USB-2055

USB I/O Module with Isolated 8-ch DI and 8-ch DO

USB-2055-32

USB I/O Module with Isolated 16-ch DI and 16-ch DO

Features

- 8/16-ch digital input and digital output
- Dry Contact and Wet Contact Selectable via Wire Connections
- All Channels can be used as 16-bit Counters
- Short Circuit, Overload and Overvoltage Protection
- Safety functionality when communication failed
- 2500/3000 VDC Intra-Module isolation
- USB 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
- 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-2055 and USB-2055-32 are full-speed USB device with 8 or 16 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-2055/USB-2055-32 offers 8/16 isolated channels for digital input and 8/16 isolated channels for digital output. Either sink-type or source-type digital input can be selected via wire connections. All digital input channels are also able to be used as 16/32-bit counters. The USB-2055/USB-2055-32 supports source-type output with short circuit protection. There are options to enable both power-on and safety values. The USB-2055/USB-2055-32 has 16/32 LED indicators that can be used to monitor the status of the digital input and digital output 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-2055/USB-2055-32.

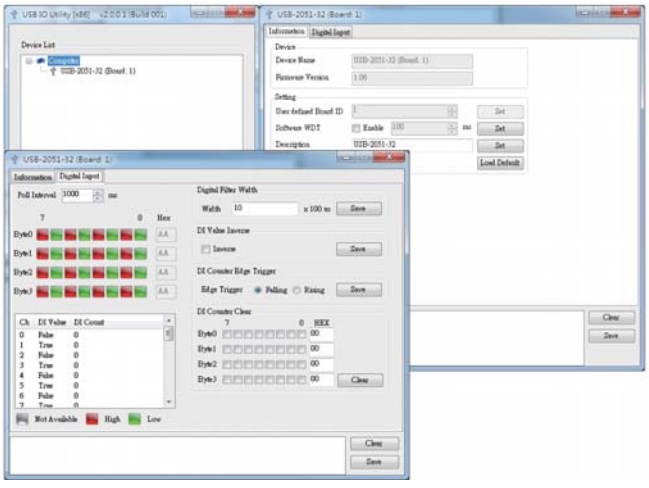
The USB I/O utility can help users to configure and test USB-2055/USB-2055-32 quickly and easily without programming; In addition, we also provide the friendly API library and demos for users to develop own USB application with various application development tools (VB/C++/C#.NET/VB.NET). Therefore, the USB-2055/USB-2055-32 is the perfect way to add control capability to any USB capable computer.

Software

USB I/O Utility

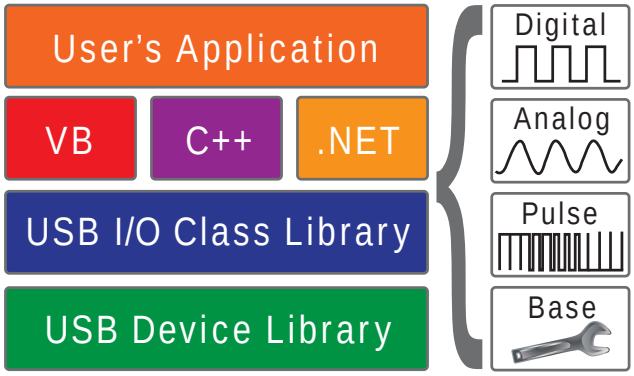
USB I/O Utility provides a simple way to easily test and instant acquire data for all ICP DAS USB I/O series modules without programming.

- 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
- Factory automation
- Machine automation
- Testing equipment
- Automation
- Measurement and testing
- Laboratory research

System Specifications

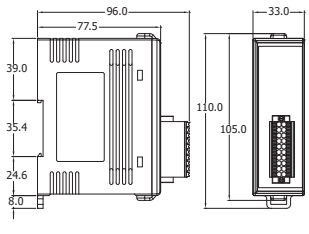
Model	USB-2055	USB-2055-32
USB		
Specification	USB 2.0 Full-Speed (12Mbps)	
CPU Module		
Watchdog Timer	1 Hardware watchdog (1.6 second) 1 Software watchdog (Programmable)	
EMS Protection		
ESD (IEC 61000-4-2)	4 kV contact for each terminal 8 kV air for random point	
LED Indicators		
Status	3 x Power and Communication	
	16 x DI and DO	32 x DI and DO
Power		
Consumption	1.4 W	2.2 W
Mechanical		
Dimensions (mm) (W x L x H)	33 x 110 x 96	31 x 147 x 126
Environmental		
Operating Temperature	-25 ~ +75 °C	
Storage Temperature	-40 ~ +85 °C	
Humidity	10 ~ 95% RH, Non-condensing	

I/O Specifications

Model		USB-2055	USB-2055-32
Digital Input/Counter			
Channels		8	16
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)	4294967295 (32-bit)
Frequency		500 Hz	
Min. Pulse Width		1 ms	
Input Impedance		10 KΩ	
Overvoltage Protection		70 VDC	
Digital Output			
Channels		8	16
Type		Open Collector, Sink (NPN)	
Load Voltage		+3.5 ~ +50 VDC	
Max. Load Current		650 mA/Channel	600 mA/Channel
Overvoltage Protection		60 VDC	
Overload Protection		1.4 A (with short-circuit protection)	
Power on Value		Yes, Programmable	
Safe Value		Yes, Programmable	

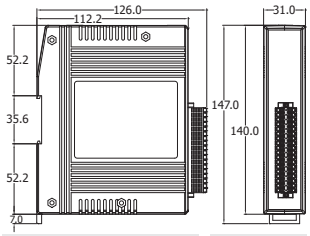
Dimensions (Units: mm)

USB-2055



Left View | Front View

USB-2055-32



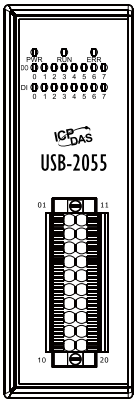
Left View | Front View

Ordering Information

USB-2055 CR	USB I/O Module with Isolated 8-ch DI (Dry, Wet) and 8-ch DO (Sink, NPN) (RoHS)
USB-2055-32 CR	USB I/O Module with Isolated 16-ch DI (Dry, Wet) and 16-ch DO (Sink, NPN) (RoHS)

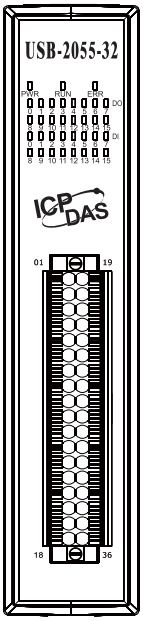
Pin Assignments

USB-2055



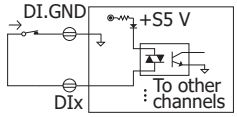
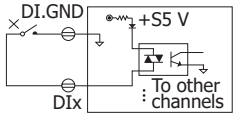
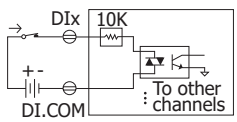
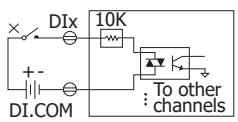
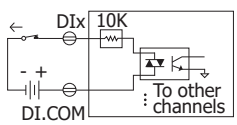
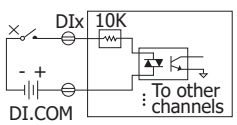
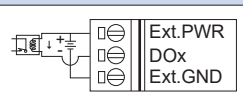
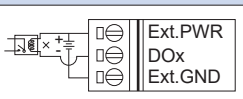
Pin Assignment	Terminal No.		Pin Assignment
DI.GND	01	11	DO.GND
DI0	02	12	DO0
DI1	03	13	DO1
DI2	04	14	DO2
DI3	05	15	DO3
DI4	06	16	DO4
DI5	07	17	DO5
DI6	08	18	DO6
DI7	09	19	DO7
DI.COM	10	20	DO.PWR

USB-2055-32



Pin Assignment	Terminal No.		Pin Assignment
DO.GND	01	19	DI.GND
DO0	02	20	DI0
DO1	03	21	DI1
DO2	04	22	DI2
DO3	05	23	DI3
DO4	06	24	DI4
DO5	07	25	DI5
DO6	08	26	DI6
DO7	09	27	DI7
DO8	10	28	DI8
DO9	11	29	DI9
DO10	12	30	DI10
DO11	13	31	DI11
DO12	14	32	DI12
DO13	15	33	DI13
DO14	16	34	DI14
DO15	17	35	DI15
DO.PWR	18	36	DI.COM

Wire Connections

Input	ON	OFF
Dry Contact		
Wet Contact (Sink)		
Wet Contact (Source)		
Output	**ON**	**OFF**
Drive Relay		
Resistance Load