

<b>DTC</b>	<b>P0116</b>	<b>Engine Coolant Temp. Circuit Range/Performance Problem</b>
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## CIRCUIT DESCRIPTION

Refer to DTC P0115 on page [DI-31](#).

DTC No.	DTC Detecting Condition	Trouble Area
P0116	If THW or THA < -6.4°C (20°F) at engine start, 20 min. or more after starting engine, engine coolant temp. sensor value is 20°C (68°F) or less (2 trip detection logic)	<ul style="list-style-type: none"> <li>Cooling system</li> <li>Engine coolant temp. sensor</li> </ul>
	If THW and THA ≥ -6.4°C (20°F) and THW or THA < 10°C (50°F) at engine start, 5 min. or more after starting engine, engine coolant temp. sensor value is 20°C (68°F) or less (2 trip detection logic)	
	If THW and THA ≥ 10°C (50°F) at engine start, 2 min. or more after starting engine, engine coolant temp. sensor value is 20°C (68°F) or less (2 trip detection logic)	
	When THW ≥ 35°C (95°F) or more and less than 60°C (140°F), THA ≥ -6.7°C (19.9°F) or more, when starting engine, conditions (a) and (b) continue: (2 trip detection logic) (c) Vehicle speed is changing (Not stable) (d) When starting engine, THW change < 3°C (37.4°F)	
P0116	In case that reading value of water temp. sensor will not change more than 1°C (33.8°F) even after repeating 6 trips (detection logic) of adjusting speed pattern with THW more than 60°C (140°F) when engine starts.	<ul style="list-style-type: none"> <li>Cooling system</li> <li>Engine coolant temp. sensor</li> </ul>

## INSPECTION PROCEDURE

### HINT:

- If DTCs P0115 and P0116 are output simultaneously, engine coolant temperature sensor circuit may be open. Perform troubleshooting of DTC P0115 first.
- Read freeze frame data using LEXUS hand-held tester or OBD II scan tool. Because freeze frame records the engine conditions when the malfunction is detected. When troubleshooting, it is useful for determining whether the vehicle was running or stopped, the engine was warmed up or not, the air-fuel ratio was lean or rich, etc. at the time of the malfunction.

<b>1</b>	<b>Are there any other codes (besides DTC P0116) being output?</b>
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**YES**

**Go to relevant DTC chart (See page [DI-13](#)).**

**NO**

<b>2</b>	<b>Check thermostat (See page <a href="#">CO-12</a>).</b>
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**NG**

**Replace thermostat.**

A rectangular button with a downward-pointing arrow at the bottom, containing the text "OK".

**OK**

A rectangular box containing the text "Replace engine coolant temperature sensor."

**Replace engine coolant temperature sensor.**