

# SANTERNO.IO

## QUICK GUIDE

Agg. 20/04/2018

R.01

*E n g l i s h*

- This manual is integrant and essential to the product. Carefully read the instructions contained herein as they provide important hints.
- Enertronica Santerno S.p.A. is responsible for the device in its original setting.
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## 1. INTRODUCTION

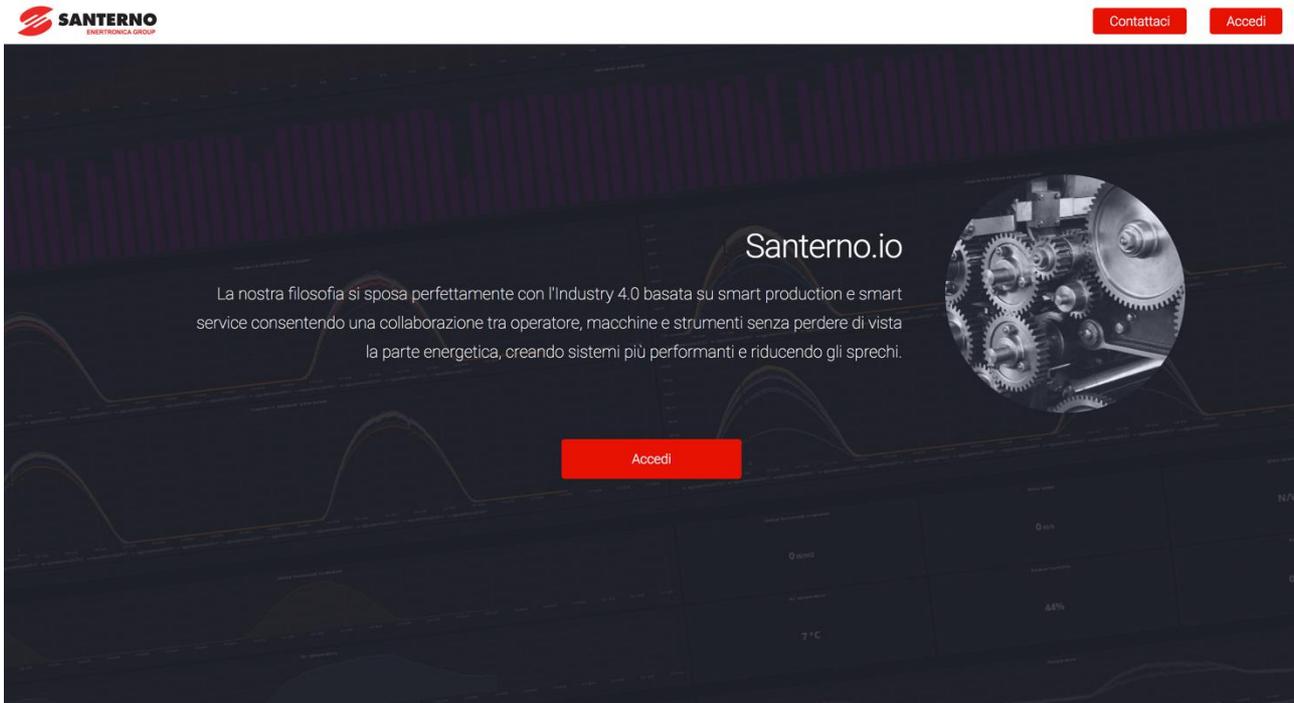
### 1.1. Santerno.io

Santerno.io is an IoTplatform that allows to monitor in real time all the data in the plant.

The monitoring is continuous and granular, with a system of personalized alarms and dedicated dashboard.

The portal makes use of the concepts of Industry 4.0, for instance smart production and smart services, and thus creating system more performing. Santerno,.io is designed to monitoring and control all types of plants: industrial, fotovoltaic, HVAC, water management and electric recharger. A system diagram constantly photographs the situation of the components, each variation corresponds to a color and a code that describes the situation in real time.

Log in <https://santerno.io/> and enter with your own and secure username and password.



## 2. WEB PORTAL

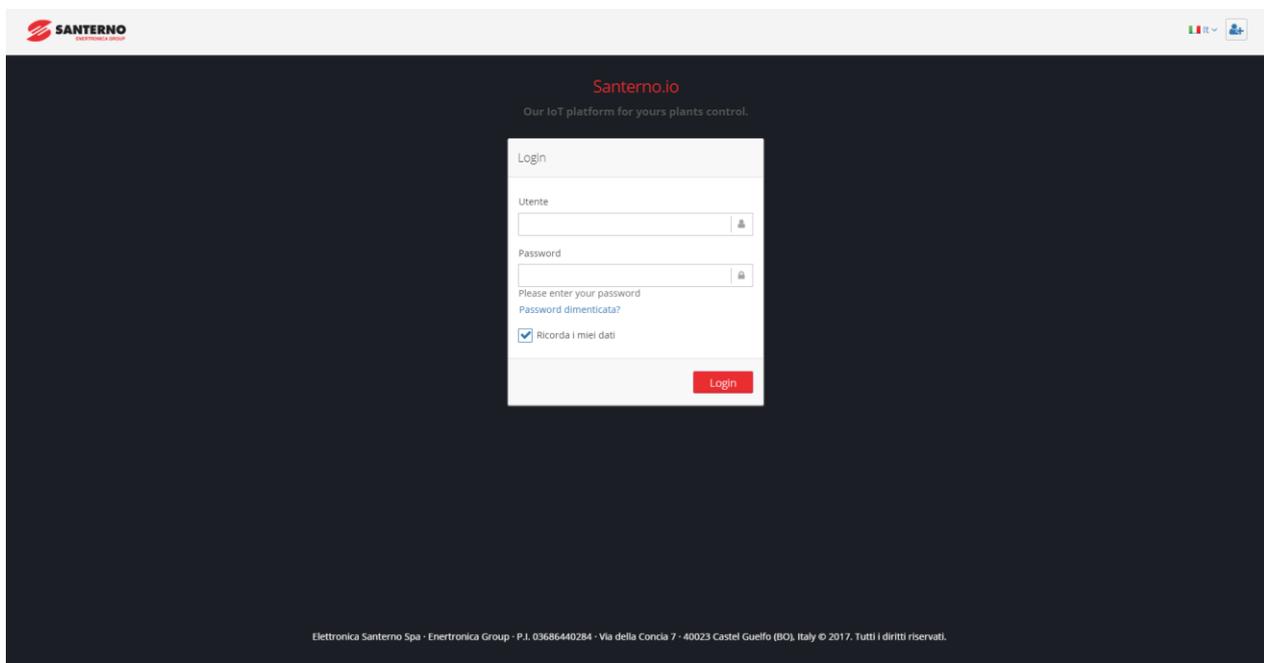
The web interface is fast, user friendly and secure.

The service receives data from the data loggers installed in the plant, aggregates and processes them to provide an unified view, provides dashboards that allow the monitoring of the plant to verify its correct operation and evaluate the production in real time.

### 2.1. Login

Select “Access” on <https://portal.santerno.io/login/>. on the top right corner.

Enter with your personal username and password.



The screenshot shows the Santerno.io login interface. At the top left is the Santerno logo. At the top right are the Italian flag and a user icon. The main content area has a dark background with the text "Santerno.io" and "Our IoT platform for yours plants control." in the center. Below this is a white login form with the following fields and options:

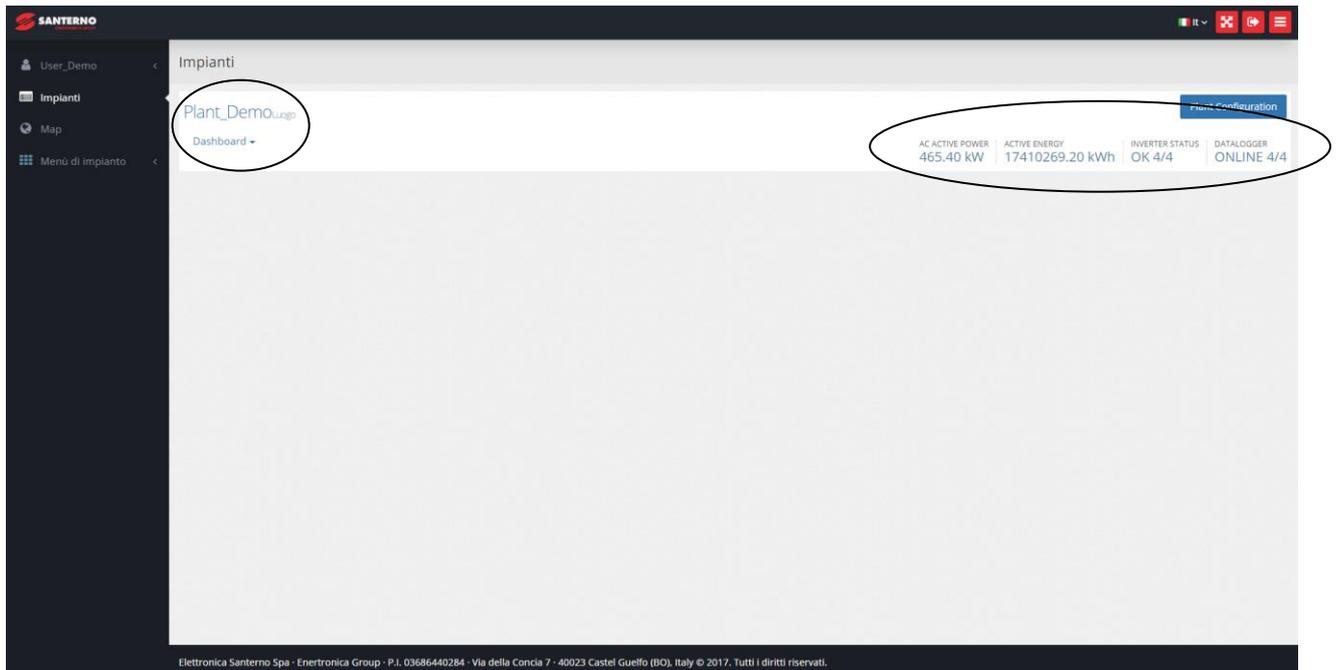
- Utente: A text input field with a user icon on the right.
- Password: A text input field with a lock icon on the right.
- Please enter your password: A message below the password field.
- Password dimenticata?: A link below the password field.
- Ricorda i miei dati: A checked checkbox below the password field.
- Login: A red button at the bottom right of the form.

At the bottom of the page, there is a small footer: "Elettronica Santerno Spa - Enertronica Group - P.I. 03686440284 - Via della Concia 7 - 40023 Castel Guelfo (BO), Italy © 2017. Tutti i diritti riservati."

## 2.2. Plants

In this page all the plants available for the logged user are listed.

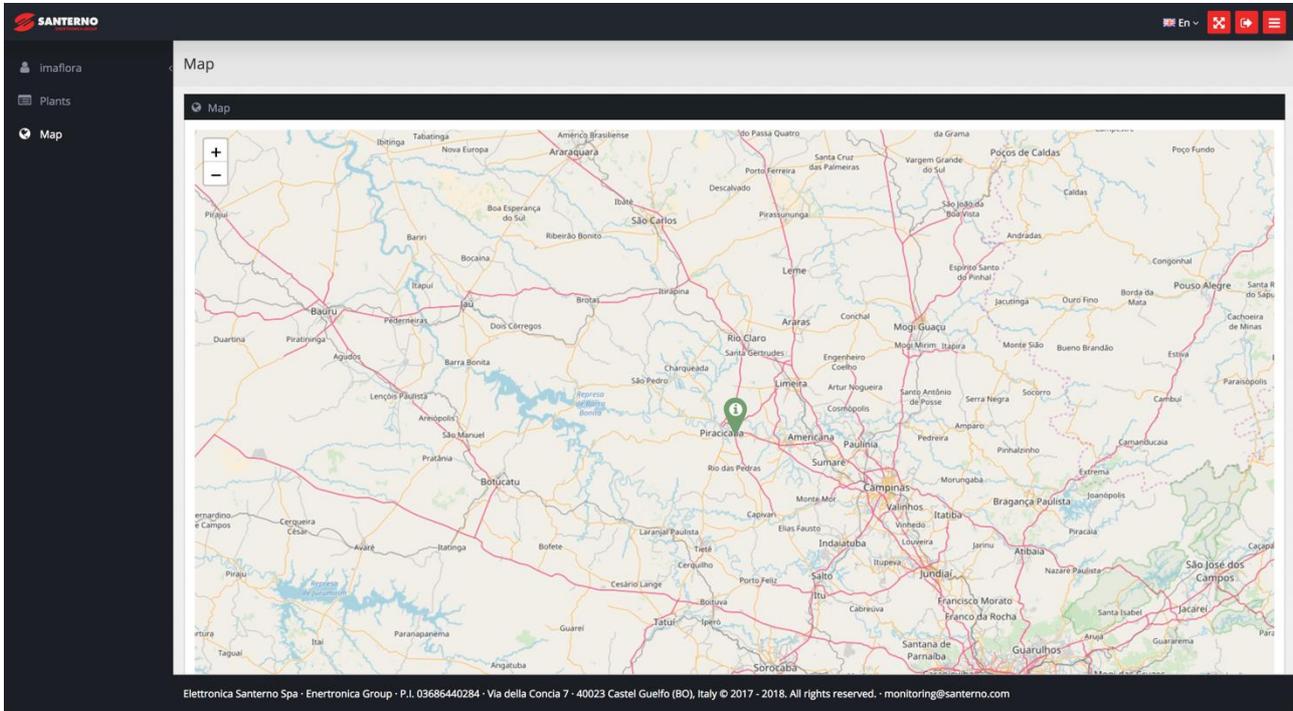
Highlights, like active power, active energy, the status of the inverters and data loggers, are reported in the right side.



To see all the plant's data, just click on the name of the plant (ex: Plant\_Demo)

### 2.3. Map

For each plant it is possible to see where it is located on a map.



The plant on the map is marked with a convention color that indicates the operating status. By clicking on the icon, a summary of the main plant's metrics is shown.

Plant_Demo	
Status	Inverters OK: 1/1
Rated power	100 kW
Delivered active power	78.30 kW
Delivered active energy	963001.52 kWh
Commissioning	2011-12-29

[Go to plant](#)

The plant's summary allows the visualization of the production data of the selected plant, detailing the individual subfields, with information of the inverters, string boxes or sensors.

## 2.4. Plant Menu

The menu is subdivided into submenus:

- Summary
- Scheme
- Dashboard
- Services

### 2.4.1. Summary

Datalogger ID	AC ACTIVE POWER	ACTIVE ENERGY	INVERTER STATUS	DATALOGGER
DL1 90513F000000	323.90 kW	11518196.80 kWh	OK 4/4	ONLINE 4/4
DL2 90513F000008	101.30 kW	3368473.60 kWh	OK 1/1	ONLINE
DL3 90513F000000	99.60 kW	3632721.92 kWh	OK 1/1	ONLINE
DL4 90513F100000	103.10 kW	3564162.56 kWh	OK 1/1	ONLINE
DL4 90513F100000	19.90 kW	952838.72 kWh	OK 1/1	ONLINE

Summary shows the list of active dataloggers, and by clicking on them all the acquired devices and their measurements are shown.

Datalogger ID	AC Active Power	DC Active Power	CPU Temperature	Inverter Status	Field Voltage	Active Energy	Heatsink Temperature
DL2 Sunway TG 046 [ST170K#46]	251.6 kW	252.6 kW	46.57 °C	RUN	514.0 V	3623973.44 kWh	72.02 °C
DL2 String Box 047 [QP10SK#47]	5.98 A						
DL2 String Box 048 [QP10SK#48]	5.8 A						
DL2 String Box 049 [QP10SK#49]	5.94 A						

### 2.4.2. Scheme

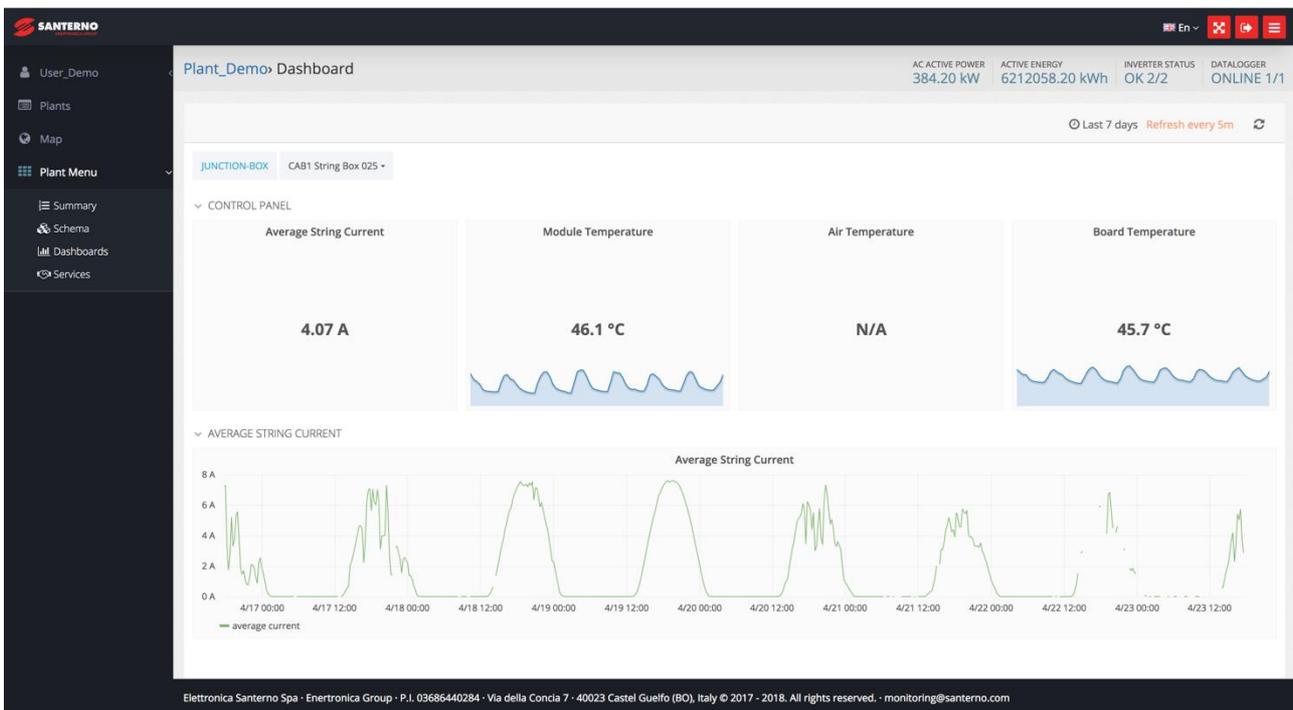
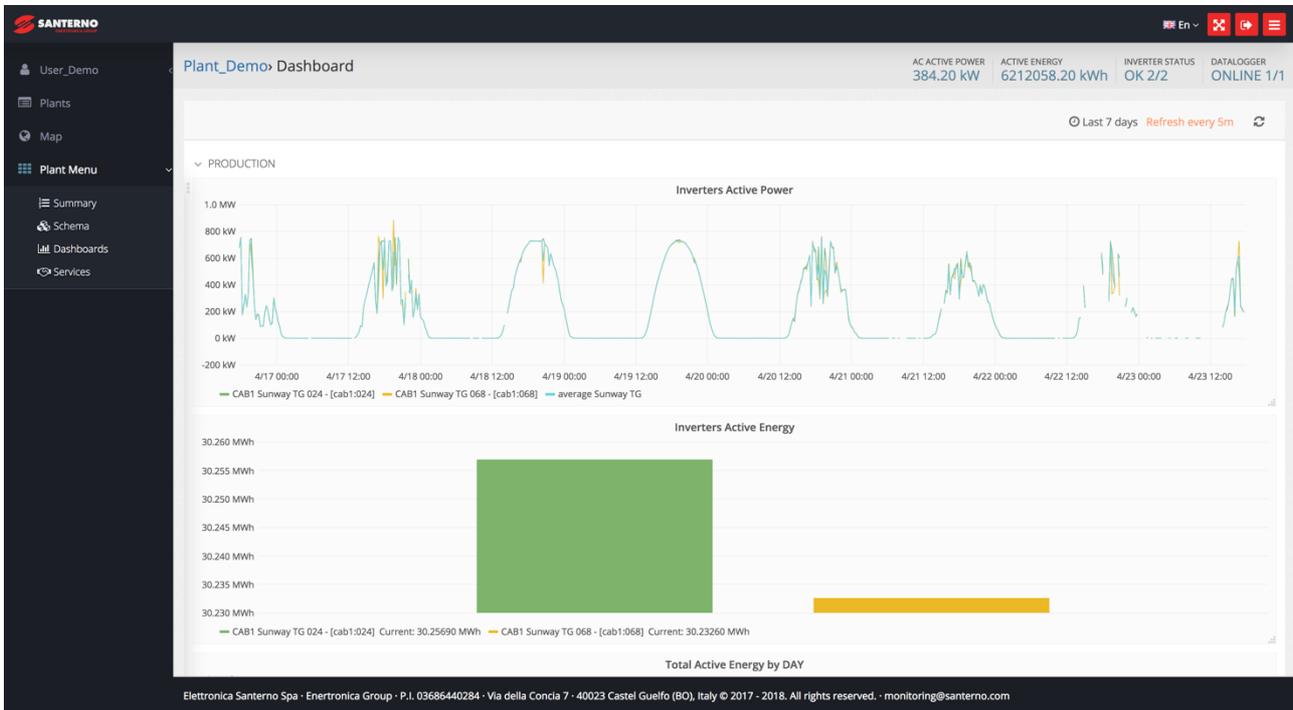
The diagram shows the inverters and the monitored devices.

The screenshot displays the SANTERNO monitoring interface for a plant named 'Plant\_Demo'. The main view is the 'Schema' section, which shows a hierarchical structure of monitored devices. At the top, there are summary statistics: AC ACTIVE POWER (680.14 kW), ACTIVE ENERGY (6212058.20 kWh), INVERTER STATUS (OK 2/2), and DATALOGGER (ONLINE 1/1). The schema is organized into several containers:

- cab1**: The main container, which includes:
  - CAB1 Gavazzi\_Meter\_WM30**: Three meters (003, 004, 005).
  - CAB1 Weather-Station\_1**: One station (002).
  - CAB1 PPC**: One power protection controller (001).
  - CAB1 Moxa\_Remote-IO**: Two remote IO devices (1\_007, 2\_008).
  - CAB1 Tecsystemic\_Temperature-control\_NT538**: One temperature control device (006).
  - Inverters**: Two Sunway TG inverters (024 and 068).
    - cab1 Sunway TG 024**: A 3x6 grid of JB (Job) units, numbered JB 25 to JB 46.
    - cab1 Sunway TG 068**: A 6x3 grid of JB units, numbered JB 69 to JB 90.

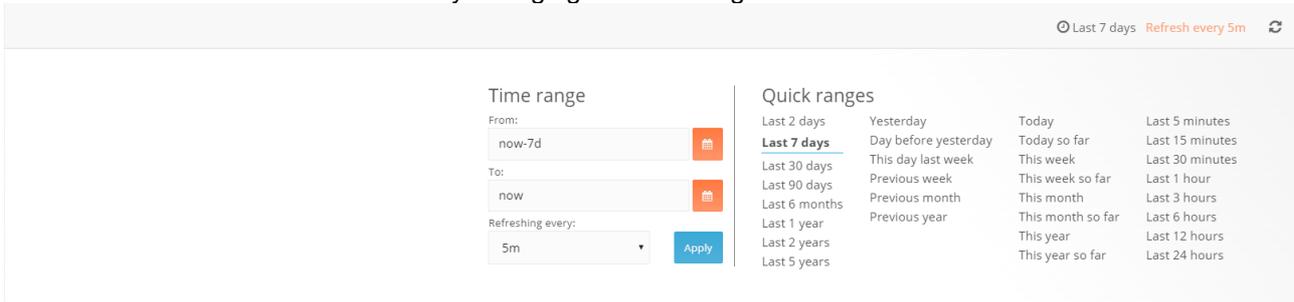
At the bottom of the interface, there is a footer with contact information: Elettronica Santerno Spa - Enertronica Group - P.I. 03686440284 - Via della Conca 7 - 40023 Castel Guelfo (BO), Italy © 2017 - 2018. All rights reserved. - monitoring@santerno.com

### 2.4.3. Dashboard



The graphs show the production trend including power, energy and relative irradiation, with separate data for each device and sensor. It's possible to select or deselect some curves to analysis and compare only some curves.  
It's also possible to zoom part of the chart by just selecting and dragging.

The chart interval could be modified by changing the time range.



The screenshot shows a configuration panel for time ranges. On the right, there is a status bar indicating 'Last 7 days' and 'Refresh every 5m'. The main panel is divided into two sections: 'Time range' and 'Quick ranges'.

**Time range:**

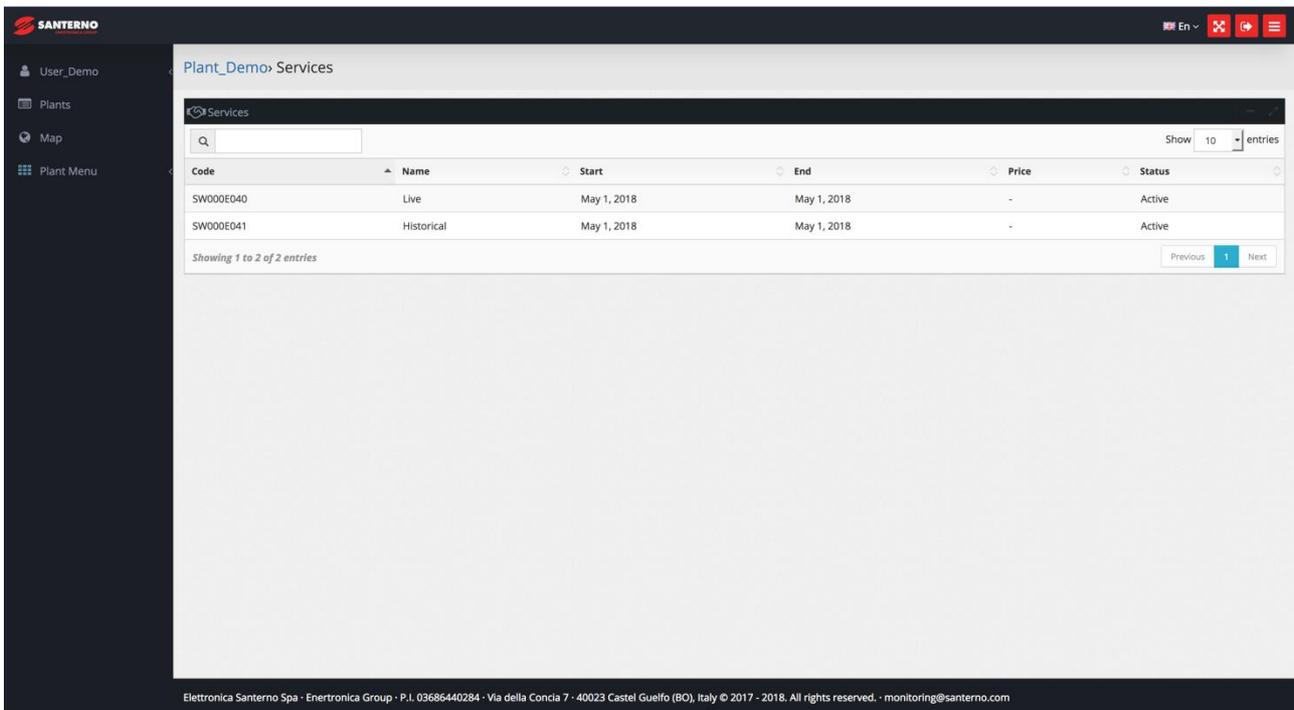
- From:  
- To:  
- Refreshing every:  
- 

**Quick ranges:**

- Last 2 days
- Yesterday
- Today
- Last 5 minutes
- Last 7 days** (highlighted)
- Day before yesterday
- Today so far
- Last 15 minutes
- Last 30 days
- This day last week
- This week
- Last 30 minutes
- Last 90 days
- Previous week
- This week so far
- Last 1 hour
- Last 6 months
- Previous month
- This month
- Last 3 hours
- Last 1 year
- Previous year
- This month so far
- Last 6 hours
- Last 2 years
- This year
- Last 12 hours
- Last 5 years
- This year so far
- Last 24 hours

### 2.4.4. Services

In the submenu Services it's possible to view all the active services, and it may be possible to see the price of next renewal of the monitoring service.



The screenshot shows the 'Services' submenu. The left sidebar contains navigation options: 'User\_Demo', 'Plants', 'Map', and 'Plant Menu'. The main content area is titled 'Plant\_Demo > Services' and contains a table of services.

**Services Table:**

Code	Name	Start	End	Price	Status
SW000E040	Live	May 1, 2018	May 1, 2018	-	Active
SW000E041	Historical	May 1, 2018	May 1, 2018	-	Active

Showing 1 to 2 of 2 entries. Navigation: Previous 1 Next

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Starting from thirty days before the service expiry, the following banner is shown automatically in every page.



**Plant subscription will expire on 01-05-2018**  
Please contact monitoring@santerno.com