



## AiM User Guide

Adaptronic e420d, 440,  
Plug-in (all) and e1280s ECUs

Release 1.01

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ECU





This user guide explains how to connect Adaptronic ECUs to AiM devices. They are aftermarket products normally installed on cars and can also replace the stock ECU; please refer to Adaptronic website “[www.adaptronic.com.au](http://www.adaptronic.com.au)” to know which car models are supported and how. This document refers to the following Adaptronic ECUs:

- e420d
- 440
- Plug-in (all models)
- e1280s

## 1

## Prerequisites

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AiM devices communicates with Adaptronic ECUs only if these requisites are satisfied:

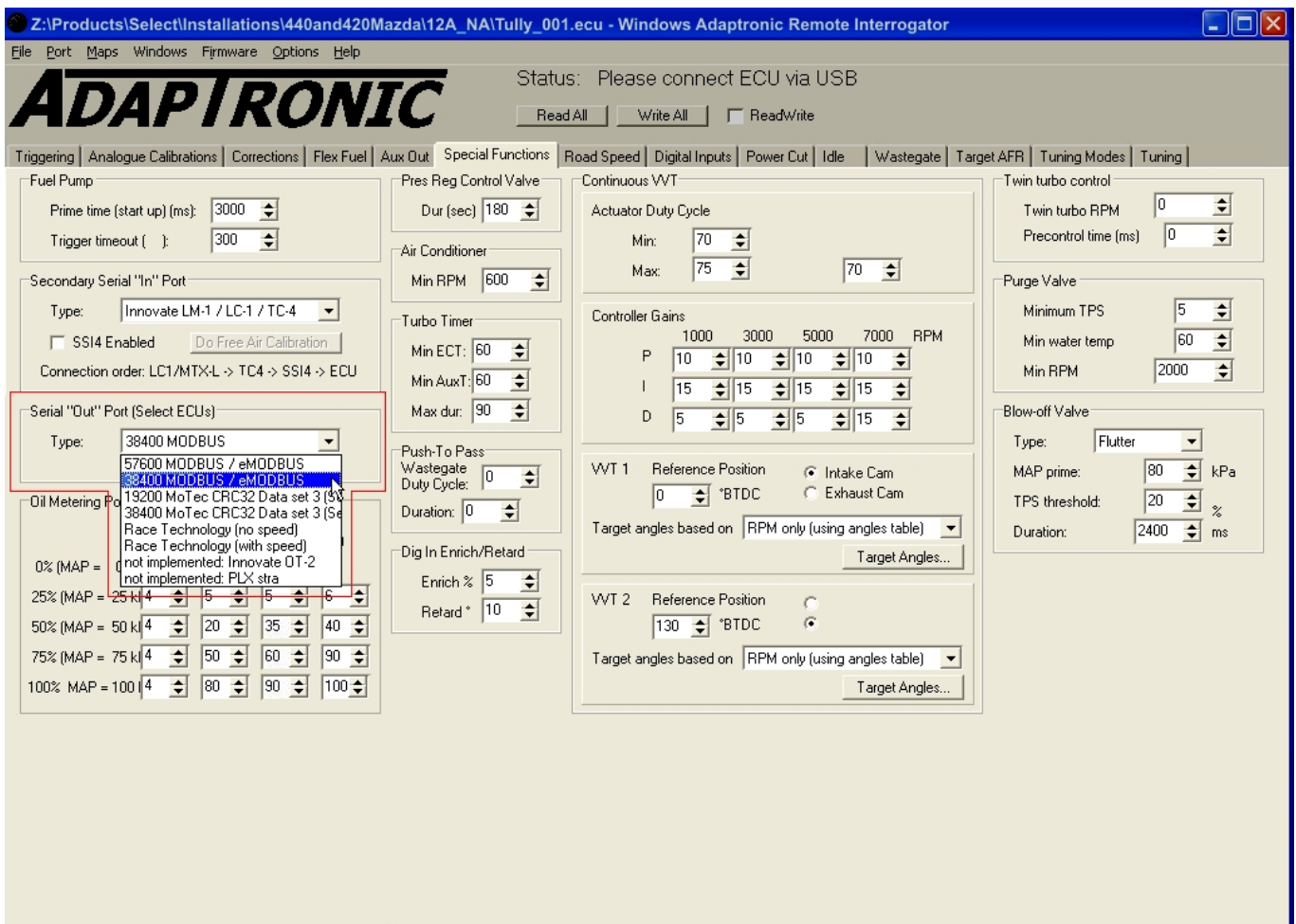
- |                        |   |
|------------------------|---|
| • e420d                | Adaptronic firmware vers. 10.064 or later installed and software setup  |
| • 440                  | Adaptronic firmware vers. 10.064 or later installed and software setup  |
| • Plug-in (all models) | Adaptronic firmware vers. 10.064 or later installed and software setup  |
| • e1280s               | Specific firmware version with preset 38400 baud rate installed. This firmware can only be provided by Adaptronic: <b>no software setting is available.</b> |

## 1.1

# Software setup (e420d, 440 and Plug-in)

e420d, 440 and Plug-inn (all models) ECUs must have a firmware version 10.064 or later installed and need a software setup to communicate with AiM devices. Using Adaptronic software, enter "Special functions layer" and:

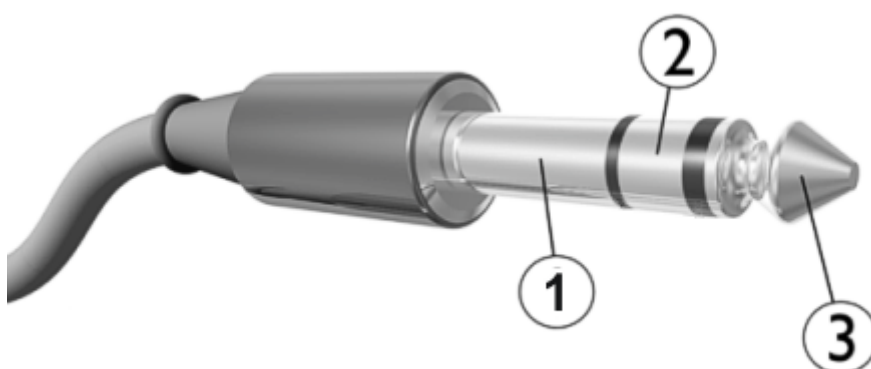
- go to Serial "Out" port (Select ECUs) box and select "38400 MODBUS/EMODBUS" option as shown here below.



## 2

# Wiring connection

All ECUs are provided with a "Serial out" 2,5 mm socket to which a jack connector is to be plugged. Here below you see socket detail and connection table.



Socket connection	function	AiM cable	Cable colour
1 – Sleeve	ECU GND	GND	Black
2 – Ring	ECU Tx (data out)	RS232RX	White
3 – Tip	ECU Rx (ECU poll)	RS232TX	Blue

**Please note:** ECU Serial output and ECU USB cannot be used at the same time. If both are connected USB takes priority.

## 3

# 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 "Adaptronic"
- ECU Model "E420C\_E1280S"

## 4

# Available channels

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Channels received by AiM devices connected to "E420C\_E1280S" protocol are:

ID	CHANNEL NAME	FUNCTION
ECU_1	CH_RPM	RPM
ECU_2	CH_MAP	Manifold air pressure
ECU_3	CH_MAT	Manifold air temperature
ECU_4	CH_WT	Engine coolant temperature
ECU_5	CH_AUXT	Auxiliary temperature
ECU_6	CH_AFR	Air/Fuel ratio
ECU_7	CH_KNOCK	Knock sensor
ECU_8	CH_TPS	Throttle position sensor
ECU_9	CH_IDLE	Idle switch
ECU_10	CH_BATT	Battery supply
ECU_11	CH_MASTE_SPEED	Master speed
ECU_12	CH_SLAVE_SPEED	Slave speed
ECU_13	CH_INJ_1_PULS	Fuel injection pulse 1
ECU_14	CH_INJ_2_PULS	Fuel injection pulse 2
ECU_15	CH_INJ_3_PULS	Fuel injection pulse 3
ECU_16	CH_INJ_4_PULS	Fuel injection pulse 4
ECU_17	CH_IGN_1	Ignition advance 1
ECU_18	CH_IGN_2	Ignition advance 2
ECU_19	CH_IGN_3	Ignition advance 3
ECU_20	CH_IGN_4	Ignition advance 4
ECU_21	CH_FUEL_TRIM	Fuel trim
ECU_22	CH_VVT2	Variable valve timing 2
ECU_23	CH_VVT1	Variable valve timing 1
ECU_26	CH_EXT_IN	External Input
ECU_27	CH_EGT1	Exhaust gas temperature cylinder 1
ECU_28	CH_EGT2	Exhaust gas temperature cylinder 2