POMIACAM SM4-WLTE

Wireless 4G GSM Smart Control Module SM4-WLTE User Manual

Model: SM4-WLTE | Brand: POMIACAM

1. Introduction

The SM4-WLTE is an advanced Wireless 4G GSM Smart Control Module designed for versatile remote control applications. It allows users to manage and monitor various electrical devices from anywhere using a mobile application, SMS commands, or a 4G data network. This manual provides detailed instructions for setup, operation, and maintenance of your SM4-WLTE controller.

Figure 1.1: SM4-WLTE module with mobile application control interface.

Key Features:

- **4G Full Netcom Connectivity:** Reliable and stable control via 4G data network.
- **Multi-Mode Control:** Control via dedicated mobile APP (Android/Apple), SMS commands, or 4G data network.
- **4 Relay Outputs:** Independently control up to four devices (10A/30VDC, 10A/250VAC).
- **Temperature & Humidity Monitoring:** Supports external sensors for environmental control and alarms.
- **Scheduled/Timed Control:** Program devices to turn on/off at specific times or intervals.
- **Input Monitoring:** Connect external switches or sensors for input-triggered actions.
- **Industrial Grade Design:** Durable aluminum alloy casing for robust performance.
- **Wide Application:** Ideal for farms, machine rooms, electric garage doors, water pumps, and various industrial and home automation scenarios.

2. Package Contents

Please verify that all items are present in your package:

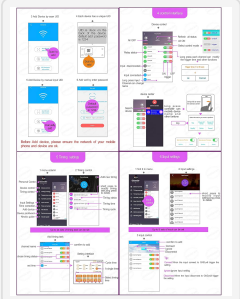
- SM4-WLTE Smart 4G Controller Module
- External Antenna (SMA interface)
- DC12V Power Adapter (500mA or 1A)
- Temperature Sensor (optional, may be included)
- Temperature and Humidity Sensor (optional, may be included)

Figure 2.1: Typical package contents of the SM4-WLTE controller kit.

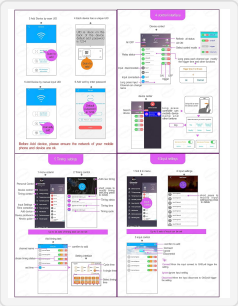
3. Setup and Installation

Follow these steps to set up your SM4-WLTE controller:

1. **Prepare SIM Card:** Ensure your Micro SIM card (3V) has no PIN code enabled. Insert it into a mobile phone first to disable the PIN, if necessary.
2. **Install SIM Card:** Locate the SIM card slot on the controller. Gently insert the prepared Micro SIM card until it clicks into place. Ensure correct orientation as indicated on the device.
3. **Attach Antenna:** Screw the external SMA antenna onto the antenna interface on the controller. Ensure it is securely fastened for optimal signal reception.
4. **Connect Power:** Connect the DC12V power adapter to the controller's power input port. Plug the adapter into a standard 110-220V AC outlet. The device will power on automatically.
5. **Download Mobile Application:**
   Scan the QR codes below or use the provided URLs to download the 'WLTE control' application for your smartphone.



iPhone App
Download for iOS



Android App

Download for Android

6. **Configure Application:**
    - Enable the APP and register an account using your email address.
    - Add your device by scanning the UID QR code on the device or by manually entering the UID and default password (usually 1234).
    - Ensure your mobile phone has internet access for APP control.
7. **Network Status Check:** Observe the 'SIG' LED indicator on the controller. It should flash 4 times quickly, then turn into a slow flash (every 2 seconds) after 1-3 minutes, indicating successful network connection. If it continues to flash quickly or stays off, check SIM card installation and antenna connection.

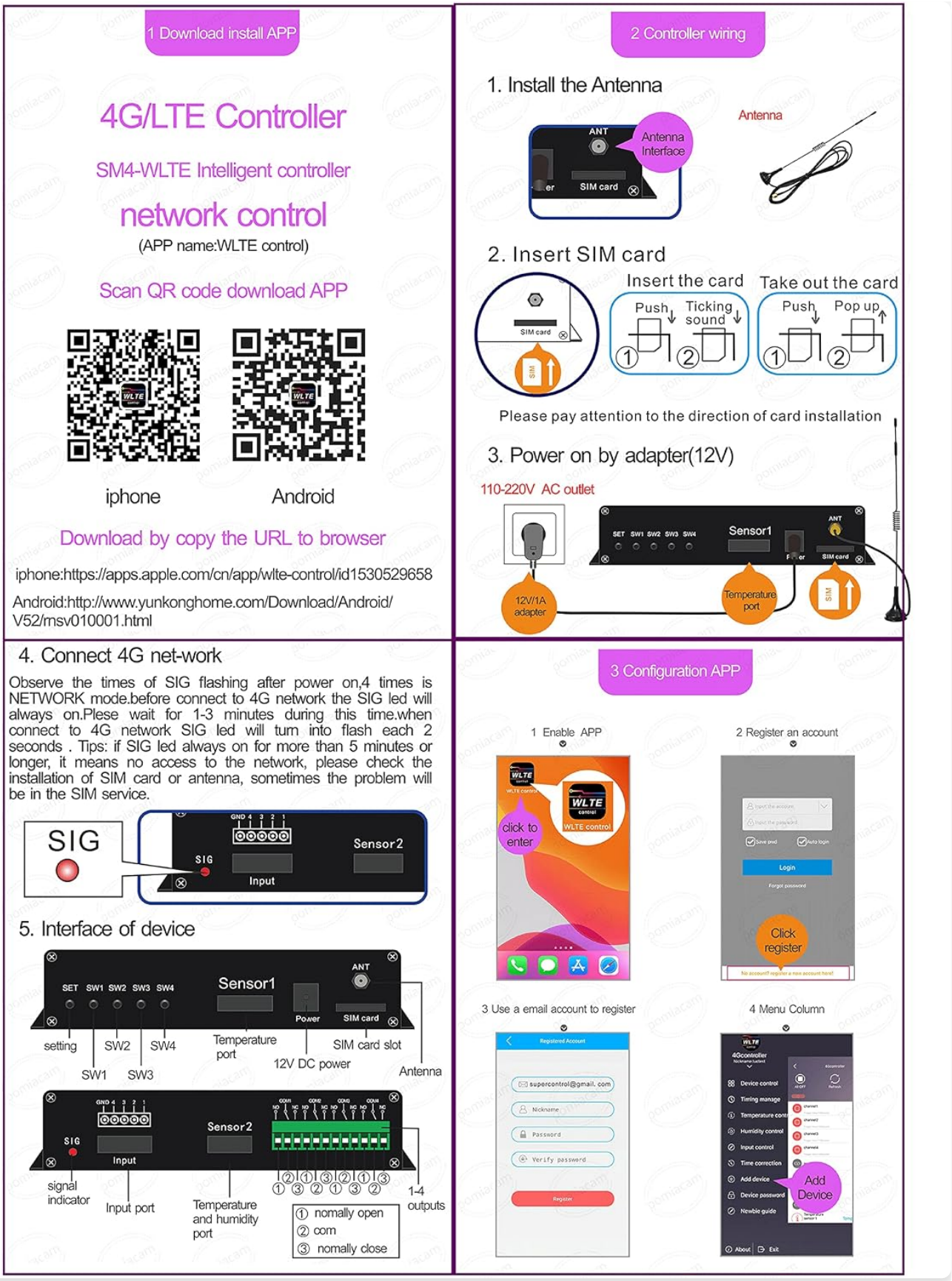


Figure 3.1: Physical setup and connections of the SM4-WLTE module.

4. Operating Instructions

4.1. APP Control Interface

The mobile application provides an intuitive interface for controlling the SM4-WLTE module.

- **Relay Control:** Each of the 4 channels can be controlled individually. Tap 'ON' or 'OFF' to toggle the relay state. You can also set a 'Jog' time for momentary activation.
- **All ON/OFF:** Buttons are available to turn all relays on or off simultaneously.
- **Refresh Status:** Update the current status of all relays and inputs.
- **Device Center:** Manage device settings, modify passwords, and access advanced functions.

4.2. Timing Settings

The app allows you to set up to 24 groups of timing tasks for automated control.

- Navigate to 'Timing Settings' in the app menu.
- Add a new timing task, select the channel, set the desired time, and choose the timing cycle (daily or single day).

4.3. Input Control

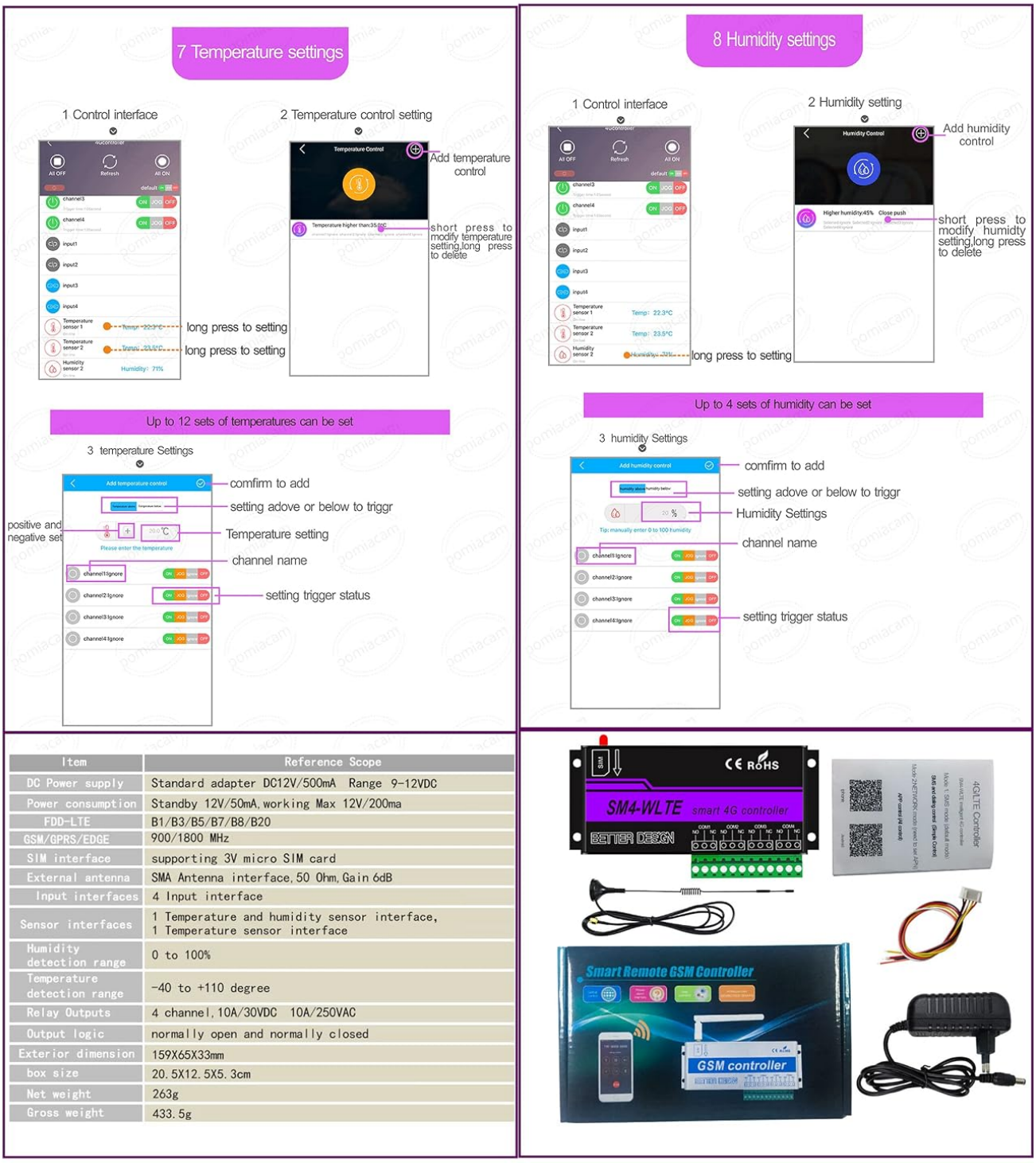
The module supports 4 input interfaces (Input 1-4) for connecting passive switches or micro switches. These inputs can trigger actions or provide status feedback.

- In the app, go to 'Input Control'.
- You can configure each input to 'Connect' (trigger when connected to GND) or 'Disconnect' (trigger when disconnected from GND).

4.4. Temperature and Humidity Control

If equipped with sensors, the module can monitor temperature and humidity and trigger actions based on set thresholds.

- **Temperature Settings:** Set up to 12 sets of temperature control rules. Define a temperature range, and assign actions (e.g., turn on a fan if too hot, turn on a heater if too cold).
- **Humidity Settings:** Set up to 4 sets of humidity control rules. Define a humidity range and assign actions.



Item	Reference Scope
DC Power supply	Standard adapter DC12V/500mA Range 9-12VDC
Power consumption	Standby 12V/50mA, working Max 12V/200ma
FDD-LTE	B1/B3/B5/B7/B8/B20
GSM/GPRS/EDGE	900/1800 MHz
SIM interface	supporting 3V micro SIM card
External antenna	SMA Antenna interface, 50 Ohm, Gain 6dB
Input interfaces	4 Input interface
Sensor interfaces	1 Temperature and humidity sensor interface, 1 Temperature sensor interface
Humidity detection range	0 to 100%
Temperature detection range	-40 to +110 degree
Relay Outputs	4 channel, 10A/30VDC 10A/250VAC
Output logic	normally open and normally closed
Exterior dimension	159X65X33mm
box size	20.5X12.5X5.3cm
Net weight	263g
Gross weight	433.5g

Figure 4.1: Overview of the SM4-WLTE mobile application interface.

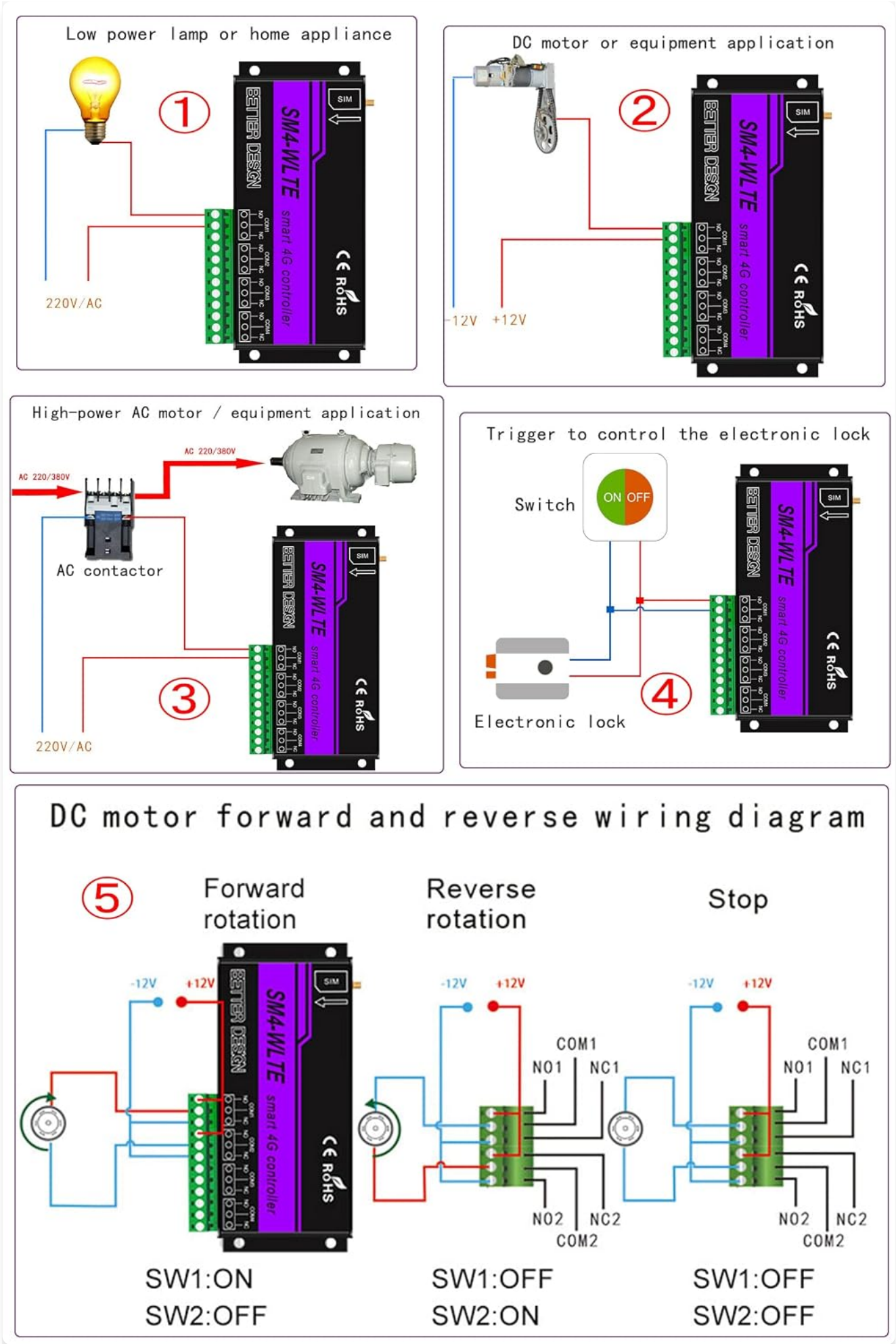


Figure 4.2: Temperature and humidity control features with sensor connections. Note: TH01 and TH02 sensors cannot be directly immersed in water; only the single temperature sensor can be.

4.5. SMS Control

The SM4-WLTE can also be controlled via SMS commands. Anyone with the correct SMS command and password can send a text message to control the 4 relay outputs. Refer to the detailed SMS command list in the full product documentation for specific commands.

5. Wiring Diagrams

The following diagrams illustrate common wiring configurations for various applications. **Professional installation is recommended for high-power or complex wiring. Always ensure power is disconnected before wiring.**

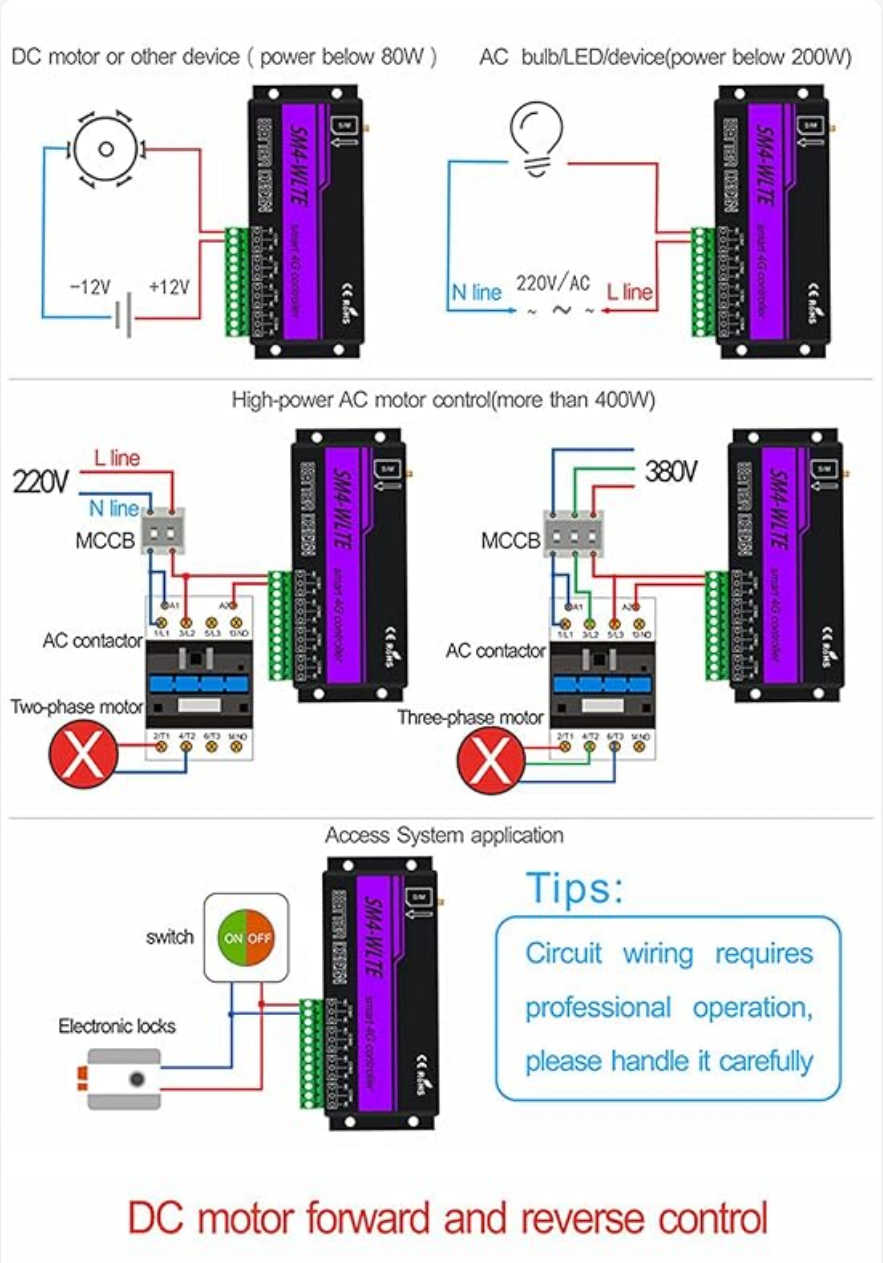
5.1. Basic Wiring Examples

1. Low Power Lamp or Home Appliance: Connect a low-power AC device directly to a relay output.

2. DC Motor or Equipment Application: Connect a DC motor or equipment to a relay output.

3. High-Power AC Motor / Equipment Application: For high-power AC loads, an external AC contactor is required. The relay controls the contactor, which in turn controls the high-power equipment.

4. Trigger to Control Electronic Lock: Use an input to trigger a relay that controls an electronic lock.



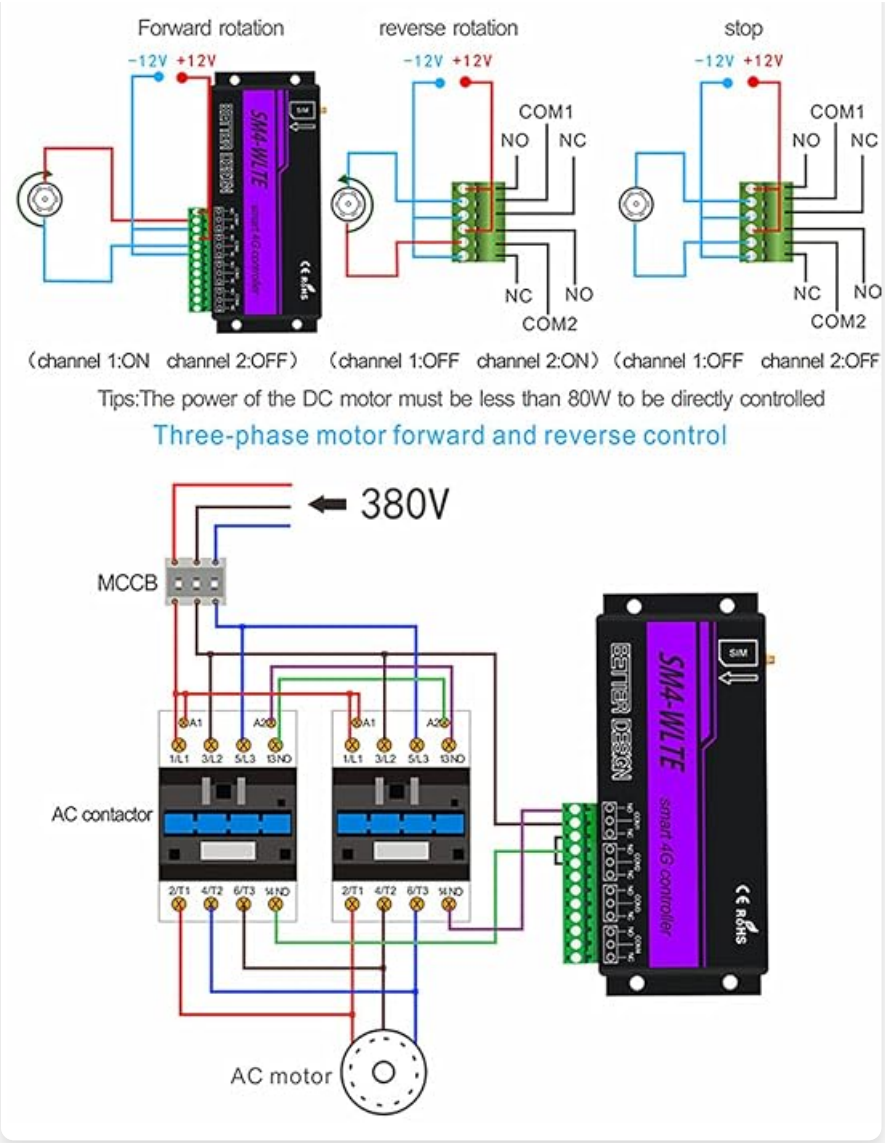
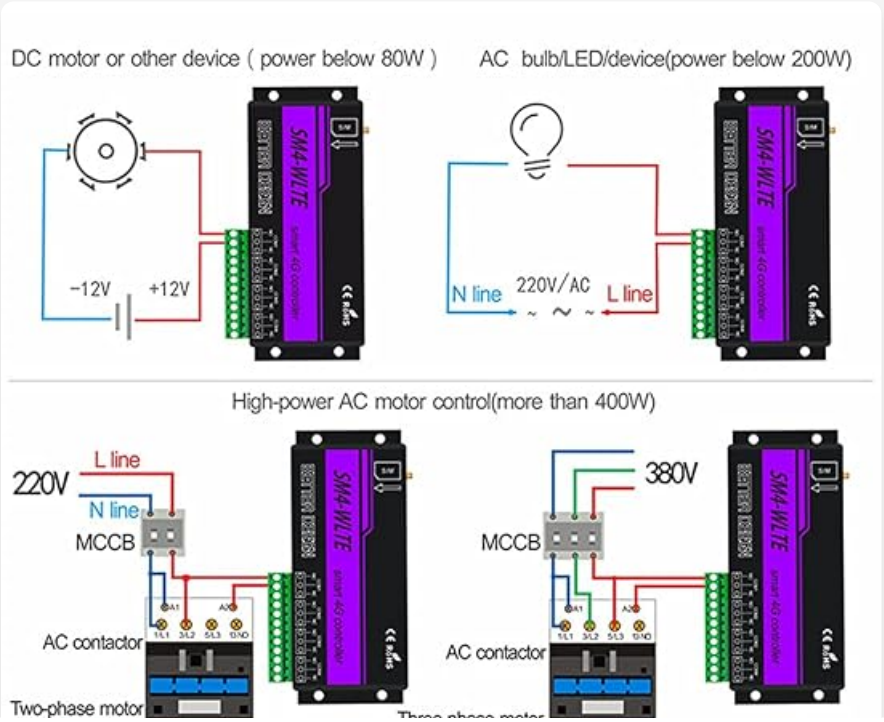


Figure 5.1: Basic wiring configurations for various devices.

5.2. DC Motor Forward and Reverse Wiring

This diagram shows how to control a DC motor for forward, reverse, and stop operations using two relays.



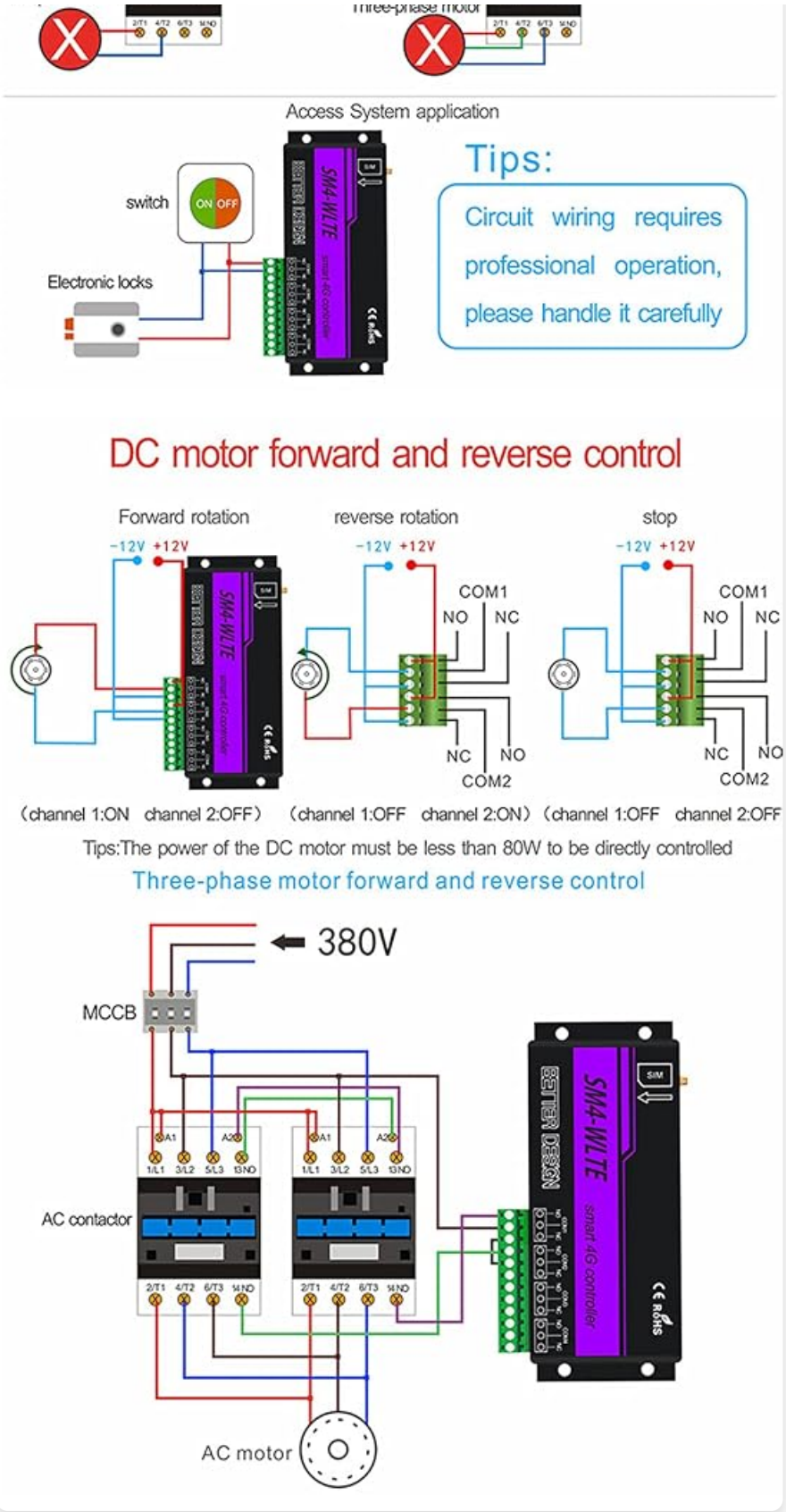


Figure 5.2: DC motor forward and reverse wiring diagram.

5.3. Advanced Wiring Examples

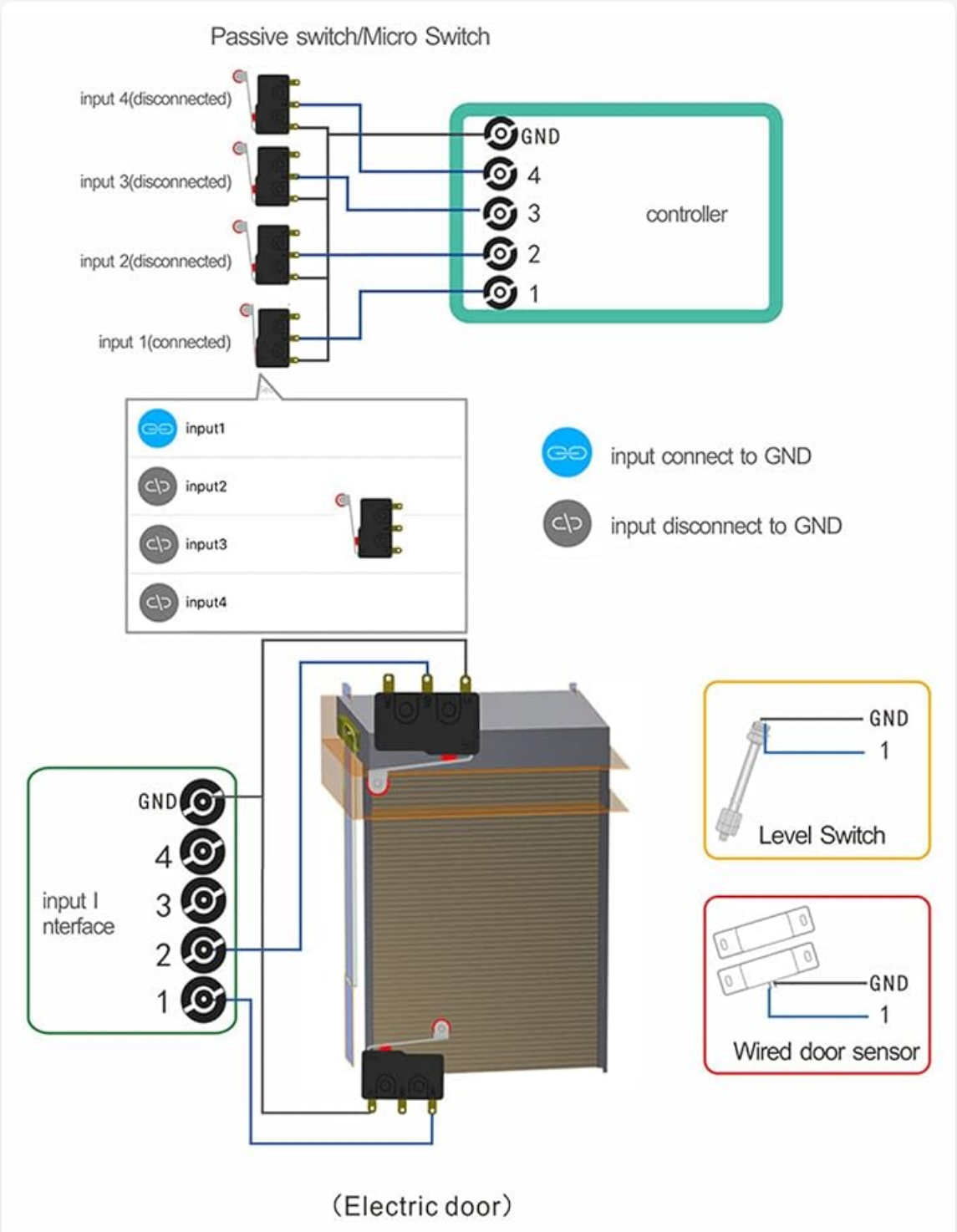
DC Motor or Other Device (Power below 80W): Direct connection for low-power DC devices.

AC Bulb/LED/Device (Power below 200W): Direct connection for low-power AC lighting or devices.

High-Power AC Motor Control (More than 400W): Requires an external AC contactor for safe operation.

Access System Application: Wiring for controlling electronic locks or access points.

Three-Phase Motor Forward and Reverse Control: Requires multiple contactors for controlling three-phase motors.



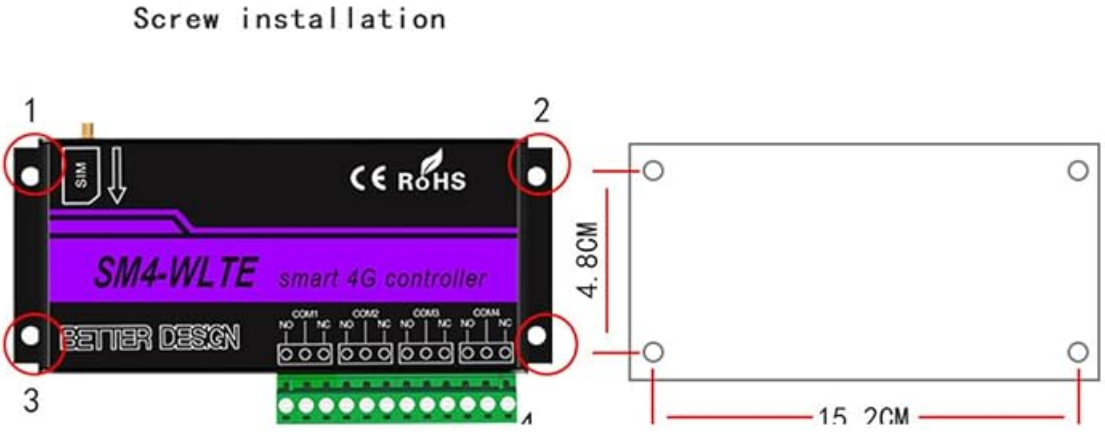


Figure 5.3: Advanced wiring configurations. Circuit wiring requires professional operation; please handle it carefully.

5.4. Input Wiring Examples

Examples of connecting passive switches, micro switches, level switches, and wired door sensors to the controller's input interfaces.

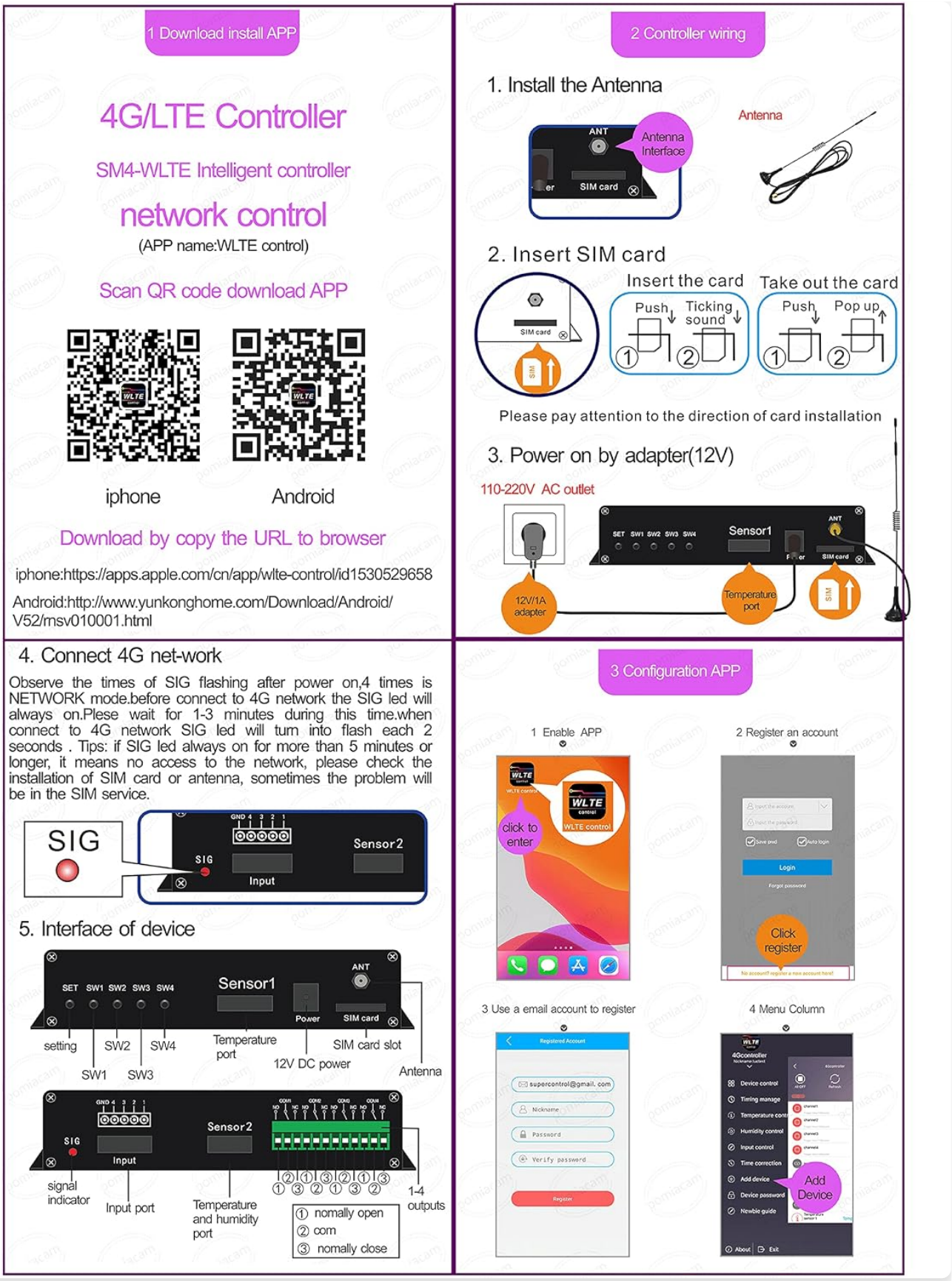


Figure 5.4: Input wiring examples for various sensor types.

6. Maintenance

To ensure the longevity and optimal performance of your SM4-WLTE module, follow these maintenance guidelines:

- **Keep Clean:** Regularly wipe the device with a dry, soft cloth. Avoid using harsh chemicals or abrasive cleaners.

- **Environmental Conditions:** Operate the device within its specified temperature and humidity ranges. Avoid extreme temperatures, direct sunlight, and high humidity.
- **Secure Connections:** Periodically check all wiring connections to ensure they are secure and free from corrosion.
- **Firmware Updates:** Check the manufacturer's website or app for any available firmware updates to improve performance and add new features.
- **Power Cycle:** If the device becomes unresponsive, disconnect the power for a few seconds and then reconnect it to perform a power cycle.

7. Troubleshooting

If you encounter issues with your SM4-WLTE module, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Device not powering on.	No power, faulty adapter, incorrect voltage.	Check power outlet. Ensure power adapter is correctly connected and functioning. Verify input voltage is 9-12V DC.
SIG LED not flashing slowly (no network).	SIM card issue, antenna issue, no network coverage.	Ensure SIM card is inserted correctly and PIN is disabled. Check antenna connection. Verify 4G network coverage in the area. Try another SIM card.
Cannot control via APP.	No internet on phone, device not added to app, incorrect password, network issue on module.	Check phone's internet connection. Ensure device is correctly added to the app with the correct UID and password. Verify SIG LED indicates network connection.
Relays not responding.	Incorrect wiring, overloaded relay, module malfunction.	Review wiring diagrams carefully. Ensure load current does not exceed relay capacity (10A). Test with a different, low-power load.
Temperature/Humidity readings are inaccurate.	Sensor not connected, faulty sensor, sensor placed incorrectly.	Ensure sensors are securely connected to the correct ports. Check sensor for physical damage. Ensure sensor is not directly in water unless specified.
Device becomes unresponsive.	Software glitch, power instability.	Perform a power cycle (disconnect and reconnect power). If issue persists, press the SET button for 8 seconds to reset the controller (this will erase settings).

8. Specifications

Feature	Detail
Model Number	SM4-WLTE
Power Supply	Standard DC12V/500mA or 1A adapter (Range: 9-12V DC)

Feature	Detail
Power Consumption	Standby: 12V/500mA; Max Work: 12V/200mA
4G Bands (TDD-LTE)	B34/B38/B39/B40/B41
4G Bands (FDD-LTE)	B1/B3/B5/B8
GSM/GPRS/EDGE	900/1800MHz
SIM Interface	Supports 3V Micro SIM Card
External Antenna	SMA Antenna Interface, 50 ohms, Gain 6DB
Input Interfaces	4 Input interfaces
Sensor Interfaces	Sensor 1: Temperature Sensor; Sensor 2: Temperature and Humidity Sensor
Humidity Detection Range	0 to 100%
Temperature Detection Range	-40 to +110 °C
Relay Outputs	4 channels, 10A/30VDC, 10A/250VAC
Output Logic	Normally Open and Normally Closed
Exterior Dimensions	159x65x32mm (approx. 20 x 12 x 5 cm)
Material	Aluminum/Galvanized Alloy Casing
Color	Black
Weight	Net weight: 265g; Gross weight: 433.5g

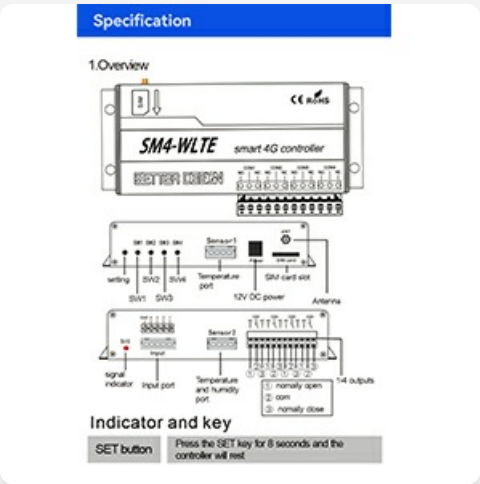


Figure 8.1: SM4-WLTE module overview and dimensions.

9. Warranty and Support

9.1. Warranty Information

The SM4-WLTE module comes with a**1-year free warranty period** from the date of purchase. This warranty covers

manufacturing defects and malfunctions under normal use conditions.

9.2. Customer Support

If you have any questions, encounter issues, or require technical assistance during the warranty period or beyond, please contact our customer support team:

Email: sales09@autopvision.com

Please provide your product model (SM4-WLTE) and a detailed description of the issue when contacting support to ensure a prompt resolution.