

# **DeviceNet Series Products**

## DeviceNet Slave / Modbus RTU Master Gateway

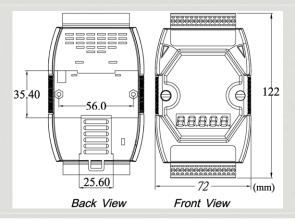








I-7242D



#### Dimensions

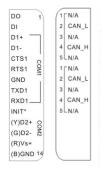
The I-7242D is one of CAN bus products in ICP DAS. The device allows a master located on a DeviceNet network to enter into a dialogue with the slaves on a Modbus RTU network. It is a "Group 2 Only Slave" device, and supports "Predefined Master/Slave Connection Set". It is a general protocol converter 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**

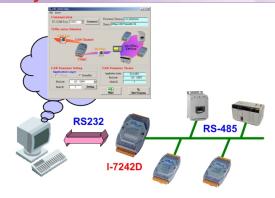
- DeviceNet Version: Volume I & II, Release 2.0
- Group 2 Only Server DeviceNet subscriber
- Dynamic Assembly Objects Mapping
- On-line change baud rate and MAC ID of CAN
- NS, MS and IO LED indicators
- 7-segment LED to show operation mode, MAC ID, baud rate and error code
- Configuration facilitated 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**





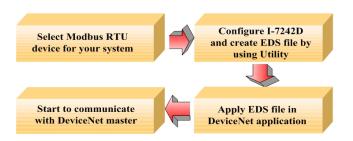
#### Utility Features



#### **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**

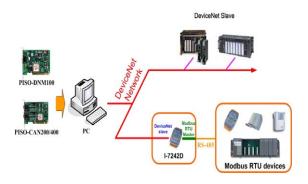




### **Hardware Specifications**

Hardware		
CPU	80188, 40 MHz or compatible	
SRAM/Flash/EEPROM	512 KB / 512 KB / 16 KB	
Watchdog	Watchdog IC	
CAN Interface		
Controller	NXP SJA1000T with 16 MHz clock	
Transceiver	NXP 82C250	
Connector	5-pin screwed terminal block (CAN_L, CAN_H, N/A for others)	
Isolation	1000 V <sub>DC</sub> for DC-to-DC, 2500 Vrms for photo-couple	
Protocol	DeviceNet Volume I ver2.0, Volume II ver2.0	
<b>UART Interface</b>		
COM 1	RS-232 (For configuration)	
COM 2	RS-485 (Self-turner inside)	
Baud Rate (bps)	1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200	
Data bit	7, 8	
Stop bit	1, 2	
Parity	None, Even, Odd	
Protocol	Modbus RTU	
LED		
Round LED	MS LED, NS LED, IO LED	
5-digit 7 Segment	Yes	
Power		
Power supply	Unregulated $+10 \sim +30 \text{ V}_{DC}$	
Protection	Power reverse polarity protection, Over-voltage brown-out protection	
Power Consumption	3 W	
Mechanism		
Dimensions	72mm x 122mm x 33mm (W x L x H)	
Environment		
Operating Temp.	-25 ~ 75 ℃	
Storage Temp.	-30 ~ 80 ℃	
Humidity	10 ~ 90% RH, non-condensing	

# Application



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