

LEM^{G3} – SR20DE/T

(64 Pin Header)

AdaptaLink

V1.1 14/12

This AdaptaLink is designed to reduce installation effort by allowing an almost direct plug-in of a Link LEM^{G3} ECU to the following vehicles:

- Nissan S13 Silvia / 180SX – 91 - ? SR20DET Multi-Coil “Red Top”
- Nissan S14 Silvia / 200SX – 96 - 98 SR20DET Multi-Coil “Black Top”
- Nissan S15 Silvia / 200SX – 99 - ? SR20DET Multi-Coil “Black Top”
- Nissan N14 Pulsar – SR18DE Distributed
- Nissan GTIR Pulsar – SR20DET Distributed

Note: This AdaptaLink is NOT recommended for automatic transmission models.

The AdaptaLink must be configured for each application by fitting the jumpers in the correct locations. To do this, remove one end plate from the AdaptaLink enclosure then slide out the top cover. In some cases additional modifications are required.

Disclaimer

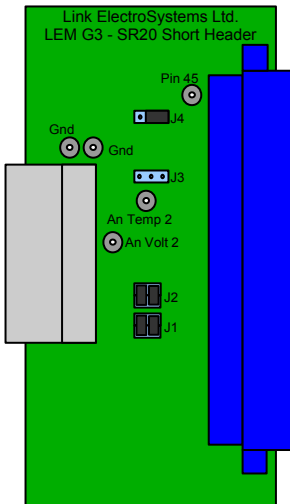
All care has been taken to ensure the pin outs and interconnections of this ECU AdaptaLink board are correct. However due to variations between vehicle models it is the installers responsibility to check wiring connections BEFORE installing the AdaptaLink. Link ElectroSystems Ltd. will not be held responsible for any damage caused by the incorrect installation of this product.

Limitations

- This AdaptaLink has been designed for use with manual transmissions only. Use of this AdaptaLink with an automatic transmission may cause unexpected transmission operation.
- As the LEM^{G3} has a limited number of inputs and outputs, not all of the sensors and actuators used by the factory ECU can be used. If a sensor/actuator is required that is not used wiring modification may be required.
- This AdaptaLink has been designed to be used with HIGH impedance (greater than 6 Ohms) injectors. Ballast resistors must be wired if low impedance injectors are to be used. Consult the ECU's Wiring and Installation manual for more information on injector wiring.

AdaptaLink Options

Nissan S13 Silvia / 180 SX SR20DET



Important Note: On S13 models, The EGR valve must be unplugged or the wire cut wire from Pin 102 very close to the factory ECU header. If this is not done, the EGR valve will operate when the fuel pump runs.

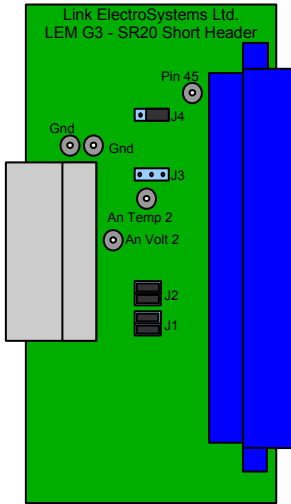
Jumper Setting

Install the jumpers as shown to the left.

J1 and J2 change the engine firing order therefore **MUST** be set in the correct position.

J3 is set to the 'External IAT' Position. Wire an IAT Sensor to the AdaptaLink boards An Temp 2 and Gnd breakout pads. Note that some S13 models have a factory fitted Ambient temp sensor. This sensors signal is available on the Pin 45 breakout pad (note that use of this sensor is not recommended).

Nissan S14 Silvia / 200 SX SR20DET



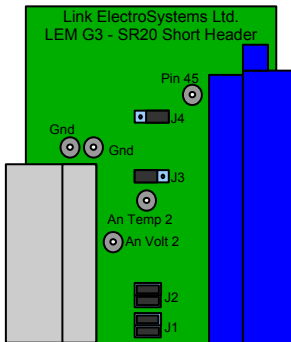
Jumper Setting

Install the jumpers as shown to the left.

J1 and J2 change the engine firing order therefore **MUST** be set in the correct position.

J3 is set to the 'External IAT' Position. Wire an IAT Sensor to the AdaptaLink boards An Temp 2 and Gnd breakout pads. An Intake Air Temperature (IAT) should be installed and wired to the 'Gnd' and 'An Temp 2' breakout pads on the AdaptaLink board. Consult the ECU wiring manual for more information on installation of IAT sensors.

Nissan S15 Silvia / 200 SX SR20DET

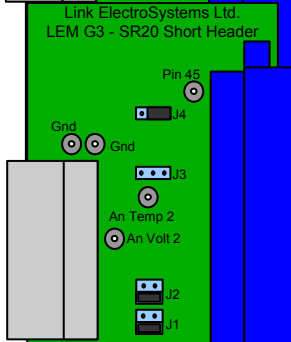


Jumper Setting

Install the jumpers as shown to the left.

J1 and J2 change the engine firing order therefore **MUST** be set in the correct position.

J3 is set to the 'S15 Amb. Temp' position. It is recommended that the factory fitted Ambient Temperature sensor is not used. Instead install and wire an Intake Temperature Sensor (IAT) (read the following notes on IAT sensor options).



Nissan N14 / GTIR Pulsar

Jumper Setting

Install the jumpers as shown to the left.

J1 and J2 change the engine firing order therefore MUST be set in the correct position.

J3 is set to the 'External IAT' Position. Wire an IAT Sensor to the AdaptaLink boards An Temp 2 and Gnd breakout pads. An Intake Air Temperature (IAT) should be installed and wired to the 'Gnd' and 'An Temp 2' breakout pads on the AdaptaLink board. Consult the ECU wiring manual for more information on installation of IAT sensors.

Intake Air Temperature (IAT) Sensor

The AdaptaLink board allows three options for connection of an IAT sensor. It is highly recommended that an IAT sensor is installed and wired for use with the Link ECU. The IAT sensor can be wired either of the following ways:

1. Using factory AFM wiring. When Jumper J3 is in the 'IAT on AFM Sig' position, An Temp 2 is connected to the factory Air Flow Meters signal wire. This means that existing air flow meter wiring can be used rather than running another wire through the firewall. Connect the IAT sensor to the AFM signal wire and AFM ground wire. Consult factory wiring diagrams for the positions of these wires in the AFM connector.
2. Wiring to AdaptaLink Board. When Jumper J3 is in the 'External IAT' position (removed), An Temp 2 is connected to the breakout pad on the AdaptaLink board. Wire the IAT sensor to the 'An Temp 2' and 'Gnd' breakout pads on the AdaptaLink board.
3. Some versions of S13 Silvia / 180SX SR20DET have a factory fitted Ambient Temperature sensor. This can be connected to An Temp 2 by jumping a wire between the breakout pads labeled 'An Temp 2' and 'Pin 45' on the AdaptaLink board. Note that the use of this sensor is not recommended.
4. Some versions of S15 Silvia / 200 SX SR20DET ave a factory fitted Ambient Temperature sensor. This can be connected to An Temp 2 by fitting J3 in the 'S15 Amb. Temp' position. Note: this sensor is not recommended.

Consult the ECU wiring manual for more information on installation of IAT sensors. After installing an IAT sensor, it must be correctly set up in PCLink. Consult the PCLink On-line Help for further information.

Options for Digital Input 1 (DI 1)

Jumper J4 can be used to connect either Vehicle Speed or Air Conditioning. Request to DI1 (Aux 4). If air conditioning is to be retained then place the jumper in the 'DI1 = A/C In' position. If air conditioning is not used, fit J1 in the "DI1 = Speed' position. This will allow the ECU to measure vehicle speed for functions such as idle control and

launch control.

IO Connections

The following tables describe how the LEM^{G3} is connected to the engines sensors and actuators. Note that all unused I/O is available for wiring to other accessories (As all I/O is configurable using PCLink).

S13 Silvia / 180 SX SR20DET		
LEM ^{G3} Function	Sensor / Actuator	Note
Inj 1	Injectors 1 and 3	
Inj 2	Injectors 2 and 4	
Ign 1	Coil 1 and 4	
Ign 2	Coil 2 and 3	
Ign 3	N/C	
Ign 4	Cat Light	
Aux 1	Tachometer	
Aux 2	Fuel Pump Relay	Also EGR if its not unplugged !
Aux 3	ISC Solenoid	
DI 1 / Aux 4	Vehicle Speed or A/C In	Depends on Jumper J1 position
Aux 5	Fuel Pressure Control Solenoid	
Aux 6	N/C	
Aux 7	A/C Out	
Aux 8	Waste-gate Solenoid	
An Temp 1	Engine Coolant Temperature (ECT)	
An Temp 2	Intake Air Temp (IAT)	
An Volt 1	Oxygen Sensor Signal	
An Volt 2	Spare	Breakout Pad on AdaptaLink
An Load 3 (TPS)	Throttle Position (TPS)	

S14 Silvia / 200 SX SR20DET

LEM ^{G3} Function	Sensor / Actuator	Note
Inj 1	Injectors 1 and 3	
Inj 2	Injectors 2 and 4	
Ign 1	Coil 1 and 4	
Ign 2	Coil 2 and 3	
Ign 3	A/C Out	
Ign 4	Fan Relay	
Aux 1	Tachometer	
Aux 2	Waste-gate Solenoid	
Aux 3	ISC Solenoid	
DI 1 / Aux 4	Vehicle Speed or A/C In	Depends on Jumper J1 position
Aux 5	Fuel Pump Relay	
Aux 6	VTC Cam Solenoid	
Aux 7	EGR Solenoid	
Aux 8	Oxygen Sensor Heater	
An Temp 1	Engine Coolant Temperature (ECT)	
An Temp 2	Intake Air Temp (IAT)	
An Volt 1	Oxygen Sensor Signal	
An Volt 2	Spare	Breakout Pad on AdaptaLink
An Load 3 (TPS)	Throttle Position (TPS)	

S15 Silvia / 200 SX SR20DET		
LEM ^{G3} Function	Sensor / Actuator	Note
Inj 1	Injectors 1 and 3	
Inj 2	Injectors 2 and 4	
Ign 1	Coil 1 and 4	
Ign 2	Coil 2 and 3	
Ign 3	A/C Out	
Ign 4	A/C Fan Relay	
Aux 1	Tachometer	
Aux 2	Fuel Pump Relay	
Aux 3	ISC Solenoid	
DI 1 / Aux 4	Vehicle Speed or A/C In	Depends on Jumper J1 position
Aux 5	VVT Control Solenoid	
Aux 6	Purge Solenoid	
Aux 7	Waste-gate Solenoid	
Aux 8	Oxygen Sensor Heater	
An Temp 1	Engine Coolant Temperature (ECT)	
An Temp 2	Intake Air Temp (IAT)	
An Volt 1	Oxygen Sensor Signal	
An Volt 2	Spare	Breakout Pad on AdaptaLink
An Load 3 (TPS)	Throttle Position (TPS)	

N14 / GTIR Pulsar SR20DET

LEM^{G3} Function	Sensor / Actuator	Note
Inj 1	Injectors 1 and 3	
Inj 2	Injectors 2 and 4	
Ign 1	Coil 1 and 4	
Ign 2	Coil 2 and 3	
Ign 3	A/C Out	
Ign 4	Fan Relay	
Aux 1	Tachometer	
Aux 2	Fuel Pump Relay	
Aux 3	ISC Solenoid	
DI 1 / Aux 4	Vehicle Speed or A/C In	Depends on Jumper J1 position
Aux 5	N/C	
Aux 6	N/C	
Aux 7	A/T Lockup Solenoid	(Not typically used)
Aux 8	Waste-gate Solenoid	
An Temp 1	Engine Coolant Temperature (ECT)	
An Temp 2	Intake Air Temp (IAT)	
An Volt 1	Oxygen Sensor Signal	
An Volt 2	Spare	Breakout Pad on AdaptaLink
An Load 3 (TPS)	Throttle Position (TPS)	