MoTeC M1 TUNE

[] Queen's Univeristy Q20 Tune
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## Wiring Summary

| PIN | Abbreviation | Name | Usage |
|---|---|---|---|
| D_3 | AT1 | Analogue Temperature Input 1 | Analogue Input ..... Inlet Air Temperature Sensor Voltage |
| D_4 | AT2 | Analogue Temperature Input 2 | |
| D_5 | AT3 | Analogue Temperature Input 3 | |
| D_6 | AT4 | Analogue Temperature Input 4 | |
| A_1 | AT5 | Analogue Temperature Input 5 | Analogue Input ..... Coolant Temperature Sensor Voltage |
| A_2 | AT6 | Analogue Temperature Input 6 | |
| C_14 | AV1 | Analogue Voltage Input 1 | Analogue Input ..... Gear Shift Actuator Pressure Sensor Voltage |
| C_15 | AV2 | Analogue Voltage Input 2 | Analogue Input ..... Throttle Pedal Sensor Main Voltage |
| C_16 | AV3 | Analogue Voltage Input 3 | Analogue Input ..... Throttle Servo Bank 1 Position Sensor Main Voltage |
| C_17 | AV4 | Analogue Voltage Input 4 | Analogue Input ..... Throttle Servo Bank 1 Position Sensor Tracking Voltage |
| C_25 | AV5 | Analogue Voltage Input 5 | |
| D_20 | AV6 | Analogue Voltage Input 6 | Analogue Input ..... Fuel Composition Sensor Voltage |
| D_21 | AV7 | Analogue Voltage Input 7 | |
| D_22 | AV8 | Analogue Voltage Input 8 | Analogue Input ..... Inlet Manifold Pressure Sensor Voltage |
| B_10 | AV9 | Analogue Voltage Input 9 | |
| B_11 | AV10 | Analogue Voltage Input 10 | |
| B_12 | AV11 | Analogue Voltage Input 11 | |
| B_16 | AV12 | Analogue Voltage Input 12 | Analogue Input ..... Fuel Pressure Sensor Voltage |
| B_17 | AV13 | Analogue Voltage Input 13 | |
| B_18 | AV14 | Analogue Voltage Input 14 | |
| A_3 | AV15 | Analogue Voltage Input 15 | |
| A_4 | AV16 | Analogue Voltage Input 16 | |
| A_5 | AV17 | Analogue Voltage Input 17 | |
| D_12 | BAT_BAK | Battery Backup | |
| A_25 | BAT_NEG | Battery Negative | |
| A_24 | BAT_NEG | Battery Negative | |
| C_11 | BAT_NEG | Battery Negative | |
| C_10 | BAT_NEG | Battery Negative | |
| A_32 | BAT_NEG | Battery Negative | |
| C_26 | BAT_POS | Battery Positive | Analogue Input ..... ECU Battery Voltage |
| B_13 | BAT_POS | Battery Positive | Analogue Input ..... ECU Battery Voltage |
| B_19 | BAT_POS | Battery Positive | Analogue Input ..... ECU Battery Voltage |
| D_17 | CAN1_HI | CAN Bus 1 High | |
| D_18 | CAN1_LO | CAN Bus 1 Low | |

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|---|---|---|---|
| A_30 | CAN2_HI | CAN Bus 2 High | |
| A_31 | CAN2_LO | CAN Bus 2 Low | |
| A_28 | CAN3_HI | CAN Bus 3 High | |
| A_29 | CAN3_LO | CAN Bus 3 Low | |
| A_23 | DIG1 | Digital Input 1 | |
| A_15 | DIG2 | Digital Input 2 | |
| A_16 | DIG3 | Digital Input 3 | |
| A_17 | DIG4 | Digital Input 4 | |
| D_26 | ETH_RX- | Ethernet Receive- | |
| D_25 | ETH_RX+ | Ethernet Receive+ | |
| D_24 | ETH_TX- | Ethernet Transmit- | |
| D_23 | ETH_TX+ | Ethernet Transmit+ | |
| C_3 | IGN_LS1 | Low Side Ignition 1 | |
| C_4 | IGN_LS2 | Low Side Ignition 2 | Digital Output ..... Ignition Cylinder 1 Output<br>Analogue Input ..... Ignition Cylinder 1 Voltage |
| C_5 | IGN_LS3 | Low Side Ignition 3 | |
| C_6 | IGN_LS4 | Low Side Ignition 4 | |
| C_7 | IGN_LS5 | Low Side Ignition 5 | |
| C_8 | IGN_LS6 | Low Side Ignition 6 | |
| C_12 | IGN_LS7 | Low Side Ignition 7 | |
| C_13 | IGN_LS8 | Low Side Ignition 8 | |
| A_6 | IGN_LS9 | Low Side Ignition 9 | |
| A_7 | IGN_LS10 | Low Side Ignition 10 | |
| A_8 | IGN_LS11 | Low Side Ignition 11 | |
| A_9 | IGN_LS12 | Low Side Ignition 12 | |
| C_23 | INJ_LS1 | Low Side Injector 1 | Digital Output ..... Fuel Cylinder 1 Primary Output<br>Configuration ..... Fuel Cylinder 1 Primary Pin<br>Analogue Input ..... Fuel Cylinder 1 Primary Voltage |
| C_24 | INJ_LS2 | Low Side Injector 2 | |
| B_9 | INJ_LS3 | Low Side Injector 3 | |
| B_15 | INJ_LS4 | Low Side Injector 4 | |
| B_8 | INJ_LS5 | Low Side Injector 5 | |
| B_14 | INJ_LS6 | Low Side Injector 6 | |
| C_19 | INJ_PH1 | Peak Hold Injector 1 | |
| C_20 | INJ_PH2 | Peak Hold Injector 2 | |
| C_21 | INJ_PH3 | Peak Hold Injector 3 | |
| C_22 | INJ_PH4 | Peak Hold Injector 4 | |
| C_27 | INJ_PH5 | Peak Hold Injector 5 | |
| C_28 | INJ_PH6 | Peak Hold Injector 6 | |
| C_29 | INJ_PH7 | Peak Hold Injector 7 | |
| C_30 | INJ_PH8 | Peak Hold Injector 8 | |
| B_22 | INJ_PH9 | Peak Hold Injector 9 | |
| B_23 | INJ_PH10 | Peak Hold Injector 10 | |
| B_24 | INJ_PH11 | Peak Hold Injector 11 | |
| B_25 | INJ_PH12 | Peak Hold Injector 12 | |
| D_7 | KNOCK1 | Knock Input 1 | Analogue Input ..... Knock Cylinder 1 |
| D_7 | KNOCK1 | | |

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|---|---|---|---|
| | | Differential Knock Input 1.Positive | |
| D_13 | KNOCK2 | Differential Knock Input 1.Negative | |
| D_13 | KNOCK2 | Knock Input 2 | |
| A_13 | KNOCK3 | Differential Knock Input 2.Positive | |
| A_13 | KNOCK3 | Knock Input 3 | |
| A_14 | KNOCK4 | Differential Knock Input 2.Negative | |
| A_14 | KNOCK4 | Knock Input 4 | |
| A_11 | LA_NB1 | Lambda Narrow Input 1 | |
| A_12 | LA_NB2 | Lambda Narrow Input 2 | |
| A_20 | LIN | LIN Bus | |
| C_18 | OUT_HB1 | Half Bridge Output 1 | |
| C_18 | OUT_HB1 | Bridge Output 1.Negative | Digital Output ..... Throttle Servo Bank 1 Motor Output |
| C_1 | OUT_HB2 | Bridge Output 1.Positive | Digital Output ..... Throttle Servo Bank 1 Motor Output |
| C_1 | OUT_HB2 | Half Bridge Output 2 | |
| C_31 | OUT_HB3 | Bridge Output 2.Negative | |
| C_31 | OUT_HB3 | Half Bridge Output 3 | |
| C_32 | OUT_HB4 | Half Bridge Output 4 | Analogue Input ..... Gear Shift Actuator Up Voltage<br>Digital Output ..... Gear Shift Actuator Up Output<br>Configuration ..... Gear Shift Actuator Up Pin |
| C_32 | OUT_HB4 | Bridge Output 2.Positive | |
| C_33 | OUT_HB5 | Bridge Output 3.Negative | |
| C_33 | OUT_HB5 | Half Bridge Output 5 | Digital Output ..... Gear Shift Actuator Down Output<br>Configuration ..... Gear Shift Actuator Down Pin<br>Analogue Input ..... Gear Shift Actuator Down Voltage |
| C_34 | OUT_HB6 | Half Bridge Output 6 | Analogue Input ..... Turbocharger Bypass Actuator Voltage<br>Configuration ..... Turbocharger Bypass Actuator Pin<br>Digital Output ..... Turbocharger Bypass Actuator Output |
| C_34 | OUT_HB6 | Bridge Output 3.Positive | |
| B_20 | OUT_HB7 | Half Bridge Output 7 | |
| B_20 | OUT_HB7 | Bridge Output 4.Negative | |
| B_21 | OUT_HB8 | Half Bridge Output 8 | Analogue Input ..... Boost Actuator Normal Voltage<br>Digital Output ..... Boost Actuator Normal Output |
| B_21 | OUT_HB8 | Bridge Output 4.Positive | |
| B_1 | OUT_HB9 | Half Bridge Output 9 | |
| B_1 | OUT_HB9 | Bridge Output 5.Negative | |
| B_2 | OUT_HB10 | Half Bridge Output 10 | |
| B_2 | OUT_HB10 | Bridge Output 5.Positive | |
| A_21 | RS232_RX | RS232.Receive | |
| A_21 | RS232_RX | RS232 Receive | |
| A_22 | RS232_TX | RS232.Transmit | |

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|---|---|---|---|---|
| A_22 | RS232_TX | RS232 Transmit | | |
| A_34 | SEN_0V_A | Sensor 0V A | | |
| D_15 | SEN_0V_A | Sensor 0V A | | |
| A_33 | SEN_0V_B | Sensor 0V B | | |
| D_16 | SEN_0V_B | Sensor 0V B | | |
| A_26 | SEN_0V_C | Sensor 0V C | | |
| A_27 | SEN_0V_C | Sensor 0V C | | |
| B_26 | SEN_5V0_A | Sensor 5.0V A | Analogue Input | ECU Sensor 5V0 A Voltage |
| C_2 | SEN_5V0_A | Sensor 5.0V A | Analogue Input | ECU Sensor 5V0 A Voltage |
| A_19 | SEN_5V0_B | Sensor 5.0V B | Analogue Input | ECU Sensor 5V0 B Voltage |
| C_9 | SEN_5V0_B | Sensor 5.0V B | Analogue Input | ECU Sensor 5V0 B Voltage |
| A_10 | SEN_5V0_C | Sensor 5.0V C | Analogue Input | ECU Sensor 5V0 C Voltage |
| A_18 | SEN_5V0_C | Sensor 5.0V C | Analogue Input | ECU Sensor 5V0 C Voltage |
| D_19 | SEN_6V3 | Sensor 6.3V | Analogue Input | ECU Sensor 6V3 Voltage |
| D_1 | UDIG1 | Universal Digital Input 1 | Configuration<br>Digital Input<br>Analogue Input | Engine Speed Pin<br>Engine Speed Reference<br>Engine Speed Voltage |
| D_1 | UDIG1 | Universal Digital Input Pair 1.Phase A | | |
| D_2 | UDIG2 | Universal Digital Input 2 | Analogue Input | Driver Switch 1 |
| D_2 | UDIG2 | Universal Digital Input Pair 1.Phase B | | |
| D_8 | UDIG3 | Universal Digital Input 3 | Analogue Input | Driver Switch 2 |
| D_8 | UDIG3 | Universal Digital Input Pair 2.Phase A | | |
| D_9 | UDIG4 | Universal Digital Input 4 | Analogue Input | Driver Switch 3 |
| D_9 | UDIG4 | Universal Digital Input Pair 2.Phase B | | |
| D_10 | UDIG5 | Universal Digital Input 5 | Analogue Input | Driver Switch 4 |
| D_10 | UDIG5 | Universal Digital Input Pair 3.Phase A | | |
| D_11 | UDIG6 | Universal Digital Input 6 | | |
| D_11 | UDIG6 | Universal Digital Input Pair 3.Phase B | | |
| D_14 | UDIG7 | Universal Digital Input 7 | Configuration<br>Digital Input<br>Analogue Input | Engine Synchronisation Pin<br>Engine Synchronisation Position<br>Engine Synchronisation Voltage |
| D_14 | UDIG7 | Universal Digital Input Pair 4.Phase A | | |
| B_3 | UDIG8 | Universal Digital Input 8 | Analogue Input<br>Digital Input | Wheel Speed Front Left Sensor Voltage<br>Wheel Speed Front Left Sensor Input |

| | | | Configuration Wheel Speed Front Left Sensor Pin |
|---|---|---|---|
| B_3 | UDIG8 | Universal Digital Input Pair 4.Phase B | |
| B_4 | UDIG9 | Universal Digital Input 9 | Added FR Wheelspeed here |
| B_4 | UDIG9 | Universal Digital Input Pair 5.Phase A | |
| B_5 | UDIG10 | Universal Digital Input 10 | Added BL wheelspeed here |
| B_5 | UDIG10 | Universal Digital Input Pair 5.Phase B | |
| B_6 | UDIG11 | Universal Digital Input 11 | Added BR wheelspeed here |
| B_6 | UDIG11 | Universal Digital Input Pair 6.Phase A | |
| B_7 | UDIG12 | Universal Digital Input 12 | |
| B_7 | UDIG12 | Universal Digital Input Pair 6.Phase B | |