MODULE TEST UNIT
Part No: **MTU-12**
<table>
<thead>
<tr>
<th>Color</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RED</td>
<td>150</td>
<td>Fused + 12 Volt</td>
</tr>
<tr>
<td>BLACK</td>
<td>150</td>
<td>Earth</td>
</tr>
<tr>
<td>RED</td>
<td>147</td>
<td>+ 12 Volt Out</td>
</tr>
<tr>
<td>BLACK</td>
<td>147</td>
<td>Earth Out</td>
</tr>
<tr>
<td>WHITE</td>
<td>147</td>
<td>Output Pulse (FREQ adjustable by pot)</td>
</tr>
</tbody>
</table>
| BLUE  | 147  | Left High LED will light over 4.5 V  
Left Low LED will light under 0.5 V |
| GREEN | 147  | Right High LED will light over 4.5 V  
Right Low LED will light under 0.5 V |
| YELLOW| 147  | Ignitor output switched to Earth (FREQ Adjustable by pot) |
| ORANGE| 147  | + 5 Volt Output |

**VEHICLE - OUT**
Switch to simulate OUT of vehicle testing

**VEHICLE - IN**
Switch to simulate IN vehicle testing - pull-up resistor provided by ECU
IGNITER TEST (UNDER LOAD)

The **MTU** can be used to test the Igniter Coil circuit by driving the Igniter and in turn the Coil.

The extra **RED 147 + 12V** is not always required depending on the specific igniter being tested.

If the Igniter is testing okay a spark should be observed at the spark gap.

The sparking rate is adjustable via the Pulse Generator knob on the **MTU**.

Please be careful!!

IGNITER TEST (NO LOAD)

The **MTU** can be used to test the switching of the Igniter. This test will confirm that the C- pulse is being sent to the coil (ensure the VEHICLE switch is set to the OUT position).

In this setup the Igniter will drive one of the LED indicator stacks High and Low in response to the pulse generator.

This will confirm that the igniter is switching cleanly but will not indicate the strength of the spark – the Igniter will not fail this test unless it is totally dead.
CAS TESTING (OUTSIDE VEHICLE)

The MTU can be used to test Crank Angle Sensors (CAS) outside a vehicle as shown in diagram. The CAS should be left inside the distributor housing with the chopper plate still operational. Connect the MTU as shown. Ensure the VEHICLE switch is in the OUT position. Rotate the distributor shaft by hand. The LED stack lights on the MTU should switch HIGH and LOW as the chopper plate passes the sensor. This indicates that the CAS is testing okay.

CAS TESTING (IN VEHICLE)

The MTU can be used to test Crank Angle Sensors (CAS) while in the vehicle. Connect the MTU as shown in the diagram. The Blue and Green wires should be back probed into the existing vehicle wiring. Ensure the VEHICLE switch is set to IN. Start the vehicle and run at idle. Observe the LED stacks – they should be switching HIGH and LOW on both channels. As the engine revs are increased the LEDs should switch at a higher frequency.

NOTE: At high frequency it may appear that the LEDs on the MTU are on constantly when in fact they are flashing so quickly that the eye cannot detect the switching. In either case the CAS will be testing okay.
COIL / IGNITER TEST IN DIST. (OUTSIDE VEHICLE)

The MTU can be used to test a Distributor separate from a vehicle by simulating the pulse that would usually be supplied by the ECU. If the Distributor is testing okay a spark should be observed at the spark gap. The sparking rate is adjustable via the Pulse Generator knob on the MTU.

Please make sure the Distributor housing is earthed.

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COIL / INJECTOR TEST

The MTU can be used to drive a Coil or Injector.
To test a coil, connect as shown with a spark gap to Earth.
To test an injector, connect the Red and Yellow clips to the positive and negative terminals of the injector.
The frequency of spark or injector switching can be adjusted via the Pulse Generator knob on the MTU.