**Galileo FS-80Z**

# Galileo FS-80Z 800mm x 80mm Astronomical Telescope Kit User Manual

*Model: FS-80Z*

## 1. Introduction

This manual provides detailed instructions for the assembly, operation, and maintenance of your Galileo FS-80Z 800mm x 80mm Astronomical Telescope Kit. Please read these instructions carefully before using your telescope to ensure proper function and longevity of the instrument. The Galileo FS-80Z is designed for both beginners and casual stargazers, offering clear views of celestial objects.

## 2. Product Components

Your Galileo FS-80Z telescope kit includes the following components:

- 800mm x 80mm Optical Tube Assembly (OTA)
- Altitude Azimuth Yoke Mount
- Fully Adjustable Heavy Duty, Pre-assembled Metal Tripod with Accessory Tray
- Galileo Mars-Eye Electronic Finderscope
- 1¼″ Helical Rack & Pinion Focuser
- 1¼″ 6.8mm - 16mm Bonus Zoom Eyepiece
- 1¼″ 1.5x Bonus Erecting Eyepiece
- 1¼″ 3x Astroscopic Barlow Lens
- 1¼″ 20mm Eyepiece
- 1¼″ 6mm Eyepiece
- CBI Planetarium CD ROM


**Figure 2.1:** All components included in the Galileo FS-80Z Astronomical Telescope Kit. This image displays the main telescope tube, tripod, various eyepieces, Barlow lens, erecting eyepiece, Mars-Eye electronic finderscope, and the planetarium software CD.


**Figure 2.2:** The Galileo FS-80Z optical tube assembly mounted on its altitude azimuth yoke mount and fully adjustable metal tripod. This shows the telescope ready for observation.


**Figure 2.3:** The 1¼″ 6.8mm - 16mm Bonus Zoom Eyepiece. This eyepiece allows for variable magnification without needing to swap eyepieces.


**Figure 2.4:** The 1¼″ 3x Astroscopic Barlow Lens. This accessory triples the magnification of any eyepiece it is used with, as illustrated by the moon images.


**Figure 2.5:** The 1¼″ 1.5x Bonus Erecting Eyepiece. This eyepiece corrects the image orientation, making the telescope suitable for terrestrial viewing, as shown with the bird images.

## 3. Setup Instructions

Follow these steps to assemble your Galileo FS-80Z telescope:

1. **Tripod Setup:** Unfold the pre-assembled metal tripod. Extend the legs to your desired height and secure them. Ensure the accessory tray is properly attached and stable.
2. **Mount Assembly:** The altitude azimuth yoke mount is integrated with the tripod. Ensure all locking mechanisms are secure.
3. **Attach Optical Tube:** Carefully place the 800mm x 80mm Optical Tube Assembly (OTA) onto the yoke mount. Secure it using the provided fasteners. Ensure the tube is balanced.
4. **Install Finderscope:** Attach the Galileo Mars-Eye Electronic Finderscope to its designated bracket on the optical tube.
5. **Insert Eyepiece:** Loosen the thumbscrew on the 1¼″ Helical Rack & Pinion Focuser. Insert your chosen

eyepiece (e.g., 20mm for initial wide-field viewing) into the focuser. Tighten the thumbscrew gently to secure it.

6. **Power On Finderscope:** If your Mars-Eye Electronic Finderscope requires batteries, install them and power it on.

> **Note:** Always handle optical components with care. Avoid touching lens surfaces directly.

## 4. Operating Instructions

Once assembled, follow these steps to operate your telescope:

1. **Align Finderscope:** Before observing, align the Mars-Eye Electronic Finderscope with the main telescope. Point the main telescope at a distant, stationary object (e.g., a distant tree or building) during daylight hours. Look through the main telescope's eyepiece and center the object. Then, look through the finderscope and adjust its alignment screws until the red dot (or reticle) is also centered on the same object.
2. **Targeting Objects:** Use the Mars-Eye Electronic Finderscope to quickly locate celestial objects. Once the object appears in the finderscope's view, look through the main telescope's eyepiece.
3. **Focusing:** Use the 1¼″ Helical Rack & Pinion Focuser to bring the image into sharp focus. Turn the focusing knob slowly until the image is clear.
4. **Changing Magnification:**
    - **Eyepieces:** To change magnification, swap eyepieces. The 20mm eyepiece provides lower magnification and a wider field of view, ideal for locating objects. The 6mm eyepiece provides higher magnification for detailed views.
    - **Zoom Eyepiece:** The 6.8mm - 16mm Zoom Eyepiece allows you to smoothly adjust magnification within its range without changing eyepieces. Rotate the barrel to zoom in or out.
    - **Barlow Lens:** Insert the 3x Astroscopic Barlow Lens into the focuser first, then insert any eyepiece into the Barlow lens. This will triple the magnification of the eyepiece. For example, a 20mm eyepiece with the 3x Barlow will provide the magnification of a 6.67mm eyepiece.
5. **Terrestrial Viewing:** For observing land objects, use the 1.5x Erecting Eyepiece. This accessory corrects the inverted image produced by the telescope, making it suitable for daytime use. Insert it into the focuser before your chosen eyepiece.
6. **Altitude Adjustment:** Use the slow motion altitude adjustment rod for precise vertical tracking of celestial objects.

> **Caution:** Never look directly at the sun through your telescope or finderscope without a certified solar filter. Permanent eye damage will result.

## 5. Maintenance

Proper care will ensure the longevity and performance of your telescope:

- **Lens Cleaning:** Dust on the objective lens or eyepieces should be removed with a soft brush or compressed air. For smudges or fingerprints, use a specialized optical cleaning solution and a microfiber cloth designed for optics. Apply solution to the cloth, not directly to the lens.
- **Storage:** When not in use, store the telescope in a dry, dust-free environment. Replace all lens caps to protect the optics.
- **Tripod and Mount:** Periodically check all screws and bolts on the tripod and mount for tightness. Do not

overtighten.

- **Avoid Extreme Temperatures:** Do not expose the telescope to rapid temperature changes, which can cause condensation on optical surfaces.

## 6. Troubleshooting

Here are solutions to common issues you might encounter:

| Problem | Possible Cause | Solution |
|---|---|---|
| Image is blurry or out of focus. | Incorrect focus setting. | Adjust the focuser knob slowly until the image is sharp. |
| Cannot find objects easily. | Finderscope is not aligned with the main telescope. | Align the finderscope during daylight hours as described in Section 4. |
| Image appears dim. | High magnification eyepiece used in low light conditions; light pollution. | Use a lower magnification eyepiece (e.g., 20mm). Observe from a darker location away from city lights. |
| Image is upside down or reversed. | Normal for astronomical telescopes; 1.5x Erecting Eyepiece not used for terrestrial viewing. | This is normal for astronomical viewing. For terrestrial viewing, use the 1.5x Erecting Eyepiece. |

## 7. Specifications

Key specifications for the Galileo FS-80Z Astronomical Telescope Kit:

- **Optical Design:** Refractor
- **Aperture:** 80mm
- **Focal Length:** 800mm
- **Focal Ratio:** f/10
- **Optical Tube Assembly:** Diffraction limited (λ/4)
- **Mount Type:** Altitude Azimuth Yoke Mount with Slow Motion Altitude Adjustment Rod
- **Tripod:** Fully Adjustable Heavy Duty, Pre-assembled Metal Tripod with Accessory Tray
- **Finderscope:** Galileo Mars-Eye Electronic Finderscope
- **Focuser:** 1¼″ Helical Rack & Pinion Focuser
- **Eyepieces Included:**
  - 1¼″ 20mm Eyepiece
  - 1¼″ 6mm Eyepiece
  - 1¼″ 6.8mm - 16mm Bonus Zoom Eyepiece
- **Accessories Included:**
  - 1¼″ 3x Astroscopic Barlow Lens
  - 1¼″ 1.5x Bonus Erecting Eyepiece
  - CBI Planetarium CD ROM
- **Product Dimensions:** Approximately 36 x 36 x 60 inches (assembled)

- **Item Weight:** 15.67 pounds
- **Model Number:** FS-80Z

## 8. Warranty and Support

For warranty information or technical support regarding your Galileo FS-80Z telescope, please refer to the documentation included in your product packaging or visit the official Galileo website. You may also contact customer service through the retailer where the product was purchased.
For additional resources and information, you can visit theGalileo Store on Amazon.

### Related Documents - FS-80Z

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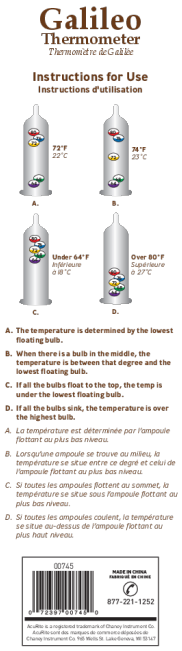
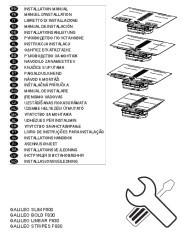
|---|---|
|  | Galileo Thermometer Instructions for Use<br>Instructions on how to read a Galileo thermometer, explaining the relationship between floating bulbs and temperature. Includes English and French text. |
|  | Galileo Hob Extractor Installation Manual<br>This document provides installation instructions for Galileo hob extractors, including models SLIM F600, BOLD F830, LINEAR F830, and STRIPES F830. It covers safety precautions, parts identification, assembly steps, dimensions, and electrical connections. |
|  | GNSS Raw Measurements on Android Devices: IPIN 2018 Tutorial<br>Explore how to use GNSS raw measurements on Android devices with this tutorial from IPIN 2018. Learn about Galileo, GPS, and advanced positioning techniques for developers and researchers. |
|  | Meade Infinity Series Telescopes: Instruction Manual for 80mm, 90mm, 102mm Models<br>User manual for Meade Infinity Series 80, 90, and 102mm alt-azimuth refracting telescopes. Covers setup, component identification, operation, safety, and observing tips for amateur astronomers. |

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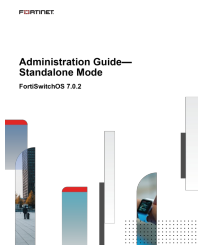
|  | [KEYENCE FS-N10 Series Digital Fiber Sensor Instruction Manual]<br>Instruction manual for the KEYENCE FS-N10 Series Digital Fiber Sensor, covering quick start, cabling, mounting, calibration methods, user-friendly functions, configuration, error displays, and specifications. |
|  | [FortiSwitchOS 7.0.2 Administration Guide: Standalone Mode]<br>Comprehensive guide for configuring FortiSwitch devices running FortiSwitchOS 7.0.2 in standalone mode, covering system, network, security, and advanced features. |