Sonew RTU5027

Sonew RTU5027 GSM 3G/4G LTE Power Outage Alarm System User Manual

Model: RTU5027

1. Introduction

The Sonew RTU5027 is a GSM 3G/4G LTE power outage alarm system designed for monitoring power status, voltage, and temperature. This device provides wireless circuit status monitoring and sends alerts via SMS or calls to authorized phone numbers. It is suitable for a wide range of applications where continuous power and environmental monitoring are critical.
Key features include:

- Sends SMS alerts for AC power on/off status.
- Monitors current status (temperature and voltage) via SMS.
- Integrated MCU for 0-36 VDC measurement, eliminating the need for additional sensors.
- Supports up to 10 authorized phone numbers for alerts and remote control.
- Remote reading of historical data via SMS.
- Built-in battery provides up to 8 hours of backup power.
- Remote reset capability via SMS.

2. Package Contents

Please verify that all items are present in your package:

- 1 x Sonew RTU5027 GSM Monitoring Alarm
- 1 x Antenna
- 1 x Power Adapter (EU Plug)
- 1 x User Manual

3. Setup

3.1 SIM Card Installation

The RTU5027 requires a 3V SIM card for GSM communication. Follow these steps to install the SIM card:

1. Ensure the device is powered off and disconnected from any power source.
2. Locate the SIM card slot on the device.
3. **Important:** Before inserting, ensure the SIM card's PIN protection is disabled. This can typically be done by inserting the SIM card into a mobile phone and disabling the PIN request through the phone's settings. The device will not function if the SIM card requires a PIN.
4. Carefully insert the SIM card into the slot until it clicks into place.

3.2 Antenna Connection

Connect the provided antenna to the 'ANT' port on the device. Ensure it is securely fastened to optimize signal reception.

Image: The Sonew RTU5027 device shown with its antenna connected, illustrating the setup for analog acquisition and power outage alarm functionality.

3.3 Power Connection

Connect the power adapter to the device's power input and then plug it into a 100-240V AC power outlet. The device supports 9-36V DC input.

Image: A person is shown connecting wires to the Sonew RTU5027 device, which is mounted near an electrical panel, demonstrating the power connection process.

3.4 Initial Configuration

The RTU5027 is primarily configured via SMS commands. Refer to the detailed SMS command list in the included manual for specific instructions on setting authorized numbers, alarm thresholds, and reporting intervals. An application for configuration is not currently available.

4. Operating Instructions

4.1 Adding Authorized Numbers

To receive alerts and control the device, you must add authorized phone numbers. Up to 10 numbers can be authorized; 5 can receive calls/SMS, and 5 can generate alerts for calls/SMS. Use specific SMS commands to add or remove numbers.

4.2 Power Outage Monitoring

The device monitors the external power supply. When AC power status changes (on/off), it sends a text message to the authorized phone numbers. The built-in battery ensures continued operation and alerts during power outages.

4.3 Status Monitoring (Temperature and Voltage)

You can request the current status of the device, including temperature and voltage readings, by sending an SMS command. The device will respond with a short message containing this information. The integrated MCU measures DC voltage from 0 to 36V.

4.4 Scheduled Status Reports

Configure the device to send automatic status reports to authorized numbers at regular, user-defined intervals. This provides proactive monitoring without manual requests.

4.5 Remote Control and Reset

The device can be controlled remotely via SMS commands. This includes the ability to remotely reset the device. It can also reject calls from unauthorized numbers, and users can choose the device's number based on the authorized number list.

Image: The Sonew RTU5027 device is depicted alongside various application environments such as offices, classrooms, homes, farms, and industrial facilities, highlighting its versatility in monitoring power and status.

5. Maintenance

5.1 Battery Care

The device includes a built-in 3.7V/900mAh battery, providing approximately 8 hours of operation during a power outage. To ensure optimal battery life, avoid prolonged storage in extreme temperatures and ensure the device is regularly connected to main power for charging.

5.2 Firmware Updates

Periodically check the manufacturer's website or contact support for any available firmware updates. Updates may improve performance, add features, or address issues.

5.3 Cleaning

Clean the device with a soft, dry cloth. Do not use liquid cleaners or solvents, as they may damage the device.

6. Troubleshooting

6.1 Device Not Powering On

- Check if the power adapter is correctly connected to the device and a working power outlet.
- Verify the power outlet is supplying power.

6.2 No SMS Alerts or Responses

- **SIM Card PIN:** Ensure the SIM card's PIN protection is disabled. This is a common issue. Insert the SIM into a mobile phone to disable the PIN.
- **SIM Card Validity:** Check if the SIM card is active, has sufficient credit (for prepaid), and has SMS services enabled.
- **Signal Strength:** Ensure the antenna is properly connected and the device is in an area with good GSM signal coverage. Poor signal can prevent SMS transmission/reception.
- **Authorized Numbers:** Confirm that your phone number is correctly added as an authorized number in the device's configuration.
- **SMS Command Format:** Double-check the format of your SMS commands. Incorrect syntax will result in no response.

6.3 Incorrect Voltage/Temperature Readings

- Ensure all input connections for voltage and temperature sensors (if external) are secure and correctly wired according to the detailed manual.
- Verify the calibration settings if applicable (refer to the full manual for advanced settings).

7. Specifications

Feature	Specification
Model	RTU5027
Operating Voltage	Standard 12VDC (supports 9-36V DC)
Power Consumption	Standby: 12V/20mA; Max: 12V/150mA

Feature	Specification
GSM Frequency	850/900/1800/1900 MHz
SIM Card Interface	Supports 3V SIM card
External Antenna	SMA 50 Ohm interface
Supported Protocols	RTU over GPRS, TCP/IP
AIN Range	4-20 mA
Built-in Battery	3.7V/900mAh Lithium-ion (approx. 8 hours autonomy)
Operating Temperature	-10 °C to 60 °C
Operating Humidity	Relative humidity 95% (non-condensing)
Dimensions (L x W x H)	70mm x 88mm x 30mm (2.8in x 3.5in x 1.2in)
Control Method	SMS Commands
Compatible Devices	Smartphone (for SMS control)

Image: The Sonew RTU5027 device is shown with its dimensions clearly labeled as 70mm (2.8in) in width, 88mm (3.5in) in height, and 30mm (1.2in) in depth.

8. Warranty and Support

For warranty information, technical support, or service inquiries, please contact your retailer or the manufacturer directly. Keep your purchase receipt as proof of purchase. Specific warranty terms may vary by region and retailer.