EMI-Protected NTC Thermistors

Overview
With increasing complexity of electric systems and density of electronic components in modern vehicles, conventional NTC thermistor sensors are vulnerable to stray electromagnetic interference causing self-heating.

Amphenol Thermometrics UK Ltd has developed a noise-immune NTC thermistor with an integrated RF de-coupling function, providing EMI protection at the component level over a wide frequency range.

Features
• NTC element-level EMI protection
• Drop-in upgrade for existing applications
• Reduced system cost:
  - Retrofit to use existing housing designs
  - Eliminate shielded cables
• EMC-tested to GMW3097 / ISO11452
• Range of conformal coatings available
• Fast time response

Applications
• EV/HEV/PHEV markets
• Battery temperature sensing
• Existing automotive - upgrade
• Drive systems
• HVAC
• Air intake / coolant

Amphenol
Advanced Sensors
Numerous Automotive Applications

The noise-immune NTC thermistor can be used in numerous applications. Below are some examples of automotive applications where it could be applied to prevent self-heating of the NTC thermistor due to EMI effects within an automobile.

**EV/HEV/PHEV – Battery Temperature**

- Inverter Temperature
- Motor Coil Temperature
- Coolant Temperature
- Battery Cell Temperature

**Engine Management Sensors**

- Combo Pressure and Temperature
- Coolant / Oil Temperature
- Engine Temperature
- Outside Air Temperature

**HVAC**

- Discharge / Evaporator Air Temperature
- Automatic Defog Sensor