

# Sigen Gateway

## Important Notice



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## Revision History

Version	Date	Description
03	2024.06.28	Updated 5.1 Routine Requirements
02	2024.02.29	Updated Chapter 1 General Requirements
01	2023.10.27	First official release.

# Overview

## Introduction

This document describes the precautions for installing, operating, and maintaining the Sigen Gateway.




## Target readers

This document is intended for:

- Trained and qualified installation personnel
- Technical support engineer

## Sign Definition

The following signs may be used in the document to indicate security precautions or key information. Before installation and operation, familiarize yourself with signs and their definitions.

Signs	Definition
 <b>Danger</b>	Danger. Failure to comply may result in death or serious personal injury.
 <b>Warning</b>	Warning. Failure to comply may result in minor injury or property damage.
 <b>Caution</b>	Caution. Failure to comply may result in equipment damage and property loss.
<b>Tips</b>	Important or key information, and supplementary operation tips.

# Chapter 1 General Requirements

Before installing, operating, and maintaining the equipment, familiarize yourself with this document.

The "Danger", "Warning", and "Caution" items described in this manual are only supplementary to all precautions.

The Company shall not be liable for equipment damage or property loss caused by the following reasons:

- The installation environment does not meet international, national, or regional standards.
- Failure to comply with local laws, regulations, and regulations when transporting, installing, operating, or maintaining the equipment.
- The installation area does not meet the requirements of the equipment.
- Cables and tools used do not meet international, national, or regional standards.
- Damage caused by storage conditions that do not meet equipment requirements.
- Failure to follow the instructions and precautions in this document.
- Failure to handle the equipment with care or violent installation may result in equipment damage and pose a risk of fire or explosion hazards.
- Failure to follow the warning labels on equipment or tools.
- Negligent, improper operation or intentional damage.
- Damage caused by the customer or the third party company changing the use of our company's equipment.
- The equipment is damaged by the failure of the customer or the third-party company to use the accessories supplied with the package and purchase and use the accessories of the same specifications for installation.
- Equipment damage caused by improper operations such as disassembling, replacing, or modifying the software code without authorization.

- Equipment damage caused by force majeure (such as war, earthquake, fire, storm, lightning, flood, debris flow, etc.).
- Damage caused by the failure of the natural environment or external power parameters to meet the standard requirements of the equipment during actual operation (for example, the actual operating temperature of the equipment is too high or too low).
- The equipment was stolen.
- The equipment is damaged after the warranty period.

## Chapter 2 Personnel Requirements

The personnel responsible for installation and maintenance of the equipment must receive strict training, be familiar with local laws, regulations, and related standards, understand the structure and working principles of the power generation system, understand various safety precautions, master the correct operation methods, and possess the operation qualifications required by the local country.



## Chapter 3 Handling and Transportation Requirements

- Wear personal protective equipment, such as protective gloves and safety shoes, when moving equipment.
- Select a proper transport mode based on the weight of the equipment.
- Carry the equipment in the direction specified on the package. Do not tilt or invert the equipment.
- The incline angle of the equipment belt package shall be no more than 15°, and the incline angle after unpacking shall be no more than 10°. If more than one person is moving the equipment, consider the height of the person moving the equipment to ensure stability.
- To avoid injury, lift or move the equipment slowly.
- When using a forklift, place the fork knife in the middle of the equipment, and bind the fork knife according to the actual situation. When moving, a special person should take care of it. No movement under the fork knife.
- Place the equipment according to the stacking requirements on the package.

## Chapter 4 Storage Requirements

- The storage location must comply with local laws and regulations.
- Do not unpack the storage equipment.
- Do not expose the equipment to direct sunlight or to wet, dewy, dirty, rainy, flammable, explosive or corrosive environments.
- The storage location should be well protected against insects and rodents.
- When storing the equipment, place it according to the storage requirements on the package.
- During storage, periodically record the temperature and humidity of the storage environment.
  - Storage temperature:  $-40^{\circ}\text{C}$  to  $70^{\circ}\text{C}$ , and  $20^{\circ}\text{C}$  to  $30^{\circ}\text{C}$  is recommended.
  - Relative humidity: 0% RH to 95% RH.
- Please follow the "first-in, first-out" principle when shipping the equipment.

# Chapter 5 Operating Requirements

## 5.1 Routine Requirements

### Danger

High voltage, danger:

- Do not perform operations on the equipment with power on (including but not limited to installation, wiring, replacement). Before operation, please make sure all power supplies to the equipment have been disconnected, including but not limited to the grid side, inverter and diesel generator power switches.
- Do not operate the equipment in bad weather (including but not limited to thunder, rain, snow, typhoon, etc.).
- Do not clean or soak the equipment with water, alcohol, or oil to avoid power leakage.
- Do not hit, drag, or step on the equipment.
- Check the equipment for damage before operating it. Do not perform this operation if there is any abnormality (for example, deformed appearance or strange smell).
- When operating the equipment, wear protective equipment such as insulation gloves, shoes, and safety helmets. Conductive ornaments such as metal bracelets, rings and necklaces are prohibited.
- Use insulation tools when installing and connecting cables.
- Devices that need to be grounded are permanently connected to the protection ground. When connecting cables, connect the ground cable first. Before replacement of any equipment, remove the ground cable at last.
- Before touching the terminal, measure the voltage of the contact point to ensure that there is no danger of electric shock.
- Do not drop any foreign objects into the equipment when operating it.
- If scratches appear on the equipment's surface, repair the paint in time.

## 5.2 Equipment Installation

### Warning

When handling the equipment, be prepared to support the load in order to avoid slips and injuries.

### Ladder Safety

- Do not use ladders without training or instruction.
- Do not use unqualified ladders (including but not limited to damaged, broken, deformed, and temporary ladders).
- Do not use a ladder that does not meet the load-bearing requirements.
- Use wooden or fiberglass ladders when there is a possibility of electrical work at height.
- When an extension ladder is used, the inclination of the ladder is 60° to 70°.
- When working on a ladder, do not throw objects from height.
- When working on a ladder, it is recommended that another person supervises the operation.
- Lock the door when using the ladder at the entrance of the passageway.

### Drilling Safety

- Do not drill holes on the equipment.
- Wear safety goggles and protective gloves when drilling holes.
- Do not place the equipment near the drilling position to prevent debris from falling into the equipment.
- After drilling holes, clean them in time.

## 5.3 Cable Connection

### Danger

- Before connecting cables, ensure that the equipment is not damaged.
  - Before connecting or removing cables, ensure that the front and rear switches of the equipment and its own switches are disconnected.
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- Do not intertwine or cross cables. You are advised to bundle cables by category.
  - Do not use cables whose insulation layer is damaged, and do not have sharp edges or burrs in the holes where cables pass through.
  - Keep cables away from heat sources to prevent cable aging in a high temperature environment.
  - The lower the ambient temperature is, the more brittle the plastic cable skin will be. To prevent skin cracking during installation, install the cable at a temperature higher than 0°C and handle the cable with caution. If cables are stored in an environment below 0°C for a long time, move them to an environment above 0°C for at least 24 hours before using them.

## 5.4 Equipment Maintenance and Replacement

Before maintaining or replacing the equipment, power off the equipment and wait for a sufficient period of time according to the delay label on the equipment. Power on the equipment only after the fault is completely rectified or the replacement is complete.