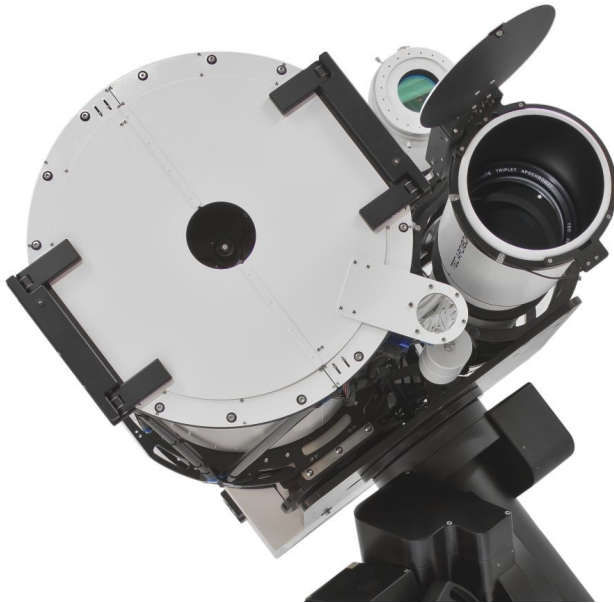# Baader Telescope Flap System (TFS)
Instruction Manual
February 2015 English revision 1.2

Designed, Manufactured, Assembled and Distributed by

Table of content

Introduction

The Baader Telescope Flap System (TFS) is a single or double flap system for refractor or mirror telescope systems. It's main purpose is to close the tube at the front end to prevent the telescope from getting dusty and dirty inside. It also prevents night dedicated telescopes with CCD Sensors on bigger telescope systems with many instruments for day and night observation from receiving sunlight while sun observation is in process. It can even carry filters or Baader AstroSolar® film if needed.

Every Baader TFS comes with the TFS controller. This controller includes a web interface which makes it easy for the customer to open and close the flaps from the existing PC web browser. If no PC is present or needed, the simple Keypad can be used in addition.

As the Baader TFS is web-interface based and does not need any installation, it can run under every operating system with a web browser (Firefox) installed. Using software tools allows to script the commands to fit our flaps into the existing work flow of your observatory.

Please contact us for any questions.

1. Baader TFS controller

Baader TFS controller, front side:

1.1   Jack for the Keypad

1.2   Service Switch
Disables the Panic Light sensors an allow to open the flap under normal daylight if service needs to be done. If the Service Switch is activated, you will see a warning information on the Web-interface.

Switch positions:

Left side: **ON**   Right side: **OFF**
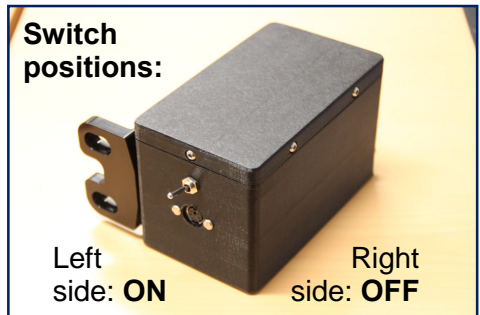
Baader TFS controller, back side:
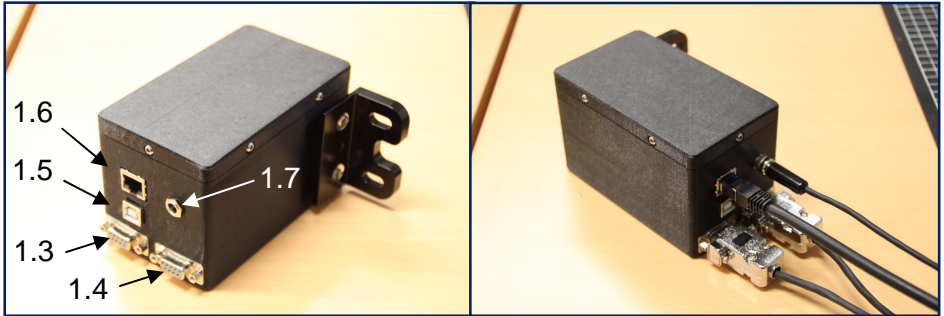
1.3   SubD connector for **Flap 1**

1.4   SubD connector for **Flap 2**
        Flap 2 only present for Mirror telescopes

1.5   USB Hub (for programming)
        Usually, no USB connection to the Box is needed. USB is not a reliable standard for scientific instruments.

1.6   LAN Hub
        connect to local network or via LAN cable direct to the PC

1.7   Power Jack for 12V/5A Power Supply
        included in the delivery

2. Baader TFS (for mirror telescope)

2.1   Flap 1
        With overlap to close the gap between two flaps.
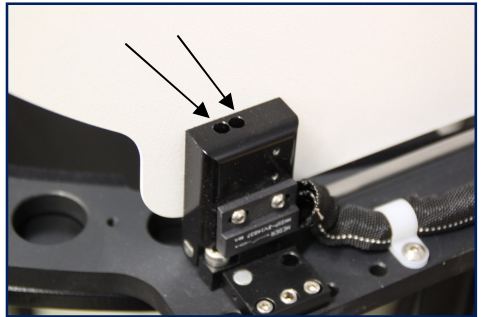   It will always open at first and close at second.

2.2   Flap 2

2.3   Light Panic Sensor 1 and 2
        There are two Sensors for security reasons and additionally
        because the flap is vignetting a part of the sky for each sensor.

2.4   Clutch
        In case of malfunction of the Flap you can open the clutch with a 2,5mm hex wrench and then close the flaps.

2.5   Keypad wired with 1m Cable

3. Installation

Please install the Device to your telescope if not already done according the special instruction which comes with the Flap.

4. Web Interface

4.1 Default Site

Screenshot Software Site 1

REMOTE CONTROLLED
TELESCOPE COVER

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CDK20:
Closed

| Open | Close | Stop |

4.1.1 Shows the current state

4.1.2 Button for Open, Close and Stop

4.1.3 Hide detail function

Hide details   Setup

Engines
Engine A: not closing
Engine B: not closing

4.1.4 Setup button to enter Site 2

Magnetic sensors
Flap A opened: 0
Flap B opened: 0
Flap A closed: 1
Flap B closed: 1

4.1.5 Details of the current state

Analog Inputs
Light sensor A: 518
Light sensor B: 517

Configuration
Service switch: off
Light limit: 750

4.1.6 Issue number of the firmware

Version 1.142 built on Sep 2 2014 at 18:50:57
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switch to Night Mode

4.1.7 Switch night and day mode

4.2 Setup Site

Screenshot Software Site 2

4.2.1   Name of the device can be set freely. For example CDK20 Flap. The Name can NOT contain spaces and special characters.

4.2.2   The Web Interface of the flap is installed in the box and do not need any installation. The default setting of the IP address is 192.168.2.178 / 255.255.255.0.
To connect to the Box with your PC directly or over a switch please change the IP Address of your PC to the default 192.168.2.177 / 255.255.255.0 Follow the instruction in the attachment

4.2.3   You can change the IP Settings in case you want to include the FLAP into your existing Network simply by changing the IP address and then switch on and of the box. To reconnect to the Box you have to change the PC to the new IP Address you choose for the box.

4.2.4   Motor overrun time settings cannot be changed by the user in order to ensure the proper function of the flap System

REMOTE CONTROLLED TELESCOPE COVER

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SETUP

« back to Telescope-Control

Name: CDK20

IP adress: 192.168.2.178

Netmask: 255.255.255.0

Default gateway: 192.168.2.1

Light Limit: 750

Overrun time for opening [ms]: 100

Overrun time for closing [ms]: 100

Engine timeout[s]: 30

Additional parameter:

submit

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switch to Night Mode

5. Factory Reset

In case you made a mistake while setting the IP Address to the Box and you can not reach the box anymore, please perform a factory reset

Turn off the TFS Controller, Press "open" and "close" buttons, turn power on, and hold "open" and "close" pressed for 15 seconds.

This will set the default values again. To reach the box after this you have to set your PC to the IP Address 192.168.2.177 / 255.255.255.0 according to the instruction in 4.2.2

6. Commands

If your box is successfully connected to your PC, you can have a look into the list of commands

List of commands available for automation and maintanance: Open, Close, Stop, Reset. These commands can be invoked by accessing of following link:

http://192.168.2.178/statusdata&Action=Open
… =Close
… =Stop
… =Reset