



WF-2019/S

Wi-Fi I/O Module with 10-ch Universal AI (Asia Only)

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



Introduction

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.

System Specifications

Isolation		
Intra-module Isolation	3000 Vdc	
Wi-Fi		
Transmission Range	50 meters (LOS)	
Standards	IEEE 802.11 b/g (non-RevB version) IEEE 802.11 b/g/n (RevB version)	
Receive Sensitivity	-83 dBm @ 11 Mbps (non-RevB version) -93 dBm @ 11 Mbps (RevB version)	
Output Power	8 dBm @ 11 Mbps (non-RevB version) 14 dBm @ 11 Mbps (RevB version)	
Mode	Infrastructure & Ad-hoc (non-RevB version) Infrastructure & Limit-AP (RevB version)	
Encryption	WEP, WPA and WPA2	
Antenna	5 dBi (Omni-Directional)	
Power		
Input Range	+10 Vdc ~ +30 Vdc	
Consumption	2.2 W	
Mechanical		
Dimensions	WF-2019	33 mm x 127 mm x 98 mm (W x L x H) (Without antenna)
	DB-1820	65 mm x 78 mm x 22 mm (W x L x D)
Installation	DIN-Rail Mounting	
Environmental		
Operating Temperature	-25 ~ +75 °C	
Storage Temperature	-30 ~ +80 °C	
Humidity	10 ~ 90% RH, Non-condensing	

I/O Specifications

Analog Input		
Channels	10	
Type	Voltage, Current	
Sensor Type	Thermocouple	
Range	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% of FSR	
Sampling Rate	10 Hz (Total)	
Input Impedance	Voltage Input	>400 kΩ
	Current Input	125 Ω
Common Mode Rejection	86 dB Min.	
Normal Mode Rejection	100 dB	
Overvoltage Protection	240 Vrms	
Individual Channel Configuration	Yes	
Zero Drift	±20 μV/°C	
Span Drift	±25 ppm/°C	
Open Thermocouple Detection	Yes (Software programmable)	

Applications



Wire Connections

Voltage Input Wiring	
Current Input Wiring	
<p>125 Ω</p>	
<p>Note: When connecting to a current source, an optional external 125 Ω resistor is required.</p>	
Thermocouple Input Wiring	

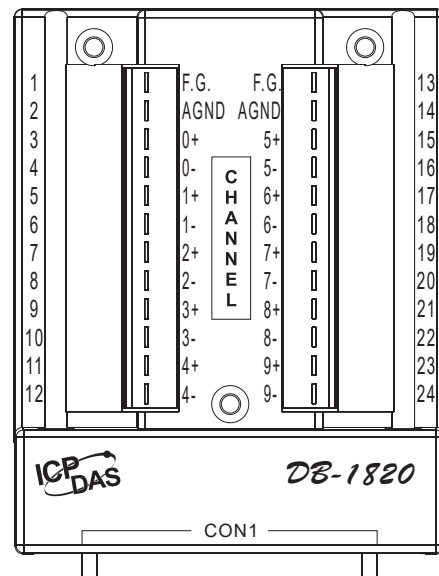
Pin Assignments

WF-2019

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	CH 8+
CH 8-	11	24	CH 9+
CH 9-	12	25	N.C.
N.C.	13	Shield	F.G.

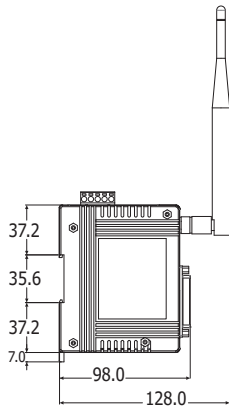
25-pin Female D-Sub Connector

DB-1820

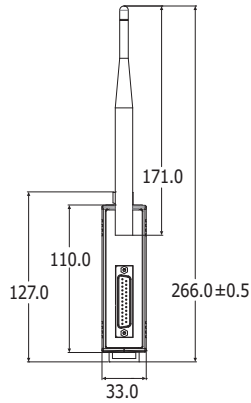


Dimensions (Units: mm)

WF-2019



Left View



Front View



Rear View

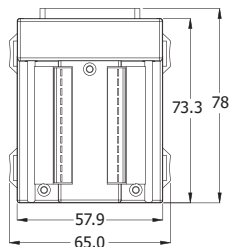


Top View

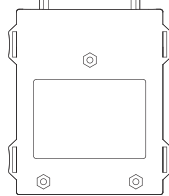


Bottom View

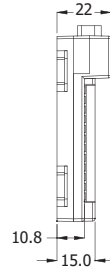
DB-1820



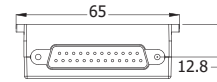
Front View



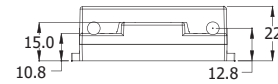
Rear View



Left View



Top View



Bottom View

Ordering Information

WF-2019/S CR	Wi-Fi I/O Module with 8-ch/16-ch AI (Asia Only) (RoHS) Includes ANT-124-05 Antenna, DB-1820 Daughter Board and CA-0910 Cable
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Accessories

	2AB125R	125 Ω, 0.1% DIP Resistor used for Current Type Input Modules
	CD-2518D CR	DB25 Male to Female 1.8 m Cable (180°) and DIN-Rail Mount for the DB-1820 (RoHS)
	CD-25015 CR	DB25 Male to Female 15 cm Cable (90°) and DIN-Rail Mount for the DB-1820 (RoHS)
	3S001-1 CR	Antenna Extension Cable, RG58A/U, RP-SMA Male to RP-SMA Female, 1 M (RoHS)
	3S003-1 CR	Antenna Extension Cable, RG58A/U, RP-SMA Male to RP-SMA Female, 3 M (RoHS)
	3S005-1 CR	Antenna Extension Cable, RG58A/U, RP-SMA Male to RP-SMA Female, 5 M (RoHS)
	3S008-1 CR	Antenna Extension Cable, RG58A/U, RP-SMA Male to RP-SMA Female, 8 M (RoHS)
	ANT-8 CR	8 dBi, 2.4 GHz omni-directional antenna (RP SMA Male Plug) (RoHS)
	ANT-15 CR	15 dBi, 2.4 GHz omni-directional antenna (RP SMA Male Plug) (RoHS)
	ANT-15YG-1 CR	15 dBi, 2.4 GHz directional yagi antenna (RP SMA Male Plug) (RoHS) Includes 3S004 Cable (HDF 200 cable, N type male to RP-SMA male, 1 M)
	ANT-18 CR	18 dBi, 2.4 GHz directional panel antenna (RP SMA Male Plug) (RoHS)
	ANT-21 CR	21 dBi, 2.4 GHz directional grid antenna (RP SMA Male Plug) (RoHS)
	ANT-124-03 CR	3 dBi, 2.4 GHz omni-directional antenna (RP SMA Male Plug) (RoHS)