

# 'INTERRA

—Developer of Uniqueness—

## KNX-SMA SEMP Gateway

### Installation Manual



## Contents

<b>1. Content of The Document</b> .....	<b>5</b>
<b>2. Dimensions</b> .....	<b>6</b>
<b>3. Montage</b> .....	<b>7</b>
3.1. Installation Requirements .....	7
3.2. Mounting on the DIN Rail .....	7
3.3. Connecting the KNX-SMA SEMP Gateway to the Router .....	8
3.4. Connecting the KNX-SMA SEMP Gateway to the KNX Bus Line .....	8
3.5. Communication Between the Gateway and the Home Manager .....	9
<b>4. Adding KNX Line Devices to the ennexOS Portal</b> .....	<b>10</b>
4.1. User Login or Account Creation .....	10
4.2. Adding the Home Manager to the Portal .....	11
4.3. Adding KNX Devices to the Portal.....	11

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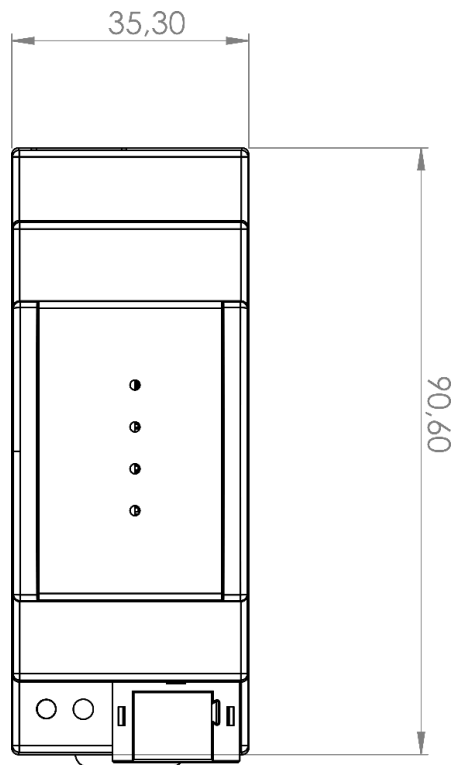
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## 1. Content of The Document

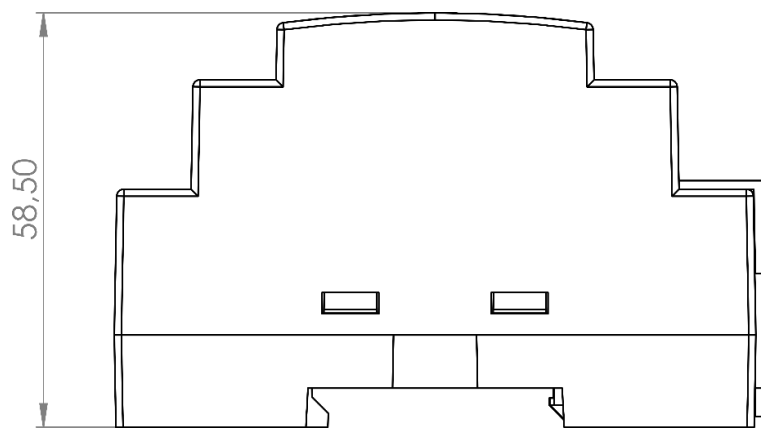
This document provides detailed information on the installation, mounting, and commissioning of the KNX-SMA SEMP Gateway. It describes the physical dimensions of the device, installation requirements, DIN rail mounting, and the necessary electrical and network connections. Furthermore, it explains the communication setup between the gateway and the SMA Home Manager, as well as the procedure for integrating KNX line devices into the ennexOS portal, including user login, account creation, and device registration steps. This guide is intended for qualified personnel familiar with KNX systems, IP-based networks, and energy management systems.

## 2. Dimensions

All values given in the device dimensions are millimetres.



**Fig. 1:** Dimensions of the KNX-SMA SEMP Gateway from the top view



**Fig. 2:** Dimensions of the KNX-SMA SEMP Gateway from the side view

## 3. Montage

### 3.1. Installation Requirements

- The installation location must be indoors.
- The KNX-SMA SEMP Gateway must be installed in a distribution board.
- The installation area must be protected from dust, moisture, and hazardous substances.
- The cable route from the installation location to the router must not exceed a maximum length of 100 m.
- A minimum distance of 1 m must be maintained from devices using the 2.4 GHz radio spectrum (e.g. WLAN devices, microwave ovens). This helps prevent a reduction in connection quality and data transmission speed.
- The environmental conditions at the installation location must be suitable for the operation of the KNX-SMA SEMP Gateway device.

### 3.2. Mounting on the DIN Rail

- Press the Sunny Home Manager onto the upper edge of the DIN rail using the upper retaining clips. Then engage the lower retaining clips onto the lower edge of the DIN rail.

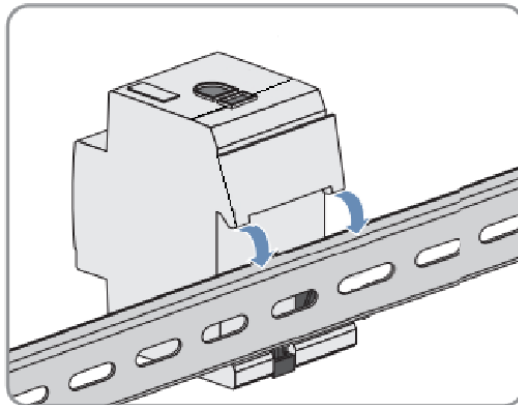


Fig. 3: DIN Rail Mounting Illustration

### 3.3. Connecting the KNX-SMA SEMP Gateway to the Router

- I. Connect the network cable to the product's network terminal.
- II. Connect the other end of the network cable to the router.



Fig. 4: Connection Diagram of the KNX-SMA SEMP Gateway to the Router

### 3.4. Connecting the KNX-SMA SEMP Gateway to the KNX Bus Line

- I. Connect the gateway to the KNX power supply using the KNX Twisted Pair (TP) bus line.

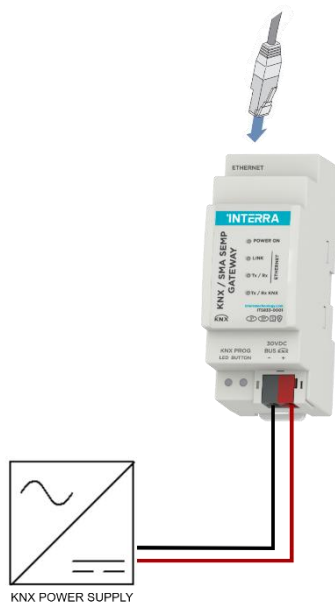


Fig. 5: Connection Diagram of the KNX-SMA SEMP Gateway to the KNX Bus

### 3.5. Communication Between the Gateway and the Home Manager

For devices on the KNX line to be visible in the SMA Sunny Portal (ennexOS) and to be used in load management scenarios, they must first be correctly configured via ETS through the KNX-SMA SEMP Gateway

#### i. Network Configuration

The SMA Sunny Home Manager and the KNX-SMA SEMP Gateway must be located on the same IP network (same subnet). This allows the Home Manager to communicate directly with the gateway via HTTP/SEMP. Multicast and TCP/UDP communication must not be blocked on the network, and firewall rules must be configured correctly.

#### ii. Use of the ETS Database

Using the product database provided by the manufacturer, the settings of the devices connected to the KNX line are configured. The required group addresses are linked to the communication objects on the gateway. The prepared product database is then downloaded to the device.

## 4. Adding KNX Line Devices to the ennexOS Portal

KNX devices are not registered directly in the SMA Sunny Portal; instead, their status and consumption data are shared with the portal via an SMA Home Manager or Data Manager. For this reason, KNX-side devices are introduced to the Home Manager through a KNX-SMA SEMP Gateway. The Home Manager then forwards this data to the Sunny Portal, where the devices appear as “Consumers” or “Loads.”

This registration process is required to enable energy optimisation, load shifting, and production-dependent automatic control scenarios. Without registration, KNX devices are not visible in the portal and cannot be controlled by the energy management algorithms.

### 4.1. User Login or Account Creation

The SMA ennexOS portal allows you to centrally monitor and manage your energy production and consumption data. To access the portal, visit:

<https://ennexos.sunnyportal.com>

**Login:**

If you already have an SMA account, you can log in using your username and password.

**Account Creation:**

If you are using the portal for the first time, select “**Create New Account**” and enter your plant name, address, and user details to create a free account.

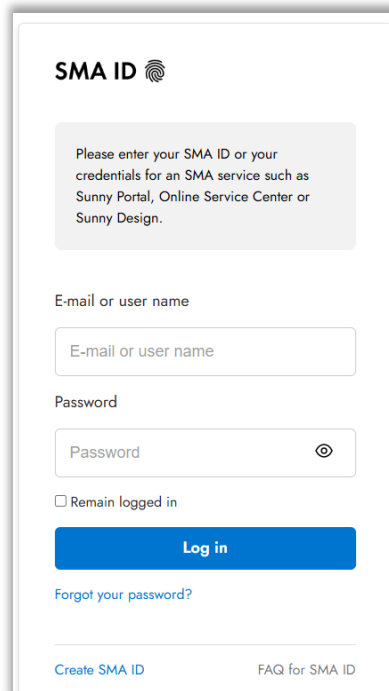


Fig. 6: DIN Rail Mounting Illustration

## 4.2. Adding the Home Manager to the Portal

The Sunny Home Manager automatically connects to the Sunny Portal supported by ennexOS and indicates this via its LED status indicators. Once the Sunny Home Manager is registered, other devices in the system can be detected or additional devices can be integrated.

To transfer devices from a previous system to a new Sunny Home Manager system, you must first deactivate these devices in the old system (typically at least one inverter). You can then add the devices to the new system.

### Requirements:

- The Sunny Home Manager must be supplied with voltage.
- The Sunny Home Manager must be connected to the router.
- DHCP must be enabled on the router (refer to the router manual). If your router does not support DHCP, you can configure static network settings on the Sunny Home Manager using the Sunny Home Manager Assistant.
- The ETS database file of the KNX-SMA SEMP Gateway product must be prepared and downloaded to the device. Detailed information about the parameters and communication objects included in the database file is provided in the user manual.

## 4.3. Adding KNX Devices to the Portal

You can add KNX devices via the KNX-SMA SEMP Gateway by following the steps below in the SMA portal.

- On the left-hand side, click **“Configuration”**, then select **“Device administration”** to access the device addition section.

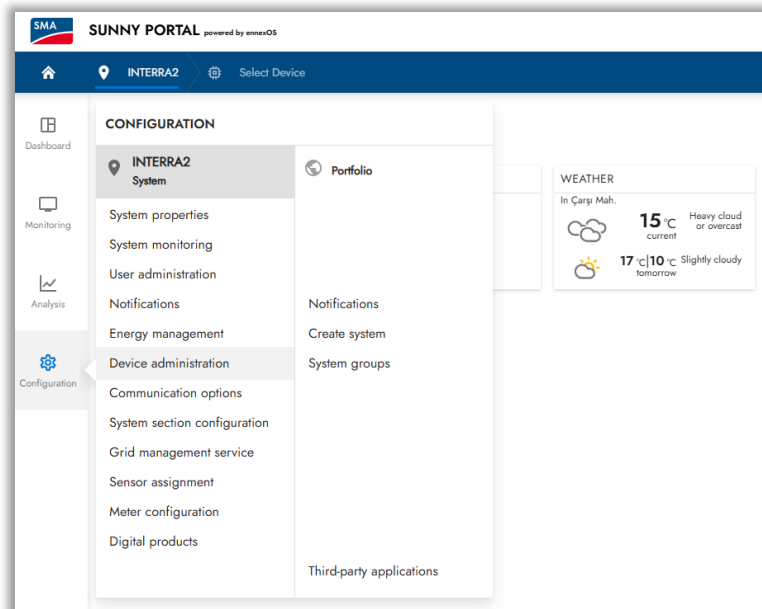


Fig. 7: Sunny Portal Configuration Page

- ii. In the “**Device administration**” section, click the “**Add devices**” button located on the right side of the page.

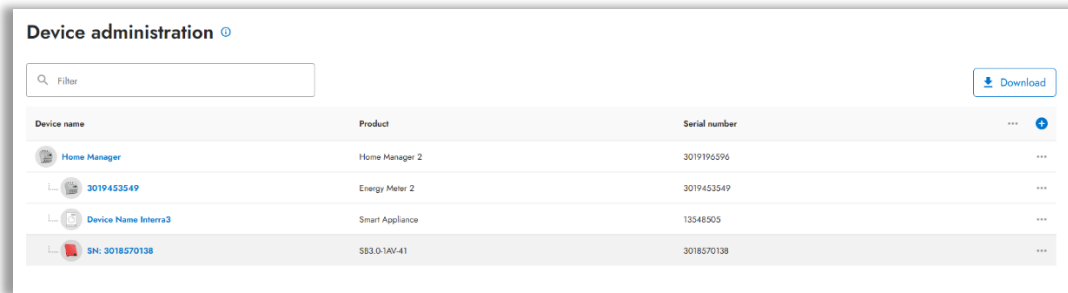


Fig. 8: Sunny Portal – Device Administration Configuration Page

- iii. On the page that opens, select “**SMA device or load**”, then click “**Continue**” to search for devices connected to the system.

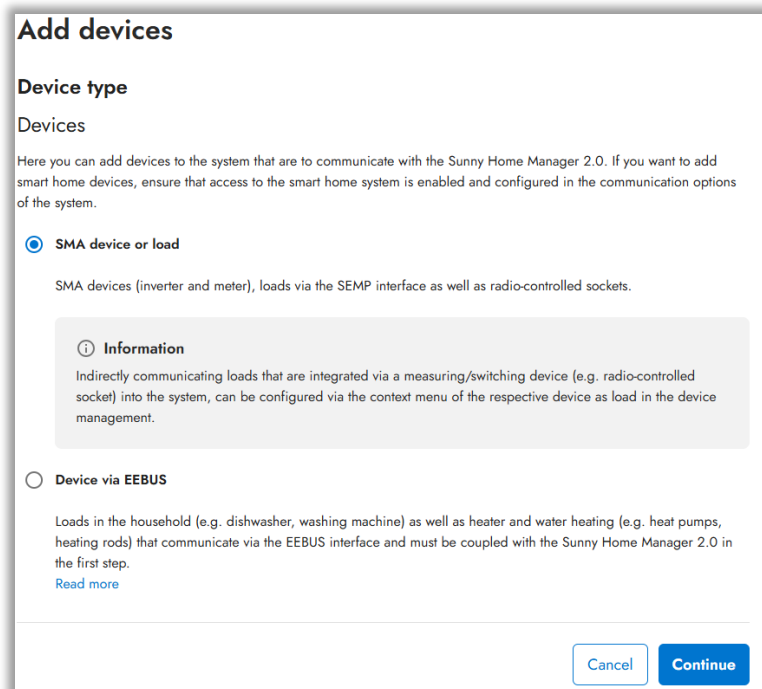


Fig. 9: Sunny Portal – Add Device Configuration Window

- iv. Wait while the search is in progress

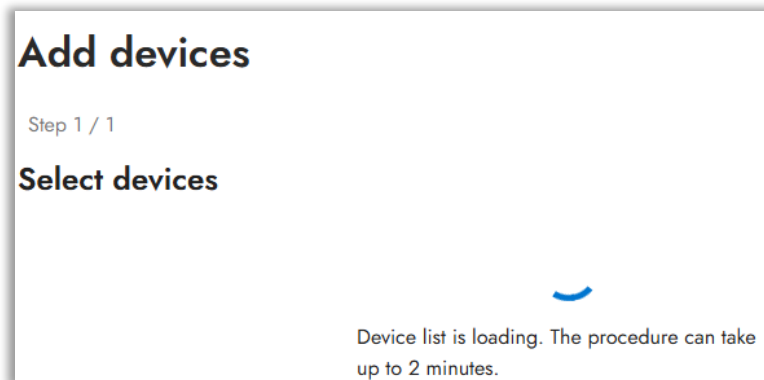


Fig. 10: Sunny Portal – Add Devices Search Window

- v. As a result of the search, the devices that can be added to the system are listed together with their serial numbers.

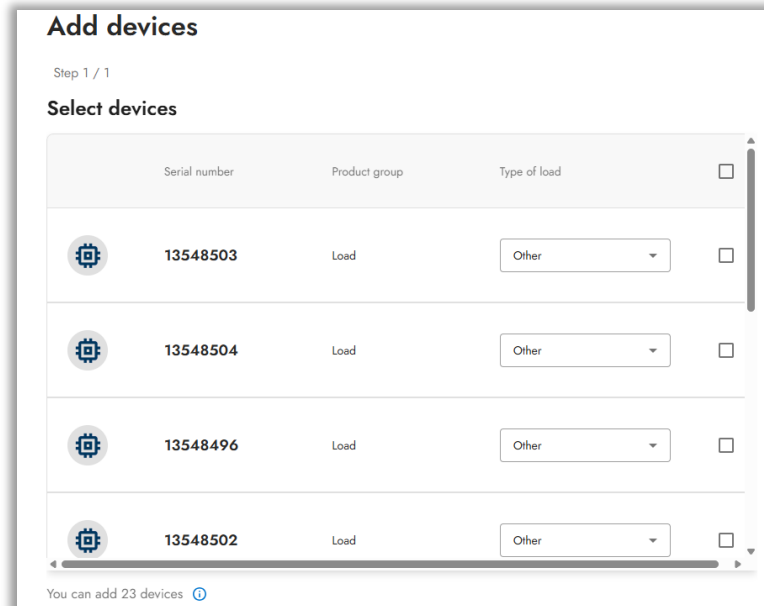


Fig. 11: Sunny Portal – Add Devices Select Devices List Window

- vi. Select the devices to be added to the system and click the **“Save”** button to start integrating the devices into the system.

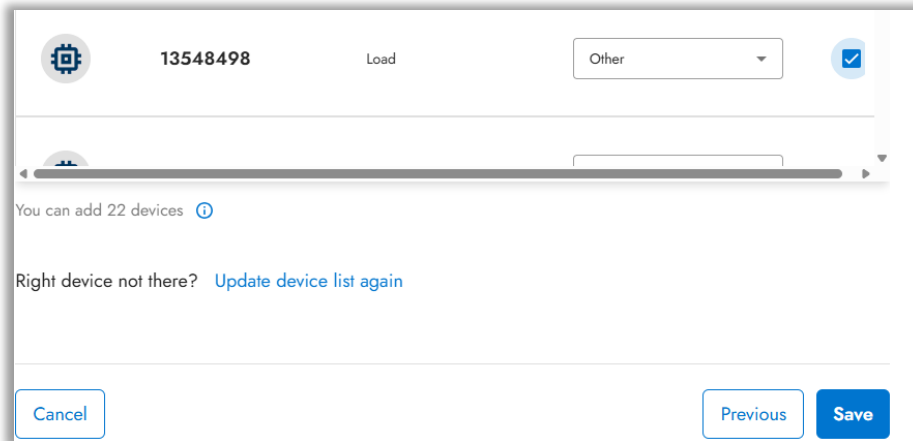


Fig. 12: Sunny Portal – Add Devices Select Window

- vii. Once the integration process is complete, a notification in the upper-right corner indicates that the device has been successfully added.

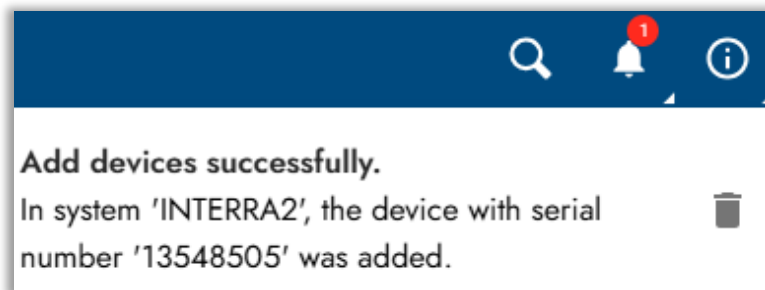


Fig. 13: Sunny Portal – Device Added Successfully Notification

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## CONTACT INFORMATION

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