



## E-237 STARTER LOCKOUT

The Precision Governor Starter Lockout provides protection against three forms of starter abuse:

1. Attempting to start a running engine.
2. Failure to disengage the starter when the engine starts.
3. Release and rapid re-engagement of the starter during start.

This protection is particularly valuable in noisy environments, or when the operator is remotely located from the engine he is controlling.

### Installation and Hook-up

The E-237 can be mounted in any attitude. The printed circuit board is conformal coated for protection against moisture, dirt and vibration. However, the unit should be sheltered from pressure washing, rain and excessive heat (over 160 degrees F). There are five wires to connect.

1. The *yellow* wire is *power in*, and connects the ignition switch.
2. The *brown* wire is *ground*, and connects to battery (-), or a good engine ground point.
3. The *green* wire is *speed signal*, and connects to "tach" lead, or coil (-), or other available speed signal.
4. The *black* wire is *start*, and connects to starter lead on ignition switch.
5. The *red* wire is *output*, and goes to starter relay.

#16 gauge wire is recommended for all wiring.

### Description of Operation

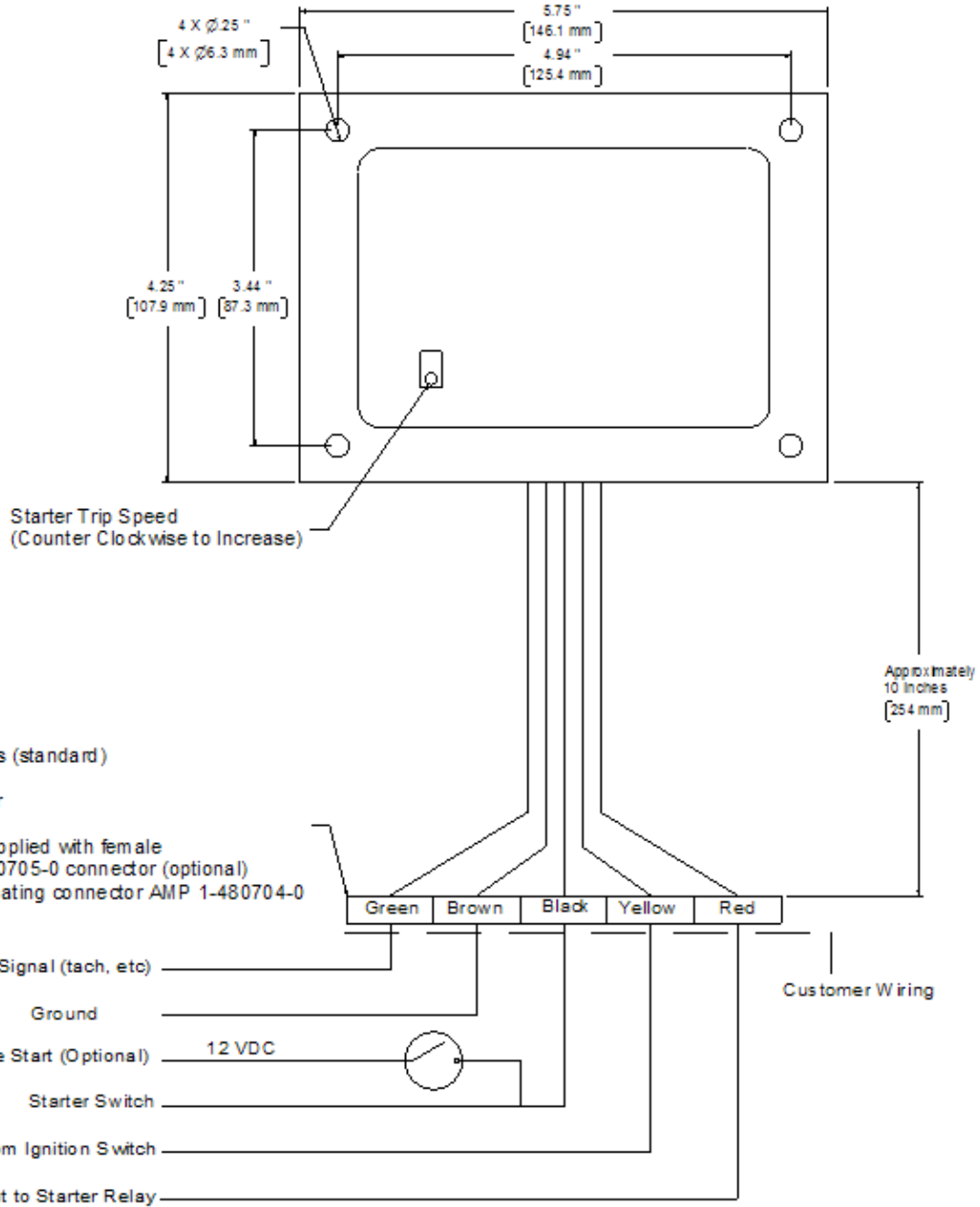
1. Turn ignition switch on. Power is applied to E-237 via *yellow* wire, and unit is cleared and ready to go.
2. Turn key to start, and signal is sent to the E-237 via the *black* wire, causing power to be sent to the starter relay via the *red* wire. The engine should now crank.

**NOTE:** Should the start signal to the E-237 be interrupted and rapidly re-applied the E-237 will delay starter re-engagement for 3 seconds, to permit the engine to stop turning.

When the engine starts, and begins to turn faster than cranking speed, the E-237 will shut off power to the starter relay even if the key is held in the start position. This generally takes place between 450-550 RPMs.

Once the engine has been started, releasing and returning the key to the "start" position will have no effect. The starter cannot re-engage until the engine has been stopped, and the key returned to "off."

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