

# K - SENSOR RANGE CHARTS

ABC123

Entire Article  
2000 Chevrolet Camaro

## ARTICLE BEGINNING

2000 ENGINE PERFORMANCE  
General Motors Sensor Operating Range Charts - Cars

Alero, Bonneville, Camaro, Catera, Cavalier, Century,  
Corvette, DeVille, Eldorado, Firebird, Grand Am, Grand Prix,  
Impala, Intrigue, LeSabre, Lumina, Malibu, Metro, Monte  
Carlo, Park Avenue, Prizm, Regal, Saturn, Seville, Sunfire

## 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 will cause driveability problems.

NOTE: Unless stated otherwise in test procedure, perform all voltage tests with a Digital Volt-Ohmmeter (DVOM) with a minimum 10-megohm input impedance.

### ECT SENSOR RESISTANCE (3.0L - CATERA)

AA

Temperature - °F (°C) (1) Ohms

|           |               |
|-----------|---------------|
| 284 (140) | 68-74         |
| 248 (120) | 109-116       |
| 212 (100) | 182-191       |
| 176 (80)  | 313-332       |
| 140 (60)  | 573-618       |
| 104 (40)  | 1118-1231     |
| 77 (25)   | 1941-2173     |
| 68 (20)   | 2351-2649     |
| 32 (0)    | 5466-6326     |
| 14 (-10)  | 8642-10,152   |
| -4 (-20)  | 14,096-16,827 |
| -40 (-40) | 40,490-50,136 |

(1) - Measure resistance across sensor terminals.

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### ECT & IAT SENSOR RESISTANCE (1.0L, 1.3L & 1.8L) (1)(2)

AA

Temperature - °F (°C) (3) Ohms

|          |      |
|----------|------|
| 176 (80) | 315  |
| 158 (70) | 435  |
| 140 (60) | 580  |
| 122 (50) | 810  |
| 113 (45) | 940  |
| 104 (40) | 1150 |
| 95 (35)  | 1360 |

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|          |        |
|----------|--------|
| 86 (30)  | 1600   |
| 77 (25)  | 2000   |
| 68 (20)  | 2400   |
| 59 (15)  | 3000   |
| 50 (10)  | 3600   |
| 41 (5)   | 4600   |
| 32 (0)   | 5700   |
| 23 (-5)  | 7400   |
| 14 (-10) | 9800   |
| 5 (-15)  | 12,700 |
| -4 (-20) | 16,000 |

- (1) - Engine Coolant Temperature (ECT) sensor.
- (2) - Intake Air Temperature (IAT) sensor.
- (3) - Measure resistance across sensor terminals.

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ECT, IAT & TFT SENSOR RESISTANCE (EXCEPT 1.0L, 1.3L & 1.8L)

- (1) (2) (3)

AA

Temperature - °F (°C) (4) Ohms

|           |         |
|-----------|---------|
| 212 (100) | 177     |
| 194 (90)  | 241     |
| 176 (80)  | 332     |
| 158 (70)  | 467     |
| 140 (60)  | 667     |
| 122 (50)  | 973     |
| 113 (45)  | 1188    |
| 104 (40)  | 1459    |
| 95 (35)   | 1802    |
| 86 (30)   | 2238    |
| 77 (25)   | 2796    |
| 68 (20)   | 3520    |
| 59 (15)   | 4450    |
| 50 (10)   | 5670    |
| 41 (5)    | 7280    |
| 32 (0)    | 9420    |
| 23 (-5)   | 12,300  |
| 14 (-10)  | 16,180  |
| 5 (-15)   | 21,450  |
| -4 (-20)  | 28,680  |
| -22 (-30) | 52,700  |
| -40 (-40) | 100,700 |

- (1) - Engine Coolant Temperature (ECT) sensor.
- (2) - Intake Air Temperature (IAT) sensor.
- (3) - Transaxle Fluid Temperature (TFT) sensor.
- (4) - Measure resistance across sensor terminals.

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IAT SENSOR RESISTANCE (3.0L - CATERA)

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| Temperature - °F (°C) | (1) Ohms        |
|-----------------------|-----------------|
| 284 (140) .....       | 74-93           |
| 248 (120) .....       | 114-141         |
| 212 (100) .....       | 184-222         |
| 176 (80) .....        | 312-370         |
| 140 (60) .....        | 565-654         |
| 104 (40) .....        | 1096-1238       |
| 77 (25) .....         | 1900-2100       |
| 68 (20) .....         | 2290-2551       |
| 32 (0) .....          | 5119-5892       |
| 14 (-10) .....        | 7943-9307       |
| -4 (-20) .....        | 12, 660-15, 120 |
| -40 (-40) .....       | 35, 140-43, 760 |

(1) - Measure resistance across sensor terminals.

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**FUEL LEVEL SENSOR VOLTAGE (5.7L - CORVETTE)**

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| Fuel Level  | Vol ts (Left Tank) | Vol ts (Right Tank) |
|-------------|--------------------|---------------------|
| Full .....  | 2.5                | 2.5                 |
| 3/4 .....   | 2.5                | 1.5                 |
| Half .....  | 2.5                | Less Than 1.0       |
| 1/4 .....   | 1.7                | Less Than 1.0       |
| Empty ..... | Less Than 1.0      | Less Than 1.0       |

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**FUEL PRESSURE SENSOR VOLTAGE (2.2L - CNG)**

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| psi (kPa)           | Vol ts |
|---------------------|--------|
| 0 (0) .....         | 0.50   |
| 125 (862) .....     | 0.63   |
| 438 (3021) .....    | 0.94   |
| 750 (5172) .....    | 1.25   |
| 1063 (7331) .....   | 1.56   |
| 1375 (9483) .....   | 1.88   |
| 1688 (11,641) ..... | 2.19   |
| 2000 (13,793) ..... | 2.50   |
| 2313 (15,952) ..... | 2.81   |
| 2625 (18,103) ..... | 3.13   |
| 2938 (20,262) ..... | 3.44   |
| 3250 (22,414) ..... | 3.75   |
| 3563 (24,572) ..... | 4.06   |
| 3875 (26,724) ..... | 4.38   |
| 4000 (27,586) ..... | 4.54   |

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**FUEL TEMPERATURE SENSOR (2.2L - CNG)**

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| Temperature - øF (øC) | Ohms          | Vol ts |
|-----------------------|---------------|--------|
| 302 (150) .....       | 77 .....      | 0.14   |
| 248 (120) .....       | 147 .....     | 0.26   |
| 212 (100) .....       | 240 .....     | 0.40   |
| 176 (80) .....        | 414 .....     | 0.66   |
| 158 (70) .....        | 556 .....     | 0.84   |
| 140 (60) .....        | 758 .....     | 1.08   |
| 122 (50) .....        | 1052 .....    | 1.39   |
| 113 (45) .....        | 1249 .....    | 1.57   |
| 104 (40) .....        | 1489 .....    | 1.76   |
| 95 (35) .....         | 1784 .....    | 1.97   |
| 86 (30) .....         | 2148 .....    | 2.20   |
| 77 (25) .....         | 2600 .....    | 2.43   |
| 68 (20) .....         | 3167 .....    | 2.68   |
| 59 (15) .....         | 3881 .....    | 2.93   |
| 50 (10) .....         | 4764 .....    | 3.18   |
| 41 (5) .....          | 5933 .....    | 3.42   |
| 32 (0) .....          | 7407 .....    | 3.65   |
| 23 (-5) .....         | 9311 .....    | 3.86   |
| -4 (-20) .....        | 19,326 .....  | 4.38   |
| -40 (-40) .....       | 57,536 .....  | 4.77   |
| -58 (-50) .....       | 104,390 ..... | 4.87   |

**MAP SENSOR VOLTAGE (1.9L)**

Altitude Feet (1) Vol ts

|                   |         |
|-------------------|---------|
| Below 1000 .....  | 3.8-5.5 |
| 1000-2000 .....   | 3.6-5.3 |
| 2000-3000 .....   | 3.5-5.1 |
| 3000-4000 .....   | 3.3-5.0 |
| 4000-5000 .....   | 3.2-4.8 |
| 5000-6000 .....   | 3.0-4.6 |
| 6000-7000 .....   | 2.9-4.5 |
| 7000-8000 .....   | 2.8-4.3 |
| 8000-9000 .....   | 2.6-4.2 |
| 9000-10,000 ..... | 2.5-4.0 |

(1) - Measured at sensor or as seen on scan tool.

**OXYGEN SENSOR VOLTAGE**

Condition (1) Vol ts

|                       |     |
|-----------------------|-----|
| Except Metro & Pri zm |     |
| Lean .....            | 0.1 |
| Rich .....            | 1.0 |
| Metro & Pri zm        |     |

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Lean ..... 0.1  
Rich ..... 0.9

(1) - Measure voltage between O2 sensor ground and  
signal terminals at PCM.

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**END OF ARTICLE**