634

ARTM-8 温度巡检仪
ARTM-8 temperature measuring instrument

安装使用说明书 V1.0
Installation & Operation Manual V1.0

安科瑞电气股份有限公司
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申　明

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1 安装使用指南

1 Installation Guide

1.1 概述

1.1 Introduction

ARTM-8 温度巡检测控仪适用于多路温度的测量和控制，主要应用于低压配电系统电气接点、电机/变压器等设备绕组测温及其他设备或变配电场景的温度监测与控制。

The ARTM-8 temperature inspection and control instrument is suitable for measuring and controlling multiple temperatures, mainly used for temperature monitoring and control of electrical contacts, motor/transformer windings, and other equipment or distribution scenarios in low-voltage distribution systems.

1.2 型号及功能

1.2 Model and Feature

型号 Model	特点 Feature	附加功能 Additional features
ARTM-8	测量 8 通道 PT100、PT1000 温度，也可以屏蔽其中任意通道。 Measure the temperature of PT100 or PT1000 in 8 channels, and any channel can also be shielded.	/J:每一通道温度测量对应 2 段报警，继电器输出可以任意设置报警方向及报警值； /J:Each channel temperature measurement corresponds to 2 alarm segments, and the relay output can be set to any alarm direction and value; /C:带有 RS485 通讯接口(MODBUS-RTU 协议)，可实现数据远传 /C:Equipped with RS485 communication interface (MODBUS-RTU protocol), it can achieve remote data transmission.

注：ARTM-8 的测温通道可由用户指定，具体见订货范例。

Note: The temperature measurement channel of ARTM-8 can be specified by the user, please refer to the ordering example for details.

1.3 技术参数

1.3 Technical Features

指标 Features 功能 Function	指　　标 Features
	ARTM-8
测量通道数	8

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Number of measurement channels		
输入信号 Input signal		PT100、PT1000
精度等级 Accuracy level		0.5 级 0.5 class
测温范围 Measuring range		PT100：-200℃~600℃，实际范围视 PT100 定； PT100：-200℃～600℃，the actual range depends on PT100； PT1000：-200℃~300℃，实际范围视 PT1000 定 PT1000：-200℃～300℃，the actual range depends on PT1000；
辅助电源 Auxiliary power	电压范围 Voltage range	AC85~265V/DC100~350V；DC12-30V
	功　　耗 Power	≤2W
报警输出 Alarm output	路　　数 Channel	2 组常开 2 groups of normally open
	容　　量 Capacity	AC250V/5A；DC30V/5A
通讯 Communication	协　　议 Protocol	MODBUS-RTU
	接　　口 Interface	RS485
	波特率（bps） Baud rate（bps）	可选 1200，2400，4800，9600，19200 Optional 1200，2400，4800，9600，19200
工频耐压 Power frequency withstand voltage		2kV/1min 交流有效值 2kV/1min AC effective value
环境 Environment	温　　度 Temperature	工作：-10～+55℃，存贮：-25～+70℃ Work: -10~+55 ℃, Storage: -25~+70 ℃
	湿　　度 Humidity	≤95%，不结露，无腐蚀性气体场所 ≤ 95%, non condensing, non corrosive gas environment
	海　　拔 Altitude	≤2000m

1.4 包装

1.4 Packaging

包装内含下列项目：

The packaging contains the following items:

主机（含插拔式端子排，铭牌，安装支架等）；

Host (including plug-in terminal block, nameplate, installation bracket, etc.);

产品安装使用手册。

Product installation and usage manual.

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在打开产品包装时，请仔细检查是否有损坏，如有任何损坏，请及时通知 ACREL 公司或代理商，并请保留损坏的外包装。如系 ACREL 公司或代理商责任，将及时予以更换。

When opening the product packaging, please carefully check for any damage. If there is any damage, please notify ACREL company or agent in a timely manner and keep the damaged outer packaging. If it is the responsibility of ACREL company or agent, it will be replaced in a timely manner.

1.5 安装和接线方法

1.5 Installation and wiring methods

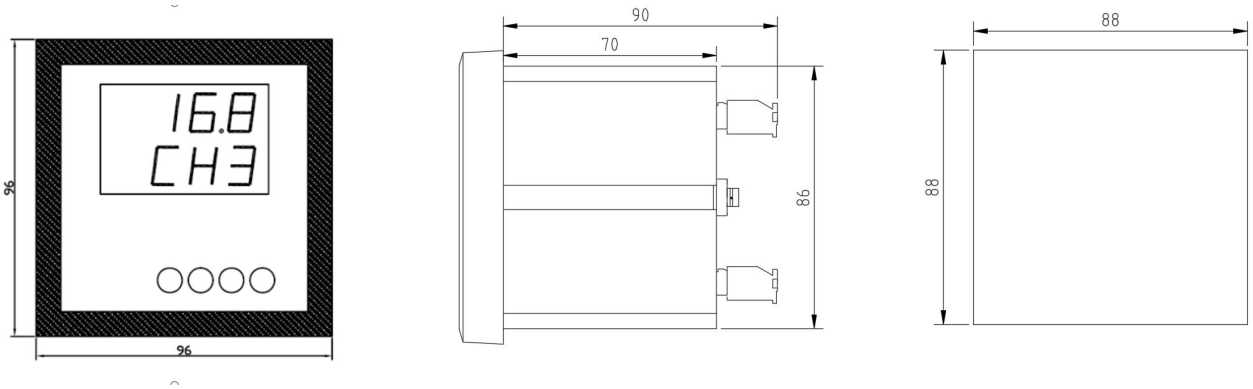
1.5.1 安装尺寸

1.5.1 Installation dimensions

■ ARTM-8：.

正视图 **侧视图** **盘面开孔**

Front view **Side view** **Disk opening size**



1.5.2 安装方法

1.5.2 Installation method

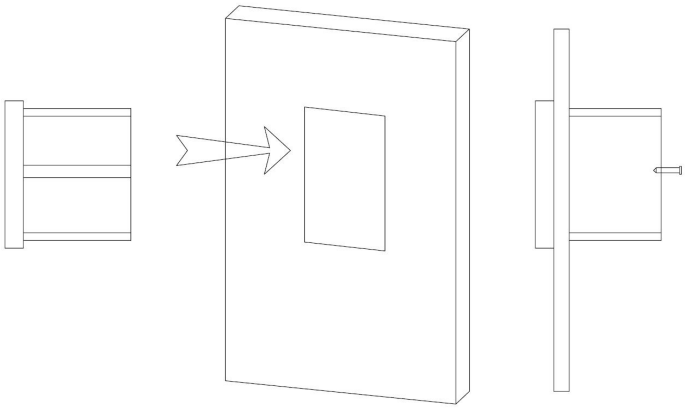
在您的配电盘上，选择合适的地方开一个与所安装温度巡检仪开孔尺寸相同的安装孔。

On your distribution panel, choose a suitable location to open an installation hole with the same size as the opening of the installed temperature monitoring device.

取出温度巡检仪，松开定位螺钉（逆时针），取下安装支架。

Take out the temperature monitoring device, loosen the positioning screw (counterclockwise), and remove the installation bracket.

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把仪表插入配电盘仪表孔中。

Insert the instrument into the instrument hole of the distribution panel.

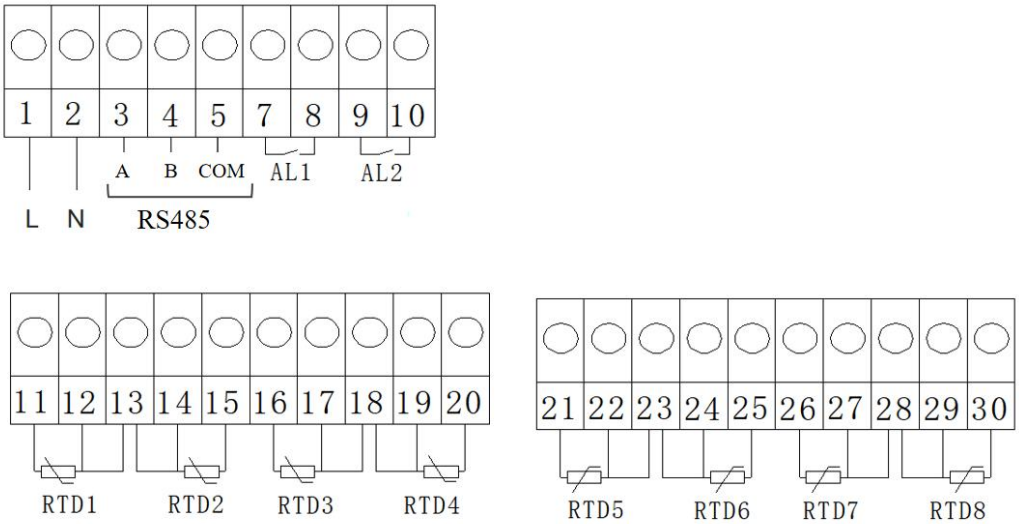
插入仪表后装上安装支架、定位螺钉（顺时针）。

Insert the instrument and install the mounting bracket and positioning screw (clockwise).

1.5.3 接线方法（请以仪表上的接线图为准）

1.5.3 Wiring method (please refer to the wiring diagram on the instrument)

■ ARTM-8：



注意：二线制接线时必须按照图示，将热电阻传感器的其中一根引线接到 2 个端子上。

Attention: When wiring in a two-wire system, one of the leads of the thermistor sensor must be connected to two terminals according to the diagram.

PT100 接线方式：11~13 号为 PT100 的第 1 路接线端子，13~15 号为 PT100 的第 2 路接线端子，以此类推。

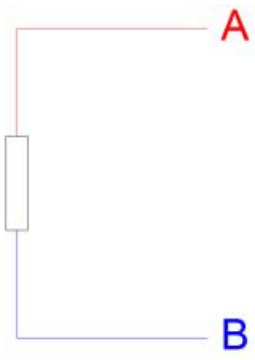
PT100 wiring method: Terminals 11-13 are the first wiring terminals of PT100, terminals 13-15 are the second

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wiring terminals of PT100, and so on.

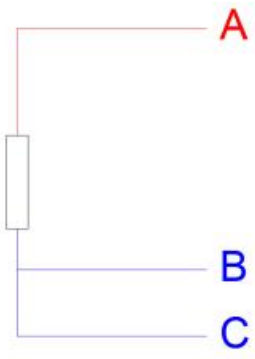
两线制：第一路 PT100 的 A、B 线分别接入 11 号和 12 号端子，12 号端子引一根短接线到 13 号端子，第二路 PT100 的 A、B 线分别接入 15 号和 14 号端子，14 号端子引一根短接线到 13 号端子，以此类推。

Two wire system: The A and B wires of the first PT100 are connected to terminals 11 and 12, respectively. Terminal 12 leads a short wire to terminal 13. The A and B wires of the second PT100 are connected to terminals 15 and 14, respectively. Terminal 14 leads a short wire to terminal 13, and so on.



三线制：第一路 PT100 的 A 线接入 11 号端子，B、C 两线分别接入 12 号和 13 号端子，第二路 PT100 的 A 线接入 15 号端子，B、C 两线分别接入 14 号和 13 号端子，以此类推。

Three wire system: The A wire of the first PT100 is connected to terminal 11, and the B and C wires are connected to terminals 12 and 13 respectively. The A wire of the second PT100 is connected to terminal 15, and the B and C wires are connected to terminals 14 and 13 respectively, and so on.



四线制第一种接线方法：第一路 PT100 的 A 和 B 线接入 11 号端子，C 和 D 线接入 12 号端子，12 号端子引一根短接线到 13 号端子，第二路 PT100 的 A 和 B 线接入 15 号端子，C 和 D 线接入 14 号端子，14 号端子引一根短接线到 13 号端子，以此类推。

The first wiring method of the four wire system: Connect the A and B wires of the first PT100 to terminal 11, connect the C and D wires to terminal 12, and connect a short wire from terminal 12 to terminal 13. Connect the A and B wires of the second PT100 to terminal 15, connect the C and D wires to terminal 14, and connect a short wire from terminal 14 to terminal 13, and so on.

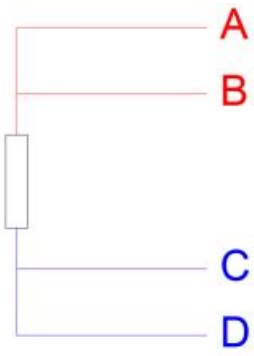
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四线制第二种接线方法：第一路 PT100 的 A 线接入 11 号端子，C、D 两线接入 12 号和 13 号端子，第二路 PT100 的 A 接入 15 号端子，C、D 两线接入 14 号和 13 号端子，以此类推。

The second wiring method of the four wire system: Connect the A wire of the first PT100 to terminal 11, connect the C and D wires to terminals 12 and 13, connect the A wire of the second PT100 to terminal 15, connect the C and D wires to terminals 14 and 13, and so on.

注意：四线制 PT100 接线时推荐第一种接线方法。

Attention: The first wiring method is recommended for the four wire Pt100 system.



注：考虑本装置采集温度数据的准确性与装置接线端子的匹配，本装置推荐使用三线制的 PT100 传感器。

Note: Considering the accuracy of temperature data collected by this device and the matching of device wiring terminals, it is recommended to use a three wire Pt100 sensor for this device.

2 操作指南

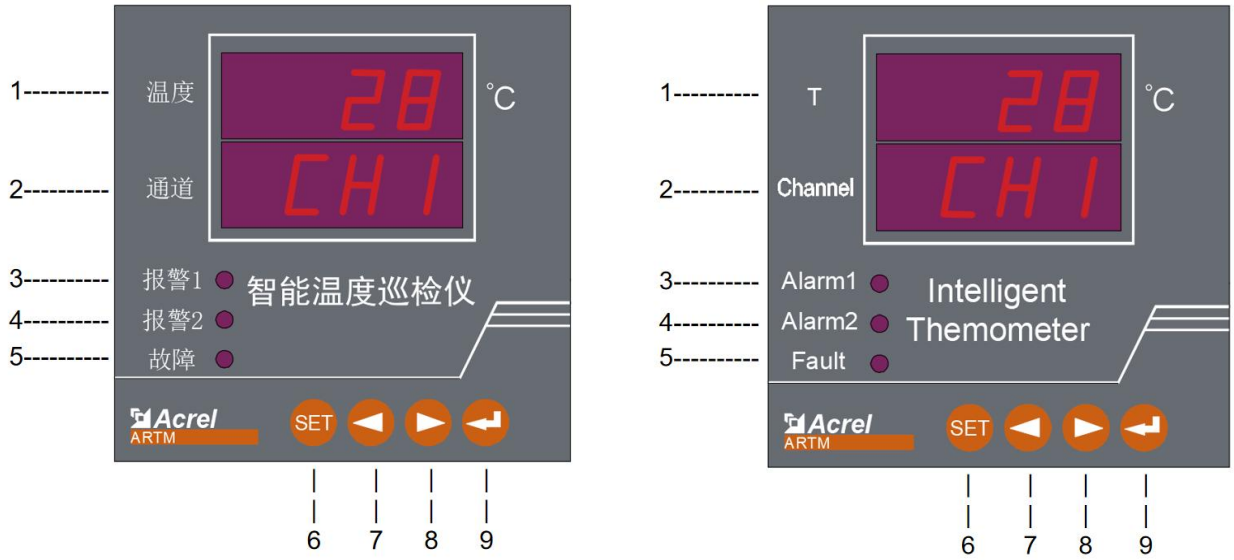
2 Operation Guide

2.1 显示介绍

2.1 Display Introduction

- ARTM-8 的面板图示
- Panel diagram of ARTM-8

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编号 Number	名称 Name	状态示例 Example of Status	说明 Explain
1	温度 Temp(T)	28	显示当前通道测得的温度值，单位℃，4 位数码管，分辨率 0.1 Display the temperature value measured in the current channel, unit: ℃, 4-digit digital display, resolution: 0.1
2	通道 Channel	CH1	当前显示的测量通道 The currently displayed measurement channel
3	报警 1 Alarm1	指示灯点亮 The indicator light is on	DO 1 触发 DO 1 triggered
4	报警 2 Alarm2	指示灯点亮 The indicator light is on	DO 2 触发 DO 2 triggered
5	故障 Fault	指示灯亮 The indicator light is on	故障触发，传感器接线异常 Fault triggered, abnormal sensor wiring
6	SET	按键按下 Press the button	选择操作功能或返回上一级菜单 Select the operation function or return to the previous menu
7	◄	按键按下 Press the button	查看数据或数字量增减 View changes in data or numerical quantities
8	►	按键按下 Press the button	查看数据或数字量增减 View changes in data or numerical quantities
9	↵	按键按下 Press the button	确定功能或进入下一级菜单 Confirm the function or enter the next level menu

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2.2 系统上电

2.2 System Power On

依照说明正确接线后，接通工作电源即进入测量状态。

After correctly wiring according to the instructions, connect the working power supply to enter the measurement state.

2.3 系统设置模式

2.3 System Setting Mode

2.3.1 进入/退出系统设置模式

2.3.1 Enter/Exit System Settings Mode

在正常情况下，仪表处于正常工作状态，此时按下 SET 键大于 3 秒，会进入系统设置模式，进入系统设置模式前，首先需要输入正确的密码（出厂时一般设置为 0008）。

Under normal circumstances, the instrument is in normal working condition. Pressing the SET button for more than 3 seconds will enter the system settings mode. Before entering the system settings mode, the correct password (usually set to 0008 at the factory) needs to be entered first.

进入系统设置模式的具体操作如下：

The specific operation to enter the system settings mode is as follows:

(1)按住 SET 键，直至画面显示“**Prog**”，再单击回车键，显示“**code**”，提示要输入密码，再单击回车键出现“**0000**”，按左右方向键减小或增大数值大小至正确的密码；

(1)Press and hold the SET key until the screen displays "**Prog**", then click the Enter key to display "**code**" and prompt for password input. Click the Enter key again to display "**0000**", and press the left and right arrow keys to decrease or increase the value size to the correct password;

(2)密码正确，则画面显示“**PASS**”，单击回车即进入系统设置的最高一层菜单；否则显示“**Err**”（error），单击回车返回正常模式。

(2)If the password is correct, the screen will display "PASS". Click enter to enter the highest level menu of the system settings; Otherwise, display 'Err' (error), click enter to return to normal mode.

系统设置包括报警点设置（菜单“**SET**”），回滞量及报警延时设置（菜单“**HyS**”），显示模式设置（菜单“**DISP**”），通讯设置（菜单“**BUS**”），设置新密码（菜单“**n.cod**”），查看软件版本号（菜单“**UErn**”）。

The system settings include alarm point settings (menu "**SET**"), hysteresis and alarm delay settings (menu "**HyS**"), display mode settings (menu "**DISP**"), communication settings (menu "**BUS**"), setting a new password (menu "**n.cod**"), and checking the software version number (menu "**UErn**").

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2.3.2 系统设置模式下的操作
2.3.2 Operation in System Setting Mode

进入系统设置模式后，选择菜单状态进入。

After entering the system settings mode, select the menu status to enter.

(1)“**SET**”状态设置

(1) "**SET**" status setting

密码设置成功，进入系统设置模式以后，按左或右方向键直到显示“**SET**”，回车确认后显示“**CH1**”，再次回车后显示“**ON**”或“**OFF**”，可按左或右方向键选择。选择“**OFF**”，回车，即屏蔽通道 1 的温度测量和监控，画面返回“**CH1**”；选择“**ON**”，回车，即打开通道 1 的温度测量和监控，并显示“**AL1**”，即通道 1 的报警点 1 的设定，回车进入显示“**HI**”或“**LO**”，首先按左或右键选择设定报警点 1 的报警趋势，“**HI**”表示高越限报警，“**LO**”表示低越限报警，回车确认后设定具体数值，按左右方向键减小或增大数值大小，达到要求后回车确定，系统返回“**AL1**”。

Password setting successful. After entering the system settings mode, press the left or right arrow keys until "**SET**" is displayed. Enter to confirm and display "**CH1**". Press Enter again and display "**ON**" or "**OFF**". You can press the left or right arrow keys to select. Select "**OFF**" and press enter to block the temperature measurement and monitoring of channel 1, and the screen will return to "**CH1**"; Select "**ON**", press Enter to open the temperature measurement and monitoring of channel 1, and display "**AL1**", which is the setting of alarm point 1 for channel 1. Press Enter to enter the display of "**HI**" or "**LO**". First, press the left or right key to select the alarm trend for setting alarm point 1. "**HI**" represents high limit alarm, "**LO**" represents low limit alarm. Press Enter to confirm and set the specific value. Press the left and right directional keys to decrease or increase the value size. After meeting the requirements, press Enter to confirm, and the system returns to "**AL1**".

在“**AL1**”状态下按左或右键选择“**AL2**”，即通道 1 的报警点 2 的设定，设定方法与“**AL1**”完全相同。

Press the left or right button in the "**AL1**" state to select "**AL2**", which is the setting of alarm point 2 for channel 1. The setting method is exactly the same as "**AL1**".

在“**AL1**”或“**AL2**”状态下，按“**SET**”键返回“**CH1**”，此时再按左或右键选择可进入其他通道的设置，设置方法与通道 1 完全相同。

In the "**AL1**" or "**AL2**" state, press the "**SET**" key to return to "**CH1**", and then press the left or right button to select to enter the settings of other channels. The setting method is exactly the same as that of channel 1.

在“**CH1**”、“**CH2**”、“**CH3**”等状态下按“**SET**”键返回最高一层菜单“**SET**”。

Press the "SET" key in states such as "**CH1**", "**CH2**", "**CH3**" to return to the highest level menu "**SET**".

(2)“**HyS**”状态设置

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(2) "**HyS**" status setting

进入系统设置模式以后，按左或右方向键直到显示“**HyS**”，即设置报警的回滞量和报警延时。按回车键进入,选择“**HyS1**”设定所有通道报警 1 的回滞量；选择“**HyS2**”设定所有通道报警 2 的回滞量，选择“**DEL**”设定报警延时时间。**报警延时设定的范围是 1～10，而单位并非秒，假定现设定报警延时值为 4，即连续“4”次测得某一通道的温度处于报警位置，才触发报警。**

After entering the system settings mode, press the left or right arrow keys until "**HyS**" is displayed, which sets the hysteresis and alarm delay for the alarm. Press the enter key to enter, select "**HyS1**" to set the hysteresis of all channel alarms 1; Select "**HyS2**" to set the hysteresis of all channel alarms 2, and select "**DEL**" to set the alarm delay time. **The range of alarm delay setting is 1-10, and the unit is not seconds. Assuming that the alarm delay value is set to 4, that is, the temperature of a certain channel is measured continuously for "4" times to be in the alarm position before triggering the alarm.**

(3)“**DISP**”状态设置

(3) "**DISP** "status setting

进入系统设置模式以后，按左或右方向键直到显示“**DISP**”，按回车键进入“**cyc**”状态，即设置循环显示各通道温度值的间隔时间，回车进入数值设置，设置范围 0～20，其中 0 表示正常模式下静态显示某一通道的温度值，其余数值即正常模式下循环显示的间隔时间（单位：秒）。回车确认后返回“**DISP**”状态。

After entering the system settings mode, press the left or right arrow keys until "**DISP**" is displayed, press the enter key to enter the "**cyc**" state, which sets the interval time for cyclically displaying the temperature values of each channel. Enter to enter the numerical settings, with a range of 0-20, where 0 represents the static display of the temperature value of a certain channel in normal mode, and the remaining values are the interval time (unit: seconds) for cyclically displaying in normal mode. Return to the "**DISP**" state after confirming with the press.

设定静态显示，在正常模式下按住左或右键不放，可快速切换到需要的通道温度显示，并保持。

Set static display, hold down the left or right button in normal mode to quickly switch to the desired channel temperature display and maintain it.

设定循环显示，在正常模式下按住右键不放，可加快循环显示速度。

Set the loop display and hold down the right button in normal mode to speed up the loop display.

(4)“**BUS**”状态设置

(4) "**BUS** "status setting

进入系统设置模式以后，按左或右方向键直到显示“**BUS**”，即通讯设定，回车确认后显示“**Addr**”状态，再次回车后就可以设置地址的值，通过左或右方向键改变地址值，按回车确认后返回“**Addr**”状态，按左或右

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方向键选择“**Baud**”状态，回车进入后通过左或右方向键选择合适的波特率，按回车键确认退出。

After entering the system settings mode, press the left or right arrow keys until "**BUS**" is displayed, which is the communication setting. Press Enter to confirm and display the "**Addr**" status. Press Enter again to set the address value. Use the left or right arrow keys to change the address value. Press Enter to confirm and return to the "**Addr**" status. Press the left or right arrow keys to select the "**Baud**" status. Press Enter to enter and select the appropriate baud rate using the left or right arrow keys. Press Enter to confirm and exit.

显示状态 Display status	解释 Explain	可设定范围 Customizable range
Addr	通讯地址 Postal address	0001～0247
Baud	通讯波特率 Baud rate	1200、2400、4800、9600、19200

(5) “**n.cod**”状态设置

(5) "**n.cod**"status setting

进入系统设置模式以后，按左或右方向键直到显示“**n.cod**”，即设置新的系统密码，按回车进入后，按左或右键输入合适的新密码后，按回车确认。

After entering the system settings mode, press the left or right arrow keys until "**n.cod**" is displayed, which sets the new system password. Press Enter to enter, press the left or right arrow keys to enter the appropriate new password, and press Enter to confirm.

(6)“**UErn**”状态设置

(6) "**UErn**"status setting

进入系统设置模式以后，按左或右方向键直到显示“**UErn**”，即查看产品软件版本号，按回车后进入查看状态。

After entering the system settings mode, press the left or right arrow keys until "**UErn**" is displayed to view the product software version number. Press Enter to enter the viewing mode.

2.3.3 保存设置选择

2.3.3 Save Settings Selection

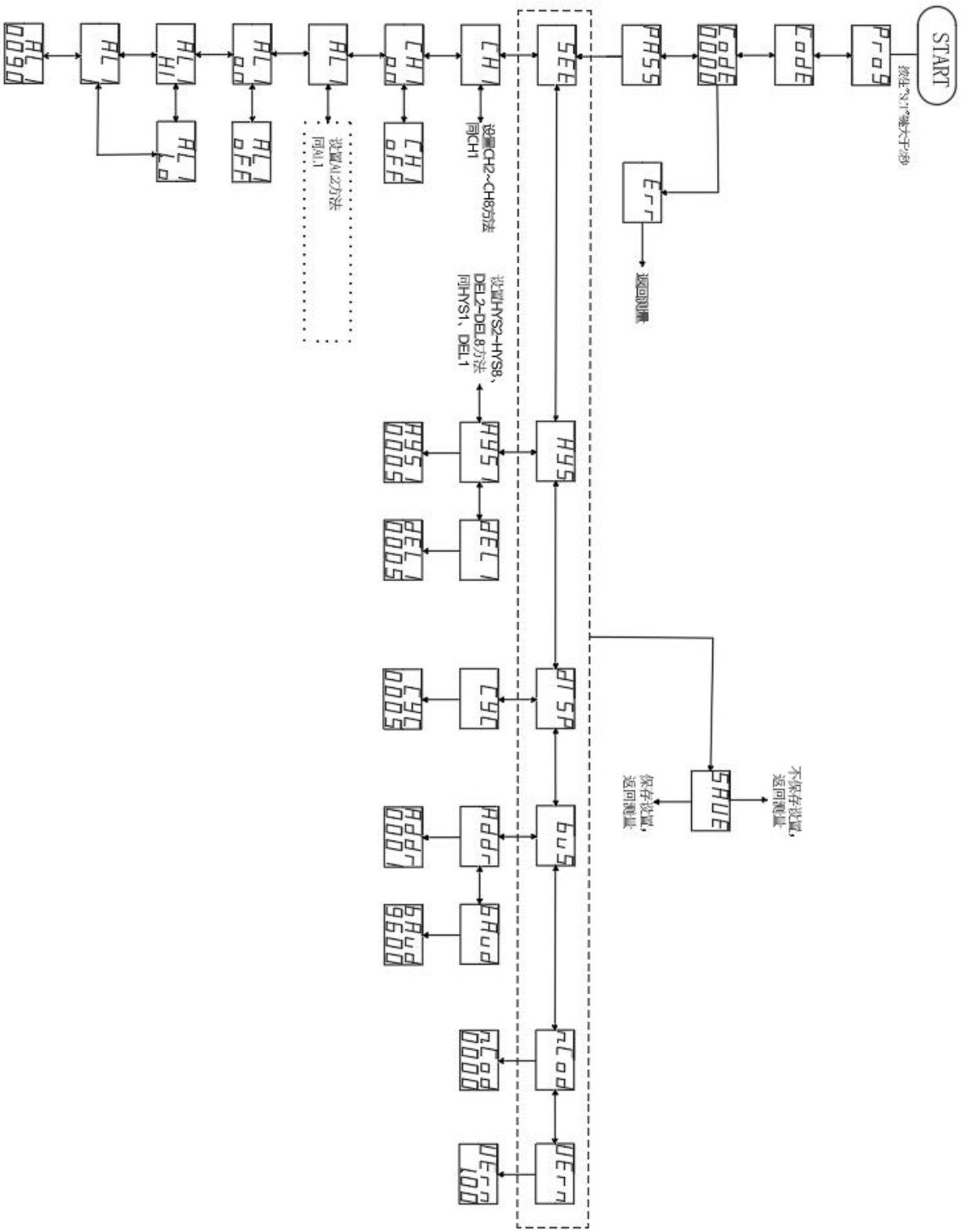
全部参数设置完成后，在上述六个状态中的任意一个状态下按**“SET”**键，进入“**SAUE**”状态，即保存数据。此时，按回车键保存设置的内容，按“**SET”**键直接退出系统设置模式，不保存所设置的内容，返回正常模式后按原有参数运行。

After all parameter settings are completed, press the "**SET**" key in any of the six states mentioned above to enter the "**SAUE**" state, which saves data. At this point, press the enter key to save the settings, press the "**SET**" key to exit the system settings mode directly, do not save the settings, return to normal mode and run according to the original

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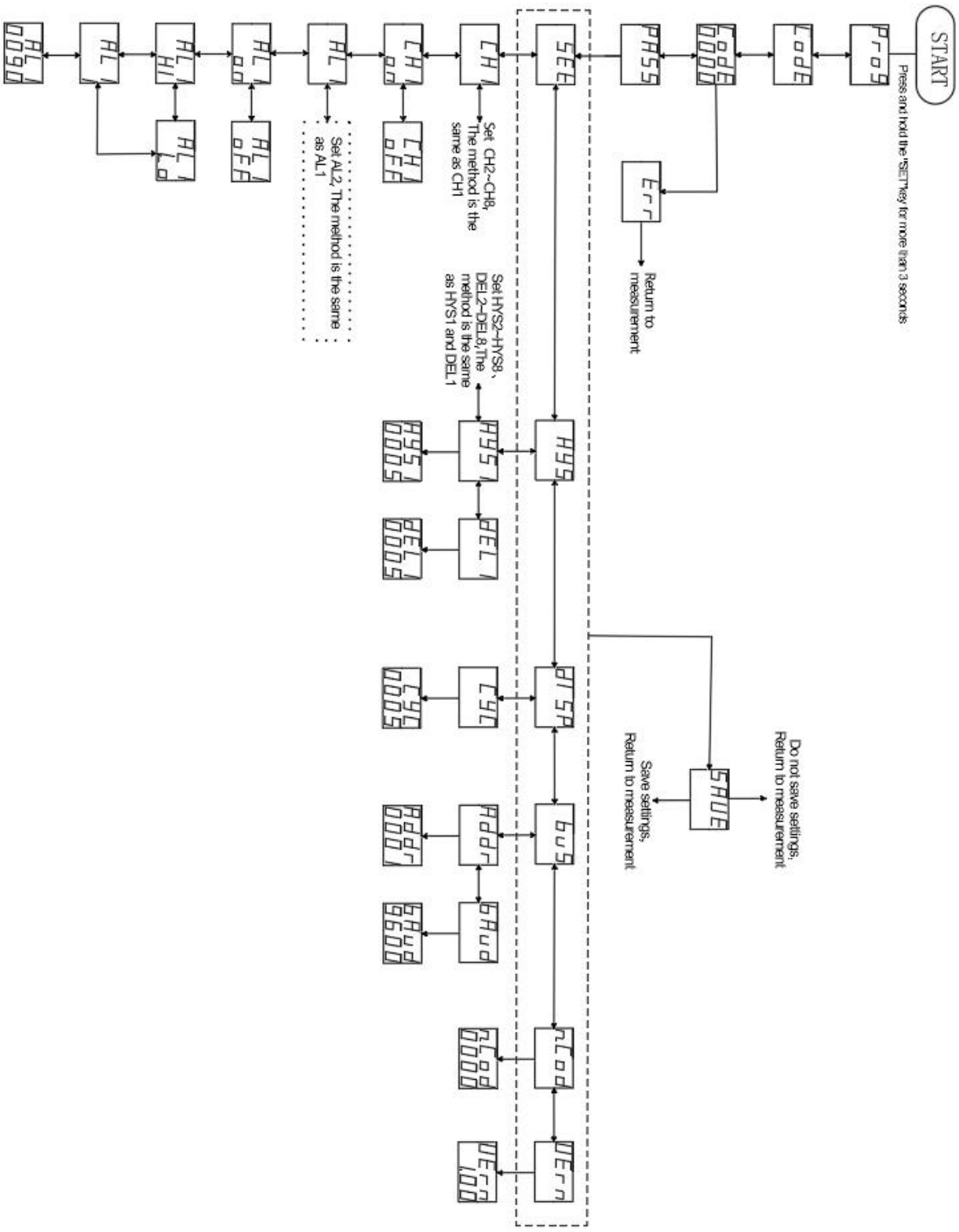
parameters.

2.3.4 用户编程流程图



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2.3.4 User Programming Flowchart



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3 通讯指南

3 Communication Guide

在本章主要讲述如何利用软件通过通讯口来操控 ARTM-8 温度巡检仪。本章内容的掌握需要您具有 MODBUS 协议的知识储备并且通读了本册其他章节所有内容，对本产品功能和应用概念有较全面的了解。本章内容包括：通讯应用格式详解，本机的参量地址表。

This chapter mainly discusses how to use software to control the ARTM-8 temperature inspection instrument through the communication port. To master the content of this chapter, you need to have a knowledge reserve of MODBUS protocol and have read all the contents of other chapters in this book, so as to have a comprehensive understanding of the functions and application concepts of this product. This chapter includes a detailed explanation of communication application formats and a parameter address table for the local device.

3.1 通讯格式详解

3.1Communication Examples

本节所举实例将尽可能的使用如下表所示的格式，数据为十六进制。

The examples in this section will use the format shown in the following table as much as possible, the number is hexadecimal.

3.1.1 读取数据（功能码 03H/04H）

3.1.1 Read Data (Function code 03H/04H)

此功能允许用户获得设备采集与记录的数据及系统参数。主机一次请求的数据个数没有限制，但不能超出定义的地址范围。

This function allows the user to get the data measured and system parameters recorded by slave. There is no limit of data length for asking data, but it cannot exceed the range of defined address.

例如，主机发送查询数据帧：

For example, master send data frame:

地址 Address	功能码 Fun	起始地址 Start address		寄存器数量 Register Count		CRC16 校验码 CRC16	
		高 Hi	低 Lo	高 Hi	低 Lo	低 Lo	高 Hi
01H	03H	00H	00H	00H	03H	05H	CBH

装置返回响应数据帧：

Slave answer data frame:

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地址 Address	功能码 Fun	字节数 Byte count	数据 1 Data 1		数据 2 Data 2		数据 3 Data 3		CRC16 校验码 CRC16	
			高 Hi	低 Lo	高 Hi	低 Lo	高 Hi	低 Lo	低 Lo	高 Hi
01H	03H	06H	01H	01H	00H	00H	01H	03H	5CH	F5H

3.1.2 预置单个寄存器（功能码 06H）

3.1.2 Preset Single Register (Function code 06H)

此功能码允许用户改变单个寄存器的内容，可通过此功能码将工作参数写入装置。

User can write active parameter into the single register with this function code.

例如，主机发送：

For example, master send data frame:

地址 Address	功能码 Fun	寄存器地址 Start address		预置值 Value		CRC16 校验码 CRC16	
		高 Hi	低 Lo	高 Hi	低 Lo	低 Lo	高 Hi
01H	06H	00H	03H	00H	05H	B9H	C9H

装置返回响应数据帧：

Slave answer data frame:

地址 Address	功能码 Fun	寄存器地址 Start address		预置值 Value		CRC16 校验码 CRC16	
		高 Hi	低 Lo	高 Hi	低 Lo	低 Lo	高 Hi
01H	06H	00H	03H	00H	05H	B9H	C9H

3.1.3 预置多个寄存器（功能码 10H）

3.1.3 Preset Multi Register (Function code 10H)

此功能码允许用户改变多个寄存器的内容，可通过此功能码将工作参数写入装置。

User can write active parameter into the multi registers with this function code.

例如，主机发送：

For example, master send data frame:

地址 Address	功能码 Fun	寄存器地址 Start address		寄存器数量 Register Count		字节数 Byte Count	预置值 1 Value 1		预置值 2 Value 2		CRC16 校验码 CRC16	
		高 Hi	低 Lo	高 Hi	低 Lo		高 Hi	低 Lo	高 Hi	低 Lo	低 Lo	高 Hi
01H	10H	00H	03H	00H	02H	04H	00H	01H	00H	01H	23H	BAH

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装置返回响应数据帧：

Slave answer data frame:

地址 Address	功能码 Fun	起始地址 Start address		寄存器数量 Register Count		CRC16 校验码 CRC16	
		高字节 Hi	低字节 Lo	高字节 Hi	低字节 Lo	低字节 Lo	高字节 Hi
01H	10H	00H	03H	00H	02H	B1H	C8H

3.3 参量地址表

3.3 Parameter Address Table

地址 Address	参数 Parameter	属性[1] Attribute[1]	数值范围 Numerical range	数据类型 Data type
0000H 高字节 High byte	仪表型号 Instrument model	R	1：ARTM8；2：ARTM16	word
0000H 低字节 Low byte	传感器类型 Sensor type	R/W	1：PT100	word
0001H	保护密码 Password	R/W	0000～9999	word
0002H 高字节 High byte	通讯地址 Postal address	R/W	0001～0247	word
0002H 低字节 Low byte	通讯波特率 Baud rate	R/W	0-4：1200、2400、4800、9600、19200	word
0003H	显示控制字 Display control words	R/W	0～20，0 表示静态显示 ，其余表示循环显示的间隔时间 0~20, 0 represents static display, and the rest represents the interval time of cyclic display	word
0004H	1~8 通道投退 1~8 channels for switching on and off	R/W	每一位分别对应一个通道的状态： 0— 退出，1—投入 Each one corresponds to the status of a channel:	word

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			0-Exit, 1-Investment	
0005H	1~8 通道传感器状态 1~8 channel sensor status	R	每一位分别对应一个通道传感器的状态： 0-正常，1-错误 Each position corresponds to the status of a channel sensor: 0-normal, 1-error	word
0006H	通道 1 温度测量值 Temperature measurement value of channel 1	R	PT100：-200 - 600(×10)[2]； PT1000：-200 - 600(×10)[2]。	word
0007H	通道 2 温度测量值 Temperature measurement value of channel 2	R	PT100：-200 - 600(×10)[2]； PT1000：-200 - 600(×10)[2]。	word
0008H	通道 3 温度测量值 Temperature measurement value of channel 3	R	PT100：-200 - 600(×10)[2]； PT1000：-200 - 600(×10)[2]。	word
0009H	通道 4 温度测量值 Temperature measurement value of channel 4	R	PT100：-200 - 600(×10)[2]； PT1000：-200 - 600(×10)[2]。	word
000AH	通道 5 温度测量值 Temperature measurement value of channel 5	R	PT100：-200 - 600(×10)[2]； PT1000：-200 - 600(×10)[2]。	word
000BH	通道 6 温度测量值 Temperature measurement value of channel 6	R	PT100：-200 - 600(×10)[2]； PT1000：-200 - 600(×10)[2]。	word
000CH	通道 7 温度测量值 Temperature measurement value of channel 7	R	PT100：-200 - 600(×10)[2]； PT1000：-200 - 600(×10)[2]。	word
000DH	通道 8 温度测量值 Temperature measurement value of channel 8	R	PT100：-200 - 600(×10)[2]； PT1000：-200 - 600(×10)[2]。	word
000EH~ 0015H	预留 Reserved	——	——	word
0016H	1~8 通道 AL1 报警模式 Channel 1~8 AL1 alarm mode	R/W	0-退出，1-高温，2-低温 0-Exit, 1-High Temperature, 2-Low Temperature	word

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0017H	1~8 通道 AL2 报警模式 Channel 1~8 AL2 alarm mode	R/W	0-退出，1-高温，2-低温 0-Exit, 1-High Temperature, 2-Low Temperature	word
0018H	通道 1-AL1 告警定值 Channel 1-AL1 alarm setting	R/W	范围：-200 ~ 600(×10)[2] Range: -200~600(×10)[2]	word
0019H	通道 1-AL2 告警定值 Channel 1-AL2 alarm setting	R/W	范围：-200 ~ 600(×10)[2] Range: -200~600(×10)[2]	word
001AH	通道 2-AL1 告警定值 Channel 2-AL1 alarm setting	R/W	范围：-200 ~ 600(×10)[2] Range: -200~600(×10)[2]	word
001BH	通道 2-AL2 告警定值 Channel 2-AL2 alarm setting	R/W	范围：-200 ~ 600(×10)[2] Range: -200~600(×10)[2]	word
001CH	通道 3-AL1 告警定值 Channel 3-AL1 alarm setting	R/W	范围：-200 ~ 600(×10)[2] Range: -200~600(×10)[2]	word
001DH	通道 3-AL2 告警定值 Channel 3-AL2 alarm setting	R/W	范围：-200 ~ 600(×10)[2] Range: -200~600(×10)[2]	word
001EH	通道 4-AL1 告警定值 Channel 4-AL1 alarm setting	R/W	范围：-200 ~ 600(×10)[2] Range: -200~600(×10)[2]	word
001FH	通道 4-AL2 告警定值 Channel 4-AL2 alarm setting	R/W	范围：-200 ~ 600(×10)[2] Range: -200~600(×10)[2]	word
0020H	通道 5-AL1 告警定值 Channel 5-AL1 alarm setting	R/W	范围：-200 ~ 600(×10)[2] Range: -200~600(×10)[2]	word
0021H	通道 5-AL2 告警定值 Channel 5-AL2 alarm setting	R/W	范围：-200 ~ 600(×10)[2] Range: -200~600(×10)[2]	word
0022H	通道 6-AL1 告警定值 Channel 6-AL1 alarm setting	R/W	范围：-200 ~ 600(×10)[2] Range: -200~600(×10)[2]	word

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0023H	通道 6-AL2 告警定值 Channel 6-AL2 alarm setting	R/W	范围：-200 ~ 600(×10)[2] Range: -200~600(×10)[2]	word
0024H	通道 7-AL1 告警定值 Channel 7-AL1 alarm setting	R/W	范围：-200 ~ 600(×10)[2] Range: -200~600(×10)[2]	word
0025H	通道 7-AL2 告警定值 Channel 7-AL2 alarm setting	R/W	范围：-200 ~ 600(×10)[2] Range: -200~600(×10)[2]	word
0026H	通道 8-AL1 告警定值 Channel 8-AL1 alarm setting	R/W	范围：-200 ~ 600(×10)[2] Range: -200~600(×10)[2]	word
0027H	通道 8-AL2 告警定值 Channel 8-AL2 alarm setting	R/W	范围：-200 ~ 600(×10)[2] Range: -200~600(×10)[2]	word
0028H~ 0037H	预留 Reserved	——	——	word
0038H	AL1 的报警回滞量 Alarm hysteresis of AL1	R/W	0～100	word
0039H	AL2 的报警回滞量 Alarm hysteresis of AL2	R/W	0～100	word
003AH	告警延时次数 Alarm delay times	R/W	0～10，延时时间单位为完成对所有开启的通道循环测量一次的周期 0～10, the delay time unit is the cycle of measuring all open channels once in a loop	word
003BH～ 003FH	预留 Reserved	——	——	word
0040H	1~8 通道 AL1 告警触发状态 Channel 1~8 AL1 alarm triggered status	R	每一位分别对应一个通道 AL1 的是否触发：0-未告警，1-告警 Each bit corresponds to whether channel AL1 is triggered: 0- No alarm, 1- Alarm	word
0041H	1~8 通道 AL2 告警触发状态 Channel 1~8 AL2 alarm triggered status	R	每一位分别对应一个通道 AL2 的是否触发：0-未告警，1-告警 Each bit corresponds to whether channel AL2 is triggered: 0- No alarm, 1- Alarm	word

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注：[1]R-只读；W-写；R/W-读/写。[2]装置显示分辨率为 0.1 时，读取实际值应该乘以括号中的相应倍数后上传，写入时应该乘以括号中的倍数后写入。

Note: [1] R-read; W-write； R/W-read/write. [2] When the display resolution of the device is 0.1, the actual value should be multiplied by the corresponding multiple in parentheses before reading, and when writing, it should be multiplied by the multiple in parentheses before writing.

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