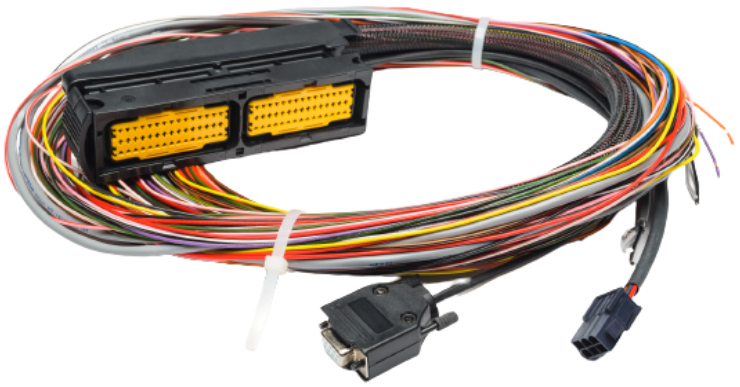
ME221/ME360 ECU & Unterminated Harness
Quick Install Guide

MOTORSPORT ELECTRONICS



www.motorsport-electronics.co.uk

UK SUPPORT: +44 (0) 1373 710 610

1 Introduction **1**

2 Basic Connections **2**

2.1 Grounds 2

2.2 Ignition 12v 2

2.3 Terminated Connections 2

3 Adding and removing wires **3**

3.1 Adding Wires 3

3.2 Removing Wires 3

3 Full harness pinout **4**

1 Introduction

Thank you for purchasing an unterminated harness for your ME221/ME360 ECU! A full manual and the relevant MEITE software is available under support on our website at **www.motorsport-electronics.co.uk/support** or alternatively, feel free to get in touch by phone (Mon-Fri 9am-5pm GMT) on **+44 (0) 1373 710 610**.

This install sheet should help you with the physical installation of the unterminated harness.

It could be helpful to provide this document to the calibrator prior to the ECU being optimised on a dyno/rolling road.

Please find below a reference table describing the functions of certain connections.

The ECU will not have a basemap pre-loaded unless specified by one of our team, please contact us if you are unsure.

2 Basic Connections

This section outlines the main connections required to power the ECU and describes any wires where connectors are pre-fitted (terminated) for reference.

For further details on wiring sensors, coils, knock control, relays etc you will need to refer to the main online manual as this is beyond the scope of this document.

2.1 Grounds

The ECU has multiple ground pins (PINS 10, 61 and 90 - all BLACK).

They should be connected directly to a clean ground on the chassis. These allow current from the injectors, coils, DBW system and low-side switches to flow back to ground.

2.2 Ignition 12v

The Ignition 12V wire (Pin 15 RED) should be connected to a 12V (Ignition Live) i.e. It should become powered when the ignition key or switch is activated. Typically, this would be fused at around 10A or 20A (depending on the amount/type of coils, outputs used etc). No ECU settings will be lost during ECU power off/storage.

The ECU should be wired so that it remains powered during cranking (check ignition barrel wiring carefully if using one).

The relevant wires are detailed in the table in section 3.

2.3 Terminated Connections

The connector labelled 'WB' is for a wideband lambda sensor. The ECU is designed to work only with a genuine Bosch LSU4.9. These are available on our website.

The nine pin RS232 serial connector near the ECU connector is used for communication with a Windows 7 or above laptop, using our free software (MEITE). You will need a FTDI USB to RS232 serial adapter to connect the ECU to the laptop. It is also generally convenient to use a RS232 extension lead between the adapter and the serial connector. Further details on the process to connect to ECU is provided in the online manual on the website.

3 Adding and removing wires

3.1 Adding Wires

1. Crimp the terminal pin to the wire.
2. Using a small flat blade screwdriver or a pick, pry up the yellow faceplate from each side. You will see some small locking clips holding it in place. Use minimal force as this can be damaged easily.
3. Insert the crimped wire into the rear of the connector pushing it through the green seal. The seal is designed to deform and return after the crimp has been pushed through. Ensure that you hear a click and perform a gentle tug test.
4. Repeat until required wires are added.
5. Re-insert yellow faceplate by pushing it back into place, it can only fit one way and will click when secure.

3.2 Removing Wires

1. Using a small flat blade screwdriver or a pick, pry up the yellow faceplate from each side, you will see some small locking clips holding it in place. Use minimal force as this can be damaged easily.
2. Locate the wire you are trying to remove, you will see two plastic jaws locking the crimp into place. Gently, using a de-pinning tool or sharp pick (a toothpick will also work if neither of the latter options are available) pry up the top jaw leaving the pick/toothpick in place. Repeat this process on the lower jaw, then push the crimp backwards.
3. Pull out the crimped wire from the rear of the connector.
4. Re-insert yellow faceplate by pushing it back into place, it can only fit one way and will click when secure.

3 Full harness pinout

A full ECU pinout is provided below, which also documents the colours of populated pins. The 'ECU Assignment' column is provided for convenience, should you wish to fill it in as you build the harness and keep track of where components have been wired, for example the fuel pump relay. This information is then beneficial when configuring the inputs and outputs in the ECU software (MEITE).

COLOUR	ECU PIN	ECU FUNCTION	ECU ASSIGNMENT (fill in where required)
WHITE/ORANGE	1	COIL 4	
WHITE/RED	2	COIL 3	
PINK/ORANGE	3	INJECTOR 4	
PINK/BROWN	4	INJECTOR 2	
	5	DIG_IN 4	
GREY/GREEN	6	DIG_IN 1	
	7	DIG_IN 2	
	8	DIG_IN 3	
	9	LOW SIDE RELAY 18	
BLACK 1.0MM	10	GROUND CHASSIS	GROUND CHASSIS
	11	EGT 1	
	12	LOW SIDE 2	
	13	LOW SIDE RELAY 15	
GREY	14	VBAT IGNITION	TO WB SENSOR CONNECTOR
RED 1.0MM	15	VBAT IGNITION	SWITCHED IGNITION LIVE
WHITE	16	LSU HEATER -VE	TO WB SENSOR CONNECTOR
ORANGE/RED	17	ANA VOLT 3	
	18	ANA VOLT 4	
BLACK	19	LSU UN	TO WB SENSOR CONNECTOR
YELLOW	20	LSU VM	TO WB SENSOR CONNECTOR
YELLOW/WHITE	21	CAN 1 HIGH	

COLOUR	ECU PIN	ECU FUNCTION	ECU ASSIGNMENT (fill in where required)
RED IN SCREENED BLACK WIRE	22	CAM A VR+	
BLUE IN SCREENED BLACK WIRE	23	CAM A VR-	
BLACK	24	SERIAL 1 GROUND	SERIAL 1 GROUND
YELLOW	25	SERIAL 1 TX	SERIAL 1 TX
ORANGE/BROWN	26	ANA VOLT 1	
	27		
	28	INJECTOR 5	
	29		
	30		
WHITE/BROWN	31	COIL 2	
WHITE/BLACK	32	COIL 1	
PINK/RED	33	INJECTOR 3	
	34	DIG_IN 6	
	35	USB D+	
	36	USB D-	
GREEN/WHITE	37	LOW SIDE RELAY 11	
	38	USB VBUS	
	39	LOW SIDE 6	
	40	LOW SIDE RELAY 17	
	41	USB GROUND	
	42	LOW SIDE RELAY 12	
	43	LOW SIDE RELAY 14	
GREEN/PURPLE	44	LOW SIDE 4	
	45	5V REF	5V REF
PURPLE	46	5V REF	5V REF
	47	ANA TEMP 4	
	48	ANA VOLT 7	

COLOUR	ECU PIN	ECU FUNCTION	ECU ASSIGNMENT (fill in where required)
GREEN	49	LSU IA	TO WB SENSOR CONNECTOR
RED	50	LSU IP	TO WB SENSOR CONNECTOR
YELLOW/GREEN	51	CAN 1 LOW	
BLACK/WHITE	52	SENSORS GROUND	SENSORS GROUND + SHEILDS
BLUE	53	KNOCK 1 SIGNAL	
	54	KNOCK 2 SIGNAL	
BLUE	55	SERIAL 1 RX	NA
	56	ANA VOLT 2	
ORANGE/GREEN	57	ANA TEMP 2	
	58	INJECTOR 6	
	59	COIL 5	
	60	COIL 6	
BLACK 1.0MM	61	GROUND	GROUND CHASSIS
	62	DIG_IN 5	
PINK/BLACK	63	INJECTOR 1	
	64	VBAT (H-BRIDGE SUPPLY)	
	65	H-BRIDGE A OUT 1	
	66	H-BRIDGE A OUT 2	
	67	Stepper 1 / A1	
	68	Stepper 2 / A2	
GREEN/PINK	69	LOW SIDE 5	
	70	Stepper 3 / B1	
	71	Stepper 4 / B2	
	72	LOW SIDE RELAY 13	
GREEN/YELLOW	73	LOW SIDE 1	
GREEN/RED	74	LOW SIDE 3	
	75	LOW SIDE RELAY 16	
	76	5V REF	5V REF

COLOUR	ECU PIN	ECU FUNCTION	ECU ASSIGNMENT (fill in where required)
	77	ANA TEMP 3	
	78	ANA VOLT 6	
BROWN	79	TACHOMETER	TACHOMETER
BLUE IN SCREENED BLACK WIRE	80	CRANK VR-	
RED IN SCREENED BLACK WIRE	81	CRANK VR+	
	82	CAM B VR-	
	83	CAM B VR+	
	84	SENSOR GROUND	SENSOR GROUND
	85		
ORANGE/BLACK	86	ANA TEMP 1	
	87	ANA VOLT 5	
	88		
	89	GROUND	NA
BLACK 1.0MM	90	GROUND	GROUND CHASSIS