



Model:I-7523

Model:I-7523D

I-7523/I-7523D

Embedded communication controller with one RS-485 and three RS-232

Introduction

There are many RS-232 devices in industry applications. Nowadays it becomes important to link all those RS-232 devices together for automation & information. Usually those RS-232 devices are far away from the host-PC & widely distributed in the factory. So it is not a good idea to use multi-serial cards to connect all these RS-232 devices together. Our I-752N series products can be used to link multiple RS-232 devices by single RS-485 network. The RS-485 is famous for its easy maintenance, simple cabling, stable, reliable and low cost. When the user want to connect RS-232 devices to 10BASE T, our I-7188EN can meet this demand. Refer to I-7188EN literatures for further information.

Onboard 1K bytes Queue-buffer

The I-752N equips 1K bytes queue-buffer for its local RS-232 device. So all input data can be stored in queue-buffer until the host-PC has time to read. These features will make the host-PC link thousands of RS-232 devices without lose any data.

Onboard 1Kb Queue buffer

The I-752N modules are equipped with a 1Kb queue buffer for its local RS-232 device. All input data can be stored in the queue buffer until the Host PC has time to read it. These features allow the Host PC to be linked to thousands of RS-232 devices without any loss of data.

Onboard DI for event trigger

The I-7521/I-7522/I-7522A/I-7523/I-7524/I-7527 are equipped with 2/2/5/1/1/1 digital input channels for sensor interfacing. These DI channels are linked to a photo sensor/switch to act as a event trigger signal. They also can be used as general purpose DI. The I-752N modules can read and analyze these DI signals without the need for a Host PC.

Onboard DO channels for emergency control

The I-7521/I-7522/I-7522A/I-7523/I-7524/I-7527 are equipped with 3/1/5/0/1/1 digital output channels for emergency control. The DO channels can directly drive either relay or an LED, and can be used to control the local devices in the event of an emergency. The I-752N modules can control these DO channels without the need for a Host PC.

3000V isolation on RS-485 side

COM2 of the I-752N modules is an isolated RS-485 port with 3000V isolation, which will protect the local RS-232 devices from transient noises coming from the RS-485 network.

Self-Tuner ASIC inside

The interned I-752N Self-Tuner ASIC for the RS-485 port can auto detect and control the send/receive direction of the RS-485 network, meaning that there is no need for application programs to be concerned about direction control of the RS-485 network. The advanced technology which makes this possible is covered.

Can be used as Addressable RS-485 to RS-232 Converter

Most RS-232 devices don't support device addressing. The ICPDAS I-752N series assigns a unique address to any RS-232 device installed on an RS-485 network. When the Host PC sends a command with a device address to the RS-485 network, the destination I-752N module will remove the address field, and then pass the other commands to its local RS-232 devices. The response from the local RS-232 devices will be returned to the Host PC via the I-752N.

Master-type Addressable RS-485 to RS-232 Converter

ICPDAS I-752N products are unique. In that they are Master-type converters which use our R.O.C. Patent 086674, while most other converters are Slave-type, which are helpless without a Host PC. In real industrial applications, many users are not satisfied with Slave-type converters as they cannot be adapted to individual requirement.

The powerful I-752N series analyzes the local RS-232 devices,DI and DO without the need for a Host PC. Refer to Applications 5~9 on pages 31~34 for more information.

Can be used as an Embedded Controller

In addition to Intelligent Communication Controller functions, I-752N modules can also be used as an embedded controller. Each I-752N controller includes the MiniOS7 embedded operating system, which provides the equivalent functions of ROM DOS and has more features. A variety of professionally developed libraries and demo programs can be implemented on the controller.

Can be used as RS-485 to RS-232 Device Server

The Device Server is an appliance that network enables any device with a serial communication port. Our Intelligent Communication Controllers allow those devices to become connected to the RS-485 network. If the user want to use Ethernet work, he can choose I-7188EN series products.

Features

- The COM 1 of the I-7521, I-7522, I-7522A,I-7523, I-7524 and I-7527can be used as RS-232 port or RS-485 port
- The COM1 can be used to download program.
- Built-in "Addressable RS-485 to RS-232 Converter" firmware
- Support about 30 well-defined commands
- Support Dual-Watchdog commands
- Support Power-up value & safe value for D/O
- The source code of firmware is open & well-document
- User can modify the source code according to his special requirement.
- The firmware can real-time monitor the onboard D/I and control the onboard D/O according to user's requirement
- The firmware can real-time monitor the RS-232 device and control the onboard D/O according to user's requirement
- 7521 supports one RS-232 device
- 7522 supports two RS-232 devices
- 7522A supports one RS-232 and one RS-422devices
- 7523 supports three RS-232 devices
- 7524 supports four RS-232 devices
- 7527 supports seven RS-232 devices
- Watchdog timer provides fault tolerance and recovery
- Low power consumption

R.O.C. Invention Patent No. 086674, No.103060, No. 132457

Specifications

Timer

Build-in Watchdog Timer	Yes
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Connector

For I-7521/I-7522/I-7523	Male DB-9
For I-7521/I-7522/I-7523	13-pin screw terminal block (accepts 16~26 AWG wires); 3.81mm pitch
For I-7522A/I-7524/I-7527	14-pin screw terminal block (accepts 16~22 AWG wires); 3.5mm pitch

Isolation

COM2 (self-tuner ASIC inside)	Isolation voltage 3000V for I-7521/I-7522/I-7523
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Self-tuner ASIC inside

For RS-485	COM2 , COM1
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Communication speed

All ports	115.2K bps max
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Digital Input/Output

Digital Input	Input type : non-isolated On voltage level : +1V max (Connect to GND) Off voltage level : +3.5V~30V (Open)
Digital Output	Output type : Open-collector Output current : 100mA Max load voltage : +30V/DC

Dimensions

I-7521/I-7522/I-7523	119 x 72 x 33 mm
I-7522A/I-7524/I-7527	123 x 72 x 33 mm

Operating Environment

Operating Temperature	-25°C to +75°C
Storage Temperature	-40°C to +80°C
Humidity	0 to 90%

Power

Protection	Power reverse polarity protection
Power requirement	10 to 30V/DC
Power consumption	2W (without display) 3W (with display)

Application

Factory Automation
Building Automation
Home Automation

Ordering information

I-7523	Embedded communication controller with one RS-485 and three RS-232
I-7523D	I-7523 + LED display
I-7523 CR	Embedded communication controller with one RS-485 and three RS-232 (RoHS)
I-7523D CR	I-7523 + LED display (RoHS)

Hardware

