FF131 APO

■ 使用说明书

警告

请勿通过本望远镜直接观测太阳，这样做可能导致瞬间失明，请购买专用太阳观测滤镜或滤膜，来获得最安全的观测指导。

www.zwoastro.cn

中文版（简体）

使用产品前请仔细阅读本使用说明书

FF131 APO 是一款口径为 131 毫米，焦距为 983 毫米，原生焦比为 F7.5 的
镜，用途多样，兼顾目视观测与天文摄影。

该望远镜采用前三后一的四片式光学结构，内含一片 ED 玻璃，并支持全画
采用自平场设计，连接相机等成像配件后，合焦即可直接拍摄（合焦范围自
拍摄接口端面算起，后端连接有效长度为 42mm-73mm 即可合焦）。

遮光罩采用可伸缩式设计，能进一步缩减整体长度，提升便携性。镜筒整体
量 CNC 工艺加工，内部设有光阑，可有效抑制杂散光。

把手处预留寻星镜基座槽，调焦器两侧亦各配备一个寻星镜基座，不仅便于
寻星镜位置而无需拆卸，也为安装其他天文配件提供了更多可能。抱箍使用
制手拧螺丝搭配蚌壳式开口设计，无需多余工具，拆卸方便。

FF131 APO 配备 3 英寸齿轮齿条式双速调焦器，支持 1:10 的精密调焦。后
360度像场旋转器，便于精确构图。鸠尾板为 300 毫米标准宽版规格，多孔
于调整安装位置。

镜筒末端提供 2 英寸与 1.25 英寸接口，方便接驳各类附件。此外，FF131 A
配四段式摄影延长管，内含 2 英寸滤镜螺纹，后端配备 M48×0.75 与 M54
格的摄影接环，以满足多样化的拍摄需求。

天文摄星

幅拍摄。
M54-M48

采用高质

灵活调整
CNC 定

端集成
位设计便

PO 还标
×0.75 规

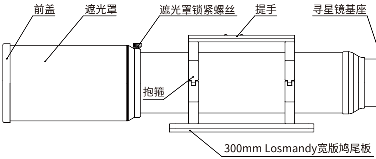
FF131 APO 规格

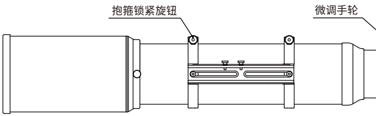
有效口径： 131mm
焦距： 983mm
焦比： F7.5
物镜类型： 四片式全分离APO（包括一片ED玻璃）
成像圈： 44mm

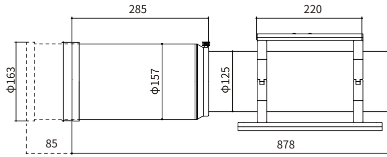
调焦筒缩进状态下后端最长连接长度：	**调焦筒伸出状态下后端最短连接长度：**
拍摄模式：	**拍摄模式：**
73mm（从M48×0.75外螺纹算起）	42mm（从M48×0.75外螺纹算起）
91mm（从M54×0.75外螺纹算起）	60mm（从M54×0.75外螺纹算起）
观测模式：	**观测模式：**
131mm（从1.25英寸接口算起）	100mm（从1.25英寸接口算起）
141mm（从2英寸接口算起）	110mm（从2英寸接口算起）

全长：
878mm（含1.25英寸接口缩进状态） 963mm（含1.25英寸接口伸长状态）
941mm（加拍摄接口缩进状态） 1026mm（加拍摄接口伸长状态）
OTA重量： 7.9kg
总重（包含提手、抱箍和鸠尾板）： 9.4kg
末端接口： （1）M78×1- 55MM 延长环
（2）M78×1 - M54×0.75
（3）M54×0.75 - M54×0.75
（4）M54×0.75 - M48×0.75 (内置 M48×0.75 滤镜螺纹)

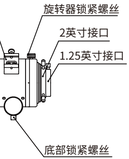
产品尺寸及部件图

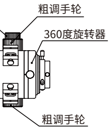

前盖
遮光罩
遮光罩锁紧螺丝
提手
寻星镜基座
抱箍
300mm Losmandy宽版鸠尾板

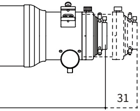

抱箍锁紧旋钮
微调手轮


285
220
ϕ163
ϕ157
ϕ125
85
878

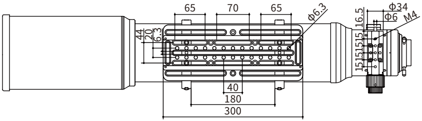
遮光罩可伸出长度　遮光罩完全收回的尺寸图

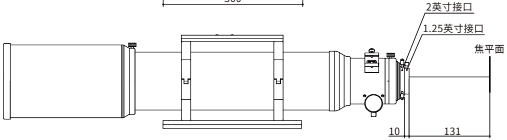

旋转器锁紧螺丝
2英寸接口
1.25英寸接口
底部锁紧螺丝

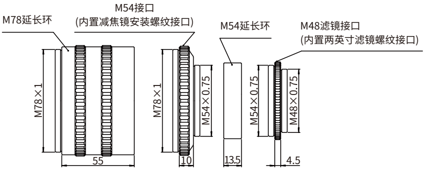

粗调手轮
360度旋转器
粗调手轮



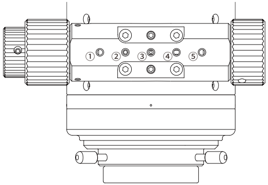
调焦器可伸出长度


65
70
65
Φ6.3
44
20
6.3
16.5
Φ34
Φ6
M4
15
15
15
15
40
180
300


2英寸接口
1.25英寸接口
焦平面
10
131

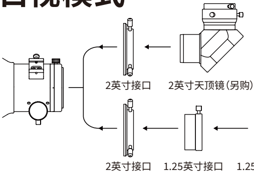

M78延长环
M54接口
(内置减焦镜安装螺纹接口)
M54延长环
M48滤镜接口
(内置两英寸滤镜螺纹接口)
M78×1
M78×1
M54×0.75
M54×0.75
M48×0.75
55
10
13.5
4.5

调焦器锁紧螺丝示意图



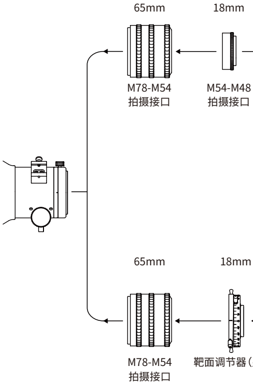
② 承载螺丝
③ 底部锁紧螺丝
①③④⑤ 可用于EAF安装

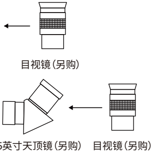
目视模式

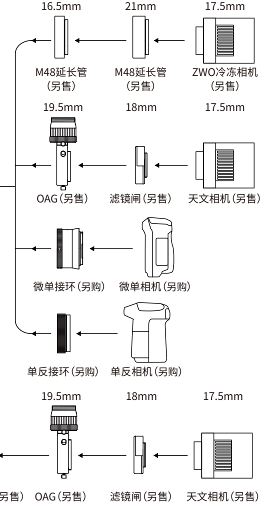

2英寸接口
2英寸天顶镜(另购)
2英寸接口
1.25英寸接口
1.25

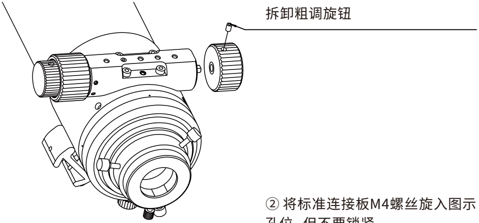
拍摄模式

M54-M48拍摄接口端面算起，
后端连接有效长度为42mm-73mm即可合焦

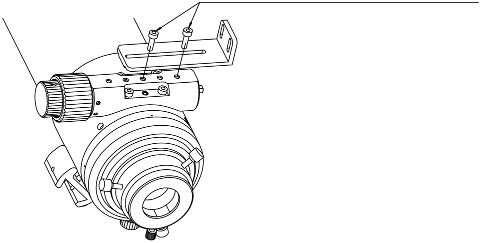

65mm
18mm
M78-M54
拍摄接口
M54-M48
拍摄接口
65mm
18mm
M78-M54
拍摄接口
靶面调节器(


目视镜（另购）
5英寸天顶镜（另购）
目视镜（另购）

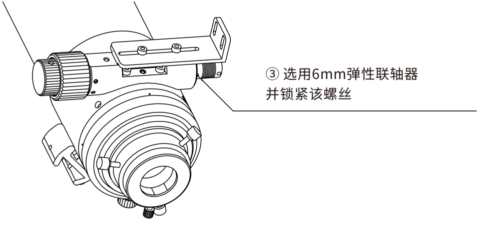

16.5mm
21mm
17.5mm
M48延长管
（另售）
M48延长管
（另售）
ZWO冷冻相机
（另售）
19.5mm
18mm
17.5mm
OAG（另售）
滤镜闸（另售）
天文相机（另售）
微单接环（另购）
微单相机（另购）
单反接环（另购）
单反相机（另购）
19.5mm
18mm
17.5mm
另售）
OAG（另售）
滤镜闸（另售）
天文相机（另售）



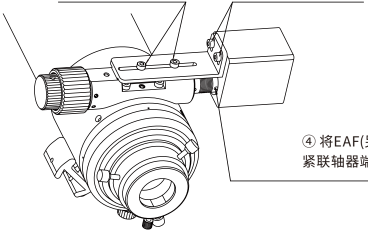
① 使用2mm扳手旋松螺丝后
拆卸粗调旋钮



② 将标准连接板M4螺丝旋入图示
孔位，但不要锁紧



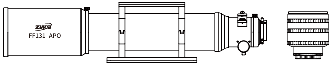
③ 选用6mm弹性联轴器
并锁紧该螺丝



⑥ 最后锁紧M4固定螺丝

④ 将EAF(另购)插入联轴器并锁紧联轴器端锁紧螺丝

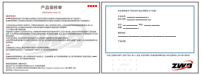
包装含有



FF131 APO本体一个，抱箍一对，提手一个，
300mm窄版鸠尾板一个，标配四段式摄影延长管

FF131 APO
■使用说明书

说明书



保修卡

检测单

官方网站　微信公众号　视频号

哔哩哔哩　小红书　抖音

ZWO

FF131 APO

■ User Manual

WARNING

DO NOT LOOK AT SUN THROUGH TELESCOPE.
IT WILL CAUSE IRREVERSIBLE DAMAGE TO YOUR EYE.

www.zwoastro.com

English

Please read this user manual carefully before using the product.

The FF131 APO is an OTA with an aperture of 131mm, a focal length of 983mm, an native focal ratio of F7.5. It is designed for both visual observation and astrophoto raphy.

The telescope features a quadruplet optical lens design (three elements in the fro and one in the rear), including one piece of ED glass, which can effectively reduce chromatic aberration, and supports 44mm full-frame imaging. With its self-flattened design, after attaching the imaging accessories, users can directly use it for shooting after the OTA is in focus. (The effective back focus is measured from the M54–M48 imaging interface flange. Focus can be achieved when the total rear connection length is between 42 mm and 73 mm).

The retractable dew shield helps reduce overall length and improves portability. The entire lens tube is manufactured using high-quality CNC machining and paint finish, and it also includes an internal baffle to effectively suppress stray light.

On the handle bar of FF131 APO, it has a finder base slot. Besides, there are two finder bases on both sides of the focuser. This allows flexible adjustment of the finder scope position without disassembly and provides additional options for attaching other astronomical accessories. The tube rings feature CNC-machined thumb screws and a clamshell opening design, enabling tool-free installation and removal.

The FF131 APO comes with a 3-inch rack-and-pinion dual-speed focuser offering 1:10 fine adjustment, along with a built-in 360° field rotator at the rear for precise framing. It includes a 300mm standard Losmandy-style dovetail plate with multip holes, which makes it easy to adjust the position.

The rear interface of the FF131 APO includes both 2-inch and 1.25-inch adapters, enabling compatibility with a wide range of astronomical accessories.

The FF131 APO comes standard with Standard Four-Section Extension Tube, whic includes M48*0.75 and M54*0.75 adapters. It also features a built-in 2-inch filter thread for easy attachment of filters.

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FF131 APO Specifications：

Aperture size： 131mm
Focal length： 983mm
Focal ratio： F7.5
Objective lens： Quadruplet air-spaced APO（including one ED glass）
Image circle： 44mm

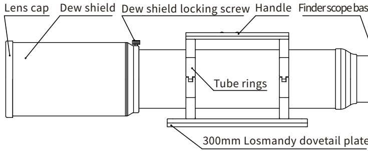
Maximum allowable optical path length （with the focuser fully retreated）：
Imaging Mode：
73mm（from the base of M48×0.75 male thread）
91mm（from the base of M54×0.75 male thread）
Visual Mode
131mm（from the end of 1.25" eyepiece holder）
141mm（from the end of 2" eyepiece holder）

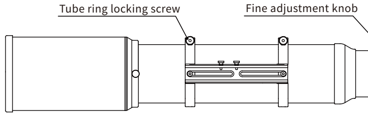
Minimum allowable optical path length（with the focuser fully extended):
Imaging Mode：
42mm（from the base of M48×0.75 male thread）
60mm（from the base of M54×0.75 male thread）
Visual Mode：
100mm（from the end of 1.25" eyepiece holder）
110mm（from the end of 2" eyepiece holder）

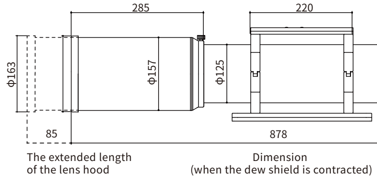
Total length：
878mm（including 1.25" adapter as dew shield contracted）
963mm（including 1.25" adapter, fully stretched）

941mm（including the photographic extension tube as dew shield contracted）
1026mm（including the photographic extension tube, fully stretched）
Net weight： 7.9kg
Gross weight（Including tube ring&dovetail plate）： 9.4kg
Rear-end thread type：
(1) M78×1- 55MM adapter
(2) M78×1 - M54×0.75
(3) M54×0.75 - M54×0.75
(4) M54×0.75 – M48×0.75 (with built-in M48×0.75 filter thread)

Product Overview and Dimensio


Lens cap
Dew shield
Dew shield locking screw
Handle
Finderscope bas
Tube rings
300mm Losmandy dovetail plate

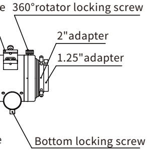

Tube ring locking screw
Fine adjustment knob

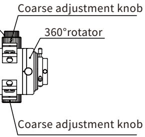

285
220
φ163
φ157
φ125
85
878

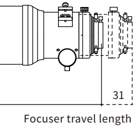
The extended length
of the lens hood

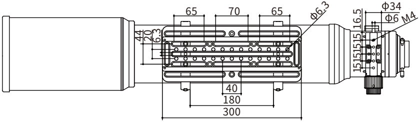
Dimension
(when the dew shield is contracted)

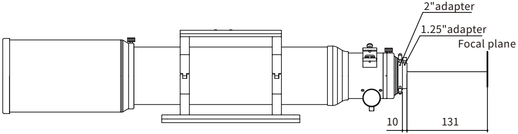
onal Diagram

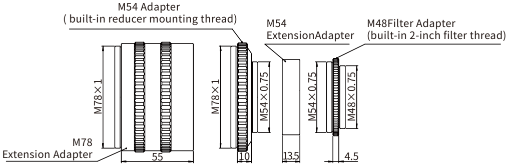

e
360°rotator locking screw
2"adapter
1.25"adapter
e
Bottom locking screw


Coarse adjustment knob
360°rotator
Coarse adjustment knob

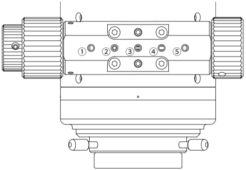

31
Focuser travel length


65
70
65
Φ6.3
Φ34
Φ6
M4
16.5
44
20
6.3
15
15
15
15
40
180
300


2"adapter
1.25"adapter
Focal plane
10
131


M54 Adapter
(built-in reducer mounting thread)
M54
ExtensionAdapter
M48Filter Adapter
(built-in 2-inch filter thread)
M78×1
M78×1
M54×0.75
M54×0.75
M48×0.75
M78
Extension Adapter
55
10
13.5
4.5

The Locking Screw Position Diagram

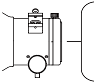


② Bottom Load Adjustment Screw

③ Bottom Locking Screw

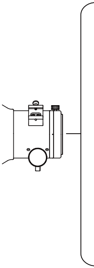
①③④⑤ Can be used for electric focusing bracket installation

Visual

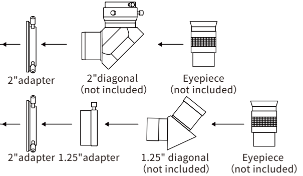


Imagin

The effective focus
rear-end connectio
(from the M54 to M

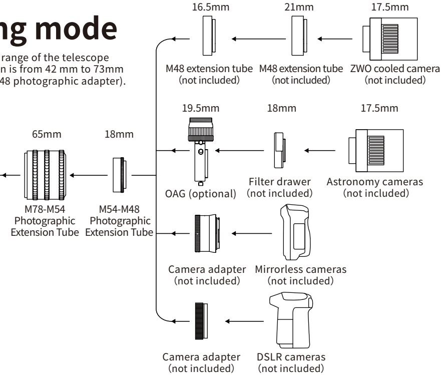


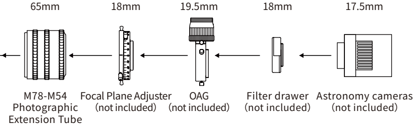
Mode


2"adapter
2"diagonal
(not included)
Eyepiece
(not included)
2"adapter
1.25"adapter
1.25" diagonal
(not included)
Eyepiece
(not included)

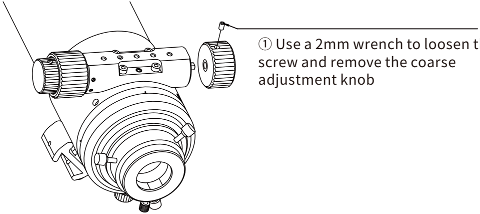
ng mode

range of the telescope
n is from 42 mm to 73mm
48 photographic adapter).

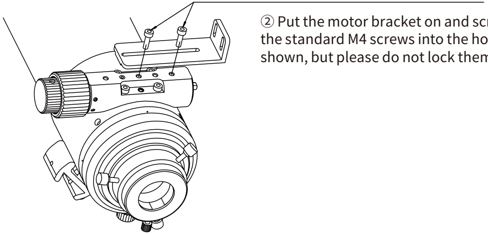

16.5mm
21mm
17.5mm
M48 extension tube
(not included)
M48 extension tube
(not included)
ZWO cooled camera
(not included)
19.5mm
18mm
17.5mm
65mm
18mm
OAG (optional)
Filter drawer
(not included)
Astronomy cameras
(not included)
M78-M54
Photographic
Extension Tube
M54-M48
Photographic
Extension Tube
Camera adapter
(not included)
Mirrorless cameras
(not included)
Camera adapter
(not included)
DSLR cameras
(not included)


65mm
18mm
19.5mm
18mm
17.5mm
M78-M54
Photographic
Extension Tube
Focal Plane Adjuster
(not included)
OAG
(not included)
Filter drawer
(not included)
Astronomy cameras
(not included)

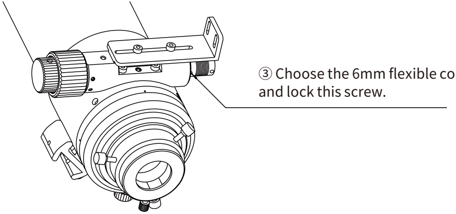
Steps of Installing EAF



① Use a 2mm wrench to loosen the screw and remove the coarse adjustment knob



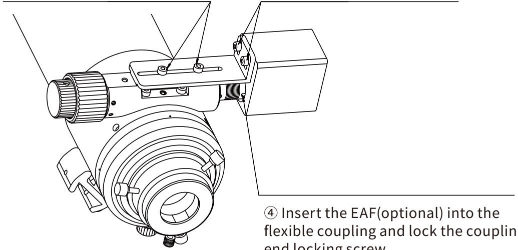
② Put the motor bracket on and screw the standard M4 screws into the hole shown, but please do not lock them now.



③ Choose the 6mm flexible coupling and lock this screw.

⑥ Finally, lock the M4 fixing screws

⑤ Lock the EAF mounting screws



④ Insert the EAF(optional) into the flexible coupling and lock the coupling end locking screw.

Official site

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YouTube

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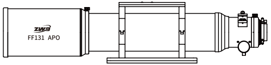
What's in the box



FF131 APO

User Manual

WARNING

DO NOT LOOK AT SUN THROUGH TELESCOPE.

IT WILL CAUSE IRREVERSIBLE DAMAGE TO YOUR EYE.

www.zwoastro.com

FF131 APO main unit ×1

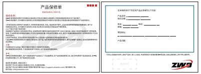
Tube Rings ×1 pair

Carrying Handle ×1

Standard Four-Section Extension Tube

300 mm Narrow Dovetail Plate ×1

User Manual



产品保修单

Warranty card

INSPECTION CHECK LIST

Inspection items:

1. Lens:
1) Coating ☐
2) Optical collimation ☐
3) Cleanliness ☐

2. Tube:
1) Surface treatment ☐
2) Internal processing ☐
3) Screw connection ☐

3. Focuser:
1) Surface treatment ☐
2) Internal processing ☐
3) Threads smooth ☐
4) Focusing smooth ☐
5) Microdrive focusing ☐

4. Other accessories:
1) Tube ring ☐
2) Handle ☐
3) Dovetail plate ☐
4) Packing box ☐

INSPECTED BY:____________ DATE:____________

Inspection Certificate