

ME221/ME360 ECU & ST170 Harness Quick Install Guide



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1 INTRODUCTION

Thank you for purchasing a ST170 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 ST170 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.

A basemap is pre-loaded for your convenience.

2 BASIC CONNECTIONS

Your wiring harness comes fully labelled. Yellow, heatshrunk labels on each arm of the harness describe where they should be connected and are pre-terminated for convenience. The power and ground connections have white tags and must be connected as below;

WIRE LABEL	COLOUR	CONNECT TO
IGN+	RED	SWITCHED 12V (KEY BARREL OR SWITCH)
BATT+	RED	BATTERY POSITIVE (PERMANENT 12V LIVE)
GND	4X BLACK WIRES	CHASSIS GROUND

2.1 GROUNDS

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

The 4x Black wires 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+ wire that activates the main relay 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 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 connector labelled coil is for the Coil pack. The coil pack designed to be used is the Zetec 3 pin oval type. 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.

Other common labels;

LABEL	DEFINITION
IAT	Intake Air Temperature sensor
CLT	Coolant Temperature sensor
TPS	Throttle position sensor
MAP	Manifold absolute pressure
INJ	Injector

3 RELAY CONNECTIONS

Your wiring harness comes with one main relay preinstalled. This is a block style relay that can have extra relays added to it for outputs such as a cooling fan or fuel pump.

Two low side inputs wires are pre-installed up the leg of the main relay allowing you to add up to two further ECU controlled relays. If you wish to use these, connect either of them to the ground pin (86) of the relay and assign the low side correctly in MEITE. Wire the rest of the relay as per the manufacturer's instructions.

Spare relays are available on our website.

COLOUR	ECU PIN	ECU FUNCTION
GREEN/WHITE	37	LOW SIDE RELAY 11
GREEN/YELLOW	73	LOW SIDE 1

4 AUXILIARY CONNECTIONS

Your wiring harness comes with auxiliary/spare wires, which are labelled as 'AUX' on the harness. These spare wires are used for various functions. See examples below

FUNCTION	EXAMPLE USAGE
Low sides	Used for relays and solenoids
Digital inputs	Used for a clutch switch
CAN	Used to send data to a digital display
Knock	Used for aftermarket knock sensors
Tacho	Used for 12v tachometers (rev counters)

For more details and diagrams on how to wire these, please refer to our main online manual.

A full pinout of all the wires in the 'AUX' bundle can be found below;

COLOUR	ECU PIN	ECU FUNCTION	**EXAMPLE ASSIGNMENT IN SOFTWARE**
GREEN/PURPLE	44	LOW SIDE 4	Eg BOOST CONTROL SOLENOID
GREEN/PINK	69	LOW SIDE 5	Eg SHIFT LIGHT
GREY/GREEN	6	DIG IN 1	Eg CLUTCH SWITCH
YELLOW/GREEN	51	CAN 1 LOW	CAN LOW
YELLOW/WHITE	21	CAN 1 HIGH	CAN HIGH
BLACK/WHITE	52	SENSOR GROUND	NA
BROWN	79	TACHO	TACHO
BLUE	53	KNOCK SIGNAL	KNOCK SIGNAL

5 FULL HARNESS PINOUT

A full ECU pinout is provided below, which also documents the colours of populated pins. This information is then beneficial when configuring the inputs and outputs in the ECU software (MEITE).

COLOUR	ECU PIN	ECU FUNCTION	ECU ASSIGNMENT
WHITE/ORANGE	1	COIL 4	COIL 4
WHITE/RED	2	COIL 3	COIL 3
PINK/ORANGE	3	INJECTOR 4	INJECTOR 4
PINK/BROWN	4	INJECTOR 2	INJECTOR 2
GREY/GREEN	6	DIG IN 1	SPARE DIG 1 (AUX)
BLACK	10	CHASSIS GROUND	CHASSIS GROUND
GREY	14	LSU +12V	LSU +12V
RED	15	IGN +12V	IGN +12V
WHITE	16	LSU HEATER -VE	LSU HEATER -VE
ORANGE/RED	17	ANA VOLT 3	THROTTLE POSITION SENSOR
BLACK	19	LSU UN	LSU UN
YELLOW	20	LSU VM	LSU VM
YELLOW/WHITE	21	CAN 1 HIGH	CAN 1 HIGH
RED IN SCREENED BLACK WIRE	22	CAM +	CAM +
BLUE IN SCREENED BLACK WIRE	23	CAM -	CAM -
BLACK	24	SERIAL 1 GROUND	SERIAL 1 GROUND
YELLOW	25	SERIAL 1 TX	SERIAL 1 TX
ORANGE/BROWN	26	ANA VOLT 1	MAP SENSOR

WHITE/BROWN	31	COIL 2	COIL 2
WHITE/BLACK	32	COIL 1	COIL 1
PINK/RED	33	INJECTOR 3	INJECTOR 3
GREEN/WHITE	37	LOW SIDE RELAY 11	FAN
GREEN/PURPLE	44	LOW SIDE 4	SPARE LOW 2 (AUX)
PURPLE	46	5V	5V
GREEN	49	LSU IA	LSU IA
RED	50	LSU IP	LSU IP
YELLOW/GREEN	51	CAN 1 LOW	CAN 1 LOW
BLACK/WHITE	52	SENSOR GROUND	NA
BLUE	53	KNOCK	KNOCK
BLUE	55	SERIAL 1 RX	SERIAL 1 RX
ORANGE/GREEN	57	ANA TEMP 2	INTAKE AIR TEMP
BLACK 1.0MM	61	CHASSIS GROUND	CHASSIS GROUND
PINK/BLACK	63	INJECTOR 1	INJECTOR 1
GREEN/PINK	69	LOW SIDE 5	SPARE LOW 1 (AUX)
GREEN/YELLOW	73	LOW SIDE 1	FUEL PUMP
GREEN/RED	74	LOW SIDE 3	VVT A SOL 1
BROWN	79	TACHO	TACHO
BLUE IN SCEENED BLACK WIRE	80	CRANK VR -	CRANK -
RED IN SCREENED BLACK WIRE	81	CRANK VR +	CRANK +
ORANGE/BLACK	86	ANA TEMP 1	COOLANT
BLACK	90	CHASSIS GROUND	CHASSIS GROUND