USB-2084

USB I/O Module with 4-ch/8-ch Counter/Frequency/ Encoder Input

Features

- 8-ch for Frequency and Up Counters Types
- 4-ch for Up/Down, Dir/Pulse and A/B Phase Counters Types
- Support digital filter (1~32767 us)
- 4kV ESD protection
- Wide operating temperature range:-25°C~+75°C
- No external power supply (USB Bus Powered)
- Plug-and-Play without driver installation
- Lockable USB cable
- Built-in dual watchdog (hardware/software)
- Module supported for Win2000/XP and Win7 (32/64 bit)

Introduction

The USB-2084 is a full-speed USB device with 8-ch for Frequency and Up Counters, or 4-ch for Up/Down, Dir/Pulse and A/B Phase Counters, and offers features for industrial control and manufacturing test applications, such as factory automation or embedded machine control. 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 a peripheral.

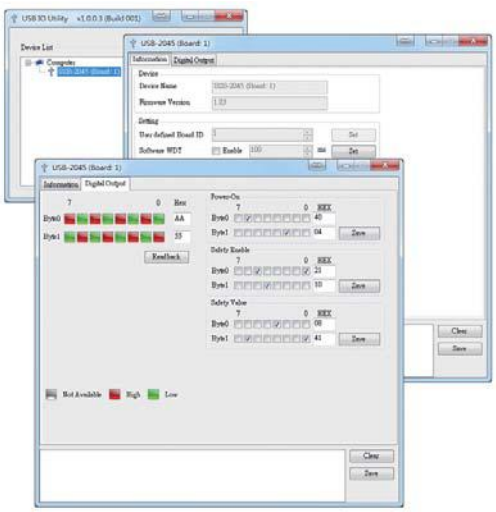
The USB I/O utility can help users to configure and test USB-2084 quickly and easily without programming; In addition, we also provide the friendly API library and demos for users to develop own USB application with various application development tools (VB/C++/C#.NET/ VB.NET). Therefore, the USB-2084 is the perfect way to add measurement and control capability to any USB capable computer.

Software

USB I/O Utility

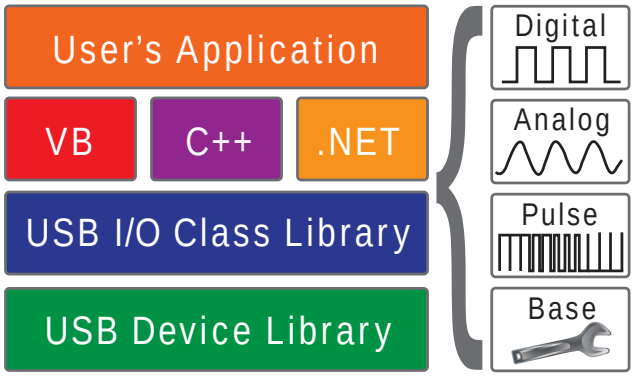
USB I/O Utility provides a simple way to easily test and instant acquire data for all ICP DAS USB I/O series modules without programming.

- 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

- Counter measurement
- Frequency measurement
- Motion control

System Specifications

USB	
Specification	USB 2.0 Full-Speed (12Mbps)
CPU Module	
Watchdog Timer	1 Hardware watchdog (1.6 second) 1 Software watchdog (Programmable)
Isolation	
Intra-module Isolation	3000 VDC
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 Counter Input
Power	
Consumption	1.3 W (Max.)
Mechanical	
Dimensions (mm)	33 x 107 x 102 (W x L x H)
Environmental	
Operating Temperature	-25 ~ +75 °C
Storage Temperature	-40 ~ +85 °C
Humidity	10 ~ 95% RH, Non-condensing

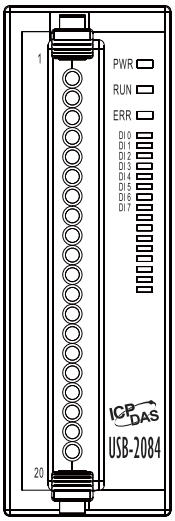
Wire Connections

Input Mode	Isolated	Non-isolated
Dir/Pulse	Vin+ (Pulse), Vin- (Pulse), Vin+ (Dir), Vin- (Dir) → CxA+, CxA-, CxB+, CxB-	Vin+ (Pulse), Vin+ (Dir), Vin- (Pulse) and Vin- (Dir) → CxA+, CxB+, GND
Up/Down	Vin+ (Up), Vin- (Up), Vin+ (Down), Vin- (Down) → CxA+, CxA-, CxB+, CxB-	Vin+ (Up), Vin+ (Down), Vin- (Up) and Vin- (Down) → CxA+, CxB+, GND
Up	Vin+ (Up0), Vin- (Up0), Vin+ (Up1), Vin- (Up1) → CxA+, CxA-, CxB+, CxB-	Vin+ (Up0), Vin+ (Up1), Vin- (Up0) and Vin- (Up1) → CxA+, CxB+, GND
A/B Phase (Quadrant)	Vin+ (A0), Vin- (A0), Vin+ (B0), Vin- (B0) → CxA+, CxA-, CxB+, CxB-	Vin+ (A0), Vin+ (B0), Vin- (A0) and Vin- (B0) → CxA+, CxB+, GND
Frequency	Vin+ (Freq0), Vin- (Freq0), Vin+ (Freq1), Vin- (Freq1) → CxA+, CxA-, CxB+, CxB-	Vin- (Freq0), Vin- (Freq1), Vin- (Freq0) and Vin- (Freq1) → CxA+, CxB+, GND

I/O Specifications

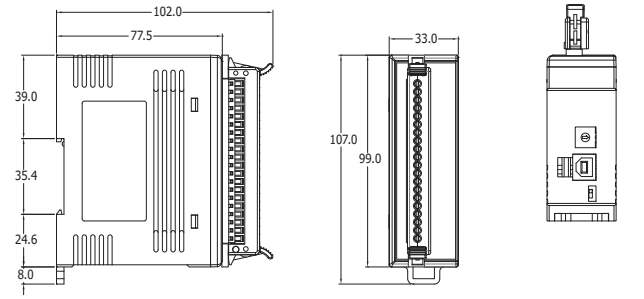
Counter/Frequency/Encoder Input	
Channels	4 channels for Up/Down, Dir/Pulse and A/B Phase types 8 channels for Up and Frequency types
Type	Up, Frequency, Up/Down, Dir/Pulse, A/B Phase
TTL, ON Voltage Level	+2 VDC ~ +5 VDC
TTL, OFF Voltage Level	0 VDC ~ +0.8 VDC
Frequency Accuracy	±0.4%
Digital Filter	1 ~ 32767 uS (Software programmable)
Individual Channel Configuration	Yes
Intra-module Isolation	2500 VDC
Isolated, Frequency	250 KHz Max.
Non-isolated, Frequency	500 KHz Max.
Isolated, Input Level	ON Voltage Level: +4.5 VDC ~ +30 VDC OFF Voltage Level: +1 VDC Max.
Contact Rating	0.25 A @ 250 VAC 0.24 A @ 220 VAC

Pin Assignments



Terminal No.	Pin Assignment
01	C0A+
02	C0A-
03	C0B+
04	C0B-
05	C1A+
06	C1A-
07	C1B+
08	C1B-
09	C2A+
10	C2A-
11	C2B+
12	C2B-
13	C3A+
14	C3A-
15	C3B+
16	C3B-
17	GND
18	GND
19	N/A
20	N/A

Dimensions (Units: mm)



Left View | Front View | Top View

Ordering Information

USB-2084 CR	USB I/O Module with 4-ch/8-ch Counter/Frequency/Encoder Input (RoHS) Includes CA-USB15 Cable (USB 2.0 A-Male to B-Male Cable, w/Ferrite Core, 1.5 M)