

# 14a Grid Control

## Installation Guide



# IMPORTANT SAFETY INSTRUCTIONS

## SAVE THESE INSTRUCTIONS



**IMPORTANT:** Under no circumstances will compliance with the information in a ChargePoint guide such as this one relieve the user of the responsibility to comply with all applicable codes and safety standards. This document describes approved procedures. If it is not possible to perform the procedures as indicated, contact ChargePoint. ChargePoint is not responsible for any damages that may result from custom installations or procedures not described in this document or that fail to adhere to ChargePoint recommendations.

## Product Disposal

To comply with Directive 2012/19/EU of the European Parliament and of the Council of 4 July 2012 on waste electrical and electronic equipment (WEEE), devices marked with this symbol may not be disposed of as part of unsorted domestic waste inside the European Union. Enquire with local authorities regarding proper disposal. Product materials are recyclable as marked.



## Document Accuracy

The specifications and other information in this document were verified to be accurate and complete at the time of its publication. However, due to ongoing product improvement, this information is subject to change at any time without prior notice. For the latest information, see our documentation online at [chargepoint.com/guides](http://chargepoint.com/guides).

## Copyright and Trademarks

©2013-2025 ChargePoint, Inc. All rights reserved. This material is protected by the copyright laws of the United States and other countries. It may not be modified, reproduced, or distributed without the prior, express written consent of ChargePoint, Inc. ChargePoint and the ChargePoint logo are trademarks of ChargePoint, Inc., registered in the United States and other countries, and cannot be used without the prior written consent of ChargePoint.

## Symbols

This guide and product use the following symbols:



**DANGER:** Risk of electric shock



**WARNING:** Risk of personal harm or death



**CAUTION:** Risk of equipment or property damage



**IMPORTANT:** Crucial step for installation success



Read the manual for instructions



Ground/protective earth

### Illustrations Used in This Document

The illustrations used in this document are for demonstration purposes only and may not be an exact representation of the product. However, unless otherwise specified, the underlying instructions are accurate for the product.



# Contents

IMPORTANT SAFETY INSTRUCTIONS .....	ii
<b>1 Introduction .....</b>	<b>1</b>
Installation Prerequisites .....	1
<b>2 14a Grid Control Installation Preparation .....</b>	<b>2</b>
<b>3 Installation Instructions .....</b>	<b>3</b>
Install External Power Supply Unit .....	3
Install the Router .....	4
Insert the SIM Card in Router .....	4
Connect Antenna .....	5
<b>4 14a Grid Controlwith Dynamic Load Management .....</b>	<b>9</b>
<b>5 Commissioning .....</b>	<b>10</b>
Internal Activation Instructions .....	10

# Introduction 1

This document is provided to the installer of 14a Grid Control) to ensure that 14a Grid Control system and its hardware components (Energy Gateway, Smart Meter, and Router) are installed, commissioned, and activated correctly, and the data is transmitted to ChargePoint backend for further analysis.

## Installation Prerequisites



---

**IMPORTANT:** You must be a licensed electrician and complete online training to become a ChargePoint certified installer. If you do not complete training, you cannot access the ChargePoint network to complete installation.

Find online training at: [chargepoint.com/installers](https://chargepoint.com/installers)

---

## Accessing the Installation Guide

To ensure your safety, review the Installation Guide and familiarize yourself with the contents of each shipping box and the installation steps. ChargePoint certified installers can download the Installation Guide at: [chargepoint.com/guides](https://chargepoint.com/guides).

# 14a Grid Control Installation **2**

## Preparation

When the site preparations are completed, the installation of the 14a Grid Control can be carried by a ChargePoint technician or an instructed technician. The technician must confirm the installation and commissioning of the 14a Grid Control by completing the site commissioning form. You can then upload the completed form and the required photos in the corresponding work order thorough the ChargePoint Partner Portal.

# Installation Instructions 3

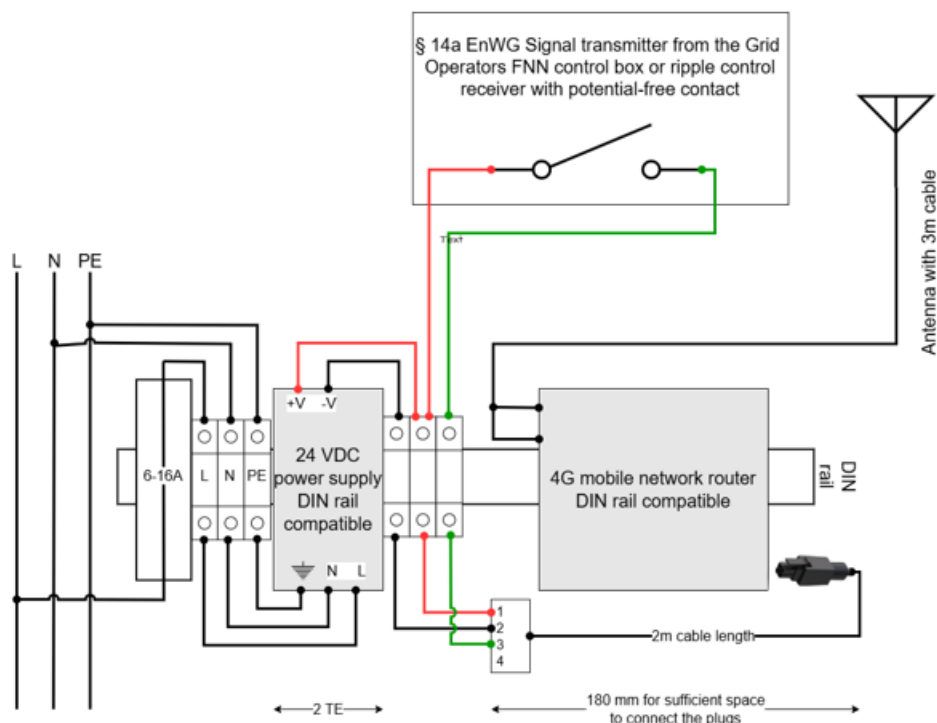
To begin the installation process, you must install the external power supply unit and install the router.

## Install External Power Supply Unit

To install the external power supply unit, perform the following steps:

1. Install the 24 VDC power supply unit onto the designated top-hat rail at the prepared installation location.
2. Connect the power supply to the disconnected 230 VAC circuit using the prepared L, N, and PE terminals, as shown in the installation diagram.
3. Connect the 24 VDC + and - outputs of the power supply to the designated 24 V terminals.
4. A wire is already connected from the +V terminal to the § 14a signal transmitter of the network operator via a potential-free closing contact. The return line from the contact is already connected to the adjacent terminal block.

Ensure all connections comply with the installation diagram and local electrical safety standards.





## Install the Router

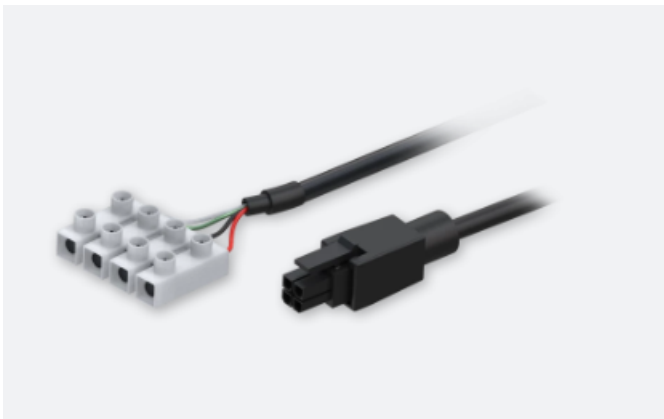
To install the router, perform the following steps:

1. Unpack the router's special power cable.
2. Connect the cable to the 24 VDC power supply according to the installation diagram, ensuring correct polarity (+ and -) and proper routing to the signal transmitter terminal block.
3. Check the pin assignment:

Contacts 1-3 of the screw terminal must be connected to their corresponding terminals on the terminal block.

Contact 4 is not used and can remain in the screw terminal unconnected.

Ensure all connections are secure and match the installation diagram before powering on.



## Insert the SIM Card in Router

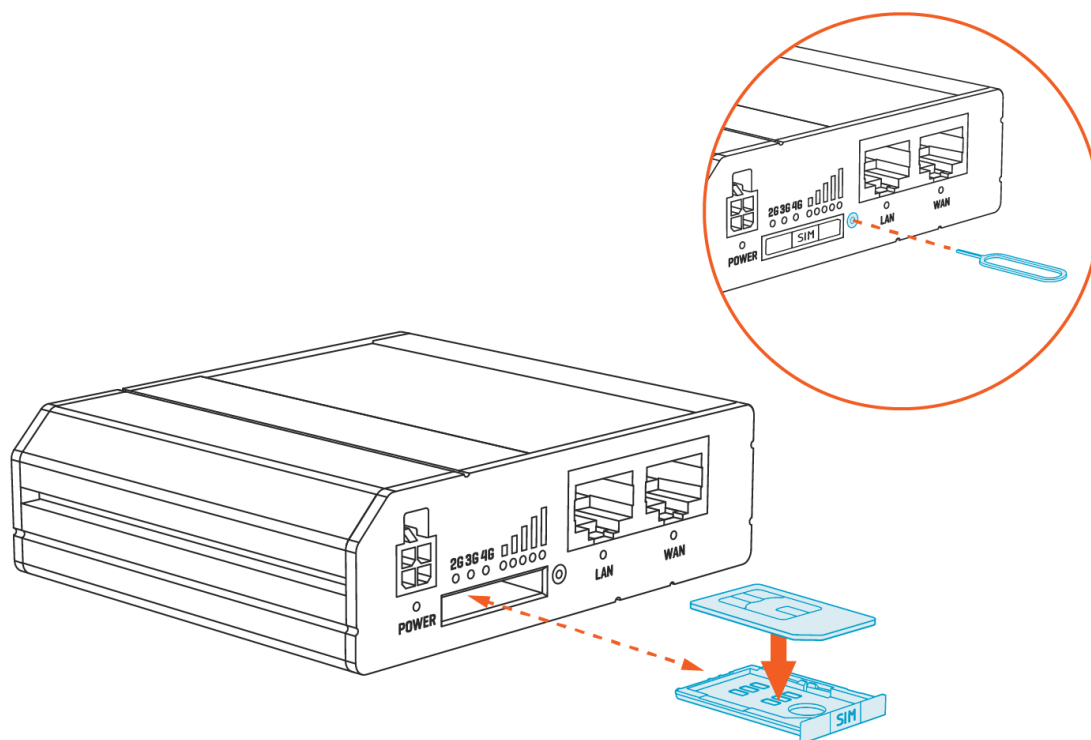
**Note:** It is recommended to use a fully configured Teltonika router with the SIM card pre-inserted to support seamless Plug and Play installation. If the SIM card is not pre-installed, follow these steps:

1. Push the SIM holder button using the SIM needle.
2. Pull out the SIM holder and insert the SIM card into it.
3. Slide the SIM holder back into the router.
4. Attach the appropriate Mobile and Wi-Fi antennas and ensure they are properly labeled.

**Note:** Depending on the type of installation site, the installer can use either the standard antennas or an additional external antenna that has been provided.

5. Connect the 4-pin connector (or power adapter) to the power socket on the front of the device. Then plug the other end of the adapter into an electrical outlet.
6. Connect to the router using:
  - Wireless (SSID and password found on the router label), or
  - Ethernet cable via the LAN port.

- 
7. Close the SIM card slot securely.

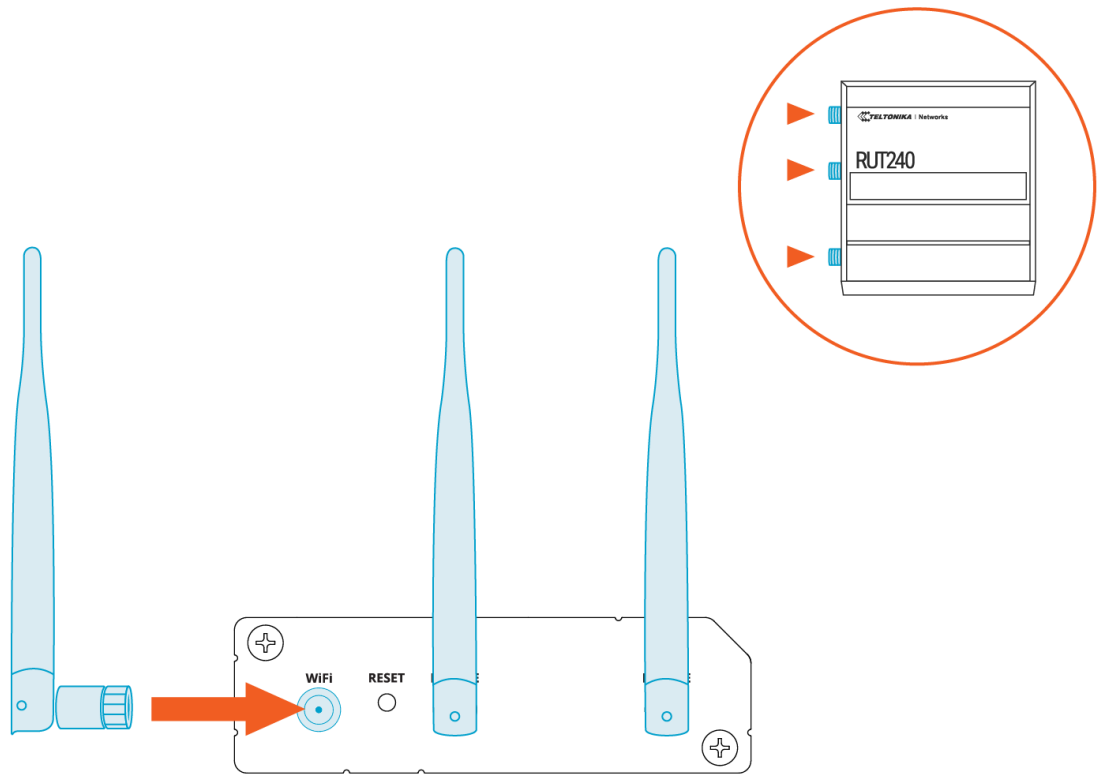


## Connect Antenna

To connect the Antenna, perform the following steps:

1. Identify the antenna port on the router.
2. Securely connect the antennas to their respective ports.
3. Attach both MAIN and AUX mobile antennas to connectors labeled Mobile on the router.

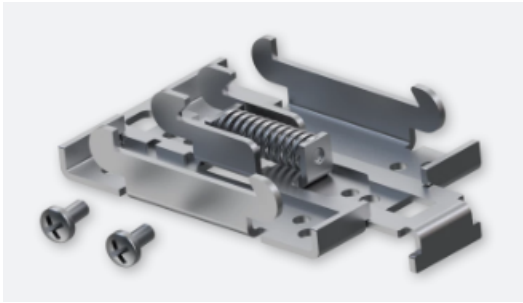
4. Attach Wi-Fi antenna to the connector labeled WiFi on the router.



5. If signal reception is poor, use the external antenna in place of the rod antennas. Ensure a cable bushing and mounting bracket is installed during site preparation.
6. Mount the antenna at this designated location and route the cables to the planned router installation point. Then, connect the two antenna cables to the connectors positioned to the right of the reset button.

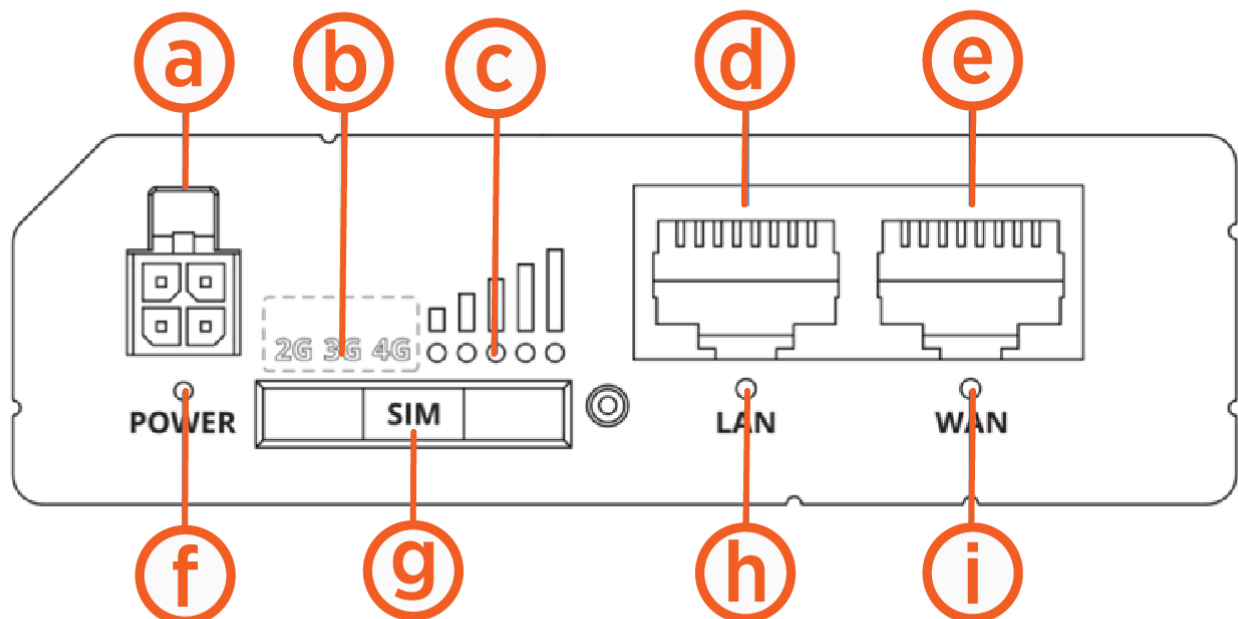


7. Secure the top-hat rail adapter to the router, connect the power cable, and mount the unit onto the top-hat rail.



8. Turn on the power and confirm that the LED on the 24 VDC power supply unit is illuminated. The router must begin its boot-up process and, within three minutes, show a signal strength of at least 3 out of 5 bars.
9. While the router is booting, start filling out the site commissioning form and take the necessary photographs.

Once the router has powered up, check its signal strength using the LED bar indicators. A minimum of 4 out of 5 bars is expected. If the signal strength is below -85 dBm or fewer than 4 bars are shown, adjust the router's antenna to improve reception.



- (a) Power Socket
- (b) Mobile Network Type LEDs
- (c) Mobile Signal Strength Indication LEDs
- (d) LAN Port
- (e) WAN Port
- (f) Power LED
- (g) SIM Slot
- (h) LAN LED
- (i) WAN LED

If the signal strength is less than 3 bars, connect the external antenna and/or adjust the position of the router or antenna to enhance reception. After making adjustments, verify that the signal strength reaches at least 3 bars.

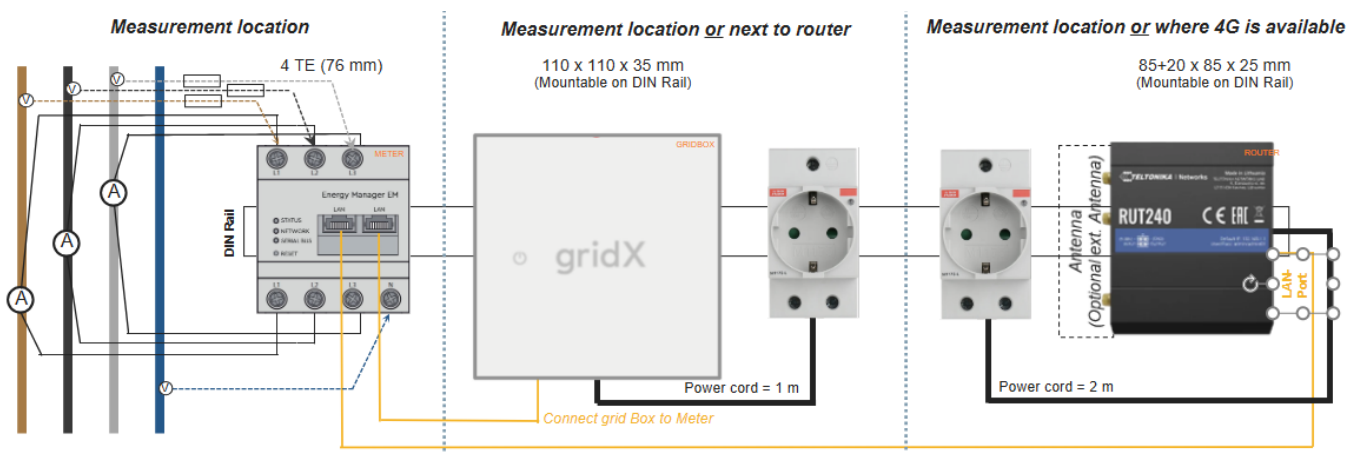
Once adequate signal strength is confirmed, complete the Site Commissioning Form and email it to ChargePoint along with the required photographs. After confirming the router is online, the site commissioning process is considered complete. Finally, sign the Site Commissioning Form and upload it to your work order through the ChargePoint Partner Portal.

# 14a Grid Control with Dynamic Load Management 4

The local setup and space requirement for 14a and DLM combined installation are as follows:

## IMPORTANT:

For both 14a and DLM combined installation, follow the instructions for DLM first, then proceed with the instructions for 14a. After completing both, ensure that the router appears as online in the Teltonika RMS portal.



# Commissioning 5

Commissioning the router and Energy Meter ensures that the router is fully operational, optimized, and integrated into the DLM system or the ChargePoint network. This may include verifying the router's connectivity to specific ChargePoint devices or services, checking the compatibility with other components of DLM (Energy Meter and Energy Gateway), configuring security protocols (firewalls or VPNs).

Ensure to activate the cellular connection and configure the router to connect and communicate with ChargePoint over the cellular network. Configuring the router settings and parameters (defining the router's IP address, gateway, DHCP/LAN settings, Wi-Fi settings, and so on.) ensures that the router is functional, connected to the internet, and a stable network is established to allow the DLM components to communicate data with each other and other devices in the ChargePoint network.

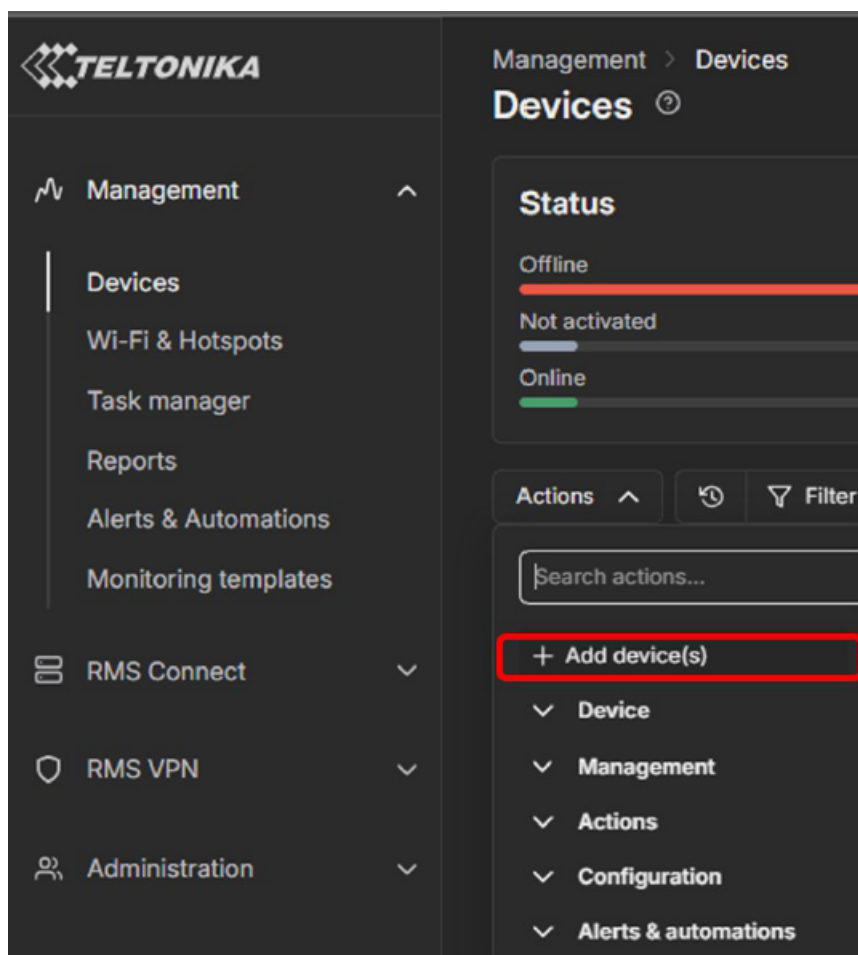
In case you require an online check of the router, go to [teltonikanetworks](https://teltonikanetworks.com) and view the new device.

## Internal Activation Instructions

To activate the router, perform the following steps:

1. Log in to **Teltonika RMS** and enter the username and password printed on the router. When prompted, change the password to the standard *ChargePoint1* for future logins.
2. On **Management** tab (on the left pane), click **Devices** menu, and perform the following steps for each sub-option within the menu:

- Click **Add device(s)** and deactivate **Activate device service** automatically.



- In **Device series**, under RUT click **Automatically enable device service** to deactivate.










Manual

From file

This form is used to add one or more devices to a selected company. To successfully add a device, you must provide the device's serial number and LAN MAC address (or IMEI for TRB devices). These details can be found on the retail box, on the back of the device itself, or in the device's web settings page. Additionally, you will need the device's current admin password. For more information, visit our [Wiki](#) page or [click here](#) to view a list of RMS-compatible devices.

Device series

 <input checked="" type="radio"/> RUT	 <input type="radio"/> TRB	 <input type="radio"/> TCR	 <input type="radio"/> TAP	 <input type="radio"/> TSW	 <input type="radio"/> OTD	 <input type="radio"/> DAP
---	--	--	--	--	--	--

1. ☒ Automatically enable device service ?

☐ Set firmware and/or backup update

☐ Set tag(s) for device(s)

2. +

Name	Serial number	LAN MAC Address	Password
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="password"/>

Submit

- Enter the **Name** of the customer, **Serial number**, **LAN MAC Address** and **ChargePoint Password** of the router, as specified in the Site Commissioning Form. Then click **Submit**. You need to wait until the router's status changes to green. During this time, create a new EMS group in NOS with all 14a stations sent by O&M to the ChargePoint partner portal or through email.

To configure 14a according to the information in the Site preparation checklist, navigate to **EMS** settings and perform the following steps for each sub-option within the menu:

The screenshot shows the 'Share Power' configuration form. The form is divided into several sections: 'Share Power', 'Dynamic Load Management', and 'Grid Control (14a)'. The following table summarizes the fields highlighted by the numbered steps in the image:

Step	Field	Value	Unit
1.	Power ceiling for the Power-sharing group	1000	in kW
2.	Grid Control router serial#	1127884557	
3.	Activate Grid Control	Yes	
4.	Airconditioning power	0.0	in kW
5.	Heatpump power	0.0	in kW
6.	14a Limit fallback	15	in kW
7.	14a Limit calculated	15.12	in kW
8.	Number of applicable chargers	3	
9.	Buttons	Save, Cancel	

1. Set the **Power ceiling for the Powerlimit** to 1000 kW if no additional EMS is needed.
2. Enter the **Grid Control router's serial number**.
3. Select "Yes" in **Activate Grid Control**.
4. If the building inspection form confirms §14a **Air Conditioning** systems, enter their output; otherwise, leave it at 0.0.
5. If the building inspection form confirms §14a **Heatpump**, enter their output; otherwise, leave it at 0.0.
6. Modify the **14a Limit Fallback** value only if required.

- 
7. Set the **14a Limit calculated** value. This value depends on the number of applicable chargers required. When the 14a signal is received, the power is distributed across all active EMS group sessions.
  8. Enter the **Number of applicable chargers** in the EMS group.
  9. Click **Save** to complete the setup.

**Note:** Verify in the **Teltonika RMS** portal if the router is online (indicated by a green status).



[chargepoint.com/support](https://chargepoint.com/support)