WY01 Data Gateway

WY01 Data Gateway is a relay device that connects BR-Link wireless acquisition devices and continuous monitoring systems. It can connect up to 2 wired acquisition probes and 64 wireless acquisition devices. It is suitable for applications such as environmental monitoring and space verification.

Product features

- Complete redundancy mechanism to ensure data integrity.
- It provides two wired data acquisition interfaces to support temperature and humidity, PT100 and its RS485 equipment.
- The wireless reception function can connect 64 wireless devices simultaneously.
- 300 thousand sets of offline data cache.
- It comes with a backup battery and can operate for 48 hours under typical conditions.
- It supports multiple connection modes of 4G, Ethernet and WIFI.
- Support wireless acquisition equipment ad hoc network and signal extender.
- The equipment has a complete operation log.

Unique BR-Link ad hoc wireless communication

The so-called ad hoc network technology means that the wireless data logger will automatically search and connect to the gateway or signal amplifier with the best signal nearby without configuration.

Signal extension technology: When the data logger is installed in some places where the gateway signal can not reach, BR-Link's unique signal relay function can build a signal relay bridge between the data logger and the gateway to cover the dead corner of the signal.

A gateway or relay equipment will transmit signals up to 100 meters indoors and 2000 meters outdoors without shelter. Wireless communications are encrypted to ensure data integrity and security.

Integrity and continuity of data

WY01 data gateway comes with 300,000 sets of data cache. In case of failure to connect to the server, the data will be temporarily stored in the cache, and then transmitted to the server when the network is restored.

Redundancy

Installing multiple WY01 data gateways in the same space can increase the redundancy of the system. When one of the gateways fails or cannot connect to the server, the other gateways will automatically replace the functions of the original gateway.

Automatic time synchronization

WY01 has an automatic time synchronization mechanism to keep time synchronization with the server at all times. The server only needs to be synchronized with the standard time, so that the whole system can be kept synchronized with the standard time from the continuous monitoring system to the acquisition end.

Complete running log

The WY01 Data Gateway runs on a real-time operating system. The system saves the complete running log and provides the complete audit tracking mechanism from the client to the acquisition end.

Technical specifications

Wireless transmission

Transport protocol	BR-Link wireless ad hoc network transmission
Wireless output power	≤13db（≤20mW）
Open wireless transmission distances	2000m
Typical indoor transmission distances	100m
Antenna	External (Can be equipped with signal extension antenna or rod antenna)
Frequency band	470Mhz

Wired transmission

Sensor type	Temperature/PT100/RS485
Number of sensor channels	2

Data acquisition and storage

Cache size	30,000 sets
Buffer type	NOR Flash (NAND Flash)
Continuation order	FIFO/FILO depends on the probe configuration

Environmental parameters

Storage temperature range	-20~60℃
Operating temperature range	0~50℃
IP protection class (External power supply)	IP30 (USB powered)
Operating humidity	0-100% non-condensing

External power supply

Power connector type	USB Type-C
Supply voltage	5V
Supply current	2A
Implementation of standards	GB4943.1-2011 GB/T9254.1-2021 GB17625.1-2012
POE power supply	POE dispenser accessories available

Other specifications

Screen type	LCD color screen
Screen size	2.4 in.
Screen resolution	240x320 Pixel
Audible and visual alarm	Support
Battery	Two 18650 rechargeable lithium batteries
Power and Data Interface	Type-C x1、Mini-USB x1
Size	102 * 77 * 35mm (excluding antenna)
Material	ABS engineering plastics
Product implementation standards	GB/T 35145-2017
Sensor interface	3.5mm 4-pole
Output voltage of external equipment	3.3V ~ 5V
Communication mode of external interface	IIC，RS485, PT100
Typical Battery Standby Time	48 hours
Weight	383g
External supply voltage	5V
External supply current	2A
Number of sensors supported	1-2
Installation method	Magnetic attraction, wall hanging

Model

WY01-Y	Ethernet connection
WY01-YP	Ethernet connection, PT100 probe available
WY01-YM	Ethernet connection, RS485 equipment can be connected
WY01-M	Long-distance 4G gateway
WY01-L	4G gateway
WY01-LE	4G/Ethernet Gateway
WY01-G	Vehicle GPS gateway
WY01-W	Wi-Fi Gateway