



Manual Dew Controller User Manual

<http://www.StarfieldOptics.com>

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Congratulations on your purchase of the 'Starfield Optics' manual dew controller (SF-DC4). We hope your device will provide for many years of happy 'dew free' observing. The SF-DC4 is a premium 4 channel intelligent controller with four individually controllable outputs which accept many different brands of dew removal tapes and pads. Please read this documentation carefully to ensure optimum performance of your device.

Warranty

Starfield Optics warrants that this product will be free from defects for a period of 12 months following purchase. This warranty is in addition to any statutory rights which may exist in your jurisdiction. This warranty only applies to use as described in this document and also for use as an astronomical dew removal device. No other use is recommended or supported by Starfield Optics. Any user repair attempts other than described in the troubleshooting section of this document or directed by Starfield Optics will invalidate your warranty. Starfield Optics and its affiliates disclaim any responsibility for any consequential damage or injury which may result from use of this device except as described in this document.

Connecting the device

Plug the cigar plug into a suitable output which delivers 12-15v DC Centre Positive. It is important that you check the polarity of your power supply before connecting. A mechanism is installed to protect against accidentally reversing the polarity for a short period only.

Your power supply MUST be capable of delivering the current (measured in Amps) which is required by your tapes/pads. Ensure that the output voltage of your power supply does not exceed the recommended maximum rating of your heater tapes/pads. Refer to the manufacturer's documentation to determine the rating for individual Dew heater strips and pads. Your unit is fused at 8 amps. Your heater tape combination must not draw more than this amount of current. For example, a 14" SCT dew heater stripe can draw as much as 4.1 amps on its own. Please check that your chosen combination of Dew heater strips and tapes stays below the magic 8 amps. If you do draw more power than this and blow the 8-amp fuse please refer to the 'troubleshooting' section later in this document for

the fuse replacement procedure. Under no circumstances should you replace the fuse with one rated higher than 6amps. This is likely to cause damage to the unit and will void your warranty. Should you require to draw more than 8 amps you will need multiple dew controllers to share the load.

Connecting a Dew Heater Tape/Pad.

The SF-DC4 utilizes “RCA” type plugs. Dew heater strips will require this type of plug to work with the SF-DC4. Plug your dew heater to a chosen outlet on the SF-DC4. You may choose any output. It is not necessary to plug in and out in any order. We recommend that you turn off the SF-DC4 before connecting or disconnecting heaters.

Adjusting the Output

Turn the control knob corresponding to the heater tape you wish to adjust. The output of the red LED will change to indicate the level of power being output. Turning clockwise increases the output while turning anticlockwise decreases the power output to that channel.

General Dew Removal Advice.

Dew removal strips do not generally apply enough heat to cause degradation of seeing under normal conditions. However, we do recommend that you should not leave your heater tapes on full power all of the time. On good nights you may leave the heaters on at about 20% to keep your optics dew free. Experimentation will determine the minimum power required to keep your telescopes free of dew given your location. The developers have found that a setting of around 50% is enough to keep optics dew free on even a relatively damp and still night.

Troubleshooting

Q: My SF-DC4 does not operate at all.

A: Ensure that you have connected the device to an appropriate power supply. See ‘Connecting the Device’ earlier in this document. Disconnect and Reconnect the device.

See Fuse replacement below

Q: Fuse Replacement.

A: The 8 amp protection fuse may have blown. This fuse is located inside the cigar plug which connects to the power outlet. Procure a suitable replacement from your local electrical retailer. To replace unscrew the silver colored knurled ring at the tip of the cigar plug. Remove this taking care not to lose the tip inside the knurled ring. You will be able to remove the fuse inside and fit a replacement. Replace the knurled ring and tip carefully. When fitted correctly you should be able to push the tip in slightly with a firm press of your thumb.

Q: My SF-DC4 appears to operate properly but my heater strips or tapes are not getting warm.

A: Note that heater tapes are not designed to get very warm. In fact when operated properly they may not even feel warm to the touch. In any case check that the heater tapes are plugged in securely. Dew heater tapes may also be quite fragile. Ensure that the tape is not damaged in any way according to the procedure advised by the tape manufacturer.

If you feel confident to do so you may measure the voltage of your heater output with a good quality voltmeter. With the heater output turned up full you should be able to measure a voltage corresponding to the full output voltage of your power supply. This voltage will decrease as the corresponding knob is decreased and will read close to 0v when turned fully anticlockwise. Take care not to create a short circuit by creating a direct connection between the positive and negative output on any channels. This may result in damage to your power supply. Do not undertake this procedure unless you are qualified to do so.

If the above does not solve your problem, contact us at:

www.starfieldoptics.com

or by contacting your retailer.