimize amplifier glow for maximum performance in astrophotography.

Read noise, full well, gain & dynamic range for ASI183



High Speed

Fast FPS can be used in solar and lunar imaging, as well as for live viewing/EAA.The high-speed readout may also be used for real-time focusing, true lucky imaging of double stars and other small objects, planetary imaging of the major planets in the solar system, and much more.

10Bit ADC

5496×3672	19fps
3840×2160	41.04fps
1920×1080	80.10fps
1280×720	117.30fps

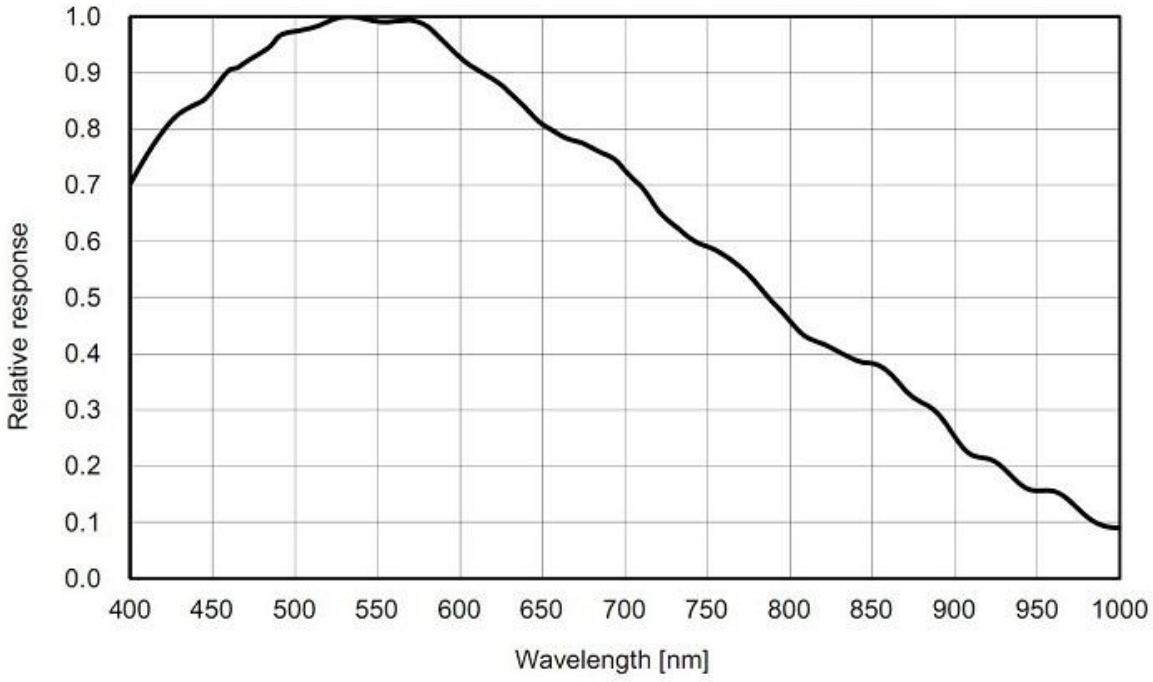
12bit ADC

5496×3672	19fps
3840×2160	36.12fps
1920×1080	70.48fps
1280×720	103.23fps

High QE

Sony’s back-illuminated Exmor R technology, giving it excellent Deep Sky performance. ASI183 QE peak reaches a remarkable 84%. In Ha channel, QE is still over 60%.

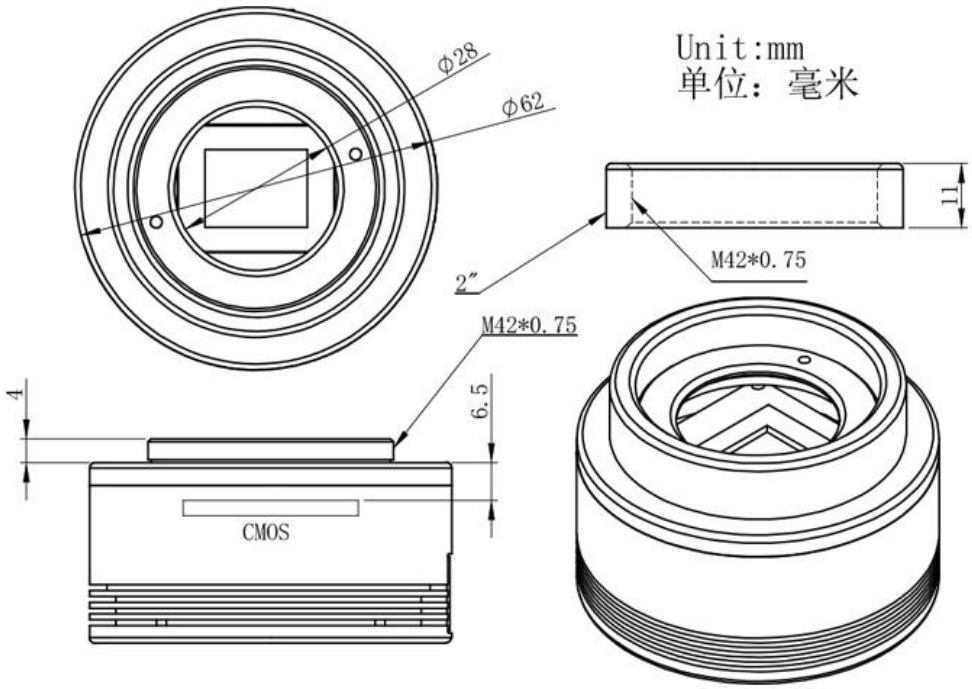
Having high QE means more of the light that enters your telescope and reaches the sensor is actually used. With 84% peak Q.E. and no less than ~50% within the visible spectrum, the ASI183 will utilize a high percentage of the light that reaches it, improving your signal quality.



USB 3.0 Port & ST4 Port

USB 3.0 Port: Provide 5Gb bandwidth to make it possible for ASI183 to run at 19 fps (12bit, normal mode) or 19 fps (10bit, high speed mode) at full resolution(20.18Mega).
ST4 Port: Can be used connect with auto guide port of mount, for guiding.

Mechanical Diagram



What is in the box?

ASI183 box includes all necessary cables, adapters, and manuals.


ST4 cable


camera body


T2-1.25″ adapter


quick guide


1.25″ cover


2m USB3.0 cable


2″ cover


1.25″ nose piece

Drivers and Softwares:

Our website has newest camera drivers and many DSO and Planetary capture software's. Please make sure the newest driver and software has been installed before you start shooting:
https://astronomy-imaging-camera.com/software/

Camera technical details

Sensor: 1″ CMOS IMX183CLK-J/CQJ-J
Diagonal: 15.9mm
Resolution: 20.18Mega Pixels 5496*3672
Pixel Size: 2.4μm
Bayer Pattern: None
Shutter:Rolling shutter
Exposure Range: 32μs-2000s
ROI: Supported
ST4 Guider Port: Yes
Read Noise: 1.6e @30db gain
QE peak: 84%
Full well: 15ke
ADC:12bit
Interface: USB3.0/USB2.0
Adaptor: 2″ / 1.25″ / M42X0.75
Dimension: φ62mm X 36mm
Weight: 120g or 4.2 ounces (without lens)
Working Temperature: -5°C—45°C
Storage Temperature: -20°C—60°C
Working Relative Humidity: 20%—80%
Storage Relative Humidity: 20%—95%
Max FPS at full resolution:
10Bit ADC
5496×3672 19fps
3840×2160 41.04fps
1920×1080 80.10fps
1280×720 117.30fps

640×480 169.92fps
320×240 308.17fps
12bit ADC
5496×3672 19fps
3840×2160 36.12fps
1920×1080 70.48fps
1280×720 103.23fps
640×480 149.53fps
320×240 271.19fps
more resolutions are in software, support customize resolution.