

AiM Infotech

# Emerald K3 ECU

#### Release 1.02



ECU



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This tutorial explains how to connect Emerald K3 ECU to AiM devices.

## 1 Software setup

To connect Emerald K3 ECU to AiM devices a software setup is needed. Run Emerald K3 software and follow this path:

• ECU Configuration -> CAN datalink

Map 1 - empty			
File Comms Additional maps Graph Setup 🗄	CU configuration Help		
	ECU version info	Ctrl+E	
EME	Crank/Cam/Distributor sensors		
	Ignition outputs		
WWW.EME	Injector outputs		
Map comments (0/248 used)	Air Temperature Sensor		
	Coolant Temperature Sensor		
Date:	Aux Temperature Sensor		
Owner details:	EGT sensor		
Engine details:	Throttle Position Sensor		
Induction type:	MAP Sensor		
Fuel pressure:	BARO Sensor		
Injectors: AFR/Lambda input			
Injection type:	Injection type: Map Switching		
Exhaust	Exhaust Boost - dash control		
I	Wheel Speed Sensors		
	Idle air control valve		
Details / Events / Ignition / Injection / Idle control / Ign cd	Input channels		
	Output channels		
	Gear position	Jlink	
	CAN datalink		



• "CAN datalink settings" panel appears: set it to "AiM dash".

CAN datalink settings		×
File ECU		
	CAN settings Protocol Emerald/Generic Emerald/Generic AlM dash	
· · · · · · · · · · · · · · · · · · ·		
Map Switch / Boost level / IACV motor / Wheel Speed Sensors / Inputs / Outputs / Gear position / CAN datalink /		
	Offline ECU settings displayed	

• follow the path "ECU -> Update ECU configuration"

EMR CA	N datalink settings		x
File	ECU		
	Read FCIL configuration		
	Update ECU configuration		
	Install firmware		
	CAN settings		
Ma	Switch (Roost level (IAD) mater (Wheel Speed Senare (Insute (Outpute (Gost position	CAN detailer	
	User modified settings displayed		

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# 2 Connection to AiM devices

Emerald K3 ECU features a bus communication protocol based on CAN. Rear on the ECU are two DB9 connectors: AiM devices use the one on the left labelled "COMMS". Here below you see DB9 connector on the left, its pinout on the right and the connection table below.



1	CAN High
2	CAN Low



CAN-

**Please note**: Emerald K3 ECU comes with a programming cable. The images here below show the cable plugged in on the left and an example of cable on the right.



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#### 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 "Emerald"
- ECU Model "K3"

#### 4 Available channels

Channels received by AiM devices connected to "Emerald" "K3" protocol are:

ID	CHANNEL NAME	FUNCTION
ECU_1	K3_RPM	RPM
ECU_2	K3_SPEED	Speed
ECU_3	K3_OILPRESS	Oil pressure
ECU_4	K3_OILTEMP	Oil temperature
ECU_5	K3_ECT	Engine coolant temperature
ECU_6	K3_FUELPRESS	Fuel pressure
ECU_7	K3_BATTVOLT	Battery supply
ECU_8	K3_TPS	Throttle position sensor
ECU_9	K3_MAP	Manifold air pressure
ECU_10	K3_AIRCHARGETEMP	Air charge temperature
ECU_11	K3_EXHTEMP	Exhausted gas temperature
ECU_12	K3_LAMBDA	Lambda value
ECU_13	K3_FUELTEMP	Fuel temperature
ECU_14	K3_GEAR	Engaged gear
ECU_15	K3_ERRORFLAG	Error flag