

## ENGINE MANAGEMENT

# MOTAQUIP TEC TALK



**Air Mass Meters measure the air entering the engine and convert this into an electronic signal used by the Engine Control Unit (ECU) to determine engine load and calculate correct fuelling and ignition timing.**

A small platinum sensor element is maintained at a constant temperature regardless of air flow. This is achieved by monitoring the resistance of the heated sensor, as more air flows, the sensor is cooled, and a feedback loop supplies more current to maintain the temperature. This current draw is then converted into a relative signal which is sent to the ECU.

An additional ambient temperature sensor allows for correction of the signal due to intake air temperatures changes which have a huge impact on the output.

*It's difficult to diagnose a faulty Air Mass Meter on symptoms alone, other faulty components such as Fuel Pump, Fuel Pressure Regulator and Vacuum System can all present similar symptoms, this is why it's important to troubleshoot the Air Mass Meter before replacing components. Below are symptoms of faulty AMM:*

 **DECREASE IN ENGINE POWER**

 **HESITATION OR STALLING UNDER ACCELERATION**

 **ENGINE VIBRATION (POOR IDLING)**

 **ENGINE SURGE WHILST IDLING**

 **LOWER FUEL ECONOMY**

 **DIAGNOSTIC FAULT CODES**



Most AMMs can be tested with a voltmeter (0–5V). On ignition, voltage rises with idle airflow and increases smoothly with engine revs, then drops back at idle.

A steady or unresponsive voltage indicates a fault. Modern digital AMMs require an oscilloscope, as they use waveforms instead of voltage readings. These sensors are more accurate and responsive, making them common in newer vehicles.



**Speak to your Area Sales Manager for more information on the Motaquip Engine Management range.**

