

Au J1939 to J1708 Gateway (Part # GW3-1939-1708)

Au GW3-1939-1708 is a family of gateway products which can convert SAE J1939 data to SAE J1708/J1587 data. It can be used for both stationary heavy duty diesel applications (such as Gen-set) and on-highway vehicles.



Figure 1 Au J1939 to J1708 Gateway(GW3)

Pin out Definition

There are two DB9 connectors: a DB9 female connector on RS232 side, and a DB9 male connector on "BUS" side.

- The "RS232" connector can be used to connect to a Computer for device monitoring, license management and firmware updates. A RS232 serial extension cable (Au Part Number: CBL-RS232-01) can be used to connect the device to PC. For PC without Serial port, a USB to RS232 Converter cable (CBL-USB-232) can be used. The "RS232" connector is not required to be connected during normal operation.
- The "BUS" connector provides power supply, J1939 and J1708 connection to the device. The pin out is illustrated in figure 2.

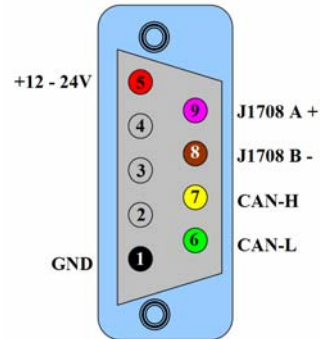


Figure 2 BUS Side DB9 male connector

Typical topology

A typical topology of J1939 and J1708 network with GW3-1939-1708 is illustrated in Figure 3:

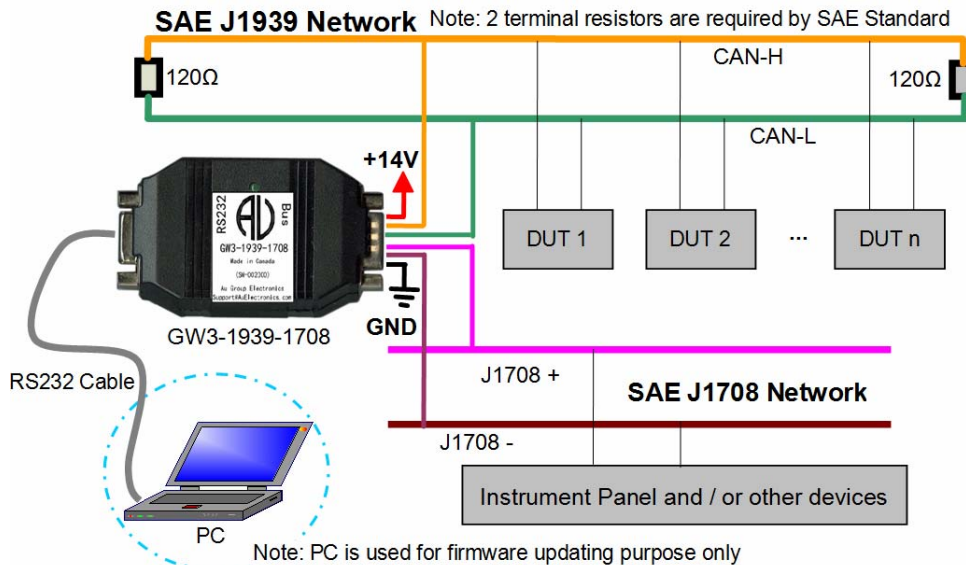


Figure 3 A typical topology of J1939 and J1708 network with GW3-1939-1708

Features

- Power Supply: Operating range: 10V ~ 32V DC ; nominal voltage: +12V DC or +24V DC,
- Operating Electric Current: 65mA typical, 250mA max
- Operating Temperature: -40°F to 185°F (-40°C to 85°C)
- Size: 3-1/8"L X 1-11/16"W X 13/16" H (78mm X 42mm X 21mm)
- Enclosure Color: Black
- 1 LED (Communication)
- 1 RS232 interface (DB9 female connector)
- 1 DB9 Male connector on BUS side
- TVS (Transient Voltage Suppressor) protection on J1939 and J1708/J1587 bus



There are two editions of GW3 available: Basic edition (part #: GW3-1939-1708-001) and Premium edition (part #: GW3-1939-1708-002). GW3 basic edition supports 24 parameters. GW3 premium edition supports 36 parameters.

Table 1 Two editions of GW3

Edition	Part#	# of supported parameters
GW3 basic edition	GW3-1939-1708-001	24
GW3 premium edition	GW3-1939-1708-002	36

Here are the list of parameters supported by each edition.

Basic Edition (24 parameters)

- Stop Lamp Attention/Warning Indicator Lamps Status (PID44)
- Check Engine light Attention/Warning Indicator Lamps Status (PID44)
- Throttle Position (PID51)
- Parking Brake Status (PID70)
- Road Speed (PID84)
- Cruise Control Status (PID85)
- Cruise Control Set Speed (PID86)
- Power Take Off Status (PID89)
- Percent Engine Load (PID92)
- Fuel Level (PID96)
- Water In Fuel Indicator (PID97)
- Engine Oil Pressure (PID100)
- Engine Coolant Temperature (PID110)
- ATC Control Status (PID151)
- Battery Potential (Voltage) (PID168)
- Ambient Air Temperature (PID171)
- Engine Oil Temperature (PID175)
- Fuel Rate (instantaneous) (PID183)
- Fuel Rate (instantaneous) HINO (PID183)
- Engine Speed (PID190)
- Total Vehicle Distance (PID245)
- Total Vehicle Distance-HINO (PID245)
- Total Engine Hours (PID247)
- Total Fuel Used (PID250)

Premium Editions (36Parameters)





GW3 premium edition support above 24 parameters plus the following 15 parameters:

- Second Fuel Level (Right Side) (PID38)
- Idle Shutdown Timer Status (PID71)
- Percent Accelerator Pedal Position (PID91)
- Fuel Filter Differential Pressure (PID95)
- Boost Pressure (PID102)
- Net Battery Current (PID114)
- Exhaust Gas Temperature (PID173)
- Transmission #1 Oil Temperature (PID177)
- Trip Fuel (PID182)
- Instantaneous Fuel Economy (PID184)
- Average Fuel Economy (PID185)
- Total Idle Hours (PID235)
- Total Idle Fuel Used (PID236)
- Vehicle Identification Number - VIN (PID237)
- Trip Distance (PID244)

Optional Cables

Table 1 list some optional cables which can be used together with GW3 for different applications.

Table 2 Optional cables for GW3

<p>CBL-CAN-485-01</p> 	<p>A 6-wire color coded cable which can be used for Au J1939 devices, Au J1708 devices. One end of the cable is DB9 female connector; it is designed to mate with Au devices on BUS side.</p> <p>The other side of the cable is a pig tail with 3 pairs of twisted color coded wires:</p> <p>Red wire: Power supply, e.g. +12V DC Black wire: Ground Yellow wire: CAN High Green wire: CAN Low Violet: J1708A+ Brown: J1708B-</p>
<p>CBL-CAN-485-03</p> 	<p>CBL-CAN-485-03 equipped with a DB9 female connector on one end and a 9-way round threaded Plug (e.g. Deutsch part #: HD16-9-1939S) on the other end.</p> <p>The 9 pin Deutsch connector side can be connected to any vehicles (e.g. trucks and school buses) equipped with 9 pin diagnostic connectors. Power, Ground, CAN_H, CAN_L, J1708+ and J1708- are connected from / to the vehicle via this Deutsch connector. The DB9 female connector can be connected with Au GW3, it will supply power, ground, CAN_H, CAN_L connection to GW3.</p> <p>Maximum cable length is 0.33 meter per SAE J1939 specification.</p>
<p>CBL-CAN-485-03GD</p> 	<p>CBL-CAN-485-03GD equipped with a DB9 female connector and two SAE J-Bus connector. One of the J-Bus Connector is a 9-way round threaded plug (part #: HD16-9-1939S), the other is a 6-way Round threaded Plug (HD16-6-96S).</p> <p>The 9 pin round connector side can be connected to any vehicles (e.g. trucks and school buses) equipped with 9 pin diagnostic connectors. Power, Ground, CAN_H, CAN_L, J1708+ and J1708- are connected from / to the vehicle via this Deutsch connector. Both J1939-11 250K network and J1939-14 500K network are compatible.</p> <p>The 6 pin round connector can be connected with trucks which only equipped with J1708/J1587 networks.</p> <p>The DB9 female connector can be connected with Au GW3. It will supply power, ground, CAN_H, CAN_L, J1708+ and J1708- connection to GW3.</p>
<p>CBL-RS232-01</p> 	<p>RS232 Serial Extension Cable can be used to connect computer Serial port to Au J1939 / J1708 products (on RS232 Side).</p> <p>Major Features:</p> <ul style="list-style-type: none"> * Fully shielded to prevent unwanted EMI/RFI interference * Fully molded connectors with thumbscrews provide a quick and easy connection every time * Connectors: DB9 Male to DB9 Female * All 9 connector pins are wired straight through
<p>CBL-USB-232</p> 	<p>The USB to Serial Converter cable can be used to connect computer USB port to Au J1939 / J1708 products (on RS232 Side).</p> <p>It acts as a bridge between a USB port and a standard Serial (RS232) port.</p> <p>It is Vista, Win7, and XP compatible.</p> <p>Three LED are included, Power, TX and RX. Power LED is on when USB power is supplied. TX LED will blink when COM port is transmitting. RX LED will blink when COM port is receiving. It is compatible with all Au Group Electronics system products, J1939 Simulators, J1708 Simulators, FMS Simulators, J1939 Interpreters, J1708 Interpreters, J1939 MCS, and J1939 DCS.</p>