

# Oasis Focuser

## Clutch Electronic Focuser

### Notes for Feather Touch Focuser

Version 1.1

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## 1. Introduction

Typically Oasis Focuser is installed in the coarse-tuning knob position of a telescope, but for a Feather Touch focuser it cannot be installed in the coarse-tuning knob position. However, it can be installed in the fine-tuning knob position on the dual-speed knobs.

Compared to the coarse-tuning knob, the Feather Touch fine-tuning knob has a reduction ratio of about 10 times. Therefore, when the same electronic focuser is installed in the fine-tuning knob position, the movement speed of the telescope focuser will be 10 times slower than when it is installed in the coarse-tuning knob position.

## 2. Calculation

We will take the example of installing the Oasis Focuser at the fine-tuning knob of the FTF3545 for calculating and analyzing the movement speed of the telescope focuser. The following information could be reference for users.

- 1、 The motor used by Oasis Focuser has a speed of 2000 steps/second.
- 2、 According to data obtained from users, the movement speed of FTF3545 is about 12,500 steps/mm, or 0.08  $\mu\text{m}/\text{step}$ .
- 3、 Calculation shows that the movement speed is about 6.25 seconds/mm or 0.16 mm/second.

Based on our experience, when using software such as NINA for auto-focusing, the step size is set to about 0.1 mm. So the time required for each focusing-step (not the motor step) is about 0.6 seconds. This is an acceptable duration of time for auto-focusing.

## 3. Conclusion

In summary, when Oasis Focuser is installed in the fine-tuning position, the movement speed of the telescope focuser is only 1/10 of that when it is installed in the coarse-tuning position. However, for software auto-focusing, this movement speed is sufficient. If the telescope focuser needs to be moved quickly, the clutch function of the Oasis Focuser can be used. We can switch it to OFF state and then turn the knobs manually.

## 4. Option

We have another motor which has a speed that is three times that of the standard motor. Therefore,

when using this motor, the movement speed of the telescope focuser will be three times faster. However, it is not suitable for installation at the coarse-tuning position because its load capacity is smaller than that of the standard motor. The standard motor can be used for installation at the coarse-tuning position. Apart from this, these two motors have almost no other differences.

An important feature of Oasis Focuser is that it is very easy to share between different telescopes. Therefore, if you want to choose Oasis Focuser for your Feather Touch focuser, we strongly recommend choosing the standard version so that it can still be used for installation at the coarse-tuning position of other telescopes when needed. Unless you are particularly concerned about movement speed, you can choose the 3x speed version.

**Unless otherwise required by you, we'll deliver the standard version of Oasis Focuser when you order the product.**