

DC Motor Testing with Promess PRO-Monitoring System

Functional testing of various DC motors. These motors are widely used in the automotive and medical industries.

Challenge:

Many motors that are used in the automotive and medical industries come equipped with a built in Hall Effect sensor. The motor must be functionally tested to make sure that the Hall Sensor is working properly (outputting pulses) and also to make sure that the motor is drawing the correct amount of current.

Strategy:

The PRO-Monitoring System is a low cost monitoring system capable of very high speed sampling rates of various sensors.

Test Criteria:

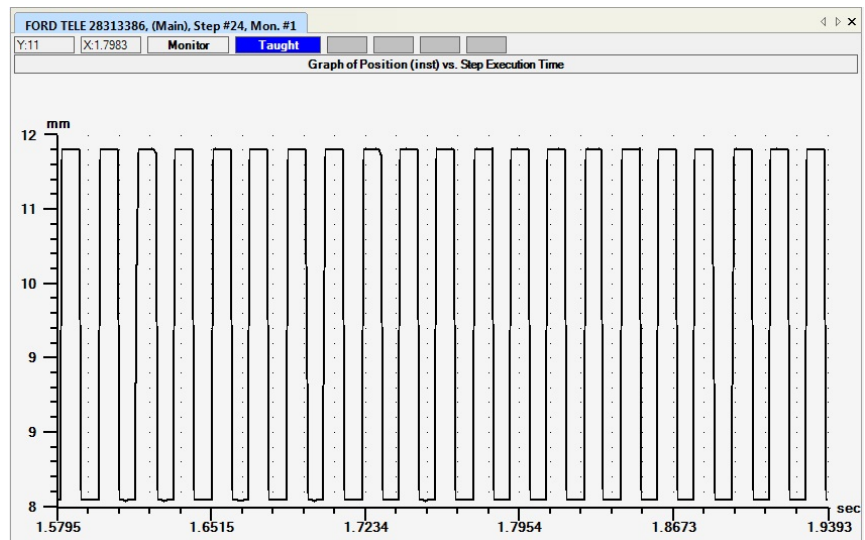
- Evaluate that supply voltage to the motor is within acceptable range before test begins
- Run motor in each direction (clockwise & counterclockwise)
- Evaluate Hall Sensor pulse count in each direction for pass/fail criteria
- Evaluate current draw in each direction for pass/fail criteria

Results:

Using this approach has allowed a 100% guarantee that every motor is fully functional. All measured values are gauged and stored into a spreadsheet for tracking purposes.

Partial list of Applications:

- Power sliding door
- Power lift gate
- Power tilt steering
- Windshield wiper
- Power seat
- Power mirrors
- Power bed
- Power wheelchair



The pulses from Hall Sensor are displayed in a voltage vs. time signature.

The current is also displayed in amperage vs. time signature.