

Pump-type Gas Detection Alarm Instrument



AI-C004

Multi-Gas Detection | High-Precision Alerts

Introduction

This manual is for the **pump suction type gas detection alarm** used to detect **combustible gases, oxygen, carbon monoxide, and hydrogen sulphide**. It is ideal for **petrochemical, metallurgical, chemical, and pipeline** environments.

The device uses **catalytic combustion** and **electrochemical sensors** for high sensitivity and fast response.

Its **explosion-proof design (Ex dib II BT4 Gb)** and **IP65 protection** ensure safety and durability. Compact and portable, it supports **real-time monitoring** and **multi-mode alarms**. Read the manual carefully before use to ensure **safe and effective operation**.

Features

- Detects: Combustible gases (LEL), O₂, CO, H₂S
- Alarm: Sound, light, vibration, and LED bar
- Alarm volume: >80 dB
- Suction-based gas sampling
- Clear colour display with alarm indicators
- Portable and compact (192mm×66mm×35mm, ~300g)
- Intrinsically safe & flameproof
- Data logging and graph display
- Multiple alarm point settings
- Battery indicator and low voltage warning
- Easy zeroing and gas calibration
- USB charging support
- Storage interval from 15 seconds to 60 minutes
- Sensor life:
 - Catalytic: >1 year
 - Electrochemical: >2 years
 - Infrared: >3 years
- Housing: Two-colour injection (ABS + TPU)
- Alarm light visible up to 20 meters in darkness

Specifications

Ambient Condition		Intrinsic parameters	
Working Temperature	-10°C~ 40°C	Battery Specifications	One rechargeable battery
Relative Humidity	≤95%RH (+25°C)	Maximum Open Circuit Voltage	4.2V
Storage Temperature	-40°C ~ +60°C	Rated Voltage	3.7V
Atmospheric Pressure	80~ 116kPa	Working Current	Electrochemical ≥23mA catalytic element ≥103mA
Wind Speed	0~ 8m/s	Alarm Current	Electrochemical ≥53mA catalytic element ≥136mA
Levels Of Protection	IP65	Charging Interval	5~7 hours
Alarm Sound Level Intensity	>80dB		
Alert Mode	Sound, light alarm, vibration alarm, light bar indication		
Sensor Life	Catalytic combustion type	> 1 year	
	Electrochemical type	> 2 years	
	Infrared type	> 3 years	
Continuous Working Hours	> 10 hours		
Outline Dimension	192mm×66mm×35mm		
Shell Material	The shell is made of two-color injection molding, the inner layer is transparent ABS engineering plastic, the outer layer is TPU rubber material		
Weight	About 300g		
Battery Specifications	Intrinsically safe power supply of the instrument: one lithium manganate battery, specification: rechargeable battery is sealed with epoxy resin as a whole to form the intrinsically safe battery assembly.		
Alarm Light Visibility	Not less than 20m (in darkness)		

Technical Parameters

Gas	Range	Resolution	Alarm Point	Response Time
CH ₄ (LEL)	0–4.00%	0.01	1.00%	≤ 20s
O ₂	0–25.0%	0.1	18.0%	≤ 35s
CO	0–1000 ppm	1	24 ppm	≤ 45s
H ₂ S	0–100 ppm	0.1	10 ppm	≤ 45s
CO ₂	0–5.00%	0.01	1.00%	≤ 60s
SO ₂	0–100 ppm	0.1	10 ppm	≤ 45s
NO	0–250 ppm	1	10 ppm	≤ 45s
NO ₂	0–100 ppm	0.1	10 ppm	≤ 40s
Cl ₂	0–100 ppm	0.1	5 ppm	≤ 40s
H ₂	0–1000 ppm	1	10 ppm	≤ 60s
NH ₃	0–200 ppm	1	10 ppm	≤ 45s
HCHO	0–5 ppm	0.01	0.5 ppm	≤ 40s
LEL	0–100% LEL	1	25% LEL	≤ 20s

Environmental Parameters

Parameter	Value
Operating Temp	-10°C to +40°C
Storage Temp	-40°C to +60°C
Relative Humidity	≤98% RH (@25°C)
Atmospheric Pressure	80–116 kPa
Wind Speed	<8 m/s
IP Rating	IP65

Power & Battery

Item	Value
Battery Type	Lithium manganate, rechargeable, intrinsically safe (sealed in epoxy)
Rated Voltage	3.7V
Max Open Circuit Volt	U _o : 4.2V
Operating Current	Electrochemical ≥23mA; Catalytic ≥103mA
Alarm Current	Electrochemical ≥53mA; Catalytic ≥136mA
Charging Time	5–6 hours
Backup Time	>10 hours



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