EXHAUST GAS RECIRCULATION - System Overview

The Exhaust Gas Recirculation (EGR) system is based around a small ECU which, using engine demand and temperature, controls a valve that mixes an amount of the engines exhaust gases with the air being drawn into the engine for combustion (recirculation).

SM008 - EXHAUST GAS RECIRCULATION - System Help file

Version 1.22

EXHAUST GAS RECIRCULATION - Known Fitments

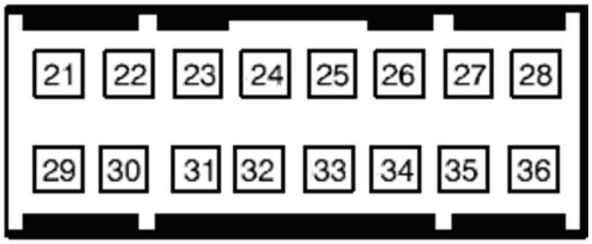
Vehicle makes, models and variants known or believed to be using this vehicle system, required diagnostic lead and degree of known compatibility.

Vehicle Make	Vehicle Model	Vehicle Variant	Diagnostic Lead
Land Rover	Range Rover MK I (Classic)	Diesels	Yellow EGR Lead
Land Rover	Defender	4 Diesels	Yellow EGR Lead
Land Rover	Discovery	Diesels 1995-1996	Yellow EGR Lead

EXHAUST GAS RECIRCULATION - Physical Details

EXHAUST GAS RECIRCULATION - Pin Outs

Details of the pin usage for the ECU connector(s).

C247 Def 300TDi C032	
21	Multiple Sensors - Data Link Connector
24	EGR Control Solenoid

25	Throttle Position Sensor
26	Engine Coolant Temperature Sensor
28	Satellite Fuse Box 1
29	Ground
32	Data Link Connector
33	Data Link Connector
34	EGR Valve Position Sensor
35	EGR Valve Position Sensor - Throttle Position Sensor
36	Phase Tap Resistor

SM008 - EXHAUST GAS RECIRCULATION - Diagnostic Capabilities (Read Fault Codes)

Reads the fault code memory. The ECU can self detect up to 8 different problems with itself, its wiring and its associated sensors, storing the respective code if it detects any malfunction or reading outside of pre defined acceptable limits. Not all stored faults may cause the fault warning lamp to illuminate.

SM008 - EXHAUST GAS RECIRCULATION - Diagnostic Capabilities (Clear Fault Codes)

The system automatically stops reporting any repaired problems.

SM008 - EXHAUST GAS RECIRCULATION - Diagnostic Capabilities (Settings)

Values, configuration settings, and other stored information which can be read from the ECU, edited and then rewritten back. Read settings can also be stored as a standard HTML page for reference. These pages can then later be re loaded and re written back to the ECU. Please note that some values may be Read Only due to the fact that they are supplied from the ECU's ROM or are internally calculated.

- **Manufacturer**: This shows the manufacturer of the EGR ECU.
- **Identity number**: This gives the identity number of the ECU split in 3 numbers.

SM008 - EXHAUST GAS RECIRCULATION - Diagnostic Capabilities (Inputs)

Realtime live display of the information the electronic control unit of the selected vehicle system is currently deriving from it's input sensors.

- **Engine RPM**: The engine's current speed in revolutions per minute.
- **Coolant temperature (°C)**: The value obtained from the engine's coolant temperature sensor.
- **Modulator current used value**: This is a value which represents the current drawn by the modulator valve.
- **ECM required modulation value**: This is the value that the ECU requests from the modulator valve.
- **Throttle position potentiometer voltage output**: This is the voltage reading from the potentiometer indicating its current position.
- **EGR valve position potentiometer output valve (feedback)**: This is the value that indicates the current position of the modulator valve.

SM008 - EXHAUST GAS RECIRCULATION - Diagnostic Capabilities (Other)

This function allows the valve (known as the Modulator) which controls the mix, to be driven to any position dictated by the values in the range 0 to 255 to check it's correct operation and that the ECU has full control over the valve.