

EN Motorsport

Thank you for your purchase of the EN Motorsport S54 PNP adapter for the ECUMaster Black.

Our recommendation is that you use our manual in conjunction with the official pinout from ecumaster to make sure that your installation is correct.

The pinouts stated in this document is also referring to the official one which is looking into the Black ECU.

| Colour coding | |
|---------------|------------------------------------------------|
| Yellow | MUST be used by the ECU |
| Green | Is available and can be used |
| Gray | Extern i/o that is not used by the PNP adapter |

Observe! Pinouts stated below are the same as the official ones. I.e they are looking into the Black ECU. Cables are connected to the connectors in a straight manner as seen in the picture to the right. No cables are crossing each other except if you are using some that are labeled with a green color.



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1. Pinout

| | | |
|------------------------------|-----------------------------|-----------------------------------------------------------|
| Black 39 pin connector | | |
| 1 - Ign coil #5 | 14 - Ign coil #4 | 27 - GND |
| 2 - EGT in #1 | 15 - EGT in #2 | 28 - ECU GND |
| 3 - Knock sensor #1 | 16 - Knock sensor #2 | 29 - Sensor GND |
| 4 - Analog in #2 - DBW Pos 2 | 17 - Analog in #3 DBW Pos 1 | 30 - Analog in #4 Exhaust temp (no calibration available) |
| 5 - CLT - Water temp | 18 - TPS - PPS1 | 31 - Analog #1 - Clutch switch |
| 6 - WBO Vs | 19 - WBO Ip | 32 - IAT - Intake air temp |
| 7 - Camsync in #2 - Exhaust | 20 - VSS - ABS-sensor RR | 33 - WBO VGND |
| 8 - Primary trigger - Crank | 21 - Camsync in #1 - Intake | 34 - +5V output from ECU |
| 9 - Flex Fuel sensor input | 22 - WBO Rcal | 35 - Analog in #5 - TPS Pos 2 |
| 10 - Switch #1 | 23 - Switch #2 | 36 - Switch #3 |
| 11 - RS232 TXD | 24 - RS232 RXD | 37 - Analog in #6 |
| 12 - CAN H | 25 - CAN L | 38 - Sensor GND |
| 13 - Konstant +12V | 26 - +5V output | 39 - Sensor GND |

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| Explanations Green label | |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| 23 - Switch #2 - Brake pedal | This output provides 12V+ when depressed. This can be connected to analog in. It cannot be used directly in the switch input |
| 36 - Switch #3 - Clutch pedal | This output provides 12V+ when depressed. This can be connected to analog in. It cannot be used directly in the switch input |
| 3 - Knock sensor #1 | This can be used when needed. Is often not used when using E85. |
| 16 - Knock sensor #2 | This can be used when needed. Is often not used when using E85. |

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| | | |
|---------------------------------------------|-------------------------------------------------|--------------------------|
| Gray 24 pin connector | | |
| 1 - Ign coil #6 | 9 - Ign coil #3 | 17- GND |
| 2 - H-bridge #1A - VANOS Inlet advance | 10 - H-bridge #1B - VANOS Exhaust valve advance | 18 - Ignition/KL15 +12V |
| 3 - H-bridge #2A - VANOS inlet valve retard | 11 - H-bridge #2B - VANOS exhaust valve retard | 19 - WBO Heater |
| 4 - AUX 6 - Fuel pump relay | 12 - AUX 5 - Idle control valve open | 20 - AUX 4 - DBW control |
| 5 - AUX 3 - Electric fan | 13 - AUX 2 - Idle control valve close | 21 - AUX 1 - AC Clutch |
| 6 - Injector #4 | 14 - Injector #5 | 22 - Injector #6 |
| 7 - Injector #1 | 15 - Injector #2 | 23 - Injector #3 |
| 8 - Ign coil #1 | 16 - Ign coil #2 | 24 - GND |

Modifying the adapter

As you can see above, all outputs are used in the ECUMaster black. This means that you as a customer must choose what to remove if you want to run a MAC-valve for boost control or similar.

EN Motorsport recommends to sacrifice AC(AUX 1). It is also possible to remove the Idle control valve and run the DBW with idle control.

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Limitations in the PNP adapter

The following is not connected in the adapter:

| Component | Comment: |
|------------------------|-----------------------------------------------|
| EVAP | Tank ventilation. Can be vented to atmosphere |
| Original oxygen sensor | Bosch LSU 4.2 or 4.9 should be used |
| Air mass meter | Is not used, Use the MAP sensor in the ECU |

Examples of installation

