



## USB-2060

USB I/O Module with Isolated 6-ch DI and 6-ch Power Relay

### Features

- 6-ch digital input and 6-ch relay output
- Dry Contact and Wet Contact Selectable via Wire Connections
- Long Distance Measurement
- All Channels can be used as 16-bit Counters
- 5A current contact rating
- Configurable Power-on Value Settings
- Safety functionality when communication failed
- Wide operating temperature range:-25°C~+75°C
- 2500 VDC Intra-Module isolation
- USB 1.1/2.0 Full-Speed (12Mbps)
- No external power supply (USB Bus Powered)
- Plug-and-Play without driver
- Lockable USB cable
- Support firmware update via USB
- Utility tool for module configuration and I/O testing easily and quickly
- PWR / RUN / ERR LED indicators
- Built-in dual watchdog (hardware / software)
- Provide API library (VC/VB/BCB/.NET)
- Module supported for Win2000/XP and Win7 (32/64 bit)



### Introduction

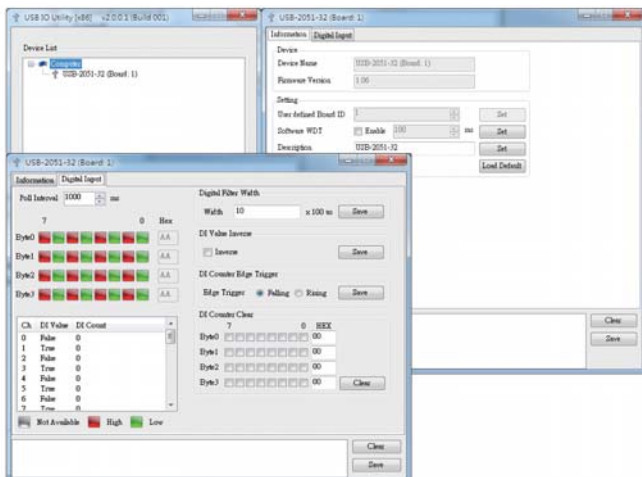
The USB-2060 is a full-speed USB device with 8 digital input and digital output channels module, and offers features for industrial control and manufacturing test applications, such as factory automation or embedded machine control. The USB-2060 provides 6 digital input channels, 6 Form A signal relay output channels. All digital input channels can be used as 16-bit counters. In addition, the digital input channels can be selected either as sink or source type via wire connections. The USB-2060 also provides 12 LED indicators that can be used to monitor the status of the digital input and relay output. There are also options for configuring power-on and safe values. 4 kV ESD protection and 3750 VDC intra-module isolation are also provided to enhance noise protection capabilities in industrial environments. With the true Plug & Play capability, it needs not opening up your computer chassis to install boards-just plug in the module, then get or set the data. Owing to another USB feature known as "hot-swapping", users do not even need to shut down and restart the system to attach or remove the USB-2060. The USB I/O utility can help users to configure and test USB-2060 quickly and easily without programming; In addition, we also provide the friendly API library and demos for users to develop own USB application with various application development tools (VB/C++/C#.NET/VB.NET). Therefore, the USB-2060 is the perfect way to add control capability to any USB capable computer.

### Software

#### USB I/O Utility

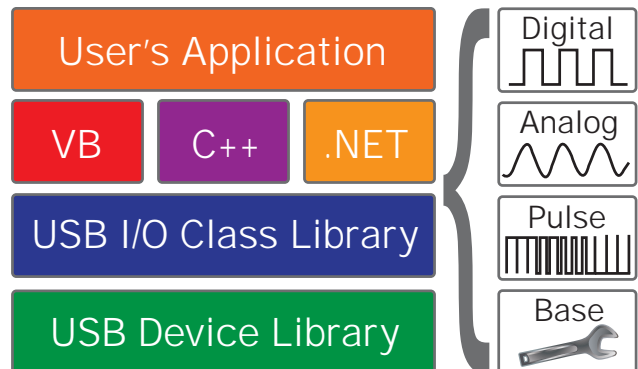
USB I/O Utility provides a simple way to easily test and instant acquire data for all ICP DAS USB I/O series modules without programming.

- Automatically scan all ICP DAS USB I/O modules
- Easily and quickly configure and test USB I/O modules
- Completely and precisely log I/O data for analysis



#### VB/C++/C#.NET/VB.NET SDK

ICP DAS provides a SDK for USB I/O modules to help user to develop own project easily and quickly. The SDK can be supported in VB/C++/C#.NET/VB.NET to fulfill project development.



### Applications

- Building automation
- Machine automation
- Factory automation
- Testing equipment

## System Specifications

USB	
Specification	USB 2.0 Full-Speed (12Mbps)
CPU Module	
Watchdog Timer	1 Hardware watchdog (1.6 second) 1 Software watchdog (Programmable)
EMS Protection	
ESD (IEC 61000-4-2)	4 kV contact for each terminal 8 kV air for random point
LED Indicators	
Status	3 x Power and Communication 8 x Power Relay
Power	
Consumption	1.5 W
Mechanical	
Dimensions (mm)	33 x 110 x 96 (W x L x H)
Environmental	
Operating Temperature	-25 ~ +75 °C
Storage Temperature	-40 ~ +85 °C
Humidity	10 ~ 95% RH, Non-condensing

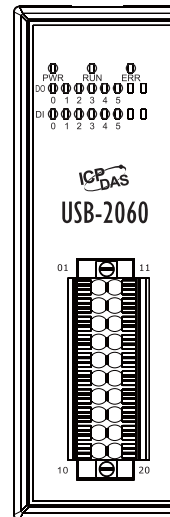
## I/O Specifications

Digital Input/Counter		
Channels	6	
Type	Dry Contact, Source Wet Contact, Sink/Source	
Wet Contact	ON Voltage Level	+10 VDC ~ +50 VDC
	OFF Voltage Level	+4 VDC Max.
Dry Contact	ON Voltage Level	Close to GND
	OFF Voltage Level	Open
	Effective Distance	500 meters Max.
Max. Counts	65535 (16-bit)	
Frequency	500 Hz	
Min. Pulse Width	1 ms	
Input Impedance	10 K $\Omega$	
Overvoltage Protection	70 VDC	
Relay Output		
Channels	6 x Form A (SPST-NO)	
Contact Rating	DC: 5 A @ 24 VDC AC: 5 A @ 250 VAC (47 ~ 63 Hz)	
Operate Time	10 ms (Max.)	
Release Time	5 ms (Max.)	
Electrical Endurance	1 x 10 <sup>5</sup> ops	
Mechanical Endurance	2 x 10 <sup>7</sup> ops	
Surge Strength	Between Open Contact: 1000 VAC (1 Min.) Between Coil and Contacts: 3000 VAC (1 Min.)	
Power on Value	Yes, Programmable	
Safe Value	Yes, Programmable	

## Ordering Information

<b>USB-2060 CR</b>	USB I/O Module with Isolated 6-ch DI (Dry, Wet) and 6-ch Power Relay (RoHS) Includes CA-USB15 Cable (USB 2.0 A-Male to B-Male Cable, w/Ferrite Core, 1.5 M)
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## Pin Assignments



Pin Assignment	Terminal No.	Pin Assignment
RL0 NO	01	11 DI.GND
RL0 COM	02	12 DI0
RL1 NO	03	13 DI1
RL1 COM	04	14 DI2
RL2 NO	05	15 DI3
RL2 COM	06	16 DI4
RL3 NO	07	17 DI5
RL3 COM	08	18 DI.COM
RL4 NO	09	19 RL5 NO
RL4 COM	10	20 RL5 COM

## Wire Connections

Input	ON	OFF
Dry Contact		
Wet Contact (Sink)		
Wet Contact (Source)		
Output	ON State LED ON Readback as 1	OFF State LED OFF Readback as 0
Relay Contact		

## Dimensions (Units: mm)

