Proprietary LPWAN IoT Wireless I/O Module

IIoT Wireless Module &Sensor

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Proprietary LPWAN (SUB-G)

Private Server

Azure

WebAccess/S

About Proprietary LPWAN

Low Power Wide Area Networks (LPWAN) are created for Machine-to-Machine (M2M) and Internet of Things (IoT) networks. They are not a single technology, but rather a variety of low-power, wide area network technologies. Compared with a traditional mobile network, LPWANs are known for offering lower cost with higher power efficiency. The WISE-4210 series is a proprietary LPWAN providing a superior connection compared with traditional 2.4G WiFi. The WISE-4210 series is helpful in eliminating network interference.
Additionally, WISE-4210 utilizes a LPWAN wireless interface, which has a kilometer-long communication distance. LPWAN makes WISE modules an ideal solution for energy and utility monitoring.

MQTT.ORG

SUB-G LPWAN Proprietary

WISE-4210

Industrial Proprietary LPWAN (SUB-G) Wireless I/O Module

Reduced interference and extended communication range compared with Wi-Fi, Bluetooth, Zigbee, or other 2.4GHz wireless interface, a sub-GHz signal interface can reduce interference at sites. Moreover, a sub-GHz signal is a type of LPWAN designed for long-range communications. Under the same power consumption, sub-GHz signals offers a longer communication range with lower data rates than other 2.4 GHz technologies with 3KM line of sight distance.

Powered by a 3.6V AA lithium battery The low power consumption of sub-GHz enables the sensor node to be powered by a battery. With a 3.6V AA lithium battery, the sensor node can maintain communication at a distance of 3 km for up to 5 years, thereby eliminating the need to recharge or change batteries.

AWS

CADA

ADVANTECH WISE-PaaS

dbus TCP

RESTful

WISE-4210-AP

Introduction

WISE-4210-AP

Star Topology

Star topology, also known as star networks, are the most common of network achitectures. In a star topology, every node connects to a central network device. This means WISE-4210/WISE-2210/WISE-2211 series nodes, acting as clients, should be connected with WISE-4210-AP. In this configuration, users can organize their own network with 64 paired nodes. Data on a star network passes through WISE-4210-AP before continuing to its destination. WISE-4210-AP with a LAN cable manages and controls most network functions.

MQTT and RESTful API IoT Protocol Support

IoT Wireless sensor nodes are designed for automation applications and IoT applications and use MQTT or RESTful web API IoT protocols for cloud integration.

- Ultra Low Power
- Wider Coverage
- Deeper Penetration
- Lower Interference
- Easier Installation
- Interchangeable Modular Design
- Modbus Supported
- MQTT Supported

WISE-2210
WISE-2211

WISE-2210 / WISE-2211

Propriety LPWAN (SUB-G) Self-Powered Analog Input Modules

Self-powered LPWAN technology is ideal for sustainable factories and building applications. Powered by a maximum of 3 CT (Current Transformer), no cables or batteries are required for switching or for collecting power current information from pumps, servers, or machine tools. Self-powered LPWAN networks save resources by using fewer cables and eliminate the need for batteries.

Industrial IoT Facility Management

With the proprietary LPWAN (SUB-G) protocol, WISE-4210 is ideal for industrial and factory applications. Inside a 150x50m factory full of concrete and metal walls, WISE-4210 is capable of deeper signal penetration all over the factory. One WISE-4210AP can be paired with up to 64 WISE-4210 nodes. WISE-4210-S231 has built-in temperature and humidity sensors ideal for warehouse, data centers, and factory energy and facility management. WISE-4210 can also be paired with other sensors through a variety of I/O configurations via a WISE-S200 I/O module. It can be used as a smart meter for utility management and monitoring as well as for pipeline or leakage detection. In addition, the WISE-4210 is easy to integrate and the node can be also powered by a single 3.6v AA Lithium battery which makes it easy to be deployed without worrying about wiring issues. WISE-4210 supports automation protocol such as Modbus TCP as well as RESTful web APIs and the MQTT protocol for both private server and public cloud integration.

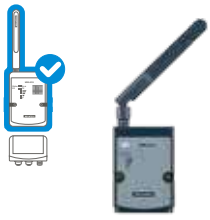
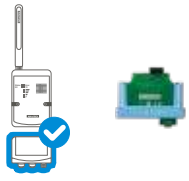
Industrial IoT Utility Monitoring

IIoT (Industrial Internet of Thing) allows for the deployment of many types of sensors throughout the factory that collect vast quantities of data which is sent to the control center. Advantech's WISE-2210/2211 Self-Powered LPWAN Analog input module offers a forward-looking solution. Unlike most IoT solutions today, WISE-2210/2211 does not require a complex wiring installation process for use in a factory setting. Using current transformers, WISE-2210 can easily boot up and measure the power current of objects through each channel. WISE-2211 is booted up by the DC output from sensors, such as temperature, humidity, pressure, water flow, ph levels, etc. Advantech WISE-2210/2211 Self-Powered LPWAN analog input module decreases the threshold for entry into the IoT world while also providing a perfect solution for power and environmental management systems.

WISE-4210-AP
Industrial Proproietary LPWAN Wireless to Ethernet AP

	Industrial Proprietary LPWAN (SUB-G) Wireless to Ethernet AP	
		
Model Name	**WISE-4210-APNA**	**WISE-4210-APUA**
Frequency	868MHz/923MHz	433MHz
Standard	IEEE 802.15.4g	
Data Rate	625bps, 2.5kbps, 5kbps, 50kbps	
Function	Wireless to Ethernet AP	
Power Input	10~50Vdc External Power	
Configuration Interface	Micro-B USB	

WISE-4210 Series
Industrial Proprietary LPWAN (SUB-G) Wireless I/O Module

	Industrial Proprietary LPWAN (SUB-G) Wireless I/O Module			
				
Model Name	**WISE-4210-NA**		**WISE-4210-UA**	
Frequency	868MHz/923MHz		433MHz	
Standard	IEEE 802.15.4g			
Data Rate	625bps, 50kbps			
Function	Wireless Board			
Power Input	10~50Vdc External Power / 3xAA 3.6V Lithium Battery			
Configuration Interface	Micro-B USB			
	I/O Module			
				
Model Name	**WISE-S214-A**	**WISE-S250-A**	**WISE-S251-A**	**WISE-S200**
Spec	4AI & 4DI	6DI, 2DO & 1RS-485	6DI & 1RS-485	Upon Customization Request *MOQ required
	Built-in Temperature & Humidity Sensor			
				
Model Name	**WISE-4210-S231NA**		**WISE-4210-S231UA**	
Frequency	868MHz/923MHz		433MHz	
Standard	IEEE 802.15.4g			
Data Rate	625bps, 50kbps			
Function	Wireless Board			
Power Input	10~50Vdc External Power / 3xAA 3.6V Lithium Battery			
Configuration Interface	Micro-B USB			

WISE-221X Series
Propriety LPWAN (SUB-G) Self-Powered Analog Input Modules for Power measurement & Sensor Data Collection

	Propriety LPWAN (SUB-G) Self-Powered Analog Input Modules	
		
Model Name	**WISE-2210-NA**	**WISE-2211-NA**
Frequency Band	868 MHz/923MHz	
Transmit Power	Up to +12dBm	
Data Rate	625bps / 2.5k bps / 5K bps / 50K bps	
Channel	3 (for CT, 0-100mA, AC)	3 (for sensor, 4-20mA, DC)
Input Range	0-100mA, Alternating current	4-20mA, Direct current
Resolution	11 bits	11 bits

Accessories

WISE-4210 Accessories		WISE-221X Accessories	
1750008836-01	863-870MHz Dipole Antenna	1750008836-01	863-870MHz Dipole Antenna
1750008837-01	902-928MHz Dipole Antenna	1750008837-01	902-928MHz Dipole Antenna
1760002647-01	Bat.Cylindrical 3.6V/2500mAh AA Li/SOCl2	96PD-CT241-60A	3~60A, 10.0+/-0.2mm, -20~65°C
		96PD-CT248-100A	5~100A, 15.7+/-0.3mm, -40~65°C
		96PD-CT24F-200A	10~200A, 20.5+/-0.3mm, -40~85°C

For WISE-4210-NA and WISE-221X-NA version, antenna should be ordered respectively.