AiM InfoTech

WorldSSP300 2019/2020 Solo 2 DL/EVO4S connection cable

Release 1.02

1 Models and years

This tutorial explains how to connect AiM devices to WorldSSP300 bikes Engine Control Unit (ECU). Compatible models are:

- WorldSSP300 bikes (with MecTronik MKE5 ECU) 2019/2020

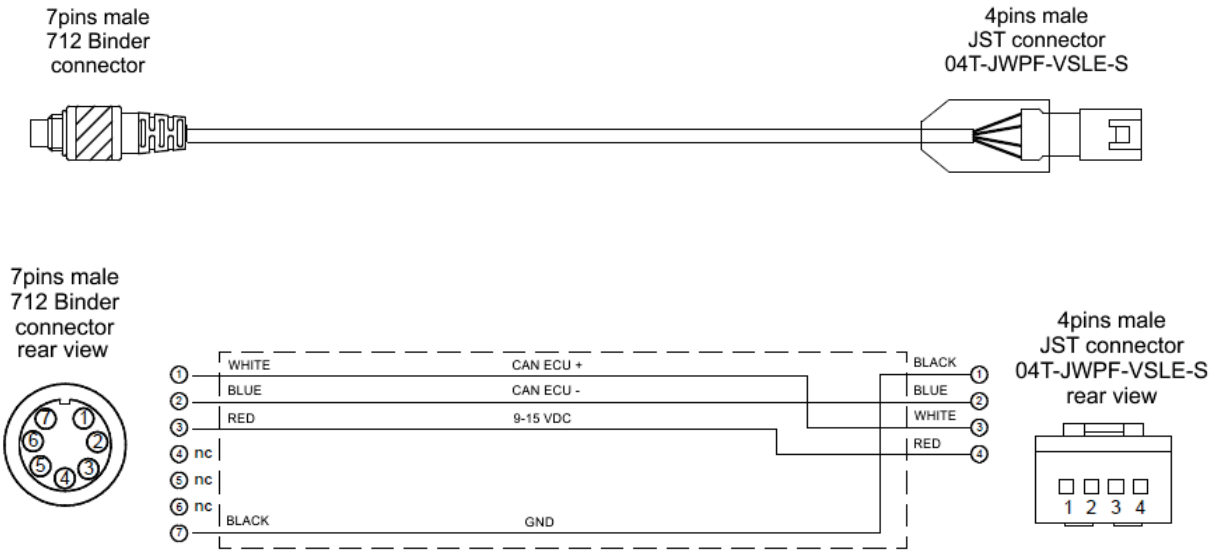
2 Part number

AiM designed a specific connection cable to the WorldSSP300 bikes ECU for EVO4S/SOLO 2 DL. This cable allows to read transmitted data from the ECU via CAN and, at the same time, to power up the system.

The part number of the Solo 2 DL and EVO4S connection cable for WorldSSP300 bikes is: **V02589100**.

3 Connection

The specific Solo 2 DL/EVO4S connection cable for WorldSSP300 bikes allows to connect to the vehicle battery and ECU directly, through the 4pins white JST connector, labelled "CAN devices" (4 equal connectors are available on the bike harness).
Here below, the cable scheme is available.



4 Race Studio 3 configuration

Before connecting the ECU to AiM device set this up using AiM Race Studio 3 software. The parameters to select in the device configuration are:

- ECU manufacturer **MecTronik**
- ECU Model **WSS 2019 V5** (RS3 only)

5
“MecTronik – WSS 2019 V5” protocol

Channels received by AiM loggers connected to “MecTronik – WSS 2019 V5” protocol are:

CHANNEL NAME	FUNCTION
RPM	RPM
VIRTUAL RPM	Virtual RPM
GEARPOS VOLT	Gear voltage
GEAR POS	Active gear
SPEED VEHICLE	Vehicle speed
SPEED REAR	Rear wheel speed
SPEED FRONT	Front wheel speed
BIKE VERT ACC	Bike vertical acceleration
WTS	Water temperature
ATS	Air temperature
OTS	Oil temperature
LAMBDA TEMP	Lambda temperature
BOARD TEMP	Board temperature
OPS	Oil pressure
BRAKE REAR	Rear brake pressure
BRAKE FRONT	Front brake pressure
FPS	Fuel pressure
BAP	Barometric air pressure
MAP	Manifold air pressure
SUSP REAR	Rear suspension position
SUSP FRONT	Front suspension position
BIKE LEAN ANGLE	Lean angle
TPS	Throttle position sensor
DEMAND	Throttle demand
GAS	Handgrip throttle position

CUT LEVEL	Cut level
CLUTCH SLIP	Clutch slip
SHIFT LIGHT	Shift light
LAP TIME	Lap time
VBAT	Battery voltage
VREF 1	Reference voltage 1 (5V)
VREF 2	Reference voltage 2 (5V)
LAMBDA	Lambda
TORQUE REAR	Rear torque
CUT FUNCTION	Cut function
INJ CORR LAMBDA	Lambda injection corrector
TEAM CRC	Team CRC
STEPPER COUNTER	Stepper counter
WORKMODE	Work mode
ENG REVS	Engine revolutions
GEARSHIFT UP SM	Gearshift up state machine
GEARSHIFT DN SM	Gearshift down state machine
LAP INFO	Lap info
LOADCELL	Load cell
MANUFACTURER CRC	Manufacturer CRC
ENG STATE 1	Contains the following status messages:
= 1	STALL
= 2	MOVING
= 3	SYNC
= 4	PHASED
ENG STATE 2	Contains the following status messages:
= 1	TARTED
= 2	SEQUENTIAL
= 3	TOO SLOW
DROPOFF STATE 1	Contains the following status messages:
= 1	ENABLED
= 2	IMU CHECK

= 3	OPS CHECK
= 4	TILT CHECK
= 5	ARMED
= 6	IMU DROP
= 7	OPS DROP
= 8	TILT DROP
DROPOFF STATE 2	Contains the following status messages:
= 1	ENGINE OFF
= 2	LATCH OFF
= 6	IMU SET
= 7	OPS SET
= 8	TILT SET
RBW STATE 1	Contains the following status messages:
= 1	ENABLED
= 5	RECOVERY
RBW STATE 2	Contains the following status messages:
= 1	ERR GAS
= 2	ERR TPS
= 3	ERR PID
= 4	ERR HBR
USER OUTPUT 1	Contains the following messages:
= 1	FAN COOLER
= 2	VACUUM PUMP
= 3	BACK LIGHTS
= 4	TRUMPETS
WORKMODE MASK 1	Contains the following messages:
= 2	RAIN LIGHT
= 3	DROP OFF
= 5	TYRE A
= 6	TYRE B
= 7	TYRE C
= 8	AUX SPROKETS

WORKMODE MASK 2	Contains the following messages:
= 1	DEMAND A
= 2	DEMAND B
= 5	ANGBRAKE A
= 6	ENGBRAKE B
WORKMODE MASK 3	Contains the following messages:
= 8	ANTIJERK
ENGINE FUNCT 1	Contains the following messages:
= 1	ENG KILL
= 2	ENG STOP
= 3	ENG DROPOFF
= 4	RPM LIMIT
= 5	IDLE CTRL
= 6	LAMBDA CTRL
SENSORS DIAG 1	Contains the following diagnostic messages:
= 1	PICKUP
= 2	PHASE SIG
= 3	GAS
= 4	TPS
= 5	MAP
= 6	BAP
= 7	OPS
= 8	FPS
SENSORS DIAG 2	Contains the following diagnostic messages:
= 1	WTS
= 2	ATS
= 3	OTS
= 4	LAMBDA
= 5	DRUMPOS
= 6	LOADCELL
= 7	SPEED FRONT
= 8	SPEED REAR

SENSORS DIAG 3	Contains the following diagnostic messages:
= 1	BRAKE FRONT
= 2	BRAKE REAR
SENSORS DIAG 4	Contains the following diagnostic messages:
= 6	VREF 1
= 7	VREF 2
= 8	VBATTERY
ACTUATORS DIAG 1	Contains the following diagnostic messages:
= 1	COIL 1
= 2	COIL 2
= 3	COIL 3
= 4	COIL 4
= 5	INJECTOR 1
= 6	INJECTOR 2
= 7	INJECTOR 3
= 8	INJECTOR 4
ACTUATORS DIAG 2	Contains the following diagnostic messages:
= 1	INJECTOR 5
= 2	INJECTOR 6
= 3	INJECTOR 7
= 4	INJECTOR 8
= 5	HBRIDGE 1
= 6	HBRIDGE 2
= 7	PWM 1
= 8	PWM 2
ACTUATORS DIAG 3	Contains the following diagnostic messages:
= 1	PWM 3
= 2	PWM 4
= 3	PWM 5
= 4	PWM 6
= 5	PWM 7
= 6	PWM 8

= 7	PWM 9
= 8	PWM 10
ACTUATORS DIAG 4	Contains the following diagnostic messages:
= 1	PWM 11
= 2	PWM 12
= 3	MFO 1
= 4	MFO 2
= 5	MFO 3
= 6	MFO 4
= 7	MFO 5
USER INPUT 1	Contains the following messages:
= 1	BUTTON 1 PRESS
= 2	BUTTON 2 PRESS
= 3	BUTTON 3 PRESS
= 4	BUTTON 4 PRESS
= 5	BUTTON 5 PRESS
= 6	BUTTON 6 PRESS
ENGINE FUNCT 2	Contains the following messages:
= 8	FIM LOCKED
STR FUNCTION 1	Contains the following messages:
= 2	SPEED LIMIT
= 3	GEAR SHIFTUP
= 4	GEAR SHIFTDN
= 5	ENGINEBRAKE CTRL
= 6	ENTIJERK CTRL
LAMBDA FLAGS 1	Contains the following messages:
= 1	LAMBDA ENABLED
= 2	LAMBDA READING
= 3	LAMBDA WRITING
= 5	LAMBDA ACTIVE
= 6	LAMBDA FREEZED
USER INPUT 2	Contains the following messages:

= 1	BUTTON 1 TRIGGER
= 2	BUTTON 2 TRIGGER
= 3	BUTTON 3 TRIGGER
= 4	BUTTON 4 TRIGGER
= 5	BUTTON 5 TRIGGER
= 6	BUTTON 6 TRIGGER
AUX LIGHT	Auxiliary light
CALIB INFO 1	Contains the following messages:
= 1	ENGINE RAM
= 2	ENGINE FLASH
= 3	STRATEGY RAM
= 4	STRATEGY FLASH
CALIB INFO 2	Contains the following messages:
= 7	WARNING
= 8	ERROR
STEPPER STATE 1	Contains the following messages:
= 1	ENABLED
= 2	INIT
= 3	MANUAL
= 4	CALIBRATION
= 5	FEEDBACK
= 6	CLOSEDLOOP
= 7	RECOVERY
WORKMODE MASK 4	Contains the following messages:
= 1	SHIFT UP
= 2	SHIFT DOWN
= 3	LAMBDA CTRL
= 4	INJ CORR CYL
= 5	INJ CORR MAIN
= 6	INJ CORR SPEED
= 7	IGN CORR A
= 8	IGN CORR B

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.