DSO Camera ASI2600MM Pro
Product Manual



Thank you so much for purchasing ZWO ASI camera! Before using the product, please read this manual carefully.

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Table of contents

1 Product Introduction 2

2 Notice for Use 4

3 Getting to Know Your Camera 5

3.1 External View 5

3.2 Camera Specifications 6

3.3 Quantum Efficiency & Read Noise 7

3.4 Protective Window （AR-coated anti-reflection filter） 9

3.5 Analog to Digital Converter (ADC) 9

3.6 Two-stage TEC Cooling 10

3.7 Anti-Dew 11

3.8 Power Consumption 11

3.9 USB 3.0 & 512MB DDR3 Memory 12

4 What’s in the Box? 12

5 Structural Dimension Diagram 13

6 Connection Methods 14

6.1 Connecting to Nikon/Canon Lens 14

6.2 Solutions for 55mm best back focus distance 15

7 Warranty 17

8 Servicing 19

1 Product Introduction

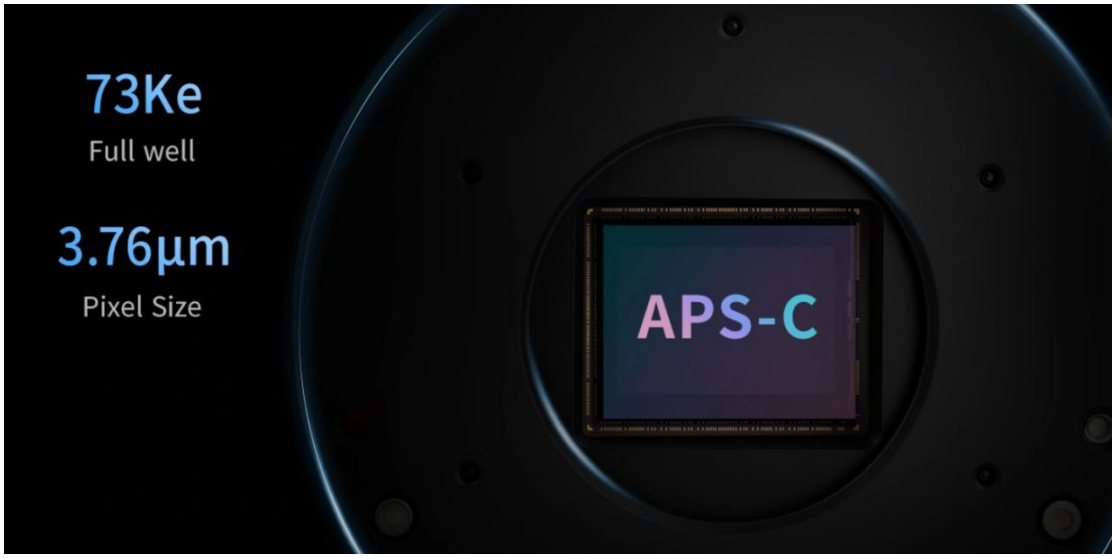


Refined Design

The body weighs just 0.7 kg（1.54 lbs），yet delivers outstanding image performance.

APS-C Sony IMX571 Sensor

The ASI2600MM Pro is equipped with the APS-C format Sony IMX571 sensor, measuring 23.5mm × 15.7mm with a 28.3mm diagonal. It delivers an outstanding resolution of 6248 × 4176 pixels, making it a true 26-megapixel powerhouse. Each 3.76 μm pixel offers an impressive full-well capacity of 73ke⁻ , ensuring exceptional dynamic range and image quality.



Native 16bit ADC

The advanced CMOS architecture of the ASI2600 enables a true 14-stop dynamic range. This ensures exceptionally smooth tonal transitions, richer color gradients, and the ability to capture both the faintest details and the brightest highlights within a single frame.



Zero Amp Glow

As the ASI2600MM Pro uses zero amp glow circuitry, you won't have to worry about amp glow even when using high gain, long exposure imaging.



2 Notice for Use

Before using the camera, please read this manual carefully.

External power supplies are needed for all ASI-cooled cameras. We recommend you use a 12V@3A~5A DC adapter (D5.5X2.1mm, center pole positive) or a lithium battery with 11-14V to power the camera. If the voltage exceeds this range, the camera will activate its automatic protection mechanism.

Note that the camera can only be used and stored under the following conditions. Usages out of the environment limits might lead to damage to the camera.

Storage temperature	-20°C ~ 60°C
Storage humidity	20% ~ 95%
Working temperature	-5℃ ~ 50℃
Working humidity	20% ~ 80%

Please do not use corrosive solutions to clean the camera to avoid corroding the oxide layer on the surface and damaging the camera. Meanwhile, please do not keep the camera exposed to the sun for a long time to avoid discoloration of the oxide layer on the camera surface.

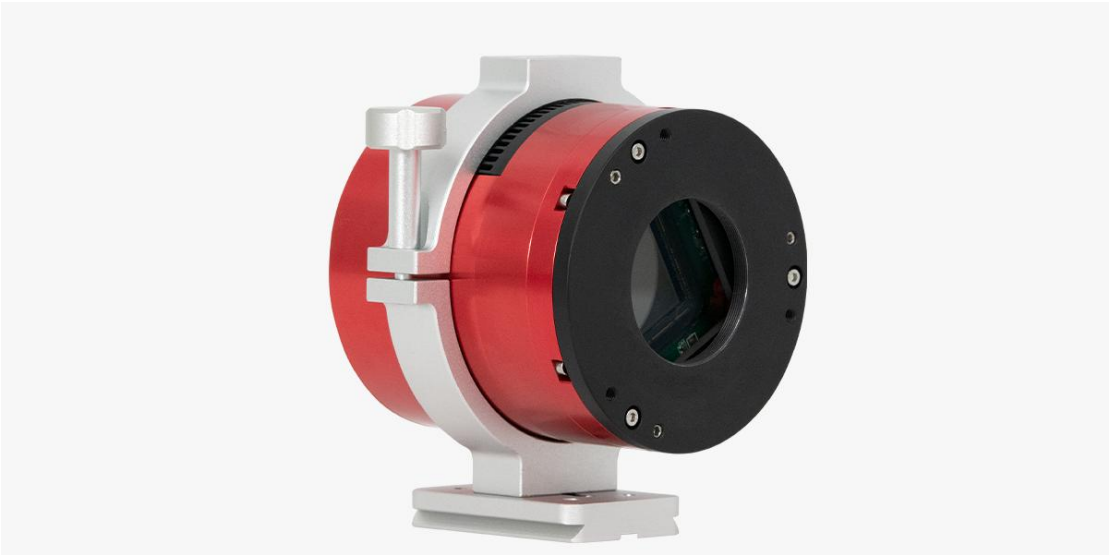
3 Getting to Know Your Camera

3.1 External View



1. Protective Window, D60 x 2mm, AR window for mono camera
2. Tilt adjustment,M42 x 0.75 thread,5mm thick,can be removed
3. Heat sink
4. USB 2.0Hub
5. USB 3.0/USB 2.0 data transmission port
6. DC power port: D5.5 x 2.1mm, center pole positive. 12V@3A power supply is recommended to use.
7. Ultra-quiet magnetic levitation fan: Only runs when cooling is turned on.

The camera can be supported by the ZWO holder ring. There is a 1/4” screw interface at the base of the ring.



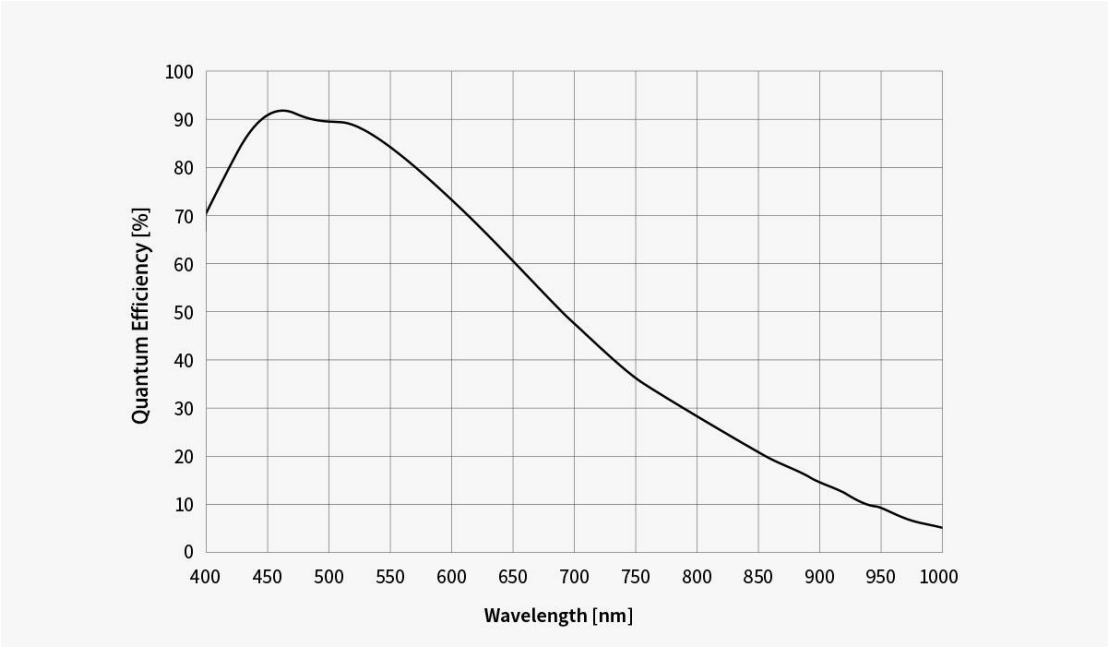
3.2 Camera Specifications

Sensor	SONY IMX571 CMOS
Sensor format	APS-C
Diagonal	28.3mm
Resolution	26MP (6248 x 4176)
Pixel size	3.76μm
Sensor size	23.5mm x 15.7mm
Max frame rate	14.3fps
Shutter	Rolling shutter
Exp range	32μs-2000s
Read noise	1.0-3.3e
QE peak	91%
Full well capacity	73Ke
ADC	16bit
DDR3 buffer	512MB
USB port	USB 3.0/USB 2.0
Connection adapter	M42 x 0.75
Protective window	AR CUT
Camera diagonal	90mm
Net weight	700g
Back focus distance	17.5mm
Cooling	2-stage TEC cooling
Delta-T	30°~35°@ environmental temperature 30°C
Power consumption (Cooling on)	12V, Max current 3A
Supported OS	Windows, Linux & Mac OSX

3.3 Quantum Efficiency & Read Noise

Quantum Efficiency

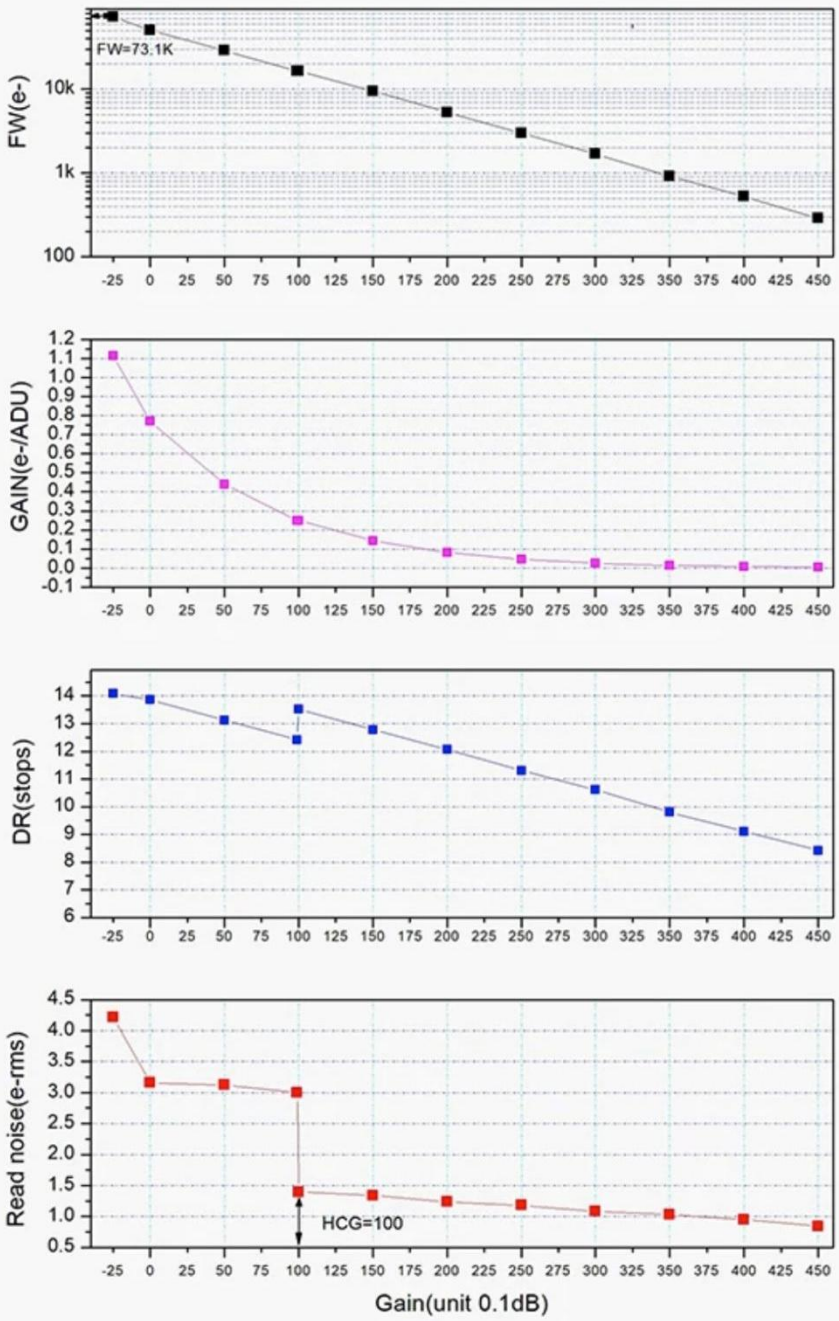
According to our test results, the QE peak value of ASI2600MM Pro is 91%.



Read Noise

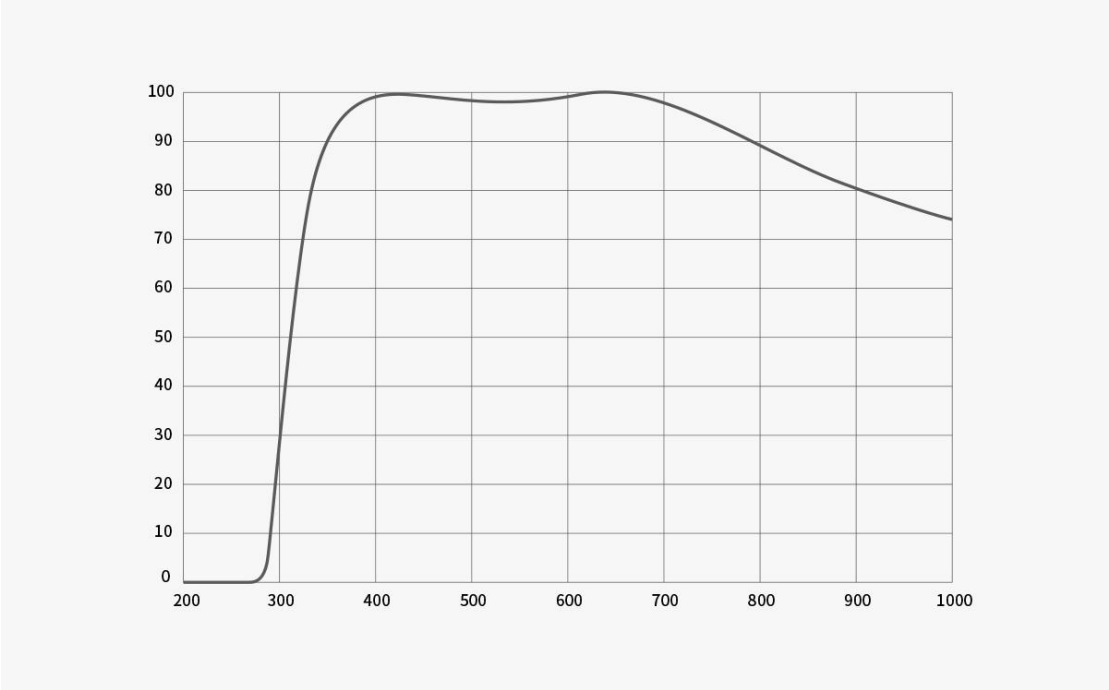
The ASI2600MM Pro achieves a dynamic range of up to 14 stops. When the gain setting reaches 100, the HCG (High Conversion Gain) mode is automatically enabled, which substantially reduces readout noise while preserving dynamic range. For optimal deep-sky imaging performance, a gain setting of 0 or 100 is recommended.

Read noise, full well, gain and dynamic range for ASI2600MM/MC Pro



3.4 Protective Window（AR-coated anti-reflection filter）

ASI2600MM Pro camera features a 60mm diameter, 2mm thick AR-coated anti-reflection filter in front of the sensor as a protective window. This safeguards the sensor from external damage while enhancing light transmission from near-ultraviolet to near-infrared wavelengths.



3.5 Analog to Digital Converter (ADC)

ASI2600MM Pro has a built-in 16-bit ADC. 12-bit ADC mode for output will be used when we do hardware Bin. It also supports the custom ROI partial readout mode, resulting in a faster frame rate at the smaller ROI resolutions.

Below are the maximum speeds of ASI2600MM Pro running at USB 3.0 transmission modes in 16bit 、12bit mode.

	USB 3.0			USB 2.0		
	Normal Mode：16BIT ADC		High-speed Mode：12BIT ADC	Normal Mode：16BIT ADC		High-speed Mode：12BIT ADC
Resolution	RAW16	RAW8	RAW8	RAW16	RAW8	RAW8
6248×4176	6.1fps	6.1fps	14.3fps	0.85fps	1.63fps	1.63fps
4096×3072	8.2fps	8.2fps	19.3fps	1.79fps	2.75fps	3.44fps
4096×2160	11.6fps	11.6fps	27.3fps	1.96fps	4.89fps	4.89fps
3840×2160	11.6fps	11.6fps	27.3fps	2.61fps	5.2fps	5.2fps
1920×1080	22.8fps	22.8fps	53.4fps	10.4fps	20.9fps	20.9fps

1280×720	33.4fps	33.4fps	78.4fps	23.5fps	33.4fps	47fps
640×480	48.6fps	48.6fps	144.1fps	48.6fps	48.6fps	114.1fps
320×240	89.1fps	89.1fps	209.3fps	89.1fps	89.1fps	209.1fps

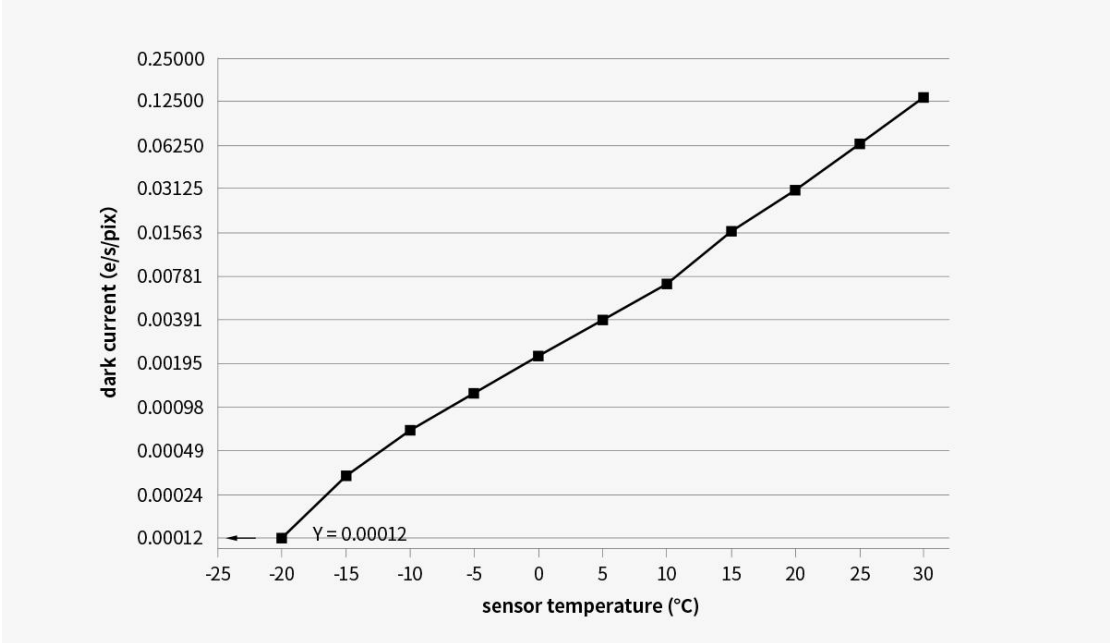
Bin2 12Bit-ADC				
	USB 3.0		USB 2.0	
Resolution	RAW16	RAW8	RAW16	RAW8
3120×2088	30fps	33.7fps	3.34fps	6.6fps
Bin3 12Bit-ADC				
	USB 3.0		USB 2.0	
Resolution	RAW16	RAW8	RAW16	RAW8
2080×1392	67.4fps	94.2fps	7.5fps	14.9fps

3.6 Two-stage TEC Cooling

Two-Stage TEC Cooling, Ultra-Low Dark Current

Thanks to the two-stage TEC cooling, ASI2600MM Pro can lower the CMOS sensor temperature to more than 35 degrees Celsius below ambient temperature, which can greatly reduce dark current generation and sensor noise even during extended exposure times.

*The Delta T 35℃ is tested at 30℃ ambient temperature. It might get down when the cooling system is working for a long time. Also, as the ambient temperature falls, the Delta T would decrease.



3.7 Anti-Dew

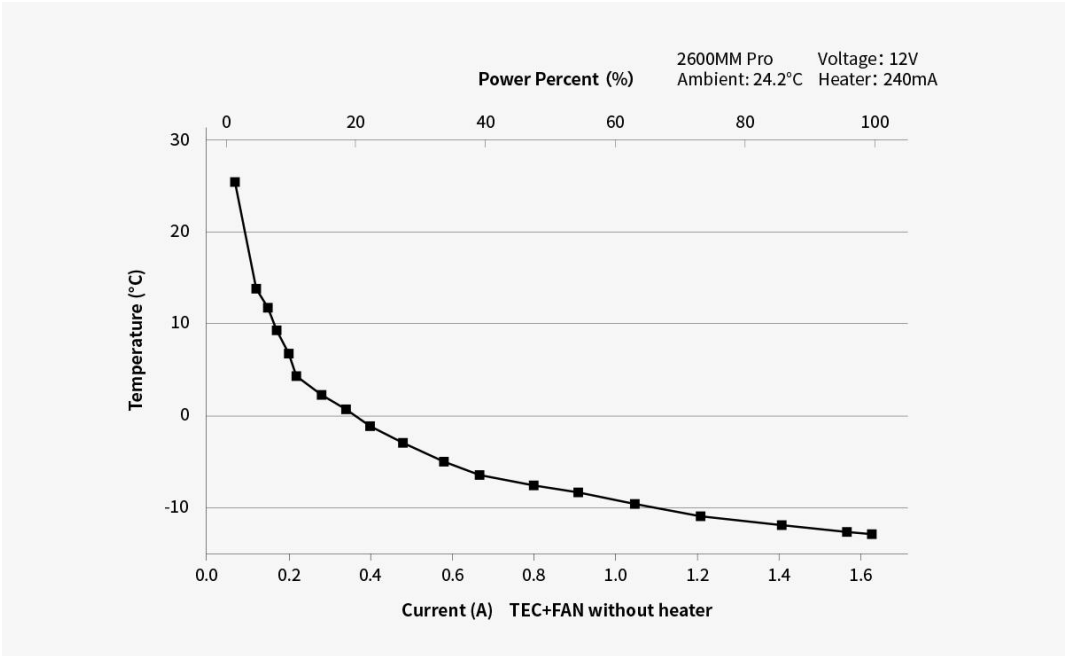
Anti-dew Heater:

ASI2600 Pro comes with the polyimide heater that completely fits the protective window to avoid dew problems. Its power consumption is around 5W. You can turn this feature off in software if you want to save some power.



3.8 Power Consumption

All ASI cameras have low power consumption. ASI2600MM Pro is no exception. When it is not cooling, the max power consumption is only 4.7W. Below is the camera cooling efficiency diagram.

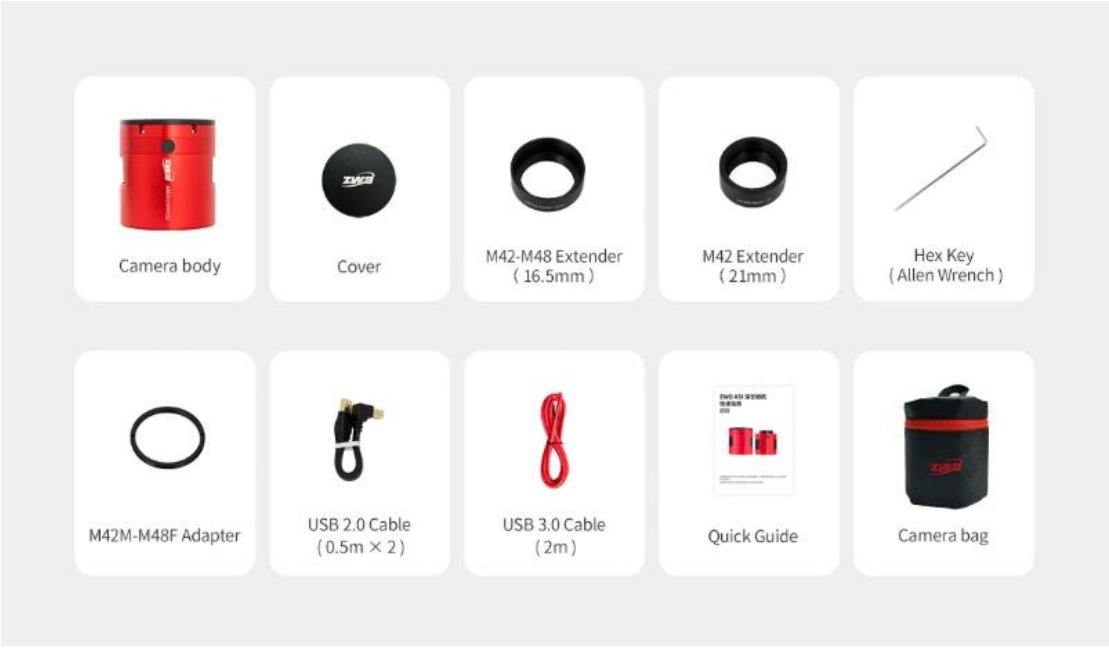


3.9 USB 3.0 & 512MB DDR3 Memory

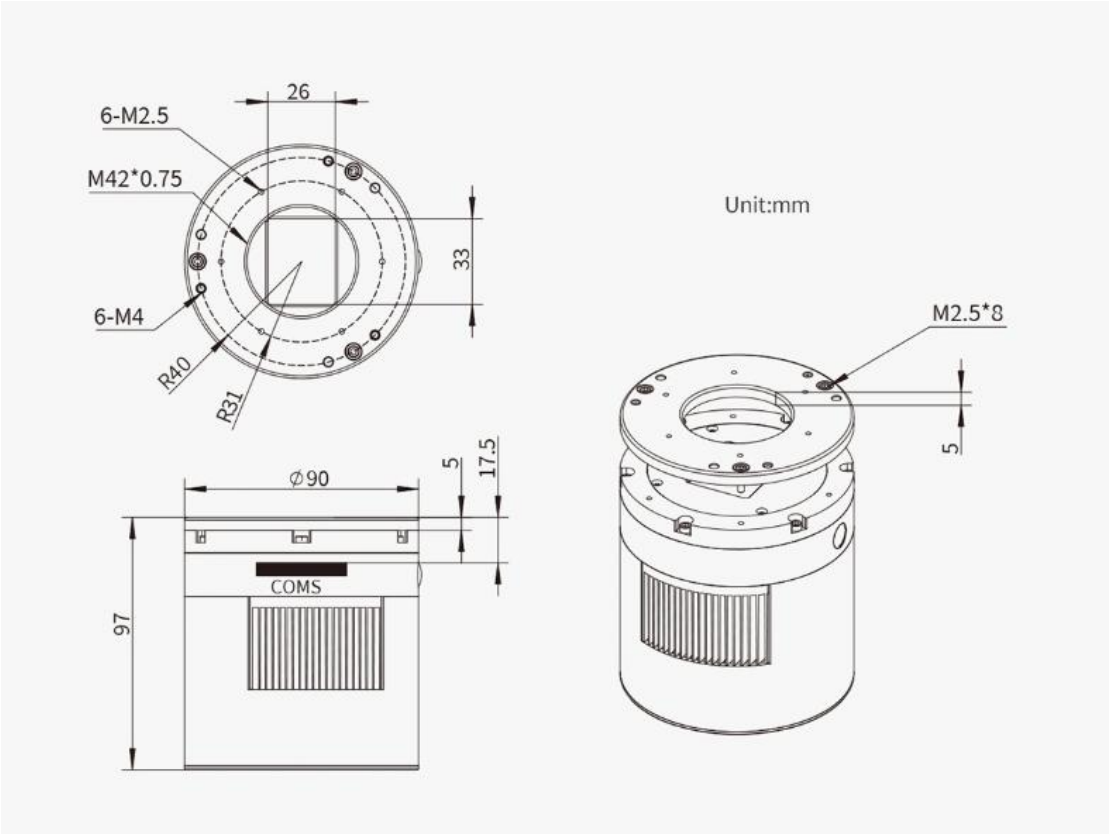
The ASI2600MM Pro incorporates a high-speed USB 3.0 interface paired with a dedicated 512MB DDR3 memory buffer. This architecture minimizes data loss and latency, delivering fast, stable, and secure transmission even during long exposures and continuous high-resolution capture.



4 What's in the Box?

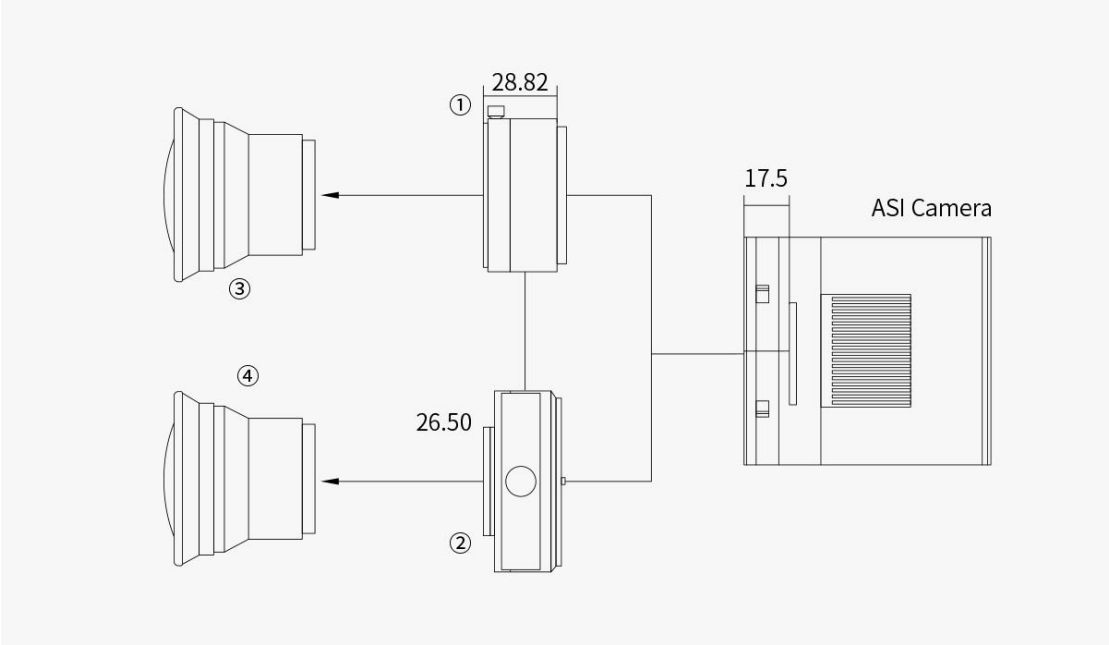


5 Structural Dimension Diagram



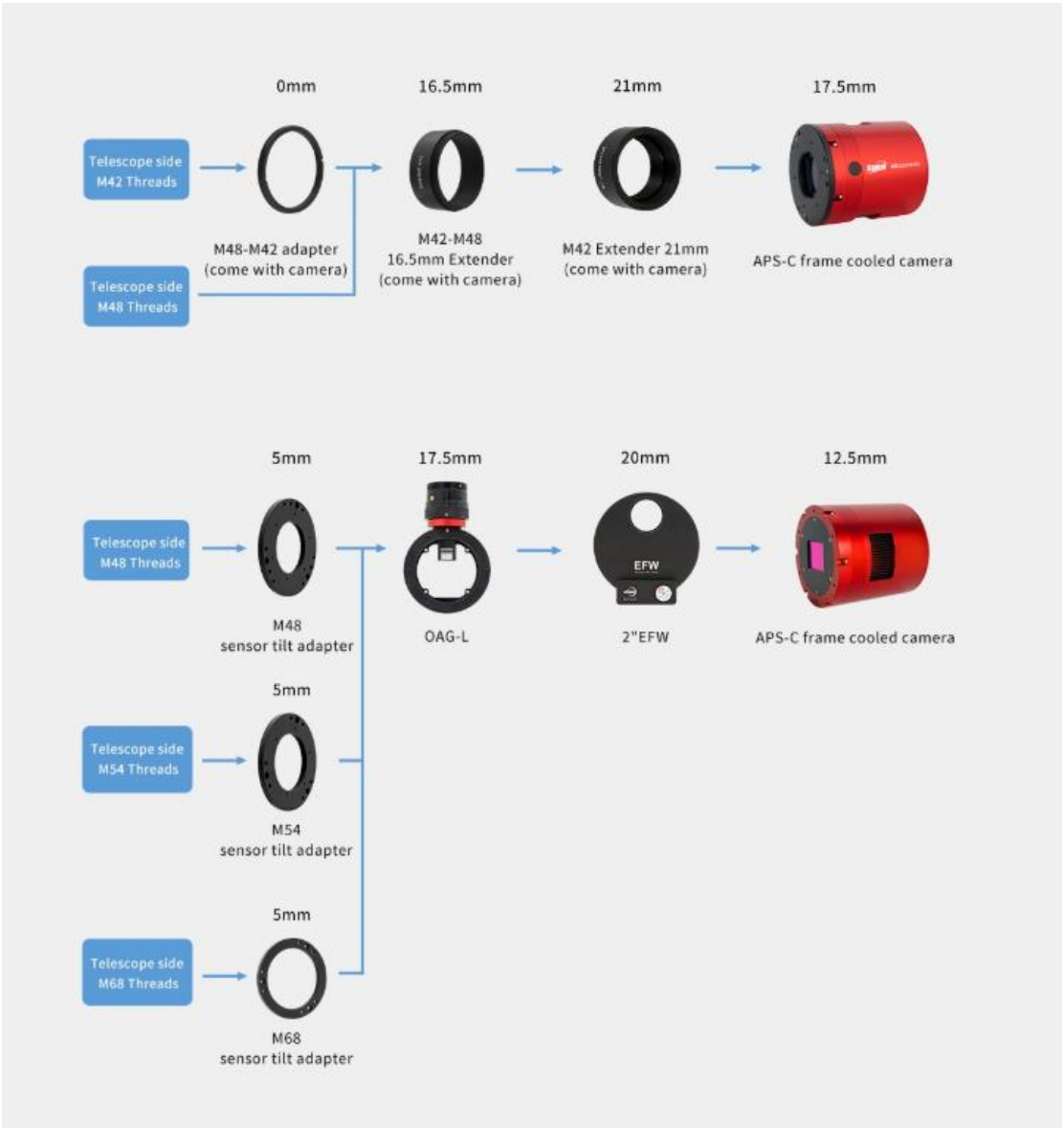
6 Connection Methods

6.1 Connecting to Nikon/Canon Lens



① Nikon-T2 adapter
② EOS-T2 adapter
③ Nikon Lens
④ Canon Lens

6.2 Solutions for 55mm best back focus distance




Telescope
M54
16.5mm
CAA
M54
21mm
M54 21mm
M54
5mm
M54
sensor tilt adapter
12.5mm
APS-C frame cooled camera
M54
16.5mm
CAA
M48
21mm
M54-M48
21mm
M54
5mm
M54
sensor tilt adapter
12.5mm
APS-C frame cooled camera
Telescope
M48
2mm
M54-M48
2mm
M54
16.5mm
CAA
M54
20mm
EFW
2"EFW
Screws
17.5mm
APS-C frame cooled camera

7 Warranty

1. ZWO provides Users with a warranty period of 2 years for ZWO branded products. The warranty starts from the second day when the customer gets the product.

2. If a User encounters the following Dead on Arrival (DOA) and contacts ZWO within the corresponding time limit to issue the Product purchase invoice and relevant evidence, ZWO will provide door-to-door pick-up service and, as appropriate, after-sale replacement (or partial replacement), repair or return (or partial return) service for the following Products:

1) Product quality problem

Provided that a User detects a quality problem and contacts ZWO within 30 days after receipt of the Products, and ZWO support team confirms that the Products indeed have a quality problem or defect after their inspection, ZWO will provide free replacement service towards such Products;

2) Product transportation problem

Provided that a User finds obvious signs of bubbling, serious overstocking, or deformation on the outer package of the Products upon receipt of the Products, and provides ZWO with pictures of the outer package and proof of receipt within 3 days after receipt of such Products, ZWO support team will verify the actual shipper and determine the responsible party for such transportation problem. In the event that ZWO is the actual shipper, ZWO will be responsible for providing the relevant return or replacement service, however, if the Products are directly sold or transported to the User by an agent of ZWO, the agent will be responsible for providing the relevant return or replacement service.

3. If the Products are under the following circumstances, they are not within the scope of warranty service, ZWO may provide maintenance services to the Users:

1) The Warranty Period of the Products has expired;

2) The Products are injected into liquid or affected by moisture or corrosion;

3) The Products are damaged by an external force (such as the broken of the camera protection window glass, the deformation of the product shell, the broken of the USB port, etc.);

4) Disassembling, repairing by a third party, refurbishment of the Products (such as downloading erroneous firmware) without the written authorization of ZWO;

5) The product system is modified, or the maintenance notice is lost or changed;

6) Product quality problem caused by installation not following the requirements or instructions for the Products;

7) Physical damage or failure of the Products caused by the force majeure (such as strong vibration or extrusion such as flood, fire, earthquake, or thunder stroke);

8) Damage caused by the improper Customer operation during the period of shooting or use, such as using without the equipment protection or direct shooting of the sun;

9) No valid purchase invoice or warranty certificate;

10) The Products are second-hand products.

8 Servicing

For software upgrades, please refer to “Guide & Manuals” on our official website.
https://www.zwoastro.com/guides-and-manuals/
For repairs and consultation, you can visit here:
https://support.astronomy-imaging-camera.com/
Email: info@zwoptical.com
Phone: 0512-65923102

1. For the normal repair or replacement of the Products during the Warranty Period, the User will bear the return cost. When returning the Products, Users shall specify the actual reasons for the damage to the Products, and shall provide the corresponding valid certificates, such as pictures or videos, etc.

For the Products that need to be replaced after being confirmed by ZWO in writing, the User shall return the Products with the complete package, together with all accessories, manuals, etc., to the address designated by ZWO.

By sending back the product to ZWO, the User agrees to pay out-of-warranty fees that may arise during the repair process of the product. ZWO will send back the product after charging.

2. For the Products that need to be returned for after-sales service, ZWO will provide the corresponding RMA code for reference. ZWO will not accept any products having no RMA code that have been returned privately without ZWO written confirmation.

3. If a User purchases the ZWO Products from a ZWO agent, the User may contact the ZWO agent directly for the relevant after-sales service.