

# AWT200 智能 DTU

## AWT200 Intelligent DTU

安装使用说明书 V1.0

Installation & Operation Manual V1.0

# 申 明

版权所有，未经本公司之书面许可，此手册中任何段落，章节内容均不得被摘抄、拷贝或以任何形式复制、传播，否则一切后果由违者自负。

本公司保留一切法律权利。

## Declaration

All rights reserved. Without the written permission of the Company, no paragraph or section in this manual shall be reproduced, copied or transmitted in any form, otherwise all consequences shall be borne by the violator.

The company reserves all legal right

本公司保留对手册所描述之产品规格进行修改的权利，恕不另行通知。订货前，请垂询当地代理商以获悉本产品的新规格。

The Company reserves the right to modify the product specifications described in the manual without prior notice. Before placing an order, please contact your local agent for the new specifications of this product.

目录

|    |             |   |
|----|-------------|---|
| 一、 | 概述 .....    | 1 |
| 二、 | 产品型号 .....  | 1 |
| 三、 | 功能特点 .....  | 1 |
| 四、 | 典型应用 .....  | 2 |
| 五、 | 技术参数 .....  | 4 |
| 六、 | 安装与接线 ..... | 5 |
| 七、 | 面板灯定义 ..... | 6 |
| 八、 | 用户配置 .....  | 7 |

Catolog

|    |                               |   |
|----|-------------------------------|---|
| 1. | Overview .....                | 1 |
| 2. | Product Model .....           | 1 |
| 3. | Function Features .....       | 1 |
| 4. | Typical Application .....     | 2 |
| 5. | Technical Parameter .....     | 4 |
| 6. | Installation and Wiring ..... | 5 |
| 7. | Panel Light Definition .....  | 6 |
| 8. | User Configuration .....      | 7 |

## 一、概述

### 1. Overview

AWT200 数据通讯网关应用于各种终端设备的数据采集与数据分析。实现设备的监测、控制、计算，为系统与设备之间建立通讯纽带，实现双向的数据通讯。实时监测并及时发现异常数据，同时自身根据用户规则进行逻辑判断，极大的节省了人力和通讯成本。

AWT200 data communication gateway is used in various terminal equipment data acquisition and data analysis, to realize the monitoring, control and calculation of the equipment, to establish a communication link between the system and the equipment, to achieve two-way data communication. Real-time monitoring and timely discovery of abnormal data, at the same time according to the user rules to make logical judgment, greatly saving manpower and communication costs.

## 二、产品型号

### 2. Product Model

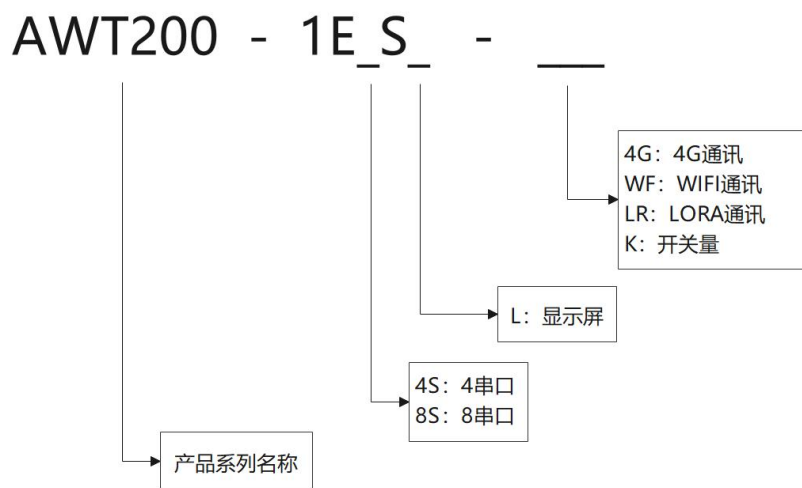


图 1

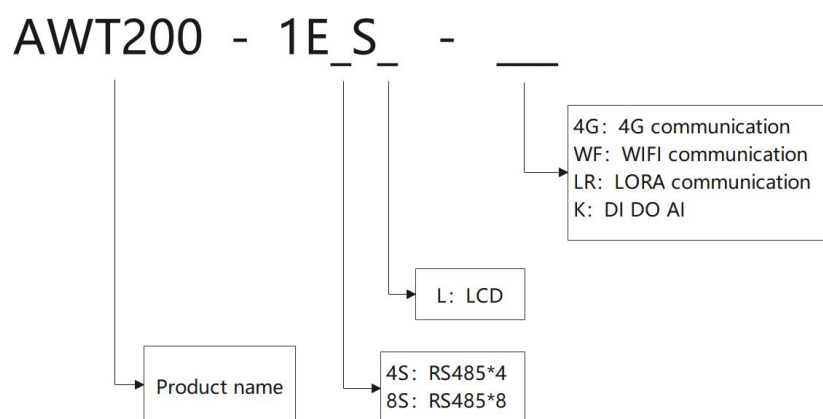


Figure 1

## 三、功能特点

### 3. Function Features

- 1、支持现场免调试，自适应抄表
- 2、最大支持 1 万个点位的集中采集
- 3、大容量存储，支持断点续传

- 4、配套管理工具，方便系统配置与维护
- 5、强大的通讯能力，最多支持 8 路串口、LoRa、以太网、4G、WIFI
- 6、自带开关量和模拟量输入
- 7、1.2 寸点阵显示屏及按键
- 8、支持多种物联网主流通讯协议
- 9、支持数据逻辑运算及处理

- 1) Support on-site debugging free, adaptive meter reading
- 2) The maximum support for centralized collection of 10,000 points
- 3) Large capacity storage, support resumable breakpoint
- 4) Supporting management tools, convenient system configuration and maintenance
- 5) Strong communication ability, up to support 8 serial ports, LoRa, Ethernet, 4G, WIFI
- 6) With switch quantity and analog quantity input
- 7) 1.2 inch dot-matrix display screen and buttons
- 8) Support a variety of mainstream IoT communication protocols
- 9) Support data logical operation and processing

#### 四、典型应用

##### 4. Typical Application

AWT200 主动采集现场终端设备的数据信息，进行解析和分析后通过多种通讯方式上传至本地系统或者云端系统，可实现数据远程无线接入网络。

AWT200 takes the initiative to collect data information of on-site terminal devices, analyzes, then uploads them to the local system or cloud system through various communication methods to realize remote wireless data access to the network.

# Acrel-EIoT能源物联网云平台

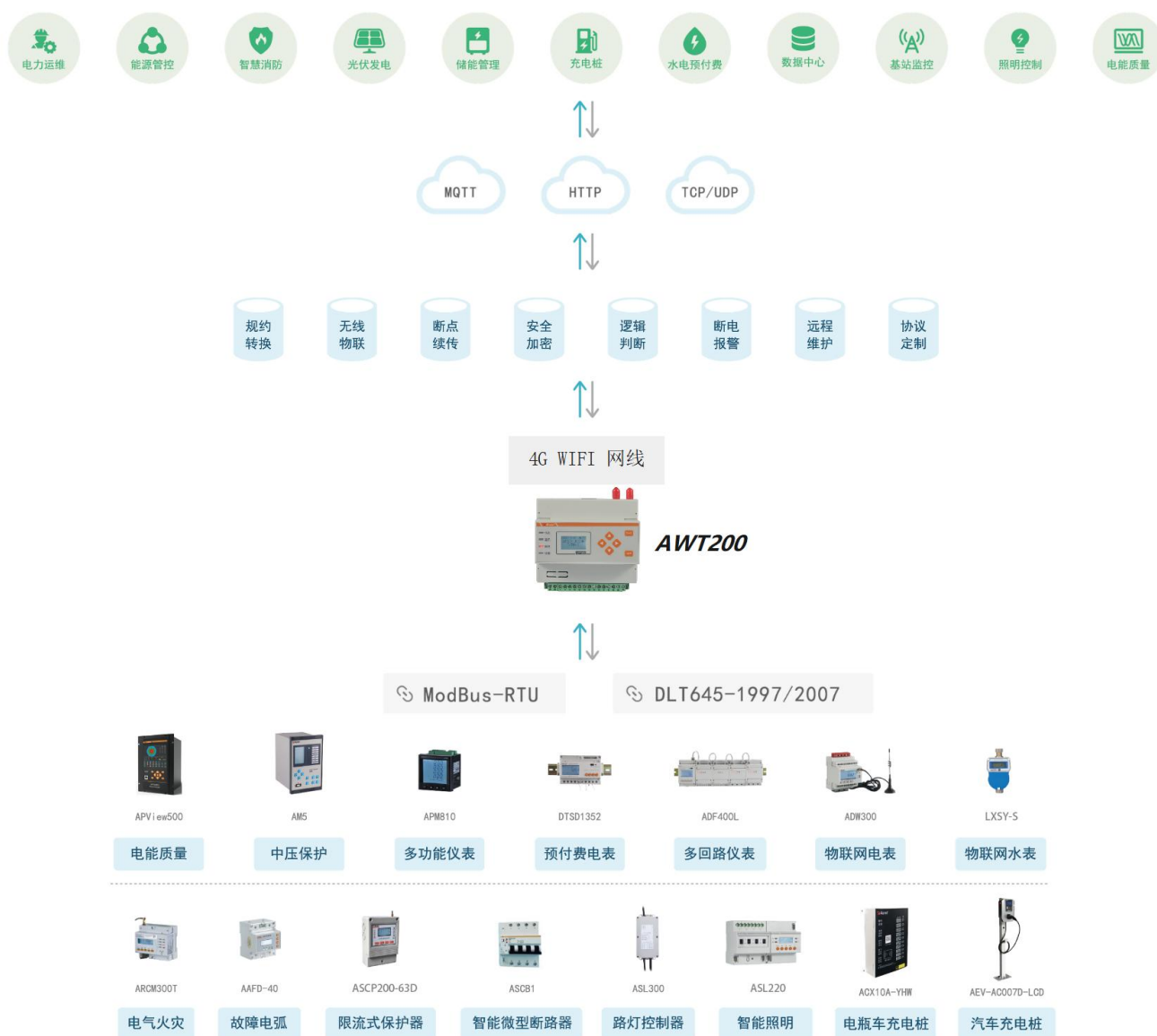


图 2

# Acrel-EIOT Energy IOT Cloud Platform

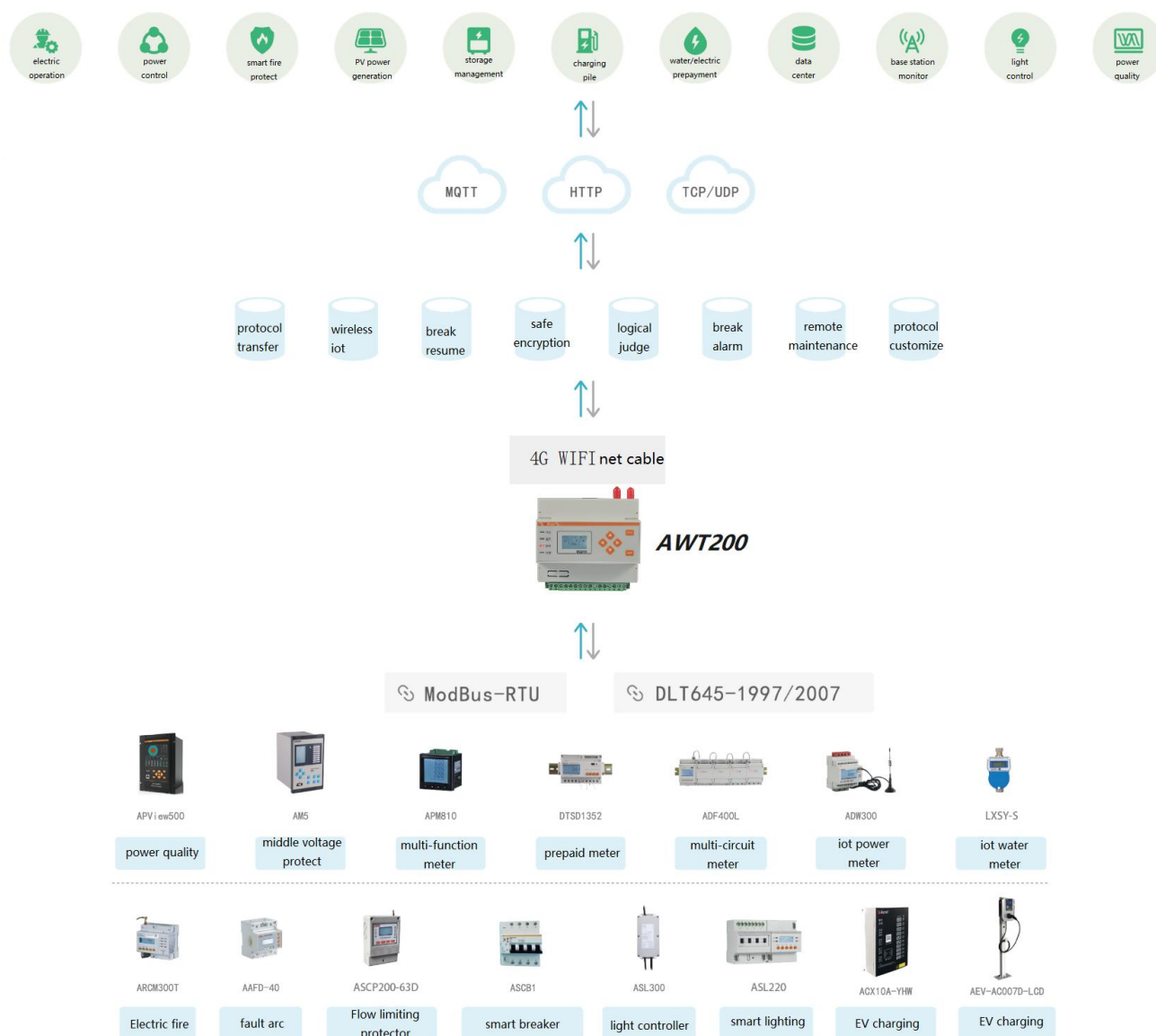


Figure 2

## 五、 技术参数

### 5. Technical Parameter

| 外形 Shape       |                                                                                                        |
|----------------|--------------------------------------------------------------------------------------------------------|
| 接口 Interface   | RS485: 接线端子 AI/DI/DO: 接线端子<br>RS485: wiring terminal AI/DI/DO: wiring terminal                         |
| 尺寸 Size        | 6 模 (108mmX88mmX70mm) 导轨, 阻燃 ABS 材料<br>6-mold (108mmX88mmX70mm) din-rail, flame retardant ABS material |
| 性能 Performance |                                                                                                        |
| 处理器 Processor  | M4 内核<br>M4 Kernel                                                                                     |
| 主频 Frequency   | 168MHZ                                                                                                 |

|                                                                                      |                                                                                         |                    |                     |
|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|--------------------|---------------------|
| 存储 Storage                                                                           | 8G TF 卡<br>8G TF Card                                                                   |                    |                     |
| 通信接口 Communication Interface                                                         |                                                                                         |                    |                     |
| 以太网 Ethernet                                                                         | 10M/100M * 1, 电气隔离 Electrical Isolation                                                 |                    |                     |
| 串口 Serial Port                                                                       | RS485*（4/8）：485A、485B、GND，电气隔离 Electrical Isolation                                     |                    |                     |
| 串口参数 Serial Port Parameter                                                           |                                                                                         |                    |                     |
| 波特率 Baud Rate                                                                        | 1200~115200bps                                                                          | 验位 Check Bit       | 无、奇、偶 None,Odd,Even |
| 数据位 Data Bit                                                                         | 7~8 位 Bits                                                                              | 流控<br>Flow Control | 无流控 No Flow Control |
| 软件 Software                                                                          |                                                                                         |                    |                     |
| IP 方式 IP Mode                                                                        | IPV4、IPV6                                                                               |                    |                     |
| 协议 Protocol                                                                          | TCP、UDP、HTTP、DHCP                                                                       |                    |                     |
| 配置方式<br>Configuration Mode                                                           | Windows 桌面软件、WEB 浏览器、远程调试<br>Windows Desktop Software, WEB Browser, Remote Debugging    |                    |                     |
| 通信方式<br>Communication Mode                                                           | TCP/IP 直接通讯、RS485、LORA<br>TCP/IP direct communication、RS485、LORA                        |                    |                     |
| 通信协议 Protocol                                                                        | Modbus RTU、Modbus TCP、MQTT                                                              |                    |                     |
| 固件升级<br>Firmware upgrade                                                             | Windows 桌面软件、WEB 浏览器、串口升级<br>Windows Desktop Software, WEB Browser, Serial port upgrade |                    |                     |
| 工作模式 Working mode                                                                    |                                                                                         |                    |                     |
| TCP 服务器, TCP 客户端, UDP 服务器, UDP 客户端<br>TCP server, TCP client, UDP server, UDP client |                                                                                         |                    |                     |
| 电源要求 Power Requirements                                                              |                                                                                         |                    |                     |
| 电源 Power Supply                                                                      | DC 12-24V （配电源适配器）（Power Adapter）                                                       |                    |                     |
| 环境要求 Environment                                                                     |                                                                                         |                    |                     |
| 操作温度<br>Operating Temperature                                                        | -20℃~+55℃                                                                               |                    |                     |
| 储存温度 Storage Temperature                                                             | -40℃ ~+85℃                                                                              |                    |                     |
| 湿度范围 Humidity Range                                                                  | <95%RH, 不结露 No Condensation                                                             |                    |                     |

## 六、 安装与接线

### 6. Installation and Wiring

外形尺寸



Dimension and cut-out size

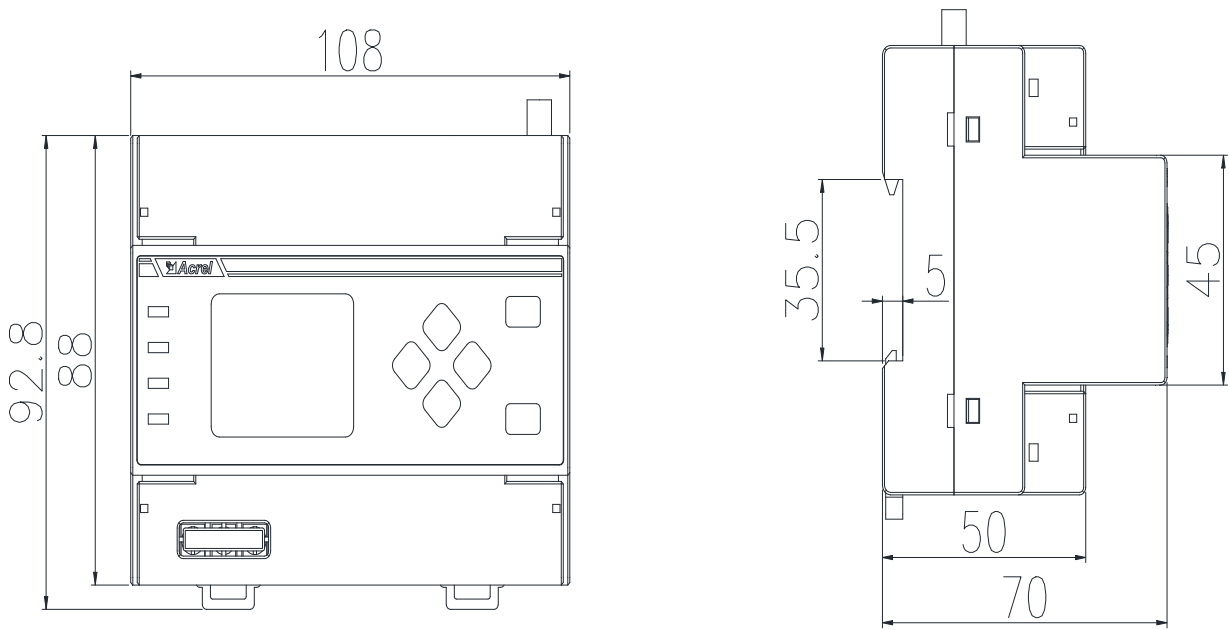


图 3 Figure 3

安装方式

AWT200 数据通讯网关均采用 35mm 标准导轨安装方式。

Installation Method

AWT200 data communication gateway adopts 35mm standard guide rail installation mode.

接线说明 Wiring Instruction

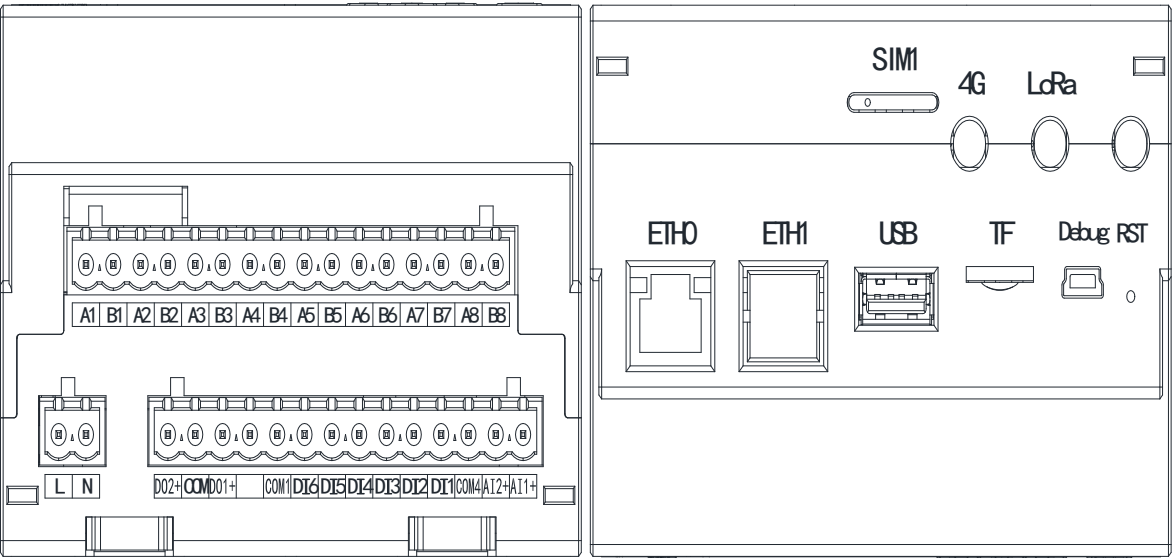


图 4

七、 面板灯定义

7. Panel Light Definition

各状态指示灯均应采用中文字符标注其功能，指示灯颜色及指示状态具体如下：

状态指示灯（绿色）：快闪（工作正常），慢闪或不亮（异常状态）

通讯指示灯（绿色）：闪烁（与终端设备通讯中）

网络指示灯（红色）：常亮（网络连接状态正常），快闪（与平台通讯中），慢闪（连网中）

报警指示灯（红色）：常亮（发生故障），不亮（无故障发生）

The function of each status indicator should be marked with Chinese characters. The details of indicator color and indicator status are as follows:

Status indicator (green) : Blinking at short intervals (working normally), blinking at long intervals or off (abnormal);

Communication indicator (green) : Blinking (communicating with the terminal device);

Network indicator (red):Steady on (the network connection is normal), blinking at short intervals (communicating with the platform), and blinking at long intervals (connecting to the network);

Alarm indicator (red) : steady on (fault occurs), off (no fault occurs)

## 八、 用户配置

### 8. User Configuration

使用配置软件生成配置文件，然后导入到设备中。（详情可参考其他相关配置文档）

新建模板：

Use the configuration software to generate a configuration file and import it to the device. (For details, see other configuration documents.)

Creating a template:

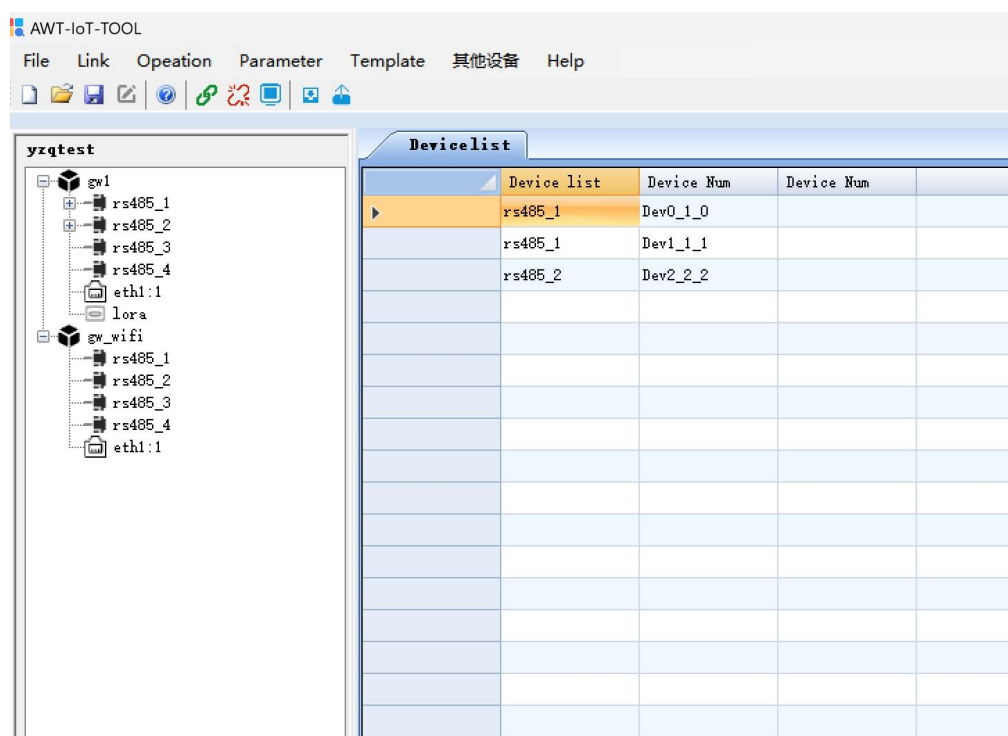


图 5 Figure 5

设备参数采集列表：

Device parameter collection list:

| Devicelist |       |           |      |         |          |          |
|------------|-------|-----------|------|---------|----------|----------|
|            | Group | Data Name | Unit | Reg_add | Reg_type | Endian   |
| 1          | 1     | Ua        | V    | 256     | Float    | H4H3H2H1 |
| 2          | 1     | Ub        | V    | 258     | Float    | H4H3H2H1 |
| 3          | 1     | Uc        | V    | 260     | Float    | H4H3H2H1 |
| 4          | 1     | Uab       | V    | 262     | Float    | H4H3H2H1 |
| 5          | 1     | Ubc       | V    | 264     | Float    | H4H3H2H1 |
| 6          | 1     | Uca       | V    | 266     | Float    | H4H3H2H1 |
| 7          | 1     | Fr        | Hz   | 268     | Float    | H4H3H2H1 |
| 8          | 1     | Ia        | A    | 270     | Float    | H4H3H2H1 |
| 9          | 1     | Ib        | A    | 272     | Float    | H4H3H2H1 |
| 10         | 1     | Ic        | A    | 274     | Float    | H4H3H2H1 |
| 11         | 1     | IN        | A    | 276     | Float    | H4H3H2H1 |
| 12         | 1     | Pa        | kw   | 278     | Float    | H4H3H2H1 |
| 13         | 1     | Pb        | kw   | 280     | Float    | H4H3H2H1 |
| 14         | 1     | Pc        | kw   | 282     | Float    | H4H3H2H1 |
| 15         | 1     | P         | kw   | 284     | Float    | H4H3H2H1 |
| 16         | 1     | Qa        | kvar | 286     | Float    | H4H3H2H1 |
| 17         | 1     | Qb        | kvar | 288     | Float    | H4H3H2H1 |
| 18         | 1     | Qc        | kvar | 290     | Float    | H4H3H2H1 |
| 19         | 1     | Q         | kvar | 292     | Float    | H4H3H2H1 |
| 20         | 1     | PFa       |      | 302     | Float    | H4H3H2H1 |
| 21         | 1     | PFb       |      | 304     | Float    | H4H3H2H1 |
| 22         | 1     | PFc       |      | 306     | Float    | H4H3H2H1 |
| 23         | 1     | PF        |      | 308     | Float    | H4H3H2H1 |
| 24         | 1     | EPI       |      | 316     | Float    | H4H3H2H1 |
| 25         | 1     | EPE       |      | 324     | Float    | H4H3H2H1 |
| 26         | 1     | EQL       |      | 332     | Float    | H4H3H2H1 |

图 6 Figure 6

说明书修订记录

Specification revision record

| 日期 DATE     | 旧版本 OLD | 新版本 NEW | 修改内容 Modified Content         |
|-------------|---------|---------|-------------------------------|
| 2023. 3. 13 |         | V1.0    | 1、第一次修订 1. The first revision |
|             |         |         |                               |

Headquarters:AcrelCo.,LTD.

Address:No.253YulvRoadJiadingDistrict,Shanghai, China

TEL.:+8617821101655

Web-site:[www.acrel-group.com](http://www.acrel-group.com)

E-mail:[Lynn@acrel-electric.com](mailto:Lynn@acrel-electric.com)

Postcode:201801