


# I-7530A-MR-FD

Modbus RTU to CAN converter

## Features

- Fully compatible with ISO 11898-2 standard
- Support CAN bus acceptance filter configuration
- Built-in jumper to select 120Ω terminal resistor
- Provide the transparent communication between the RS-232/485/422 devices via CAN bus (Pair-connection mode)
- In Modbus Slave mode, supports function code 0x03, 0x04, 0x06, and 0x10
- Support Modbus Master function
- Support CAN FD

## Introduction

I-7530A-MR-FD supports Modbus RTU protocol on RS-232/422/485 port, it is a Modbus RTU to CAN converter, it supports CAN2.0A/2.0B and CAN FD, and provides user-defined CAN Bus communication baud rate (arbitration field: 10Kbps to 1Mbps, CAN FD data field: 100Kbps to 10Mbps).

And with the special designed firmware, beside normal received CAN message buffer, it offers special memory space to save up to 100 kinds of CAN messages which are urgent and must be processed immediately. The feature helps the PLC, HMI and SCADA to use Modbus RTU function code 3,4,16 to access CAN devices in an easy way.

- **Modbus RTU Slave/CAN FD Master Mode**

  In Modbus RTU mode, it allows a Modbus RTU master to communicate with CAN devices on a CAN network. The following figure shows the application architecture of this mode.




- **Modbus RTU Master/CAN FD Slave Mode**

  In the Modbus Master mode, it allows many Modbus RTU slaves to communicate with CAN devices on a CAN network. The following figure shows the application architecture in this mode.




- **Pair-Connection Mode**

  In pair-connection mode, this module provides the pair connection and transparent communication between the RS-232/485/422 devices via CAN bus. The application architecture may be as follows.

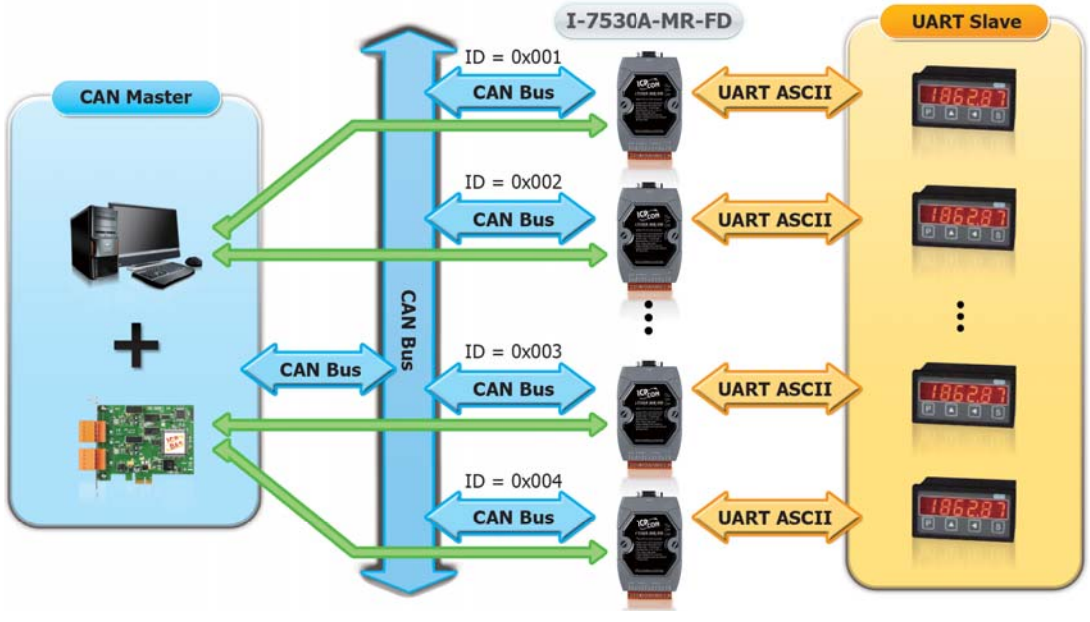





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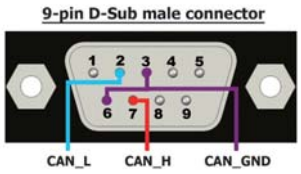
- **UART Switch Mode**

In UART Switch mode, the I-7530A-MR-FD can convert CAN messages to UART ASCII or convert UART ASCII to CAN messages

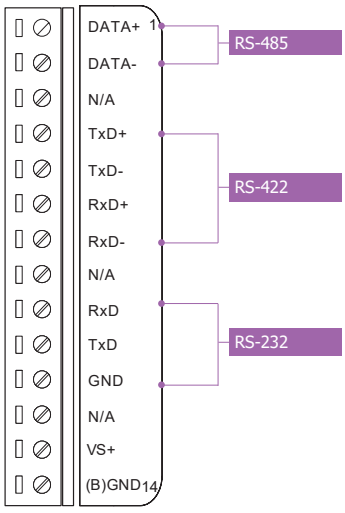



## Pin Assignments

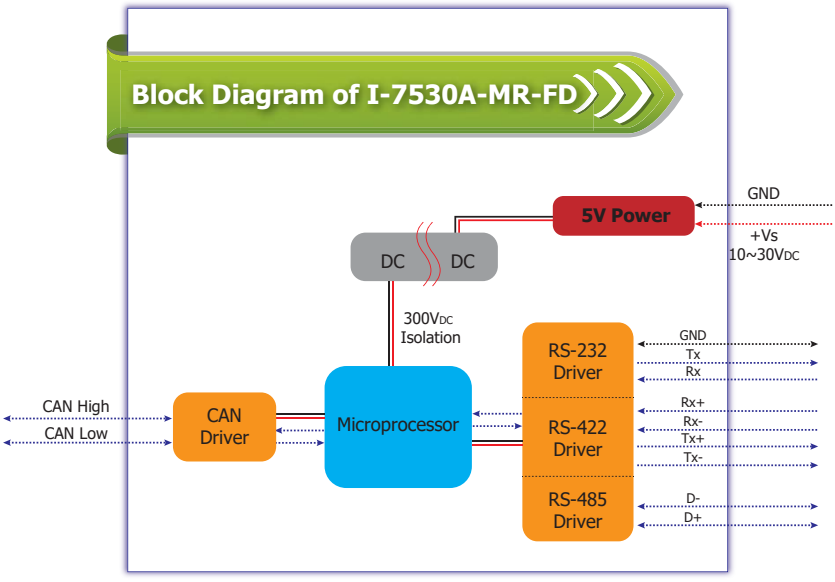
| Pin | Description |
|---|---|
| 1 | Not Connect |
| 2 | CAN Low |
| 3 | CAN Ground |
| 4 | Not Connect |
| 5 | |
| 6 | CAN Ground |
| 7 | CAN High |
| 8 | Not Connect |
| 9 | |




| Pin | Description |
|---|---|
| 1 | RS-485 DATA+ |
| 2 | RS-485 DATA- |
| 3 | No use |
| 4 | RS-422 TxD+ |
| 5 | RS-422 TxD- |
| 6 | RS-422 RxD+ |
| 7 | RS-422 RxD- |
| 8 | No use |
| 9 | RS-232 RXD |
| 10 | RS-232 TXD |
| 11 | RS-232 GND |
| 12 | No use |
| 13 | +Vs(+10 ~ +30 VDC) |
| 14 | GND |



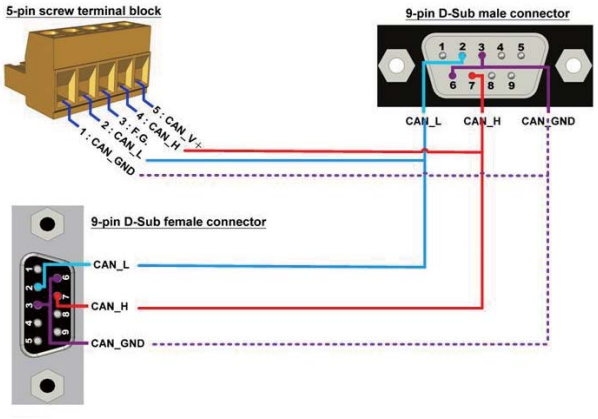

## Internal I/O Structure

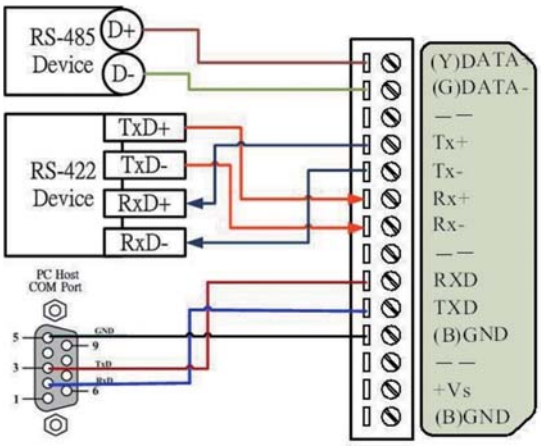





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## Wire Connections



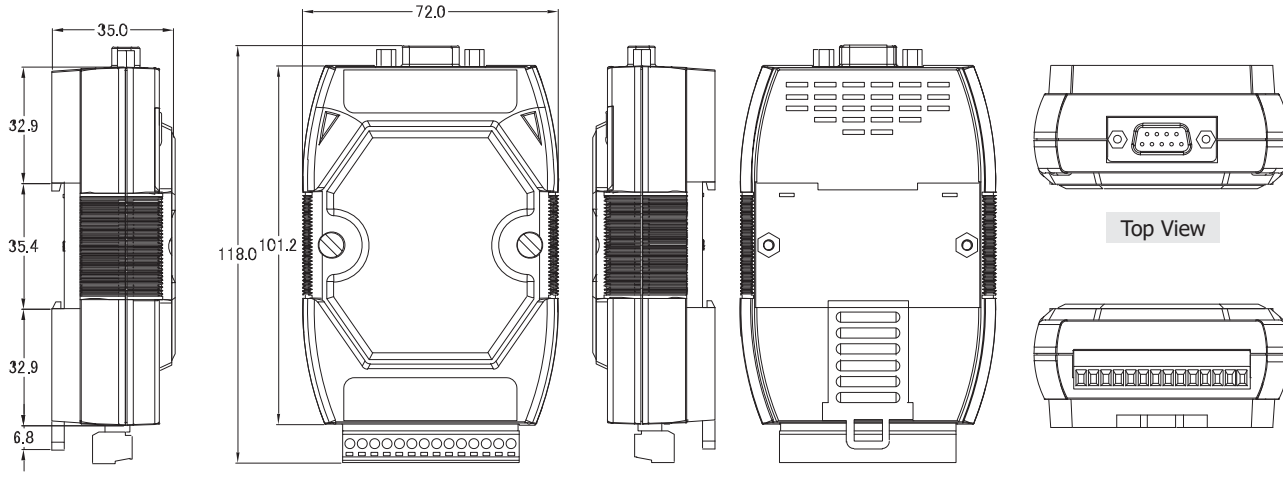

## Specifications

| | |
|---|---|
| **CAN Interface** | |
| Transceiver | TI TCAN1042HG |
| Channel Number | 1 |
| Pin Assignment | C.I.A. DS-102 (CAN_H=7, CAN_L=2) |
| Connector | 9-pin male D-Sub (CAN_L, CAN_H, N/A for others) |
| Transmission Speed | CAN bit rates: 10 ~ 1000 kbps,<br>CAN FD bit rates for data fi eld: 100 ~ 10000 kbps |
| Terminal Resistor | Selectable 120Ω terminal resistor by jumper |
| Protection | 33000 VDC for DC-to-DC, 2500Vrms for photo-couple |
| Specification | ISO 11898-2, CAN 2.0 A/B and FD |
| CAN Filter Configuration | Selectable via Utility tool |
| Receive Buffer | 64 data frames |
| **UART Interface** | |
| Connector | 14-pin terminal connector |
| COM | RS-232: TxD, RxD, GND;<br>RS-422: TxD+, TxD-, RxD+, RxD-;<br>RS-485: DATA+, DATA- |
| Baud rate(bps) | 300, 600, 1200, 2400, 4800, 9600, 19200,<br>38400, 57600, 115200, 230400 |
| Protection | 3000VDC power protection and<br>2500Vrms photo-couple isolation on UART side |
| **LED Indicators/Display** | |
| System LED Indicator | 1 x Power, 1 x CAN status,1 x UART status |
| **Power** | |
| Power supply | +10 ~ +30 VDC |
| Power Consumption | 1.5W |
| **Mechanism** | |
| Installation | DIN-Rail |
| Casing | Plastic |
| Dimensions | 72mm x 118mm x 35mm (W x L x H) |
| **Environment** | |
| Operating Temp. | -25°C to 75°C |
| Storage Temp. | -30°C to 80°C |
| Humidity | 10~90% non-condensing |



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## Dimensions (Units: mm)




Left View | Front View | Right View | Rear View | Top View | Bottom View

## Ordering Information

| | |
|---|---|
| **I-7530A-MR-FD** | Modbus RTU to CAN converter (RoHS) |



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