

# **Product Instructions**

**AD001**

**Wireless Monitoring Terminal**

**ALPHA Industrial Intelligence  
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## CATALOGUE

Preface.....	II
1 Details of Product Model and Basic Parameters.....	3
2 Application.....	3
3 Overview.....	4
4 Installation.....	4
5 Application.....	5
6 Maintenance.....	6

## 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.

# 1 Details of Product Model and Basic Parameters

## 1.1 Details of Product Model

AD001

A - ALPHA Industrial Intelligence Holding Co Ltd

D - Monitoring Terminal

001 - type

## 1.2 Basic parameters of intelligent monitoring terminal are shown in table 1

Table 1

Type	Rated Operating Voltage	Transmission distance	Frequency range	Wireless communication rate	Radio transmission power	Power	Ex-mark
AD001	3V	Barrier-free distance: 2500m	2.405GHz ~2.485GHz The default: 2.48GHz	1Mbps	20dBm	0.1W	Exd II BT6Gb; Ex tD A21 IP66 T85°C

## 2 Application

AD001 intelligent monitor terminal (hereinafter referred to as the monitoring terminal) apply to explosive gas environment (area 1 and area 2) , combustible 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) Relative applicable humidity: ≤95% (20°C)
- c) Temperature measurement range: -55~+125°C
- d) Vibration measurement range: 50Hz, ±16g
- e) Pollution degree rating: 3

- f) Risk class for explosive new gas mixtures: II A, II B, II C
- g) Applicable for the environment of non-destructive insulation of gas or steam

### **3 Overview**

Monitoring terminal is composed of waterproof housing, circuit board, vibration sensor, temperature sensor and antenna. The shell is made of aluminum alloy die-casting. After high-speed shot blasting, the surface is sprayed with high-voltage electrostatic plastic, which is strong anticorrosive and can be used in all kinds of harsh environments. All external ports are waterproofed to ensure that the equipment operates in an airtight environment. It has High protection structure and optimized maintenance operation.

The monitoring terminal shall be installed by bracket with 90-degree i-type or 45-degree inclination. The bottom end of the bracket shall be glued to the monitoring equipment with metal structure adhesive. The top end shall be connected to the bottom of the monitoring terminal with M3 stainless steel bolts. The temperature sensor is magnetic adsorption probe, which is directly adsorbed on the equipment when used. The antenna is an omnidirectional rotatable antenna.

### **4 Installation**

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

4.2 Monitoring terminal shall be installed by professional construction personnel

4. Installation steps

- a) Determine installation position (motor drive side, support of rotary bearing).
- b) Clean the place, If there is rust or the outer paint falls off, use the grinding tool to polish the surface.
- c) Select the appropriate bracket, and adjust the curvature of the bracket, so

that the base of the bracket and the adhesive position can be better fitted

d) Open the monitoring terminal top cover, turn on the power switch, and cover the monitoring terminal top cover when the indicator light is on and off for 1 second.

e) Fix the monitoring terminal on the bracket with M3 stainless steel bolts and clean the grease at the bottom of the bracket.

f) Apply metal structure glue and accelerant to the installation position of mechanical equipment to make them mix evenly. Then put the bottom of the metal support in the installation position and let it sit for a moment. Release it after the equipment is firmly fixed.

g) The temperature sensor shall be adsorbed in the appropriate position according to the actual conditions, and the excess wire shall be rolled up and fixed near the monitoring terminal.

h) Connect the antenna to the monitoring terminal, adjust the pointing of the antenna, and smear metal structure glue on the twist of the antenna when necessary.

## **5 Application**

5.1 The monitoring terminal should be configured and set before leaving the factory. Generally, it needs to be fixed on the monitoring equipment for two hours before working. Install in reasonable time.

5.2 When monitoring terminal is working, change the terminal battery or adjust the antenna direction according to the battery quantity and signal strength displayed by the system.

5.3 Operators should know the performance of monitoring terminals, and if there is any abnormal, they should inspect it under the guidance of our engineers. It is strictly prohibited to open the monitoring terminal 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 monitoring terminals and know the requirements for use.

6.2 Regularly clear the shell of monitoring terminals to improve the heat dissipation performance of monitoring terminals. Water or cloth wipe are allowed.

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 The battery quantity shall be changed in time according to the prompts of the system. It is strictly prohibited to open the equipment for replacement when the production line is working and operate in strict accordance with the instructions when disassembling.

6.5 The monitoring terminal is explosion-proof and waterproof. The sealing part should not be dismantled or opened frequently, otherwise the explosion-proof performance of the monitoring terminal will be affected.