

EV Product Line Trouble Shooting Steps

Temperature Gauge

Check Temperature Sensor Output

1. With power off, disconnect 2 wire connector at the temperature sensor.
2. Make sure the temperature sensor is at room temperature
3. Using a multimeter on the resistance setting check 2 wire connector resistance going to the temperature sensor.
4. This is the output for the temperature sensor.

100°F to 240°F and 100°F to 280°F

INDICATION	100°F	*140°F	*200°F	100°F	*160°F	*220°F	280°F
SIMULATED RESISTANCE, Ohms	1115	1293	1609	1115	1393	1723	2076
INDICATED TOLERANCE, Ohms	±22	±38	±74	±22	±31	±120	±163
POINTER DIRECTION	ASCENDING	ASCENDING	ASCENDING	ASCENDING	ASCENDING	ASCENDING	ASCENDING

140°F to 320°F

INDICATION	140°F	*180°F	*260°F	320°F
SIMULATED RESISTANCE, Ohms	1262	1442	1879	2294
INDICATED TOLERANCE, Ohms	±35	±54	±120	±206
POINTER DIRECTION	ASCENDING	ASCENDING	ASCENDING	ASCENDING

5. If the temperature sensor output is at 1,000Ω or less then start the engine and check to see if the temperature sensor output increases.
6. Use the temperature sensor output chart to see if the temperature sensor output matches the temperature of the engine.
7. 140°F to 320°F temperature sensor may need heated using another heat source because the engine does not heat temperature sensor above 140°F at idling.
8. If multimeter measures an open or a high resistance over 2,300Ω the temperature sensor could have a problem.

Check Gauge Resistance

1. With power off disconnect the four wire connector from wire harness that goes to amplifier box
2. Check wires on studs to make sure wire colors match labels on studs.
Green (GN) and Yellow (Y) and Gray (GY) and White (W)
3. Using a multimeter on the resistance setting check gauge resistance.
4. Connect multimeter leads across studs label green (GN) and yellow (Y).
Resistance should measure around 82Ω
5. Connect multimeter leads across studs label gray (GY) and white (W).
Resistance should measure around 75Ω
6. If mutlimeter measures open in either pair the gauge could have a problem.

Check Amplifier Box

1. With power off disconnect 2 wire connector at the temperature sensor.
2. Make sure the four wire connector going to the gauge is connected.
3. Turn power to gauge on.
4. Using a multimeter on the voltage setting check voltage at the gauge.

100°F to 240°F and 100°F to 280°F

	Green(+)/Yellow(-)	Temperature Sensor Output	Gray(+)/White(-)
	1.6 Volts	Open	-1.2 Volts
#	1.5 Volts	120°F	1.8 Volts
#	-0.3 Volts	140°F	1.6 Volts

Connect temperature sensor for these measurements.

140°F to 320°F

	Green(+)/Yellow(-)	Temperature Sensor Output	Gray(+)/White(-)
	1.4 Volts	Open	-1.6 Volts
#	1.6 Volts	140°F	-0.6 Volts
#	1.4 Volts	180°F	1.4 Volts

Connect temperature sensor for these measurements.

5. 140°F to 320°F temperature sensor may need heated using another heat source because the engine does not heat temperature sensor above 140°F at idling.