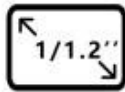


## Product Description

### ASI174MM



Sensor  
IMX174



1/1.2''  
11.3\*7.1mm



Resolution  
1936\*1216



ADC  
12bit



QE  
77%



Read Noise  
3.5e



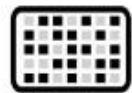
FPS  
164



Full well  
32000e



USB  
3.0



Pixel Size  
5.86μm

## Camera Sensor

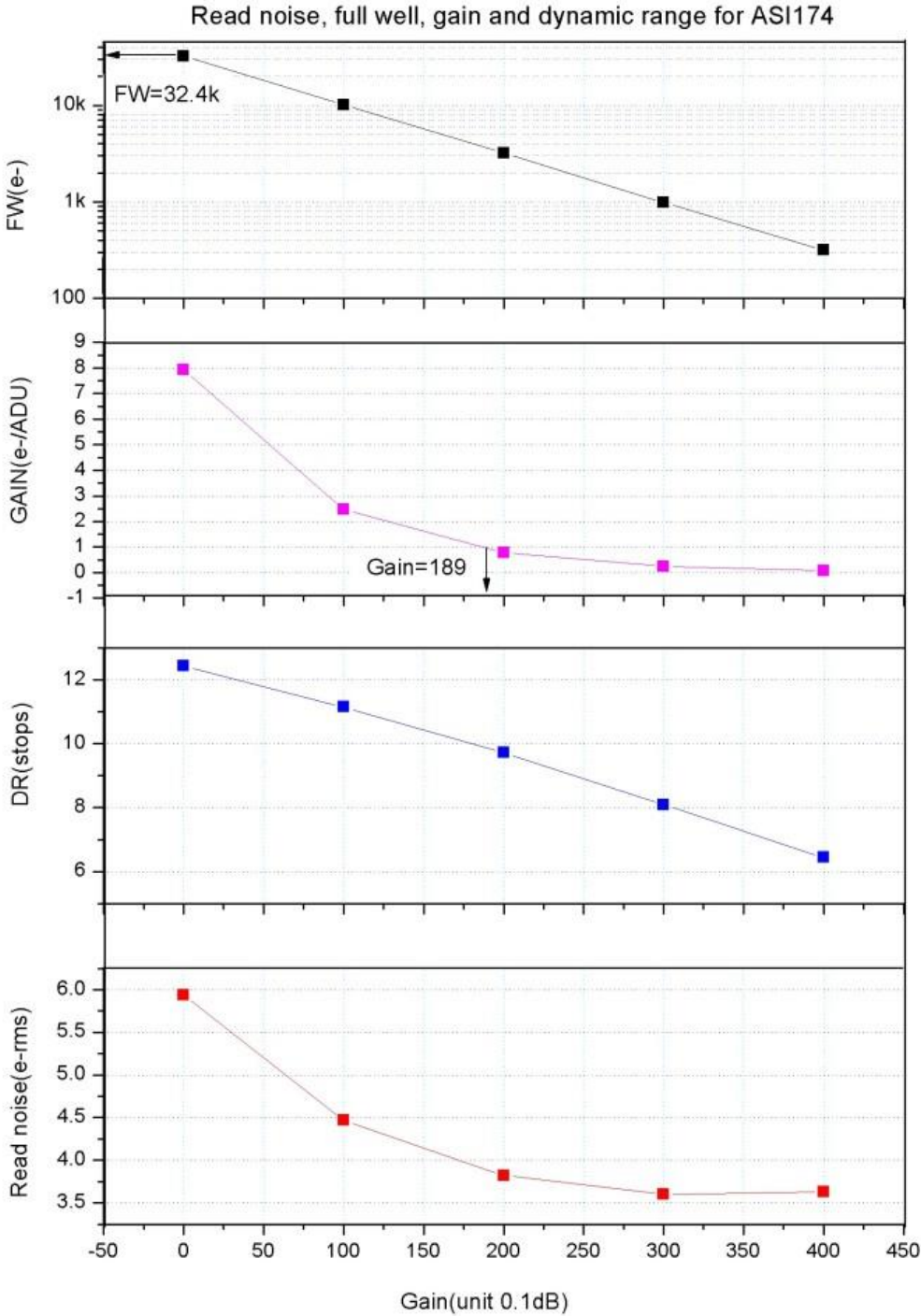
Our brand new ASI174MM CMOS Monochrome Imaging Camera is based on the Sony Exmor IMX174 2.35MP sensor with Pregius global shutter technology.



## Sony IMX174 CMOS Sensor Features

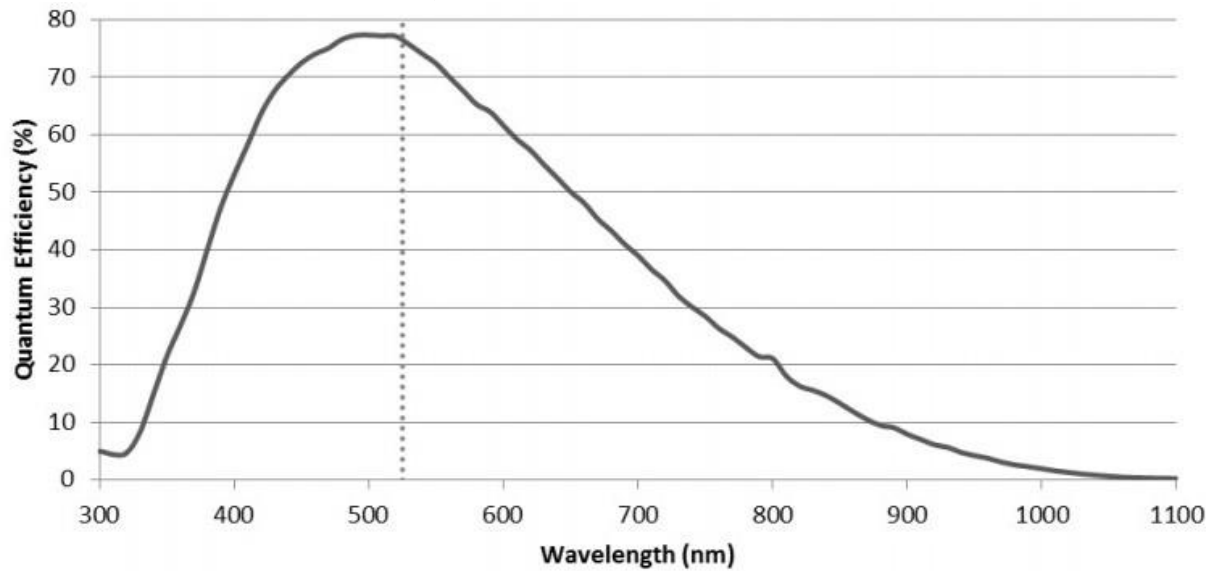
- The Sony IMX174 monochrome CMOS sensor that separates the ASI174MM from previous ASI models. This type 1/1.2" Sony CMOS image sensor, with a  $5.86\mu\text{m}$  unit pixel in a  $1936 \times 1216$  array, has a lot of advantages when taking high quality solar, lunar, planetary, and deep sky object images.
  - Pregius Global Shutter function with analog memory permits the scanning of all pixels simultaneously. The Sony IMX174's global shutter function provides improved image quality by making sure images of moving objects avoid focal plane distortion. This is especially helpful when performing solar or lunar imaging. Bad seeing, wind, or movement can alter the image if the readout speed is not quick enough ( $< 30\text{fps}$ ).
- Sony Exmor technology uses column-parallel A/D conversion for high speed processing, low noise, and low power dissipation.
- ROI, or Region of Interest Mode lets you capture up to 16 areas inside the effective pixels. This ability allows for even higher frame rates.
- High speed imaging with a max of 164.5 fps at 10 bit ADC, and max of 128.2 fps at 12 bit ADC

# Astrophotography Performance



## High QE

Absolute QE Curve, we estimate the Peak Value is about 77%.



## USB 3.0 Port & ST4 Port

**USB 3.0 Port:** can provide 5Gb bandwidth to let ASI174 run at 128 fps (12bit, normal mode) or 164 fps (10bit, high speed mode) at full resolution(2.35Mega).

**ST4 Port:** can be used connect with auto guide port of mount, for guiding.



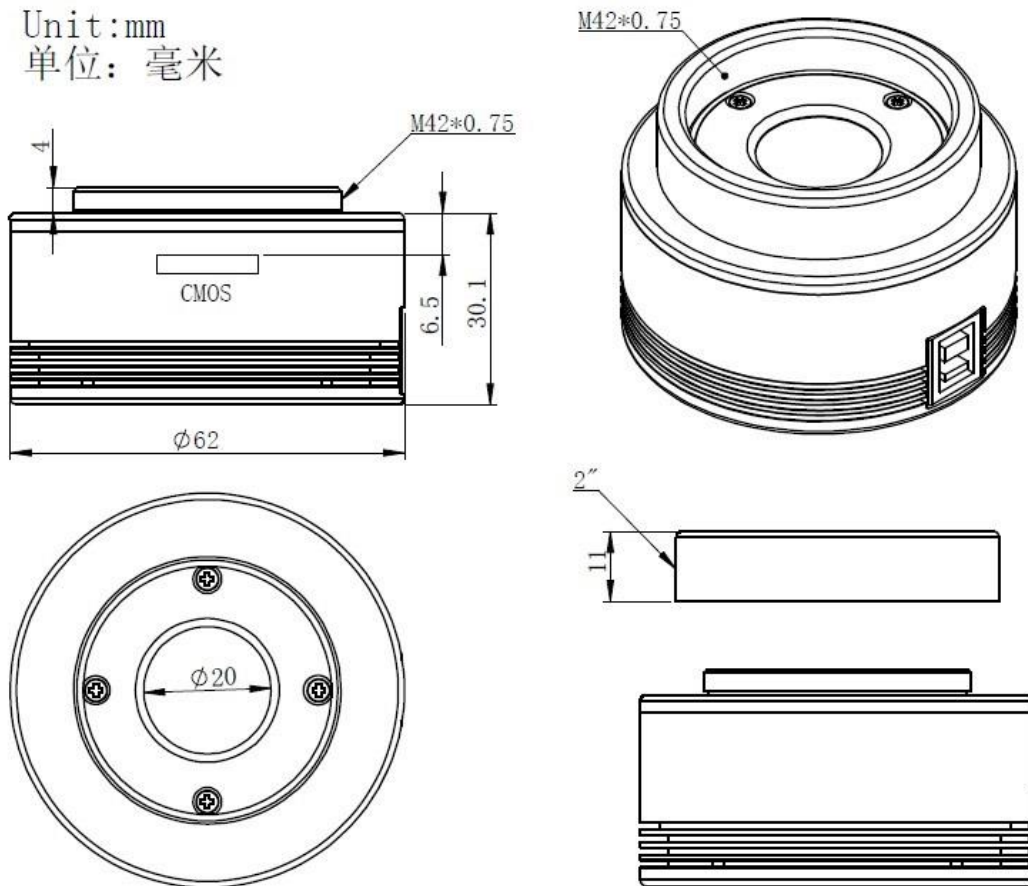
## Back Focus

After remove T2 11mm ring, back focus length will be only 6.5mm.



## Mechanical Diagram

Unit:mm  
单位:毫米



## What is in the box?



ST4 cable



camera body



quick guide



2m USB3.0 cable



1.25" cover



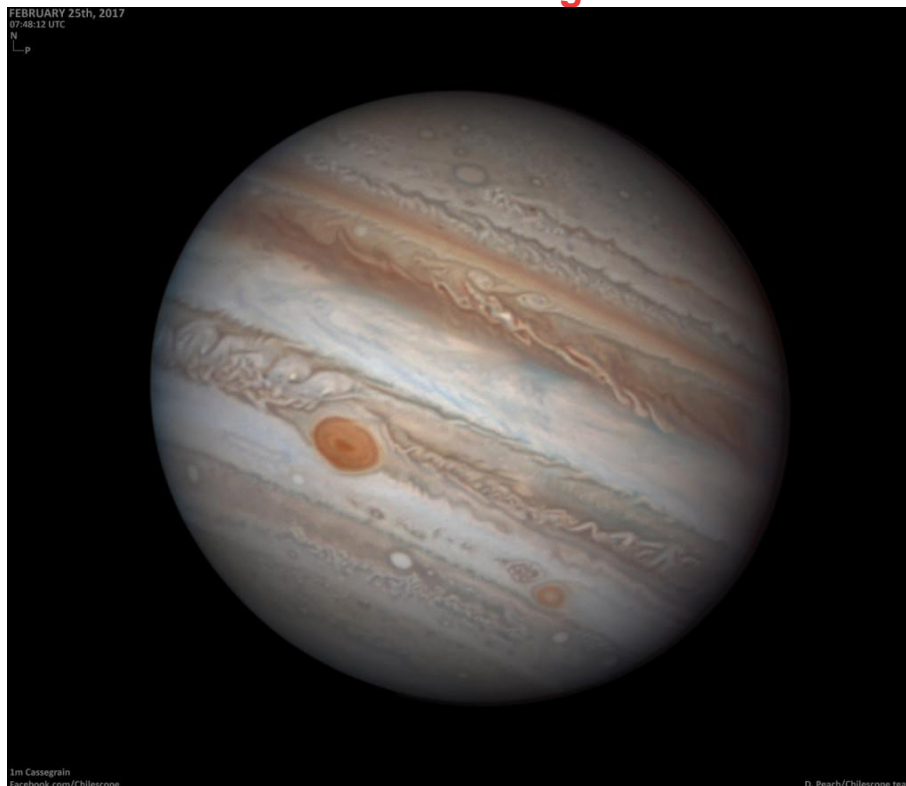
1.25" nose piece

## Drivers and Software's:

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/>

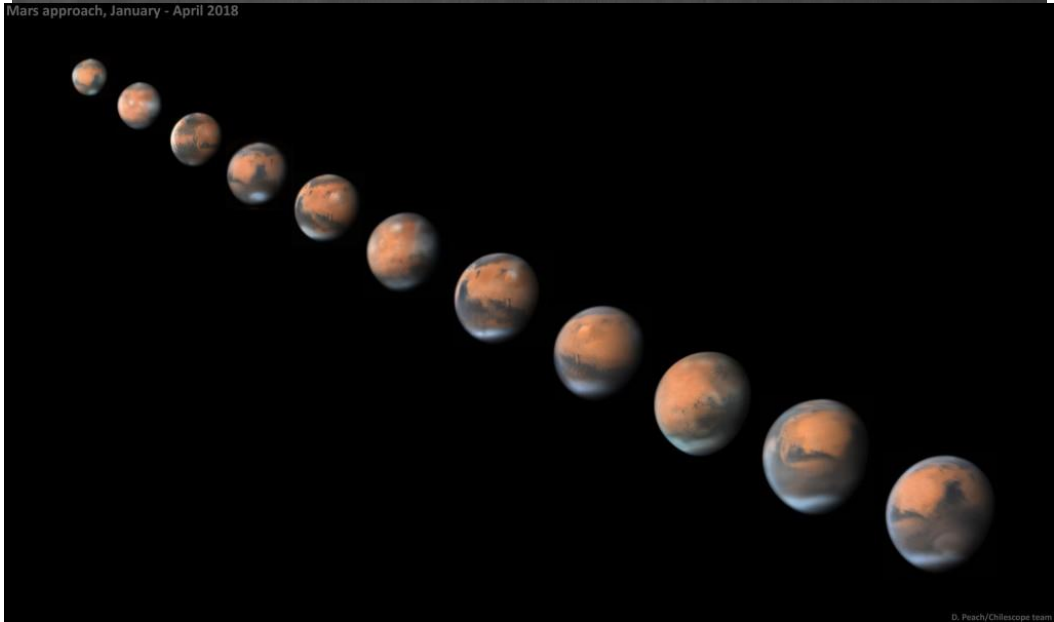
## Reference Images:







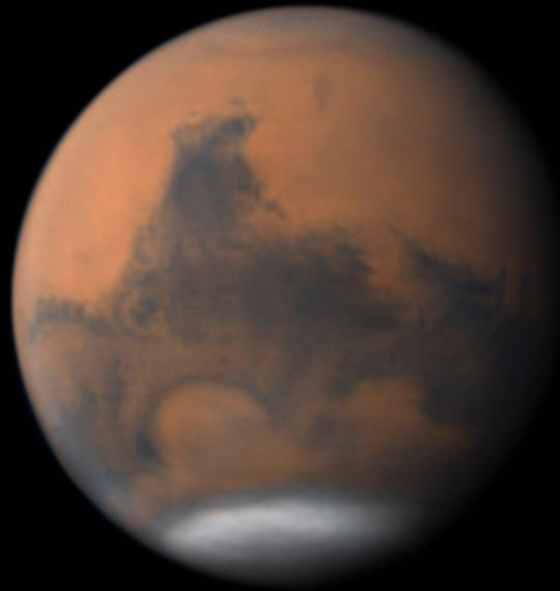
Mars approach, January - April 2018



D. Peach/Chillexcope team

JUNE 8th, 2018  
07:55:48 UTC

Ls: 190



Dia: 16.6"

D. Peach/Chilescope team

JUNE 11th, 2017

01:22:54 UTC

N  
└─p





## Camera technical details

Sensor: 1/1.2" CMOS IMX174LLJ / IMX174LQJ

Resolution: 2.3Mega Pixels 1936×1216

Pixel Size: 5.86µm

Exposure Range: 32µs-300s

ROI: Supported

Interface: USB3.0/USB2.0

Bit rate: 12bit output(12bit ADC)

Adaptor: 2" / 1.25" / M42X0.75

Dimension: φ62mm X 41mm

Weight: 140g

Working Temperature: -5°C—45°C

Storage Temperature: -20°C—60°C

Working Relative Humidity: 20%—80%

Storage Relative Humidity: 20%—95%

## Supported resolution

Binning 1×1:

12bit ADC:

1936X1216@128FPS

640×480@309FPS

320×240@577FPS

Binning 2×2:

968×608@128FPS

Binning 1×1:

10bit ADC:

1936X1216@164FPS

640×480@397FPS

320×240@740FPS

Binning 2×2:

968×608@164FPS