



The Telescope Control System (TCS) which automates the work of the equatorial mounts or the **Focuser**. The TCS use **Stepless(Vector) Algorithm** and works with practically any mount operated by a stepper motor. It supports a wide range of Gear Ratio and Speed of axes, Soft acceleration and deceleration, the Temperature and Zero Position sensors, allowing users to operate their telescope mount through Astronomical programs and SynScan hand controller.

Specifications		<i>Firmware v6.0.1200, Board rev1.1</i>
Input Voltage		10...28 V
Maximum Input Current		2 A
Motor drivers Voltage		equal the input voltage
Motor Current		0,1...1,25 A
Soft acceleration and deceleration		0...10 sec (constant acceleration)
Gear ratio (non limited)	Mount Mode	1:1...1:2000 (recommended)
	Focuser Mode	0.001...20 mm/rev
Maximum Slew Speed	Mount Mode	2500 x sidereal (10°/sec)
	Focuser Mode	10 mm/sec
Non-linearity correction		four coefficients
Support (parallel operation)		Eqmod Guiding (only PC) SynScan Controller
Temperature Sensor		DS18B20 type
Zero Position Sensor		SPST, Open Collector
Operating temperature		-30...+50°C
Dimensions		87 x 54 x 23 mm (aluminum)
Weight		0,1 kg / 0,22 lbs



DC IN socket

2.1mm*5.5mm type
 Central contact plus
 Side contact minus
Protected against polarity reversal

Hand Controller (HC) Socket

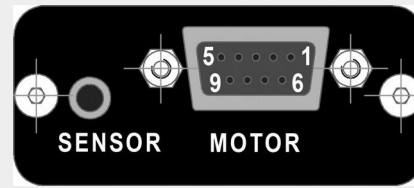
1. +8v (200mA max.)
 2. Rx
 3. Tx
 4. Gnd
Compatible with SynScan Controller

USB Socket

Type B, Connection to PC
 EQDriveConfig, FocusDriveConfig,
 Eqmod ASCOM, Indi

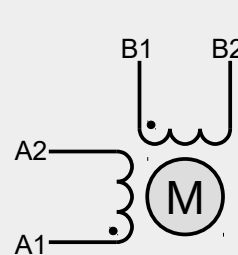
LED Power Indicator (Top Side)

10...24V Smooth light
 9...10V Blinking light
 < 9V No light

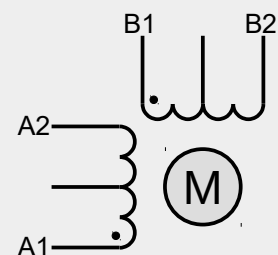


Motor Socket

1. RA_A2 coil
2. RA_A1 coil
3. Gnd (shield)
4. DEC/FOC_B2 coil
5. DEC/FOC_B1 coil
6. RA_B1 coil
7. RA_B2 coil
8. DEC/FOC_A2 coil
9. DEC/FOC_A1 coil



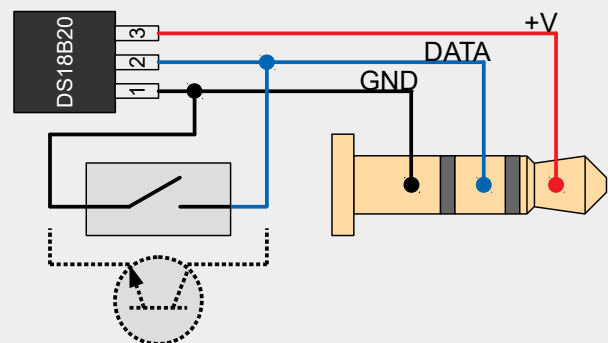
Bipolar Stepper Motor

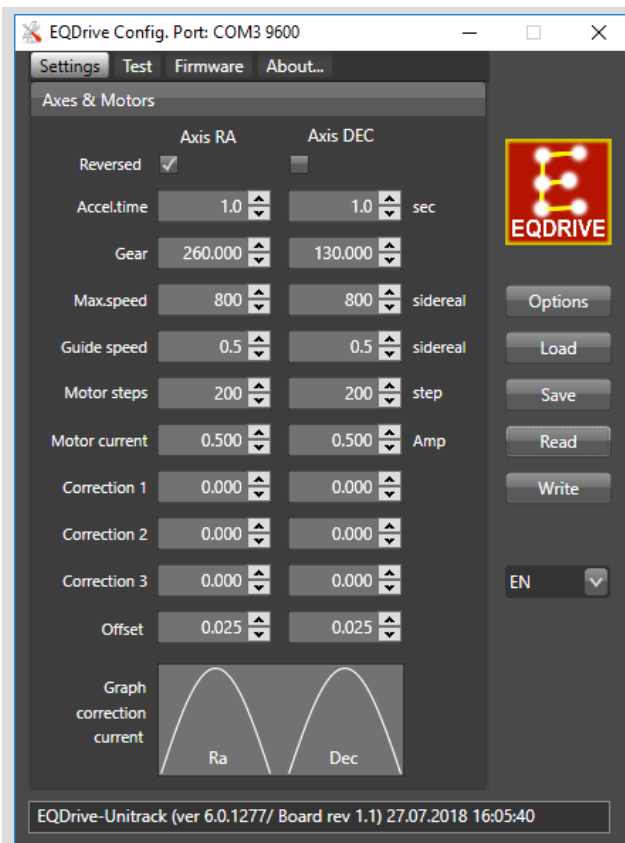


Unipolar Stepper Motor

Sensor Socket (only Focuser Mode)

Jack 3,5mm type
 Temperature Sensor and Zero Position

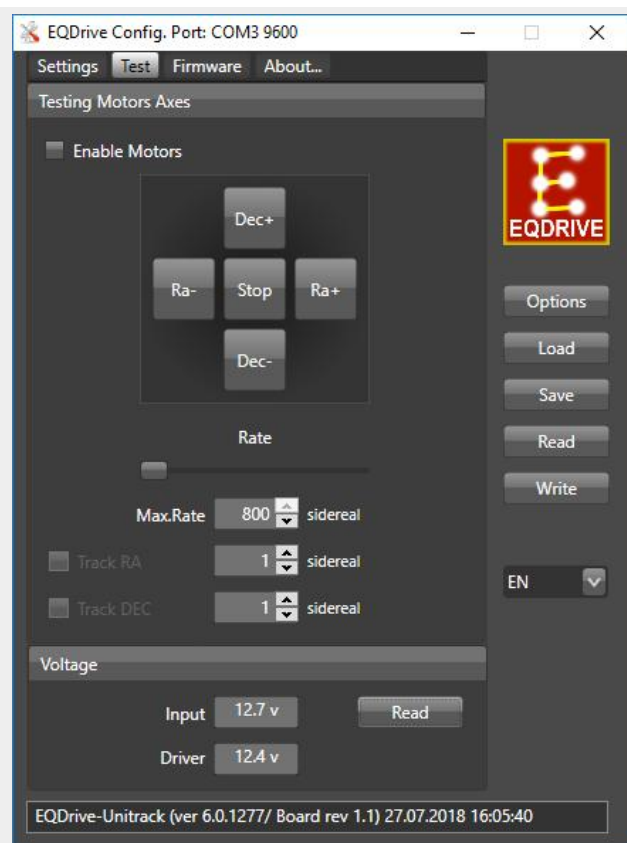




Available Settings (Mount Mode)

Note:

1. Select the Options to set the Serial Port
2. The Read the device settings
3. Adjust the parameters that satisfy to your motor and the mount. The Write them in the device
4. The Offset must be tuned first, to minimize the non-linearity of rotation of the motor shaft.
5. Always do the Read and Write to change settings
6. Use the Load and Save to store and change settings from the file



Testing the Device (Mount Mode)

Note:

1. Enable Motors
2. Set the Rate. Press the buttons to move at the set rate
3. For a constant speed, set the Track RA and Dec
4. The Read the supply voltage



Firmware Update from File (Mount Mode)

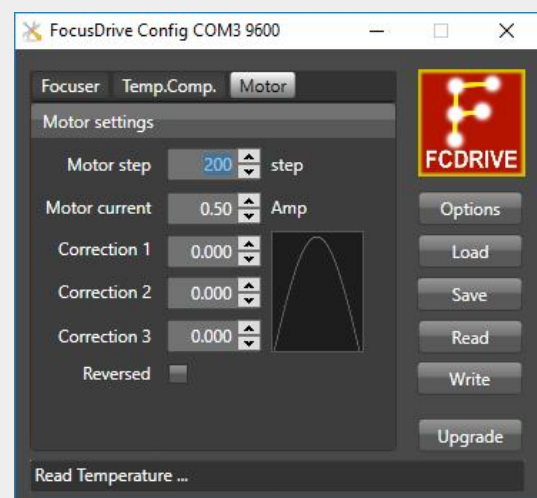
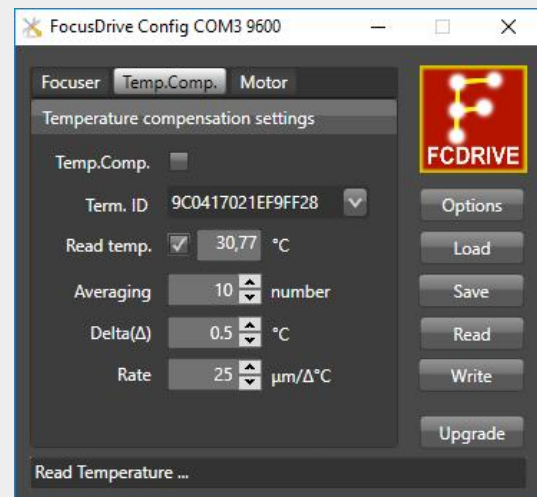
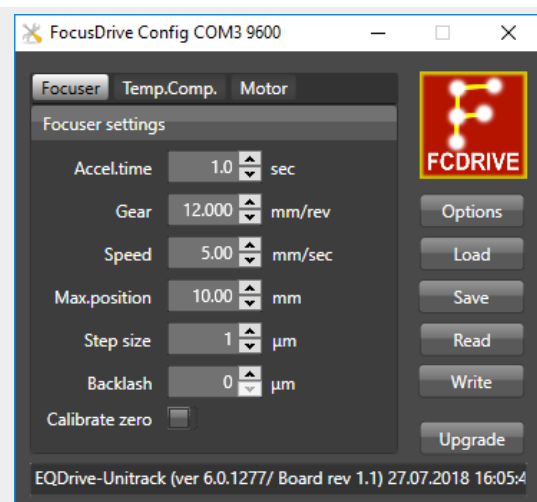
Note:

1. The Update to select the File. The update will start automatically.
2. Settings do not change when updating

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Team

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Available Settings (Focuser Mode)