

K - SENSOR RANGE CHARTS

1993 Nissan Sentra

1993 ENGINE PERFORMANCE
Nissan Sensor Operating Range Charts

Altima, Maxima, NX, Pathfinder, Pickup,
Quest, Sentra, 240SX, 300ZX

INTRODUCTION

Sensor operating range information can help determine if a sensor is out of calibration. An out-of-calibration sensor may not set a trouble code, but it may cause driveability problems.

NOTE: Perform all voltage tests using a Digital Volt-Ohmmeter (DVOM) with a minimum 10-megohm input impedance, unless stated otherwise in test procedure. To identify ECU terminals, see appropriate wiring diagram in appropriate L - WIRING DIAGRAMS article.

AIR TEMPERATURE SENSOR TABLE (1)

Application	Temperature °F (°C)	Ohms
Pickup 2.4L	68 (20)	2100-2900
.....	176 (80)	270-380

(1) - Measure resistance between sensor terminals.

MASS AIRFLOW SENSOR (KEY ON, ENGINE OFF) TABLE (1)

Application	Terminal No.	Volts
Altima	16	0.2
Maxima	27	Less Than 0.4
NX & Sentra		
1.6L	16	Less Than 1.0
2.0L	16	Less Than 1.0
Pathfinder & Pickup 3.0L	16	
		Less Than 1.0
Quest	16	Less Than 0.5
240SX	16	Approx. 0.2
300ZX	27	Approx. 0.8

(1) - Measure voltage between ground and indicated ECU terminal with ignition switch in ON position, engine not running.

MASS AIRFLOW SENSOR (ENGINE IDLING) TABLE (1)

Application	Terminal No.	Volts
Altima	16	0.8-0.3
Maxima	27	1.0-1.3
NX & Sentra		
1.6L	16	0.7-1.1
2.0L	16	1.3-1.7
Pathfinder & Pickup 3.0L		

		16		1.5-2.0
Quest		16		1.0-1.7
240SX		16		1.0-1.4
300ZX		27		0.8-1.5

(1) - Measure voltage between ground and indicated ECU terminal with engine idling at normal operating temperature.

COOLANT TEMPERATURE SENSOR RESISTANCE TABLE (1)

Temperature °F (°C)	Ohms
68 (20)	2100-2900
122 (50)	680-1000
176 (80)	300-330

(1) - Measure resistance across sensor terminals.

EGR TEMPERATURE SENSOR RESISTANCE TABLE (1)

Temperature °F (°C)	Ohms
212 (100)	76,770-93,830

(1) - Heat sensor in boiling water, and measure resistance across sensor terminals.

FUEL TEMPERATURE SENSOR RESISTANCE (300ZX) TABLE (1)

Temperature °F (°C)	Ohms
68 (20)	2100-2900
122 (50)	680-1000
176 (80)	300-330

(1) - Measure resistance between sensor terminals.

OXYGEN SENSOR VOLTAGE TABLE (1)

Condition	Volts
Lean	0.1
Rich	1.0

(1) - With engine running at normal operating temperature, measure voltage between oxygen sensor connector terminal (center terminal on heated oxygen sensors) and ground.

THROTTLE POSITION SENSOR RESISTANCE TABLE (1)

Position	Ohms
Altima & 240SX	

Closed Throttle	2000
Partially Open	2000-10,000
Wide Open Throttle	10,000
Maxima, Pathfinder, Pickup, Quest & 300ZX	
Closed Throttle	1000
Partially Open	1000-9000
Wide Open Throttle	9000
NX & Sentra	
Closed Throttle	1000
Partially Open	1000-9000
Wide Open Throttle	9000

- (1) - Measure resistance between terminals "B" (White wire) and "C" (power wire) on sensor. Black wire is ground circuit (not used on this test).

THROTTLE POSITION SENSOR VOLTAGE TABLE (1)

Application	Terminal No.	Volts
Altima, Pathfinder, Pickup 3.0L & Quest		
Maxima	20	0.4-4.0
VE30DE (VIN E)	38	0.4-4.0
VG30E (VIN H)	38	0.5-4.2
NX, Sentra & 240SX	20	0.4-5.0
Pickup 2.4L	20	0.5-4.0
300ZX	38	0.4-4.0

- (1) - Turn ignition on. Measure voltage between ground and indicated ECU terminal. Observe voltage while opening and closing throttle valve.

VEHICLE SPEED SENSOR CONTINUITY TABLE

Application	Reading
All Models	(1)

- (1) - Check continuity between sensor terminals while turning wheel. Ohmmeter reading should fluctuate between continuity and infinity.
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