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<b>Title</b>		Mitsubishi M800 OEM EVO48 Installation Notes	
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1	10/08/2005	RB	
2	25/6/2006	RB	New format
3	11/8/2006	RB	Additional A/C request information.
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## Mitsubishi EVO48

This Document refers to MoTeC M800 OEM installations to Mitsubishi Lancer Evo4, 5, 6, 7 and some Evo8 models using the EVO48 adaptor (**MoTeC Part No. 13009A**). For all other applications please refer to the correct installation notes.

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## Introduction

The MoTeC M800 OEM is a MoTeC M800 ECU with an adaptor board that allows it to plug directly into the cars original wiring. ECU functionality is the same as the MoTeC M800 with the exception of peak and hold injector drive function which is not possible on the M800 OEM. Only high impedance injectors or low impedance injectors with a suitable resistor can be used with the M800 OEM. A Mitsubishi Evo4 - 8 has a resistor pack installed in the injector circuit with low impedance injectors.

The EVO48 M800 Adaptor is an interface that allows an M800 OEM to be mounted in the factory ECU case for a Mitsubishi Lancer EVO4 - 8 (four plug connector). This document describes the details of the EVO48 adaptor and the configuration options that are available.

There are two versions of the EVO8. One version uses an ECU with a four plug main connector. This vehicle is supported by the EVO48 OEM adaptor as described in this document. The other version uses an ECU with a three plug main connector which is supported by the EVO8 or EVO89 OEM adaptor and installation notes (MoTeC Part Numbers 13007A – EVO8, 13010A – EVO89).

The Motec M800 OEM is supplied as an assembly which consists of the M800 OEM ECU and the adaptor board. The adaptor board is vehicle specific and there are links on the adaptor board to allow for variations in different models and functional requirements of the user. A start file is installed which should be sufficient to start the engine prior to tuning. To ensure that the correct adaptor board, link setup and start file is provided, full details of the vehicle must be quoted when ordering. Details should include the factory ECU part number, year, model and version.

### Important Note!

The M800 OEM has been made to the highest standards and will provide reliable performance but should not be dismantled in any way due to the risk of damage. If the Link setup needs to be changed this should only be done by an authorised MoTeC dealer or someone with suitable equipment and soldering experience.

### Parts Required

MoTeC Part No.	Description	Notes
13009A	ECU M800 OEM EVO48	MoTeC M800 OEM and EVO48 Adaptor board assembly
61046	OEM-CAN Loom	For PC connection to the ECU. Connects to the Communications connector on the OEM adaptor board to provide an external CAN communications connection.

### Optional

MoTeC Part No.	Description	Notes
61044	OEM to lambda loom	For lambda sensor connection to the Lambda 2 connector on the OEM adaptor board. One end has a connector which connects to the Lambda 2 connection on the OEM Board, the other end is terminated with a 6 pin female DTM connector. Length is 30 cm.
61051	Lambda extension loom	A 2.5 meter extension to connect between the OEM-Lambda loom and a Bosch LSU wideband lambda sensor. One end has a 6 pin male DTM connector to mate to 61044, the other end has a connector for a Bosch LSU wideband lambda sensor. (MoTeC Europe part no.61050 3.0 metre).
28102	M800 Wideband Lambda	ECU upgrade required to control a wideband lambda sensor (free for the first 8 hours of engine running time).
28101	Logging 1 Mb	ECU data logging (free for the first 8 hours of engine running time).
26105	Advanced functions	ECU upgrade to enable the following functions: Over-run boost (ORB), Launch Control, Traction Control, Gear Change Ignition Cut.
28117	Over-run boost	ECU upgrade to enable Over-run boost (ORB) only without other advanced functions.

## Model Specific Information

Some Evo8 variants have 2 boost control valves. The second valve is connected to OEM pin 57 and requires Link 15 to be joined.

### Links

- The default link options suit EV07 & 8. A/C Fan Control links MUST be changed for other models.

## Thematic Fan operation

It is normal operation for the thematic fan to run briefly when the ignition is switched on, when the ECU has been re-set or when the output test menu is open.

## Input / Output Test

It is important to carry out an output test and check that all sensors are working prior to starting the engine. When carrying out an output test the relay for the thematic fans will need to be removed otherwise they will run constantly and make the test difficult. If outputs are not functioning or sensors are not reading correctly refer to the setup information in the Pinout Diagram.

## TPS Setup

The TPS sensor will need to be moved to correctly set the TP hi and TP lo settings. In the standard position the TPS output voltage will go too high and read approximately 102 (max possible is 99). Loosen the TPS retaining screws and open the throttle to wide open. Rotate the sensor until the TP Hi reading is around 98. Tighten the screws and set TP hi and TP lo.

## Idle Setup

To achieve good idle stability and improve the idle stepper control function the idle air bypass needs to be adjusted. This must be done with the engine at operating temperature and all electrical and mechanical loads switched off. The idle air bypass screw is located on the throttle assembly.

- Turn the idle air bypass screw out 3 turns.
- Set the Aim Idle speed (ECU Manager) to 200 RPM (this will cause the stepper motor to close completely).
- Adjust the base idle speed using the idle air by-pass screw. Set the base idle speed to about 50 – 100 RPM lower than the desired aim idle speed.
- Re-set the Aim Idle speed.

## Mass Air Flow

When using MAF for efficiency measurement it is recommended that the Over Fuel Cut off is active to avoid excessively rich mixtures during over-run. The settings in the table below are recommended but can be adjusted to suit the individual application.

Overrun Fuel Cut	
Parameter	Value
Overrun Inactive RPM	1600
Overrun Active RPM	2100
Overrun Throttle position	10
Overrun Recover Fuel	0

## Additional Sensors

It is possible to use un-assigned pins for additional sensors. The availability of spare inputs will vary depending on the model of car, refer to the table below and the M800 Pinout for details. There are spare 5v 8v 0v pins which are connected by joining links (refer to M800 Pinout section for details)

Spare input	Model
AV2	EVO4/5/6
AV5	All models (no TCK)
AV7	EVO4/5/6/7
AV8	EVO4/5/6/7/8 (Not EVO8 USA Version)
AT4	EVO 4/5/6/7 (No crank switch input)
AT5	EVO4/5/6
AT6	EVO7/8 (Requires wiring modification)
DIG4	EVO4/5/6

## MoTeC Mitsubishi Diff Controller

The M800 OEM can communicate with the MoTeC MDC via half duplex RS232. Link 2 and Link 12 need to be joined to make this connection. Refer to the MDC Manual for further information and configuration details.

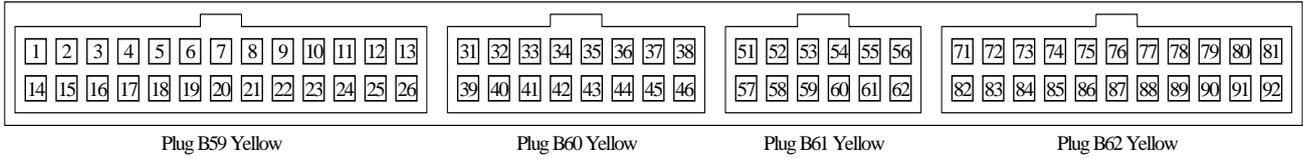
## Using the Pinout Diagram

There are 2 Pinout sections in this document.

The M800 Pinout describes the function of each M800 pin with a reference to the OEM pin number it is connected to. There is a description of its function and optional function where applicable as well as notes on functional setup or calibration as necessary. Where there is one or more options for the pin the option is marked with a # or ##. The corresponding OEM Pin, function and setup notes refer to the parameters in M800 ECU Manager and are all marked with # or ## with any changes in link setup or vehicle modifications detailed.

The OEM ECU Pinout lists pins in order of the factory connector with corresponding MoTeC M800 pin and functional description.

## M800 Pinout



M800 Pin	OEM Pin No.	Standard Function	Optional Function	Setup Notes
<b>Power</b>				
12V	12, 25	12v Switched (ECU Relay)		
GND	13, 26	ECU Earth		
8V ENG		8V to TCK Module		
5V ENG	81,	5V sensor supply		
0V ENG	92, #40	0V sensor supply	# Spare 0V to pin 40 for extra sensors	# Join Link23 to connect 0V to pin 40
8V AUX	INT	8V to internal comms connector		
5V AUX	#31	5 V to internal barometer	#Spare 5V to pin 31 for extra sensors	#Join Link24 to connect 5V to pin 31
0V AUX	#42	0V to internal Comms Connector and Internal barometer	# Spare 0V to pin 42 for extra sensors	#Join Link19 to connect 0V to pin 42
<b>Outputs</b>				
INJ1	1	Injector Cylinder 1		
INJ2	2	Injector Cylinder 3		
INJ3	15	Injector Cylinder 4		
INJ4	14	Injector Cylinder 2		

	OEM Pin No.	Standard Function	Optional Function	Setup Notes
INJ5	22, #35	22. A/C Clutch (Cars without immobiliser) 22. Fuel pump (with immobiliser)	#35. ORB Status output (optional EVO 7 & 8) Uses Spraybar lamp	<p><b>Function:</b> (Cars without immobiliser)</p> <p>104 Air Conditioner Clutch</p> <p>Parameters can be set to switch compressor off at high speed:</p> <p>On Pos: 90 Off Pos: 95 On RPM 4000 Off RPM 6000 Recover Time 1 Polarity 0 Output Mode 0</p> <p><b>Function:</b> (Evo6/7 with immobiliser)</p> <p>101 Fuel Pump</p> <p>Parameters:</p> <p>Delay 5 Polarity 0 Output Mode 0</p> <p><b>#Optional Function</b></p> <p>115 Status Output</p> <p>Parameters:</p> <p>Selection 31 (ORB) Logic Polarity 0 Output Mode 0 Flash 0 Flash rate 0</p> <p>#Join Link27</p>
INJ6	55, 91	Spray Bar Output (Evo7)		<p><b>Function:</b></p> <p>114 Spray Bars</p> <p>Parameters:</p> <p>Mode 1 On Value 85 Off Value 80 On Time 2.0 Off Value 7.0 Source 0 MAP (optional) 1 TP 2 Efficiency point 3 Load point 4 Air Temp</p> <p>Logic Polarity 0</p> <p>Settings may vary depending on requirements.</p> <p><b>#Optional Pin Assignment</b></p> <p>Cut Link3 to disconnect from pin 91 on Evo4/5/6 and 8USA</p>

M800 Pin	OEM Pin No.	Standard Function	Optional Function	Setup Notes
INJ7	53, #57	53. 2 <sup>nd</sup> Air Solenoid for use with ORB (EVO7/8)	57. #Spraybar indicator (Evo8 USA)	<p><b>Function:</b> 115 Status Output</p> <p>Parameters: Selection 31 (ORB) Logic Polarity 0 Output Mode 0 Flash 0 Flash rate 0</p> <p><b>#Optional Function:</b> #Join Link14</p>
INJ8	8 #35	8. Fuel Pump (no Immobiliser) AC clutch output (with immobiliser)	#35. ORB Status output (optional EVO 7 & 8 no A/C) Uses Spraybar lamp	<p><b>Function: No immobiliser</b> 101 Fuel Pump</p> <p>Parameters: Delay 5 Polarity 0 Output Mode 0</p> <p><b>Optional Function: With immobiliser</b> 104 Air Conditioner</p> <p>Parameters can be set to switch compressor off at high speed: On Pos: 90 Off Pos: 95 On RPM 4000 Off RPM 6000 Recover Time 1 Polarity 0 Output Mode 0</p> <p><b># Function:</b> 115 Status Output</p> <p>Parameters: Selection 31 (ORB) Logic Polarity 0 Output Mode 0 Flash 0 Flash rate 0</p> <p># Join Link28</p>
IGN1	10	Ignition Cylinder 1&4		
IGN2	23	Ignition Cylinder 2&3		

M800 Pin	OEM Pin No.	Standard Function	Optional Function	Setup Notes
IGN3	21, #34	21. Thematic fan (Evo4/5/6)	#34. Thematic Fan 4kHz (Evo7/8)	<p><b>Function:</b> 102 Thematic Fan</p> <p>Parameters</p> <p>On Temp      90 Off Temp      80 Time Out      10 Frequency    4000 Polarity      1 Output Mode   0 Min Duty      0</p> <p><b>#Optional Pin Assignment Pin 34</b> EVO 7 &amp; 8 # Join Link21, cut Link22 (disconnects IGN4 from Pin34)</p>
IGN4	32,34, #20	32,34. A/C Fan (Evo 6/7)	#20. A/C Fan (Evo 4/5/6)	<p><b>Function:</b> 103 A/C Fan</p> <p>Parameters:</p> <p>On Temp      30 Off Temp      25 On Speed      50 Off Speed      50 Hold Time      0 Speed Channel 1</p> <p><b>#Optional Pin Assignment Pin 20</b> EVO 4 5 &amp; 6 # Join Link21, cut Link22</p>
IGN5	36, 38	36. Driver Warning Light with power hold function. (Uses Engine Check Light) 38. ECU relay (via driver warning) Controlled by the ignition switch via a circuit on the adaptor and M800 output shared with the warning light		<p><b>Function:</b> 108 Driver Warning Alarm</p> <p>Parameters:</p> <p>Hold Time      2 Logic Polarity 0 Output Mode   0 Power Hold    1 (minimum)</p>
IGN6	58	Tacho Signal		<p><b>Function:</b> 4 Tacho Output</p> <p>Parameters</p> <p>Calibration    0</p>

M800 Pin	OEM Pin No.	Standard Function	Optional Function	Setup Notes
AUX1	33, #9	33. Alternator Control	#9. Canister purge Evo7 optional)	<p><b>Function:</b> 113 Alternator Control Parameters Set as required. The alternator can be switched off at full throttle if desired. Use battery voltage and throttle position as table axis and configure so that the alternator is only cut when battery voltage is sufficiently high.</p> <p><b>#Optional Function</b> 3 Aux table #Cut Link20, join Link26</p>
AUX2	60, #54, ##INT	60. Lambda heater (LA-2)	#54. Evo8 USA ##Lambda heater (using internal lambda connector)	<p><b>Function:</b> 9 Lambda Sensor Heater Parameters: Lambda Sensor 2</p> <p><b>#Optional Function</b> #Join Link13 to connect to pin 54 (Evo8 USA) ##Cut Link18 to disconnect AUX2 from the ECU connector (pin60) when using internal lambda connection.</p>
AUX3	11, #57	11. Boost Control	#57. Some Evo8 models have 2 <sup>nd</sup> solenoid on 57	<p><b>Function:</b> 1 Boost control. Parameters: Frequency 30 Hz</p> <p><b>#Option</b> #Cut link14 (default setting) and close Link15 for 2<sup>nd</sup> boost solenoid output on pin 57.</p>
AUX4	6	2 <sup>nd</sup> Air Solenoid for use with ORB Alternator Control (Evo4/5/6)	#EGR Solenoid (Evo7)	<p><b>Function:</b> 115 Status output Parameters: Selection 31 (ORB) Logic Polarity 0 Output Mode 0 Flash 0 Flash Rate 0</p> <p><b>#Optional Function</b> 3 Aux table</p>
AUX5	4	Idle Stepper Motor A1		<p><b>Function:</b> 8 Stepper Idle Speed Control Parameters; Refer to Idle Control section Uses Aux 6, 7 &amp; 8 (Automatically allocated).</p>

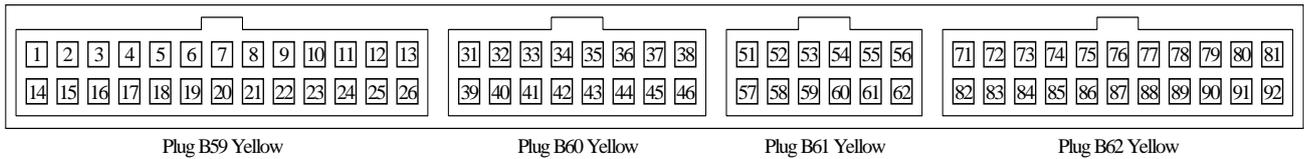
M800 Pin	OEM Pin No.	Standard Function	Optional Function	Setup Notes
AUX6	17	Idle Stepper Motor B1		Automatically allocated
AUX7	5	Idle Stepper Motor A2		Automatically allocated
AUX8	18	Idle Stepper Motor B2		Automatically allocated

M800 Pin	OEM No.	Pin	Standard Function	Optional Function	Setup Notes
<b>Inputs</b>					
REF	89		Ref Sensor (Hall)		
SYNC	88		Sync Sensor (Hall)		
AT1	72		Air temperature (AFM Pin2)		Calibration: 1
AT2	83		Engine Temp		Calibration: 1
AT3	82		Ignition Switch		<b>Function:</b> 8 Ignition Switch Parameters: Logic Polarity 1 Delay 0 Latch 0
AT4	71, 43		71. Cranking switch input	#43. Clutch switch Evo8 MR / USA) #43. Spare AT input	<b>#Optional Function</b> #Cut Link8 to use as a clutch switch or spare switched input. (Disconnects input from Pin 71)
AT5	24		A/C Switch Evo7/8	# Map select input or Spare AT Input(Evo4/5/6). ## Map select input or Spare AT (Evo7/8)	<b>Function: - Evo7/8 Function: - Evo7/8</b> Can be used as A/C Request instead of AT4 but request will not be dependant on pressure switches. Set up as per AT6. 5 Air conditioning Request Parameters: Logic Polarity 1 Set AT levels: Low 5.5v High 6.0v. <b>#Optional Function</b> #Join Link 25 to use as a spare switched input. Blocking diode is by-passed. ## Requires wiring modification. Disconnect A/C Switch from Pin 24.
AT6	45		A/C Request A/C Request (Via pressure switches) Pressure Switch Operation: Low pressure side ON > OFF: 196 kPa OFF > ON: 221 kPa High Pressure Side ON > OFF: 3138 kPa OFF > ON: 2550 kPa	#Map select input (user option).	<b>Function:</b> 5 Air conditioning Request Parameters: Logic Polarity 1 Set AT levels: Low 5.5v High 6.0v. <b>#Optional Function</b> #Requires wiring modification. Connect A/C Request input to Pin 43 (AT4) and cut Link8. Set AT4 as A/C request. Join Link17, Cut Link8.
AV1	84		Throttle Position		Calibration: 9
AV2	73		Manifold differential pressure sensor (Evo7 & Evo8 USA)	Spare input Evo4/5/6 & 8MR	
AV3	85		BAP (MAF meter)		Mass air flow sensor has in-built air pressure sensor
AV4	INT		Internal Barometer		Calibration: 62

M800 Pin	OEM Pin No.	Standard Function	Optional Function	Setup Notes
AV5	#91		#Spare input (No TCK)	Connected by joining Link1
AV6	77, #K-13	Fuel Temp	EGT TC+. Requires TCK module. Connect EGT TC- to pin 82	#Cut Link6 and Link7, Join Link5
AV7	75	Spare Input Evo4/5/6/7 Rear lambda (Evo8 USA/Evo8MR)		
AV8	61	Spare input Evo4/5/6/7/8MR Fuel tank pressure Evo8 USA		
DIG1	86	Vehicle Speed		<b>Function:</b> 1 Speed Measure Parameters: Units 1 Calibration 248 Active Edge 0
DIG2	90	MAF Frequency Measurement (AFM Pin3)		<b>Function:</b> (For V2* ECU manager only, Setup in Input setup for V3 Open collector frequency output. Refer to MAF Calibration Table.) 21 MAF Measurement Parameters: Calibration 0.33 Active Edge 0 Filter 60 +/- 60
DIG3	37	Power Steering Switch		<b>Function:</b> 18 Power Steering Set AT levels: Low 5.5v High 6.0v
DIG4	44	ORB Select Function (Evo7/8) Spare input (Evo4/5/6)		<b>Function:</b> 24 ORB Table Select Parameters Polarity 0 Momentary 1 or 25 ORB Select Parameters: Polarity 0 Spray Bars 1 Logging As required
LA1S	76	Narrow band Lambda	#Wide band sensor	Calibration: 37 Front Lambda sensor. Bias resistor is connected via link 4 (default setting). #Cut Link4 (wiring modification required see LA-1P)

M800 Pin	OEM Pin No.	Standard Function	Optional Function	Setup Notes
LA1P	52		#Use if vehicle wiring is being modified to use a wide band lambda sensor	
LA2S		Wide band lambda using internal Lambda 2 connector		Calibration: 38 LA-2 connector on Adaptor
LA2P		Wide band lambda using internal Lambda 2 connector		
<b>Communications</b>				
RS232 TX	62, #87	Internal Comms Connector  62. Comms (pin7), ACD and SRS ECUs. Do not use this pin for Comms if airbags are functional.	#87. MoTeC Diff Controller (MDC)	#Join Link2 and Link 12 for MoTeC Mitsubishi Diff Controller, connects communications to pin 79
RS232 RX	#87	Internal Comms Connector	#MoTeC Diff Controller (MDC)	#Join Link2 and Link 12 for MoTeC Mitsubishi Diff Controller, connects RS232 communications to pin 87. Refer to MoTeC MDC Manual for setup information
CAN LO	#62	Internal Comms Connector	#62. Comms connector (pin7),	# Join Link 10 and cut Link 11 connect CAN Lo to Pin 62 disconnects Tx232 from Pin62
CAN HI	#56, #79	Internal Comms Connector	#56. Comms connector (pin1), #79. Comms connector (pin1), (EVO5 and 6.5)	Join Link9 to connect CAN Hi to pins 56 and 79

## OEM ECU Pinout



OEM Pin	M800 Pin	Function
1	INJ1	Injector Cylinder 1
2	INJ2	Injector Cylinder 3
3	O/C	Not used
4	AUX5	Idle stepper control
5	AUX7	Idle stepper control
6	AUX4	Secondary Air Control Solenoid
7	O/C	Not used
8	INJ8	Fuel Pump (no immobiliser)/AC clutch (with immobiliser)
9	#AUX1	Purge Control (EVO7 optional)
10	IGN1	Ignition Cylinders 1&4
11	AUX3	Boost control output
12	VBAT	12 V
13	GND	GND
14	INJ4	Injector Cylinder 2
15	INJ3	Injector Cylinder 4
16	O/C	Not used
17	AUX6	Idle stepper motor
18	AUX8	Idle stepper motor B2
19	O/C	Not used
20	#IGN4	A/C Fan1 (Evo4/5/6)
21	IGN3	Thematic fan (Evo4/5/6/7)
22	INJ5	A/C clutch / Fuel pump (Evo6/7 with immobiliser)
23	IGN2	Ignition Cyl 2&3
24	AT5	A/C2 Request (Evo7) / #Spare AT input(Evo4/5/6)
25	VBAT	12 V
26	GND	GND
31	5V AUX	Spare 5V pin
32	IGN4	A/C fan Evo6/7)
33	AUX1	Alternator control
34	#IGN3	A/C fan Evo6/7)
35	#INJ5, #INJ8	ORB Status output (optional Evo7/8) / Spare output Evo4/5/6
36	IGN5	Shift /Warning light
37	DIG3	Power steering oil pressure switch
38	#IGN5	ECU Relay (optional)
39	O/C	Not used
40	0V ENG	Spare 0V pin

OEM Pin	M800 Pin	Function
41	O/C	Not used
42	#0V AUX	Spare 0V pin
43	#AT4	Clutch switch (Evo8 MR/USA)
44	DIG4	ORB Select (Evo7/8)
45	AT6	A/C request /map selector input
46	O/C	Not used
51	O/C	Not used
52	LA1-P	LA1 pump for wideband sensor (wiring mod required)
53	INJ7	2 <sup>nd</sup> air solenoid (Evo7) or spare output
54	#AUX2	Rear lambda heater (Evo8 USA)
55	INJ6	Spray bars or canister purge solenoid
56	#CAN Hi	CAN Hi to ADL via diagnostic connector (optional)
57	#INJ7, #AUX3	Spraybar indicator (Evo8 USA)/Boost control (Evo8MR)
58	IGN6	Tacho
59	O/C	Not used
60	#AUX2	LA1 Heater (Evo5/6/7)
61	AV8	Fuel tank pressure/Spare input
62	TX232, #CAN Lo	RS232 telemetry / #CAN connection to ADL (optional)
71	AT4	Cranking signal / clutch switch
72	AT1	Intake air temperature sensor
73	AV2	Manifold Differential pressure sensor (Evo7) / Spare input (Evo4/5/6/8)
74	K12	Exhaust temp TC+
75	AV7	Rear lambda (Evo8 USA/8MR) / Spare input (Evo4/5/6/7)
76	LA1-S	Narrow band lambda. #LA1 sense for wideband
77	AV6, #K13	Fuel temp sensor, #Exhaust temp TC-
78	K1	Knock monitoring
79	#CAN Hi	CAN-Hi to ADL via
80	O/C	Not used
81	5V ENG	5 V sensor supply
82	AT3	Ignition switch
83	AT2	Engine Temp sensor
84	AV1	Throttle Position Sensor
85	AV3	Barometric pressure sensor (in Airflow Meter)
86	DIG1	Vehicle speed sensor
87	#Rx/Tx232	
88	SYNC	Sync sensor (Hall)
89	REF	Ref sensor (Hall)
90	DIG2	Mass Airflow Sensor
91	INJ6	Manual I/C spray (momentary switch, Evo7)
92	0V ENG	

## Calibration Tables

### Mass Air Flow Sensor DIG2

g/s 1 decimal place

Input (Hz)	0.0	10.0
g/s	0.0	3.3

### Setup

Parameter	Value	Notes
Injector Current	0.0	
Injector Battery Comp	4	See Injector Battery Comp Table
Eff Calc Method	5 Mass per induction	
Load Calc Method	5 Mass per induction	
Number of Cylinders	4	
Ref/Sync Mode (REF)	16	
Crank Ref Teeth (CRT)	0 (Not used)	
Tooth Ratio	20	
Crank Index Position (CRIP)	615.0	
Ignition Type (IGN)	1	
Number of Coils (COIL)	2	
Ignition Dwell Time (DELL)	3.0	See Ignition Dwell Table
Ignition Delay Time	50	
Firing Order	1, 3, 4, 2	

### Injector Battery Comp

Bat V	5	6	7	8	9	10	11	12	13	14	15
U sec	2500	2500	2400	2140	1660	1320	1060	880	740	660	580

### Ignition Dwell Table

Bat V	10	11	12	13	14	15
Dwell	5.3	4.6	4.0	3.6	3.2	3.0

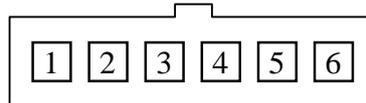
**Link Table** \* Denotes default setup

Open Links	Closed Links	Function
27, 28		* Normal A/C
28	27	INJ5 Auto spray light, no A/C (7,8 – no imm)
27	28	INJ8 auto spray light, no A/C (7,8 – imm)
13	18	*AUX2 front lambda heater
13, 18		AUX2 LA2 heater
	13, 18	AUX2 rear lambda heater (8US)
26	20	*AUX1 alternator control (4,5,7,8)
20	26	AUX1 Purge solenoid (7,8)
21	22	*A/C Fan control (7,8)
22	21	A/C Fan control (4,5,6)
25		*AT5 Active high A/C 2 request
	25	AT5 spare temp input on pin 24
24	19	*No spare power supplies
19	24	Pin 31 5V-AUX, Pin 42 0V-AUX
	23	*0V MAF connection (8)
23		Alarm indicator off (4)
17		*AT6 Active high A/C request
	17	AT6 map select or spare temp input
9, 10	11	*RS232 Tx via diagnostic pin (7)
11	9, 10	CAN via diagnostic pins
	16	*CAN Terminator
16		No CAN Terminator
14, 15		*INJ6 spray bars (7, 8MR)
15	14	INJ7 spray bars (8US)
14	15	AUX3 2 <sup>nd</sup> boost control (8MR)
	8	*AT4 cranking signal
8		AT4 clutch pedal switch (8US)
	4	*La1 narrow band sensor
5	6, 7	*AV6 Fuel temp sensor (8US) or Spare input
6, 7	5	AV6 ECT (Evo4) (needs TCK)
1		*AV5 knock measure (needs TCK)
	1	AV5 to pin 76
	3	*manual spray switch (7, 8MR)
3		Required for (4,5,6,8US)
2, 12		*Factory diff controller
	2, 12	MoTeC Diff Controller (MDC)

**On-board BAP sensor calibration – AV4 , Calibration = 62**

Pressure kPa	Vout (V)	M800 AD counts
15	0.2	54
115	4.8	1284

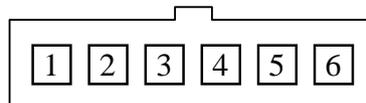
**Lambda 2 Connector**



Looking at pins on male plug (into connector)

OEM	M800	Function
La2-1	LA2-P	La2 header – Pump
La2-2	0V-AUX	La2 header - 0V to sensor
La2-3	LA2-S	La2 header – Sense
La2-4	AT6	La2 header - calibration R
La2-5	VBAT	La2 header - +12 heater
La2-6	AUX2	La2 header – heater

**Comms Connector**



Looking at pins on male plug (into connector)

OEM	CAN – Part # 61046	D9F – Part # 61043	Function
C-1	5	1	CAN Hi
C-2	4	6	CAN Lo
C-3	-	2	Tx RS232
C-4	-	3	Rx RS232
C-5	3	8	8V AUX
C-6	1	5	0V COMMS

## EVO47 Configuration Files

The previous version of this adaptor was the EVO47 (MoTeC Part No. 13005A). Some of the input/output functions have been changed on the EVO48. To use configuration files from EVO47 installations some of the channel assignments will need to be changed.

AT4 now AT6 **Reassign on config conversion**

AV8 function now DIG4 **Reassign on config conversion**

AUX1 function now IGN5 **Reassign on config conversion**