

AiM Infotech

Link G4
CAN Bus Base and
CAN 500k Bus Base protocol

Release 1.02



1

Prerequisites

This tutorial explains how to connect Link G4 to AiM devices. Link G4 features a bus communication protocol based on CAN. To make the ECU correctly communicate with AIM devices some prerequisites are to be verified:

- ECU Firmware version is to be 4.8.0 or higher;
- ECU serial number is to be 10000 or higher;
- PC-Link software release is to be 4.8.xxx or higher.

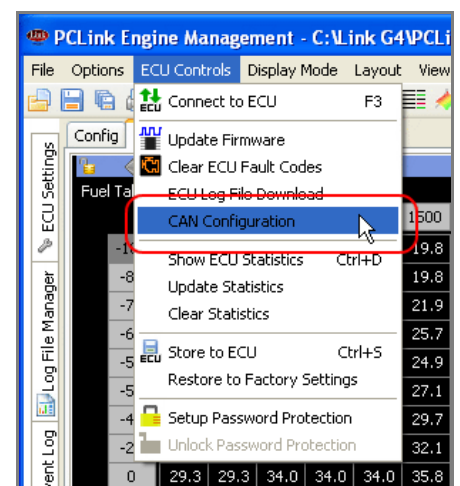
2

Software setup

To set up Link G4 ECU use PC-Link software. You can set your ECU to two different bit rate:

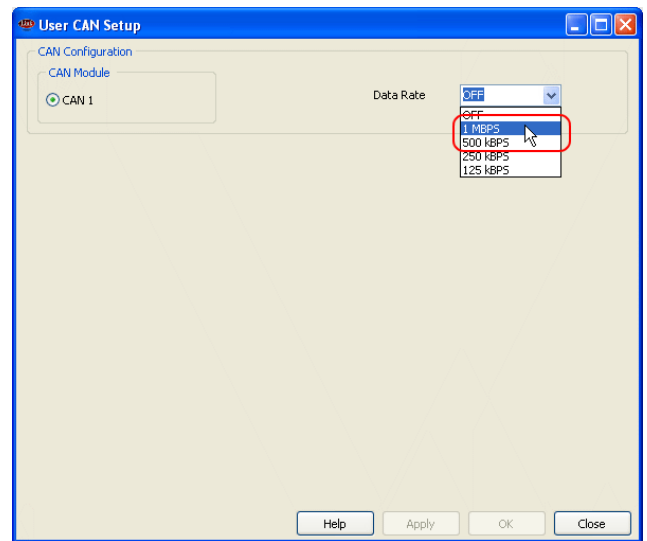
- 1MBPS or
- 500kBPS

Run the software, load a configuration (File → open) and follow this path:
ECU Controls → CAN Configuration as shown here on the right.

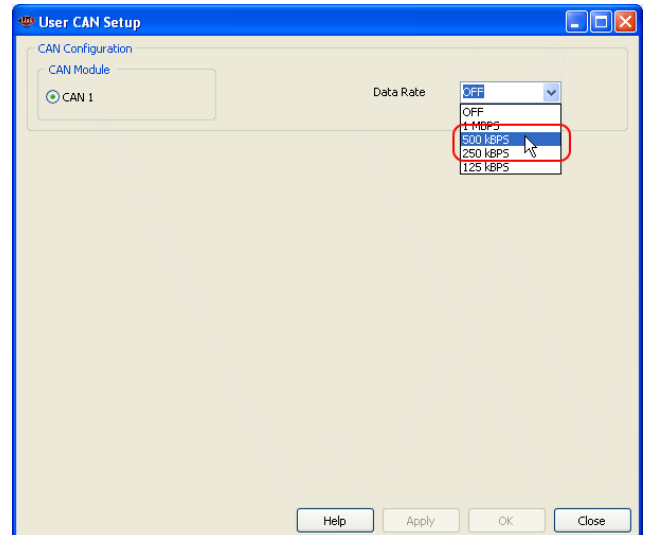


“User CAN Setup” panel appears:

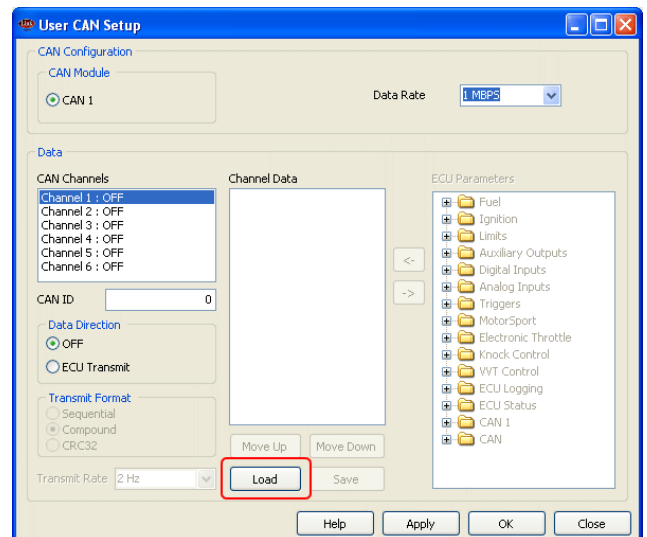
- select Data Rate 1 MBPS to set it to 1MBPS or.



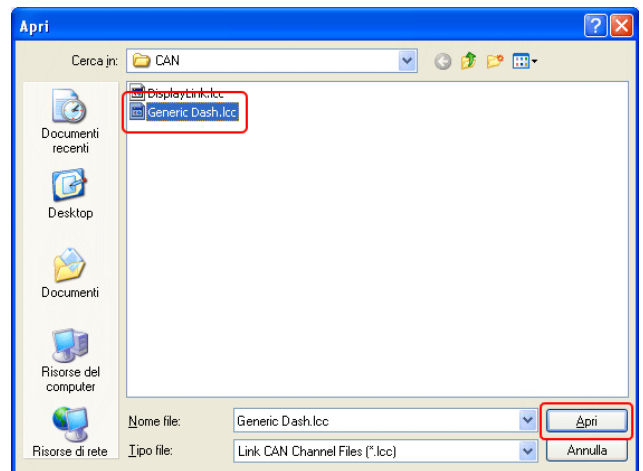
- select Data Rate 500KBPS to set it to 500KBPS



The panel shows the selected CAN Setup (here on the right you see CAN setup of 1MBPS rate). Press “Load”.



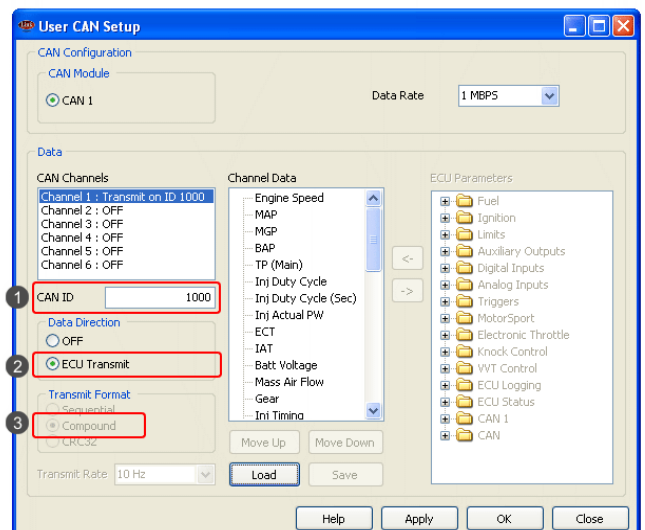
Select "Generic Dash.lcc" and press "Open"



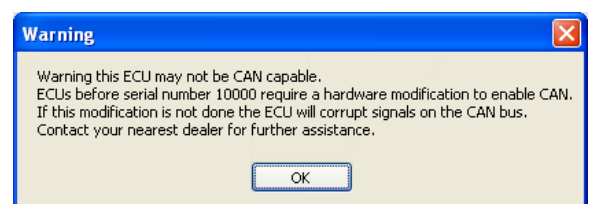
It is now necessary to check the following parameters settings:

- CAN ID: 1000 (1);
- ECU Transmit flag: enabled (2);
- Compound flag: enabled (3).

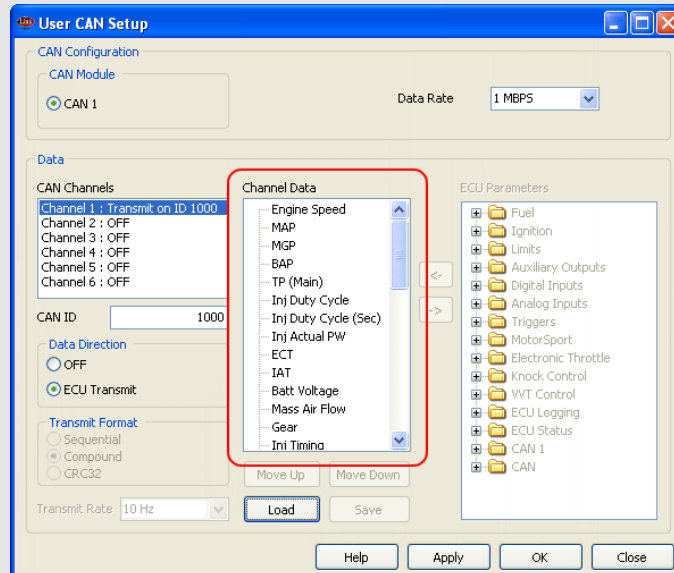
Once these parameters verified press "Apply" and "OK"



The system warns you to check your ECU serial number to verify that it is 10000 or higher. Press "OK" and transmit the configuration to the ECU.



Please note: once “Generic Dash” file loaded, Channels Data” box, highlighted here below, must show exactly the list that follows



Channel Data list:

- | | | |
|----------------------|-------------------|-------------------|
| Engine speed | Inj Timing | Speed (DI #1) |
| MAP | Ign Angle | Speed (DI #2) |
| MGP | Inlet/LH Posn | Speed (DI #3) |
| BAP | Inlet/RH Posn | Speed (DI #4) |
| TP (Main) | Exh/LH Posn | Knk Level Cyl 1 |
| Inj Duty Cycle | Exh RH Posn | Knk Level Cyl 2 |
| Inj Duty Cycle (sec) | WideBand1 | Knk Level Cyl 3 |
| Inj Actual PW | WideBand2 | Knk Level Cyl 4 |
| ECT | Trig1 Err Counter | Knk Level Cyl 5 |
| IAT | Fault Codes | Knk Level Cyl 6 |
| Battery Voltage | Fuel Pressure | Knk Level Cyl 7 |
| Mass Air Flow | Oil Temp | Knk Level Cyl 8 |
| Gear | Oil Pressure | Limits Flags Word |

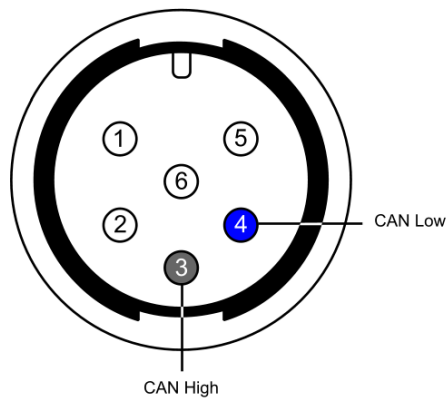
3

Wiring connection

Link G4 ECU CAN Bus is on the bottom right connector shown here below.



Here below are connector pinout and connection table.



ECU connector pin	Function	Cable colour	AiM cable
3	CAN High	White	CAN+
4	CAN Low	Green	CAN-

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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 "Link"
- ECU Model:
 - "CAN_BUS_BASE_LCC" for 1MBPS bit rate;
 - "CAN_500k_BUS_BASE_LCC" for 500 kbps bit rate

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Available channels

Channels received by AiM loggers connected to "Link" with "CAN_BUS_BASE_LCC" protocol and to "CAN_500k_BUS_BASE_LCC" protocol are the same; the only difference is the bit rate:

ID	CHANNEL NAME	FUNCTION
ECU_1	ECU_RPM	RPM
ECU_2	ECU_SPEED1	Speed 1
ECU_3	ECU_SPEED2	Speed 2
ECU_4	ECU_SPEED3	Speed 3
ECU_5	ECU_SPEED4	Speed 4
ECU_6	ECU_TPS	Throttle position sensor
ECU_7	ECU_ECT	Engine coolant temperature
ECU_8	ECU_IAT	Intake air temperature
ECU_9	ECU_OILT	Oil temperature
ECU_10	ECU_GEAR	Engaged gear
ECU_11	ECU_MAP	Manifold air pressure
ECU_12	ECU_MGP	Manifold gauge pressure
ECU_13	ECU_BARO	Barometric pressure



ECU_14	ECU_MAF_GR_SEC	Manifold air flow (g/sec)
ECU_15	ECU_OIL_PRESS	Oil pressure
ECU_16	ECU_FUEL_PRESS	Fuel pressure
ECU_17	ECU_VOLTS	Battery voltage
ECU_18	ECU_WBO2_LAM1	Lambda 1
ECU_19	ECU_WBO2_LAM2	Lambda 2
ECU_20	ECU_CAM_IN_LF	Camshaft left inlet position
ECU_21	ECU_CAM_IN_RH	Camshaft right inlet position
ECU_22	ECU_CAM_EX_LF	Camshaft left exhaust position
ECU_23	ECU_CAM_EX_RH	Camshaft right exhaust position
ECU_24	ECU_INJECT_TIM	Injection time
ECU_25	ECU_IGN_TIM	Ignition time
ECU_26	ECU_INJ_DC	Injection dwell counter
ECU_27	ECU_INJ_DC_SEC	Injection dwell counter in seconds
ECU_28	ECU_INJ_PULSE	Injection pulse
ECU_29	ECU_TRIG1_ERR	Trigger 1 error
ECU_30	ECU_FAULT_CODE	Fault code
ECU_31	ECU_KNOCK_LEV1	Knock level 1
ECU_32	ECU_KNOCK_LEV2	Knock level 2
ECU_33	ECU_KNOCK_LEV3	Knock level 3
ECU_34	ECU_KNOCK_LEV4	Knock level 4
ECU_35	ECU_KNOCK_LEV5	Knock level 5
ECU_36	ECU_KNOCK_LEV6	Knock level 6
ECU_37	ECU_KNOCK_LEV7	Knock level 7
ECU_38	ECU_KNOCK_LEV8	Knock level 8
ECU_39	ECU_RPM_LIM	RPM limiter
ECU_40	ECU_MAP_LIM	Manifold air pressure limiter
ECU_41	ECU_SPEED_LIM	Speed limiter
ECU_42	ECU_MAX_IGN	Maximum ignition