

001

Make: Holden

Model: VL Commodore

Subject: Testing crank angle sensor using DC Digital Voltmeter

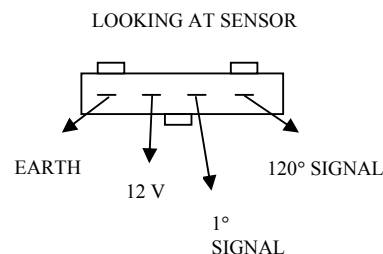
Test 1: Sensor Earth - Remove plug to crank angle sensor and connect voltmeter between pin 1 and battery earth. Zero volts or a voltage drop of less than $\approx 0.2v$ should be seen with ignition on and engine off. The same result should also be seen with plug connected.

Test 2: Sensor Power Supply - Remove plug to crank angle sensor and connect voltmeter between pin 2 and battery earth. A voltage of $\approx 12 - 14$ volts should be seen with ignition on and engine off. The same result should also be seen with plug connected.

Test 3: 1° Signal - Remove crank angle sensor plug and connect voltmeter between pin 3 and battery earth. A voltage of ≈ 5 v should be seen with ignition on and engine off. With plug connected and engine running an average voltage of ≈ 2.5 volts should be seen.

Test 4: 120° Signal - Remove crank angle sensor plug and connect voltmeter between pin 4 and battery earth. A voltage of approx 5v should be seen with ignition on and engine off. With plug connected and engine running and average voltage of ≈ 0.3 volts should be seen.

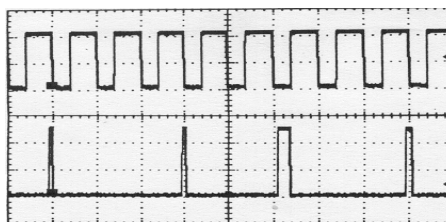
Terminal Description	Wire Colour	Key on Engine Off Plug off	Idle
Sensor Earth	Black	0v	0v
Power Supply	Orange	$\approx 12v$	$\approx 13.5v$
1° Signal	White	$\approx 5v$	$\approx 2.5v$
120° Signal	Yellow	$\approx 5v$	$\approx 0.3v$



Using an oscilloscope, both the 1° and 120° Cas output patterns are seen as follows.

1° Signal Wave Pattern:

Approx duty cycle of 50%



120° Signal Wave Pattern:

Designates No 1 cyl.

Injectronics suggests that before condemning a crank angle sensor as faulty, ensure that connector, connector terminals and connector rubber boot are all clean and serviceable or replaced as many problems associated with crank angle sensors are caused by these components being loose or oxidised.