

# MPI601 Series Self Powered CD Ignition Installation and Operation Instructions

MPI-02108N  
Revised 10-02



Please read the following information before installing. A visual inspection of this product for damage during shipping is recommended before mounting. It is your responsibility to have a qualified person install this unit and make sure it conforms to NEC and local codes.

## GENERAL INFORMATION

WARNING

BEFORE BEGINNING INSTALLATION OF THIS MPI PRODUCT

- ✓ Disconnect all electrical power to the machine.
- ✓ Make sure the machine cannot operate during installation.
- ✓ Follow all safety warnings of the machine manufacturer.
- ✓ Read and follow all installation instructions.



### Description

A high energy magnet, attached to the flywheel passes by a permanently mounted generator coil facing the flywheel. Each time the magnet passes by the face of the generator coil, a capacitor is charged to peak voltage.

A trigger magnet is also mounted on the flywheel and faces off to a trigger coil, located on the engine. The trigger coil is positioned so that the magnet will pass the trigger coil and cause the SCR to discharge the storage capacitor into the ignition transformer located near the spark plug.

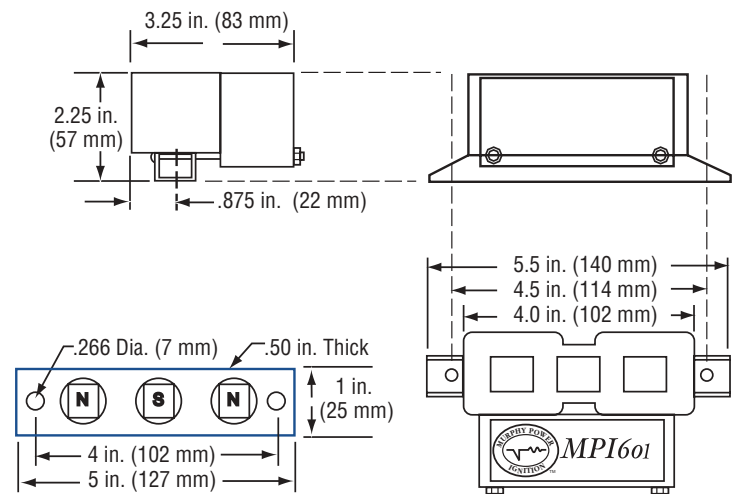
Long, maintenance free service is assured because there are no wearing parts. All electronic parts are encapsulated to protect against moisture and physical damage.

### Installation

1. Locate a convenient place on the engine to install the Electronic Module/Generator (EMG). The EMG must be mounted so that it is positioned facing the side of the flywheel. (See diagram on following pages).
2. The EMG must be positioned with sufficient clearance from the flywheel to allow the magnet bar (which is to be mounted on the flywheel) to pass between the EMG and the flywheel with a nominal 0.030 inch gap between the magnet bar and the EMG.

3. After positioning the EMG, rotate the engine flywheel to the running spark position. Now rotate the flywheel an additional 30 degrees in the advance direction or against normal rotation. Mark the flywheel under the EMG and install the magnet bar on the flywheel at this location making sure the three magnets are aligned as much as possible with the three poles of the EMG. The air gap between the EMG and the magnet bar should be a nominal 0.030 inches but no more than 0.080 inches.
4. The trigger coil and the trigger magnet bar should be installed next. Locate a place on the engine to mount the trigger coil so it will face the side of the flywheel. The trigger coil should be positioned so it is at least 2 1/2 inches radially separated from the circle on the flywheel determined by the EMG and its magnet bar.

### Dimensions



## Installation continued

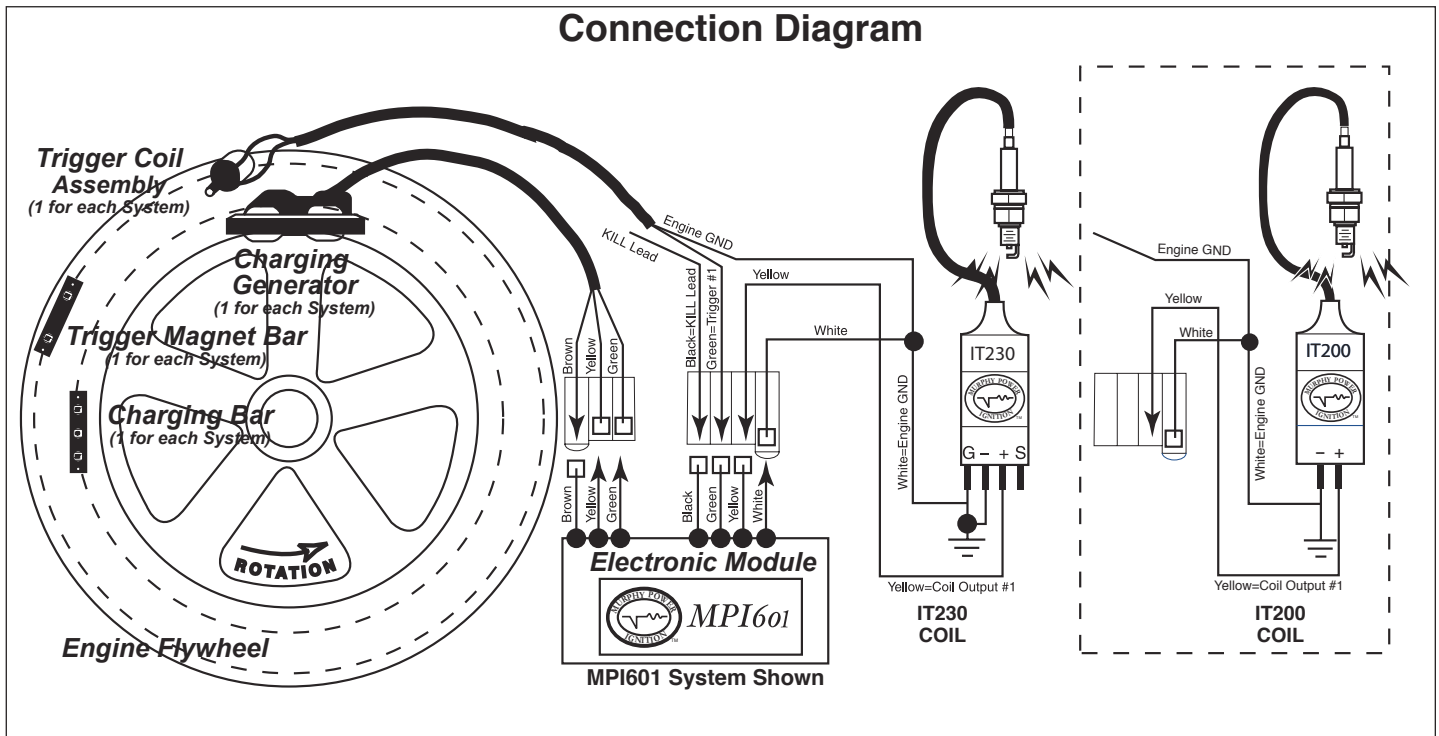
5. Rotate the engine to the running spark position making sure that the charging bar has cleared the EMG before the recessed advance button magnet in the trigger magnet bar rotates under the trigger coil. Mount the trigger magnet bar with the recessed magnet directly under the trigger coil. The other end of the trigger magnet bar should be against (i.e. the recessed magnet should be leading) the direction of rotation of the flywheel. The trigger magnet bar and the EMG magnet bar should now be located on the flywheel on circles separated by at least 2 1/2 inches.
6. The air gap between the trigger coil and the trigger magnet bar should be a nominal 0.035 to 0.080 inches. Engine starting will be better at the low gap setting.

Refer to the connection diagram below.



**WARNING:** The Black Kill Lead has a potential of 300 to 400 Volts. Exercise extreme caution and wear appropriate safety equipment.

**NOTE:** A 100 Ohm, 10 Watt resistor may be connected in series with the Black Kill Lead to minimize contact arcing of shutdown devices.



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