

## **Motor Inductance Testing**

**Equipment used:** Uni-T - UT603 LCR meter

Two tests can be used to test a motor for compliance of the specified winding for each class.

1. Motor assembled and wired
2. Motor with rotor removed

We have supplied a minimum Inductance reading for both tests based on results from continual testing since the introduction of the SPEC brushless motor classes.

### **Meter Settings:**

Dial set to 2mH

Set to "L" setting for inductance

Standard length leads (average calibration factor of 0.005)

*If longer test leads are used, take into account of the change in calibration factor and do not coil or cross over test leads. It is recommended to use the shortest possible test leads. To obtain the calibration factor, short the leads together and note the reading. Minus the calibration factor from the test readingst.*

Leads in the Lx ports

Battery should be fresh and replaced regularly.

### **Testing Assembled Motors:**

When testing in car and with rotor installed, the rotor should be free from any loads or movement from the drive train to allow the magnet to centre freely with the stator poles. Any loads, movement, and vibrations can affect the readings during testing. If required, disconnect the drive train to stabilise readings.

Connect the test leads to any 2 of the 3 motor wiring connections to obtain readings. Change rotor positions to ensure reading are consistent. If a low reading is found, test other windings as damage maybe starting to occur.

If the motor fails the initial test, remove the motor from the car and strip out the rotor and retest all windings. If at least one winding is not above the minimum specification the motor is classed as failed.

### **Testing Disassembled Motors:**

Remove the rotor from the motor and ensure that there are no metal objects are inside the stator. Test as above, if all windings fail, the motor is illegal.

Also measure rotor diameter: Minimum Dia 12mm - Maximum Dia 12.5mm

### **Specifications:**

	<b>Assembled</b>	<b>Disassembled</b>
<b>10.5:</b>	24mH	35mH
<b>17.5</b>	60mH	90mH