USB-2026

USB I/O Module with 5-ch AI, 2-ch AO, 2-ch DI and 2-ch DO

Features

- 16-ch 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 (12 Mbps)
- 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-2026 is a multifunction module that includes 5 analog input channels, 2 analog output channels, 2 digital input channels, 2 digital output channels and compatibles with USB 2.0 full-speed. It equips small size, portable, USB bus powered, various input type features to help user build up own project easily and quickly.

Compare with traditional PC I/O card, it is waste of time to open chassis and configure I/O board. In ICP DAS USB I/O, you will enjoy the simply controlling I/O in the efficient way. ICP DAS USB I/O equips USB bus powered feature, one cable to access I/O and provide power without additional power wiring. ICP DAS USB I/O is a small size module. You can use these I/O modules in wide range application, ex: fan-less control or measurement, automatically testing with BOX-PC…etc. ICP DAS USB I/O provides 10kS/s data acquisition functionality. User can apply this to real-time demanded application, ex: noise measurement.

The USB-2026 provides a programmable input range on all analog input (±150 mV, ±500 mV, ±1 V, ±5 V, ±10 V, ±20 mA or 0 ~ +20 mA), analog outputs are 12-bit at ±5 V, ±10 V, 0 ~ +20 mA or +4 ~ +20 mA and all digital outputs can be set as alarm output. Each analog input can be configured for an individual range and provides a high overvoltage protection of 240 Vrms.

Applications

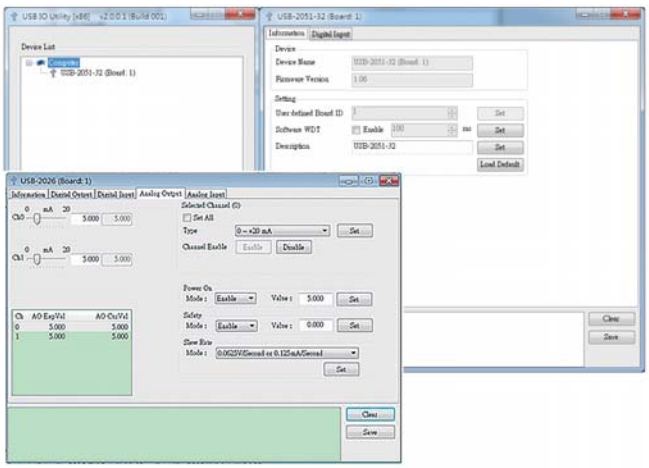
- Automation
- Machine automation
- Laboratory research

Software

USB-2K Utility

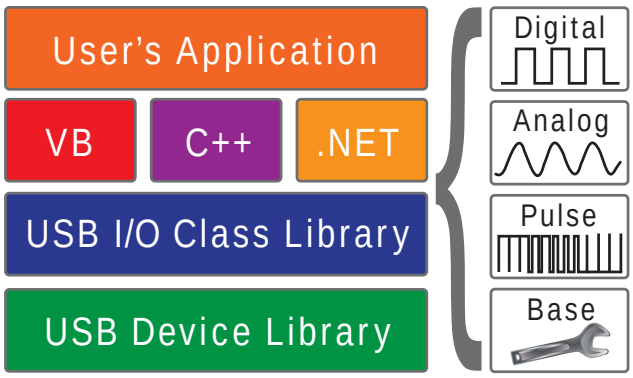
USB-2K Utility provides a simple way to easily test and instant acquire data for all ICP DAS USB IO series modules without programming.

- USB module configuration
- I/O configuration
- Log Data analysis
- Easy to test



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.



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
Power	
Consumption	2.2 W Max.
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

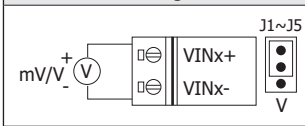
Pin Assignments

Pin Assignment	Terminal No.		Pin Assignment
VIN0+	01	11	VIN0-
VIN1+	02	12	VIN1-
VIN2+	03	13	VIN2-
VIN3+	04	14	VIN3-
VIN4+	05	15	VIN4-
VOUT0+	06	16	AGND
VOUT1+	07	17	AGND
DI0	08	18	DI0
DI1	09	19	DI1
DGND	10	20	DGND

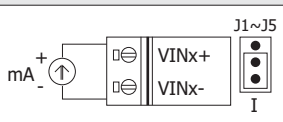
Wire Connections

Analog Input

Voltage

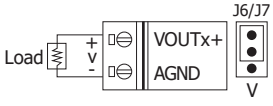


Current

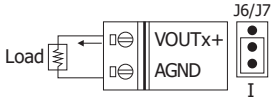


Analog Output

Voltage



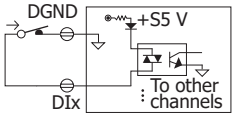
Current



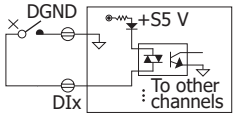
Digital Input

Dry Contact

ON



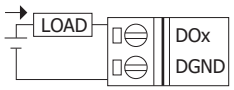
OFF



Digital Input

Load

ON



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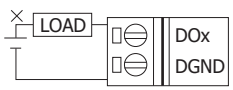
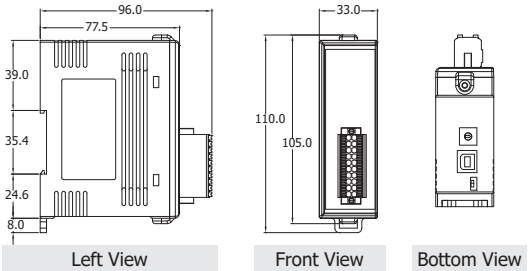


I/O Specifications

Analog Input		
Channels		5 Differential
Type		Voltage, Current
Range	Voltage	±1 V, ±2.5 V, ±5 V, ±10 V
	Current	±20 mA, 0 ~ 20 mA, 4 ~ 20 mA
Resolution	Normal Mode	14-bit
	Fast Mode	12-bit
Accuracy	Normal Mode	±0.1% FSR
	Fast Mode	±0.5 % FSR
Sampling Rate	Normal Mode	10 Hz
	Fast Mode	200 Hz
Input Impedance	Voltage	20 MΩ
	Current	135 Ω
Overvoltage Protection	Voltage	120 VDC
	Current	N/A
Overcurrent Protection	Voltage	N/A
	Current	Yes, 50 mA at 110 VDC
Zero Drift		±20 μV/°C
Span Drift		±25 ppm/°C
Analog Output		
Channels		2
Range	Voltage	+0 ~ +5 VDC, +0 ~ +10 VDC, ±5 VDC, ±10 VDC
	Current	+0 ~ +20 mA, +4 ~ +20 mA
Resolution		12-bit
Accuracy		±0.1% of FSR
Open Wire Detection		Yes, for 4 ~ 20 mA only
Voltage Output Capability		10 V @ 20 mA
Power on Value		Yes
Safe Value		Yes
Digital Input/Counter		
Channels		2
Type		Dry Contact, Source
ON Voltage Level		Close to GND
OFF Voltage Level		Open
Max. Counts		4,294,967,285 (32-bit)
Frequency		100 Hz
Min. Pulse Width		10 ms
Input Impedance		10 KΩ, 0.5 W
Overvoltage Protection		±57 VDC
Digital Output		
Channels		2
Type		Isolation Open Collector (Sink)
Load Voltage		+3.5 ~ +50 VDC
Max. Load Current		700 mA/Channel
Overvoltage Protection		±60 VDC
Overload Protection		1.4 A (with short-circuit protection)
Short-Circuit Protection		Yes
Power on Value		Yes, Programmable
Safe Value		Yes, Programmable

Dimensions (Units: mm)



Left View | Front View | Bottom View

Ordering Information

USB-2026 CR	USB I/O Module with 5-ch AI, 2-ch AO, 2-ch DI and 2-ch DO (RoHS)