

# WF-IO-4N

Wi-Fi Wireless Module with one I/O Slot

## Features

- Support Wi-Fi 2.4/5 GHz
- Compatible with IEEE 802.11a/b/g/n standards
- Support AP and STA mode
- Support WEP, WPA, WPA2 and WPA3 wireless encryption
- Support Modbus/TCP&UDP and MQTT Protocols
- One XV I/O board can be installed
- Support Web-based configuration
- Bulit-in WDT
- Supports I/O pair-connection mode.

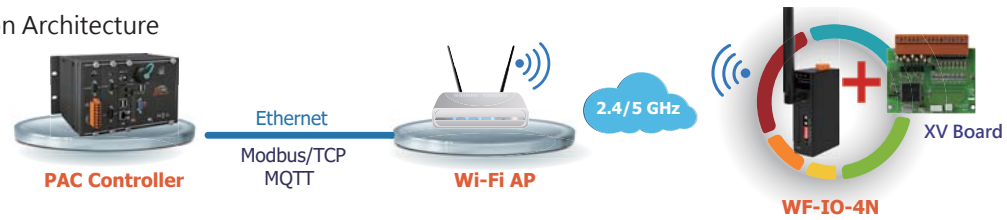
RoHS

## Introduction

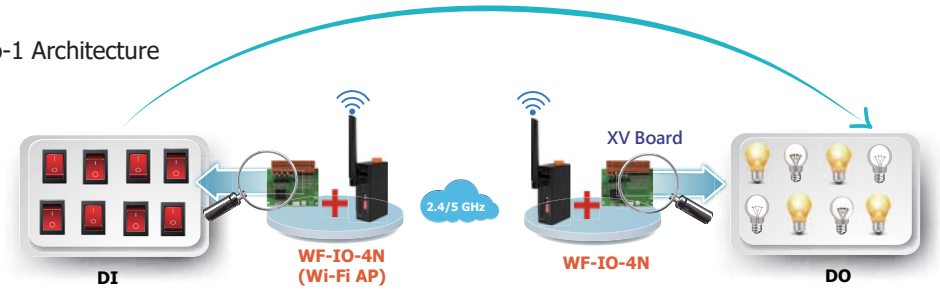
The WF-IO-4N is a dual-band Wi-Fi universal I/O module designed to easily connect and control devices over Wi-Fi networks. The WF-IO-4N supports both 2.4 GHz and 5 GHz Wi-Fi bands and adopting Modbus/TCP&UDP and MQTT Protocols, WF-IO-4N can be seamlessly integrated into automation control, remote monitoring and IoT applications. The key feature of WF-IO-4N lies in its modular I/O expansion design. The main unit provides a standardized interface that can be paired with different XV I/O boards, allowing flexible combinations of digital I/O, analog I/O and relay control. Users can quickly reconfigure or expand I/O specifications according to project needs without replacing the WF-IO-4N module, reducing costs while enhancing system flexibility. In addition, the WF-IO-4N supports wireless firmware updates and features a web-based configuration interface, making installation and maintenance more convenient. Whether for single-device control or large-scale deployment, WF-IO-4N delivers a stable, secure, and highly scalable solution.

## Applications

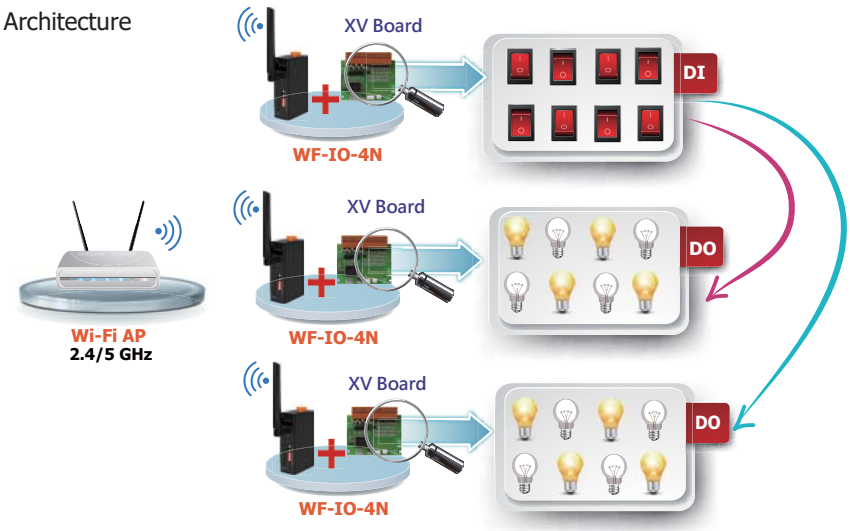
• Wi-Fi Application Architecture




• Pair Connection - 1-to-1 Architecture




• Pair Connection - 1-to-1 Architecture





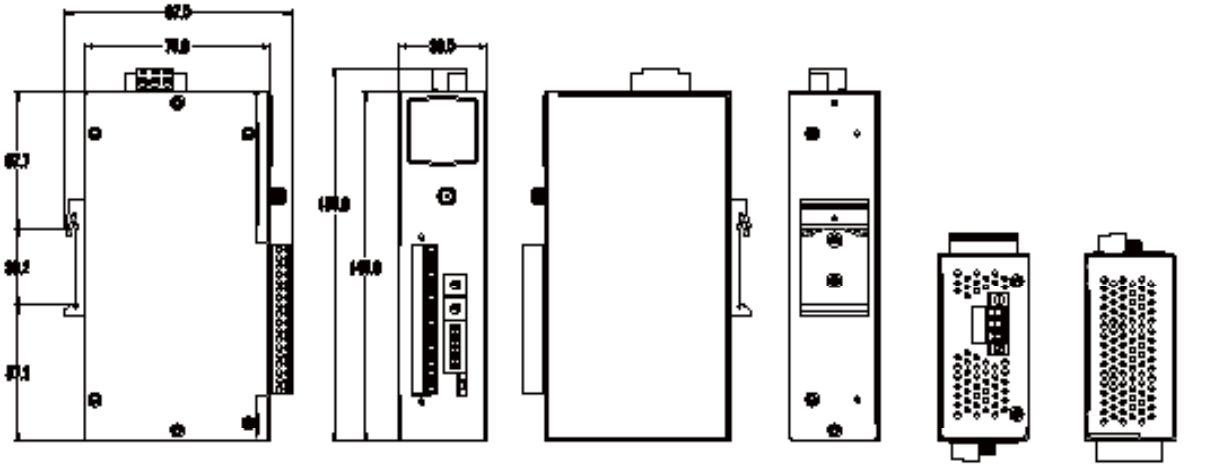

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## System Specifications

| Model | WF-IO-4N |
|---|---|
| **LED Indicators** | |
| Status | PWR, Wi-Fi, RSSI |
| **Wi-Fi** | |
| Transmission Distance (LoS) | 50 meters (LOS) |
| Standard | IEEE 802.11 a/b/g/n |
| RX Sensitivity | -94.5 dBm @ 2.4GHz<br>-89 dBm @ 5 GHz |
| Output Power | 16 dBm @ 2.4GHz<br>15.1 dBm @ 5 GHz |
| Mode | Access Point (AP) & Station (STA) |
| Frequency | 2.4 / 5 GHz |
| Protocol | Modbus/TCP, Modbus/UDP, MQTT |
| Encryption | Open, WPA/WPA2-PSK, WPA3-PSK |
| Client | Max. 4 Clients (AP mode) |
| **Antenna** | |
| Type | Omni-Directional |
| Connector | RP-SMA Male (Plug) |

| Model | WF-IO-4N |
|---|---|
| Gain (dBi) | 3 dBi @ 2.4 GHz<br>5.5 dBi @ 5 GHz |
| **I/O Expansion** | |
| I/O Type | plug-in, XV-board |
| Slots | XV series I/O board * 1 |
| **Power** | |
| Input Range | +10 VDC ~ +30 VDC |
| Consumption | 1.5 W @ 24 VDC |
| **Mechanical** | |
| Casing | Metel |
| Dimensions (mm) | 158 mm x 38 mm x 97 mm |
| Installation | DIN-Rail |
| **Environment** | |
| Operating Temperature | -25°C ~ +75°C |
| Storage Temperature | -30°C ~ +80°C |
| Humidity | 10 to 90% RH (Non-condensing) |

## Dimensions (Units: mm)



Left View | Front View | Right View | Rear View | Top View | Bottom View

## XV-board supported list

| DIO Expansion | | Relay Output Expansion | | Multi-Function Expansion | | | |
|---|---|---|---|---|---|---|---|
| XV107 (A) | XV111 (A) | XV116 | XV161-SL | XV303 | XV306 | XV308 | XV310 |
| XV110 | - | XV119 | - | XV305 | XV307 | XV386 | XV315 |

## Ordering Information

| | |
|---|---|
| **WF-IO-4N CR** | Wi-Fi Wireless Module with one I/O Slot (RoHS) |

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