

### Component Location



### General Description

Vain pump type fuel pump which is driven by electric motor is applied to this vehicle. Fuel pump which is installed inside of fuel tank supplies fuel to high pressure pump. ECM controls Fuel pump relay to supply power to low pressure fuel pump. The relay operates for approx. 2 sec. for the diagnosis fuel pump relay at IG key ON, then if engine speed above 45rpm is detected by CKPS, relay turns ON and fuel is supplied to high pressure pump.

### DTC Description

P0231 is set when no current or excessively low current is detected in fuel pump relay control circuit for more than 1 sec. at fuel pump relay ON condition. This code is due to open or short to ground in fuel relay control circuit or internal open in fuel pump relay component.

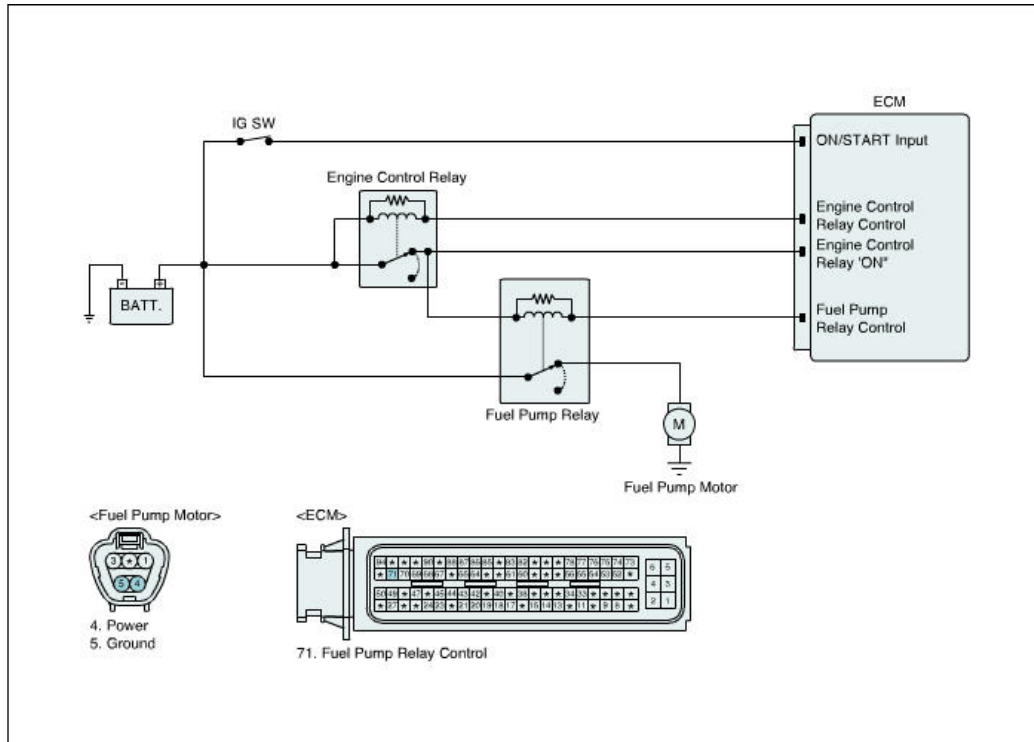
### DTC Detecting Condition

Item	Detecting Condition			Possible Cause
DTC Strategy	Voltage monitoring			Fuel pump relay control circuit Fuel pump relay component
Enable Conditions	IG key ON (monitoring only performed within relay operating condition)			
Threshold Value	Short to ground in fuel relay control circuit. Open in fuel relay control circuit.			
Diagnostic Time	1.0 sec.			
Fail Safe	Fuel cut	NO	-	
	EGR Off	NO		
	Fuel Limit	YES		
	Check Lamp	OFF		

### Specification

Relay Coil Resistance	75 ~ 85 (20 )
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### Diagnostic Circuit Diagram



## Signal Waveform & Data

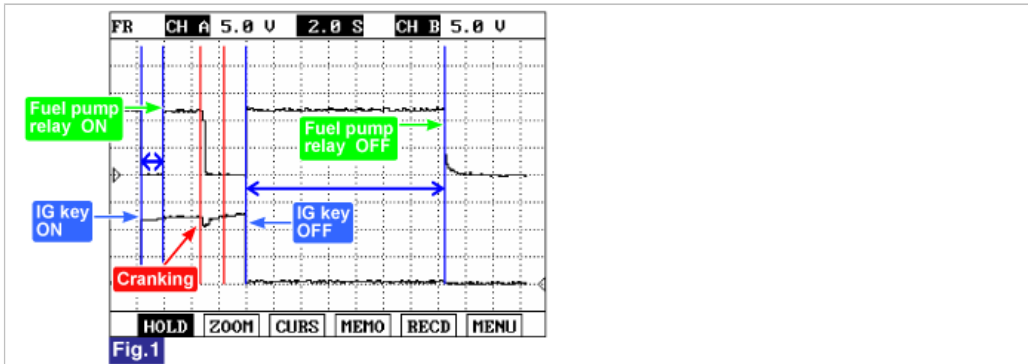


Fig.1) Fuel pump relay signal waveform and IG key signal. (IG key ON cranking IG key OFF).  
 IG key ON : Fuel pump relay ON approx. 68ms after IG key ON.  
 Engine OFF : Fuel pump relay ON for approx. 14.5 sec. after IG key OFF.