DeviceNet Series Products

DeviceNet Slave / Modbus RTU Master Gateway

RoHS | CE | FC

I-7242D

Dimensions

Back View   Front View   (mm)
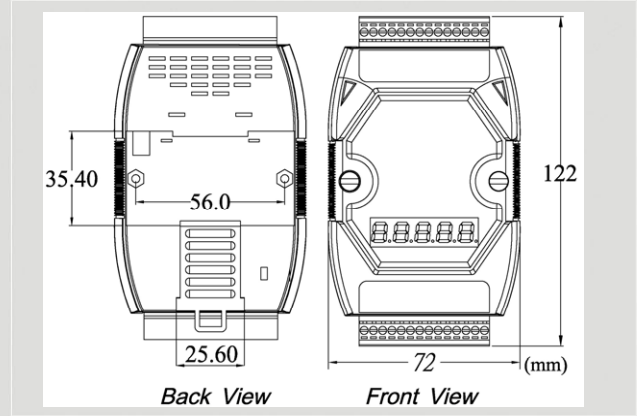
The I-7242D is one of CAN bus products in ICP DAS. The device allows a master located on a DeviceNet network to enter into a dialogue with the slaves on a Modbus RTU network in DeviceNet network. It is a Group 2 Only Slave device, and supports "Predefined Master/Slave Connection Set". It is a general protocol converter operating in a way that is transparent to the user. In addition, we also provide the utility software for users to configure the I-7242D's parameters and build the EDS file. Users can easily apply Modbus RTU devices in DeviceNet applications with the I-7242D.

Features

- DeviceNet Version: Volume I & II, Release 2.0
- Group two only server DeviceNet subscriber
- Dynamic Assembly Objects Mapping
- On-line change baud rate and MAC ID of CAN
- NS, MS and IO LED indicators
- 7-segmemt LED to show operation mode, MAC ID, baud rate and error code
- Configuration facilitated by the use of specific EDS files
- I/O operating modes: Polling, Bit-Strobe, Change of State/Cyclic
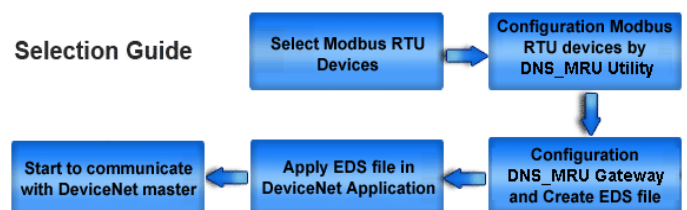- Maximum number of subscribers: 10 Modbus slaves

Pin Assignments
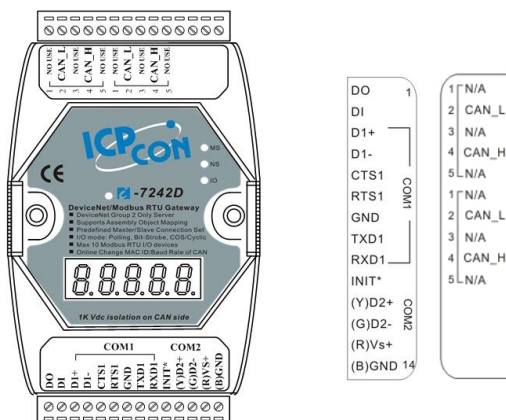
Utility Features
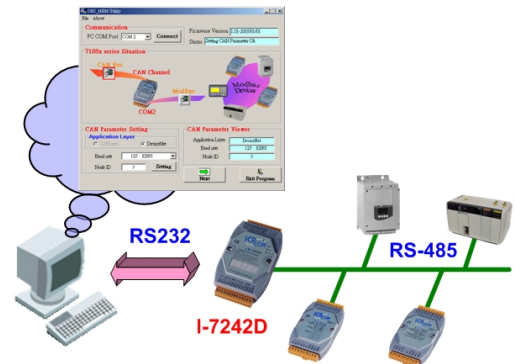
Modbus RTU devices

- Support DeviceNet node ID, baud rate setting
- Show Modbus RTU devices configuration
- Support DeviceNet Polling, Bit-Strobe and COS/Cyclic Produced and Consumed connection path setting
- Dynamically produce EDS file

Design Flowchart

Hardware Specifications

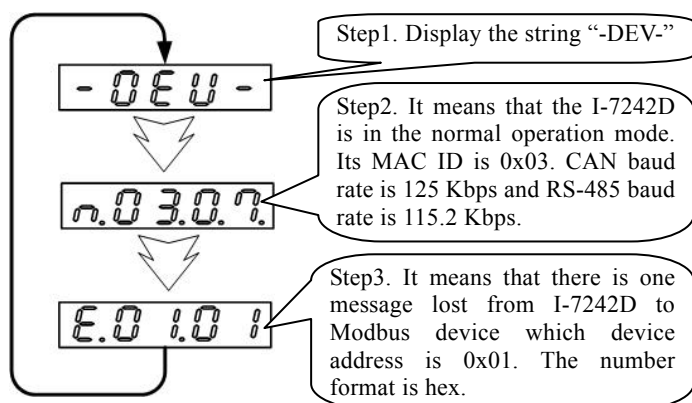| Item	I-7242D
CPU	80188, 40MHz
Flash	512K bytes
SRAM	512K bytes
EERROM	2048 Bytes (8 block, each block contains 256byte) Data retention > 100 years; 1,000,000 erase/write cycles
NVRAM	31 bytes
Real Time Clock	16 bit
Watch Dog Timer	CPU Built-in
COM1	RS232: TXD,RXD,RTS,CTS,GND
COM2	RS485: D2+, D2-
CAN Controller	Phillips SJA1000T CAN Controller
CAN Transceiver	Phillips 82C250 CAN Transceiver
Terminal Resister	120Ω terminal resister selected by jumper
LED Indicators	NS, MS, IO
Display	7-segment LED: 5digit
CAN bus Isolated	2500Vrms on CAN side
Power Requirement	+10VDC to +30VDC
Power Consumption	3 W
Operating Temp.	-25°C to +75°C
Storage Temp.	-40°C to +80°C
Relative Humidity	5~90%, non-condensing
Dimensions	122mm x 72mm x 33 mm (H x W x D)

Application
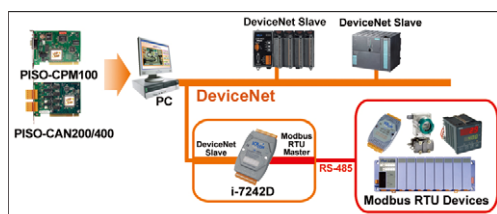
LED Indicators

LED	Description
MS	This LED provides device status. It indicates whether or not the device is operating properly.
NS	This LED indicates the status of the communication link.
I/O	This LED provides information of inputs and/or outputs.

5-digit 7-Segment LED Display

Step1. Display the string "-DEV-"

Step2. It means that the I-7242D is in the normal operation mode. Its MAC ID is 0x03. CAN baud rate is 125 Kbps and RS-485 baud rate is 115.2 Kbps.

Step3. It means that there is one message lost from I-7242D to Modbus device which device address is 0x01. The number format is hex.

Modbus RTU Command Support

Function code.	Description
01 (0x01)	Read Coil Status
02 (0x02)	Read Input Status
03 (0x03)	Read Holding Registers
04 (0x04)	Read input Registers
05 (0x05)	Force Single Coils
06 (0x06)	Preset Single Register
15 (0x0F)	Force Multi Coils
16 (0x10)	Preset Multi Registers

Ordering Information

I-7242D	DeviceNet Slave / Modbus RTU Master Gateway
I-7242D CR	DeviceNet Slave / Modbus RTU Master Gateway (RoHS)