

2008 New Products Highlight



WinCE PAC

Palm Size PAC

Remote I/Os

Industrial Communication

RS-485/RS232/Ethernet to ZigBee Converter

Industrial Ethernet Switch

PC-based I/O Boards

- **Building/Factory Automation**
- **ITS** ■ **Remote Monitoring**
- **Environment Monitoring**





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μPAC-7186EXD

Embedded Ethernet / Internet Controller

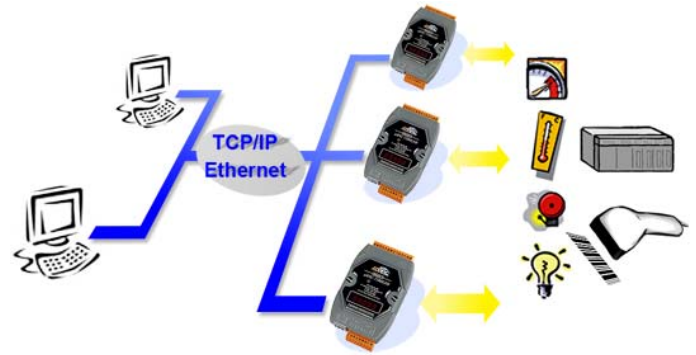
The μPAC-7186EX is a palm-size programmable automation controller that with Ethernet, RS-232, RS-485 communication. ICPDAS provide easy-to-use software development tool kits (Xserver, VxComm, Modbus libraries). Users can use them to easily integrate serial devices to have Ethernet/Internet communication ability and through the standard Modbus protocol to communicate with SCADA software (Indusoft, ISaGARF, DasyLab, TraceMode, Citect, iFix, etc.).

For the hardware, it also supports an I/O expansion bus. The I/O expansion bus can be used to implement various I/O functions such as D/I, D/O, A/D, D/A, Timer/Counter, UART, flash memory, battery backup SRAM, ASIC key & other I/O functions. Nearly all kinds of I/O functions can be implemented by this bus but the bus can support only one board. There are more than 50 boards available for μPAC-7186EX, you can choose one of them to expand hardware features.



Features

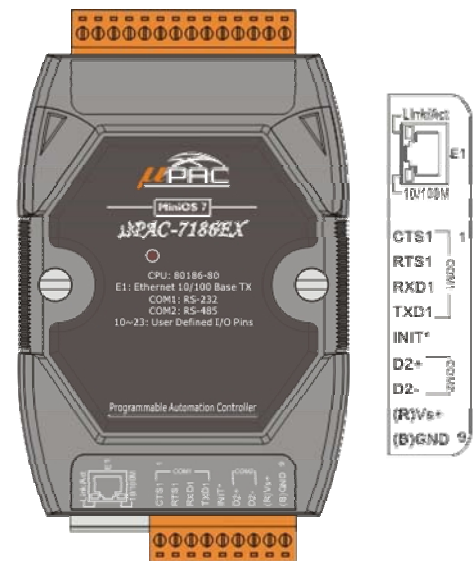
- Support for Virtual COM technology
- Support Modbus Protocol
- Easy-to-use software development tool kits (using C language)
- Ethernet Protocols
- Support Web Configuration
- Built-in watchdog timer (WDT)
- I/O Expansion Bus Interface
- Remote Configuration/Maintenance



Specifications

CPU:80186, 80MHz or compatible
SRAM:512K Bytes
Flash:512K Bytes; Erase unit is one sector (64K bytes); 100,000 erase/write cycles.
EEPROM:16K bytes Data retention: 40 years; 1,000,000 erase/write cycles.
NVRAM:31 Bytes (battery backup, data valid up to 10 year)
RTC:Year-2000 compliance; seconds, minutes, hours, date of the month;month, year, valid up from 1980 to 2079
64-bit Hardware Serial Number: Yes
Build-in Watchdog Timer: Yes
COM1:RS-232; Non-isolation
COM2:RS-485; Non-isolation
Ethernet Port:10/100Base-TX Ethernet Controller (Auto-negotiating, Auto_MDIX, LED indicator)
5-Digit 7 Segment LED Display: Yes (for μPAC-7186EXD only)
System LED Indicator: Yes
I/O expansion bus: Yes
User defined I/O pins: 14 pins
Operating Temperature: -25°C to +75°C
Protection: Power reverse polarity protection
Frame Ground for ESD Protection:Yes
Required Supply Voltage: +10 to +30VDC (non-regulated)

PIN assignment



WP-8841/WP-8441

Programmable Automation Controller

WinPAC-8000 is the second generation PAC of ICPDAS. It equips a PXA270 CPU (520MHz) running a Windows CE.NET 5.0 operating system, variant connectivities (VGA, USB, Ethernet, RS-232/485) and 4/8 slots for high performance parallel I/O modules (high profile I-8K series) and serial-type I/O modules (high profile I-87K I/O modules).

Its operating system, Windows CE 5.0, has many advantages, including hard real-time capability, small core size, fast boot speed, interrupt handling at a deeper level, achievable deterministic control and low cost. Using Windows CE.Net 5.0 in the WinPAC-8000 gives it the ability to run PC-based Control software such as Visual Basic.NET, Visual C#, Embedded Visual C++, SCADA software, Soft PLC ...etc.

Compared to the first generation WinCon-8000, it not only improves the CPU performance (from 206 MHz to 520 MHz) and upgrading OS (from CE 4.1 to CE 5.0), but also adds many reliability features, such as dual LAN, redundant power input, dual battery backup SRAM, etc. It gives you all of the best features of both traditional PLCs and Windows capable PCs



Software

• Windows CE.Net 5.0

Most of the popular features in MS software are included, such as:

- FTP server
- Http server
- ASP (Java script, VB script)
- SQL server embedded
- Compact .Net framework 2.0

• Built-In OPC Server (Quicker)

Quicker is an OPC server, and SCADA software can easily integrate I/O modules through it. Furthermore, it also provides a library which users can use to develop their AP by eVC, C# or VB.Net.

Quicker not only supports I/O modules in local slots, but also supports remote I/O modules with the following protocols via the RS-232/485 or Ethernet:

2. Modbus/RTU
3. Modbus/ASCII
4. Modbus/TCP
5. DCON

• Upgrading Applications from WinCon to WinPAC just Copy and Play



• Remote Maintenance via FTP Server and VCEP Software

The FTP server is used for uploading applications or downloading data. And VCEP is designed for managing the WinPAC-8000. VCEP can synchronize every movements (screen, keyboard and mouse actions) between the PC and the WinPAC-8000 via the Ethernet. By using the FTP server and VCEP, you can update and manage the WinPAC-8000 remotely via the Ethernet.

• Rich Software Solutions

On the WinPAC-8000, ICP DAS provides the following software solutions to fit in different applications.

1. Visual Studio .Net 2005 and eVC solution: SDK as well as demo programs for C#, VB.Net and eVC are provided.
2. SoftPLC solution:
 - A. ISaGRAF supports IEC61131-3 languages, Ladder Diagram (LD), Structured Text (ST), Function Block Diagram (FBD), Sequential Function Chart (SFC), Instruction List (IL), and Flow Chart (FC).
 - B. KW-software supports IEC61131-3 languages and HMI features.
3. SCADA solution: Indusoft provides simple "drag and drop", "point and click" developing environment for HMI and SCADA applications.



Hardware Features

• Powerful CPU Module

The most important features of the CPU module are:

1. PXA270 or compatible CPU (32-bit and 520MHz)
2. 128MB SDRAM
3. 14MB Built-In Flash Disk

• 64-bit Hardware Serial Number

Every serial number of WinPAC-8000 is different. Users can add a checking mechanism to their AP to prevent software from pirating.

• Rich I/O Expansion Ability (RS-232/485, Ethernet, FRnet, CAN)

Beside the local I/O slots, WinPAC-8000 also equips several RS-232/485 ports, two Ethernet ports to connect serial I/O and Ethernet I/O. And with FRnet and CAN communication module in local slot, FRnet I/O and CAN devices are easy to be integrated.

• Dual Watchdog Timer

A system could be hanged up when the OS or the AP fails. There are two watchdogs (OS watchdog and AP watchdog) designed to automatically reset the CPU when the situations happen. The design will increase the reliability of the system.

• Dual Ethernet Ports

WinPAC-8000 provides two Ethernet ports. The two Ethernet ports can be used to implement redundant Ethernet communication and separate Ethernet communication (one for global Internet, one for private Ethernet).

• Built-in VGA Port

A built-in VGA port can be directly connected to a regular LCD display.

• I/O Module Hot Swap Ability

The WinPAC-8000 features hot swap which means that there is no need to power off the WinPAC-8000 for replacing modules. And the OS provides a function sending plug-in and removing messages to user's applications. Using this feature, users can design its own plug-and-play applications.



• Built-In Flash Disk (14MB)

In normal situation, users can store their AP or data to the Micro SD card or USB Flash disk. But in some vibrational environment (for example, like driving ships), the two storage media would be bad connection. Then the built-in Flash disk will be the best storage media in such the vibrational environment.

• Dual Battery-Backup SRAM (512KB)

To maintain important data while power off, non-volatile memory is the ideal design. The WinPAC-8000 equips a 512KB SRAM with two Li-batteries to maintain data while power off. The two Li-batteries can continually supply power to the 512KB SRAM to retain the data for 10 years; and the dual-battery design can avoid data lost while replacing a new battery.

• Redundant Power Inputs

To prevent the WinPAC-8000 from failing by the power loss, the power module is designed with two inputs. The WinPAC-8000 can keep working even one power input fails, and mean while there is a relay output for informing the power failure.

• Ventilated Housing Design

- Allows Operation Between -25°C ~ +75°C

Each WinPAC-8000 is housed in a plastic-based box with a column-like ventilator that can help to cool the working environment inside the box and allow the WinPAC-8000 operating between -25°C and +75°C.

Specifications

OS	Windows CE 5.0 (with .Net Compact Framework 2.0)
.Net framework	2.0
Embedded service	FTP server, Web server (supports VB script, JAVA script), Embedded SQL server
SDK provided	Dll for eVC, Dll for Visual Studio.Net 2005
CPU	PXA270 or compatible (32-bit and 520MHz)
SDRAM	128MB
Dual Battery Backup SRAM	512K bytes (for 5 years data retain)
Flash	48MB (32MB for OS image, 14MB for built-in Flash disk, 2MB for registry)
Expansion Flash Memory	Micro SD socket with 1GB flash card
RTC (real time clock)	Year-2000 compliance; seconds, minutes, hours, date of the month; month, year, valid up from 1980 to 2079
64-bit Hardware Serial Number	Yes
Dual Watchdog Timer	Yes
Programmable LED indicator	1
Rotary Switch	Yes (0~9)
VGA	1 (800x600 resolution)
Ethernet Port	2 Ports, 10/100Base-TX Ethernet Controller (Auto-negotiating, Auto MDIX, LED indicator)
USB 1.1 (host)	1
COM 0	Internal communication with the 87K modules in slots
COM 1	RS-232 (to update firmware) (RXD, TXD, and GND); Non-isolation
COM 2	RS-485 (D2+, D2-; self-tuner ASIC inside); 3000VDC isolation
COM 3	RS-232/RS-485; Non-isolation; (for WP-844x and WP-884x only)
COM 4	RS-232; Non-isolation; (for WP-844x and WP-884x only)
Operating Temperature	-25°C to +75°C
Input Range	+10V ~ +30V
Isolation	1KV
Redundant Power Inputs	Yes



uP-4500

Mini PAC with GPRS/GPS

Specifications

Core specifications

CPU: 80186, 80M Hz
SRAM: 512K Bytes
Flash Memory: 512K Bytes; Erase unit is one sector (64K bytes); 100,000 erase/write cycles.
NVSRAM: 31 Bytes (battery backup, data valid up to 10 year)
EEPROM: 16K bytes Data retention:40 years; 1,000,000 erase/write cycles
MicroSD socket: Yes.
Real Time Clock: Year-2000 compliance; seconds, minutes, hours, date of the month;month, year, valid up from 1980 to 2079
Built-in Watchdog Timer: Yes
RS-232: COM1(TxD, RxD, CTS, RTS, GND) COM3(TxD, RxD, GND)
RS-485: RS-485 (D2+, D2-; self-tuner ASIC inside); Non-isolation
Analog Input: Channel:8 /Resolution : 12-bit Input Range/Type : 0 ~ 20mA Isolation Voltage: Non-isolation
Digital Input: Channel:3 /Input Type: Sink Off Voltage Level: +1V max. On Voltage Level: +3.5V ~ +30V Isolation Voltage: Non-isolation
Digital Output: Channel:3 /Output Type: Open-Collector (NPN) Load Voltage: 30VDC, Max Load Current: 100mA, Max Isolation Voltage: Non-isolation

GPS specifications

Based on the high performance features of the Atmel ANTARIS 4 ATR0635 chip
16 channels with All-In-View tracking
Built-in high gain amplifier and bandpass filter
Cold/Warm Time: 42 / 35 sec. at open sky and stationary environments.
Reacquisition Time: 0.1 second
Extra high sensitivity: -159dBm
SMA Connector

GPRS specifications

Tri-Band GSM/GPRS 900/1800/1900 MHz
GPRS multi-slot class 10/8
GPRS mobile station class B
Compliant to GSM phase 2/2+
-Class 4(2W @ 900 MHz)
-Class 1(1W @ 1800/1900 MHz)

Specification for data

- GPRS class 10: max. 85.6 kbps(downlink)
- PBCCH support
- Coding schemes CS 1, 2, 3, 4
- CSD up to 14.4 kbps
- USSD
- Non transparent mode
- PPP-stack

Specifications for SMS via GSM/GPRS

- Point-to-point MO and MT
- SMS cell broadcast
- Test and PUD mode

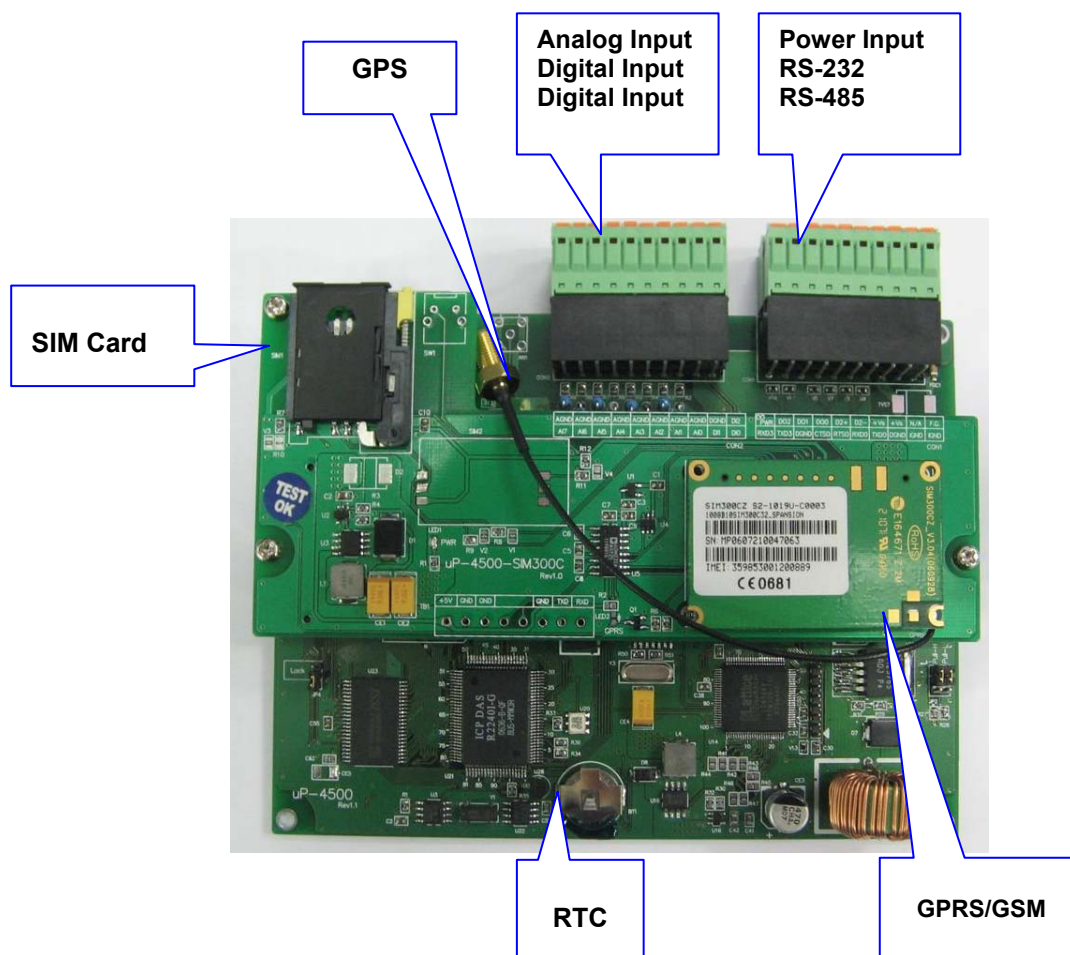


MicroSD socket



Selection Guide

	uP-4500	uP-4501	uP-4502	uP-4503
CPU	80188-80	80188-80	80188-80	80188-80
RS-232	2 Port	2 Port	2 Port	2Port
RS-485	1 Port	1 Port	1Port	1Port
Power Saving Control	No	Yes	Option	Yes
Micro SD	Yes	Yes	Yes	Yes
IO	8 AI 3DI/3DO	X-Bus	X-Bus	X-Bus
GPS	No	Yes	Yes	No
GSM/GPRS	Yes	Yes	No	Yes
Ethernet	Yes	Yes	Yes	Yes



ET2-6064D

24-channel Relay Output

The ET-6000, a web-based Ethernet I/O module, features a built-in web server which allows configuration, I/O monitoring and I/O control by simply using a regular web browser. Remote control is as easy as you surfing the Internet. Besides, with the web HMI function, no more programming or HTML skills are needed; creating dynamic and attractive web pages for I/O monitoring and I/O control would be fun to engineers ever after. The ET-6000 offers easily and safely access for users from anytime and anywhere!

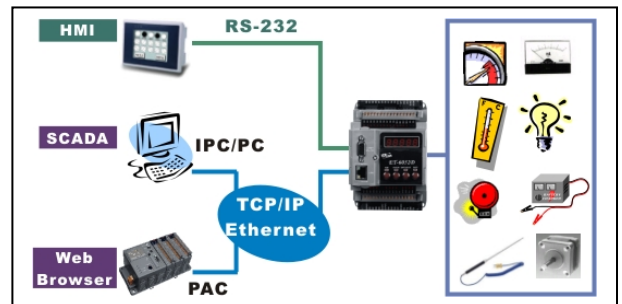
In addition, the ET-6000 also supports various Modbus functions. For example, Modbus/TCP slave, Modbus/TCP to Modbus/RTU gateway, Modbus/RTU master, Modbus/RTU slave, and etc, that makes perfect integration for ET-6000 to SCADA software.

The ET-6000 is designed for applications to industrial monitoring and measurement; therefore, we have made it toughly enough to survive the harsh and rough environment. The module contains 2-way isolation from noise and surges, one for digital inputs and the other for Ethernet. The ET-6000 has got a wild range of power input (10~30VDC) and operating temperature (-25°C~+75°C).



Specifications

CPU:80186 , 80MHz
SRAM:512 KB
Flash Memory:512 KB
EEPROM:16 KB
Dual Watchdog: Yes
Serial Port: RS-232 (TXD, RXD, GND) (115200 bps Max.)
Ethernet Port:10 / 100 Base TX (With Link, Activity LED Indicator)
7 Segment LED Display:5 Digits
System LED Indicator:4
Push Button:4
Output Channels:18
LED Indicator: Yes
Output Type: Power Relay, Form A (Normal Open)
Operating Voltage Range: 5 ~ 240VAC (47~63Hz) 5 ~ 24VDC
Relay Contact Voltage Range:0~ 250VAC (47~63Hz) 0~ 28VDC
Max. Load Current:3.0 A/Channel
Max. Operate Time:15 ms Max.
Max. Release Time:3 ms Max.
Insulation Resistance:Min. 1,000 MOhms, at 500VDC
Dielectric Strength:
Between Open Contacts : 750VAC 50/60Hz (at 1 Minute)
Between Coil and Contacts : 4,000VAC 50/60Hz (at 1 Minute)
Surge Strength:10,000V (at 1.2*50us)
Output Channels:6
LED Indicator :Yes
Output Type:Power Relay, Form C (Normal Open and Close)
Operating Voltage Range:5 ~ 240VAC (47~63Hz) 5 ~ 24VDC
Relay Contact Voltage Range:0~ 250VAC (47~63Hz) 0~ 30VDC
Max. load Current:2.0 A/Channel
Max. Operate Time:5 ms Max.
Max. Release Time:5 ms Max.
Insulation Resistance:Min. 1,000 MOhms, at 500VDC
Dielectric Strength:
Between Open Contacts : 1,000Vrms (at 1 Minute)
Between Coil and Contacts : 1,500Vrms (at 1 Minute)
Surge Strength:2,500V (at 1.2*50us)
3 Way Isolation:Ethernet, I/O, Power
Power Input:+10 to +30 VDC
Environment:Operating Temperature: -25 ~ +75 °C
Dimensions: 180mm x 111mm x 70mm (W x D x H)



Features

- Built in Web Server
- Web HMI
- Communication Security
- Modbus Protocol
- Built-in Multi-function I/O
- 3-way Isolated Noise/Surge Protection
- Built-in Dual Watchdog
- I/O Pair Connection

Ordering information

- ET2-6064D
24-channel Relay Output
- ET2-6064D CR
24-channel Relay Output (RoHS)

ET-6052D

8-channel Digital Output and 14-channel Digital Input

The ET-6000, a web-based Ethernet I/O module, features a built-in web server which allows configuration, I/O monitoring and I/O control by simply using a regular web browser. Remote control is as easy as you surfing the Internet.

Besides, with the web HMI function, no more programming or HTML skills are needed; creating dynamic and attractive web pages for I/O monitoring and I/O control would be fun to engineers ever after. The ET-6000 offers easily and safely access for users from anytime and anywhere!

In addition, the ET-6000 also supports various Modbus functions. For example, Modbus/TCP slave, Modbus/TCP to Modbus/RTU gateway, Modbus/RTU master, Modbus/RTU slave, and etc, that makes perfect integration for ET-6000 to SCADA software.

The ET-6000 is designed for applications to industrial monitoring and measurement; therefore, we have made it toughly enough to survive the harsh and rough environment. The module contains 2-way isolation from noise and surges, one for digital inputs and the other for Ethernet. The ET-6000 has got a wild range of power input (10~30VDC) and operating temperature (-25°C~+75°C).



Specifications

CPU:80186 , 80MHz
SRAM:512 KB
Flash Memory:512 KB
EEPROM:16 KB
Dual Watchdog: Yes
Serial Port: RS-232 (TXD, RXD, GND) (115200 bps Max.)
Ethernet Port:10 / 100 Base TX (With Link, Activity LED Indicator)
7 Segment LED Display:5 Digits
System LED Indicator:4
Push Button:4
Digital Output
Channels:8 (Source)
LED Indicator: Yes
Output Type: Isolated (N-MOSFET, Open Souce)
Max. Load Current:1.4 A/Channel
Load Operating Voltage: 10Vdc to 40Vdc
External Power Voltage Range: 12Vdc to 45Vdc
Over-Voltage Protection: +48VDC
Direct Drive Power Relay Module: Yes
Short Circuit Protection and Current Limitation: Yes
Switching Inductive Loads: Yes
Intra-module Isolation, Field to Logic: 3750Vrms
Digital Input
Channels:14 (Sink/Source)
LED Indicator: Yes
Input Type: Isolation, One Common/Ground for all Digital Input
Input Impedance:10K Ohms, 0.5W (For Wet Contact)
Dry Contact (Source):On Voltage Level : Close to GND Off Voltage Level : Open
Wet Contact (Sink/Source) :On Voltage Level : +10 to 50Vdc Off Voltage Level : +3V (Max.)
Counters: Channels : 14 Max. Input Frequency : 100Hz Min. Pulse Width : 5ms
Intra-module Isolation, Field to Logic:3750V rms
3 Way Isolation: Ethernet, I/O, Power
Din Rail Mount: Yes
Wall Mount: Yes
Power Input:+10 to +30 VDC
Environment: Operating Temperature: -25 ~ +75 °C
Dimensions: 90mm x 111mm x 70mm (W x D x H)

Features

- Built in Web Server
- Web HMI
- Communication Security
- Modbus Protocol
- Built-in Multi-function I/O
- 3-way Isolated Noise/Surge Protection
- Built-in Dual Watchdog
- I/O Pair Connection

Ordering information

- ET-6052D
8-channel Digital Output and 14-channel Digital Input

ET-6060D

8-channel Digital Output and 10-channel Digital Input

The ET-6000, a web-based Ethernet I/O module, features a built-in web server which allows configuration, I/O monitoring and I/O control by simply using a regular web browser. Remote control is as easy as you surfing the Internet. Besides, with the web HMI function, no more programming or HTML skills are needed; creating dynamic and attractive web pages for I/O monitoring and I/O control would be fun to engineers ever after. The ET-6000 offers easily and safely access for users from anytime and anywhere!

In addition, the ET-6000 also supports various Modbus functions. For example, Modbus/TCP slave, Modbus/TCP to Modbus/RTU gateway, Modbus/RTU master, Modbus/RTU slave, and etc, that makes perfect integration for ET-6000 to SCADA software.

The ET-6000 is designed for applications to industrial monitoring and measurement; therefore, we have made it toughly enough to survive the harsh and rough environment. The module contains 2-way isolation from noise and surges, one for digital inputs and the other for Ethernet. The ET-6000 has got a wild range of power input (10~30VDC) and operating temperature (-25°C~+75°C).



Specifications

CPU:80186 , 80MHz
SRAM:512 KB
Flash Memory:512 KB
EEPROM:16 KB
Dual Watchdog: Yes
Serial Port: RS-232 (TXD, RXD, GND) (115200 bps Max.)
Ethernet Port:10 / 100 Base TX (With Link, Activity LED Indicator)
7 Segment LED Display:5 Digits
System LED Indicator:4
Push Button:4
Digital Output
Channels:8
LED Indicator: Yes
Output Type: Power Relay, Form A (Normal Open)
Operating Voltage Range: 5 ~ 240VAC (47~63Hz) 5 ~ 24VDC
Relay Contact Voltage Range:0~ 250VAC (47~63Hz) 0~ 28VDC
Max. Load Current:3.0 A/Channel
Max. Operate Time: 15 ms Max.
Max. Release Time: 3 ms Max.
Insulation Resistance: Min. 1,000 MOhms, at 500VDC
Dielectric Strength: Between Open Contacts:750VAC 50/60Hz (1Min) Between Coil and Contacts : 4,000VAC 50/60Hz (at 1 Minute)
Surge Strength:10,000V (at 1.2*50us)
Relay Life: Mechanical :10 million operations at no Load Condition Electrical : 100, 000, 28VDC@5A min. , Resistive
Digital Input
Channels:10 (Sink/Source)
LED Indicator: Yes
Input Type: Isolation, Two Common for all Digital Inputs
Input Impedance:10K Ohms, 0.5W (For Wet Contact)
On Voltage Level:+10V ~ 50V
Off Voltage Level:+3V max
Input Impedance:10K Ohms, 0.66W
Counters: Channels : 10 Max. Input Frequency : 100Hz Min. Pulse Width : 5ms
Intra-module Isolation, Field to Logic:3750V rms
3 Way Isolation: Ethernet, I/O, Power
Din Rail Mount: Yes
Wall Mount: Yes
Power Input:+10 to +30 VDC

Features

- Built in Web Server
- Web HMI
- Communication Security
- Modbus Protocol
- Built-in Multi-function I/O
- 3-way Isolated Noise/Surge Protection
- Built-in Dual Watchdog
- I/O Pair Connection

Ordering information

- ET-6060D
8-channel Digital Output and 10-channel Digital Input
- ET-6060D CR
8-channel Digital Output and 10-channel Digital Input (RoHS)

ET-7060

6-channel Power Relay Output and 6-channel Isolation Digital Input

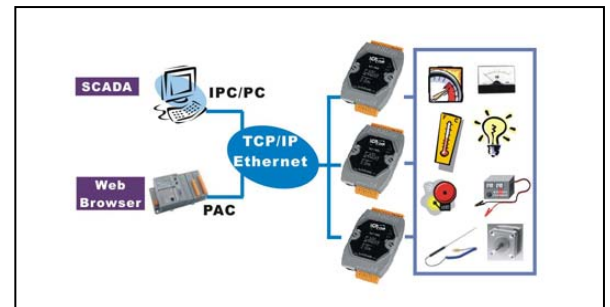
The ET-7060, a web-based Ethernet I/O module, features a built-in web server, which allows configuration, I/O monitoring and I/O control by simply using a regular web browser. Besides, with the web HMI function, no more programming or HTML skills are needed; creating dynamic and attractive web pages for I/O monitoring and I/O control would be fun to engineers ever after. The ET-7060 offers easily and safely access for users from anytime and anywhere! In addition, the ET-7060 also supports Modbus/TCP protocol that makes perfect integration for ET-7060 to SCADA software.

The ET-7060 provides 6 power relay (form A) output and 6 isolated wet contact (sink, source type) digital input channels. Each power relay supports contact rating as 5A@250Vac or 5A@30Vdc and each digital input channel supports counter input (32 bits and 500Hz max.).



Specifications

CPU:80186 , 80MHz
SRAM:512 KB
Flash Memory:512 KB
EEPROM:16 KB
Dual Watchdog: Yes
Ethernet Port:10 / 100 Base TX (With Link, Activity LED Indicator) Automatic MDI/MDI-X Crossover
Relay Output
Output Channels:6
Output Type: Power Relay, Form A (SPST N.O.)
Operating Voltage Range: 250VAC/30VDC
Load Current:5.0 A/Channel Max.
Operate Time:6ms
Release Time:3ms
Electrical Life (Resistive load): VDE:5A 250Vac 30,000 ops (10 ops/minute) at 75°C. 5A 30Vdc 70,000 ops (10 ops/minute) at 75°C UL: 5A 250Vac/30Vdc 6,000 ops. 3A 250Vac/30Vdc 100,000 ops.
Mechanical Life:20,000,000 ops. at no load (300 ops./minute)
Digital Input
Channels:6
Input Type: Wet Contact (Sink, Source)
On Voltage Level:+10V ~ 50V
Off Voltage Level:+4Vdc max
Input Impedance:10K Ohms
Counters: Max. Count:4,294,967,285 (32 bits) Max. Input Frequency : 500Hz Min. Pulse Width : 1ms
Over-Voltage Protection:+70Vdc
2 Way Isolation: Ethernet, I/O(DI, Relay Output)
Din Rail Mount: Yes
Wall Mount: Yes
Protection: Power reverse polarity protection
Power Consumption:0.12A/24Vdc Max
Operating Temperature:-25 ~ +75 °C



Features

- Built in Web Server
- Web HMI
- Communication Security
- Modbus Protocol
- Built-in Multi-function I/O
- I/O Pair Connection
- Built-in Dual Watchdog
- 2-way Isolated Noise /Surge Protection

Ordering information

- ET-7060CR
6-channel Power Relay Output and
6-channel Isolation Digital Input (RoHS)

ET-7067

8-Channel Power Relay Output Module

The ET-7000, a web-based Ethernet I/O module, features a built-in web server which allows configuration, I/O monitoring and I/O control by simply using a regular web browser. Remote control is as easy as you surfing the Internet. Besides, with the web HMI function, no more programming or HTML skills are needed; creating dynamic and attractive web pages for I/O monitoring and I/O control would be fun to engineers ever after. The ET-7000 offers easily and safely access for users from anytime and anywhere! In addition, the ET-7000 also supports Modbus/TCP protocol that makes perfect integration for ET-7000 to SCADA software.

The ET-7000 is designed for applications to industrial monitoring and measurement; therefore, we have made it toughly enough to survive the harsh and rough environment. The module contains 2-way isolation from noise and surges, one for digital inputs and the other for Ethernet. The ET-7000 has got a wild range of power input (10~30VDC) and operating temperature (-25°C~+75°C).



Specifications

CPU:80186 , 80MHz
SRAM:512 KB
Flash Memory:512 KB
EEPROM:16 KB
Dual Watchdog: Yes
Ethernet Port:10 / 100 Base TX (With Link, Activity LED Indicator) Automatic MDI/MDI-X Crossover
Relay Output
Output Channels: 8
Output Type: Power Relay, Form A (SPST N.O.)
Operating Voltage Range: 250VAC/30VDC
Load Current:5.0 A/Channel Max.
Operate Time:6ms
Release Time:3ms
Electrical Life (Resistive load): VDE:5A 250Vac 30,000 ops (10 ops/minute) at 75°C. 5A 30Vdc 70,000 ops (10 ops/minute) at 75°C UL: 5A 250Vac/30Vdc 6,000 ops. 3A 250Vac/30Vdc 100,000 ops.
Mechanical Life:20,000,000 ops. at no load (300 ops./minute)
2 Way Isolation: Ethernet: 1500Vrms Relay Output: 3000Vrms
Din Rail Mount: Yes
Wall Mount: Yes
Protection: Power reverse polarity protection
LED Indicator: Yes
Power consumption: 0.14A/24Vdc Max.
Required Supply Voltage:+10Vdc to 30Vdc (non-regulated)
Power Consumption:0.12A/24Vdc Max
Operating Temperature:-25 ~ +75 °C
Storage Temperature:-30°C to +80°C
Relative Humidity:5% to 90% Non-condensing
Dimensions (W x H x D):123mm x 72mm x 33mm

Features

- Built in Web Server
- Web HMI
- Communication Security
- Modbus Protocol
- Built-in Multi-function I/O
- I/O Pair Connection
- Built-in Dual Watchdog
- 2-way Isolated Noise / Surge Protection

Ordering information

- **ET-7067CR**
8-channel Power Relay Output Module (RoHS)

i-7017Z

10-channel Analog Input Module with High Voltage Protection

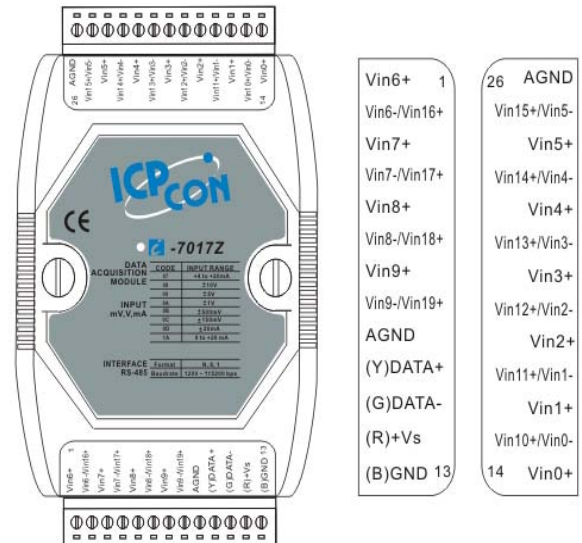
The i-7017Z modules provide cost-effective protection and conditioning for a wide range of valuable industrial control signals and system. Our product line includes sensor-to-computer, computer-to-sensor, digital I/O, timer/ counter, RS-232 to RS-485 converter,



Specifications

Analog Input
Input Channels: 10 differential or 20 single-ended (Note1), software selectable
Input Type : +/-500mV, +/-1V, +/-5V, +/-10V +/-20mA ,0~20mA, 4~20mA (jumper selectable)
Resolution: 16-bit (Normal Mode) / 12-bit (Fast Mode)
Sampling Rate 10 samples/ second (Normal Mode) / 60 samples/ second (Fast Mode) total
Accuracy : +/-0.1% (Normal Mode) / +/-0.5% (Fast Mode) or better
Band Width: 15.7Hz (Normal Mode) / 78.7Hz (Fast Mode)
Zero Drift : +/-20uV/°C
Span Drift: +/-25ppm/°C
Input Impedance: Voltage: 2M Ohms(Differential), 1M Ohms(Single-ended) /Current: 125 Ohms
Common Mode Rejection: 86dB min
Normal Mode Rejection: 100dB
Over Voltage Protection: Differential: 240 Vrms, Single-ended: 150Vrms
ESD Protection:4KV Contact for each terminal; 8KV Air for random point
EFT Protection:4KV to Power, and 1KV to RS-485
Intra-module Isolation, Field to Logic :3000 VDC
Interface
Interface : RS-485
LED Display
1 LED as Power/Communication indicator
Power
Input:+10 to +30 VDC
Power Consumption:2.0W
Environment
Operating temperature:-25 to 75°C
Note1: Single-ended mode is not available to current inputs

Pin Assignment



Software Support

Software	Version	Update
DCON Utility	5.0.0	Mar-20-2008
EZ Data Logger	2.0.9	Jul-31-2007
DCON_DOS	1.0.1	Apr-2-1999
DCON_Labview	1.20.02	Jul-28-2006
DCON_DasyLab	1.2	Oct-28-2005
DCON_Indusoft	1.0.2	Sep-30-2003
DCON_DLL	5.1.8	Jul-27-2006
DCON_DLL_New	1.0.0	Aug-10-2006
DCON_ActiveX	4.3.4	July-03-2006
DCON_ActiveX_New	1.0.0	Sep-14-2006
DCON_Linux	0.2.0	Feb-19-2001
DCON_DDE	3.2	Oct-16-2003

Ordering information

- i-7017Z**
10-channel Analog Input Module with High Voltage Protection



i-7018Z

10-channel Thermocouple Input Module with High Voltage Protection

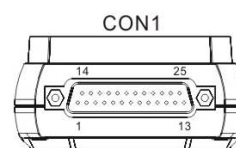
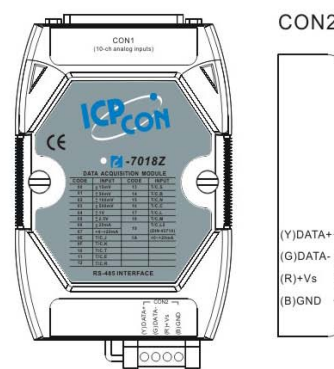
The i-7018Z modules provide cost-effective protection and conditioning for a wide range of valuable industrial control signals and system. Our product line includes sensor-to-computer, computer-to-sensor, digital I/O, timer/ counter, RS-232 to RS-485 converter,

Specifications

Analog Input
Input Channels: 10 differential
Input Type : +/- 15mV, +/- 50mV, +/- 100mV, +/- 500mV, +/- 1V, +/- 2.5V +/-20mA, 0~20mA, 4~20mA (Requires Optional External 125 Ohm Resistor) Thermocouple (J, K, T, E, R, S, B, N, C, L, M, LDIN43710)
Resolution: 16-bit
Sampling Rate 10 samples/ second (total)
Accuracy : +/-0.1%
-3dB BandWidth:15.7Hz
Zero Drift : +/- 0.5µV/ °C
Span Drift: +/-25ppm/°C
Common Mode Rejection: 150dB
Normal Mode Rejection: 100dB
Input Impedance:20M Ohms
Over Voltage Protection: 240 Vrms
Open Thermocouple Detection: Yes
Individual Channel Configuration: Yes
Photo-Isolation: 3750Vrms
Intra-module Isolation, Field to Logic : 3000VDC
Interface
Interface : RS-485
LED Display
1 LED as Power/Communication indicator
Power
Input:+10 to +30 VDC
Power Consumption:1.0W
Environment
Operating temperature:-25 to 75°C



Pin Assignment



Pin Assignment Name	Terminal No.	Pin Assignment Name	
+5V	01	14	AGND
CJC	02	15	CH0+
CH0-	03	16	CH1+
CH1-	04	17	CH2+
CH2-	05	18	CH3+
CH3-	06	19	CH4+
CH4-	07	20	CH5+
CH5-	08	21	CH6+
CH6-	09	22	CH7+
CH7-	10	23	CH8+
CH8-	11	24	CH9+
CH9-	12	25	N.C.
N.C.	13	Shield	F.G.

25-pin Female D-Sub Connector

Software Support

Software	Version	Update
DCON Utility	5.0.0	Mar-20-2008
EZ Data Logger	2.0.9	Jul-31-2007
DCON_DOS	1.0.1	Apr-2-1999
DCON_Labview	1.20.02	Jul-28-2006
DCON_DasyLab	1.2	Oct-28-2005
DCON_Indusoft	1.0.2	Sep-30-2003
DCON_DLL	5.1.8	Jul-27-2006
DCON_DLL_New	1.0.0	Aug-10-2006
DCON_ActiveX	4.3.4	July-03-2006
DCON_ActiveX_New	1.0.0	Sep-14-2006
DCON_Linux	0.2.0	Feb-19-2001
DCON_DDE	3.2	Oct-16-2003



RU-87P8

8 slots I/O expansion unit

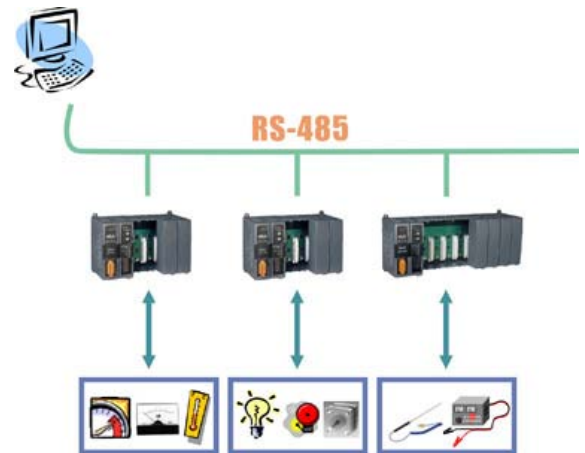
RU-87Pn series is a remote intelligent I/O expansion unit that used to expand i-87K series I/O modules over the RS-485 for industrial monitoring and controlling applications. There are more than 30 I/O modules supported with the unit, including analog input/output, digital input/output, counter/frequency I/O modules. RU-87Pn is designed to be used in harsh and noisy environment, so the hardware is manufactured with wide power input range (10~30VDC), isolated power and operating temperature (-25°C ~ +75°C). It simplifies installation and maintenance of I/O modules with hot swappable and auto configuration, fault and error detection, dual watchdog, programmable power on and safe values.

Various software development kits (SDK) and demos are provided, such as DLL, ActiveX, Labview driver, Indusoft driver, Linux driver, OPC server, etc. The i-87K series I/O modules plugged in the RU-87Pn can be easily integrated into variant software system.



Specifications

Interface Type (RS-485)
Baud rate: 115200 bps maximum
Distance: 1.2 Km (4000 ft) maximum
Isolation: 3000 VDC
ESD Protection: +/- 4K Contact Discharge and +/- 8K Air Discharge
Switch
Rotary Switch: x2, For RS-485 address
DIP Switch: 8 bit *1, For auto configuration, check sum and baud rate
LED Indicators
Power: Yes
System Ready: Yes
Auto configuration: Yes
Slot Status: Yes
I/O Expansion Slots
Hot Swap: Yes
Auto Configuration: Yes
Support Module Type: High profile i-87K module only
Power
Input Range: 10~30 VDC (non-regulated)
Reverse polarity protection: Yes
Isolation: 1000 VDC
Frame Ground: Yes
Environment
Operating temperature: -25 to 75°C
Storage Temperature: -30 to +75 °C



Features

- Hot Swap
- Auto Configuration
- Easy Duplicate System
- Easy Maintenance and Diagnostic
- RS-485 industrial multi-drop network
- Dual watchdog design
- Wide range operating temperature (-25°C~+75°C)
- Programmable Power On Value & Safe Value

Software Support

- DCON Utility
- OPC Servers
- EZ Data Logger

USB-87P8

8 slots I/O expansion unit

USB-87Pn series is an intelligent I/O expansion unit with convenient USB interface, that used to expand i-87K series I/O modules for industrial monitoring and controlling applications. There are more than 30 I/O modules supported with the unit, including analog input/output, digital input/output, counter/frequency I/O modules.

USB-87Pn is designed to be used in harsh and noisy environment, so the hardware is manufactured with wide power input range (10~30VDC) and operating temperature (-25°C ~ +75°C). It simplifies installation and maintenance of I/O modules with hot swappable and auto configuration, fault and error detection, dual watchdog, programmable power on and safe values.

Various software development kits (SDK) and demos are provided, such as DLL, ActiveX, Labview driver, Indusoft driver, Linux driver, OPC server, etc. The i-87K series I/O modules plugged in the USB-87Pn can be easily integrated into variant software system.



Specifications

Interface Type :Full speed with USB 1.1 specifications
Cable: USB type A connector
Baud rate:115200 bps Default
Isolation:3000 VDC
ESD Protection:+/- 4K Contact Discharge and +/- 8K Air Discharge
Switch
DIP Switch:1 bit *1, For auto configuration
LED Indicators
Power: Yes
System Ready: Yes
Auto configuration: Yes
Slot Status: Yes
I/O Expansion Slots
Hot Swap: Yes
Auto Configuration: Yes
Support Module Type: High profile i-87K module only
Power
Input Range: 10~30 VDC (non-regulated)
Reverse polarity protection: Yes
Isolation: 1000 VDC
Frame Ground: Yes
Environment
Operating temperature:-25 to 75°C
Storage Temperature: -30 to +75 °C



Features

- Hot Swap
- Auto Configuration
- Easy Duplicate System
- Easy Maintenance and Diagnostic
- USB 1.1 interface
- Programmable Power On Value & Safe Value
- Dual watchdog design
- Wide range operating temperature (-25°C~+75°C)

Ordering information

USB-87P1-G CR	1 slots I/O expansion unit (Gray Cover) (RoHS)
USB-87P2-G CR	2 slots I/O expansion unit (Gray Cover) (RoHS)
USB-87P4-G CR	4 slots I/O expansion unit (Gray Cover) (RoHS)
USB-87P8-G CR	8 slots I/O expansion unit (Gray Cover) (RoHS)

Software Support

- DCON Utility
- OPC Servers
- EZ Data Logger

ZB-2570

RS -232 / RS-485 to ZigBee Converter

ZB-2570 / ZB-2571 is a Ethernet / RS-485 / RS-232 to ZigBee Network converter. It enables RS-232/RS-485 devices to be wirelessly and easily connected to a new or existing system.

ZB-2570 is net Host and ZB-2571 is net Slave. It also supports various data formats and Baud Rates that can be configured via a Windows-based GUI utility. The ZB-2570 / ZB-2571 can implement an ad-hoc, star or mesh network topology.

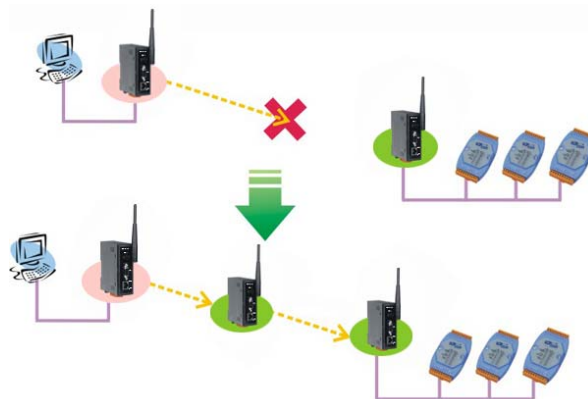
In some existing systems that use an Ethernet / RS-485 / RS-232 network, it is sometimes difficult to extend the new devices due to building structure issues, wiring problems or other reasons. The ZB-2570 / ZB-2571 can be easily added to an existing system in order to extend your network.

Specifications

CPU:80186, 80MHz or compatible
SRAM:512K bytes
Flash Memory: 512K bytes; Erase unit is one sector (64K bytes); 100,000 erase/write cycles
EEPROM: 16K bytes (8 blocks, each block has 256 bytes); Data retention > 40 years; 1,000,000 erase/write cycles.
Communication Interface
Ethernet port:10/100M Base-T
COM0:RS-232, D-SUB9 Female, Non-isolation
RS-485 (D+, D-; self-tuner ASIC inside); Non-isolation
Power
Protection:Power reverse polarity protection
EMS Protection: ESD, Surge, EFT
Required Supply Voltage: +10 to +30VDC
Power consumption: 2.5W
Dimensions: 33mm x 107mm x 78mm (W x H x D)
Flammability: UL 94V-0 materials
Installation:DIN-Rail
Operating temperature:-25°C to +70°C
Storage temperature:-40°C to +80°C

Wireless

RF channels:16
Receive sensitivity:-102dBm
Transmit power:-12dBm
Data encryption:128-bit AES
Network Topology support: cluster tree , Star, Mesh
Certification: TUV
Antenna: 2.4GHz - 3dBi Directional antenna



Features

- ISM 2.4 GHz operating frequency
- Fully compliant 2.4G IEEE802.15.4/ZigBee specification
- Wireless transmission range up to 100M
- Self-tuner in RS-485
- GUI configuration software (Windows version)
- Wide input range DC power supply
- DIN rail and panel mount support



NS-205-IP67

Unmanaged 5-Port Industrial Ethernet Switch with IP67 casing

NS-205-IP67 Ethernet Switches are designed for use in industrial waterproof/harsh environments. The rugged packaging and IP67 connectors guarantee a total protection that can withstand a variety of extreme conditions such as high temperatures, extreme shocks & vibrations, dust particles or even liquid immersion. They can be directly mounted to any machine or convenient flat surface. Even with all its rugged features, the switch still provides a high level of functionality, including the ability to support full-duplex communication and 10Mbps/100Mbps transmission speeds. With 1.4Gbps of total bandwidth, the switch can simultaneously handle full wire speed communication on each port. No programming is necessary, as the switch auto-learns network addresses. They are completely plug and play and ready to go right out of the box.



Specifications

Technology
Standards: IEEE802.3, 802.3u, 802.3x
Packet Buffer Memory: 256 KB
Processing Type: Store and Forward
Address Table Size: 1K uni-cast addresses
Flow Control :IEEE802.3x flow control, back pressure flow control
Interface
RJ45 ports: 10/100BaseT(X) auto negotiation speed, F/H duplex mode, and auto MDI/MDIX connection
LED Indicators: Power, 10/100M, Link/Act
Cable:10 Base-T (Cat.3, 4,5 UTP cable; 100m Max.) 100 Base-TX (Cat.5 UTP cable; 100m Max.)
Power
Input Voltage:+10 ~ +30Vdc (1KV isolation)
Power consumption 0.12A@24VDC, +/- 5% arrowed with 10M Full duplex. 0.1A@24VDC, +/- 5% arrowed with 100M Full duplex
Mechanical
Case: Plastic
Flammability: UL 94V-0 materials
Dimensions: 85mm x 126mm x 75.5mm (W x H x D)
Installation: Wall Mounting
Environment
Operating Temperature -10 °C~ +60°C (Protection rating IP67) -40 °C~ +80°C (Protection rating IP66)

Features

- Automatic MDI / MDI-X crossover for plug-and-play
- Each port supports both 10/100 Mbps speed auto negotiation
- Store-and-forward architecture
- Full duplex IEEE 802.3x and half duplex backpressure flow control
- 1.4Gbps high performance memory bandwidth.
- Integrated look-up engine with dedicated 1 K unicast MAC addresses.
- Supports +10~+30Vdc voltage with 1KV isolation
Reverse Polarity Protection
- Plastic casing with IP67

Ordering information

NS-205-IP67	Unmanaged 5-Port Industrial Ethernet Switch with IP67 casing
NS-205-IP67 CR	Unmanaged 5-Port Industrial Ethernet Switch with IP67 casing (RoHS)

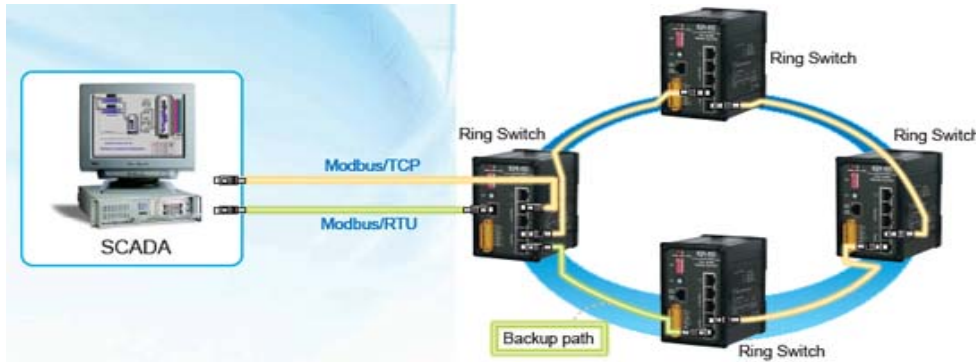
Accessories

KWM020-1824F	24V/0.75A Power Supply, (No-mounting)
DIN-KA52F	24V/1A Power Supply, (With DIN-Rail mounting)



RSM-405FC

Multi-mode, SC Connector,
3-Port 10/100 Base-T(X) with 2-Port 100 Base-FX Fiber
Redundant Ring Switch with metal case



The RS-405FC (SC Connector; Multi-mode) is a 3-Port Industrial Ethernet (10/100Base-TX) with 2-Port Fiber (100Base-FX) Real-Time Redundant Ring Switch that secures data transmission by using fiber optic transmission to provide immunity from EMI/RFI interference. It is used Ethernet for transmitting a signal up to 2 Km(6,600 ft), and is the perfect solution for applications where transmission must be protected from electrical exposure, surges, lightning or chemical corrosion.

Fiber port of RS-405FC operates at either half or full duplex mode. In full duplex mode, range is 2km with 62.5/ 125µm fiber cables; in half duplex mode, range is 412m with 62.5/ 125µm fiber cables. The Ethernet port of RS-405FC supports 10/ 100M auto-negotiation feature and auto MDI /MDIX function.

Built-in ICPDAS Cyber-Ring technique that enable multiple switches to be placed into a redundant ring. It detects and recovers from a fiber or copper link failure within approximately 50ms – for the majority of applications a seamless process. Modbus/TCP, Modbus/RTU and OPC supported, SCADA application can monitor status of Ethernet and fiber port with Modbus or OPC protocol.

Specifications

Standards: IEEE802.3, 802.3u, 802.3x
Processing Type: Store and Forward wire speed switching - no delays
MAC Addresses: 1024
Memory Bandwidth: 3.2 Gbps
Flow Control: IEEE802.3x flow control, back pressure flow control
Redundant strategy: STP, Ring(ICPDAS)
Protocol: Modbus/RTU, Modbus/TCP, OPC, STP, Cyber Ring
RJ45 port: 10/100BaseT(X) auto negotiation speed, F/H duplex mode, and auto MDI/MDIX connection
Fiber Optics Port: 100 Base-FX(Multi-mode; SC connector)
LED Indicators: 10/100M, Link/Act/Backup, Full duplex/Half duplex(Fiber Port)
Ethernet Isolation: 1500 Vrms 1 minute
Alarm output: Relay
Input Voltage Range: +10 ~ +30VDC
Power Input isolation: 1KV
Frame Ground for EMS Protection: Yes
Case :Metal
Environmental rating: IP20
Operating temperature:0 °C~ +70°C
Relative Humidity:10% to 90% non-condensing

Features

- **Automatic MDI / MDI-X crossover for plug-and-play**
- **Each port supports both 10/100 Mbps speed auto negotiation**
- **Full duplex IEEE 802.3x and half duplex backpressure flow control**
- **3.2Gbps high performance memory bandwidth.**
- **Frame buffer memory : 512 Kbit**
- **Integrated look-up engine with dedicated 1 K unicast MAC addresses.**
- **Redundant Power Inputs +10 ~ +30V DC**
- **Power failure alarm by relay output**
- **Supports operating temperatures from 0°C ~ +70°C**



RSM-405FT

**Multi-mode, ST Connector,
3-Port 10/100 Base-T(X) with 2-Port 100 Base-FX Fiber
Redundant Ring Switch Multi-mode with metal case**

The RSM-405FT (ST Connector; Multi-mode) is a 3-Port Industrial Ethernet (10/100Base-TX) with 2-Port Fiber (100Base-FX) Real-Time Redundant Ring Switch that secures data transmission by using fiber optic transmission to provide immunity from EMI/RFI interference. It uses Ethernet for transmitting a signal up to 2 km(6,600 ft), and is the perfect solution for applications where transmission must be protected from electrical exposure, surges, lightning or chemical corrosion.

Fiber port of RSM-405FT operates at either half or full duplex mode. In full duplex mode, range is 2km with 62.5/ 125µm fiber cables; in half duplex mode, range is 412m with 62.5/ 125µm fiber cables. The Ethernet port of RSM-405FT supports 10/ 100M auto-negotiation feature and auto MDI /MDIX function.

Built-in ICPDAS Cyber-Ring technique that enable multiple switches to be placed into a redundant ring. It detects and recovers from a fiber or copper link failure within approximately 300ms – for the majority of applications a seamless process. Modbus/TCP, Modbus/RTU and OPC supported, SCADA application can monitor status of Ethernet and fiber port with Modbus or OPC protocol.

RSM-405FT provides two power inputs that can be connected simultaneously to live DC power sources. If one of the power inputs fails, the other live source acts as a backup to automatically support the RSM-405FT's power needs. And, the relay output facility can deliver warning signal while dual power or network link failure.



Specifications

Standards: IEEE802.3, 802.3u, 802.3x
Processing Type: Store and Forward wire speed switching - no delays
MAC Addresses: 1024
Memory Bandwidth: 3.2 Gbps
Flow Control: IEEE802.3x flow control, back pressure flow control
Redundant strategy: STP, Ring(ICPDAS)
Protocol: Modbus/RTU, Modbus/TCP, OPC, STP, Cyber Ring
RJ45 port: 10/100BaseT(X) auto negotiation speed, F/H duplex mode, and auto MDI/MDIX connection
Fiber Optics Port: 100 Base-FX(Multi-mode; SC connector)
LED Indicators: 10/100M, Link/Act/Backup, Full duplex/Half duplex(Fiber Port)
Ethernet Isolation: 1500 Vrms 1 minute
Alarm output: Relay
Input Voltage Range: +10 ~ +30VDC(Removable Terminal Block)
Power Input isolation: 1KV
Frame Ground for EMS Protection: Yes
Case :Metal
Environmental rating: IP20
Operating temperature:0 °C~ +70°C
Relative Humidity:10% to 90% non-condensing

Features

- Automatic MDI / MDI-X crossover for plug-and-play
- Each port supports both 10/100 Mbps speed auto negotiation
- Full duplex IEEE 802.3x and half duplex backpressure flow control
- 3.2Gbps high performance memory bandwidth.
- Frame buffer memory : 512 Kbit
- Integrated look-up engine with dedicated 1 K unicast MAC addresses.
- Redundant Power Inputs +10 ~ +30V DC Power failure alarm by relay output
- Supports operating temperatures from 0°C ~ +70°C

Ordering Information

RS-405FC CR	Multi-mode, SC Connector, 3-Port 10/100 Base-T with 2-Port 100 Base-FX Fiber Redundant Ring Switch (RoHS)
RS-405FCS CR	Single-mode, SC Connector, 3-Port 10/100 Base-T(X) with 2-Port 100 Base-FX Fiber Redundant Ring Switch (RoHS)
RS-405FT CR	Multi-mode, ST Connector, 3-Port 10/100 Base-T(X) with 2-Port 100 Base-FX Fiber Redundant Ring Switch (RoHS)
RSM-405FC CR	Multi-mode, SC Connector, 3-Port 10/100 Base-T with 2-Port 100 Base-FX Fiber Redundant Ring Switch with metal case (RoHS)
RSM-405FCS CR	Single-mode, SC Connector, 3-Port 10/100 Base-T with 2-Port 100 Base-FX Fiber Redundant Ring Switch with metal case (RoHS)
RSM-405FT CR	Multi-mode, ST Connector, 3-Port 10/100 Base-T with 2-Port 100 Base-FX Fiber Redundant Ring Switch Multi-mode with metal case (RoHS)



VXC-114U

Universal PCI, 4-port RS-232 Communication Board

The VXC-114U card provides 4 RS-232 serial ports. It equips 128 bytes hardware FIFO for each port, offers speed up to 115.2Kps and supports full-duplex communication.

Users can select a specified COM port number manually by setting dipswitch, or let the driver to choose an available number automatically. The driver provides a maximum of 128KB software FIFO for each COM port under Windows. It's practical for large file transmission.

In the harsh industrial environment, the on board surge protection can protect the computer and equipment from being damaged by high potential voltage.



Features

- Supports 3.3V/5V PCI bus, Plug and Play
- Provides 4-port RS-232
- 128 Bytes hardware FIFO for each port
- Built-in COM-Selector
- Provides surge protection
- Short Card Design
- Up to 128KB software FIFO for each COM port under Windows
- DOS, Windows NT/2K/XP/2003 and Linux driver supported

Specifications

Universal PCI, 3.3v and 5V, 33MHz, 32-bit, Plug and Play mechanism
Number of ports: 4
Interface: Non-isolated RS-232
UART: 16C550 compatible
Speed: 50~115200 bps
Data bit: 5, 6, 7, 8
Stop bit: 1, 1.5, 2
Parity:None, Even, Odd, Mark, Space
FIFO: Internal 128 bytes
Connector: Female DB-37
Operating temperature: 0~50°C
Storage temperature:-20°C to 70°C
Humidity: 0~90% non-condensing
Dimensions: 130mm x 105mm

Software Support

VXC-114U CR	Universal PCI, 4-port RS-232 communication board.(RoHS)Includes one CA-4002 connector
VXC-114U/D2 CR	Universal PCI, 4-port RS-232 communication board.(RoHS)Includes one CA-9-3715D cable.

PIN assignment

Pin Assignment Name	Terminal No.	Pin Assignment Name
N.C.	01	20 RI3
DCD3	02	21 DTR3
GND	03	22 DSR3
CTS3	04	23 RTS3
RxD3	05	24 TxD3
RI4	06	25 DCD4
DTR4	07	26 GND
DSR4	08	27 CTS4
RTS4	09	28 RxD4
TxD4	10	29 RI2
DCD2	11	30 DTR2
GND	12	31 DSR2
CTS2	13	32 RTS2
RxD2	14	33 TxD2
RI1	15	34 DCD1
DTR1	16	35 GND
DSR1	17	36 CTS1
RTS1	18	37 RxD1
TxD1	19	

37-Pin Female D-Sub Connector_RS232



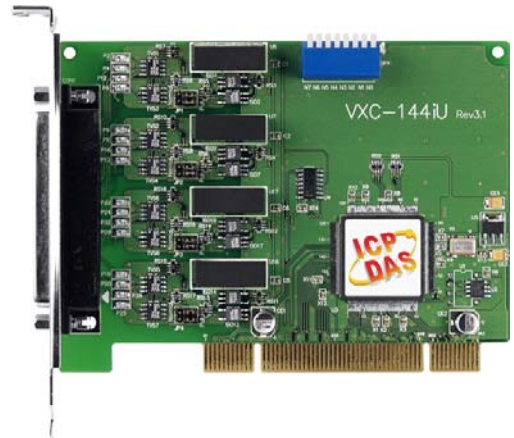
VXC-144U/VXC-144iU

Universal PCI, 4-port Isolated RS-422/485 communication board

The VXC-144U card provides 4 non-isolated RS-422/RS-485 serial ports, while the VXC-144iU card provides 4-isolated RS-422/RS-485 serial ports. Each port can be configured as either RS-485 for half-duplex or RS-422 for full-duplex communication. It offers speed up to 115.2Kps and long distance communication link.

Users can select a specified COM port number manually by setting dipswitch, or let the driver to choose an available number automatically. The driver provides a maximum of 128KB software FIFO for each COM port under Windows. It's practical for large file transmission.

In the harsh industrial environment, the on board surge protection can protect the computer and equipment from being damaged by high potential voltage.



Features

- Supports 3.3V/5V PCI bus, Plug and Play
- Provides 4-port RS-422/485
- 128 Bytes hardware FIFO for each port
- Built-in COM-Selector
- 3000V isolation for VXC-144iU
- Provides surge protection
- Short Card Design
- Up to 128KB software FIFO for each COM port under Windows
- DOS, Windows NT/2K/XP/2003 and Linux driver supported

Specifications

Universal PCI, 3.3v and 5V, 33MHz, 32-bit, Plug and Play mechanism
Number of ports: 4
Interface: RS-422/485
UART: 16C550 compatible
Speed: 50~115200 bps
Data bit: 5, 6, 7, 8
Stop bit: 1, 1.5, 2
Parity: None, Even, Odd, Mark, Space
FIFO: Internal 128 bytes
Isolation: 3000V for VXC-144iU.
Connector: Female DB-37
Operating temperature: 0~50°C
Storage temperature:-20°C to 70°C
Humidity: 0~90% non-condensing
Dimensions: 130mm x 105mm

Ordering information

VXC-144U CR	Universal PCI, 4-port RS-422/485 communication board.(RoHS) Includes one CA-4002 connector
VXC-144iU CR	Universal PCI, 4-port Isolated RS-422/485 communication board.(RoHS) Includes one CA-4002 connector

PIN assignment

Pin Assignment Name	Terminal No.	Pin Assignment Name
N.C.	01	20 CTS3- (A)
TxD3- (A)/Data3-(A)	02	21 RxD3- (A)
GND/VEE3	03	22 RTS3- (A)
CTS3+ (B)	04	23 RTS3+ (B)
TxD3+ (B)/Data3+(B)	05	24 RxD3+ (B)
CTS4- (A)	06	25 TxD4- (A)/Data4-(A)
RxD4- (A)	07	26 GND/VEE4
RTS4- (A)	08	27 CTS4+ (B)
RTS4+ (B)	09	28 TxD4+ (B)/Data4+(B)
RxD4+ (B)	10	29 CTS2- (A)
TxD2- (A)/Data2-(A)	11	30 RxD2- (A)
GND/VEE2	12	31 RTS2- (A)
CTS2+ (B)	13	32 RTS2+ (B)
TxD2+ (B)/Data2+(B)	14	33 RxD2+ (B)
CTS1- (A)	15	34 TxD1- (A)/Data1-(A)
RxD1- (A)	16	35 GND/VEE1
RTS1- (A)	17	36 CTS1+ (B)
RTS1+ (B)	18	37 TxD1+ (B)/Data1+(B)
RxD1+ (B)	19	

37-Pin Female D-Sub Connector_RS422/485

Software support

- Driver for Windows NT 4.0
- Driver for Windows 2000/XP/2003/Vista (32-bit)
- Driver for Linux



PCI-M512U

Universal PCI, 512K bytes Memory Board with DI / DO

The PCI-M512/PCI-M512U providing the functions of 512KB SRAM with battery-backup, 12-bit DI and 16-bit DO, the PCI-M512U supports both 5V and 3.3V, while the PCI-M512 PCI card supports 5V PCI bus only. The PCI-M512U (Universal PCI version) is fully compatible with the PCI-M512 (PCI version).

The user can use the DB-16P to connect the input ports (CN2) for isolation purpose, or use DB-16R to interface to the output ports (CN1) for relay control.

The PCI-M512/PCI-M512U equips two Li-batteries to maintain content in the event of PC power loss. The two Li-batteries can continue supplying power to 512KB SRAM to retain the important data for 10 years; and the two-battery design is safe to maintain the data when replacing new batteries.

The PCI-M512/PCI-M512U also provides 4 LED indicators to display the battery states. It is easy to know the status of the two Li-batteries is normal, low voltage or fault by the 4 LED indicators.

The PCI-M512/PCI-M512U is an ideal solution for system reliability.



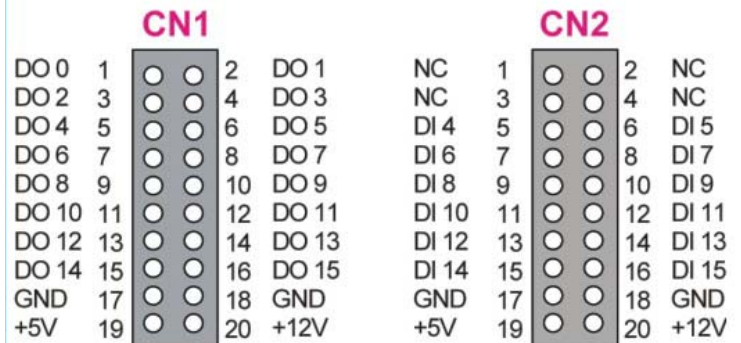
Features

- On-board 512 bytes SRAM for PCI-M512/PCI-M512U
- Two Li-batteries, BT1 & BT2, for battery-backup the data of SRAM
- Two indicators, low-battery & bad-battery, for battery BT1
- Another two indicators, low-battery & bad-battery, for battery BT2
- 16-bit general purpose TTL-compatible D/O or relay (with daughter board DB-16R or DB-24PR)
- PCI card, support 5V PCI bus
- Universal PCI card, support both 5V and 3.3V PCI bus

Specifications

All inputs are TTL compatible
Logic high voltage: 2.4V (Min.)
Logic low voltage: 0.8V (Max.)
All outputs are TTL compatible
Sink current: 24mA (Max.)
Source current: 15mA (Max.)
Power
The Power consumption of PCI-M512: +5V @ 420mA
Environmental
Operating Temp.: -20°C to 60°C
Storage Temp.: -40°C to 85°C
Humidity: 0 to 90 % non-condensing
Dimensions
Dimensions: 140mm X 90mm

PIN assignment



Software support

- Toolkit for DOS
- Toolkit for Windows 95/98
- Toolkit for Windows NT
- Toolkit for Windows 2000/XP

Ordering information

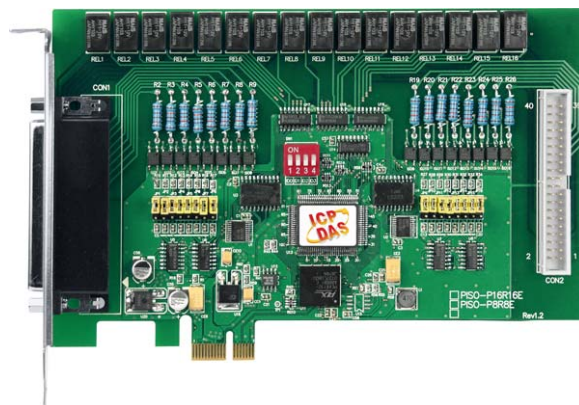
PCI-M512	PCI, 512K bytes memory board with DI/O
PCI-M512U CR	Universal PCI, 512K bytes memory board with DI/O (RoHS)



PISO-P16R16E

**PCI Express Bus,
16-channel Isolated Digital Input, 16-channel Relay Output**

The PISO-P16R16E is a PCI Express card, which supports PCI Express bus. It provides 16 optically isolated (3750V) digital inputs and 16 relay outputs. The PISO-P16R16E has one 37-pin D-Sub connector and one 40-pin connector, with one CA-4037W (40-pin to 37-pin conversion cable) and two CA-4002 connectors for users easily wiring.



Specifications

Relay Outputs
Contact Rating: 0.5A/120Vac,DC/1A 30Vdc
Contact arrangement: Output channel 0 -3 are form C
Output channel: 4-7 are Form A
Operating time: 5 mSec
Release time: 10 mSec
Expected life: > 100,000 times (at 30V ,1A)d
Optical Isolated Digital Input
Type: None- polarized Optical Isolation (PC-814)
Input voltage: AC/DC 5-24V or Vac(50- 1khz)
Operating Temperature: 0~60°C
Input impedance: 1.2 Kohm
Response time: 20u Sec (Without filter) / 2.2m Sec (With filter)
Isolated: 500v channel-channel / channel - Ground
Power Requirements
+5V@800mA
Environmental
Operating temperature: 0~60°C
Storage temperature: -20°C~70°C
Humidity: 0 to 90% non-condensing

Features

- 16-channel relay outputs
- 16-channel optical isolated (3750V) digital inputs
- DC signal input with filter or without filter
- AC Signal input with filter
- Supports CardID (dip-switch)
- PCI Express Bus
- LED power indicator for the card

Optional Ordering information

DB-37	Directly connect signal to D-sub 37-pin connector
DN-37	DIN Rail Mounting 37-pin Connector
CA-4037W	40-pin flat to D-sub 37-pin female cable 24cm.
CA-4002	37-pin male D-sub connector with plastic cover.

Software Supported

- DOS Lib and TC/BC/MSC sample program (with source codes)
- DLL and OCX SDK for Windows 95/98/ME
- DLL and OCX SDK for Windows NT 4.0
- DLL and OCX SDK for Windows 2000/XP/2003
- VB/VC/Delphi and BCB sample programs with source codes are included LabVIEW toolkit for Windows
- Driver for Linux



PISO-P32S32WU

32-CH Optical-Isolated DI and 32-CH Optical-Isolated Open-Collector Output Board (8-CH for 500mA and 24-CH for 100mA Current Sinking Output, NPN)

PISO-P32S32WU has 32 channels of optical-isolated DI and 32 channels of optical-isolated open-collector output board (8-channel for 500mA and 24-channel for 100mA current sinking output, NPN), arranged into four isolated banks. Each input channel use a photo-coupler to isolate the card and computer from external signal. Each digital output offers a NPN transistor and integral suppression diode for inductive load. PISO-P32S32WU requires external power to drive the D/I and D/O ports and supports Card ID (jumper) features for multi-board identification and supports both 5V and 3.3V PCI slot.

This interface board is easily installed in any PC. The board interface to field logic signals, eliminating ground-loop problems and isolating the host computer from damaging voltages. PISO-P32S32WU has one 37-pin D-Sub connector and one 40-pin male header. The 40-pin to DB-37 flat cable is used to fix with the case. The user can connect the digital signal through the second D-Sub connector. Each D-Sub connector contains 16 input channels and 16 output channels.



Specifications

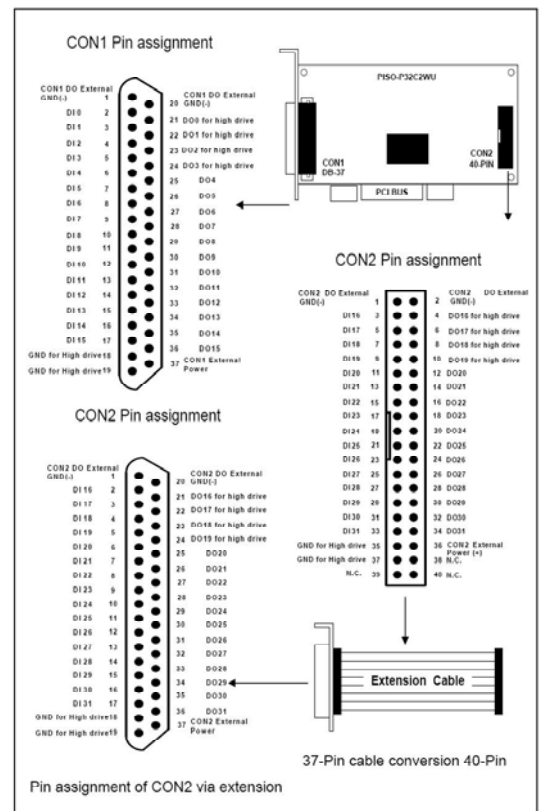
Isolated digital Input
Type: Isolated current input
Isolation Voltage:3750V (Using external power)
Input Voltage:5V to 30V
Input Impedance:3K (DC 24V, 7.67mA) for each channel
Response Time:10KHz Max
Isolated digital Output
Isolation Voltage: 3750V (Using external power)
Open Collector: Max. 100mA per channel
Collector:30V (Max.)
Response Time:4 KHz (Max.)
Power
Power Consumption:+5V @ 600mA (typical)
Environment
Operating Temp:0°C to 60°C
Other specifications
PCI Bus: Universal PCI(5V, 3.3V)

Selection Guide

	PISO-P32A32	PISO-P32C32	PISO-P32S32WU
PCI Bus	PCI (5V)	PCI (5V)	Universal PCI (5V, 3.3V)
DI Channel	32-CH optical-isolated	32-CH optical-isolated	32-CH optical-isolated
DO Channel	32-CH optical-isolated open-collector	32-CH optical-isolated open-collector	32-CH optical-isolated open-collector
Open Collector	100mA: each channel Current Sourcing, PNP	100mA: each channel Current Sinking, NPN	500mA: 8-channel 100mA: 24-channel Current Sinking, NPN

PIN assignment

2.6Pin Assignment of PISO-P32S32WU





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