
Model 5600 Direction Indicator

1.0 INTRODUCTION

The 5600 is designed to be used in conjunction with a Magtrol Dynamometer to provide a highly visible indication of motor status, running or stopped, and direction of revolution, clockwise (CW) or counterclockwise (CCW). The light emitting diodes (LEDs) on the front panel may be used as indicators or a 115 VAC lamp of up to 100 watts may be plugged into any or all of the front panel receptacles.

The unit is attached in series between the dynamometer and dynamometer controller. The controller supplies power for the LEDs and internal electronics. A circuit monitors the torque signal, both negative and positive. At a given torque level, the circuit lights the appropriate LED. This level is set by a back panel potentiometer. The encoder (RPM) signal is monitored to detect if the motor is in motion. A back panel jumper is available to disable torque indication if motor is not in motion. If lamps are used, the unit has to be plugged into AC line and turned on.

1.1 CIRCUIT DESCRIPTION

A variable gain amplifier amplifies the incoming torque signal. The gain is adjusted by the back panel sensitivity potentiometer. This amplified signal is applied to a window comparator. The comparator trip point is fixed at 2.5 volts. A minimum level, or most sensitive, is obtained by turning the potentiometer fully CW. A maximum level, or least sensitive, is obtained by turning the potentiometer fully CCW.

The encoder signal is applied to a one shot circuit. The run LED will come on when the motor starts moving, the run indication will stop 0.21 seconds after the motor has stopped.

The CW and CCW can be combined with the encoder signal by placing the back panel jumper to the lock out position. If there is any residual torque signal and the potentiometer is set to "sensitive", it will lock out the indication until the motor is moving.

2.0 INSTALLATION/CONFIGURATION

2.1 GENERAL SETUP

1. Disconnect the 14-pin cable from the dynamometer to the controller.
2. Using the two 2.5 foot cables supplied, connect the 5600 unit in series with the dynamometer and controller.
3. If external lamps are being used, plug the AC line cord into the unit and turn on the power switch (located on the rear panel).

2.2 BACK PANEL LOCKOUT JUMPER

- ON Position the jumper here if CW and CCW indication is desired only when the motor is in motion.
- OFF Position the jumper here if CW and CCW indication is desired at all times.

2.3 BACK PANEL ADJUSTMENTS

After connecting the 5600 as described above, turn power on all units. Leave energized for ½ hour before proceeding.

After units have warmed up:

1. Place the LOCKOUT jumper in the off position.
2. Turn the sensitivity potentiometer full CCW (20 turns MAX)
3. Center the signal - "both CW and CCW LEDS off":
BALANCE POTENTIOMETER IS LOCATED ON THE BOTTOM OF THE UNIT
 - If CW LED is on—turn the balance pot CW until it turns off.
 - If CCW LED is on—turn the balance pot CCW until it turns off.
4. Gently turn the shaft of the dynamometer CW and CCW and observe that the indicator LEDS followed the torque signal. (Brake may have to be energized to do this)
5. If an increase in sensitivity is required, turn the sensitivity potentiometer CW.
6. Place the LOCKOUT jumper in the on position.

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