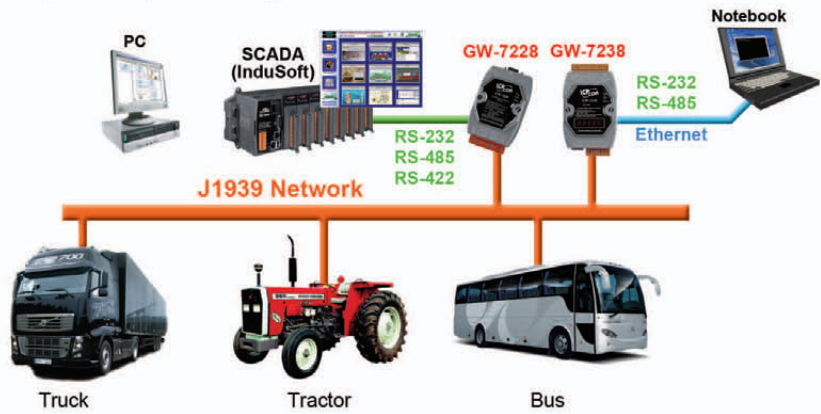


# 5. J1939 Introduction & Products

J1939 is the vehicle bus standard used for communication and diagnostics among vehicle components, originally by the car and heavy duty truck industry in the United States. Because of the success of applying in vehicles, J1939 has become the accepted industry standard and the vehicle network technology of choice for off-highway machines in applications such as construction, material handling, and forestry machines. It is a higher-layer protocol based on Controller Area Network (CAN), which provides serial data communications between microprocessor systems (ECU) in any kind of heavy duty vehicles. The messages exchanged between these units can be data such as vehicle road speed, torque control message from the transmission to the engine, oil temperature, and many more.

## J1939 Features

- ✓ Higher-layer protocol based on CAN bus
- ✓ The speed is nearly always 250 kbit/s
- ✓ 29-bit identifier CAN 2.0B
- ✓ Used in heavy-duty vehicles
- ✓ Peer-to-peer and broadcast communication
- ✓ Transport protocols for up to 1785 data bytes
- ✓ Network management
- ✓ Definition of parameter groups



## Selection Guide

Model Name	Description	Page
J1939 Gateway		
GW-7228	J1939 to Modbus RTU Slave Gateway	5-1
GW-7238	J1939 to Modbus TCP Server/RTU Slave Gateway	

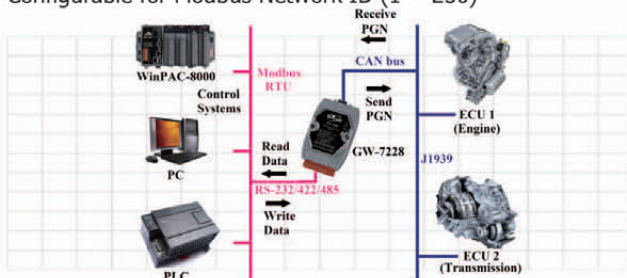
## J1939 Gateways

### J1939 to Modbus RTU Slave Gateway

#### GW-7228 CR *NEW*

GW-7228 is a solution that provides a protocol conversion between J1939 and Modbus RTU. For J1939 network, the GW-7228 supports PDU1, PDU2, broadcast and destination specific type of J1939 messages. From the view of Modbus RTU network, the GW-7228 is a Modbus RTU slave to reply the request from Modbus RTU master.

- ✓ Provide PWR/J1939/MODBUS indication LED
- ✓ Built-in jumper to select 120 Ω terminal resistor
- ✓ Watchdog inside
- ✓ Transmission and reception of all types of J1939 messages, including PDU1, PDU2, broadcast and destination specific
- ✓ J1939 Transport Protocol for transmission and reception of large messages (9 - 1785 bytes)
- ✓ Support BAM of Connection Management Message
- ✓ Network addresses management
- ✓ Support RS-232, RS-485 and RS-422 interfaces
- ✓ Support Modbus RTU slave protocol
- ✓ Configurable for Modbus Network ID (1 ~ 250)



### J1939 to Modbus TCP Server/RTU Slave Gateway

#### GW-7238 CR *Available soon*

GW-7238 is a gateway that provides conversion between J1939 and Modbus TCP/RTU protocol. For J1939 network, the GW-7238 supports PDU1, PDU2, broadcast and destination specific type of J1939 messages. For Modbus TCP/RTU network, the GW-7238 is a Modbus TCP server/RTU slave to reply the request from Modbus TCP client/RTU master.

- ✓ Provides PWR/J1939/MODBUS indication LEDs
- ✓ Built-in jumper to select 120 Ω terminal resistor
- ✓ Watchdog inside
- ✓ Transmission and reception of all types of J1939 messages, including PDU1, PDU2, broadcast and destination specific
- ✓ J1939 Transport Protocol for transmission and reception of large messages (9 - 1785 bytes)
- ✓ Supports BAM of Connection Management Message
- ✓ Network addresses management
- ✓ Supports RS-232, RS-485 and Ethernet interfaces
- ✓ Supports Modbus TCP server/RTU slave protocol
- ✓ Configurable for Modbus Network ID (1 ~ 250)

