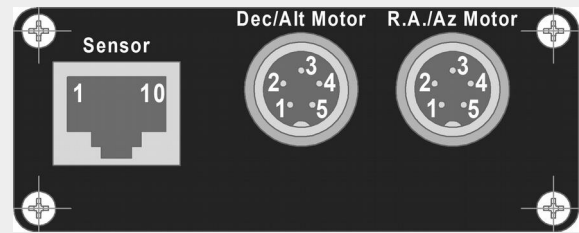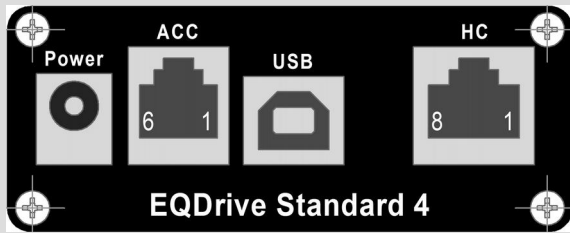# eqdrive

Standard 4

The Telescope Control System (TCS) automates the work of the equatorial, German and Fork mounts. 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, allowing users to operate their telescope mount through Astronomical programs and SynScan hand controller.

Specifications	*Firmware v6.0.1200, Board rev4.1*
Input voltage	10...28V
Maximum Input Current	5A
Motor drivers voltage (DC/DC boost)	30V[1] [1]*with an input voltage 10...28V up to a motor current 1.25A, more, DC/DC boost is disabled*
Motor Current	0,1...2,0A
Soft acceleration and deceleration	0...10sec (constant acceleration)
Gear ratio (non limited)	1:1...1:2000 (recommended)
Maximum Slew Speed	2500 x sidereal (10°/sec)
Non-linearity correction	four coefficients
Support (parallel operation)	Eqmod Guiding (ST-4 Port and PC) SynScan Controller or Bluetooth
Operating temperature	-30...+50°C
Dimensions	100 x 74 x 29mm (aluminum)
Weight	0,19kg / 0,42lbs

eqdrive

EQDrive Standard 4

Power socket
2.5mm*5.5mm type
Central contact plus
Side contact minus
Protected against polarity reversal

The Accessories (ACC) socket
Mode Auto Guide (ST-4)
1. NC
2. Gnd.
3. RA+
4. DEC+
5. DEC-
6. RA-
Guide Speed is recording in to the flash memory of the device with the EQDriveConfig software.
Mode the Hand Control
1. RA-
2. Gnd
3. DEC+
4. MODE
5. DEC-
6. RA+

USB Socket
Type B, Connection to PC
EQDriveConfig, Eqmod ASCOM, Indi

Hand Controller (HC) Socket
1. Gnd
2. +5V (200mA max.)
3. NC
4. Gnd
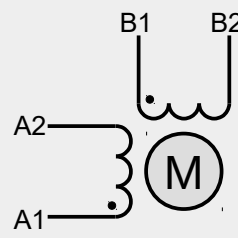5. Rx
6. Tx
7,8. +8V (200mA max.)
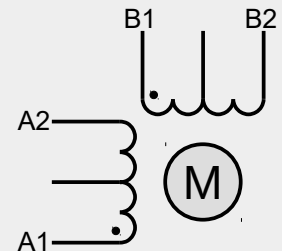*Compatible with SynScan Controller*

RA/AZ Motor Socket
DEC/ALT Motor Socket
(Coil Configurations)
1. A1 coil
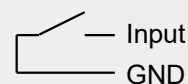2. A2 coil
3. NC
4. B1 coil
5. B2 coil

Bipolar Stepper Motor

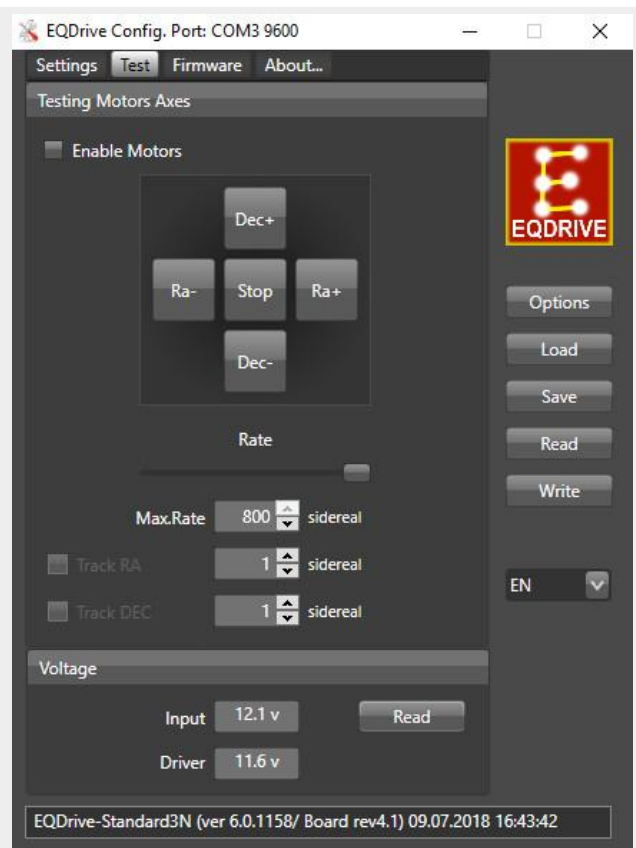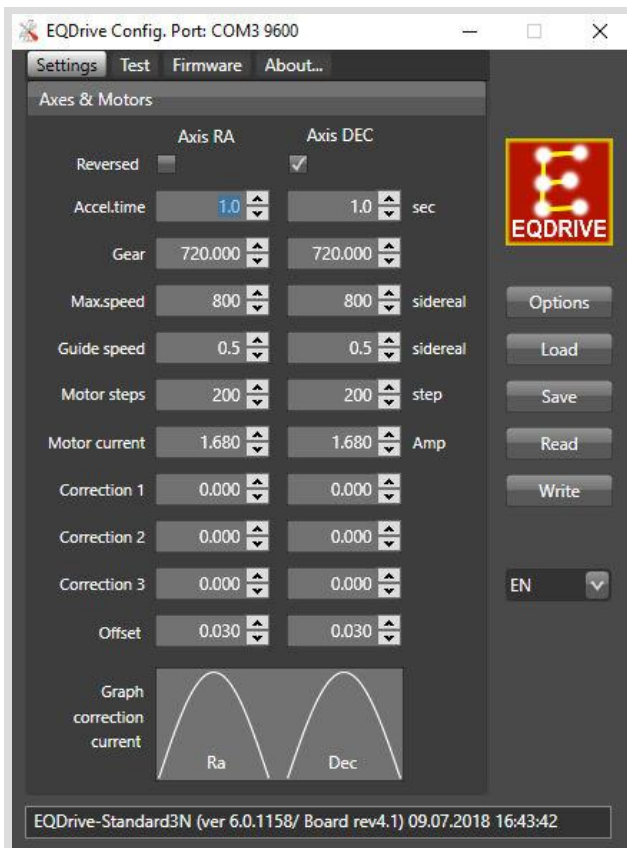**Unipolar Stepper Motor**

Sensor Socket (in development state)
1. +5V (output 50mA max.)
2. Dec_Limit+
3. Dec_Home
4. Dec_Limit-
5. GND
6. +5V (output 50mA max.)
7. RA_Limit+
8. RA_Home
9. RA_Limit-
10. GND

— Input
— GND

*Internal pull-up resistor 3.6kOhm

LED Power Indicator (Top Side)
10...28V Smooth light
9...10V Blinking light
<9V No light

EQDrive-Standard3N (ver 6.0.1158/ Board rev4.1) 09.07.2018 16:43:42

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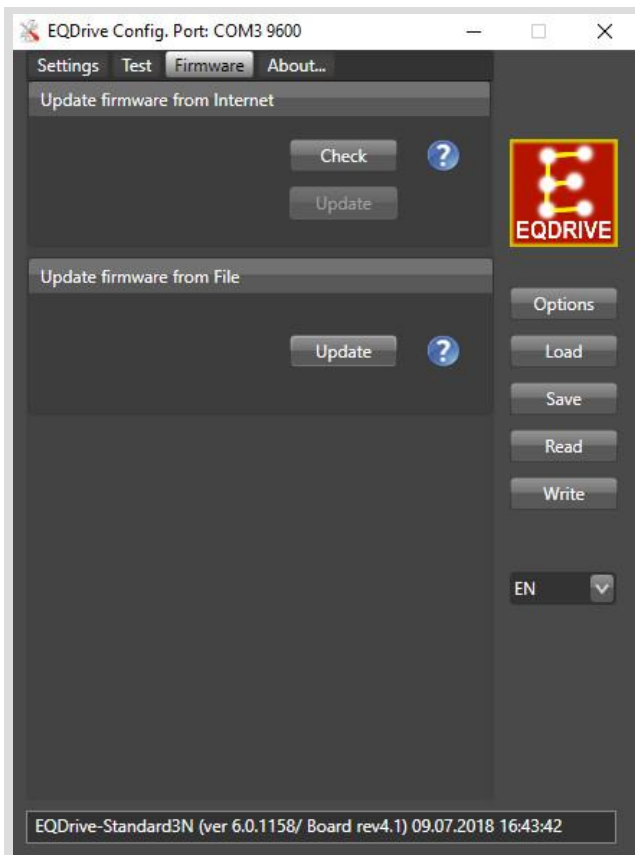
Available Settings

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

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

EQDrive-Standard3N (ver 6.0.1158/ Board rev4.1) 09.07.2018 16:43:42

Firmware Update from File

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