



USB-2051-32

32-channel Isolated Digital Input Module

Features

- 32-channel digital input
- Dry Contact and Wet Contact Selectable via Wire Connections
- All Channels can be used as 32-bit Counters
- PWR/RUN/ERR LED indicators
- 3000 VDC Intra-Module isolation
- Lockable USB cable
- USB 1.1/2.0 Full-Speed (12Mbps)
- No external power supply (USB Bus Powered)
- Plug-and-Play without driver
- Support firmware update via USB
- Utility tool for module configuration and I/O testing easily and quickly
- Built-in dual watchdog (hardware/software)
- Provide API library (VC/VB/BCB/.NET)
- Module supported for Win2000/XP and Win 7,8,10 (32/64 bit)
- Wide operating temperature range: -25°C~+75°C



Introduction

The USB-2051-32 is a full-speed USB device with 32 digital input channels module, and offers features for industrial control and manufacturing test applications, such as factory automation or embedded machine control. The USB-2051-32 offers 32 channels for digital input, catering for both dry and wet contact, with an effective distance for dry contact of up to 500 meters. All channels not only feature photocouple isolation, but can also be used as 32-bit counters. The USB-2051-32 has 32 LED indicators that can be used to monitor the status of the digital input channels. 4 kV ESD protection and 3750 VDC intra-module isolation are standard. 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-2051-32.

The USB I/O utility can help users to configure and test USB-2051-32 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-2051-32 is the perfect way to add control capability to any USB capable computer.

Applications

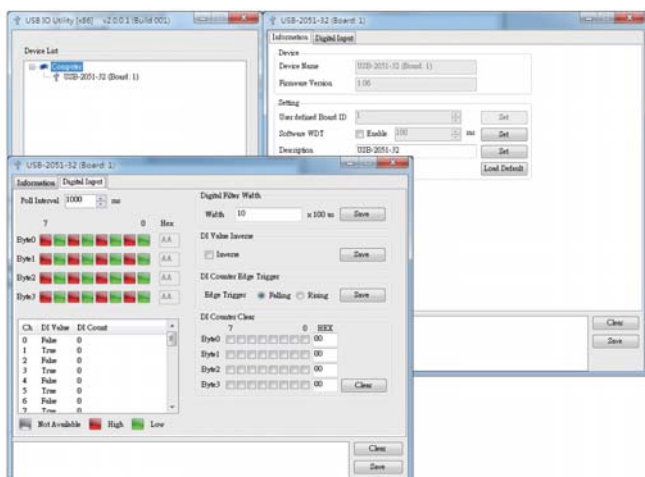
- Building automation
- Factory automation
- Machine automation
- Testing equipment

Software

USB I/O Utility

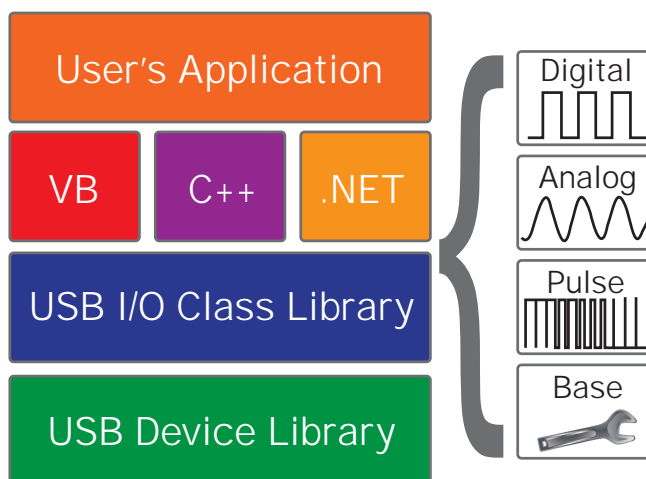
USB I/O Utility provides a simple way to easily test and instant acquire data for all ICP DAS USB I/O series modules without programming.

- 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

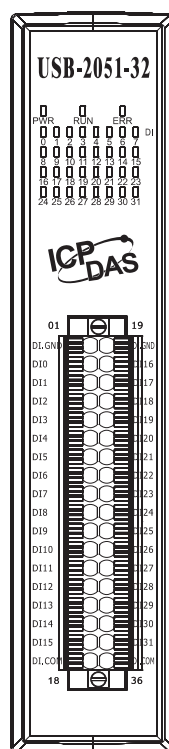
ICP DAS provides a SDK for USB I/O modules to help user to develop own project easily and quickly. The SDK can be supported in VB/C++/C#.NET/VB.NET to fulfill project development.



Specifications

Digital Input		
Channels		32
Type	Dry Contact	Source
	Wet Contact	Sink/Source
On Voltage Level	Dry Contact	Close to GND
	Wet Contact	+10 VDC ~ +50 VDC
Off Voltage Level	Dry Contact	Open
	Wet Contact	+4 VDC Max.
Effective Distance For Dry Contact		500 meters Max.
Input Impedance		10 KΩ
Overvoltage Protection		70 VDC
	Max. Count	4294967295 (32-bit)
Counter	Max. Input Frequency	500 Hz
	Min. Pulse Width	1 ms
Communication		
Interface		USB 2.0 Full-Speed (12Mbps)
Watchdog		1 Hardware watchdog (1.6 second)
		1 Software watchdog (Programmable)
LED Indicators		
System LED Indicators		3 LED as Power, Run and Error
I/O LED indicators		32 LEDs as power relay indicators
EMS Protection		
ESD (IEC 61000-4-2)		4 kV contact for each terminal
		8 kV air for random point
Isolation		
Intra-Module Isolation, Field-to-Logic		3000 VDC
Mechanical		
Dimensions (W x L x H)		31 mm x 129 mm x 147mm
Environmental		
Operating Temperature		-25 ~ +75 °C
Storage Temperature		-40 ~ +85 °C
Humidity		10 ~ 95% RH, non-condensing
Power		
Power Consumption		1.20 W

Applications



Pin Assignment		Terminal No.		Pin Assignment
DI.GND	01		19	DI.GND
DI0	02		20	DI16
DI1	03		21	DI17
DI2	04		22	DI18
DI3	05		23	DI19
DI4	06		24	DI20
DI5	07		25	DI21
DI6	08		26	DI22
DI7	09		27	DI23
DI8	10		28	DI24
DI9	11		29	DI25
DI10	12		30	DI26
DI11	13		31	DI27
DI12	14		32	DI28
DI13	15		33	DI29
DI14	16		34	DI30
DI15	17		35	DI31
DI.COM	18		36	DI.COM
			36-pin Connector	

Ordering Information

USB-2051-16 CR	32-channel Isolated Digital Input Module (RoHS)
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