

AiM Infotech

Microtec M197 for Ducati Bikes

Release 1.01



ECU



This tutorial explains how to connect Microtec M197 ECU to AiM devices.

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Supported Ducati Models

At July 2013 Microtec M197 can replace these Ducati bikes ECU:

- Hypermotard 1100
- Monster
 - 400
 - 620
 - 695
 - 750
 - 800
 - 900
 - 1000
 - S2R 800
 - S2R 1000
 - S4
 - S4R
- Multistrada
 - 620
 - 1000
 - 1100
- Superclassic
 - GT1000
 - Paulsmart 1000
 - Sport 1000
- Sport Turing
 - ST2
 - ST3
 - ST4
- Street fighter 1098
- Super Bike
 - 749
 - 848
 - 998
 - 1098
 - 108R
 - 1198
- Super Sport
 - 620
 - 750
 - 800
 - 900
 - 1000

Please note: always check Microtec website at www.microtec.cc to see which bike models are fully compatible.



2 Software Setup

On this ECU CAN line is disabled by default. Please address to Microtec to know how to enable the CAN line. Once performed this step it is important that that CAN Acquisition configuration page IDs (hex) are set as here below.

The screenshot shows the 'Configuration (CAN-acquisition)' window in Mon197 Professional v1.2b. A red box highlights the first three columns: Frame, ID (hex), and Frequency. The table below lists 20 frames with their corresponding IDs and frequencies.

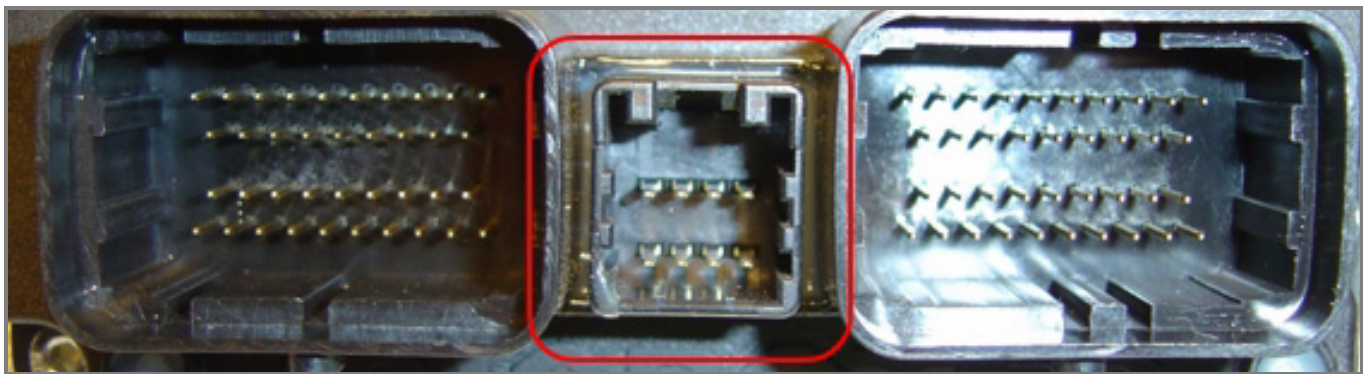
| Frame | ID (hex) | Frequency | Channel 1 | Channel 2 | Channel 3 | Channel 4 |
|-------|----------|-----------|----------------|----------------|----------------|---------------|
| 1 | 200 | 200 Hz | RPM | Mean RPM | - | Milliseconds |
| 2 | 204 | 200 Hz | Revolutions | Smot Errors | - | Gap Errors |
| 3 | 208 | 200 Hz | Throttle | Lambda NBego 1 | Lambda NBego 2 | - |
| 4 | 20C | 200 Hz | Advance 1 | Advance 2 | Terog Base 1 | Terog Base 2 |
| 5 | 210 | 200 Hz | Terog 1A | Terog 2A | Terog 1B | Terog 2B |
| 6 | 214 | 200 Hz | TetaBase | Phase | FaseBase | PickUp Table |
| 7 | 218 | 200 Hz | KJbnc 1 | KJbnc 2 | KAbnc 1 | KAbnc 2 |
| 8 | 21C | 200 Hz | KJbnc | KAbnc | KFbnc | - |
| 9 | 220 | 200 Hz | Adv Transient | Inj Transient | OffsVbatA | OffsVbatB |
| 10 | 224 | 200 Hz | KJuser 1 | KJuser 2 | KAuser 1 | KAuser 2 |
| 11 | 228 | 200 Hz | DJDInT | DADInT | DJDInTrpm | DJDInTh2o/oil |
| 12 | 22C | 200 Hz | KJTair | KATair | KJTH2O/OIL | KATH2O/OIL |
| 13 | 230 | 200 Hz | KJVel | KAVel | KJPbaro | KAPbaro |
| 14 | 234 | 200 Hz | KJCocA | KJCocB | - | KJCrank |
| 15 | 238 | 200 Hz | Air T | Water/oil T | - | Air Baro P |
| 16 | 23C | 200 Hz | Dwell | Battery | Idl Set-Point | Idl Step |
| 17 | 240 | 200 Hz | Engine,DINs | DOUTs,Status | Shift,Inj.Err. | Reset |
| 18 | 244 | 200 Hz | Map-Tune Count | Map-Tune Flags | CAN lambda 1 | CAN lambda 2 |
| 19 | 248 | 200 Hz | Velocity | Space | - | - |
| 20 | 24C | 200 Hz | - | - | - | - |

At the bottom of the window, there is a status bar with the following information: USB: 1098s_fw102, 1098s_fw102_SP_SO_v01, M197 v1.2. Below the status bar is a menu bar with buttons: Close, Tx, Rx, Config, Linear, Maps, Inj, Adv, Param, Save, Load, Monitor, Diag, Code, Pwd, Info, Exit.

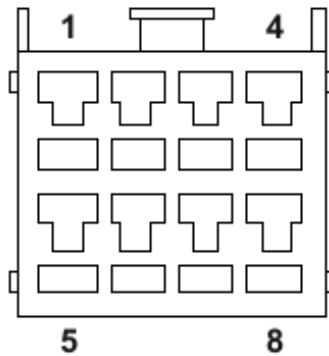
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Wiring connection

Microtec M197 ECU features a bus communication protocol based on CAN on the ECU central AMP male connector, highlighted here below.



The AMP female connector to be plugged in is shown below with the connection table



| Female connector pin | Pin function | AiM cable |
|-----------------------------|---------------------|------------------|
| 2 | CAN High | CAN+ |
| 3 | CAN Low | CAN- |

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AiM device configuration

Before connecting the ECU to AiM device set this up using AiM Race Studio software. The parameters to select in the device configuration are:

- ECU manufacturer "Microtec"
- ECU Model "M197_Ducati"

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Available channels

Channels received by AiM devices connected to "Microtec" "M197_Ducati" protocol are.

| ID | CHANNEL NAME | FUNCTION |
|-----------|---------------------|------------------------------------|
| ECU_1 | M_RPM_MEAN | RPM average value |
| ECU_2 | M_RPM_INST | Instantaneous RPM |
| ECU_3 | M_SPEED | Vehicle speed |
| ECU_4 | M_THROTT | Throttle |
| ECU_5 | M_ADV1 | Cycle Advance 1 |
| ECU_6 | M_ADV2 | Cycle Advance 2 |
| ECU_7 | M_TEROG_B1 | Injector erogation time cylinder 1 |
| ECU_8 | M_TEROG_B2 | Injector erogation time cylinder 2 |
| ECU_9 | M_TETABASE | Ignition base advance |
| ECU_10 | M_PHASE | Injection phase |
| ECU_11 | M_PHASEBASE | Injection phase base |
| ECU_12 | M_AIRT | Intake air temperature |
| ECU_13 | M_ECT | Engine coolant temperature |
| ECU_14 | M_BARO_PRESS | Barometric pressure |
| ECU_15 | M_DWELL | Dwell time |
| ECU_16 | M_BATT_VOLT | Battery voltage |



| | | |
|--------|---------------|------------------------|
| ECU_18 | M_LAMBDA1_CAN | Lambda value 1 via CAN |
| ECU_19 | M_LAMBDA2_CAN | Lambda value 2 via CAN |
| ECU_20 | M_STOP_SW | Stop switch |
| ECU_21 | M_CLUTCH_SW | Clutch switch |
| ECU_22 | M_NEUTRAL_SW | Neutral switch |
| ECU_23 | M_SIDE_STAND | Side stand |
| ECU_24 | M_LAM1_NBEGO | Lambda value 1 |
| ECU_25 | M_LAM2_NBEGO | Lambda value 2 |