

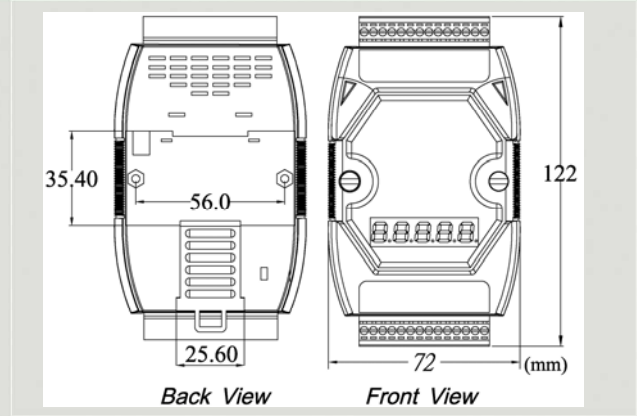


DeviceNet Series Products

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

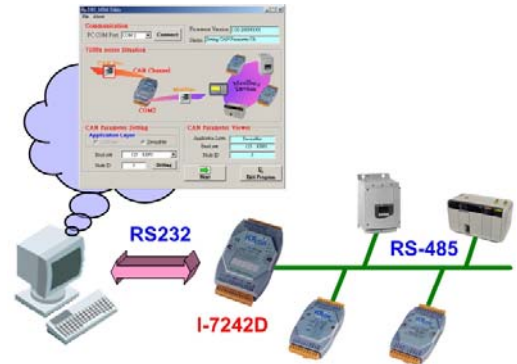
- DeviceNet Version: Volume I & II, Release 2.0
- Group 2 Only Server DeviceNet subscriber
- Dynamic Assembly Objects Mapping
- On-line change baud rate and MAC ID of CAN
- NS, MS and IO LED indicators
- 7-segment LED to show operation mode, MAC ID, baud rate and error code
- Configuration facilitated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



DO	1	1	N/A
DI	2	2	CAN_L
D1+	3	3	N/A
D1-	4	4	CAN_H
CTS1	5	5	N/A
RTS1	1	1	N/A
GND	2	2	CAN_L
TXD1	3	3	N/A
RXD1	4	4	CAN_H
INIT*	5	5	N/A
(Y)D2+			
(G)D2-			
(R)V+			
(B)GND	14		

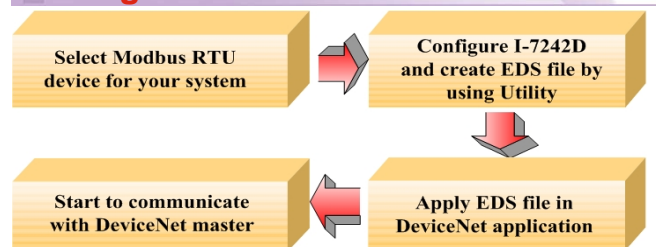
Utility Features



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

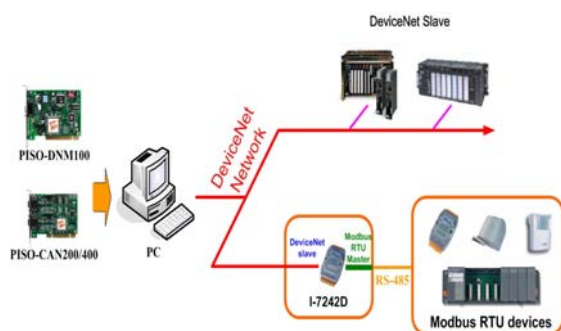
Design Flowchart



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 _{DC} for DC-to-DC, 2500 V _{rms} for photo-couple
Protocol	DeviceNet Volumn I ver2.0, Volumn II ver2.0
UART Interface	
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 ~ +30 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 °C
Storage Temp.	-30 ~ 80 °C
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)