



USB-2026

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

Features

- Multifunction (5 AI, 2 AO, 2 DI and 2 DO)
- Overload and Short Circuit Protection for Digital Output
- 240 Vrms Overvoltage Protection for Voltage Input
- 4~20 mA current output provide Open Wire Detection
- Individual Channel Configuration
- USB 2.0 Full-Speed (12Mbps)
- USB Bus Powered
- Lockable USB cable
- Driver Free



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.

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 $0 \sim +20$ mA), analog outputs are 12-bit at ± 5 V, ± 10 V, $0 \sim +20$ mA or $+4 \sim +20$ 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

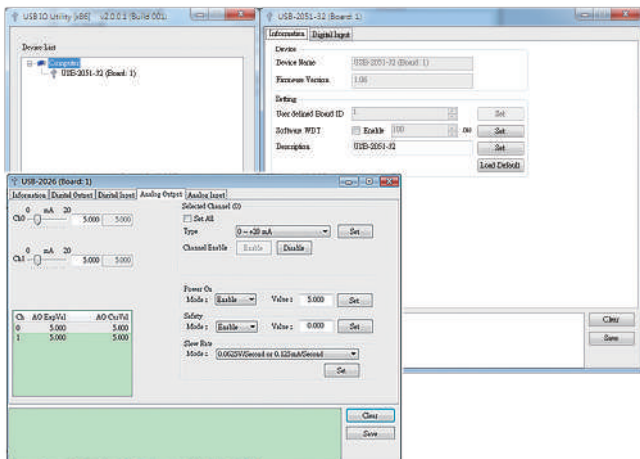
- Automation
- Measurement and testing
- Laboratory research

Software

USB-2K Utility

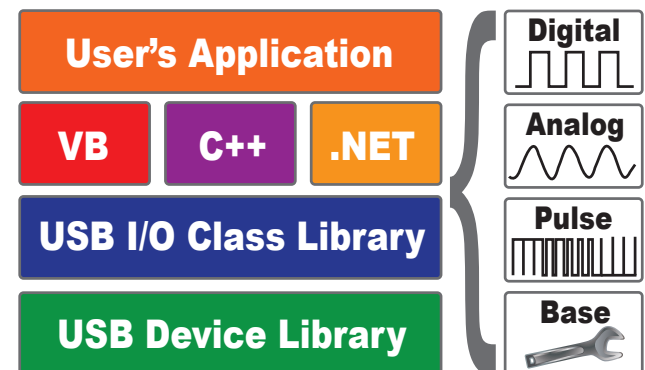
USB-2K Utility provides a simple way to easily test and instant acquire data for all ICP DAS USB IO series modules without programming.

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



VB/C++/C#.NET/VB.NET/LabVIEW 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/LabVIEW to fulfill project development.



System Specifications

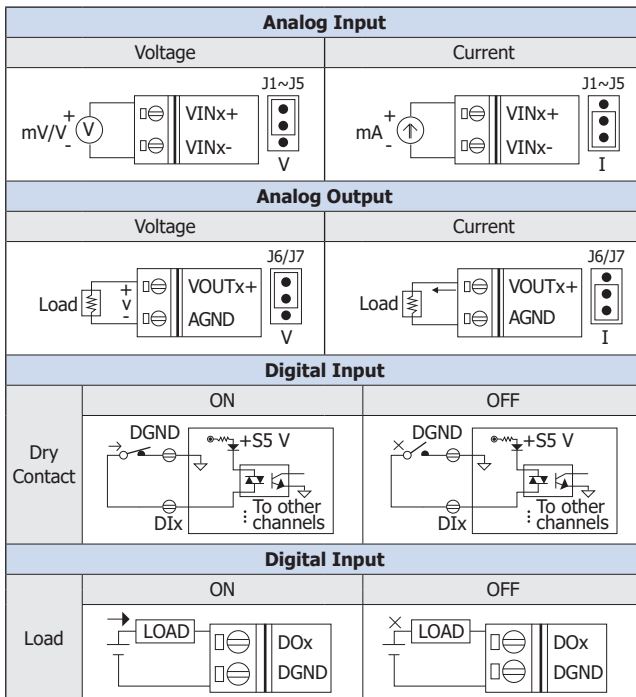
USB	
Specification	USB 2.0 Full-Speed (12Mbps)
CPU Module	
Watchdog Timer	1 Hardware watchdog (1.6 second) 1 Software watchdog (Programmable)
EMS Protection	
ESD (IEC 61000-4-2)	4 kV contact for each terminal 8 kV air for random point
LED Indicators	
Status	3 x Power and Communication
Power	
Consumption	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	VIN0-
VIN1+	02	VIN1-
VIN2+	03	VIN2-
VIN3+	04	VIN3-
VIN4+	05	VIN4-
VOUT0+	06	AGND
VOUT1+	07	AGND
DI0	08	DI0
DI1	09	DI1
DGND	10	DGND

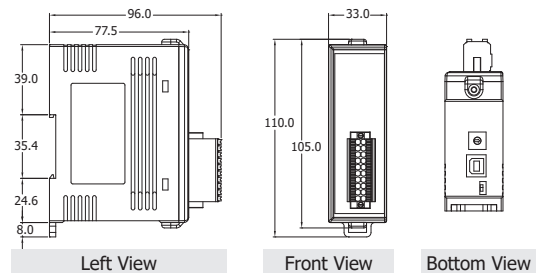
Wire Connections



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	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)



Ordering Information

USB-2026 CR	USB I/O Module with 5-ch AI, 2-ch AO, 2-ch DI and 2-ch DO (RoHS) Includes 1.5M USB Cable (CA-USB15)
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