AiM Infotech

SCS
Delta GDI4 ECU

Release 1.00

ECU

1
Models

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

- Delta GDI4

2
Wiring connection

For SCS Delta GDI4 ECU, it is possible to connect to AiM devices through the AMPSeal 776164-1 connector labelled "Connector A" (following picture). Here below you find the "A Connector" pinout and connection table.

"A connector"	Function	AiM cable	AiM cable color
Pin 21	CAN 1H	CAN High	White
Pin 22	CAN 1L	CAN Low	Blue

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: **SCS**
- ECU model: **DELTA_GDI4**

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"SCS – DELTA_GDI_4" protocol

Channels received by AiM devices configured with "SCS – DELTA_GDI_4" protocol are:

CHANNEL NAME	FUNCTION
RPM	Engine RPM;
TPS	Throttle position sensor
K_Fuel_MAP	Manifold air pressure fuel correction
Idle Learn	Idle learn value
D_Throt	Delta throttle position
Lambda2	Actual measure lambda bank 2
Inj_H_Perc	Percentage staged injection
AE	Acceleration enrichment
I_idle	Idle integrator
KMH	Wheel Speed
DC_Base_Idle	Base idle duty cycle
Idle_Out	Final idle duty cycle
Perc_Slip	Traction control actual slip
Target_Slip	Traction control target slip
IVCT_Angle	Intel cam position angle
EVCT_Angle	Exhaust cam position angle

IVCT_Angle_Target	Target intel cam position
EVCT_Angle_Target	Target exhaust cam position
DBW TPS1	Drive by wire pulse width
Base_Inj_PW	Base injection pulse width
Run_PW1	Final injection pulse width bank 1
SA_Base	Base spark advance
SA_Out	Final spark advance
Lambda1	Actual measure lambda bank 1
Target_Lambda	Target Lambda
Run_PW2	Final injection pulse width bank 2
CLC1	Closed loop control value bank 1
CLC2	Closed loop control value bank 2
Gear	Gear position
Base_Boost_DC	base boost duty cycle
Boost_Out	Final boost duty cycle
Oil_P	Oil Pressure
Fuel_P	Fuel Pressure
SAKnock_Retard1	Knock retard cylinder 1
SAKnock_Retard2	Knock retard cylinder 2
SAKnock_Retard3	Knock retard cylinder 3
SAKnock_Retard4	Knock retard cylinder 4
I_boost	Integral boost control term
Target_boost	Target boost pressure
V_Battery	Battery voltage
DJV_Batt	Injection battery voltage correction
Phase	Injector timing phase
Dwell	Coil dwell time
TPS1I	Raw throttle position 1 voltage
PPS1I	Raw Pedal position 1 voltage
PPS2I	Raw Pedal position 2 voltage
TPS_Drv_Req	Throttle position target
TPS2I	Raw throttle position 2 voltage

TPS_PPS_Fault	Throttle / Pedal fault code
PPS	Scaled final pedal position
PPS1	Scaled pedal position 1
PPS2	Scaled pedal position 2
TPS1	Scaled throttle position 1
TPS2	Scaled throttle position 2
TH2O	Coolant temperature
T_Oil	Oil temperature
K_Fuel_Crk	Crank fuel correction
T_air	Air temperature
TH2O_I	Raw coolant temp sensor voltage
TOil	Raw oil temperature sensor voltage
E_Run_Timer	Engine run timer
T_airl	Raw air temperature sensor voltage
Lambdal	Raw lambda sensor voltage
kFuelTH2o	Coolant temperature fuel correction
K_Fuel_Tair	Air temperature fuel correction
Crk_Cnt	Crank rotation counter
K_Fuel_Baro	Barometer pressure fuel correction
K_Fuel_P	Fuel pressure fuel correction
OSA_TAir	Air temp spark advance correction
RPM_Target_Idle	Target idle speed
KMH16_LR	Left rear wheel speed
KMH16_RR	Right rear wheel speed
KMH16_LF	Left front wheel speed
KMH16_RF	Right front wheel speed
FuelP_Target	Fuel pressure target
Fuel_Level	Raw fuel level
FuelP_Cntrl_DC	Fuel pressure control duty cycle
Aux_Start1	Auxiliary functions status 1
Aux_Start2	Auxiliary functions status 2

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.