Features

- C Language Based and MiniOS7 Inside
- Support Modbus TCP, RTU/ASCII
- Auto Configuration
- 4/8 Slots for High Profile I/O Modules
- Operating Temperature: -25 ~ +75°C
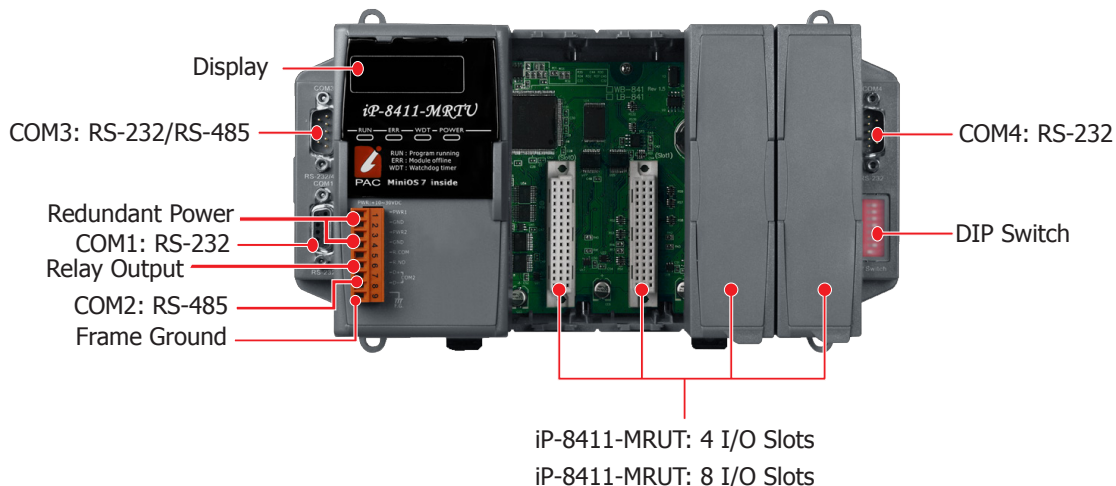
iP-8411-MRTU/iP-8811-MRTU

Introduction

iP-8000-MRTU series is a Modbus serial I/O expansion unit to expand I-8K and I-87K series I/O modules over the serial port for industrial monitoring and controlling applications. There are more than 50 I/O modules supported with the unit, including analog input/output, digital input/output, counter, frequency I/O modules.

It is designed to be used in harsh and noisy environment, so the hardware is manufactured with wide power input range (10 ~ 30 V$_{DC}$), isolated power input and can operate under wide temperature (-25 ~ +75 °C). To simplify installation and maintenance of I/O modules, it provides many useful features, such as: auto configuration, LED indicators for fault detection, dual watchdog to keep alive, programmable power on and safe values for safety.

Modbus is a very wide known protocol in the industrial manufacturing and environment monitoring fields. Many SCADA software, HMI and PLC has builtin driver to support Modbus devices. Besides, we also provide SDK on different platforms, such as Windows XP, Window CE 5.0/6.0, Linux, MiniOS7. Therefore, it is very easy to integrate remote I/O to customer's applications.

Appearance

Display

COM3: RS-232/RS-485

COM4: RS-232

Redundant Power
COM1: RS-232
Relay Output
COM2: RS-485
Frame Ground

DIP Switch

iP-8411-MRUT: 4 I/O Slots
iP-8411-MRUT: 8 I/O Slots

Specifications

Models	iP-8441-MTCP	iP-8841-MTCP
System Software		
OS	MiniOS7 (DOS-like embedded system)	
Program Download Interface	RS-232 (COM1) or Ethernet	
Programmable Language	C Language	
Compilers to create .exe files	TC++ 1.01、TC 2.01、BC++ 3.1 ~ 5.2x、MSC 6.0、MSVC++ (before version 1.5.2)	
CPU Module		
CPU	80186 or compatible (16-bit and 80 MHz)	
SRAM	512 KB	
Dual Battery Backup SRAM	512 KB; data valid up to 5 years	
Flash	512 KB with write protect switch	
Expansion Flash Memory	microSD socket (can support microSDHC up to 32 GB)	
EEPROM	16 KB	
NVRAM	31 Bytes (battery backup, data valid up to 5 years)	
RTC (Real Time Clock)	Provide second, minute, hour, date, day of week, month, year	
Hardware Serial Number	Yes, 64-bit hardware serial number for software copy protection	
Watchdog Timers	Yes (0.8 second)	
DIP Switch	Yes (8 bits)	
Communicate Interface		
Protocol	Modbus RTU/ASCII Slave	
COM 0	Internal communication with the high profile I-87K series modules in slots	
COM 1	RS-232 (to update firmware) (RxD, TxD and GND); non-isolated	
COM 2	RS-485 (Data+, Data-) with internal self-tuner ASIC; 3000 V_{DC} isolated	
COM 3	RS-232/RS-485 (RS-232: RxD, TxD, CTS, RTS, GND, RS-485: Data+, Data-); non-isolated	
COM 4	RS-232RS-232 (RxD, TxD, CTS, RTS, DSR, DTR, CD, RI and GND); non-isolated	
SMMI		
LED Display	Yes, 5-Digit	
LED Indicators	3 Programmable LED Indicators	
Push Buttons	4	
Buzzer	Yes	
I/O Expansion Slots		
Slot Number	4	8
	For High Profile I-8K and I-87K Modules Only	
Mechanical		
Dimensions (W x L x H)	231 mm x 132 mm x 111 mm	355 mm x 132 mm x 111 mm
Installation	DIN-Rail or Wall Mounting	
Environment		
Operating Environment	-25 ~ +75°C	
Storage Temperature	-30 ~ +80°C	
Humidity	10 ~ 90 % RH, non-condensing	
Power		
Input Range	+10 ~ +30 V_{DC}	
Isolation	1 kV	
Redundant Power Inputs	Yes, with one power relay (1 A @ 24 V_{DC}) for alarm	
Capacity	30 W	
Consumption	6.7 W	7.2 W

Ordering Information

iP-8411 CR	4 slots I/O Expansion Unit with Modbus TCP protocol (RoHS)
iP-8811 CR	8 slots I/O Expansion Unit with Modbus TCP protocol (RoHS)