

# Universal Analog Input Module

USB-2019



## USB-2019

8-channel Universal Analog Input Module with High Voltage Protection

### Features

- 8 Differential Universal Analog Input Channels
- 4kV ESD protection
- Wide Operating Temperature Range
- 240 V<sub>rms</sub> Overvoltage Protection
- 3000 V<sub>oc</sub> Intra-Module Isolation
- USB 2.0 Full-Speed
- USB Bus Powered
- Lockable USB cable
- Driver Free



### Introduction

USB-2019 is a universal analog input module with 8 differential universal analog input channels and compatible 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.

### Pin Assignment

Pin Assignment	Terminal	No.	Pin Assignment
+5V	01	14	AGND
CJC	02	15	CH 0+
CH 0-	03	16	CH 1+
CH 1-	04	17	CH 2+
CH 2-	05	18	CH 3+
CH 3-	06	19	CH 4+
CH 4-	07	20	CH 5+
CH 5-	08	21	CH 6+
CH 6-	09	22	CH 7+
CH 7-	10	23	N.C.
N.C.	11	24	N.C.
N.C.	12	25	N.C.
N.C.	13	Shield	F.G.

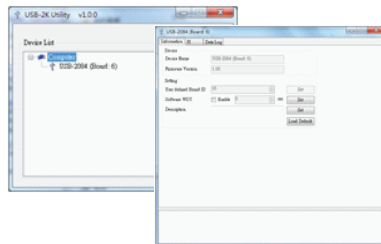
25-pin Female D-Sub Connector

Pin	Pin Assignment Name
CH 0+	CH 0+
CH 0-	CH 0-
CH 1+	CH 1+
CH 1-	CH 1-
CH 2+	CH 2+
CH 2-	CH 2-
CH 3+	CH 3+
CH 3-	CH 3-
CH 4+	CH 4+
CH 4-	CH 4-
CH 5+	CH 5+
CH 5-	CH 5-
CH 6+	CH 6+
CH 6-	CH 6-
CH 7+	CH 7+
CH 7-	CH 7-
AGND	AGND
AGND	AGND

### Software

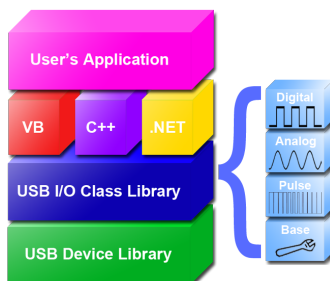
#### USB IO Utility

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



#### .NET / VC / BCB / VB

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 various environments.



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## Specification

Input		
Channels	8 differential	
Input Type	Voltage : $\pm 15\text{ mV}$ , $\pm 50\text{ mV}$ , $\pm 100\text{ mV}$ , $\pm 150\text{ mV}$ , $\pm 500\text{ mV}$ , $\pm 1\text{ V}$ , $\pm 2.5\text{ V}$ , $\pm 5\text{ V}$ , $\pm 10\text{ V}$	
	Current : $\pm 20\text{ mA}$ , $0 \sim +20\text{ mA}$ , $+4 \sim +20\text{ mA}$ (External resistor is required)	
	Thermocouple : J, K, T, E, R, S, B, N, C, L, M and LDIN43710	
Resolution	16 bit	
Accuracy	$\pm 0.1\%$ FSR	
Sampling Rate	10 Hz ( Total )	
Zero Drift	$\pm 20\text{ }\mu\text{V}/^{\circ}\text{C}$	
Span Drift	$\pm 25\text{ ppm}/^{\circ}\text{C}$	
Common Mode Rejection	86 dB Min.	
Normal Mode Rejection	100 dB	
Input Impedance	Voltage input : $> 400\text{ k}\Omega$ , Current input : $125\Omega$ (An external resistor is required)	
Intra-Module Isolation, Field-to-Logic	$3000\text{ V}_{\text{DC}}$	
Overvoltage protection	$240\text{ V}_{\text{rms}}$	
Individual Channel Configuration	Yes	
Open Wire Detection	Yes (Software programmable)	
Communication		
Interface	USB 2.0 Full-Speed	
Watchdog	1 Hardware watchdog ( 1.6 second )	
	1 Software watchdog ( Programmable )	
LED Indicators		
System LED Indicators	3 LED as Power, Run and Error	
EMS Protection		
ESD ( IEC 61000-4-2 )	4 kV contact for each terminal	
	8 kV air for random point	
Mechanical		
Dimensions	Body	$33\text{mm} \times 78\text{mm} \times 107\text{mm}$
( W×L×H )	CN-1824	$29\text{mm} \times 43\text{mm} \times 83\text{mm}$
Environment		
Operating Temperature	$-25 \sim +75^{\circ}\text{C}$	
Storage Temperature	$-40 \sim +85^{\circ}\text{C}$	
Humidity	$10 \sim 95\%$ RH, non-condensing	
Power		
Power Consumption	Maximum: 1.45W	

## Ordering Information

USB-2019	8-channel Universal Analog Input Module with High Voltage Protection (RoHS), include CN-1824
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