Pectel SQ6-SQ6M

Omega CAN

Racing Data Power

INTRODUCTION

AIM has developed special applications for many of the most popular ECUs: by special applications we mean user-friendly systems which allow to easily connect your ECU to our high tech data loggers: user needs only to install harness between the **logger** and the ECU.

Once connected, the logger displays (and/or records, depending on the logger and on the ECU data stream and configuration) values like RPM, engine load, throttle position (TPS), air and water temperatures, battery voltage, speed, gear, lambda value (air/fuel ratio) analog channels…

All AIM loggers include – free of charge – **Race Studio 2** software, a powerful tool to configure the system and analyze recorded data on your PC.

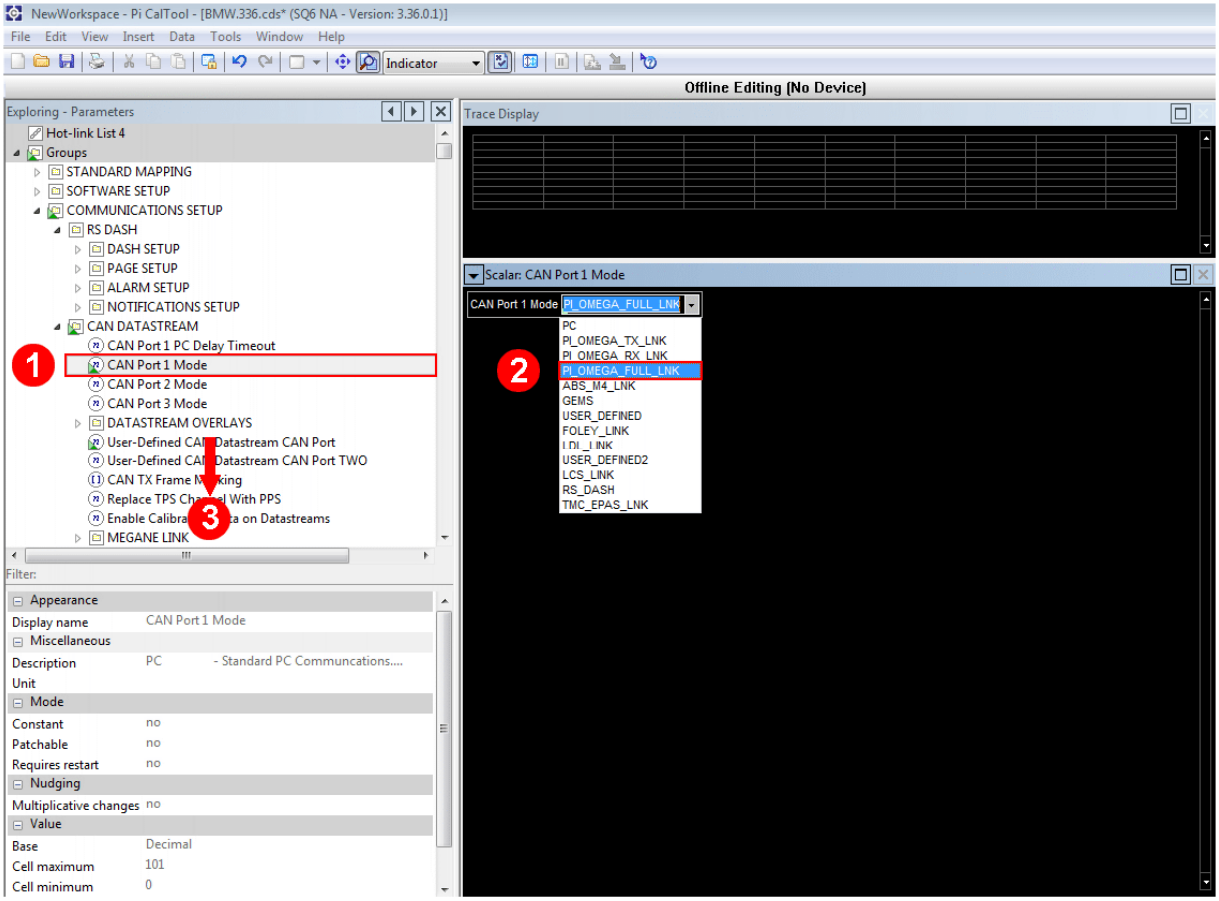
Warning: once the ECU is connected to the logger, it is necessary to set it in the logger configuration in Race Studio 2 software. Select Manufacturer "Pectel" Model "SQ6_OMEGA_CAN_Stream". Refer to Race Studio Configuration user manual for further information concerning the loggers configuration.

Warning: for any further information concerning ECU firmware/software settings and/or upgrading it is always recommended to address to the ECU dealer.

Chapter 1 – ECU configuration with Pi CalTool software

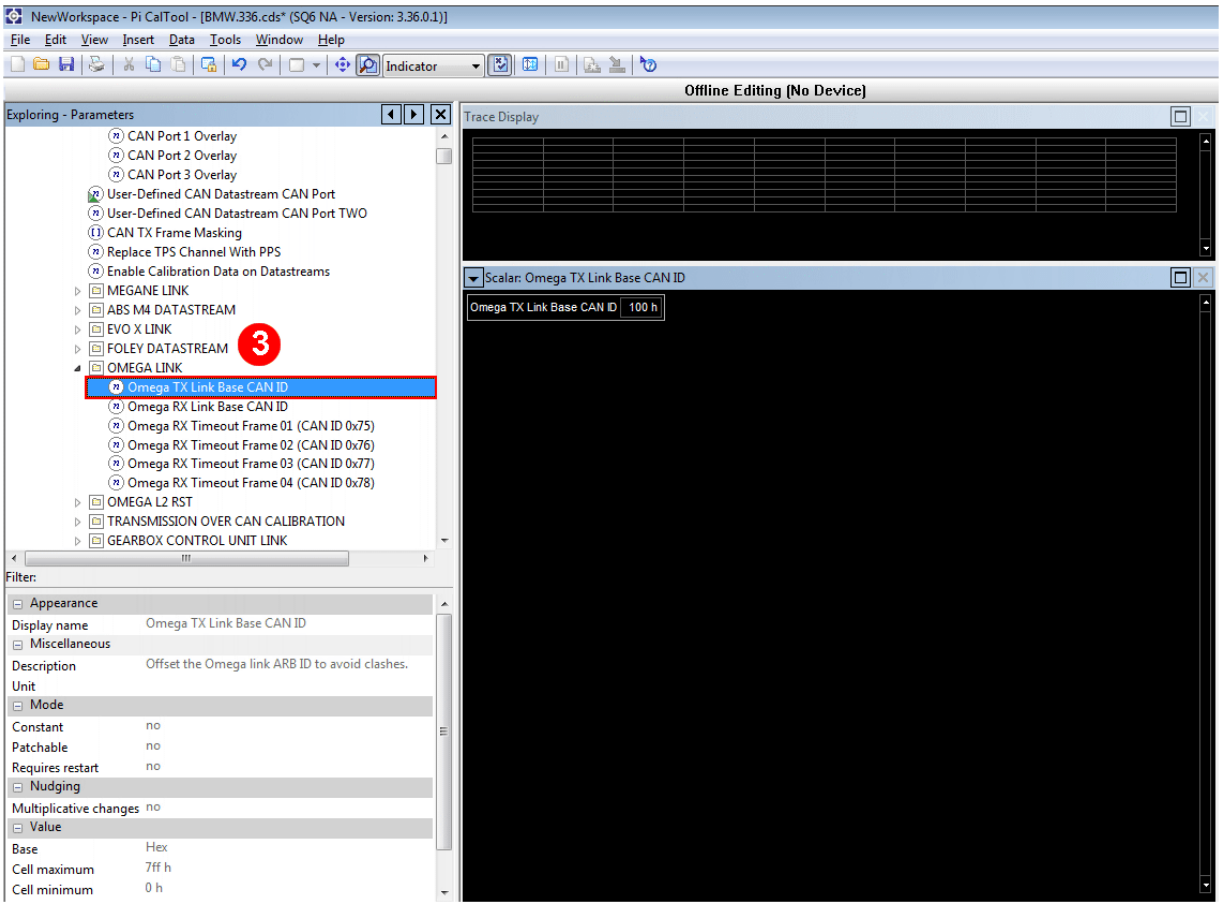
To communicate with **AIM** loggers, **Pectel SQ6-SQ6M Omega CAN stream** is to be configured using “Pi CalTool”, the software provided by **Pectel**.

Run the software and load the ECU configuration. The window here below appears. Select “CAN Port1 Mode” (**1**) and then “PI_OMEGA_FULL_LNK” (**2**) as shown below. Then scroll the left window (**3**).



Please note: each CAN Port Mode is related to the CAN Bus you are using. This means that if CAN Port 1 is for any reason unavailable you can select another CAN Port Mode among these available in your ECU and you have to set the corresponding CAN line on the ECU hardware.

You will find “OMEGA LINK”: select it and set “OMEGA TX Link Base CAN ID” (**3**).

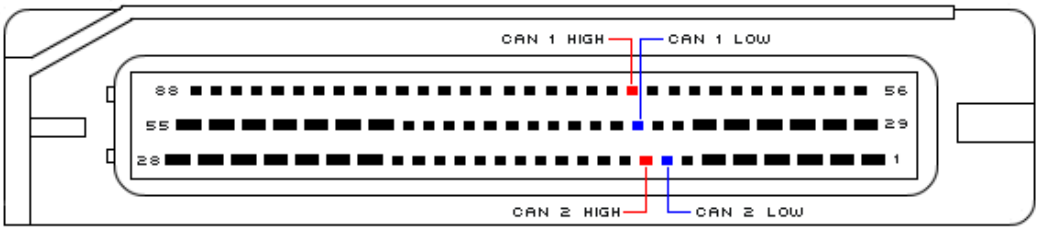


Chapter 2 – Connection to AIM logger

The tables here below shows how to connect Pectel SQ6 and SQ6M CAN Omega protocol ECUs to AIM loggers.

2.1 – Connection of Pectel SQ6 CAN Omega protocol

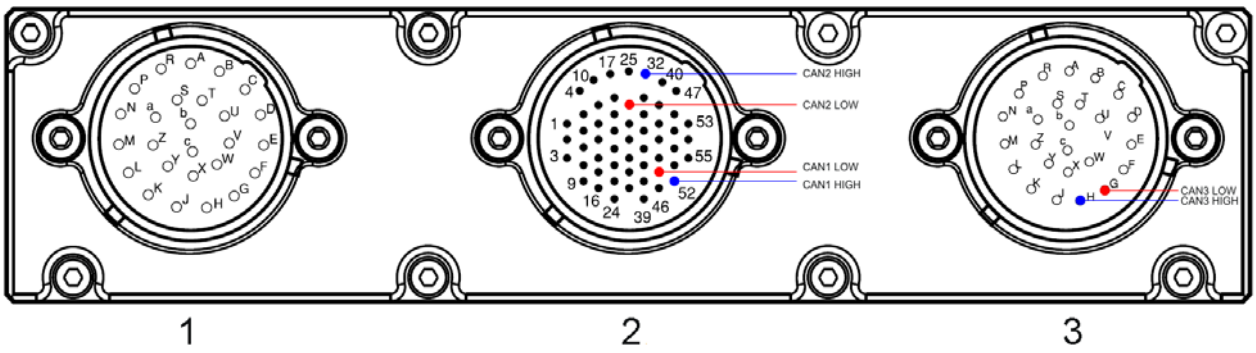
SQ6 CAN Omega protocol ECU has a 88 pins connector and the connection is shown below.



PIN	Function	AIM Cable
67	CAN1 High	AIM Cable labelled CAN+
37	CAN1 Low	AIM Cable labelled CAN-
9	CAN2 High	
8	CAN2 Low	

2.2 Connection of Pectel SQ6M CAN Omega protocol

SQ6M CAN Omega protocol ECU has three round connectors shown here below. The CAN bus is only available on connectors 2 and 3.



PIN	Function	AIM Cable
52 – Connector 2	CAN1 High	AIM Cable labelled CAN+
45 – Connector 2	CAN1 Low	AIM Cable labelled CAN-
32 – Connector 2	CAN2 High	
26 – Connector 2	CAN2 Low	
H – Connector 3	CAN3 High	
G – Connector 3	CAN3 Low	

Chapter 3 – Supported channels

Channels received by AIM loggers connected to **Pectel SQ6-SQ6M CAN** ECUs are:

ID	CHANNEL NAME	FUNCTION
ECU_1	CAN_RPM	ROM
ECU_2	CAN_SPEED	Vehicle Speed
ECU_3	CAN_FL_SPEED	Front Left wheel speed
ECU_4	CAN_FR_SPEED	Front Right wheel speed
ECU_5	CAN_RL_SPEED	Rear Left wheel speed
ECU_6	CAN_RR_SPEED	Rear Right wheel speed
ECU_7	CAN_TPS_A	Throttle position sensor A
ECU_8	CAN_TPS_B	Throttle position sensor B
ECU_9	CAN_PPS	Pedal Position sensor
ECU_10	CAN_ACT	Air temperature
ECU_11	CAN_ECT	Water Temperature
ECU_12	CAN_EOT	Oil Temperature
ECU_13	CAN_FT	Fuel Temperature
ECU_14	CAN_TEX1	Thermocouple 1 Temperature
ECU_15	CAN_TEX2	Thermocouple 2 Temperature
ECU_16	CAN_TEX3	Thermocouple 3 Temperature
ECU_17	CAN_AAT	Ambient Temperature
ECU_18	CAN_ECUT	ECU Temperature
ECU_19	CAN_MAP	Manifold Absolute Pressure
ECU_20	CAN_EOP	Oil pressure
ECU_21	CAN_FP	Fuel Pressure
ECU_22	CAN_FRP	Fuel Rail Pressure
ECU_23	CAN_PRP	Restrictor Pressure
ECU_24	CAN_CCP	Crank Case Pressure
ECU_25	CAN_P_WAT	Water pressure
ECU_26	CAN_P_SYS	Transmission System Pressure
ECU_27	CAN_BAP	Ambient Pressure
ECU_28	CAN_GEAR	Engaged gear
ECU_29	CAN_VBAT	Battery Voltage
ECU_30	CAN_STEER	Steering Angle
ECU_31	CAN_LAMB1	Lambda 1

ECU_32	CAN_LAMB2	Lambda 2
ECU_33	CAN_LAMB3	Lambda 3
ECU_34	CAN_LAMB4	Lambda 4
ECU_35	CAN_GEAR_CUT	Gear Cut Load Cell Voltage
ECU_36	CAN_INJ_TIME	Injection time
ECU_37	CAN_IGN_ANG	Ignition angle
ECU_38	CAN_D_WG_TOTAL	Waste gate Total
ECU_39	CAN_WG_TARGET	Waste gate target
ECU_40	CAN_FUEL_USED	Used Fuel
ECU_41	CAN_TURBO1	Turbo Speed 1
ECU_42	CAN_TURBO2	Turbo Speed 2
ECU_43	CAN_ALS_STATE	ALS State
ECU_44	CAN_TCS_STATE	TCS State
ECU_45	CAN_CAL_POT	Calibration Potentiometer
ECU_46	CAN_TCS_POT	TCS Potentiometer position
ECU_47	CAN_BOOST_POT	Boost Potentiometer position
ECU_48	CAN_ENGINE_ERR	Engine error bit field
ECU_49	CAN_BRAKE_SW	Brake switch
ECU_50	CAN_P2P_SW	Push to pass switch on
ECU_51	CAN_TPS_C	Throttle position sensor C
ECU_52	CAN_OIL_LEVEL	Oil level