ICP DAS

GW-7238D
J1939 to Modbus TCP Server / RTU Slave Gateway
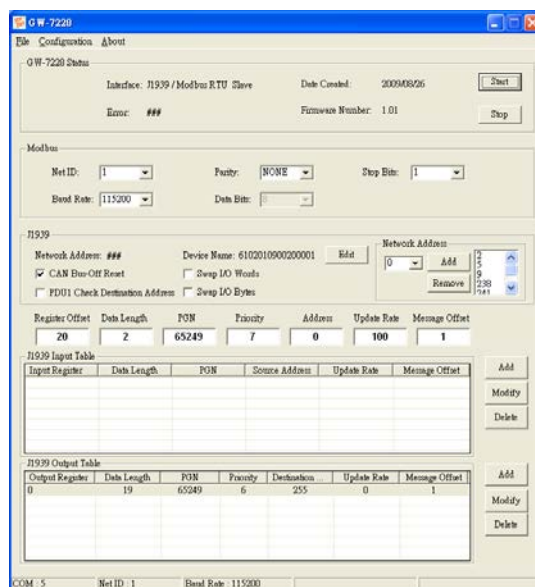
◨ Features

- ■ Provides PWR / J1939 / MODBUS indication LEDs
- ■ Built-in jumper to select 120 ohm terminal resister
- ■ 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
- ■ Configurable baud rates of 2400, 4800, 9600, 19200, 38400, 57600, 115200 bps
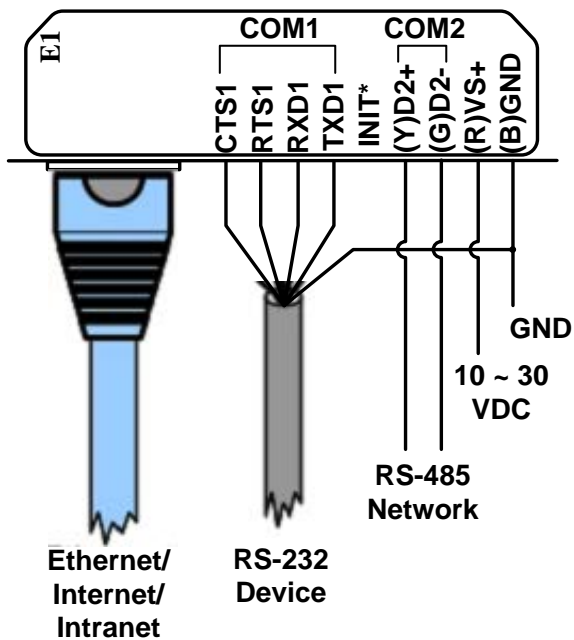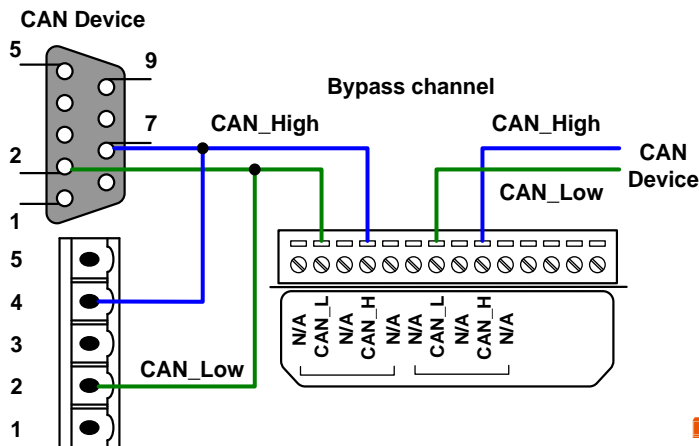- ■ Supports Modbus TCP server / RTU slave protocol

CE FC RoHS

◨ Introduction

The GW-7238D is a gateway that provides conversion between J1939 and Modbus TCP/RTU protocol. For J1939 network, the GW-7238D supports PDU1, PDU2, broadcast and destination specific type of J1939 messages. For Modbus TCP/RTU network, the GW-7238D is a Modbus TCP server / RTU slave to reply the request from Modbus TCP client / RTU master. Utility software is provided for users to configure J1939 and Modbus TCP/RTU setting in the GW-7238D. The application fields can be Diesel power-train applications, In-Vehicle networks for trucks and buses, etc.

◨ Hardware Specifications

Hardware	
CPU	80186, 80 MHz or compatible
CAN Interface	
Controller / Transceiver	NXP SJA1000T with 16 MHz clock / NXP 82C250
Channel number	1
Connector	5-pin screwed terminal block (CAN_L, CAN_H, N/A for others)
Baud Rate (bps)	250 k
Isolation	1000 V_{DC} for DC-to-DC, 2500 Vrms for photo-couple
Terminal Resistor	Jumper for 120 Ω terminal resistor
Specification / Protocol	ISO-11898-2, CAN 2.0A and CAN 2.0B / J1939
UART Interface	
COM 1 / Protocol	RS-232 / Modbus RTU
COM 1 Connector	5-pin screwed terminal block (TxD, RxD, RTS, CTS, GND)
COM 2 / Protocol	RS-485 (Self-turner inside) / Modbus RTU
COM 2 Connector	2-pin screwed terminal block (DATA+, DATA-)
Ethernet Interface	
Controller	10/100Base-TX Ethernet Controller (Auto-negotiating, Auto_MDIX)
Connector / Protocol	RJ-45 with LED indicator / Modbus TCP
LED	
Round LED	PWR / J1939 / MODBUS RTU / MODBUS TCP
Power	
Power supply	Unregulated +10 ~ +30 V_{DC}
Protection	Power reverse polarity protection, Over-voltage brown-out protection
Power Consumption	3 W

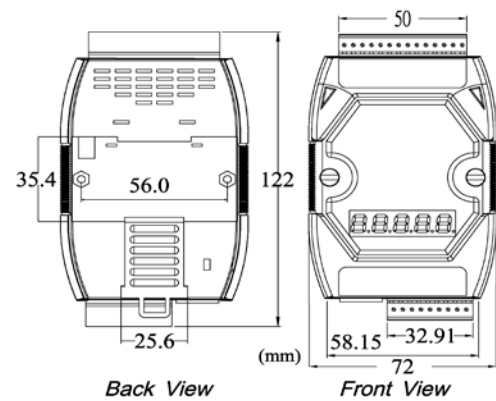| Mechanism	
Dimensions	108mm x 72mm x 35mm (H x W x D)
Environment	
Operating Temp.	-25 ~ 75 ℃
Storage Temp.	-30 ~ 80 ℃
Humidity	10 ~ 90% RH, non-condensing

◨ Utility Features

- • Provides Modbus network configuration interface
- • Provides J1939 network configuration interface – Network Address / Device Name....
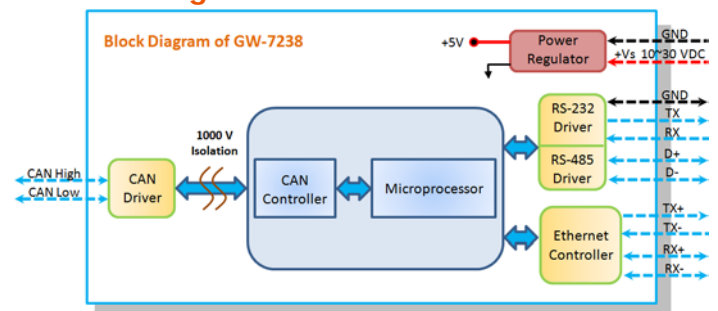- • Provides J1939 Input / Output configuration interface
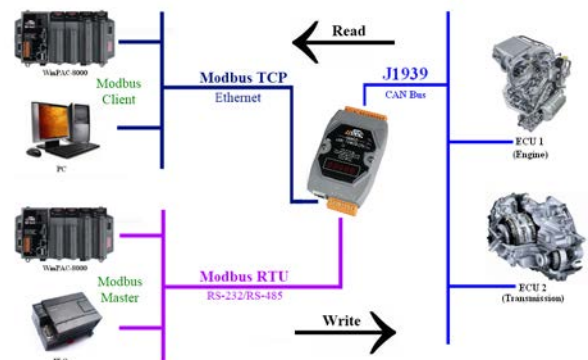
◼ Wiring and Pin Assignments

CAN Device

Bypass channel

CAN_High   CAN_High

CAN_Low   CAN Device

CAN_Low

N/A CAN_L N/A CAN_H N/A N/A CAN_L N/A CAN_H N/A

E1   COM1   COM2

CTS1 RTS1 RXD1 TXD1 INIT* (Y)D2+ (G)D2- (R)VS+ (B)GND

GND

10 ~ 30 VDC

RS-485 Network

Ethernet/ Internet/ Intranet

RS-232 Device

◼ Dimensions (Units: mm)

50

35.4   56.0   122

25.6

(mm)

58.15   32.91

72

Back View   *Front View*

◼ Block Diagram

Block Diagram of GW-7238

+5V   Power Regulator   GND   +Vs 10~30 VDC

CAN High   CAN Driver   1000 V Isolation   CAN Controller   Microprocessor   RS-232 Driver   GND / TX / RX

CAN Low   RS-485 Driver   D+ / D-

Ethernet Controller   TX+ / TX- / RX+ / RX-

◼ Application

◼ Ordering Information

GW-7238D CR	J1939 to Modbus TCP Server / RTU Slave Gateway included CA-0910 cable(RoHS)