# Wi-Fi Series Products

## Wi-Fi Data Acquisition I/O Module (10 Universal AI)

RoHS  CE  FC
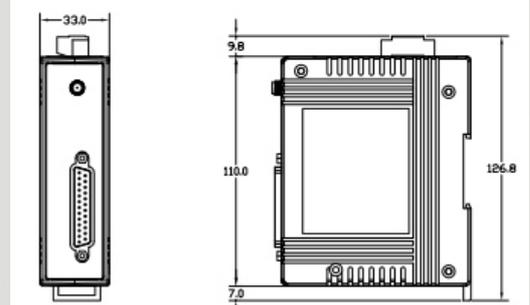


WF-2019



Unit: mm

Dimensions

The WF-2019 is a 10-channel universal analog input module with voltage and current input types. It provides extremely accurate thermocouple measurement and automatically cold-junction compensation for each channel. In addition, the WF-2019 has WLAN connection complies with the IEEE802.11b/g standards. With the popularity of 802.11 network infrastructure, the WF-2019 makes an easy way to incorporate wireless connectivity into monitoring and control systems. The WF-2019 also supports Modbus/TCP and UDP protocols and the network encryption configuration, which makes perfect integration to SCADA software and offer easy and safe access for users from anytime and anywhere.

## Features

- 10 Differential Universal Analog Input Channels
- Supports thermocouple devices with J, K, T, E, R, S, B, N, C types
- Compatible with IEEE 802.11b/g standards
- Support WEP, WPA and WPA2 wireless encryption
- Support Modbus/TCP and UDP protocols
- Support DHCP network configuration
- Wide Operating Temperature Range
- Built-in Watchdog
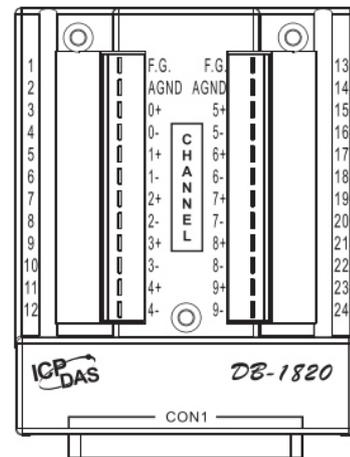
## Pin Assignment

| Pin Assignment | Terminal | No. | Pin Assignment |
|---|---|---|---|
| +5V | 01 | | |
| CJC | 02 | 14 | AGND |
| CH 0- | 03 | 15 | CH 0+ |
| CH 1- | 04 | 16 | CH 1+ |
| CH 2- | 05 | 17 | CH 2+ |
| CH 3- | 06 | 18 | CH 3+ |
| CH 4- | 07 | 19 | CH 4+ |
| CH 5- | 08 | 20 | CH 5+ |
| CH 6- | 09 | 21 | CH 6+ |
| CH 7- | 10 | 22 | CH 7+ |
| CH 8- | 11 | 23 | CH 8+ |
| CH 9- | 12 | 24 | CH 9+ |
| N.C. | 13 | 25 | N.C. |
| | | Shield | F.G. |

25-pin Female D-Sub Connector



## Wire Connection

| Voltage Input | Thermocouple Input |
|---|---|
| mV/V  V  CH+ / CH- | +  -  CH+ / CH- |

| Current Input |
|---|
| 125 Ω  CH+ / CH- |

Note: When connecting to current source, an external 125Ω resistor is required.
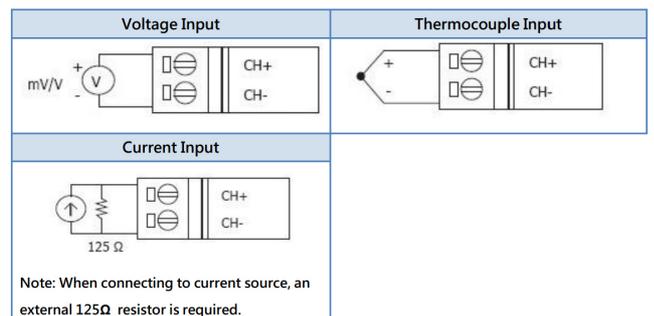
## Hardware Specifications

| Analog Input | |
|---|---|
| Channels | 10 |
| Input Type | Voltage : ±15 mV, ±50 mV, ±100 mV, ±500 mV, ±1 V, ±2.5 V, ±5 V, ±10 V |
| | Current : ±20 mA (External resistor is required) |
| | Thermocouple : J, K, T, E, R, S, B, N, C |
| Resolution | 16 bit |
| Accuracy | ±0.1% FSR |
| Sampling Rate | 10 Hz (Total) |
| Zero Drift | ±20 µV/°C |
| Span Drift | ±25 ppm/°C |
| Common Mode Rejection | 86 dB Min. |
| Normal Mode Rejection | 100 dB |
| Input Impedance | Voltage Input: >400 kΩ, Current Input: 125 Ω |
| Intra-Module Isolation, Field-to-Logic | 3000 VDC |
| Overvoltage protection | 240 Vrms |
| Individual Channel Configuration | Yes |
| Open Thermocouple Detection | Yes (Software programmable) |
| **Wi-Fi Interface** | |
| Antenna | 5 dBi (Omni-Directional) |
| Output Power | 8 dBm @ 11Mbps |
| Receive Sensitivity | -83 dBm @ 11Mbps |
| Standard Supported | IEEE 802.11b/g |
| Wireless Mode | Infrastructure & Ad-hoc |
| Encryption | WEP, WPA and WPA2 |
| Transmission Range | 50 meters (LOS) |
| **Power** | |
| Input Voltage Range | 10V ~ 30V |
| Power Consumption | 2.2W |
| **Mechanism** | |
| Installation | DIN-Rail |
| Dimensions | 33mm x 95mm x 120mm (W x L x H) |
| **Environment** | |
| Operating Temperature | -25°C ~ +75°C |
| Storage Temperature | -30°C ~ +80°C |
| Humidity | 10% ~ 90% |

## Applications



## Ordering Information

| WF-2019/S CR | 10-channel Universal Analog Input Wi-Fi I/O Module with DB-1820 Daughter Board (RoHS) |
|---|---|