THERMOMETRICS
A COMMITMENT TO EXCELLENCE

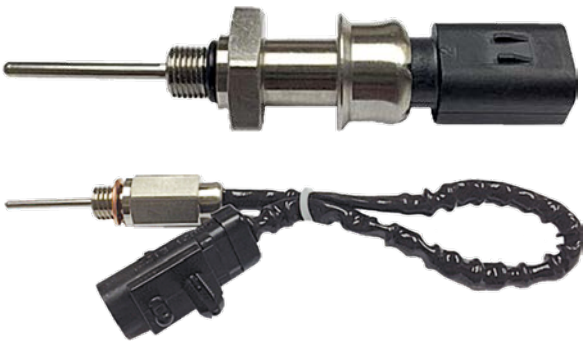
Product Spotlight

Thermistor Stability Benchmarking (2)

Exhaust Gas Recirculation (EGR) Applications

- Typical Tolerance: ±5°C at 300°C
- Typical Tolerance: ±1°C at 150°C
- Accuracy/stability is essential for efficient combustion control.

- Emission Concerns – Sensor interprets air temperature incorrectly, creating a difference between the actual control temperature and the engine design temperature emission mapping value.
- Engine Performance – Sensor interprets air temperature incorrectly, causing the engine to operate to a condition not optimized for peak performance and efficiency.
- Engine Life – Sensor interprets air temperature incorrectly, resulting in excessive engine temperature, which would decrease engine components and fluid life.



Resin-Coated Thermistor Elevated Temperature Stability

Supplier	300°C @ 1000 hours		250°C @ 1000 hours		Performance Ranking
	Δ R25 %	Δ °C	Δ R25 %	Δ °C	
Amphenol	0.27	0.062	0.35	0.080	1
E	0.40	0.091	-0.46	0.105	2
S	-0.64	0.146	-0.64	0.146	3
K	0.69	0.157	1.26	0.287	4
V	-2.58	0.588	-2.5	0.57	5
K	64.8	14.77	72.7	16.57	6

AAS Advantage

- Amphenol supplies both glass-encapsulated and resin-coated thermistors for EGR systems, based on temperature applications. i.e. ±5°C at 250°C/300°C and ±1°C at 150°C, typical high temperature EGR tolerances.
- Amphenol thermistors have excellent stability. The glass-encapsulated components show 0.062°C measurement accuracy at 300°C and 0.080°C at 250°C after 1000 hours. The resin-coated parts show 0.043°C accuracy at 170°C after 1000 hours.

Resin-Coated Thermistor Elevated Temperature Stability

Supplier	170°C @ 1000 hours		Performance Ranking
	Δ R25 %	Δ °C	
Amphenol	-0.19	0.043	1
V	-0.21	0.048	2
A	1.57	0.358	3
E	1.85	0.422	4
B	2.65	0.604	5
S	4.6	1.049	6
K	5.54	1.263	7

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