



## #93514 - Motor Drive – AstroMaster, Powerseeker, CG-2 & CG-3

To allow tracking of celestial objects, Celestron offers an optional single axis motor drive for the CG-2 and CG-3 EQ Mounts. Once polar aligned, the motor drive will accurately track objects in Right Ascension as they move across the sky. Only minor adjustments in Declination will be necessary to keep celestial objects centered in the eyepiece for long periods of time.

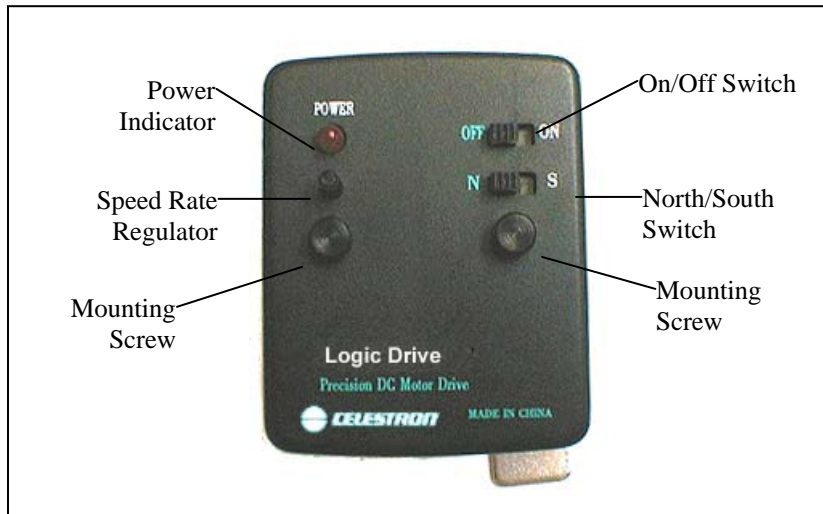


Figure 1

### Operation Instructions:

The Motor Drive is powered by one 9v alkaline battery. This can power the drive for up to 40 hours, depending on motor speed setting and ambient temperature. To replace the battery:

1. Unscrew the two mounting screws from the motor cover plate (see figure 1).
2. Remove the cover plate from the motor to reveal the battery compartment.
3. Attach the battery to the wire harness connected to the motor.
4. Replace the motor cover plate and mounting screws.

The Motor Drive is equipped with a *speed rate regulator* (see figure 1) that allows the motor drive to track at a faster or slower speed. This is useful when observing non-stellar objects like the moon or Sun, which travel at a slightly different rate than the stars. **Never observe the Sun without using a proper solar filter with your telescope.** To change the speed rate of the drive motor:

1. Slide the On/Off switch to the "On" position. The red power indicator light will illuminate.
2. Turn the speed rate regulator knob clockwise to increase the speed of the motor and counterclockwise to decrease the speed.

To determine the proper rate of speed, the telescope should be roughly polar aligned to Polaris. Find a star on the celestial equator (approximately  $0^\circ$  declination) and center it in the eyepiece. For more accuracy, use a cross hair eyepiece. With the drive off, notice which direction the star drift across the field of view of the eyepiece. This direction is West. If using a cross hair eyepiece, rotate the eyepiece so that one of the cross hairs is parallel to the direction the star drifts. Now turn the drive on and let the telescope track for 1 or 2 minutes. If after a few minutes, the star drifts to the West, the motor is tracking too slowly. Turn the

speed rate regulator clockwise to increase the motor speed. If, however, the star is drifting East, then the motors are tracking too fast. Turn the speed rate regulator counterclockwise to decrease the motor speed. Repeat this process until the star remains centered in the eyepiece for several minutes. Remember to ignore any star drift in declination.

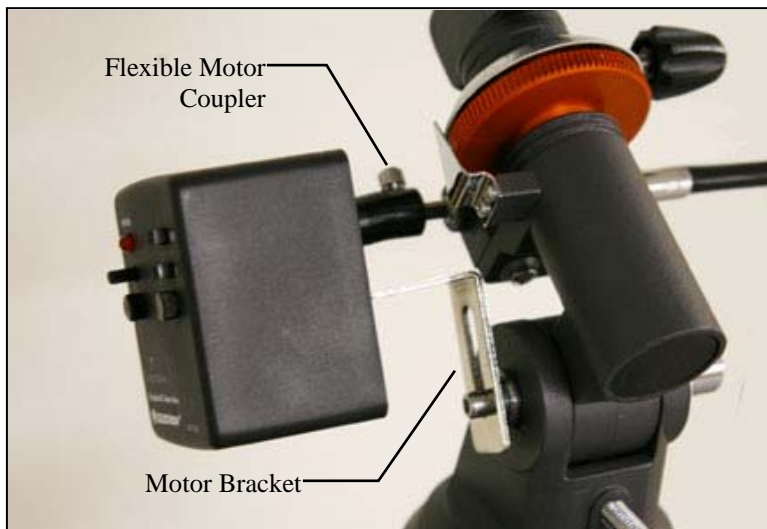
The Motor Drive is also equipped with a *North/South switch* that can reverse the direction of the motor for Southern Hemisphere use. Simply slide the switch to "N" when operating in the Northern Hemisphere and "S" when operating in the Southern Hemisphere.

## **Installing the Motor Drive to the Mount**

The Logic Drive motor attaches to the CG-3 EQ mount via a flexible coupler that mounts to the right ascension (R.A.) slow motion shaft and a motor bracket that holds the motor in place. The motor drive comes two brackets; one for the CG-2 mount and one for the CG-3.

To install the mounting bracket:

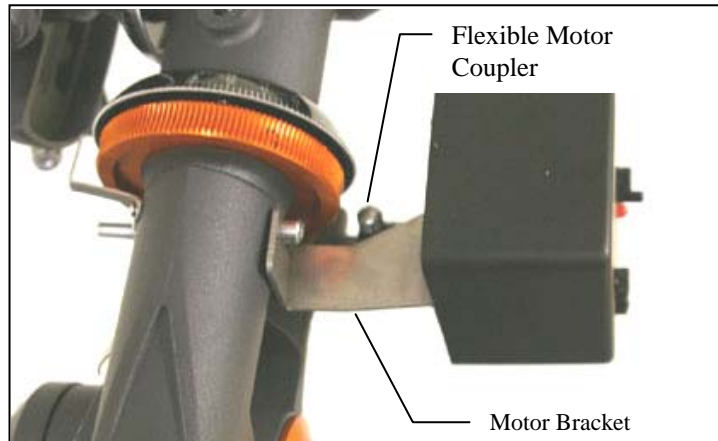
1. Remove the two mounting screws from the front of the motor cover. See Fig 1
2. Remove the motor cover from the motor.
3. Remove the nuts and screws that hold the bracket to the motor housing.
4. Use the same nuts and screws to attach the desired bracket (for the CG-2 or CG-3 mount) as shown in Figure 2.
5. Replace the mount cover.



**Fig 2 – Motor drive shown on CG-2 Mount**

To install the motor drive:

1. Remove the slow motion cable from the R.A. slow motion shaft.
2. Remove the 3/8" long Allen head screw located on the side of the polar shaft. For the CG-2 mount it is located opposite of the latitude scale. For the CG-3 mount it is located on the side of the polar housing. See figure 2 & 3.
3. Align the slotted hole on the mounting bracket with the hole on the side of the mount.
4. Place the Allen head screw through the motor bracket and thread it into the hole on the side of the mount. Tighten the screw with an Allen wrench.
5. Slide the open end of the flexible motor coupler over the R.A. shaft. Make sure that the screw on the flexible motor coupler is positioned over the flat portion of the R.A. shaft. Use the large spur gear on the opposite side of the R.A. worm shaft to rotate the R.A. shaft until the flat portion is aligned with the screw on the motor coupling.
6. Tighten the motor coupler screw with a flathead screwdriver.



**Fig 3 – Motor drive shown on CG-3 Mount**

Warranty: One year limited warranty. See the Celestron Accessory Catalog (#93685) for complete warranty details or contact Celestron  
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