

Product Instruction

AJ001

Wireless Repeater

**ALPHA Industrial Intelligence
Holding Co Ltd**

Preface

This manual is edited according to GB3836.1-2010 *Explosive Environment Part 1: general Requirements for Equipment* ,GB3836.2-2010 *Explosive Environment Part 2: Equipment Protected by Flame-Retarded Box --d* , GB12476.1-2013 *General Electrical Equipment for Combustible Dust Environment Part 1: Electrical Equipment Protected by Enclosure Limiting Surface Temperature Section 1: Technical Requirements of electrical equipment*, GB14048.1-2006 *General Rules for Low Voltage Switchgear and Control Gear*, and the content of the relevant standards

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This manual is proposed by ALPHA Industrial Intelligence Holding Co Ltd.

This manual is drafted by ALPHA Industrial Intelligence Holding Co Ltd.

This manual is collected by ALPHA Industrial Intelligence Holding Co Ltd.

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1 Details of Product Model and Basic Parameters

1.1 Details of Product Model

AJ001

A- ALPHA Industrial Intelligence Holding Co Ltd; J- repeater; 001- type.

1.2 Basic parameters of repeater are shown in table 1

Table 1

Type	Rated Operating Voltage	Transmission distance	Frequency range	Wireless communication rate	Radio transmission power	Power	Ethernet interface	Ex-mark
AJ001	AC220V	Barrier-free distance: 2500m	2.405GHz~2.485GHz The default: 2.48GHz	1Mbps	22dBm	0.6W	RJ45:10/100M Self-adaption	Exd II BT6Gb; Ex tD A21 IP66 T85°C

2 Application

AJ001 wireless repeater (hereinafter referred to as wireless repeater) apply to explosive gas environment (area 1 and area 2) , combustile dust environment (21 and 22 area) and explosive air-mixture places of levels A II,B II,C II or of temperature classes ranging from T1 to T6. The power required for collecting and transmitting vibration and temperature signal in workplace is supplied by 3V lithium battery.

- a) Applicable working environment temperature: -40°C ~ +85°C
- b) Applicable humidity: ≤95% (20°C)
- c) Pollution degree rating: 3
- d) Risk class for explosive new gas mixtures: II A、 II B、 II C
- e) Applicable to places without significant shaking and shock vibration
- f) Applicable for the environment of non-destructive insulation of gas or steam

3 Overview

The wireless repeater is composed of explosion-proof housing, circuit board, antenna and power supply. The housing is made of aluminum alloy die-casting. After high-speed shot blasting, the surface is sprayed with high-voltage electrostatic plastic, which has a strong anticorrosive ability and can be used in all kinds of harsh environments. All exposed fasteners are made of stainless steel. It has high protection structure and optimized maintenance operation.

The wireless repeater is installed in a variety of ways, such as ceiling type, 90-degree wall type and so on, which is suitable for the installation of different Positions.

The wire enters the wiring chamber through the lead-in device.;

4 Installation

4.1 Before installation, check whether the parameters listed on the nameplate of wireless repeater conform to the actual use regulations.

4.2 Monitoring terminal shall be installed by professional construction personnel

4.3 Installation steps

a) Determine installation position according to the number and location of wireless monitoring terminals on site to ensure that wireless repeater can receive the data of monitoring terminals better.

b) The wiring of power line and network line shall be determined with the assistance of enterprise personnel. Select a cable with a wire diameter of $\phi 8$.

c) Cover the cable with gasket and sealing ring. Avoid small cable through the big hole sealing ring, so as not to clamp tight seal, otherwise it will impact the explosion-proof performance.

d) Connect the cable and terminal firmly and connect the internal grounding wire.

e) Tighten the sealing ring so that the cable can be clamped and sealed

firmly.

f) Connect the outside ground wire.

g) Tighten all fastening bolts.

5 Application

5.1 When the repeater is installed, check whether the wiring is correct before power on to ensure that the correct power supply can be used.

5.2 It is strictly forbidden to open the repeater box while the factory is working, and it is strictly forbidden to open the repeater box with power on.

5.3 Operators should understand the performance of the wireless repeater, and if there is any abnormal, they should inspect it under the guidance of ALPHA engineers. It is strictly prohibited to open the repeater box cover under the working state of the production line, and it is strictly prohibited to dismantle the equipment without authorization for maintenance.

6 Maintenance

6.1 Maintenance personnel must attend on-the-job training class to understand the performance of repeater and know the requirements for use.

6.2 Regularly clear the housing of monitoring terminals to improve the heat dissipation performance of repeater. Water or cloth wipe are allowed. Power must be turned off when washing in water.

6.3 Check the oil stain of the housing, whether it has been impacted by foreign bodies, whether the fixing bolt is loose, if so, it should be strengthened or replaced in time.

6.4 Wireless repeater is explosion-proof and waterproof. The sealing part should not be dismantled and opened frequently, otherwise the explosion-proof performance of wireless repeater will be affected.