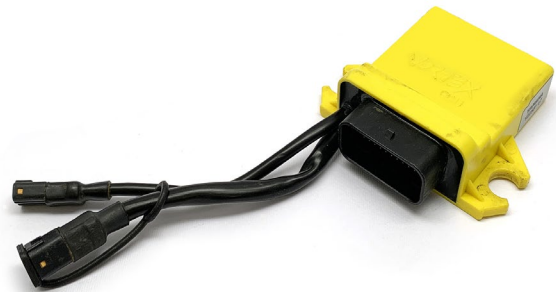


AiM Infotech

Vortex
X10 ECU
(JST - connector)

Release 1.00



ECU



1 Supported models

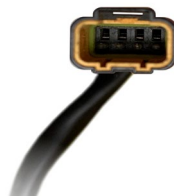
This document explains how to connect AiM devices to the vehicle Engine Control Unit (ECU) data stream.

Supported models are:

- X10

2 Wiring connection

Vortex X10 feature a bus communication protocol based on CAN, this data stream is accessible through the **4 pins JST** connector shown below (front view) with its pinout and connection table.



4 pin JST	Function	AiM cable	AiM color cable
1	V Battery	V Battery	Red
2	CAN High	CAN +	White
3	CAN Low	CAN -	Blue
4	Ground	GND	Black

3 Race Studio configuration

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

- ECU manufacturer: **VORTEX**
- ECU model: **X10_ECU**

4

“Vortex – X10_ECU” protocol

Channels received by AiM devices configured with “VORTEX – X10_ECU” protocol are:

CHANNEL NAME	FUNCTION
RPM	Engine RPM
TPS	Throttle position sensor
Ign_Angle	Ignition angle
Inj_Time	Injection time
Map_Sel	Map selection switch
Low_Fuel_trim_SW	Low fuel trim switch
Mid_Fuel_Trim_SW	Middle fuel trim switch
High_Fuel_Trim_SW	High Fuel trim switch
TPS_Rate	Throttle position rate
MAP	Manifold air pressure
Analog_In1	Analog input 1
Analog_In2	Analog input 2
Analog_In3	Analog input 3
Analog_In4	Analog input 4
Analog_In5	Analog input 5
Analog_In6	Analog input 6
V_Ign	Ignition voltage
Baro_P	Barometric pressure
Iat_Fuel_Trim	Intake air temperature on fuel trim
Ect_Fuel_Trim	Engine coolant temperature on fuel trim
Baro_Fuel_Trim	Barometric pressure on fuel trim
Acc_Fuel_Trim	Acceleration on fuel trim
IAT	Intake air pressure
ECT	Engine coolant temperature
Fault	Fault code



Inj_Duty	Injection duty cycle
Dig_In1	Digital input 1
Dig_In2	Digital input 2
Dig_In3	Digital input 3
Dig_In4	Digital input 4
Dig_Out1	Digital output 1
Dig_Out2	Digital output 2
Dig_Out2 01	Digital output 2 01
Dig_Out4	Digital output 4
Inj_End_Angle	Injection end angle
First_Inj_Trim	First injection trim
Engine_Kill	Engine killing
Flood_Clear	Flood clearance
Out_Inj	Output injection
Out_Inj_Dt	Output injection duty cycle
Out_Inj_End_Angle	Output injection end angle
In_Out_Inj_Split	Input / Output injection split
Tot_Inj_time	Total injection time
Gear	Engaged gear
Active_Map	Active map
Free_Rev_State	Free revolution state

Technical note: not all data channels outlined in the ECU template are validated for each manufacturer model or variant; some of the outlined channels are model and year specific, and therefore may not be applicable.