BACANCY®
SYSTEMS PVT LTD

Commissioning Process

CCS2 / LEVDC / GBT CDM Application

App Version (V): 1.2.3

Please completely read this document and the contained safety instructions and note all given information before usage.

Please maintain the confidentiality of this document. It is intended solely for usage by people professionally associated with the product. If you are not the intended recipient, you may not disclose or use the information in this documentation. The information does not constitute an offer or solicitation to buy or sale of any security.

This document's text and illustrations have been meticulously crafted. However, we may not be held accountable for any discrepancies or failure consequences.

Some company and label names are protected by a label, a patent, or a trademark.

Address: Bacancy Systems PVT LTD,
15-16, Times Corporate Park,
Near Thaltej-Shilaj Road,
Opp. Copper Stone Flats,
Thaltej, Ahmedabad,
Gujarat, India, 380059
Website: www.bacancysystems.com
Email: systems@bacancysystems.com
Phone: +91 90160 28817

Liability

The given data is primarily for product description reasons and should not be considered a guaranteed characteristic unless specifically stated in the contract. All rights are retained with regard to the content of this documentation and the availability of the product.

DISCLAIMER

The product, product data and any of its specifications are subject to change without notice. Bacancy Systems PVT LTD, its employees, and all persons acting on its behalf shall not be liable for any errors, inaccuracies, or incompleteness that occur if the methodology contained herein or in any other revelation of the product is not followed. The product specifications alter or amend neither the terms nor conditions of purchase nor the warranty expressed therein.

Bacancy Systems PVT LTD offers no warranty, representation, or guarantee other than as set forth in the terms and conditions of purchase. To the maximum extent permitted by applicable law.

Bacancy Systems PVT LTD, Disclaims

(i). Any and all liability arising out of the application or use of any product.

(ii). Any and all liability, including without limitation special, consequential or incidental damages.

(iii). Any and all implied warranties, including those of merchantability, fitness for a specific purpose, and non-infringement.

The information provided in the document and/or specifications may differ from actual results in different circumstances, and efficiency may change over time. Statements on a product's appropriateness for a certain application are based on Bacancy Systems PVT LTD's understanding of standard demands that are frequently put on the products of Bacancy Systems PVT LTD. The customer should determine whether a given Bacancy Systems PVT LTD product with the features mentioned in the product specification is appropriate for use in a specific application.

The product shown herein is not designed for use in lifesaving or life-sustaining applications unless otherwise expressly indicated. Customers who utilise or sell Bacancy Systems PVT LTD products that are not explicitly intended for such applications do so solely at their own risk.

This document is intended to improve the operator's efficiency throughout the procedure and does not entirely absolve them of responsibility.

Change Record

Rev. No.	Date	Details	Revised By	Approved By
1	11/10/2024	Initial Release	Kanji Viroja	Kanji Viroja
2	23/04/2025	Legal Entity Conversion: LLP to PVT LTD	Kanji Viroja	Kanji Viroja
3	05/05/2026	Revised Email Address	Rajkumar Patel	Kanji Viroja

Table of Contents

1 Intended Use

Bacancy System designed and developed the CCS2 / LEVDC / GB/T CDM application. It enables the configuration and testing of the controller parameter, which is the initial setup of the controller, in accordance with ensuring optimum efficiency. The application presents an ideal user interface, which facilitates a quick commissioning procedure.

This document is structured into various sections and subsections. Section 2 details the installation of the CSM application. Section 3 explains the connection between the controller and the laptop or PC. The dashboard provides firmware version information as well as other controller-related information. Furthermore, Sections 3.4 and 3.5 provide a brief explanation of the controller's configuration and test mode, respectively.

Furthermore, the user can contact our team to resolve their issue by using the contact information provided on the last page.

WARNING!	**Risk caused by inappropriate use!**
	Any unconventional use and/or different operation of the product can lead to hazardous situations. • Only conventionally use the Product.

1.1 Limitation

The product is intended for use in an operational environment. It should not be utilised in hostile or explosive conditions.

The operator should consult local safety authorities and safety representatives before performing tasks in hazardous areas or in similar circumstances.

1.2 Alteration and Restoration of the Product/System

To prevent risks and make sure optimal performance, no alterations, attachments, or restoration of the product are permitted without explicit authorisation of Bacancy Systems PVT LTD.

2 Installation of CSM Application

To install the CSM application, the user should have an installation setup on their PC or laptop.

NOTE!	Latest Version of the application
	Before installing the CSM application, the user should have the latest version of the software.

Step 1. Open the application's “setup” installer to install the CCS2 CDM application.

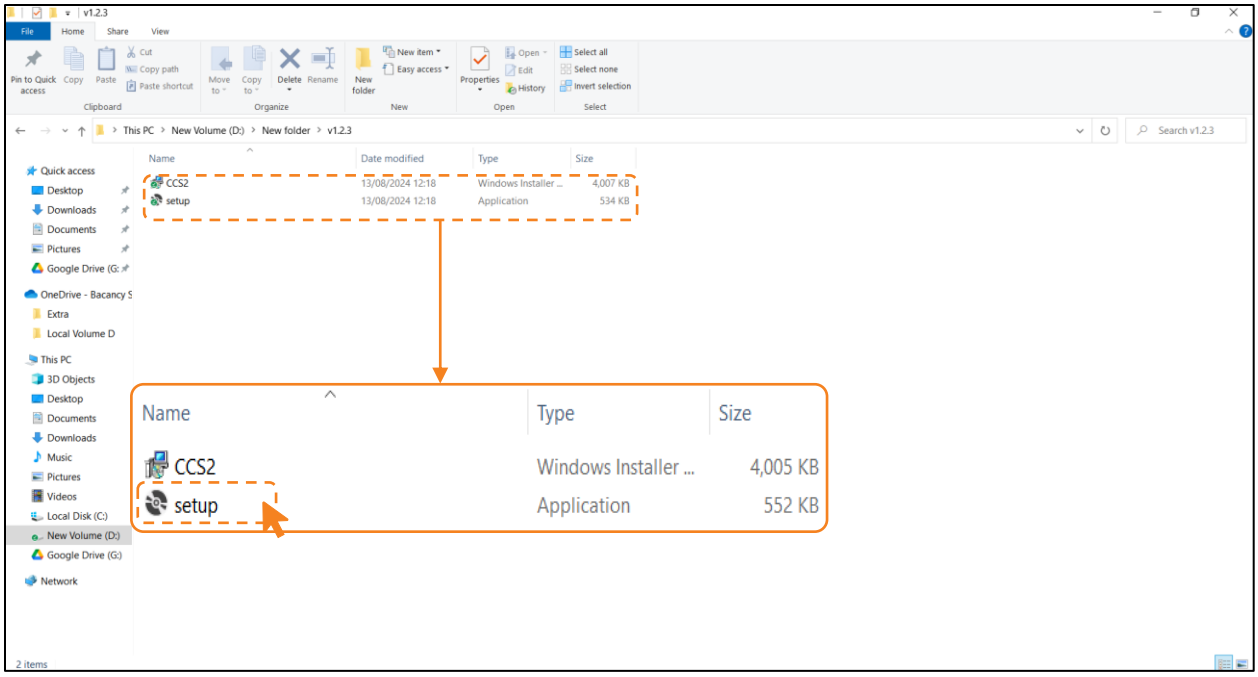

Figure 1 Open the CCS2 CDM application “setup” on the PC or Laptop

Step 2. This is the “Initial Wizard for CCS2 Setup”. Click the “Next” button to proceed with the installation.

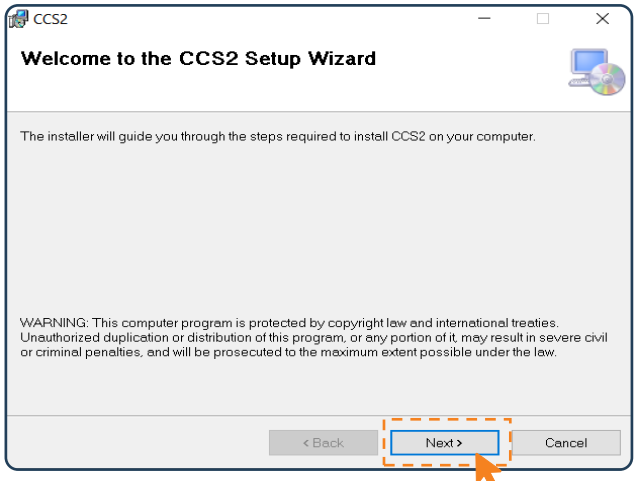

Figure 2 Click the “Next” button in the CC2 Setup Wizard.

Step 3. Select the “Everyone” option.

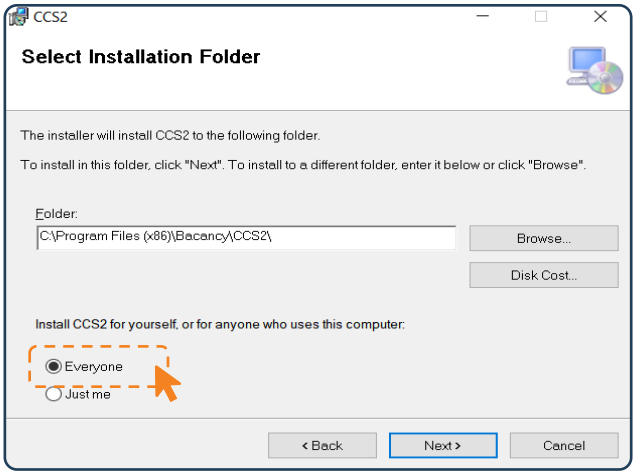

Figure 3 Choose the “Everyone” option.

Step 4. Click the “Next” button.

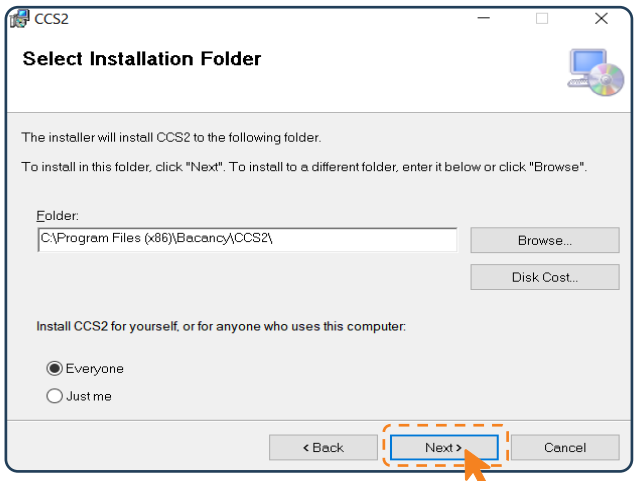

Figure 4 Click the “Next” button.

Step 5. Click the “Next” button to start the installation.

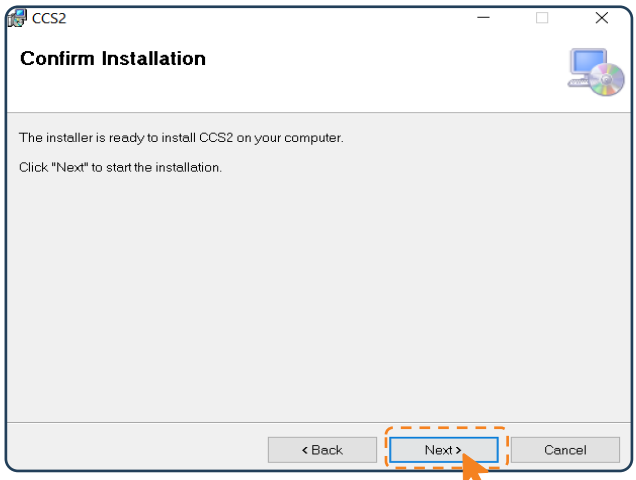

Figure 5 Click the “Next” button to confirm installation.

Step 6. After the application has finished installing, click the “Close” button to complete the installation procedure.

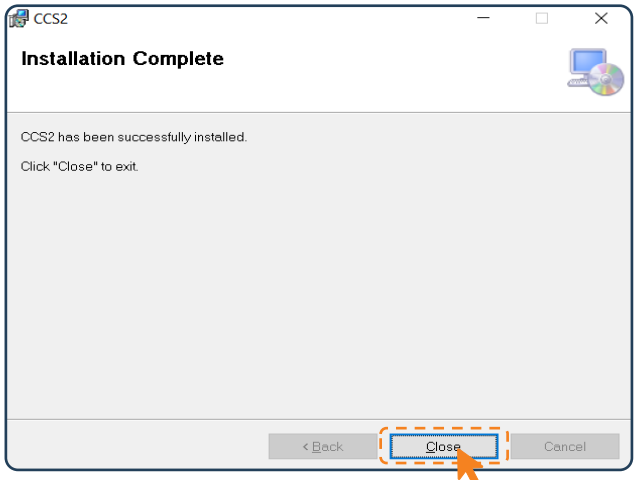

Figure 6 Click the “Close” button to complete the installation setup.

3 Getting Started Application

3.1 Connect the Controller with the PC / Laptop

Step 1. First, disconnect the HMI connector from the controller board, and then connect the controller to a PC or laptop using the RS-485 USB dongle.

Hardware Connection:

Pin no. 01 with RS-485 (+)

Pin no. 02 with RS-485 (-)

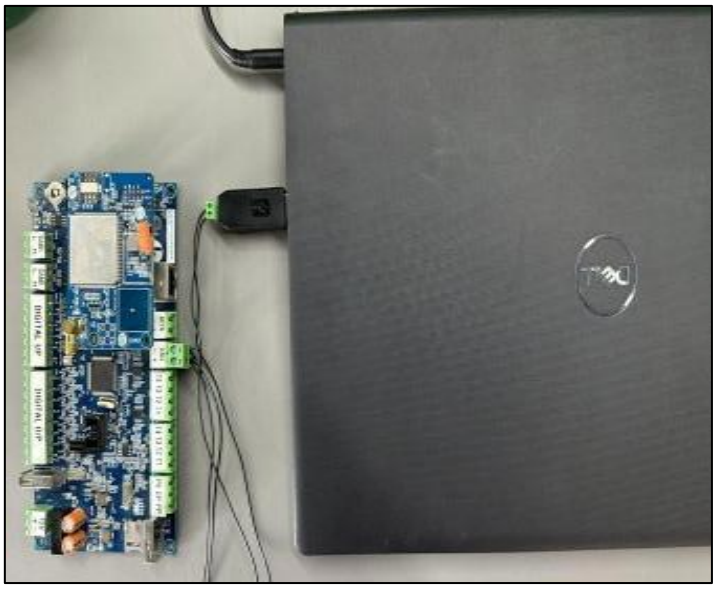

Figure 7 Hardware Connection

Step 2. If all of the board's green LEDs turn ON, connect the Modbus tool dongle as shown in the image below.

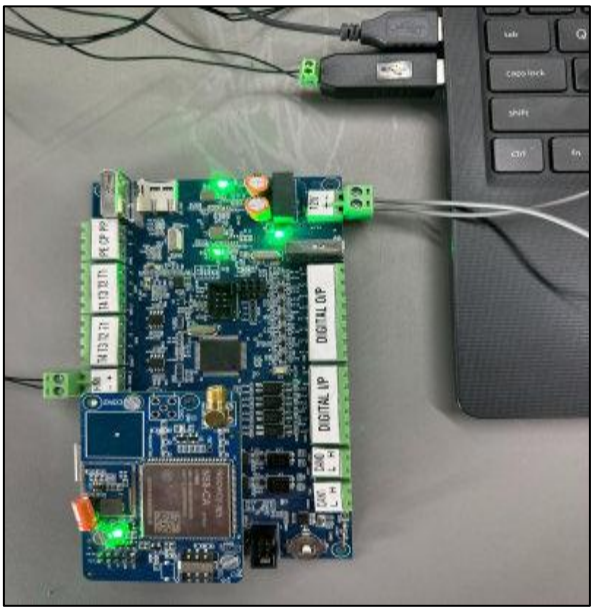

Figure 8 Connect Modbus Tool Dongle

3.2 CSS2 CDM Application Login

Step 1. Open the CCS2 CDM programme from your desktop, as shown in the image below.

Figure 9 Open the CCS2 CDM Application from the desktop

Step 2. The user should enter their legitimate credentials and click the login button, as shown in the image below.

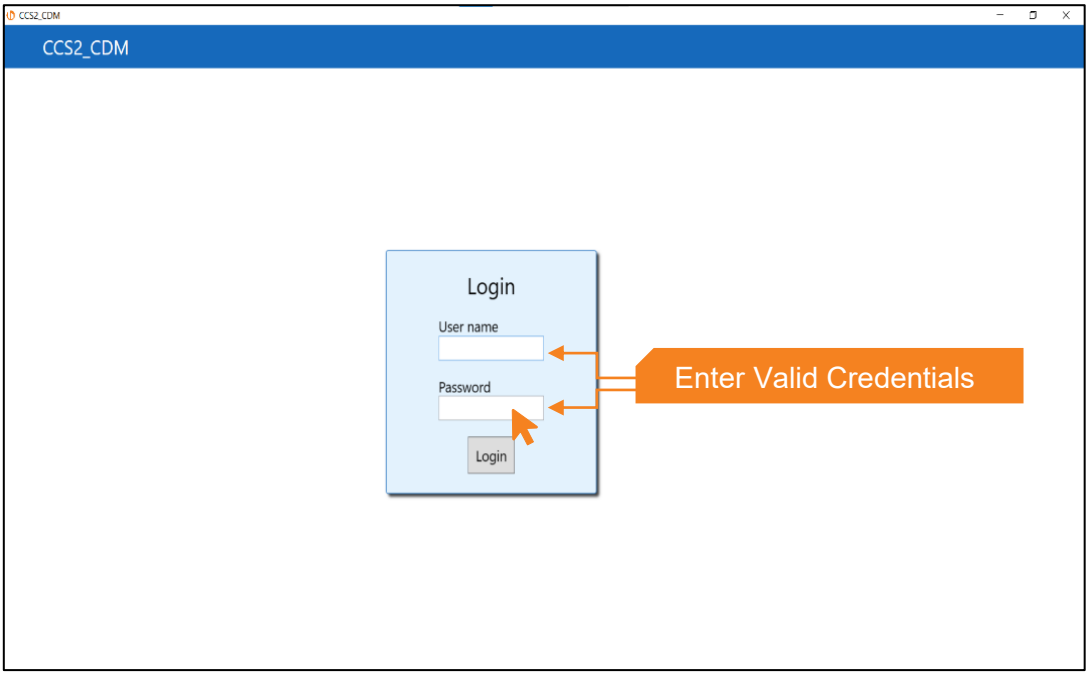

Figure 10 Log in using valid credentials.

3.3 Dashboard

After successfully logging into the application, the dashboard page will appear, as shown in the image below.

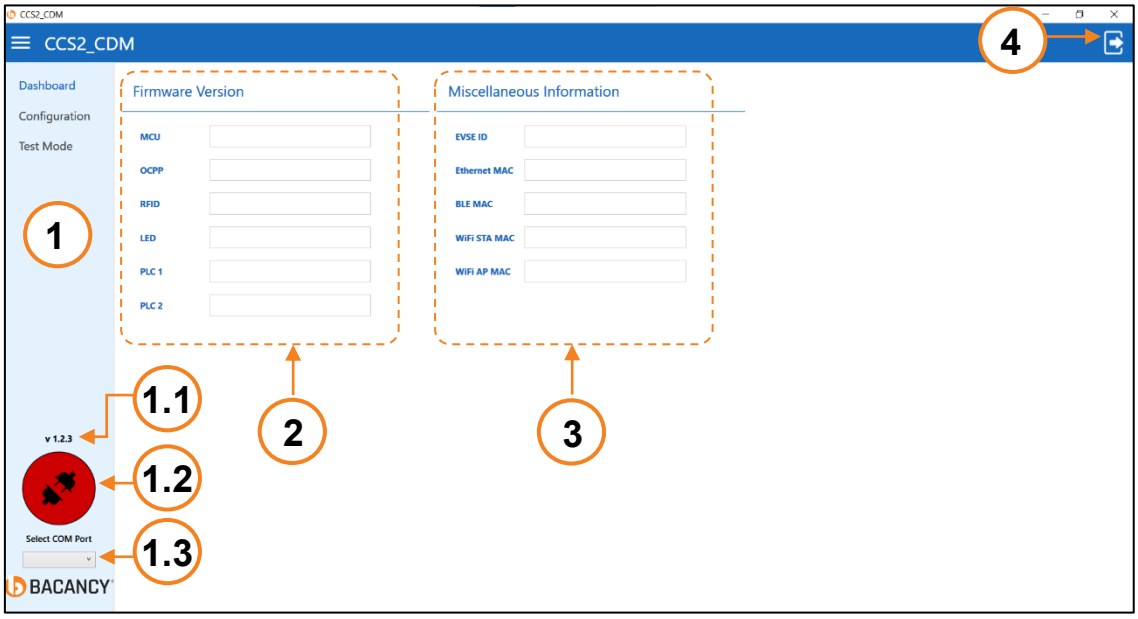

Figure 11 Dashboard of the CC2 CDM Application

Table 1 Dashboard Interface

No.	Interface Name
1.	Menu
1.1	Application Version
1.2	Module Connection
1.3	Selection COM Port
2.	Firmware Version
3.	Miscellaneous information
4.	Log-out

Step 1. Open the menu and select the appropriate “USB COM Port” from the dropdown list.

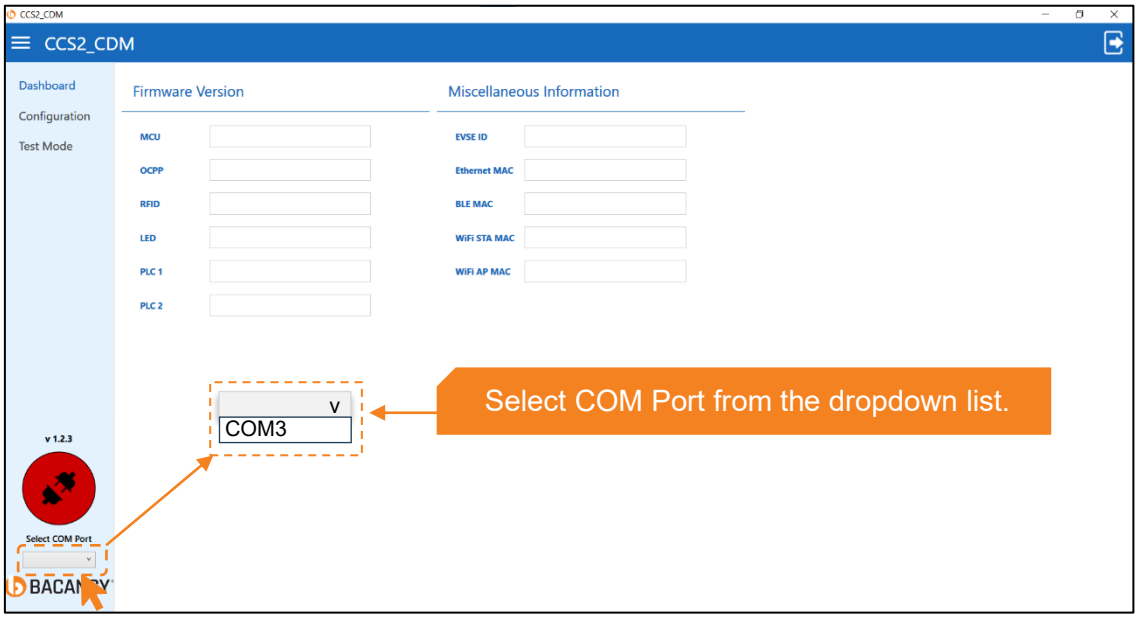

Figure 12 Select the USB COM Port from the dropdown list.

Step 2. After selecting a “COM port”, click the “module connection” icon to connect it, as shown in the image below.

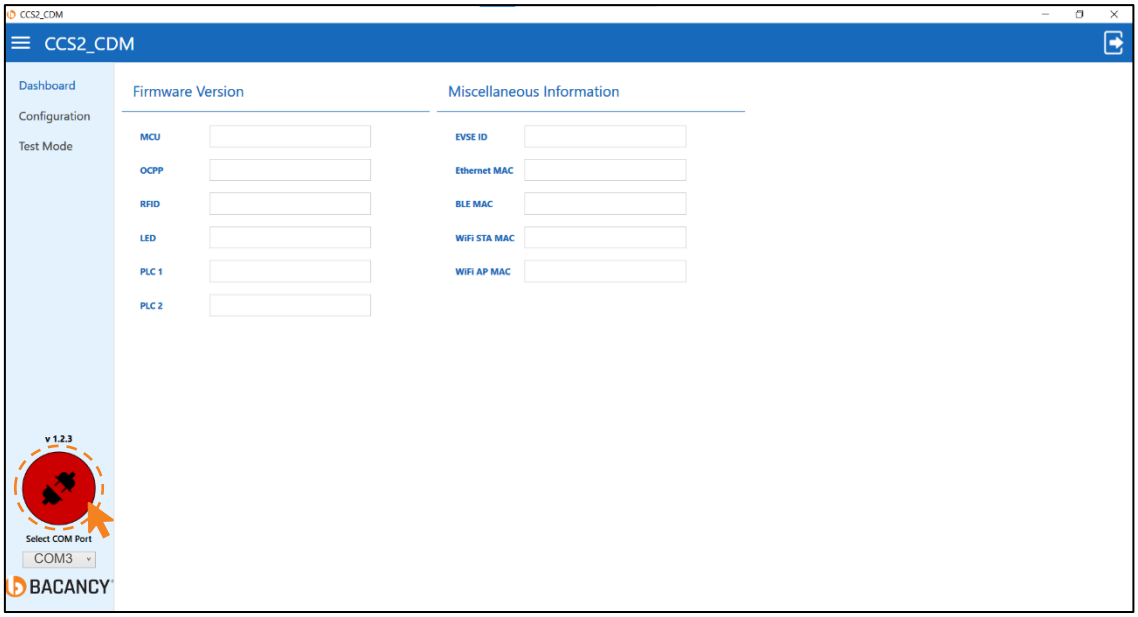

Figure 13 Click the “Connection” button.

Step 3. The module connection symbol will turn green after the application is connected to the controller board, and the firmware version and other information will appear on the dashboard, as shown in the image below.

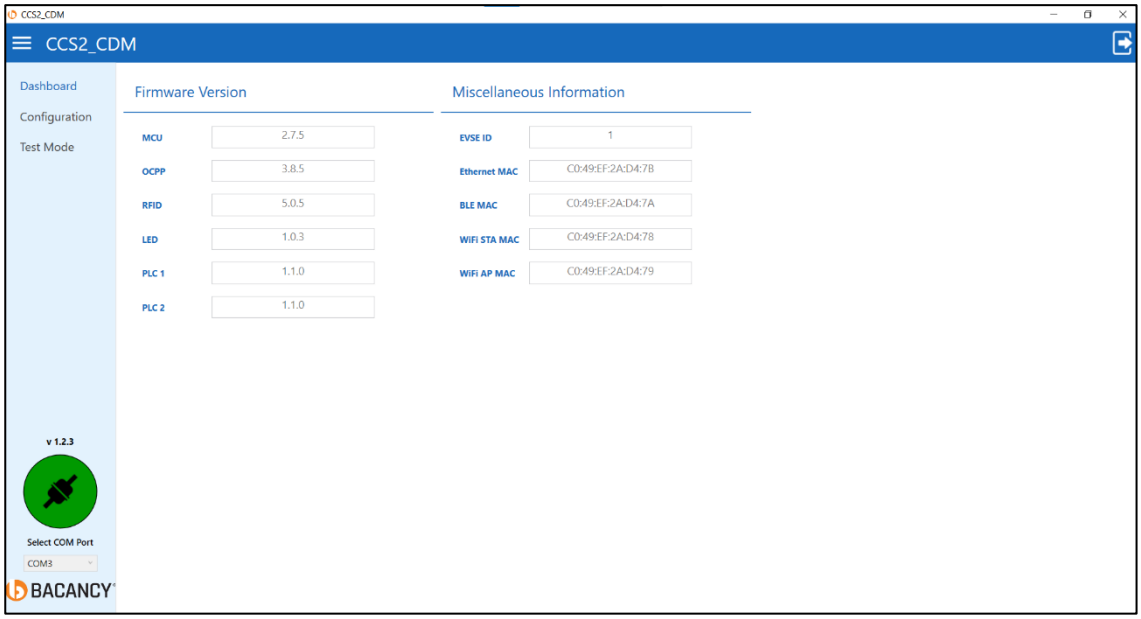

Figure 14 After successfully connecting with the controller

3.4 Configuration Window

Open the menu and select the “Configuration” option. It will bring up the configuration window.

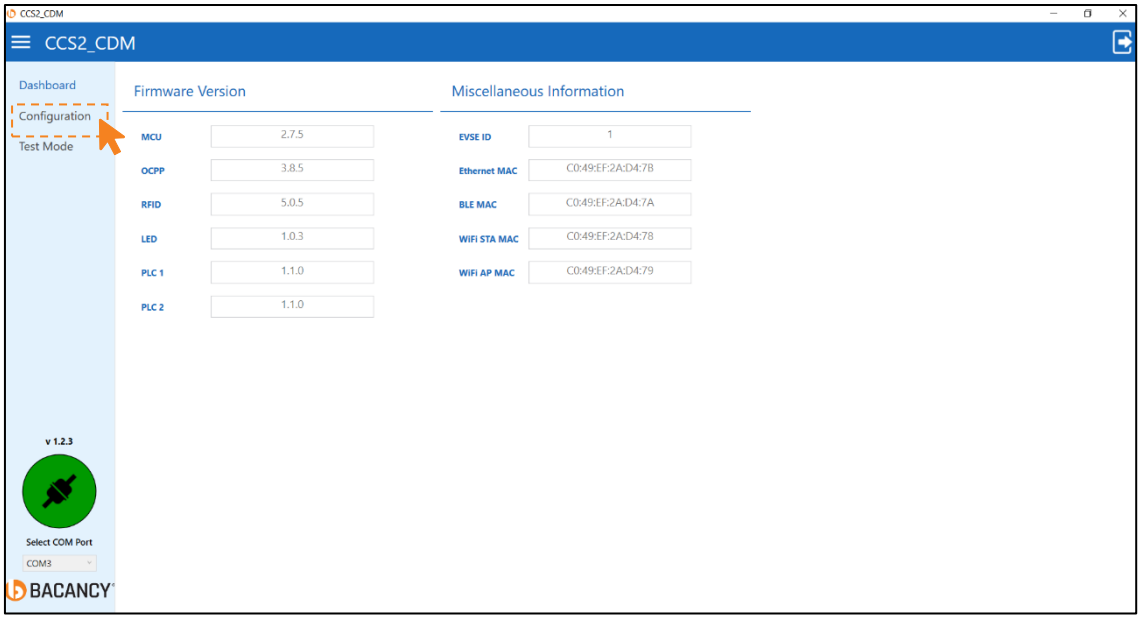

Figure 15 Open the configuration from the menu

3.4.1 Charger Configuration Tab

This is the charger configuration tab. The application displays the latest defined and stored tab.

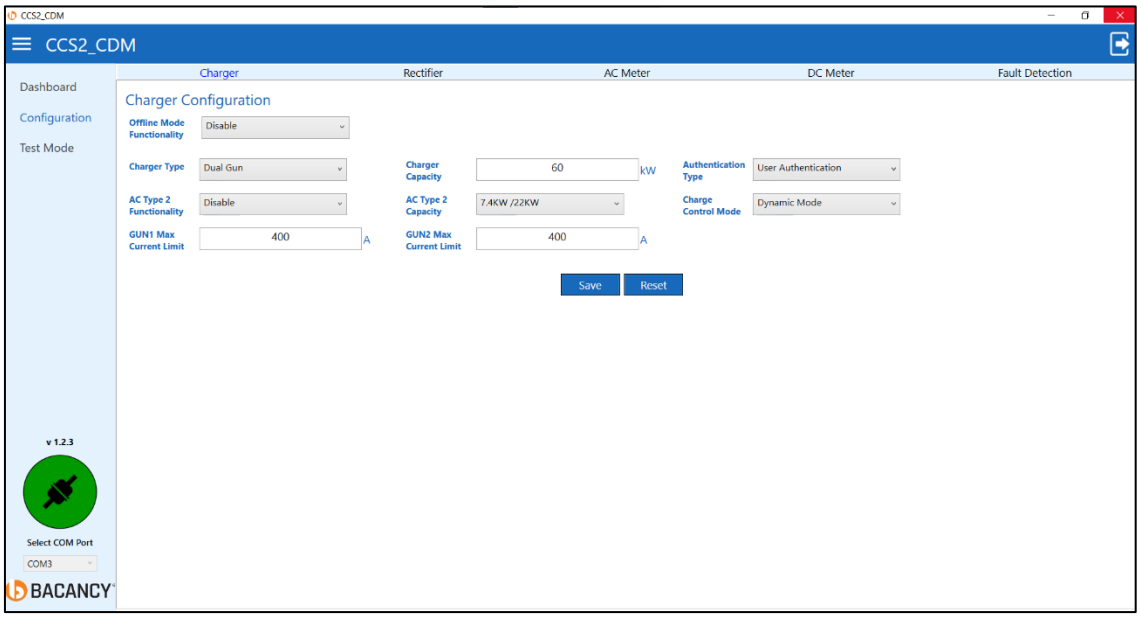

Figure 16 Charger configuration tab

Step 1. Select the “Charger Capacity” (Power) of the charger and enter the values shown in the image below.

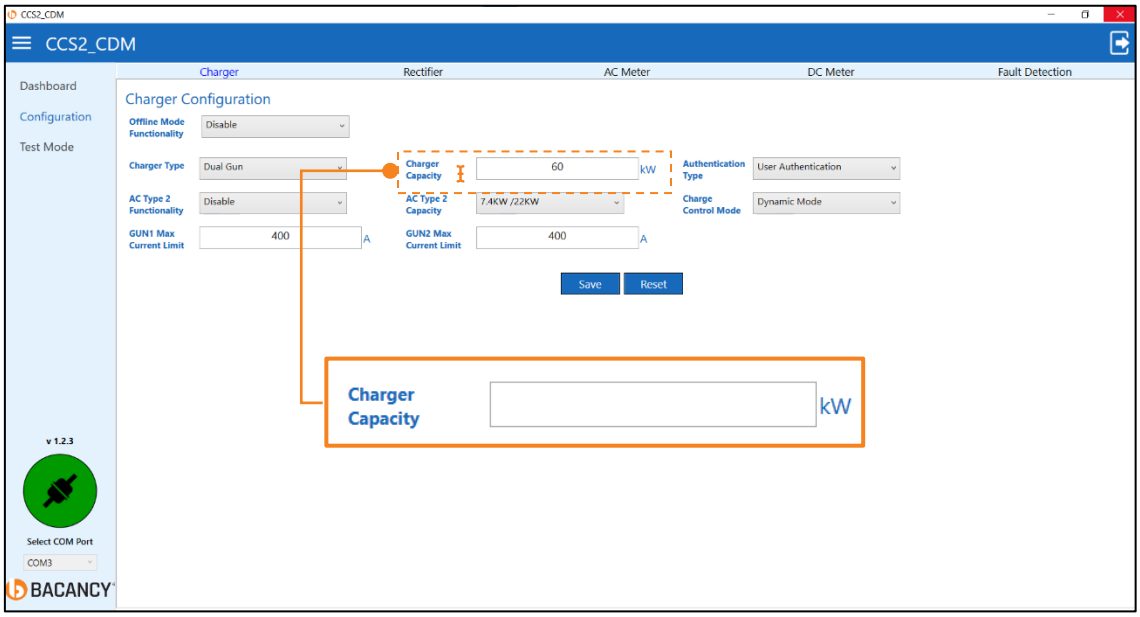

Figure 17 Enter charger capacity in kW

Step 2. Select “Charger Type” as your requirements.

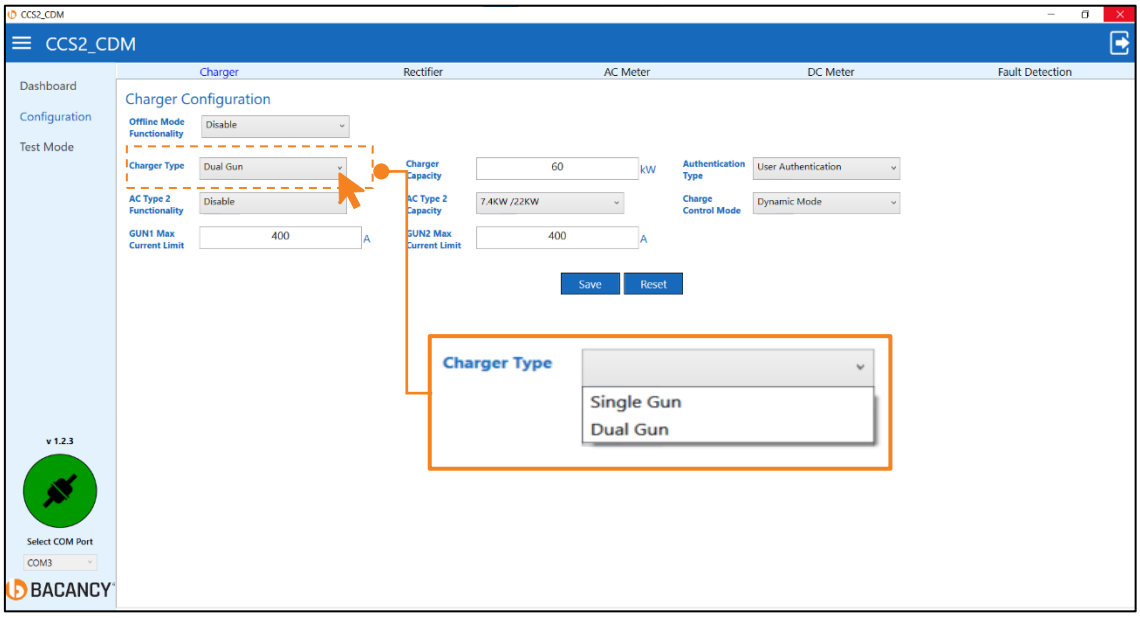

Figure 18 Select the charger type.

Step 3. Select either enable or disable “AC Type 2 Functionality” according to your requirements.

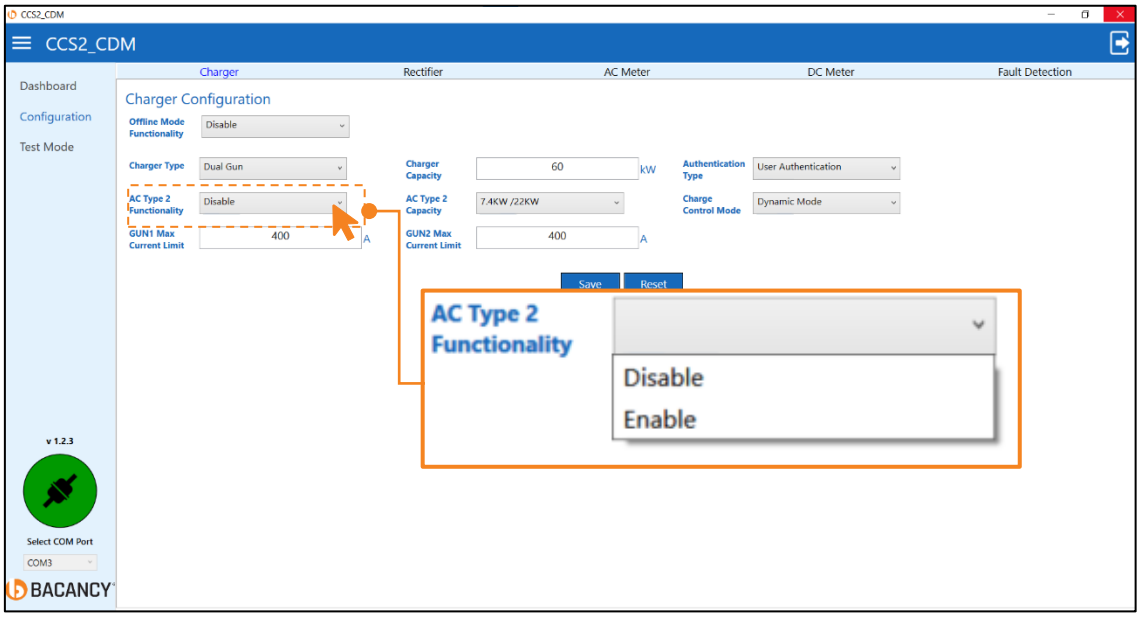

Figure 19 Disable / enable the AC Type 2 functionality

Step 4. Select the “AC Type 2 Capacity” that meets your requirements.

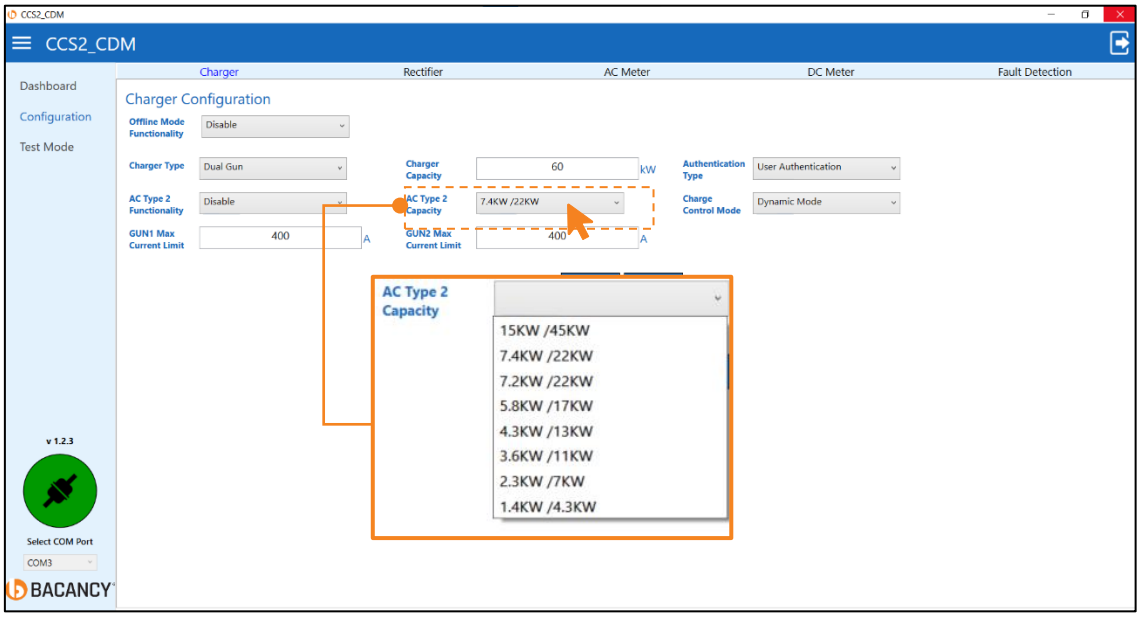

Figure 20 Select the AC Type 2 capacity.

Step 5. Click the drop-down for Authentication Type and choose your preferred choice.

Authentication Type	Details
User Authentication	To authenticate, the user needs to have an RFID card.
Plug & Charge	The MAC address of EV will be validated using the server's registered database.
Plug & Play	There is no need to authenticate.

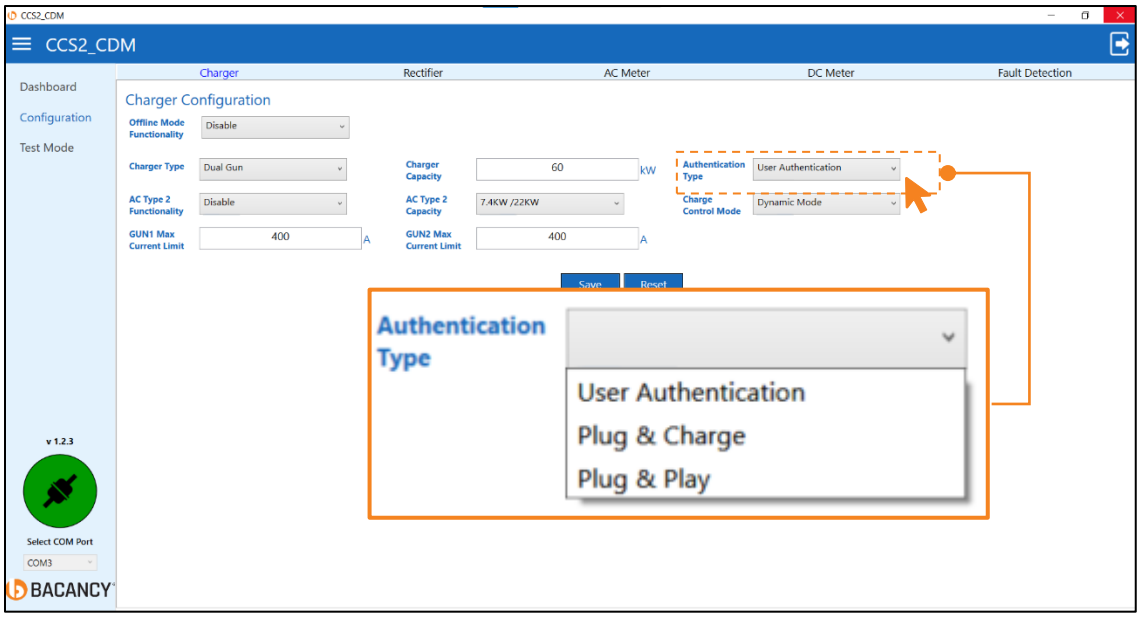

Figure 21 Select the authentication type.

Step 6. Select the charge control mode, whether it is standalone mode or dynamic mode.

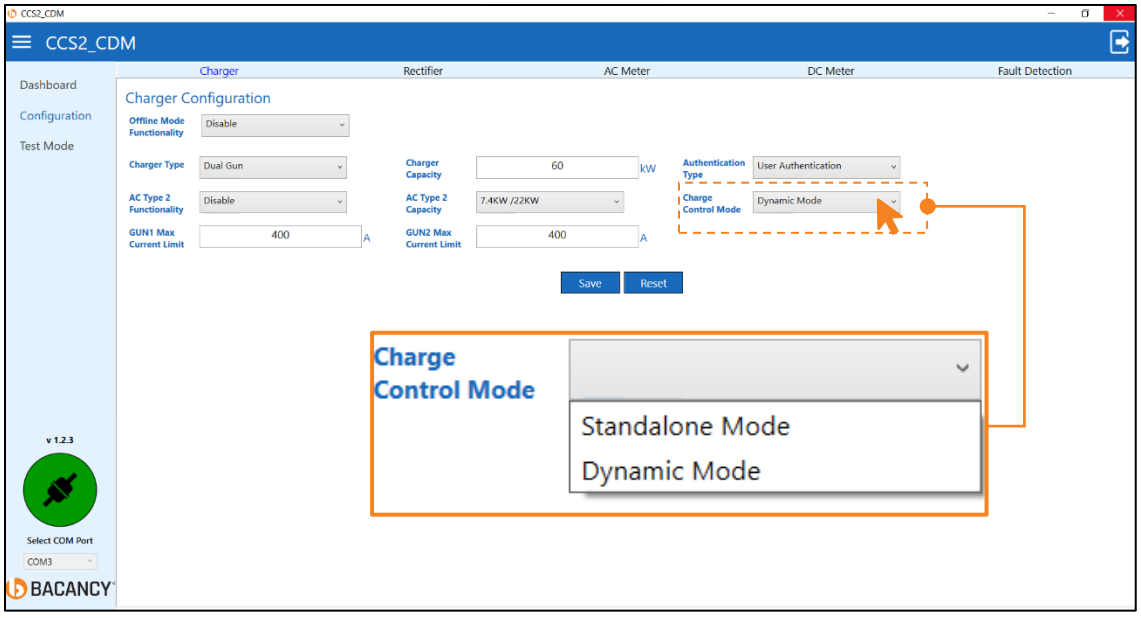

Figure 22 Select Charge Control Mode

Step 7. Select the “GUN1 Max Current Limit” (Power) of the charger and enter the values shown in the image below.

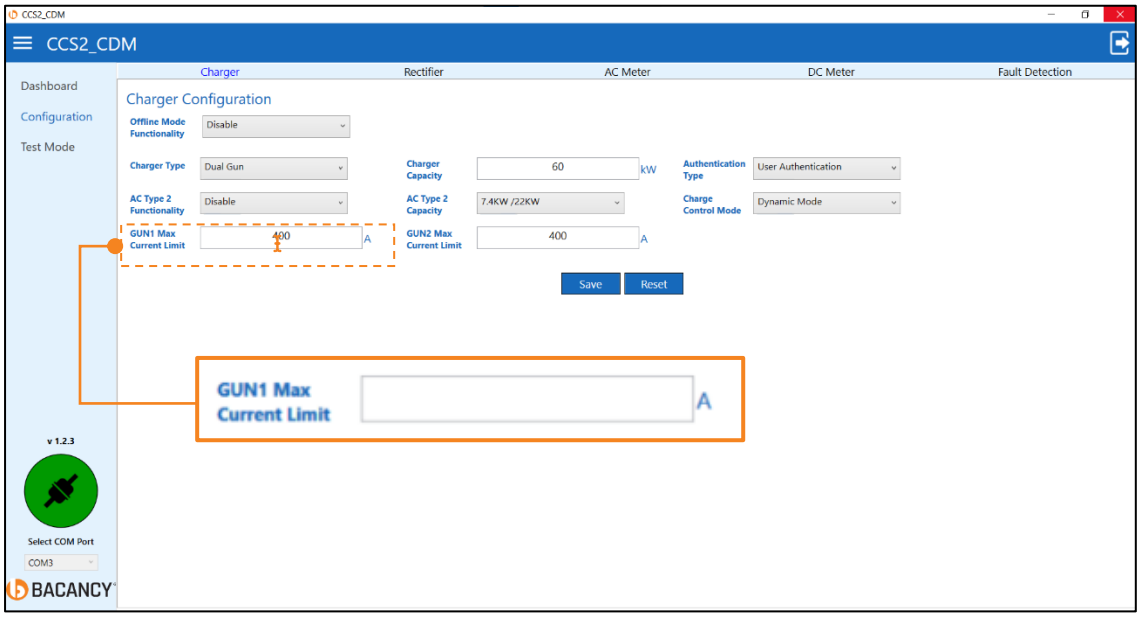

Figure 23 Enter GUN1 Max Current Limit in A

Step 8. Select the “GUN2 Max Current Limit” (Power) of the charger and enter the values shown in the image below.

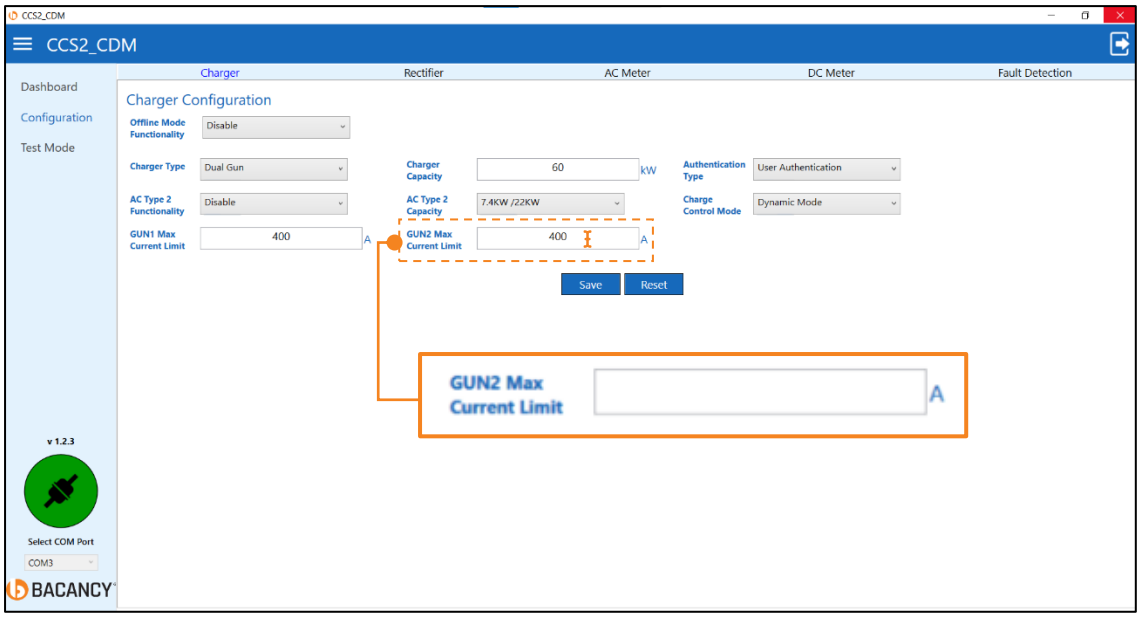

Figure 24 Enter GUN2 Max Current Limit in A

Step 9. Choose Disable or Enable from the “Offline Mode Functionality” drop-down list for the RFID Card.

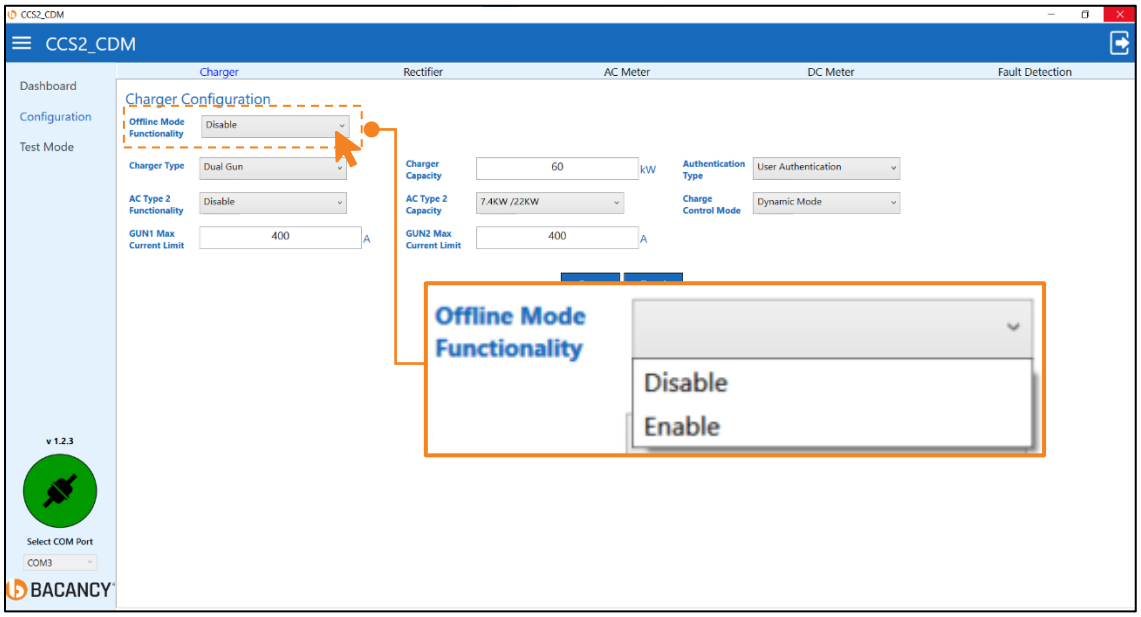

Figure 25 Disable / Enable Offline Mode Functionality

Step 10. Click the "Save" button to save the “Offline Mode” Functionality option.

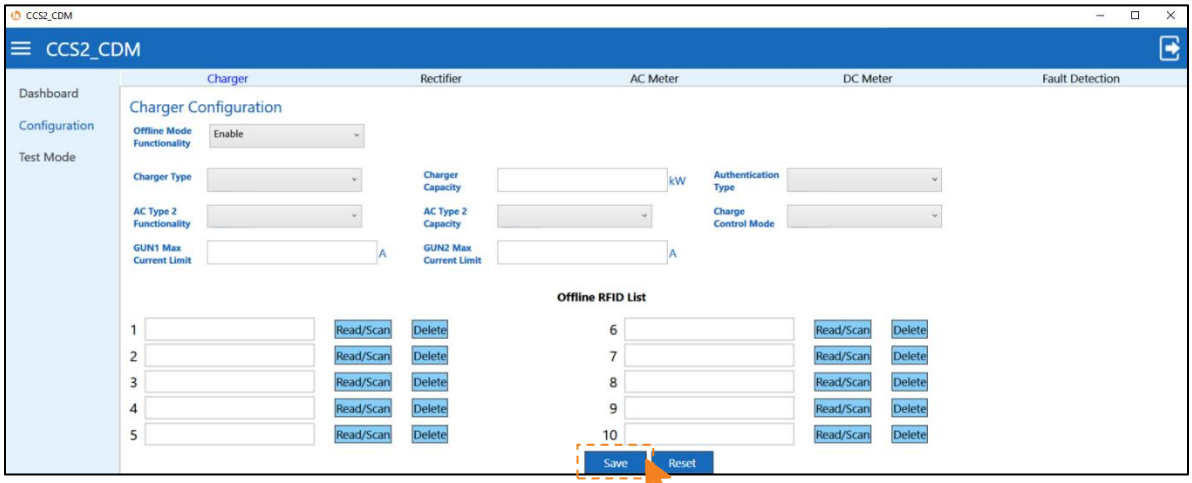

Figure 26 Click on the “Save” button to enable offline mode.

Step 11. After selecting the “Enable” option for offline mode functionality, choose the “Read / Scan” option and tap the RFID tag on the RFID reader.

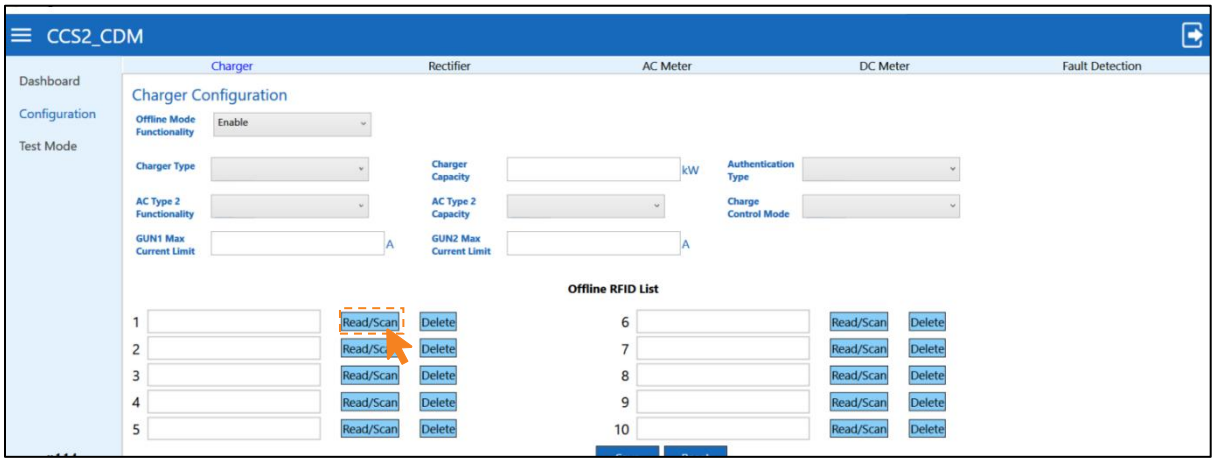

Figure 27 Click on the “Read / Scan” to save the RFID Card in the offline RFID List

Step 12. After tapping RFID, the RFID number is saved in an offline RFID list.

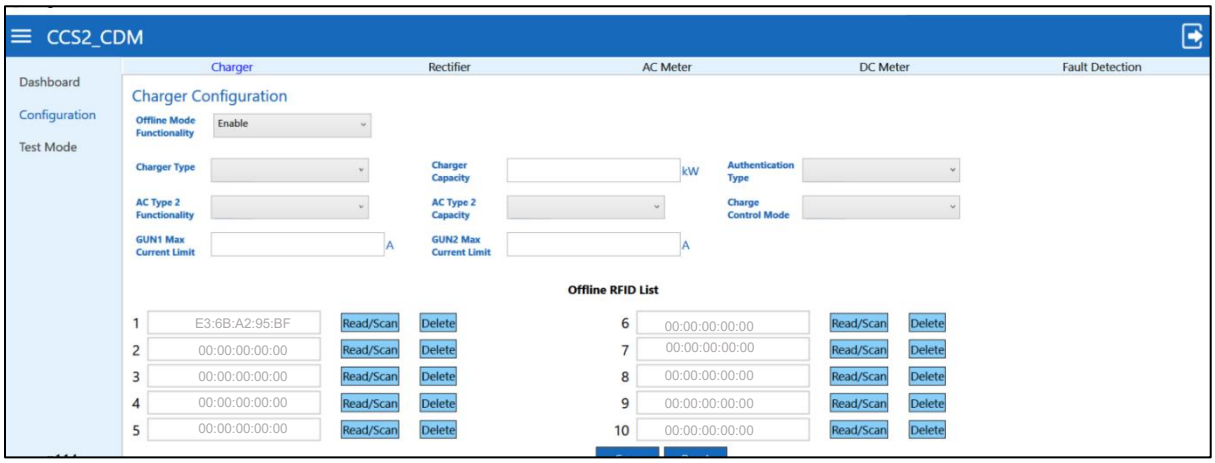

Figure 28 RFID registered in the offline RFID list

Step 13. The user can also delete existing RFID-registered data by clicking the “Delete” button.

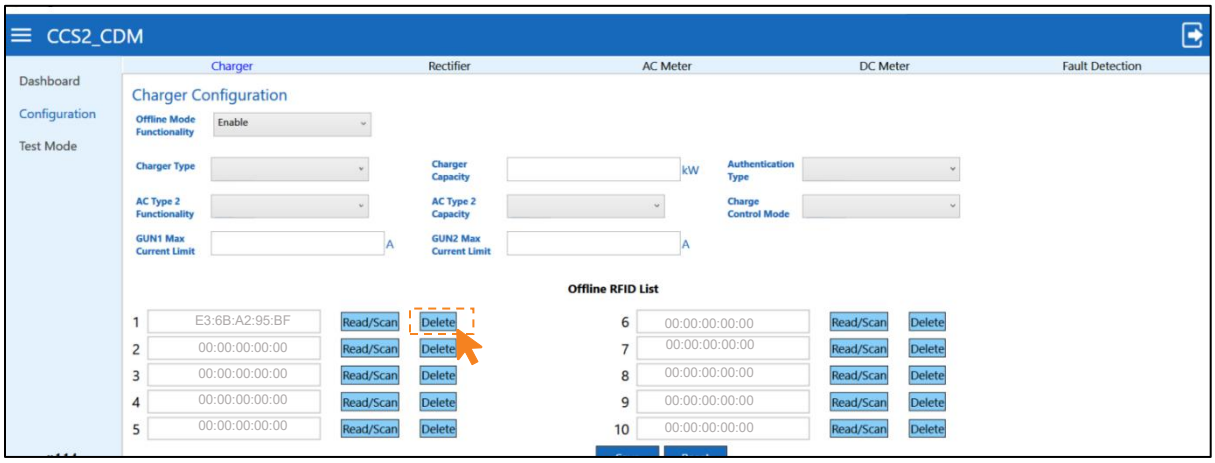

Figure 29 Option to delete the registered RFID from the offline RFID list

Step 14. Click the “Save” button to save the offline mode functionality.

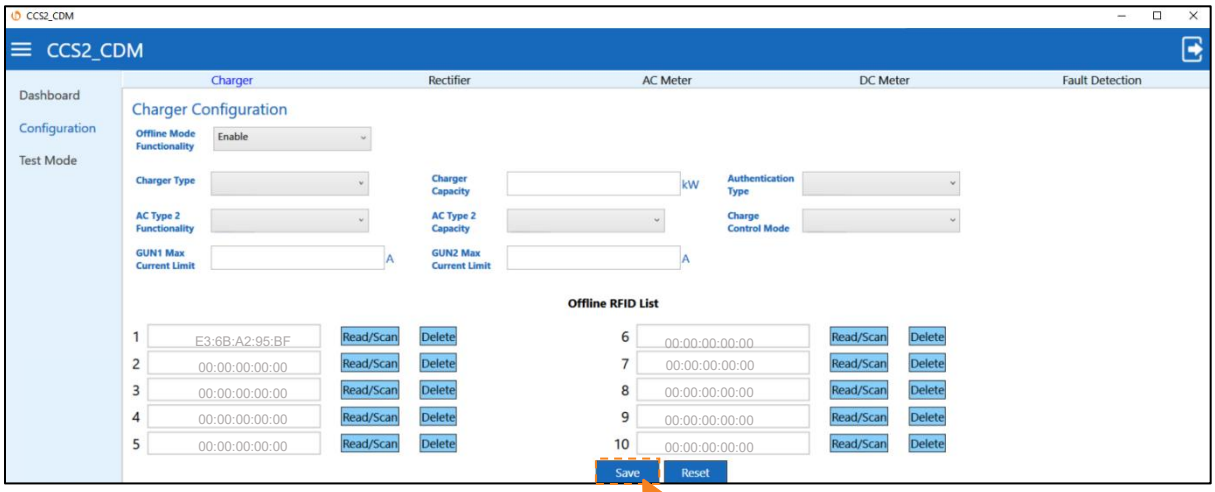

Figure 30 Click on the “Save” Button

NOTE!	Pop-up Message: Data updated successfully
	Every successful save charger configuration will result in a pop-up notice labelled “Data updated successfully”.

NOTE!	Pop-up Message: Please unplug the gun and try again
	Before using the CDM application, the user should unplug the gun from the vehicle; otherwise, the user will receive a pop-up notification stating, “Please unplug the gun and try again”.

3.4.2 Rectifier Configuration Tab

NOTE!	Configuration Mode and Test Mode
	The CCS2 CSM application will only function when all guns are in their default state. If any of the guns are charging or plugged, configuration mode and test mode will not work.

Step 1. In the configuration window, click on the “Rectifier” tab.

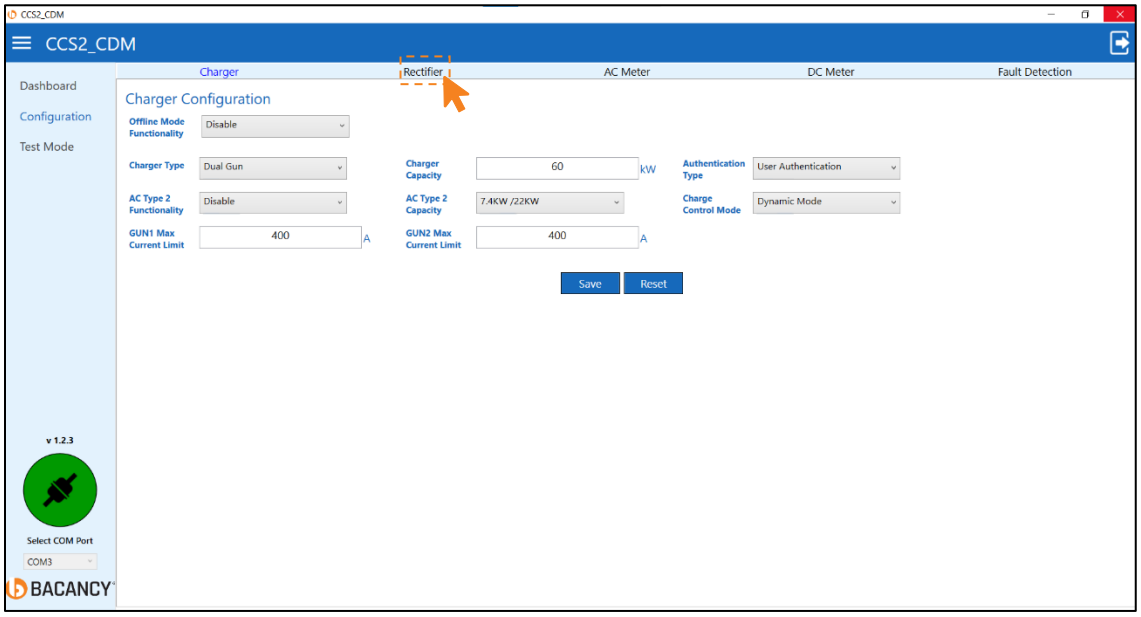

Figure 31 Click on the rectifier tab

Step 2. This is the rectifier configuration tab. The user can specify the relevant “Rectifier Selection” from the menu, as shown in the image below.

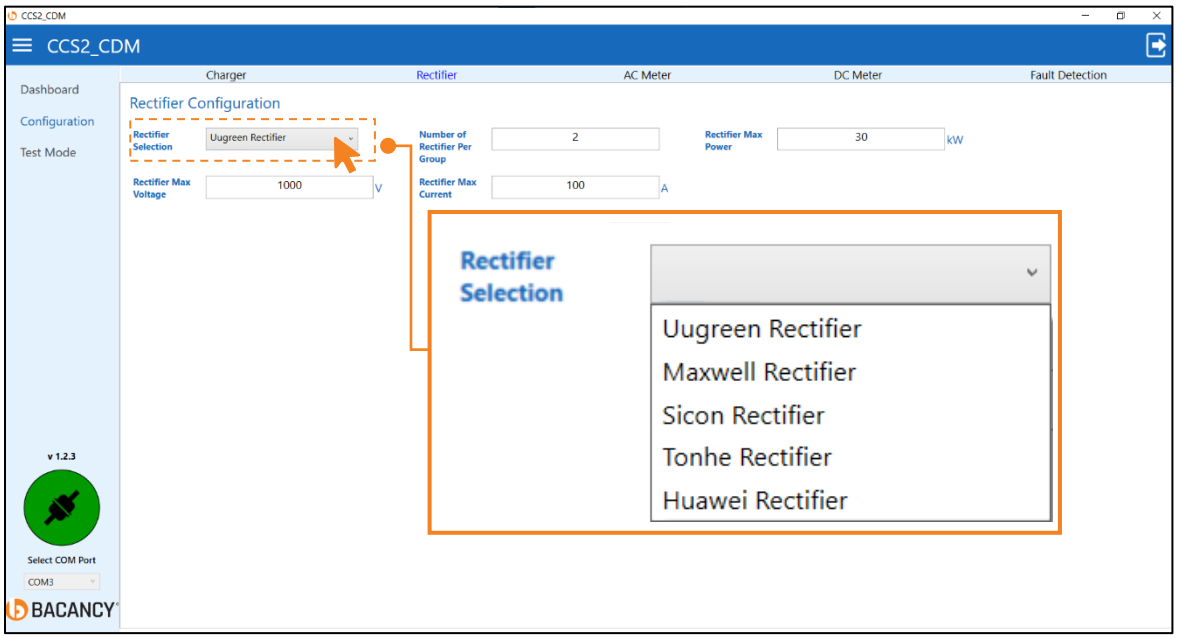

Figure 32 Select the rectifier

Step 3. Next, enter the “Number of Rectifiers per Group” and the corresponding values shown in the image below.

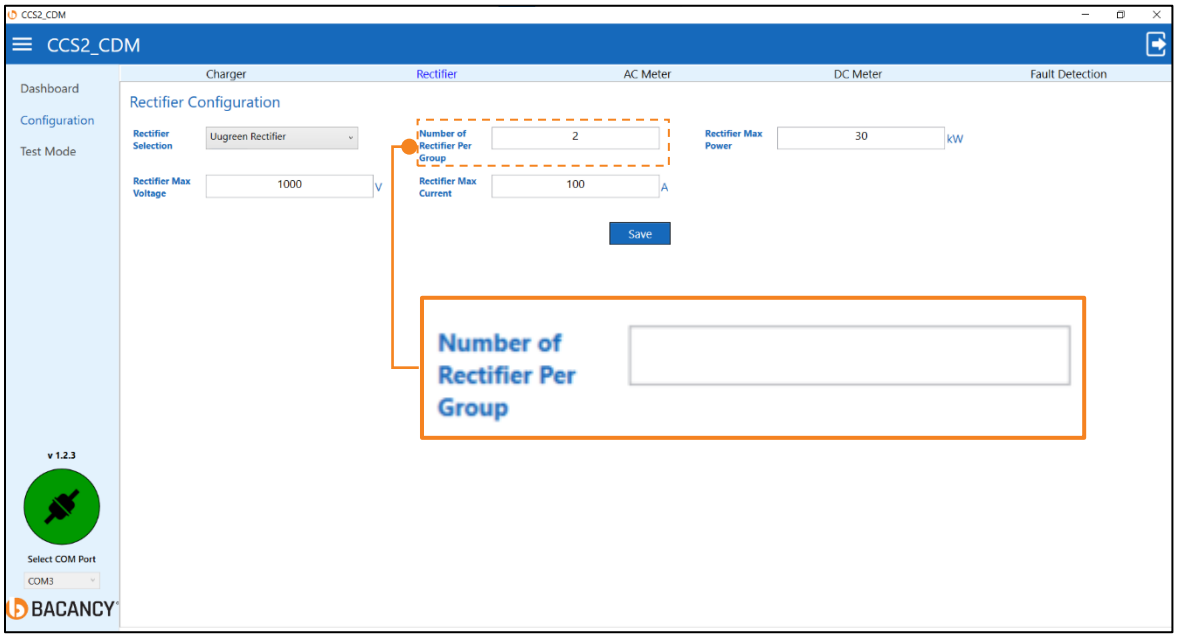

Figure 33 Enter the number of Rectifiers per Group

Step 4. Enter the individual “Rectifier Max Power” and the corresponding values shown in the image below.

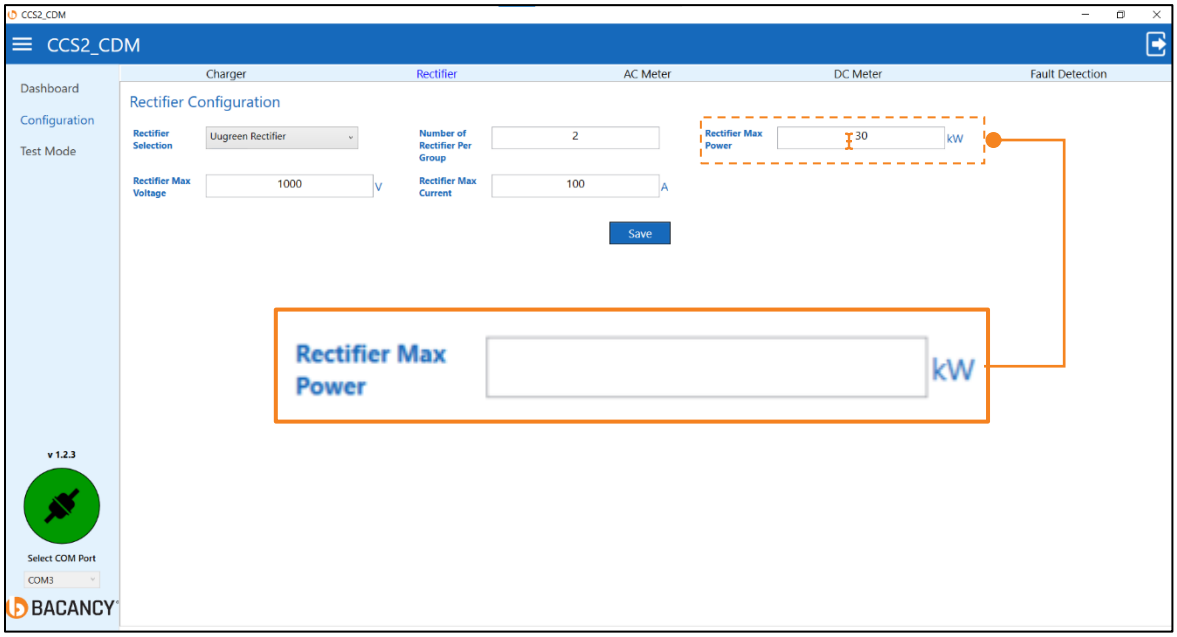

Figure 34 Enter the Rectifier Max Power

Step 5. Enter the individual “Rectifier Max Voltage” and the corresponding values shown in the image below.

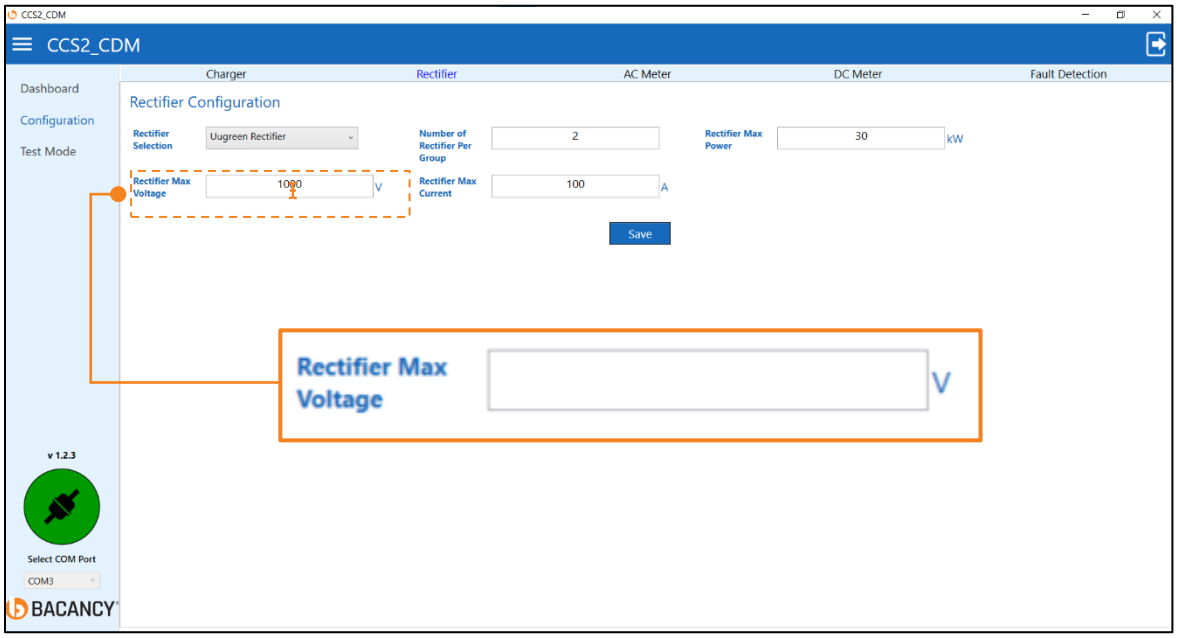

Figure 35 Enter the Rectifier Max Voltage

Step 6. Enter the individual “Rectifier Max Current” and the corresponding values shown in the image below.

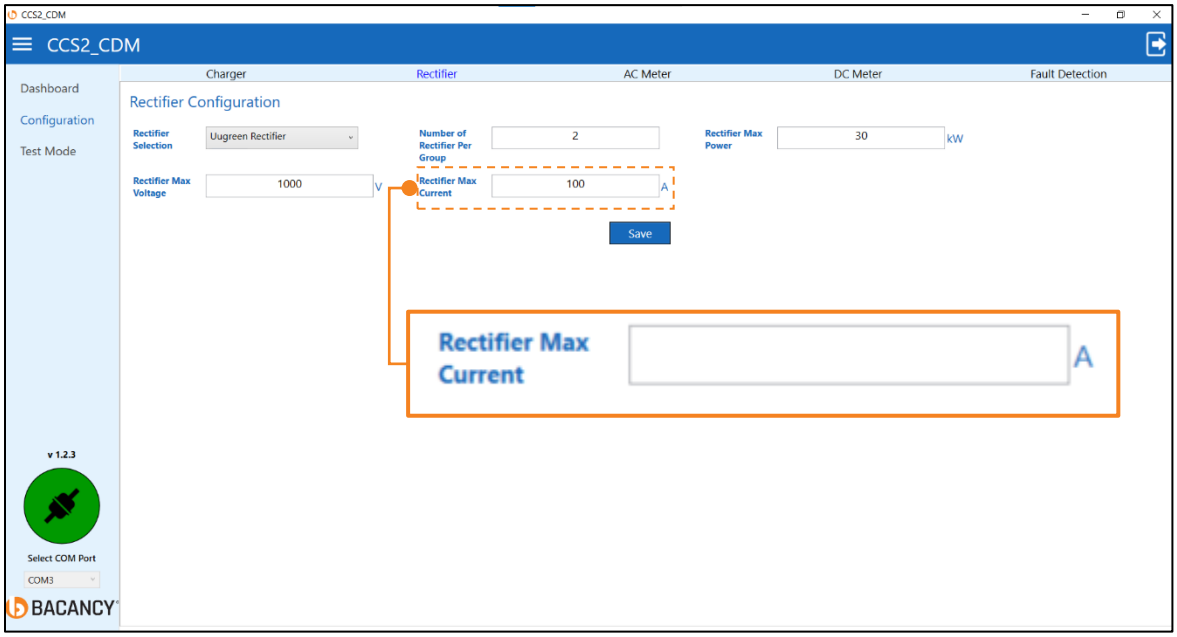

Figure 36 Enter the Rectifier Max Current

Step 7. Click the “save” button to store the rectifier configurations.

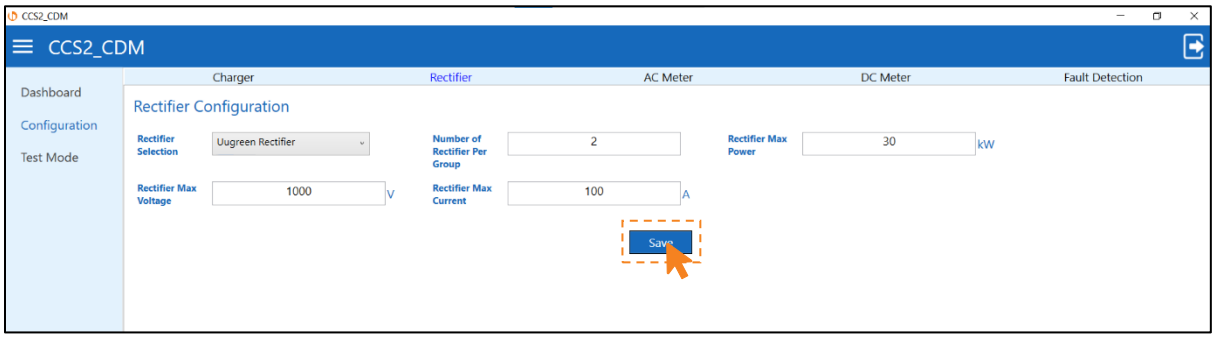

Figure 37 Click on the “Save” Button

3.4.3 AC Meter Configuration Tab

Step 1. In the configuration window, click on the “AC Meter” tab.

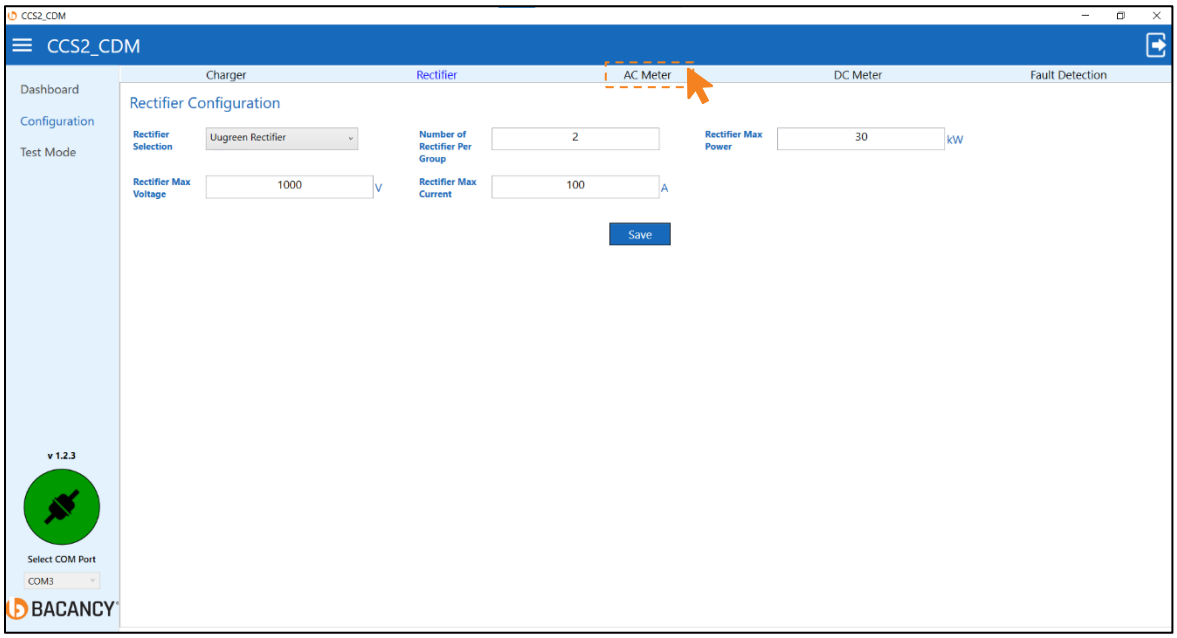

Figure 38 Click on the “AC Meter” Tab

Step 2. To configure the AC metre, select the appropriate option from the dropdown list.

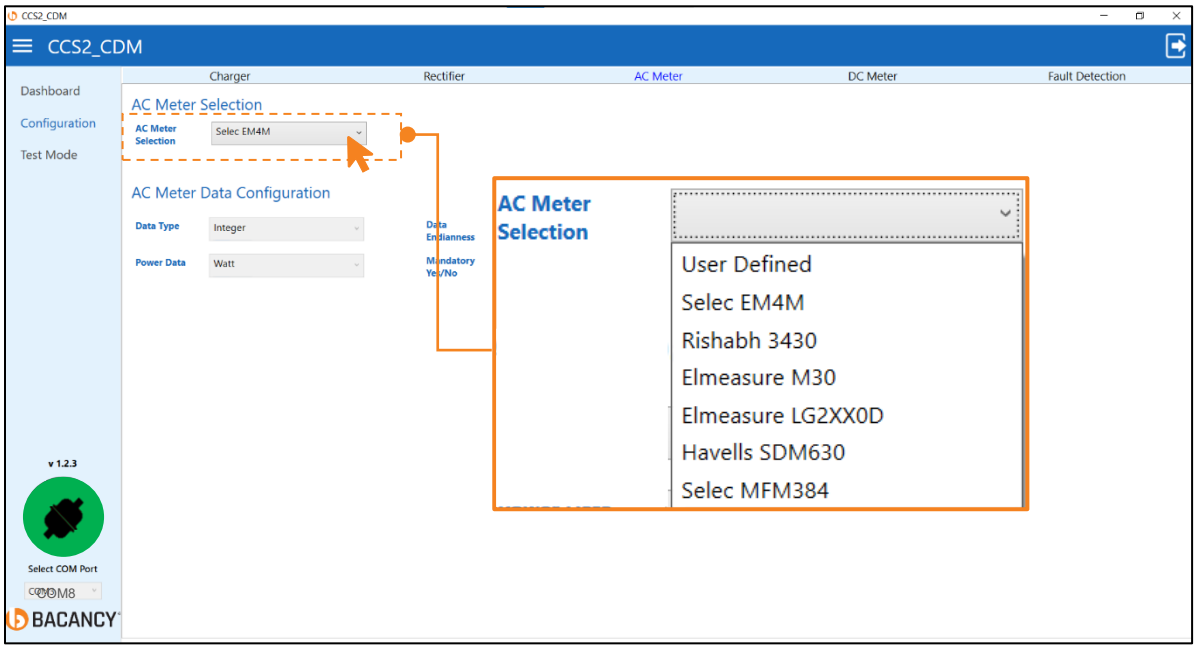

Figure 39 Select the "AC Meter" from the dropdown list.

Step 3. In the Data Type section, select the appropriate option for your metre, as shown in the image below.

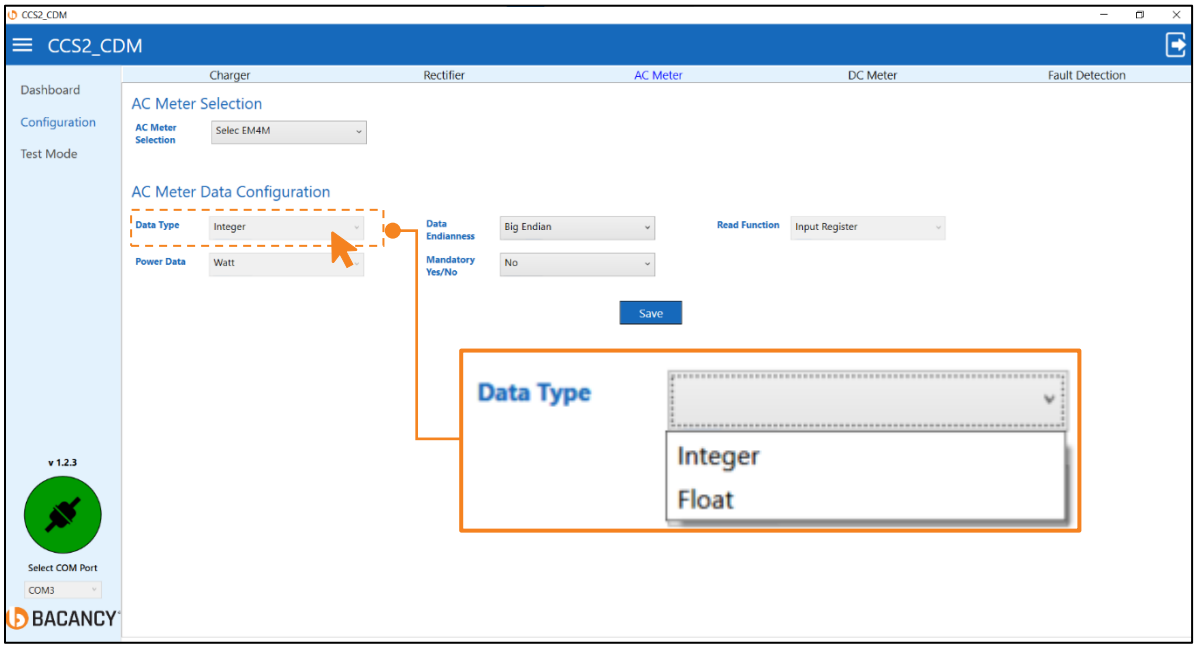

Figure 40 Select the "Data Type" from the Dropdown List

Step 4. In the Power Data section, select the appropriate option according to your meter, as shown in the image below.

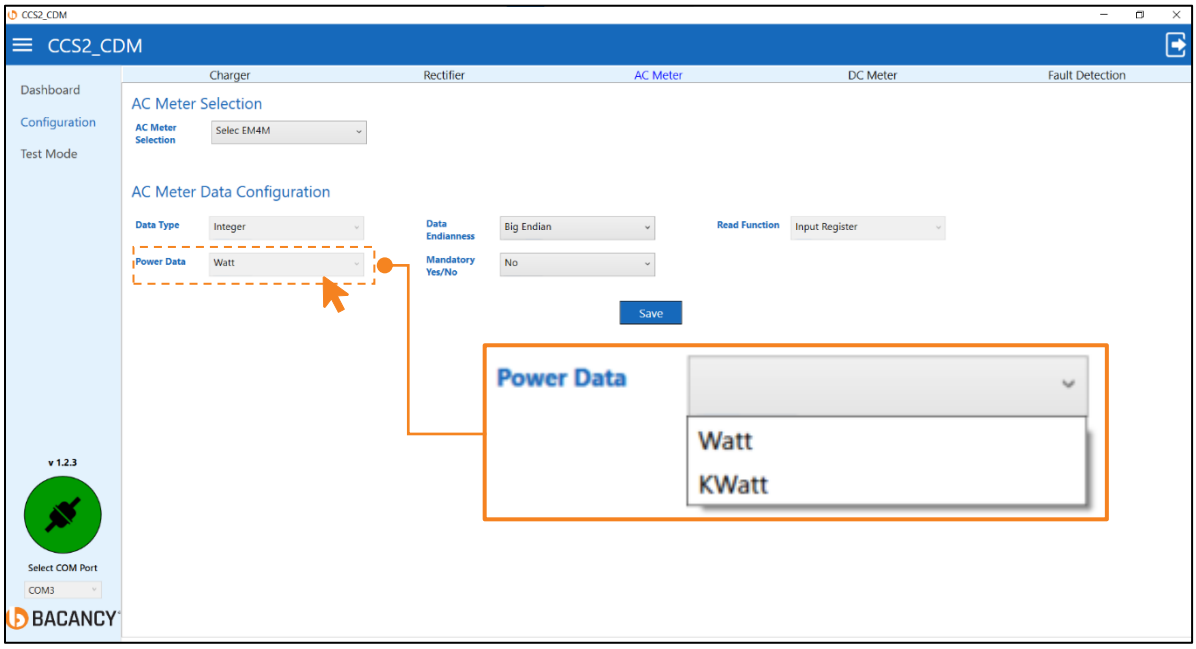

Figure 41 Select the Power Data from the dropdown list.

Step 5. Select the appropriate option for your metre in the “Data Endianness” section, as shown in the image below.

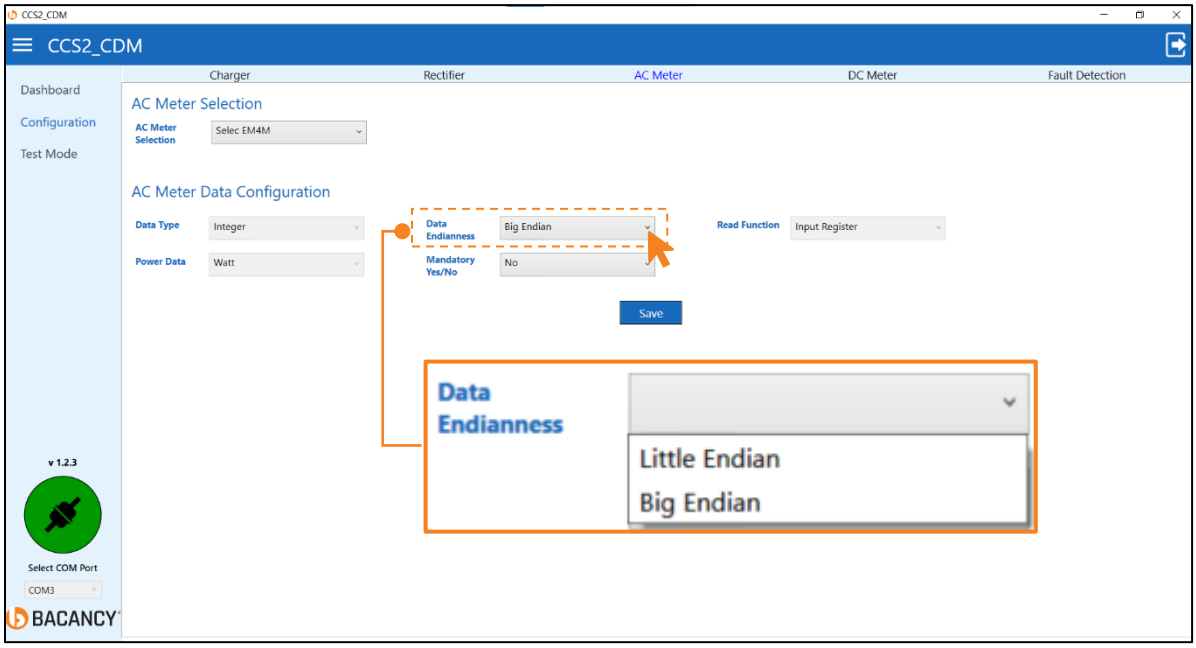

Figure 42 Select the “Data Endianness” from the dropdown list.

Step 6. Select the appropriate option for your metre in the Data Endianness section, as shown in the image below.

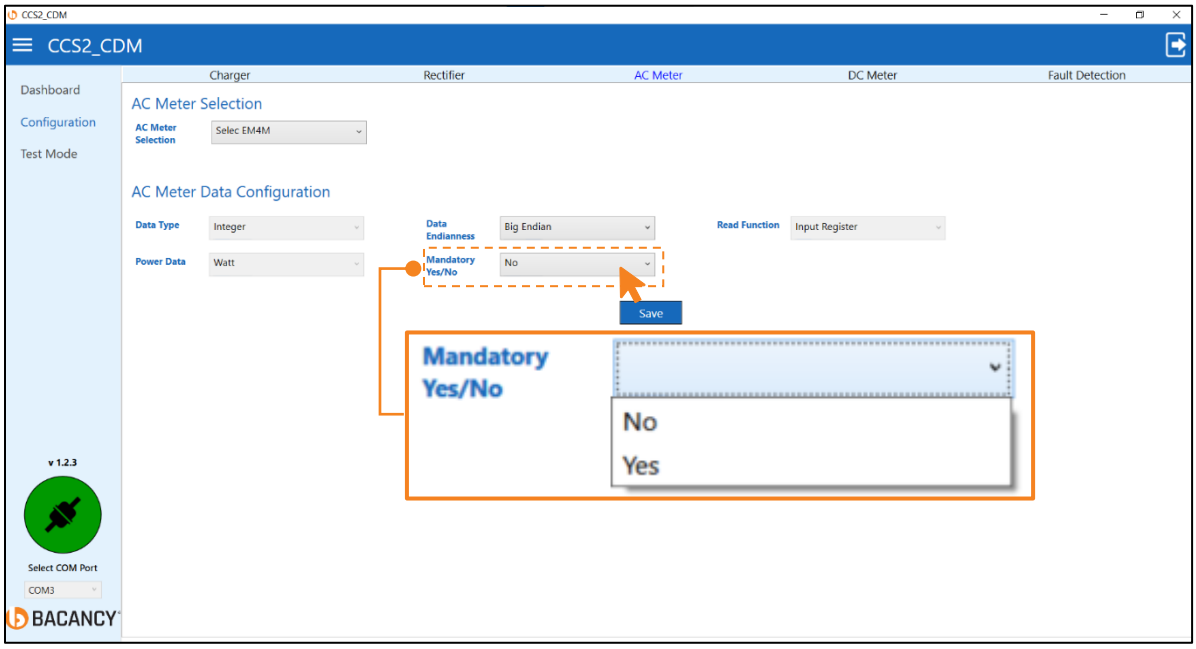

Figure 43 Select the "Mandatory Yes / No" from the dropdown list

Step 7. In the Read Function section, select the option that corresponds to your metre, as shown in the image below.

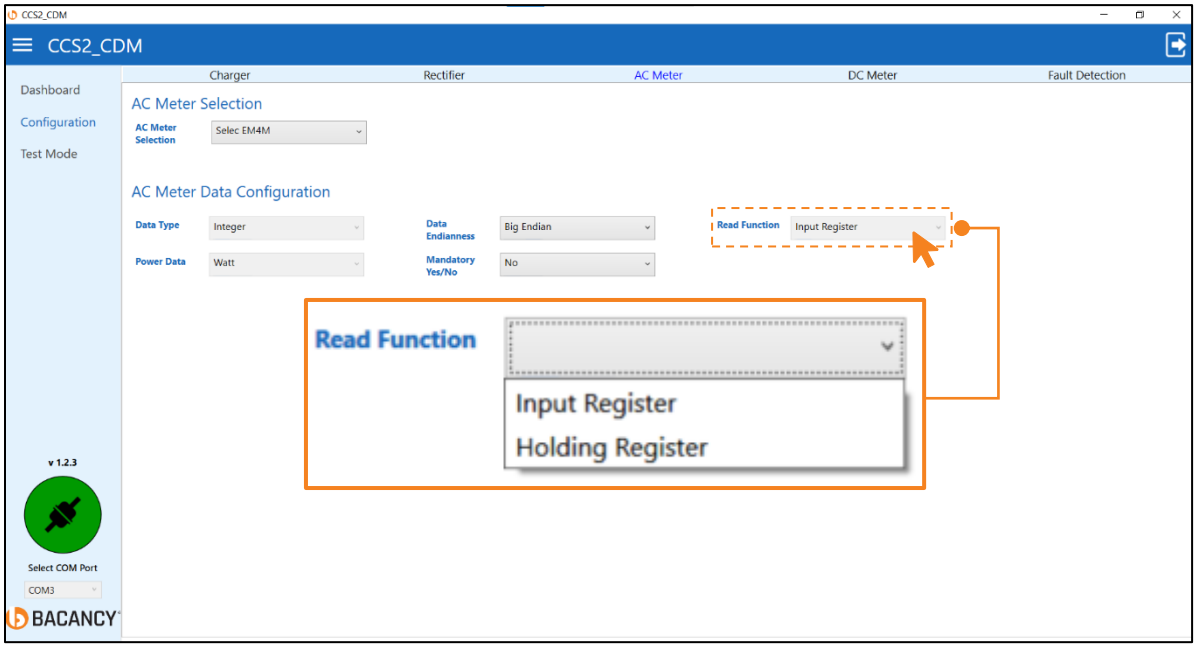

Figure 44 Select "Read Function" from the dropdown list

Step 8. To save the AC configuration, click the “Save” button.

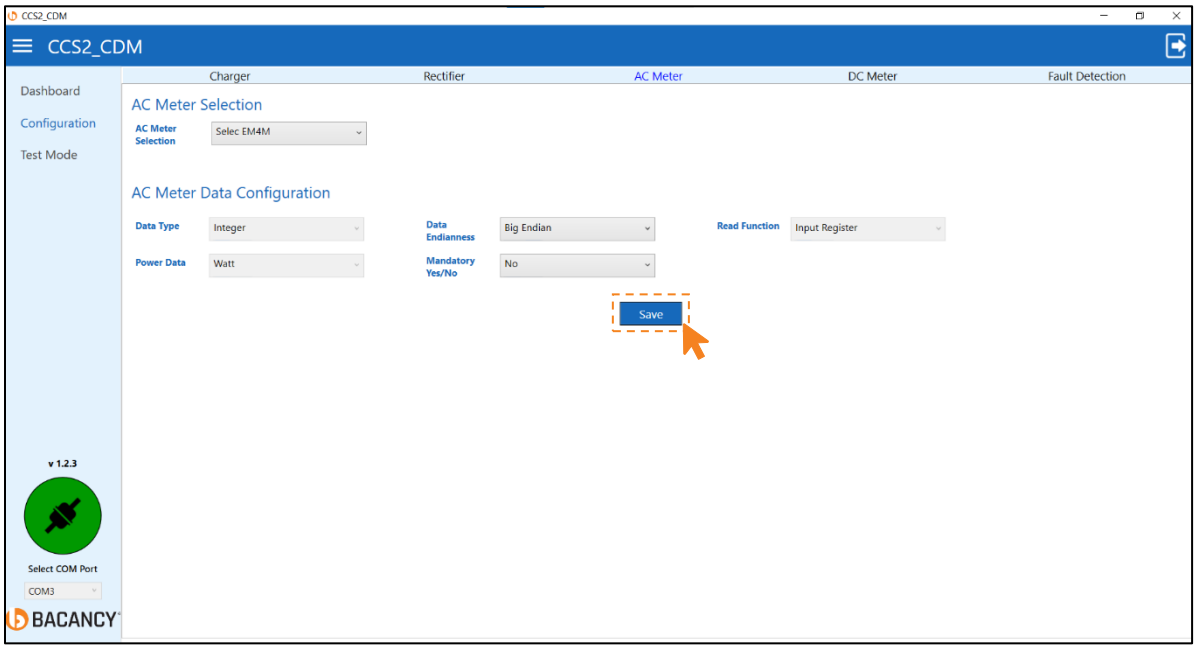

Figure 45 Click the “Save” button to save the configuration

3.4.3.1 User Defined

Step 1. Select the “User Defined” option to define a customised AC metre. It will display the “Modbus Register Address Configuration” section, as shown in the image below.

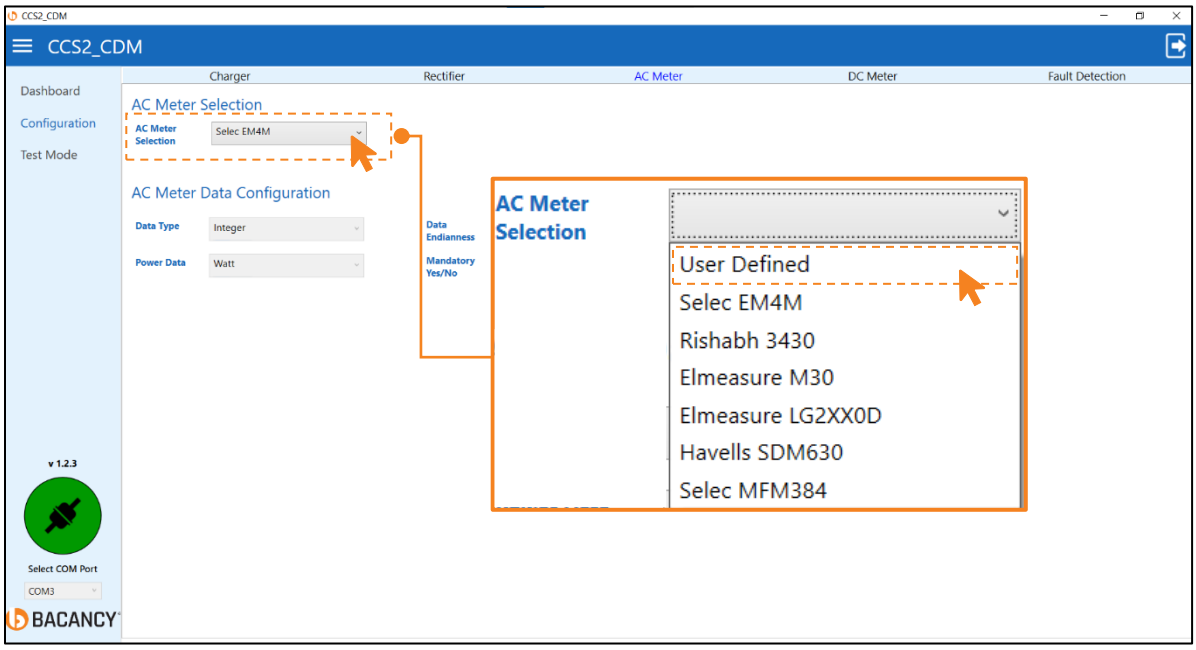

Figure 46 Select “User Defined” from the dropdown list of the “AC Meter Selection”

Step 2. In the “Modbus Register Address Configuration” section, enter the appropriate values from the AC Meter.

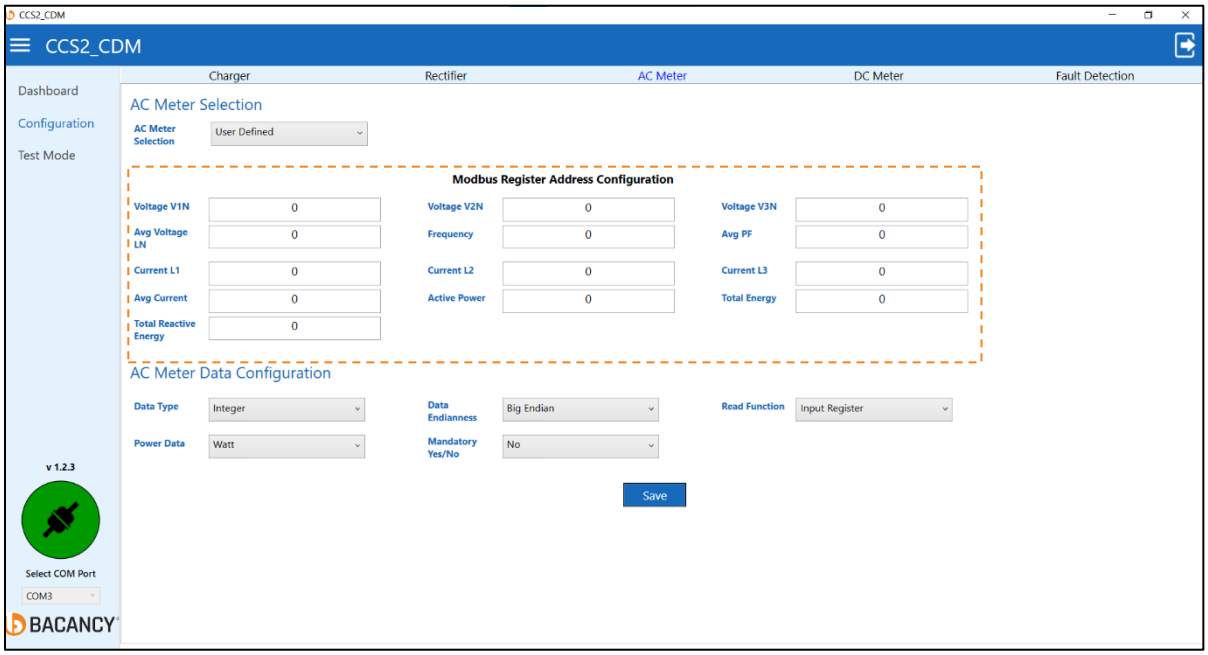

Figure 47 Enter “Modbus Register Address Configuration” for “AC Meter Selection”

Step 3. In the Data Type section, select the appropriate option for your metre, as shown in the image below.

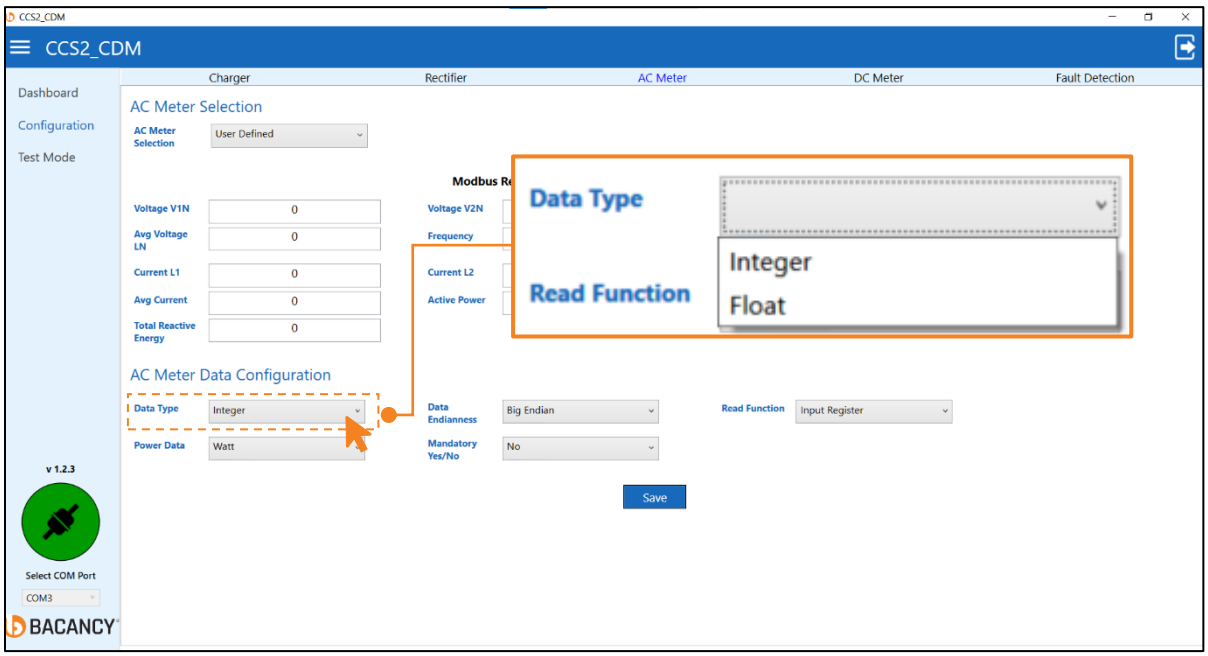

Figure 48 Select “Data Type” from the dropdown list.

Step 4. In the Power Data section, select the appropriate option for your metre, as shown in the image below.

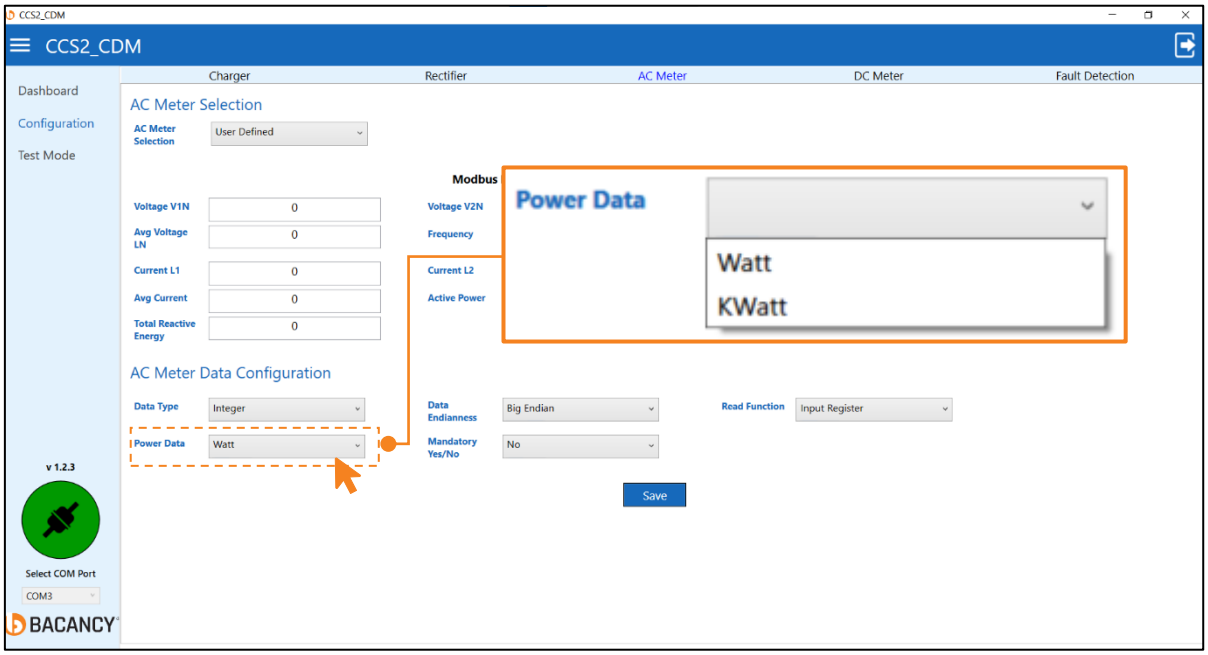

Figure 49 Select "Power Data" from the dropdown list.

Step 5. Select the appropriate option for your metre in the "Data Endianness" section, as shown in the image below.

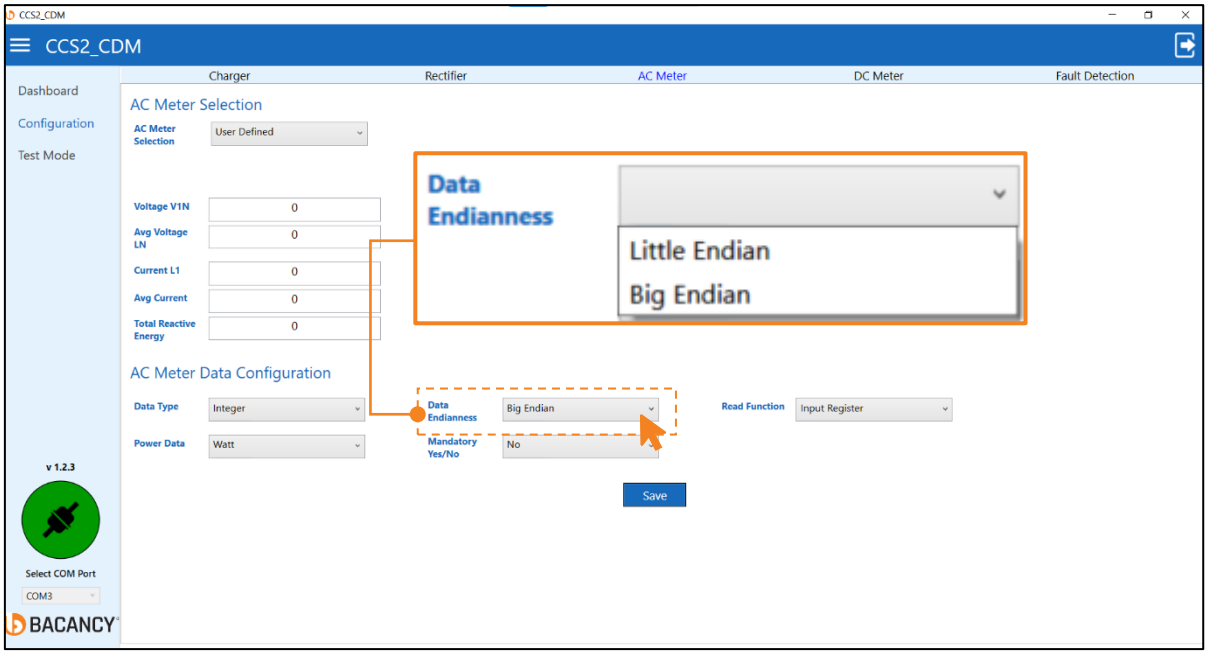

Figure 50 Select "Data Endianness" from the dropdown list.

Step 6. Select the appropriate option for your metre in the “Mandatory Yes/No” section, as shown in the image below.

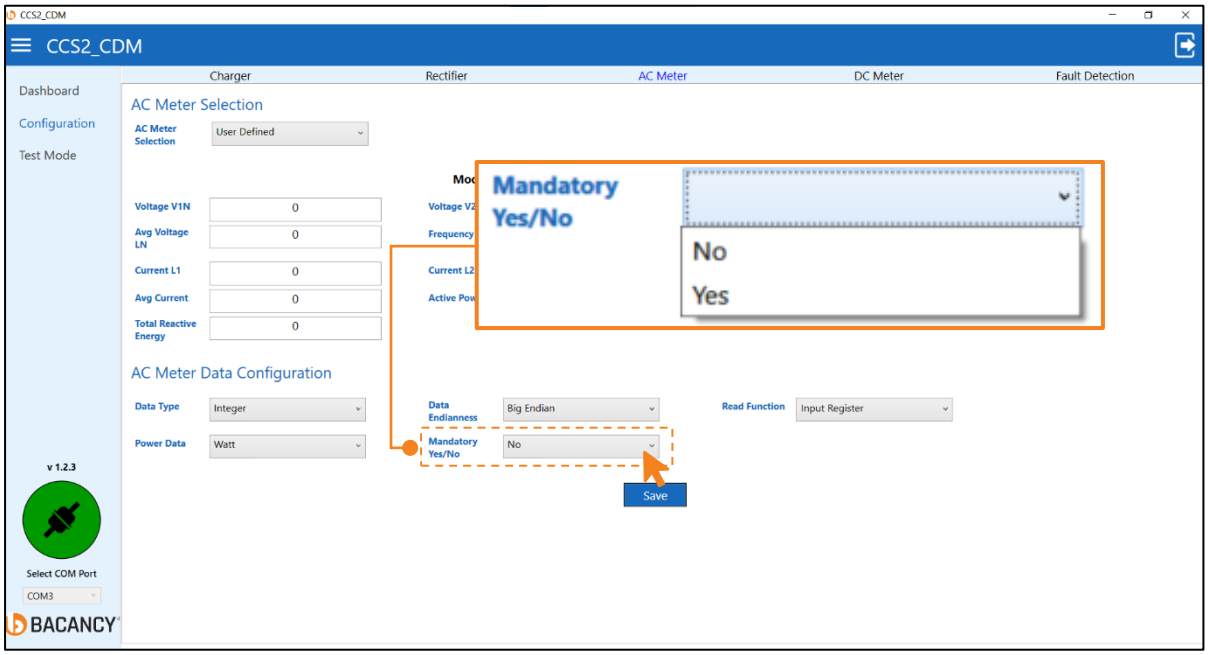

Figure 51 Select the “Mandatory Yes / No" from the dropdown list

Step 7. Select the appropriate option for your metre in the “Read Function” section, as shown in the image below.

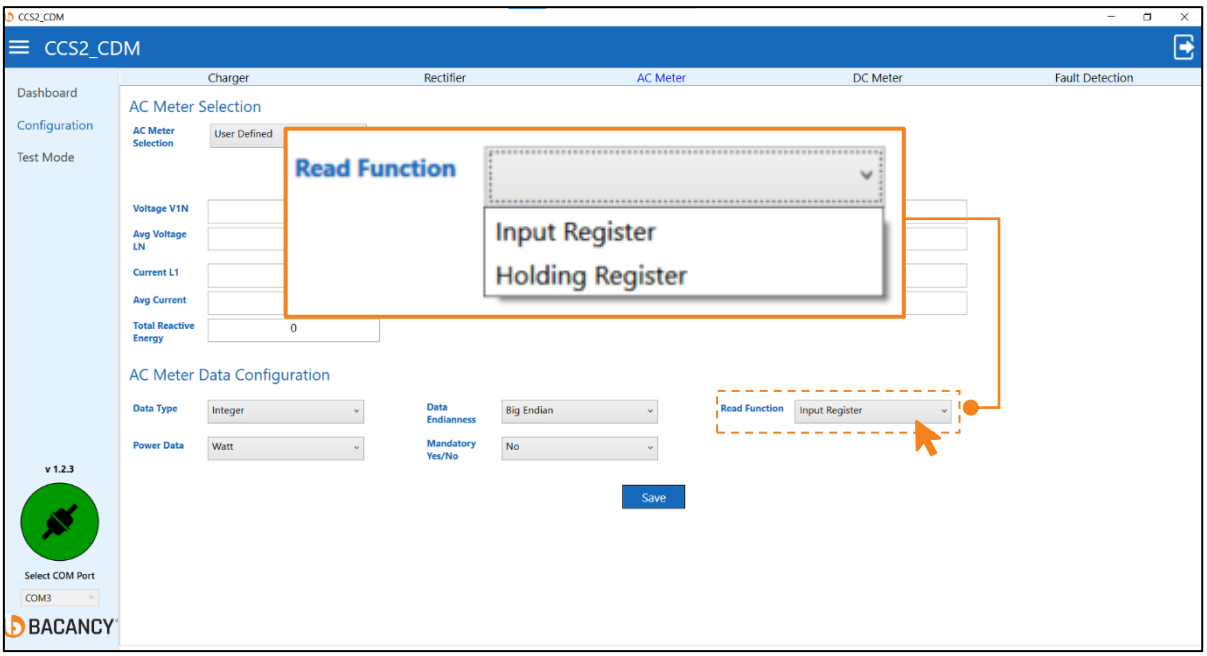

Figure 52 Select “Read Function” from the dropdown list.

Step 8. To save the AC configuration, click the “Save” button.

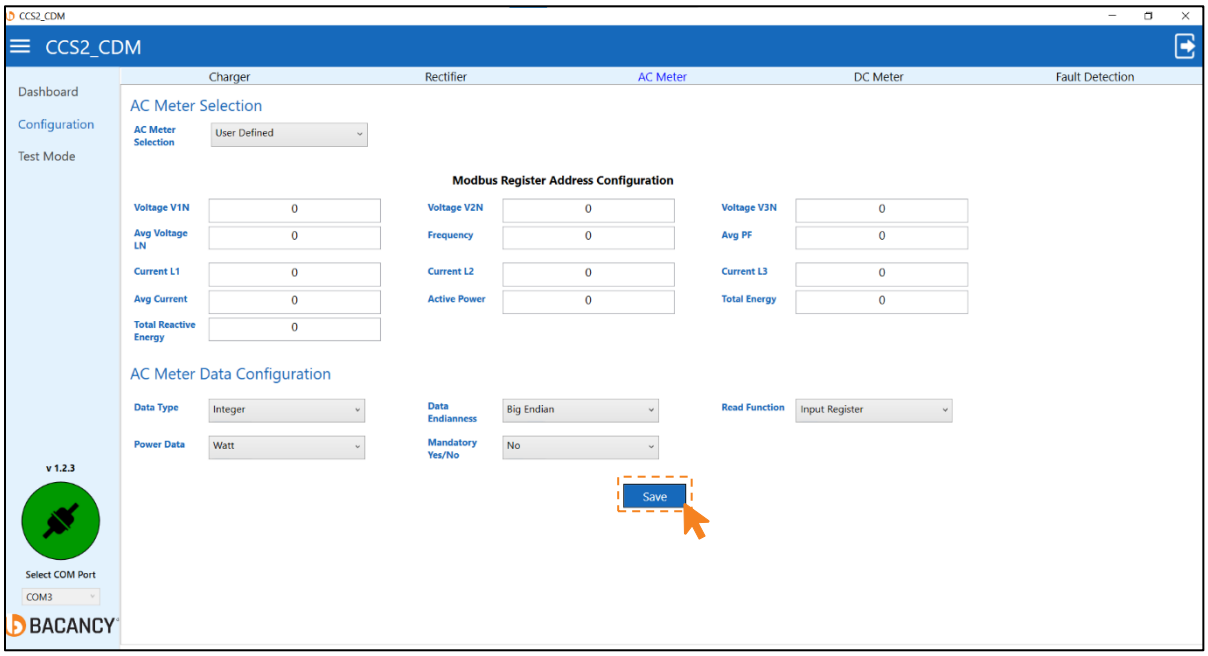

Figure 53 Click the “Save” button to save the configuration

3.4.4 DC Meter Configuration Tab

Step 1. In the configuration mode, click the “DC Meter” tab.

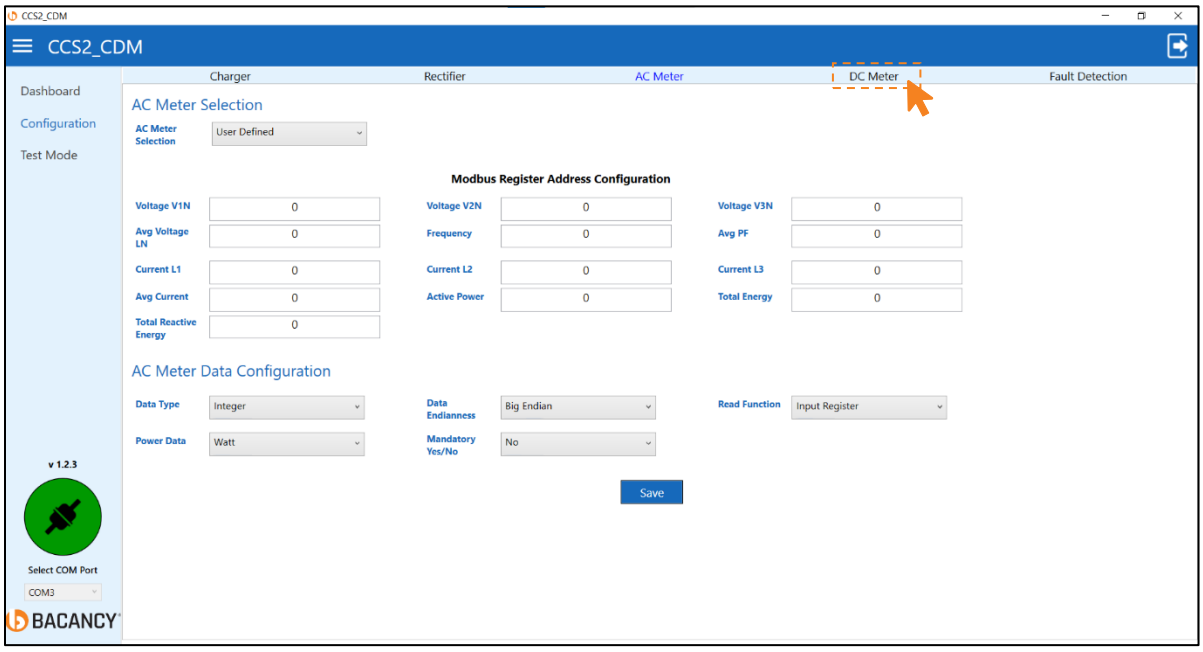

Figure 54 Click on the “DC Meter” tab.

Step 2. To configure the DC metre, click the appropriate option from the dropdown list.

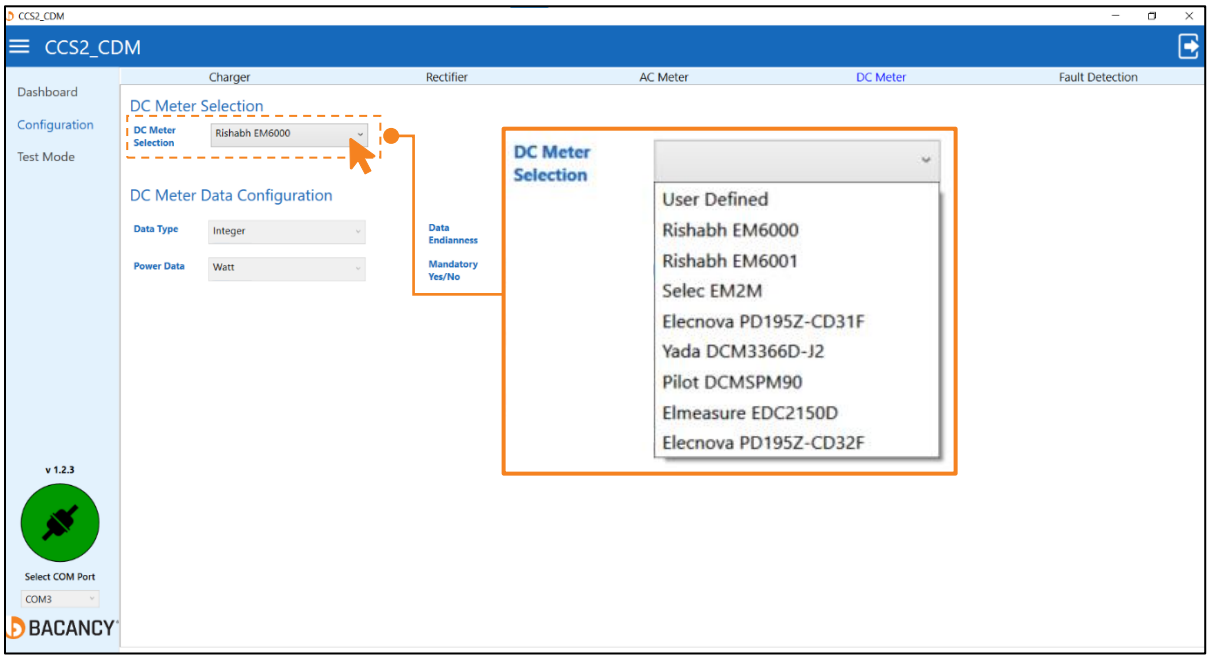

Figure 55 Select "DC Meter" from the dropdown list.

Step 3. In the Data Type section, click the appropriate choice for your metre, as shown in the image below.

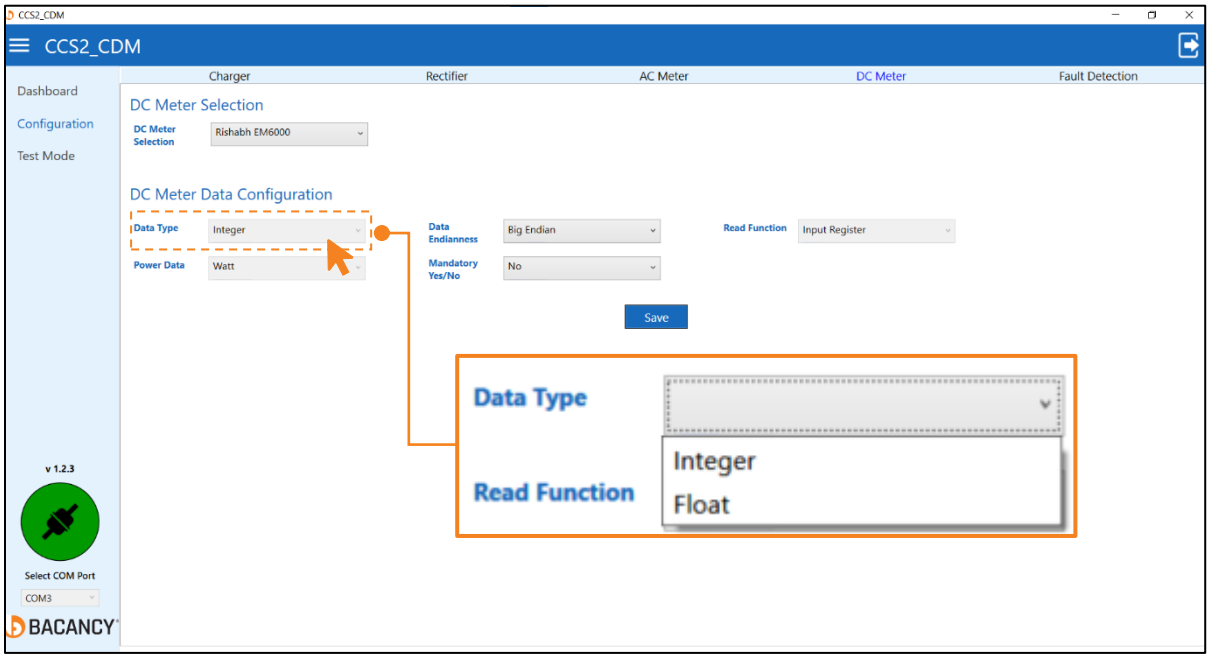

Figure 56 Select the "Data Type" from the dropdown list in the "DC Meter Data Configuration"

Step 4. Select the appropriate option for your metre in the “Power Data” section, as shown in the image below.

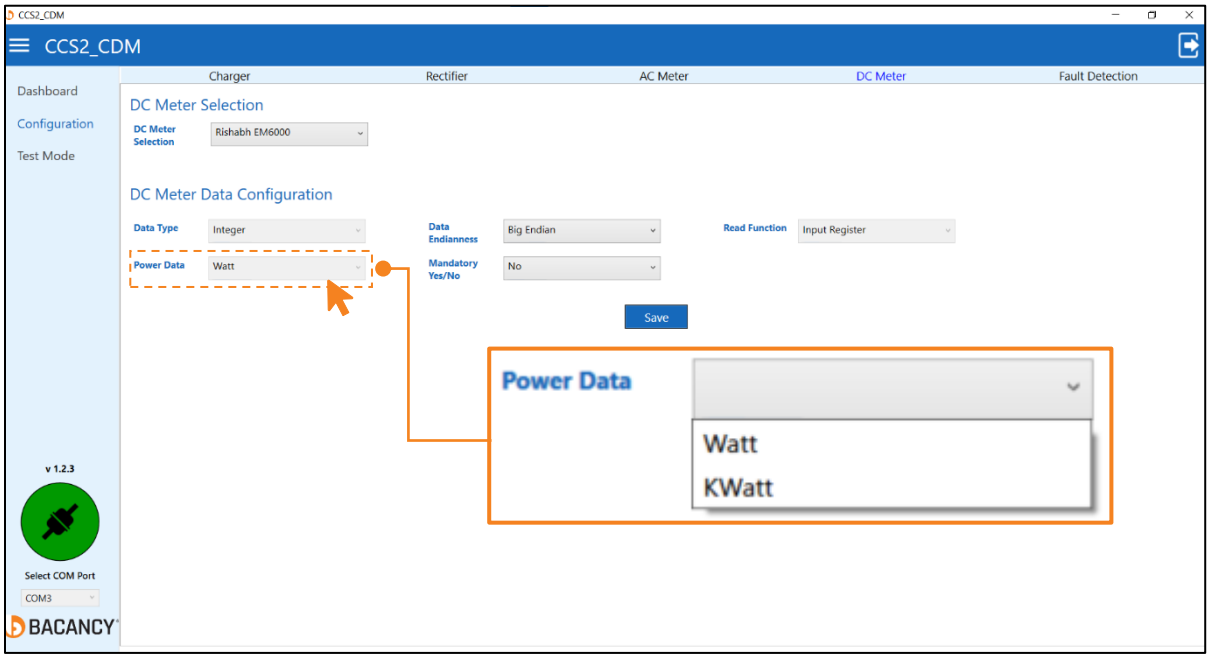

Figure 57 Select “Power Data” from the dropdown list.

Step 5. Select the appropriate option for your metre in the “Data Endianness” section, as shown in the image below.

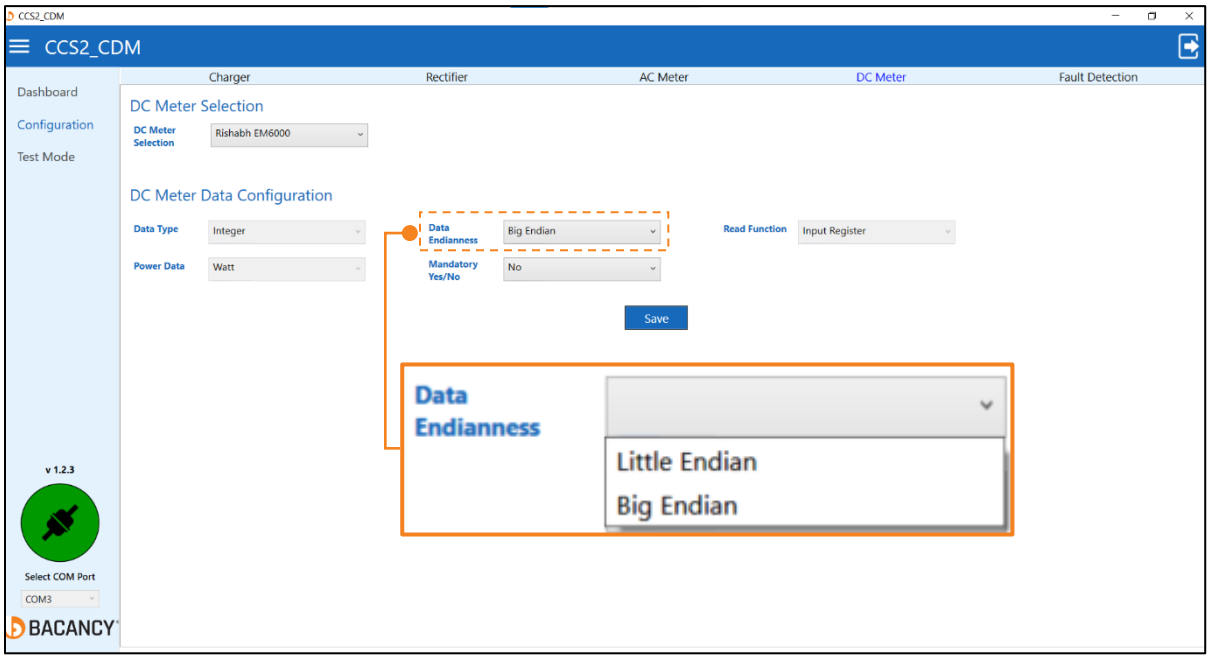

Figure 58 Select “Data Endianness” from the dropdown list.

Step 6. Select the appropriate option for your metre in the “Mandatory Yes/No” section, as shown in the image below.

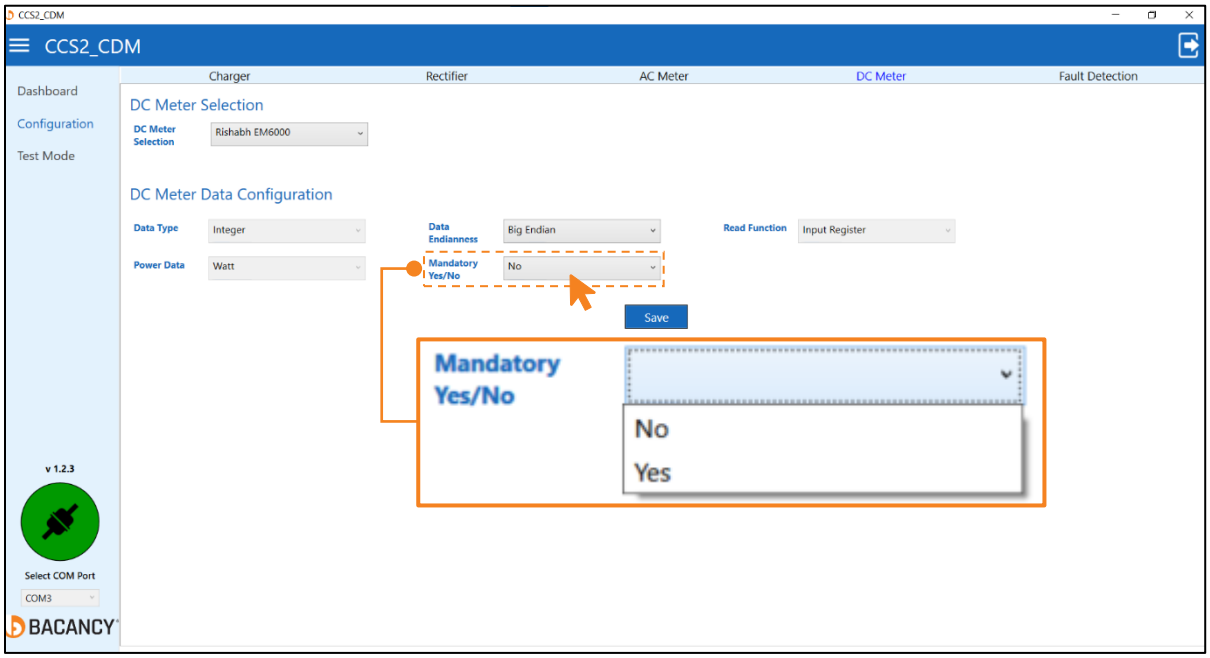

Figure 59 Select the “Mandatory Yes / No” from the dropdown list

Step 7. Select the appropriate option for your metre in the “Read Function” section, as shown in the image below.

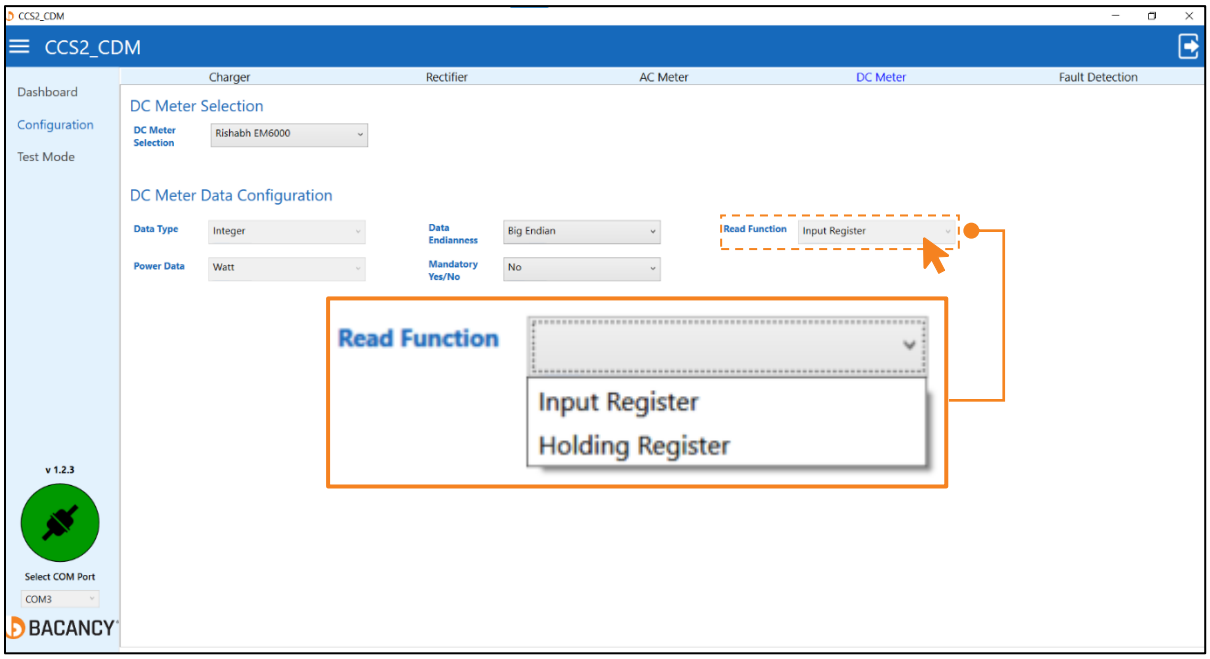

Figure 60 Select “Read Function” from the dropdown list.

Step 8. To save the DC configuration, click the “Save” button.

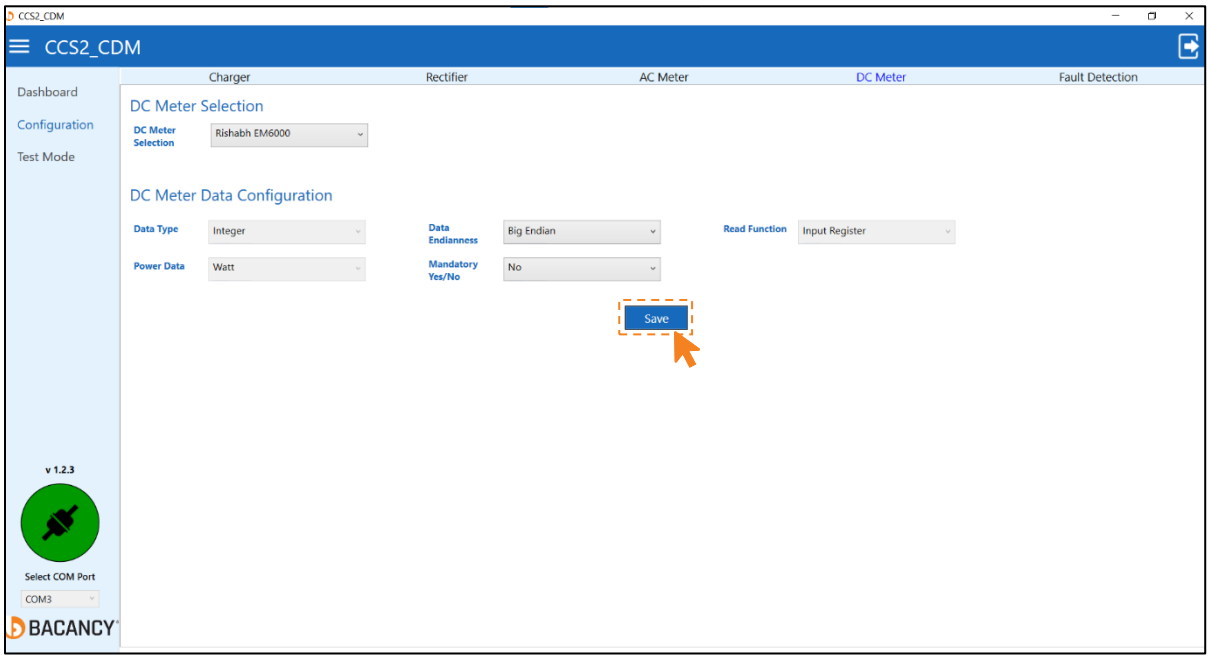

Figure 61 Click the “Save” button to save the configuration

3.4.4.1 User Defined

Step 1. Select the “User Defined” option to define a customised DC metre. It will bring up the “Modbus Register Address Configuration” section, as shown in the image below.

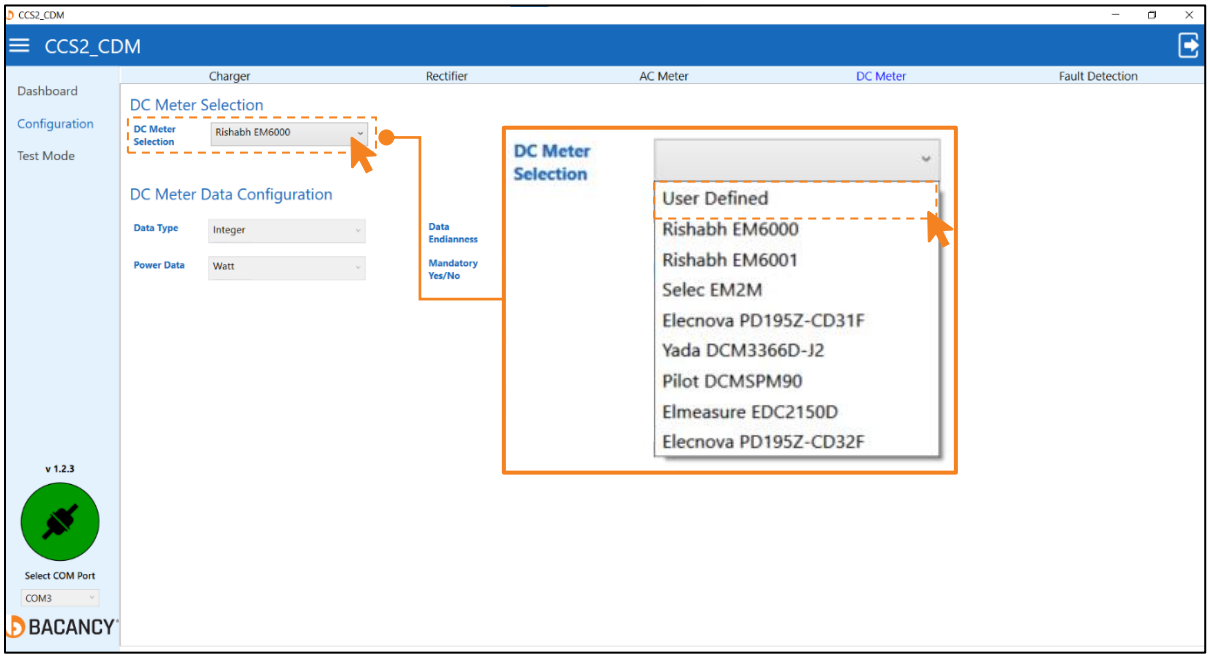

Figure 62 Select the “DC Meter” from the dropdown list.

Step 2. In the “Modbus Register Address Configuration” section, enter the values from the DC Meter.

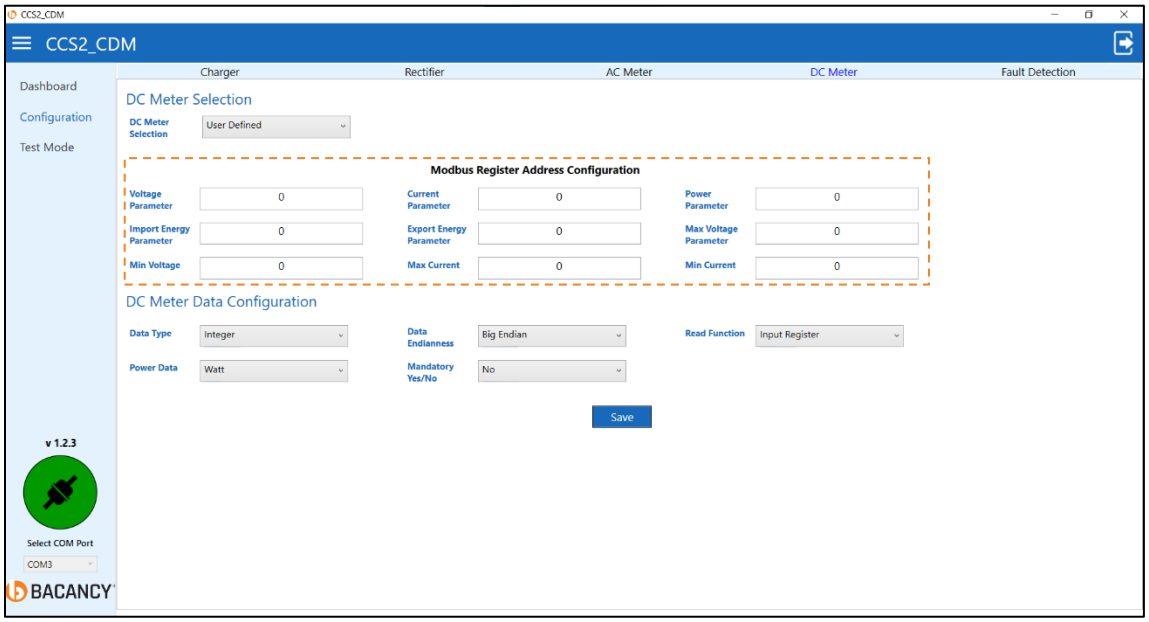

Figure 63 Enter the “Modbus Register Address Configuration” for DC Meter Selection

Step 3. In the Data Type Section, select the appropriate option for your metre, as shown in the image below.

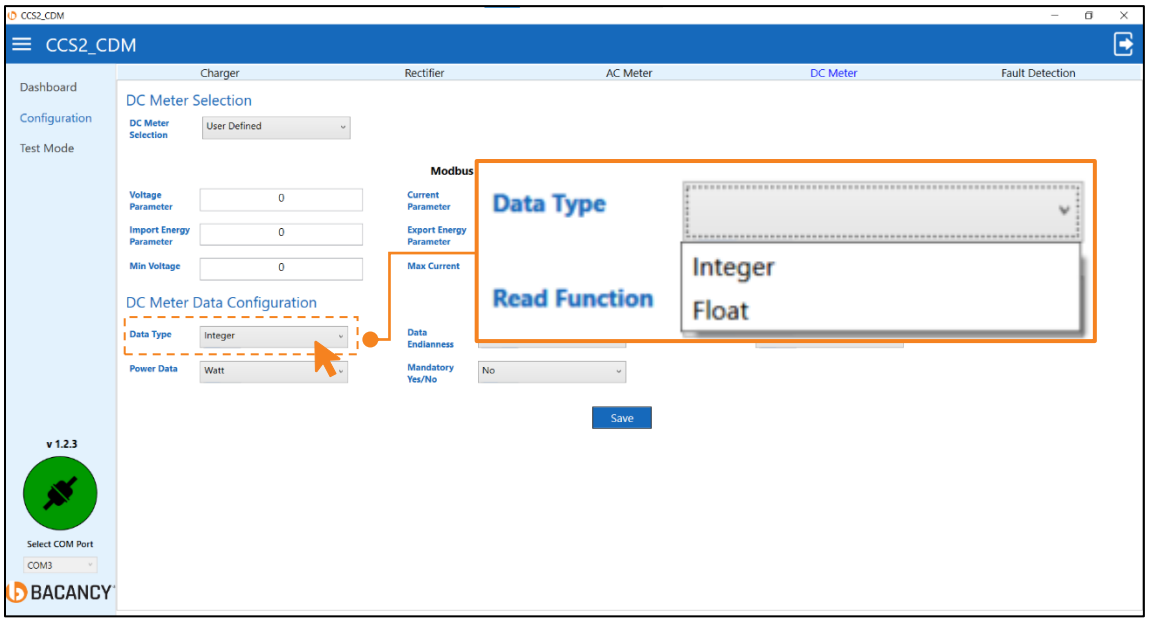

Figure 64 Select “Data Type” from the dropdown list.

Step 4. In the Power Data section, select the appropriate choice based on your metre, as shown in the image below.

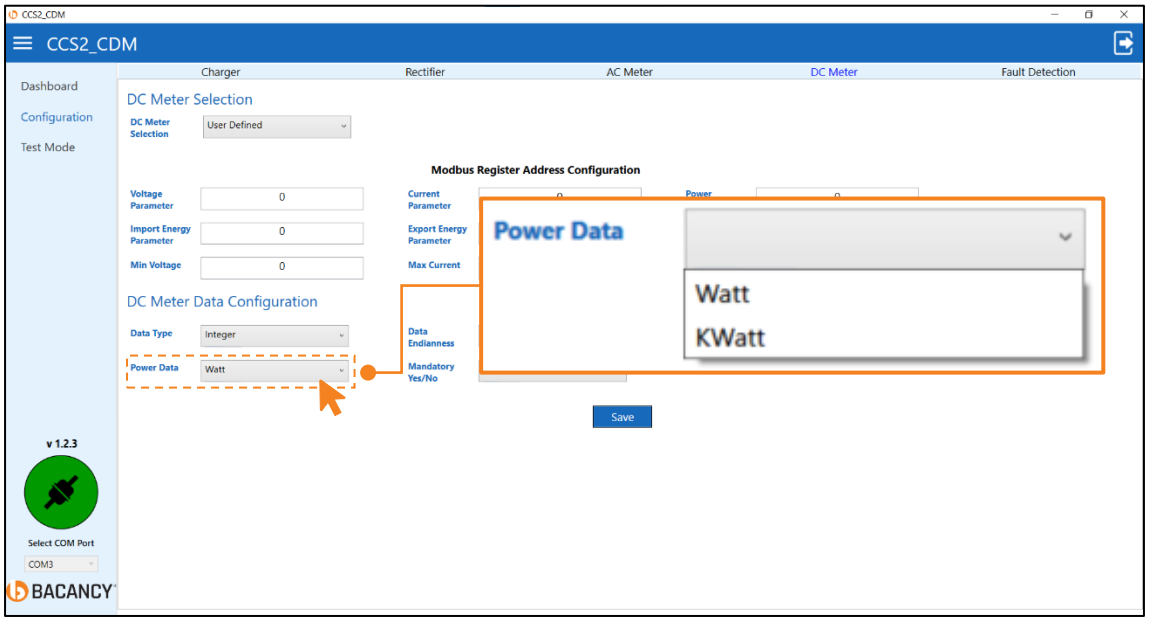

Figure 65 Select "Power Data" from the dropdown list.

Step 5. Select the appropriate option for your metre in the "Data Endianness" section, as shown in the image below.

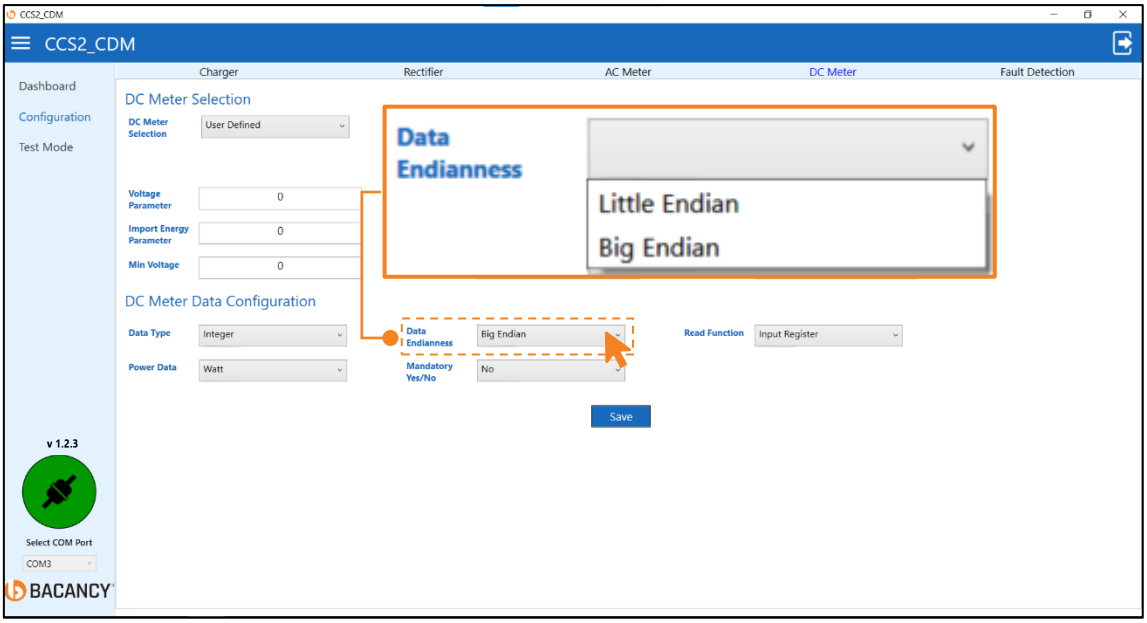

Figure 66 Select "Data Endianness" from the dropdown list.

Step 6. Select the appropriate option for your metre in the “Mandatory Yes/No” section, as shown in the image below.

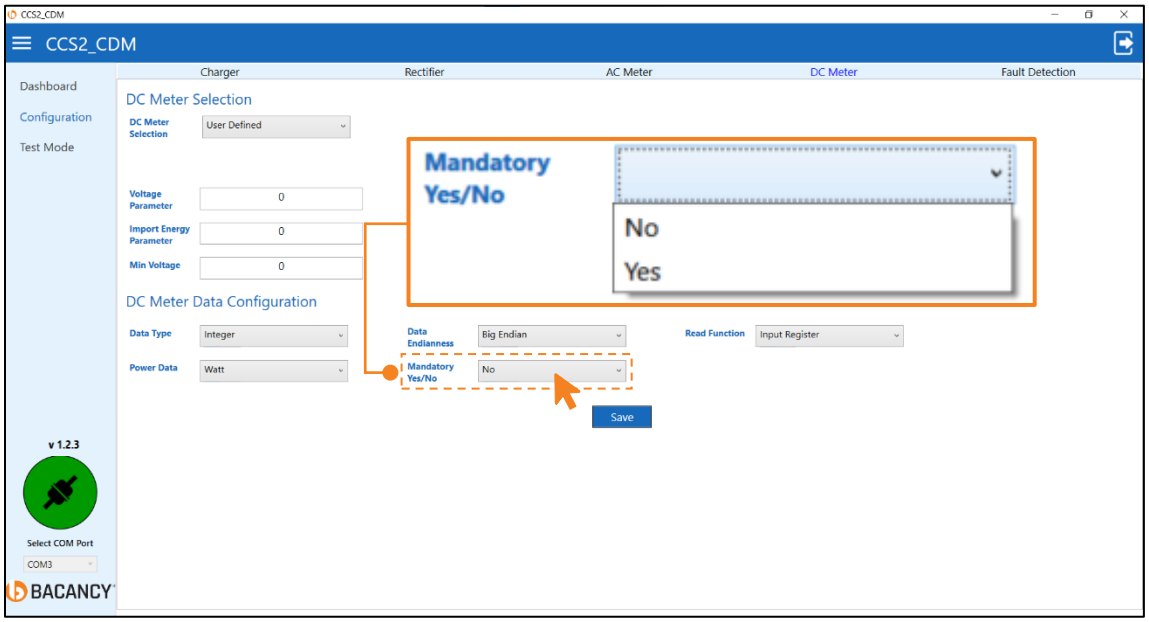

Figure 67 Select the “Mandatory Yes / No” from the dropdown list

Step 7. In the Read Function section, select the option that corresponds to your metre, as shown in the image below.

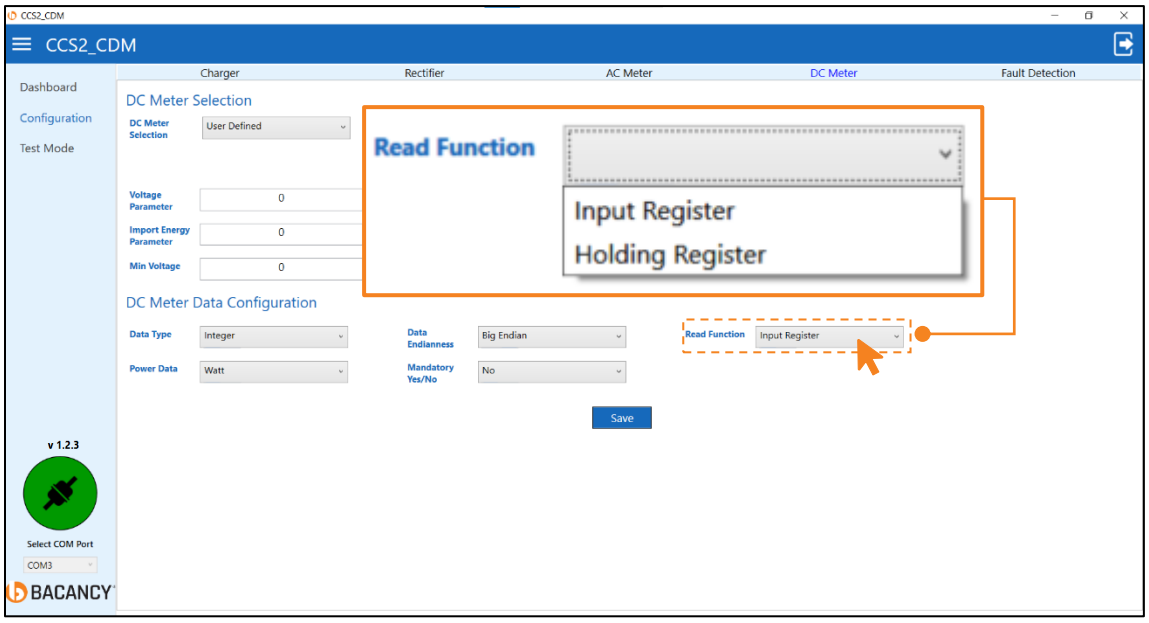

Figure 68 Select “Read Function” from the dropdown list.

Step 8. To save the DC configuration, click the “Save” button.

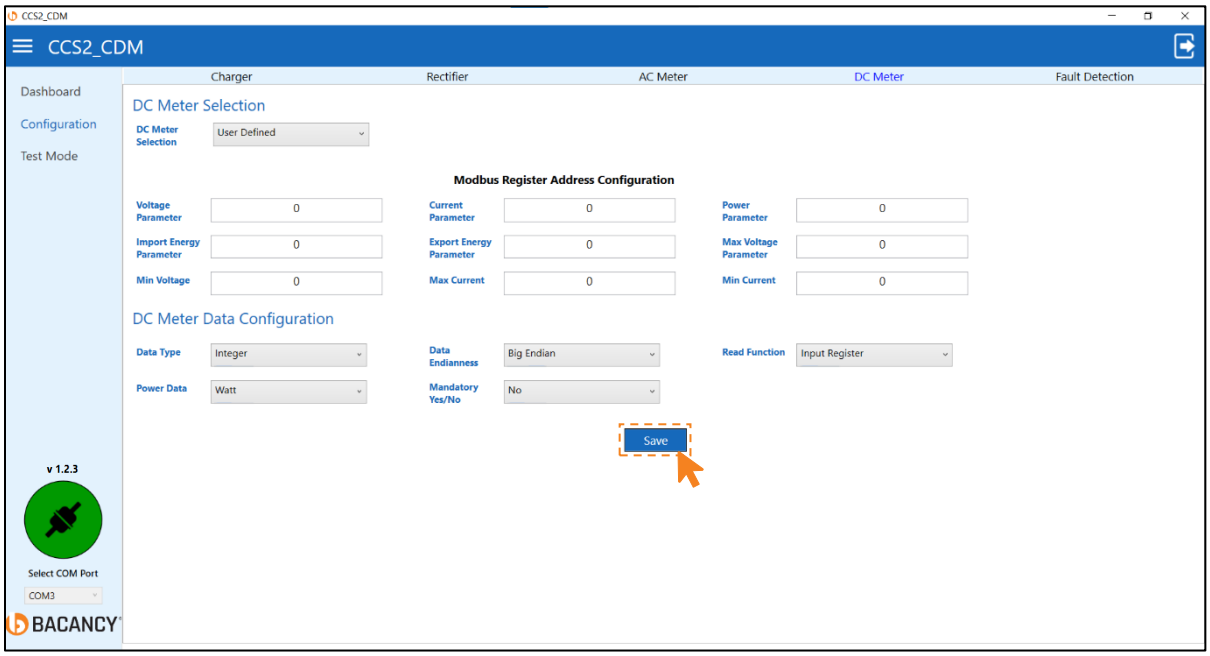

Figure 69 Click the “Save” button to save the configuration

3.4.5 Fault Detection Tab

Step 1. In the configuration window, click the “Fault Detection” tab.

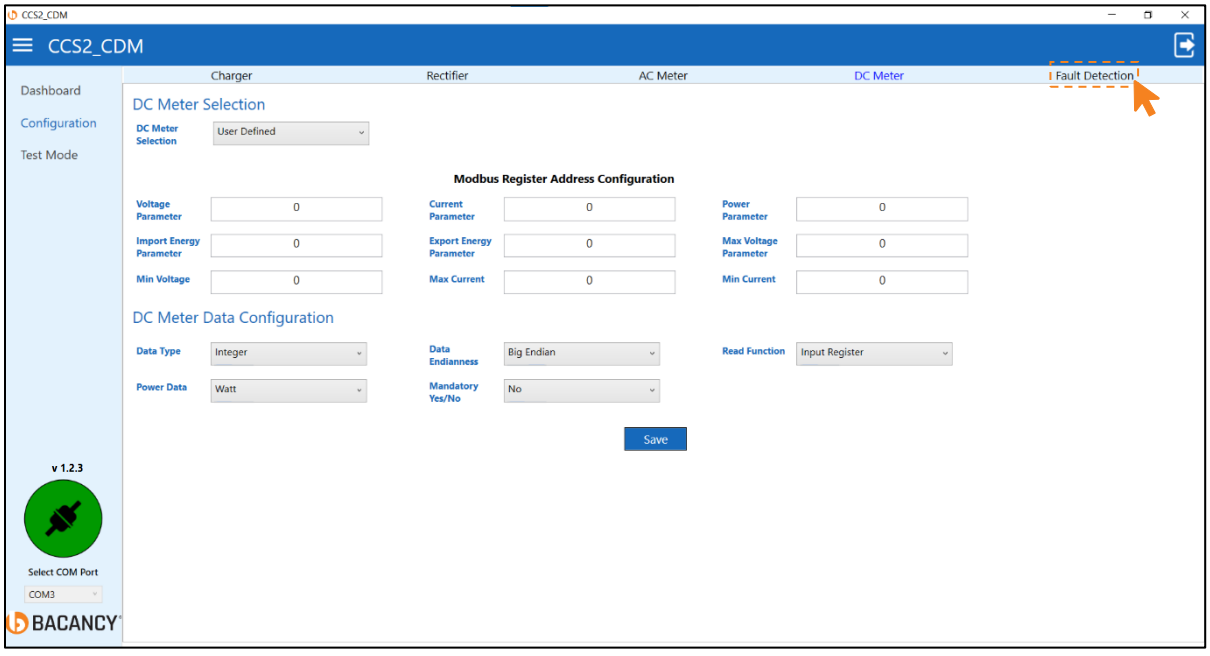

Figure 70 Click the “Fault Detection” tab.

Step 2. Configure the fault detection options as required by turning ON and OFF.

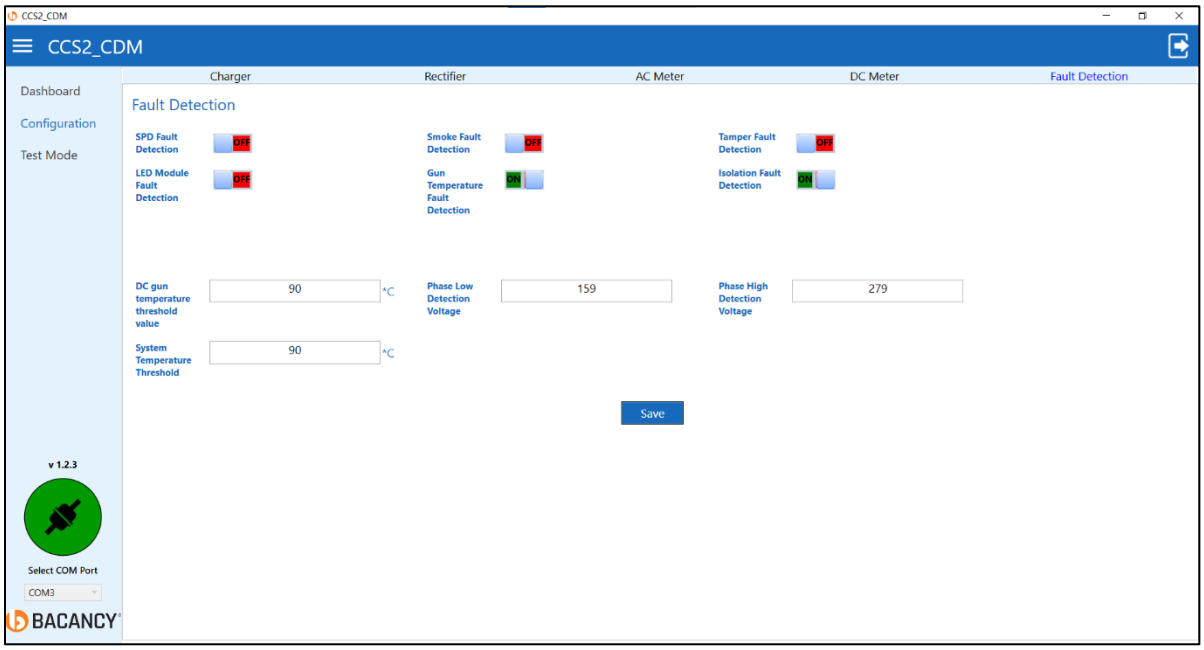

Figure 71 Set the Fault Detection "ON / OFF" options based on your requirements.

Step 3. Next, enter the parameters for the fault detection section, which include the DC Gun Temperature Threshold Value, Phase Low Detection Voltage, Phase High Detection Voltage and System Temperature Threshold.

The default values will be configured as shown in the image below.

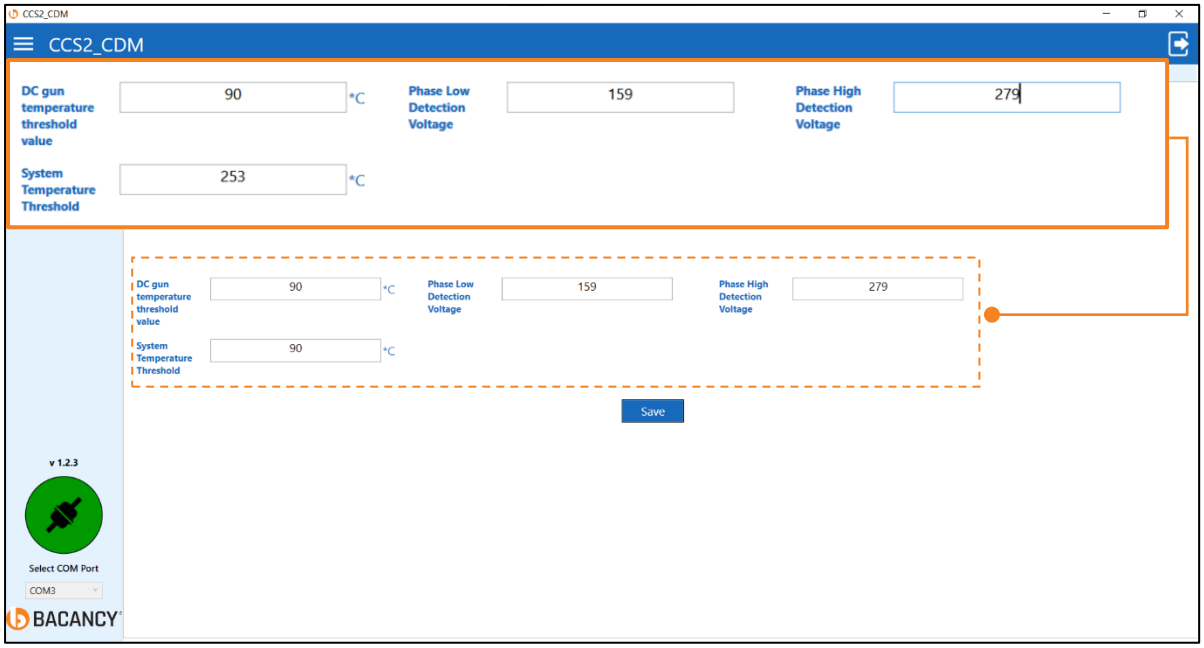

Figure 72 Enter fault detection parameter.

Step 4. To save fault detection, click the “Save” button.

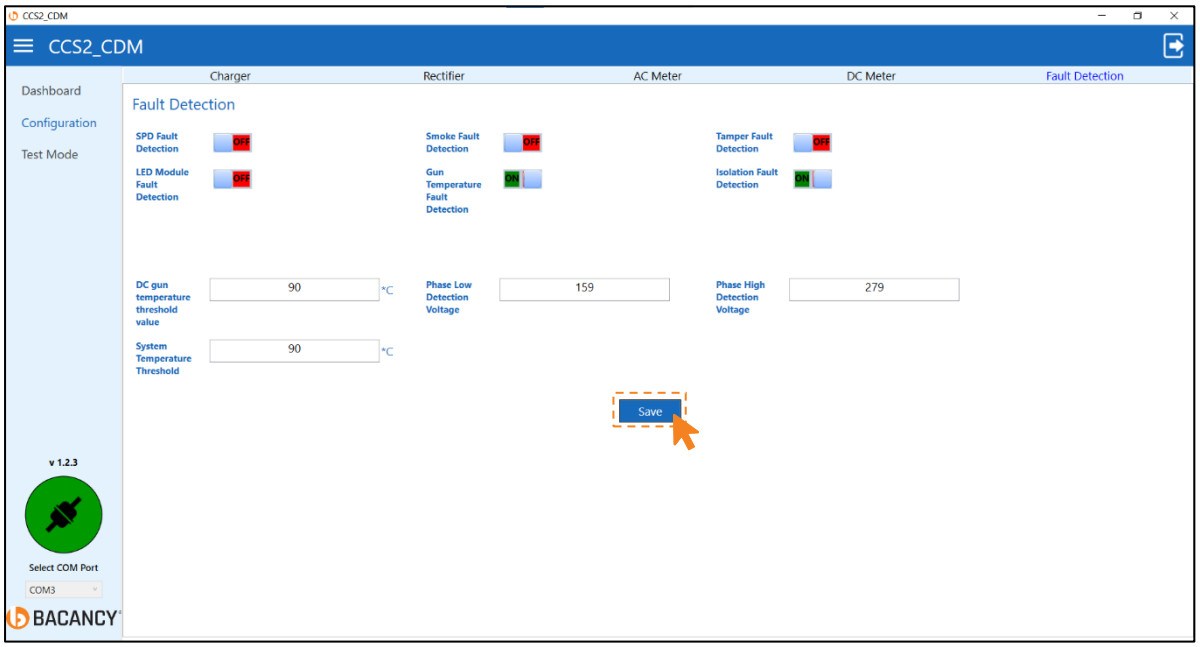

Figure 73 Click the “Save” button to save the fault detection configuration.

3.5 Test Mode Window

Open the menu and select the “Test Mode” option. It will bring up the test mode window.

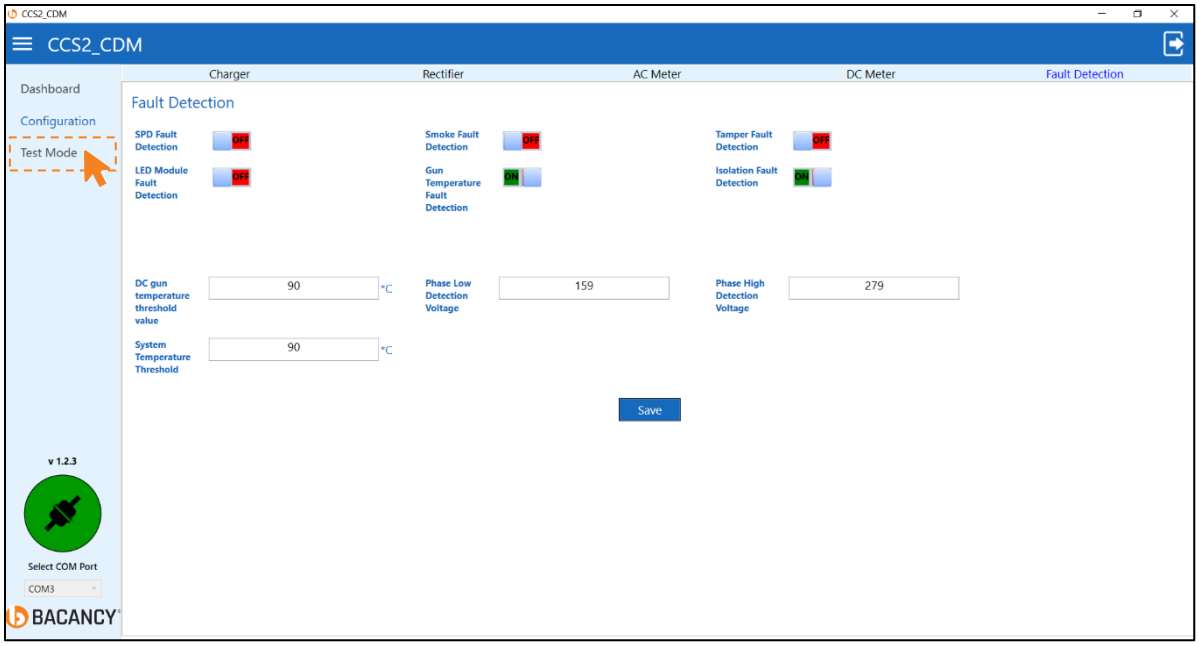

Figure 74 Click the “Test Mode” option from the menu

3.5.1 Digital Output Test Mode Tab

This is a test mode for the charger's digital output. The application shows the last tab that's been set and stored.

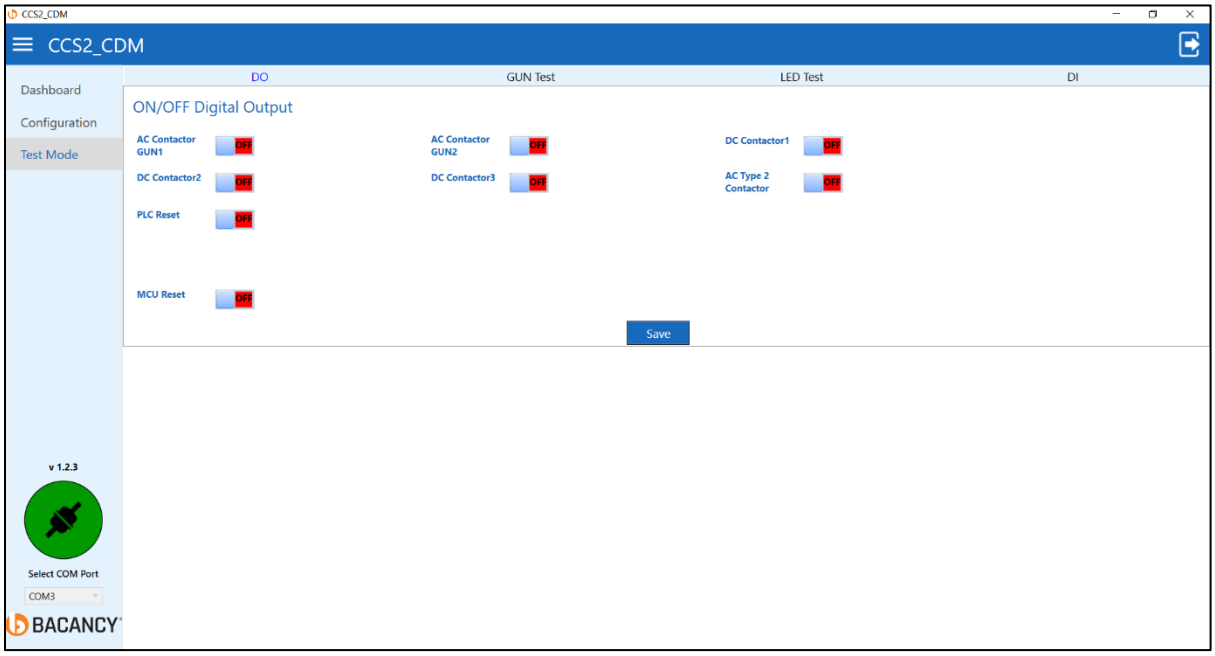

Figure 75 Digital Output Test Mode Tab

In the Digital Output Test Mode, the user can turn on and off several options to validate digital output based on the requirements, as shown in the image below.

1. AC Contactor GUN1
2. AC Contactor GUN2
3. DC Contactor1
4. DC Contactor 2
5. DC Contactor 3
6. AC Type 2 Contactor
7. PLC Reset
8. MCU Reset

Step 1. To validate the Digital Output, click the “ON” button shown in the image below.

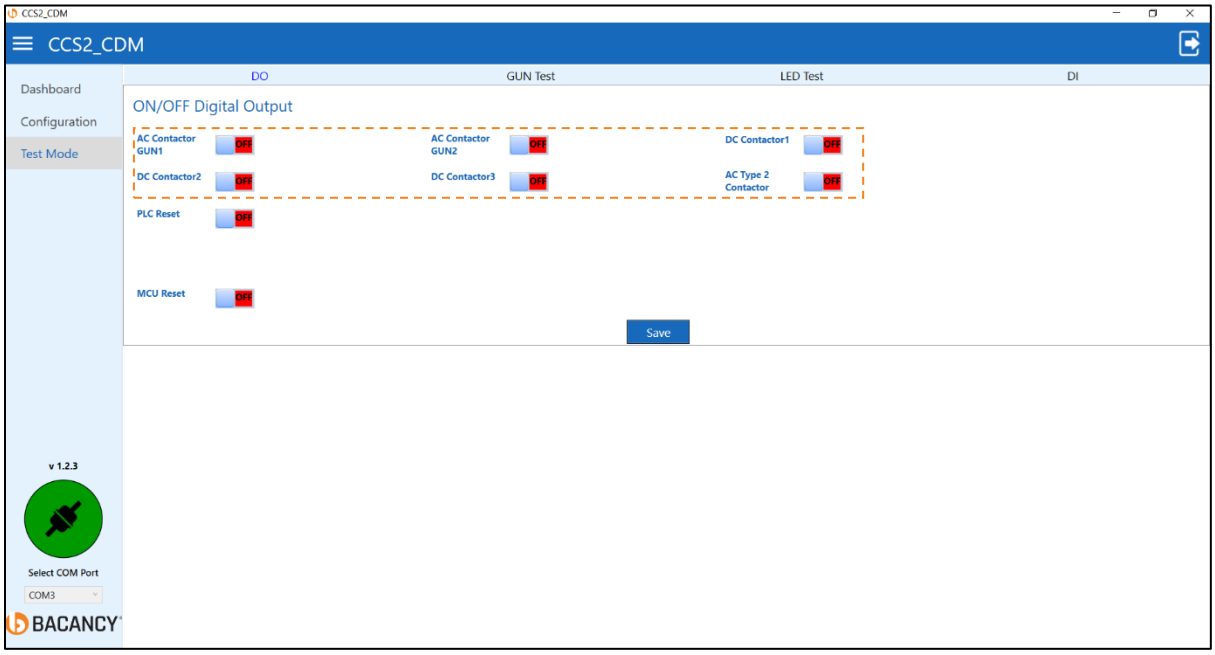

Figure 76 Click the “ON” button to validate the digital output

Step 2. Click the “Save” button.

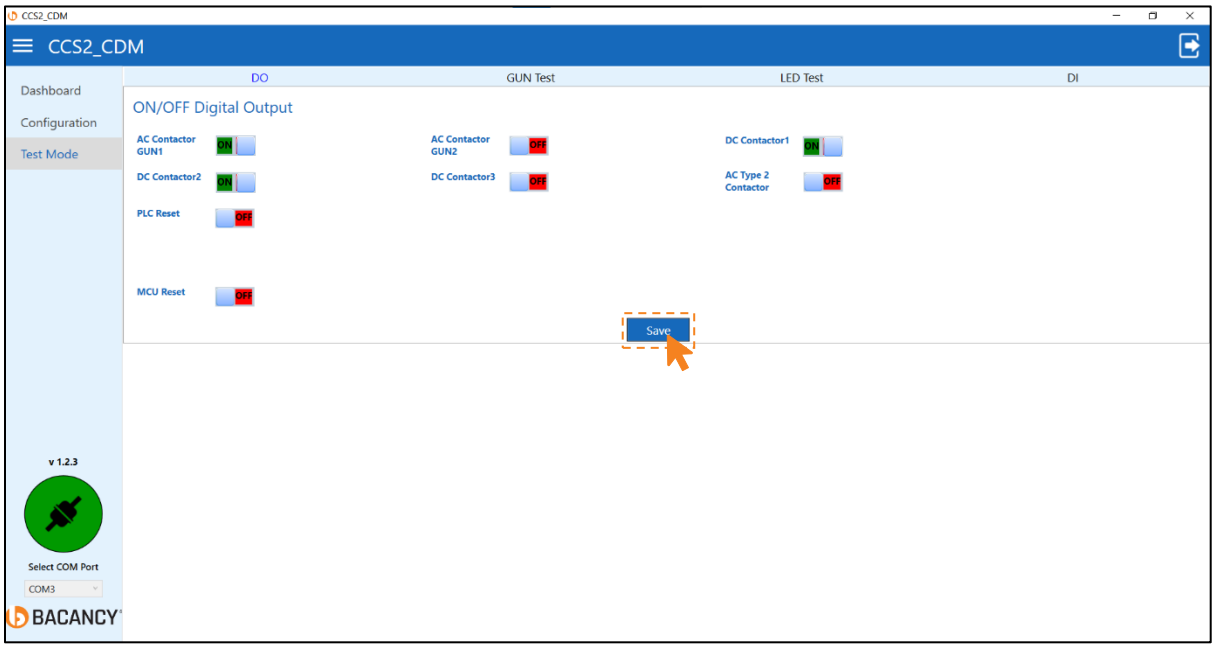

Figure 77 Click the “Save” button.

NOTE!	DO Test mode
	The DO section is restricted to test mode only. The user should validate the output in accordance with your set requirements, and the user is permitted to nullify the validation of all outputs.

- **PLC RESET**

  If the user needs to complete a PLC reset, click the “ON” button, then click the “Save” button.

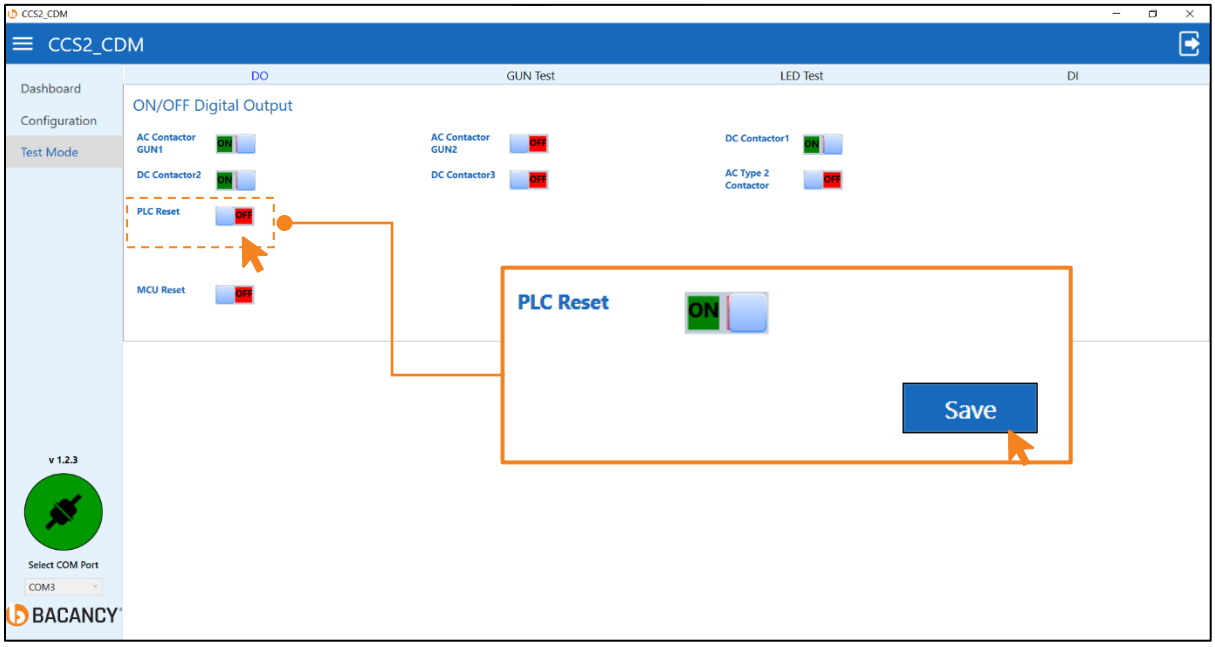

Figure 78 To reset the PLC, click the “ON” button. Then, click the “Save” button

NOTE!	PLC Reset
	After successfully resetting the PLC, the PLC Rest button will be turned OFF by default.

- **MCU RESET**

  If the user needs to complete an MCU reset, click the “ON” button. Click the “Save” button.

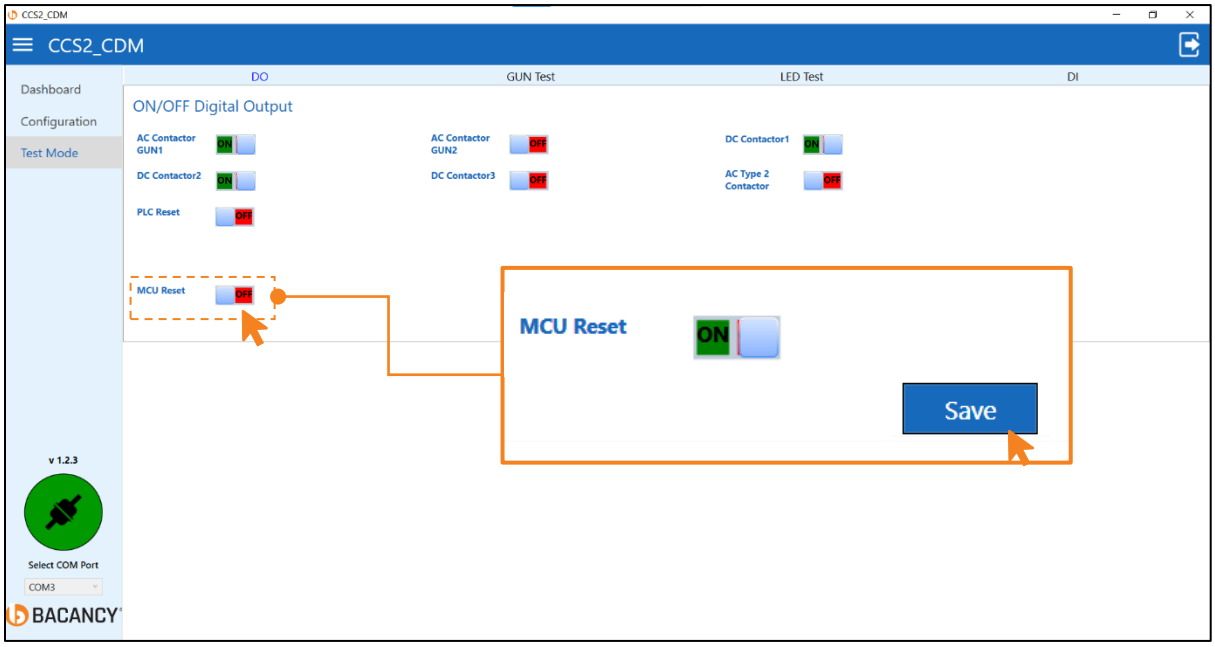

Figure 79 Click the “ON” button to reset the MCU, then click the “Save” button

NOTE!	MCU Reset
	After successfully resetting the MCU, the MCU Rest button will be turned OFF by default.

3.5.2 GUN Test (Rectifier Operation Test) Tab

Step 1. In the Test Mode section, click the GUN Test option.

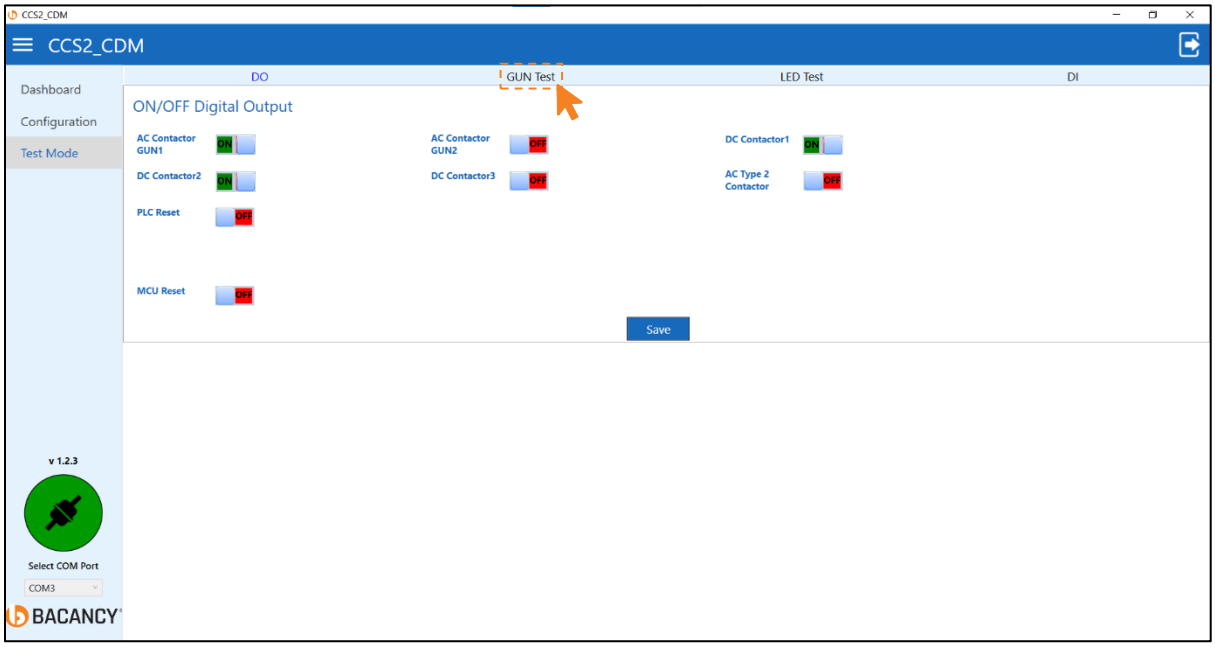

Figure 80 Click the "GUN Test" tab.

Step 2. To set the "GUN1 rectifier voltage and current" to your specifications.

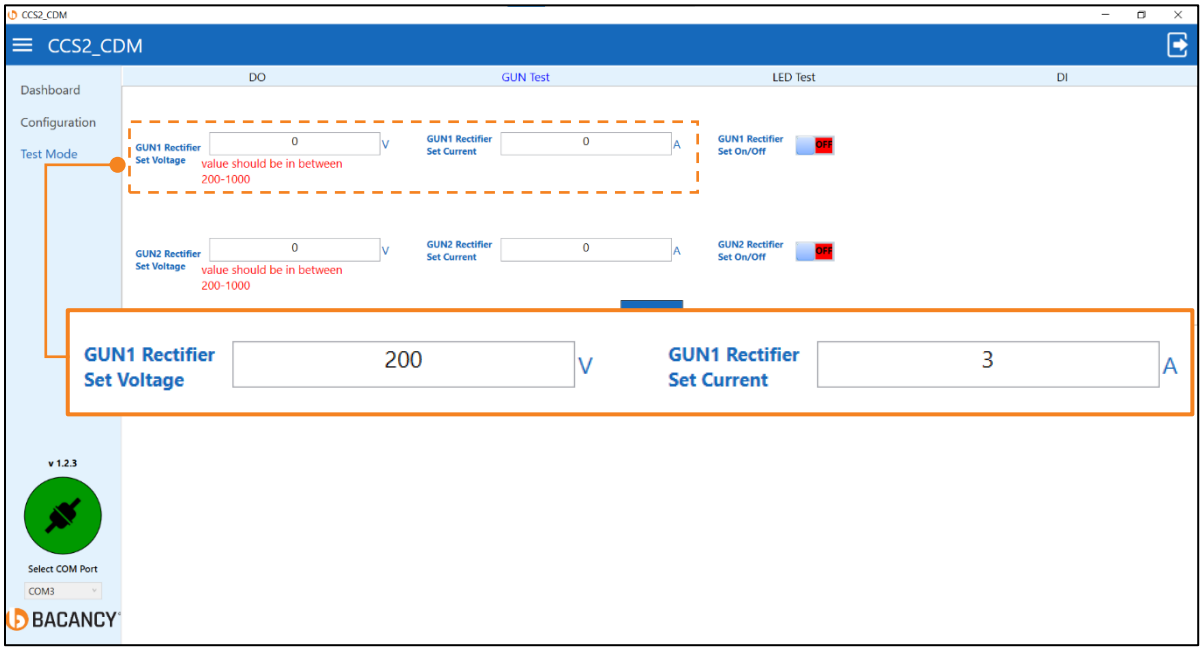

Figure 81 Enter "GUN1 Rectifier Set Voltage and Current"

Step 3. Click the GUN1 Rectifier ON/OFF button.

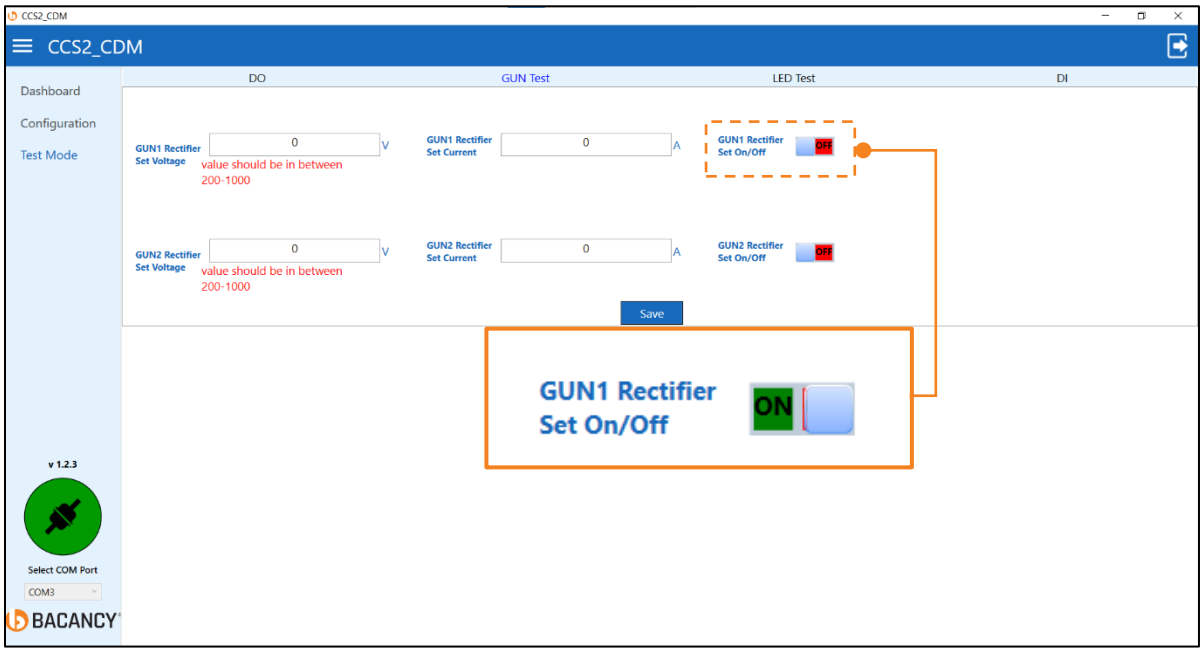

Figure 82 To enable the Gun1 Rectifier, click the "ON" button

Step 4. Click the "Save" button to save the GUN1 Rectifier Set.

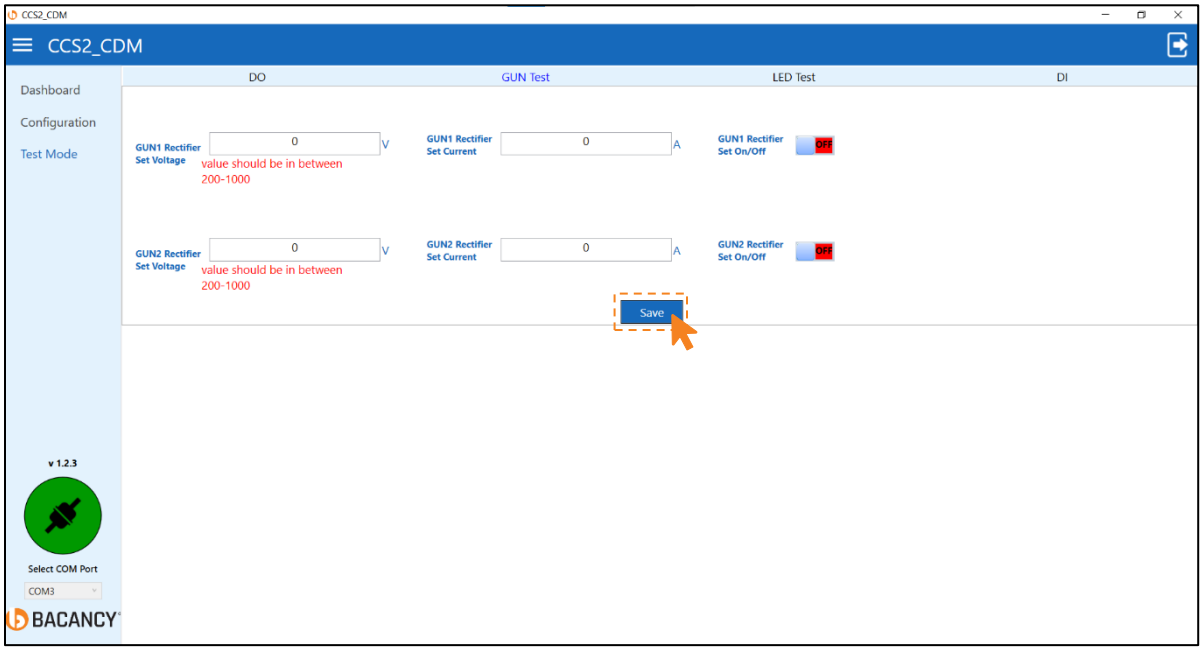

Figure 83 Click the "Save" button to save the GUN1 Rectifier Test.

Step 5. To set the GUN2 rectifier voltage and current to your specifications.

Figure 84 Enter "Gun2 Rectifier Set Voltage and Current"

Step 6. Click the GUN2 rectifier's ON/OFF button.

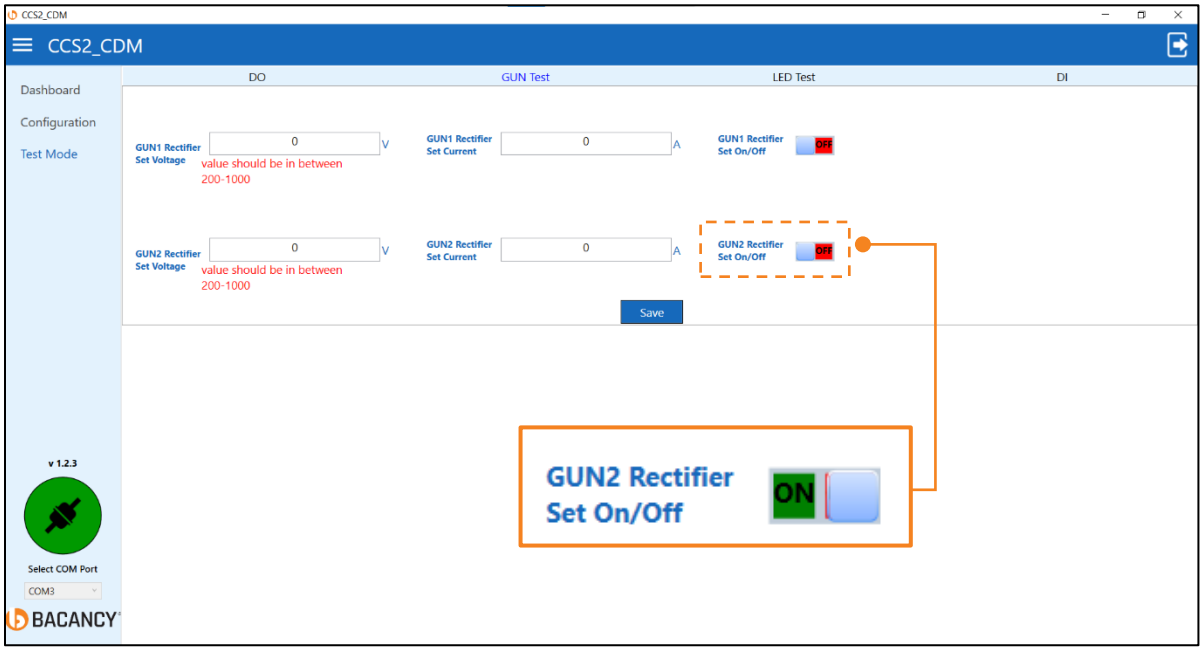

Figure 85 To enable the GUN2 rectifier, click the "ON" button.

Step 7. Click the “Save” button to save the GUN2 Rectifier Set.

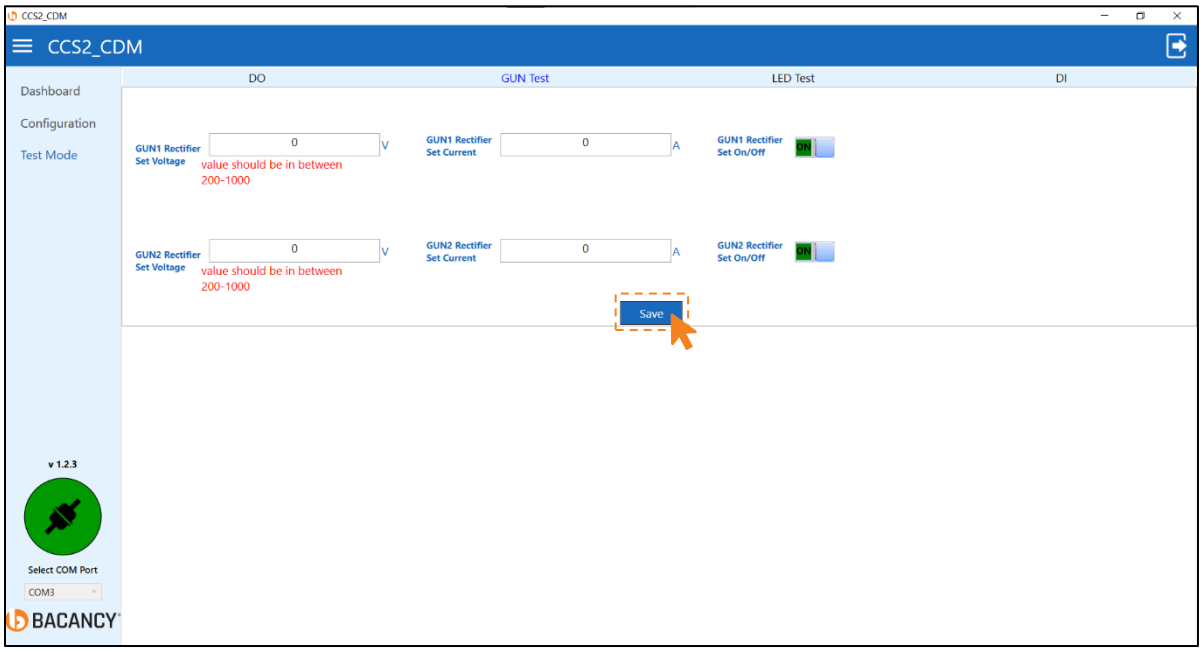

Figure 86 Click the “Save” button to save the GUN2 Rectifier Test.

3.5.3 LED Test Tab

Step 1. In the Test Mode section, select the “LED Test” option.

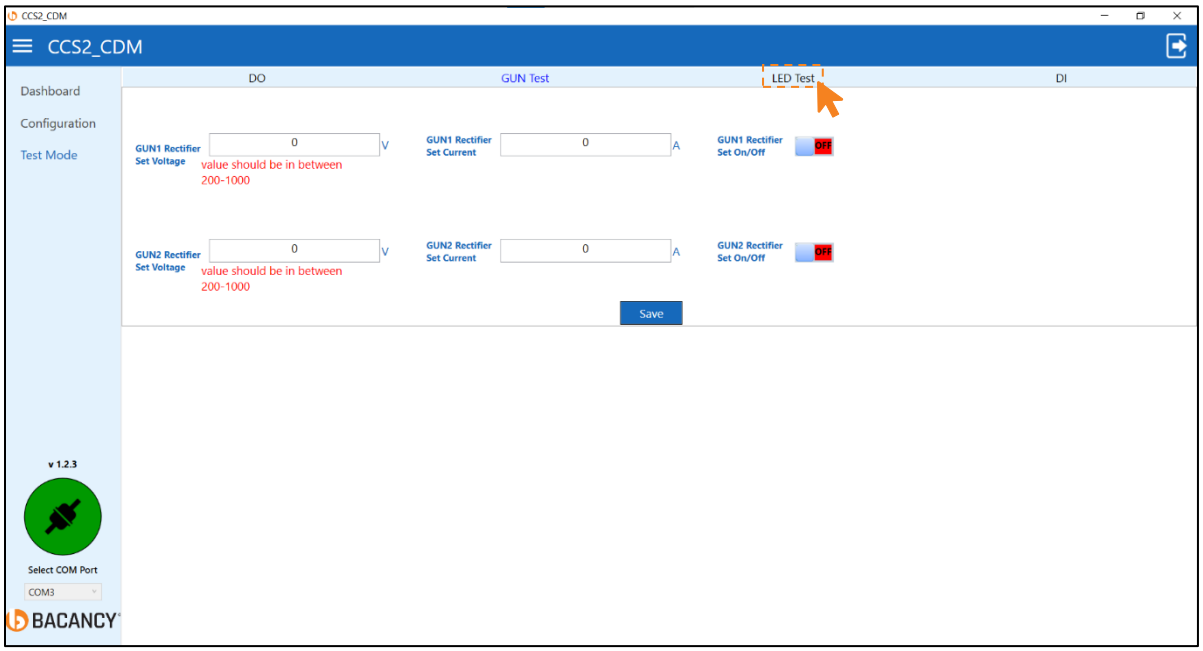

Figure 87 Click the “LED Test” tab.

Step 2. The user can set LED test options for GUN1, GUN2, and GUN3 based on their requirements. The LED colour would display based on your test settings, such as red, green, and blue, as shown in the image below.

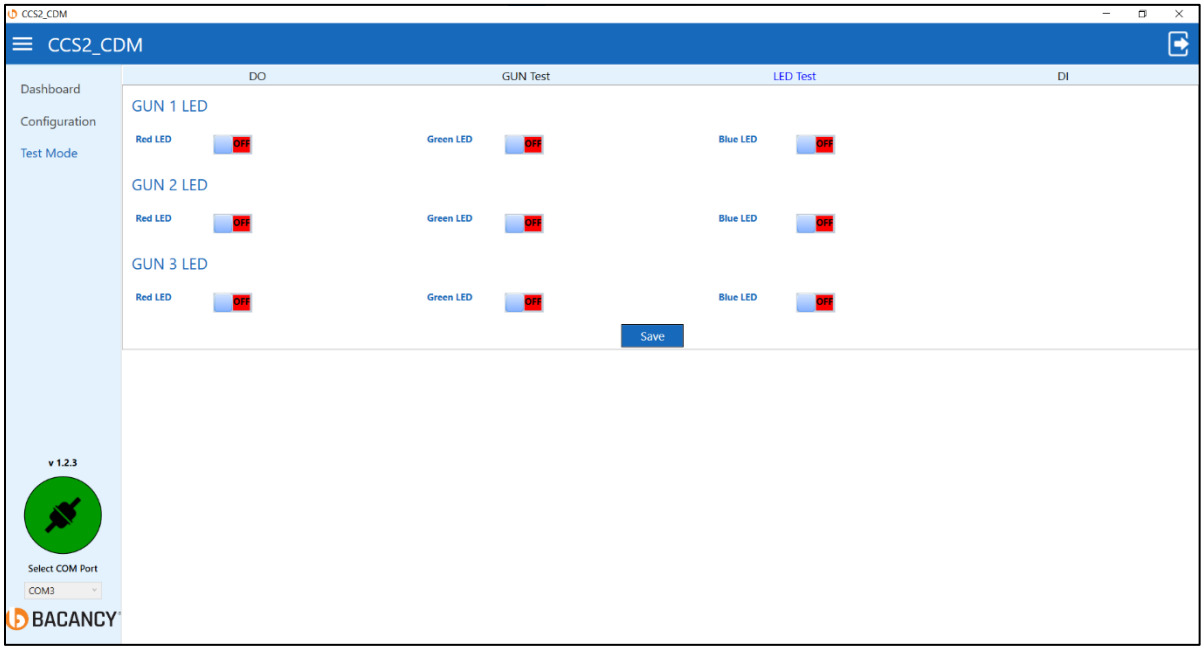

Figure 88 Set LEDs as per your requirement.

Step 3. Click the “Save” button.

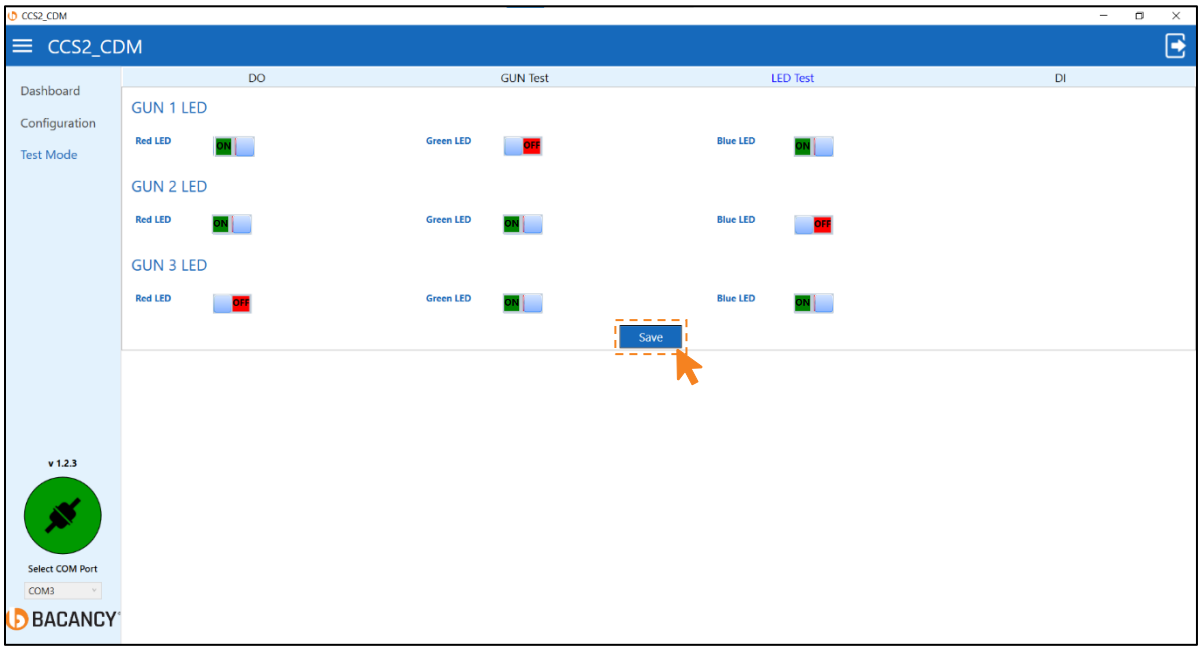

Figure 89 Click the “Save” Button LED Test

NOTE!	**Connect the LED module.**
	The LED module should be connected to the controller to perform an LED test; otherwise, it will not function.

3.5.4 Monitor Digital Input (DI) Tab

Step 1. Click the “DI” option in the Test Mode section.

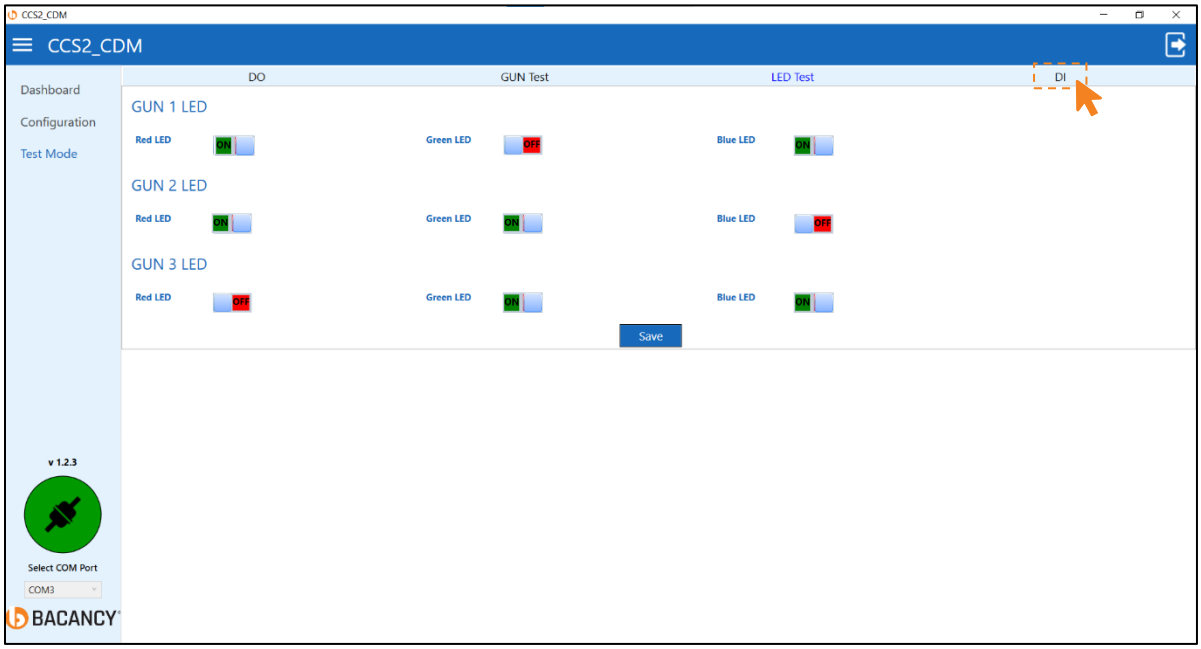

Figure 90 Click the “DI” tab.

The digital input section has several options, which are listed below. The Status shows ON/OFF based on the hardware connections.

- **Read Digital Input ON/OFF Status**
  1. Emergency Stop
  2. Firmware Update
  3. Isolation Module 1
  4. Isolation Module 2
- **LED Module Input Pin Status**
  1. SPD Fault Detection
  2. Smoke Fault Detection
  3. Tamper Fault Detection

NOTE!	Monitor Digital Input
	The digital input (DI) section is limited to test mode and shows the status of the input pins. If the user clicks the “ON” button, the appropriate module should connect to the charger for operation; otherwise, the charger will not function.

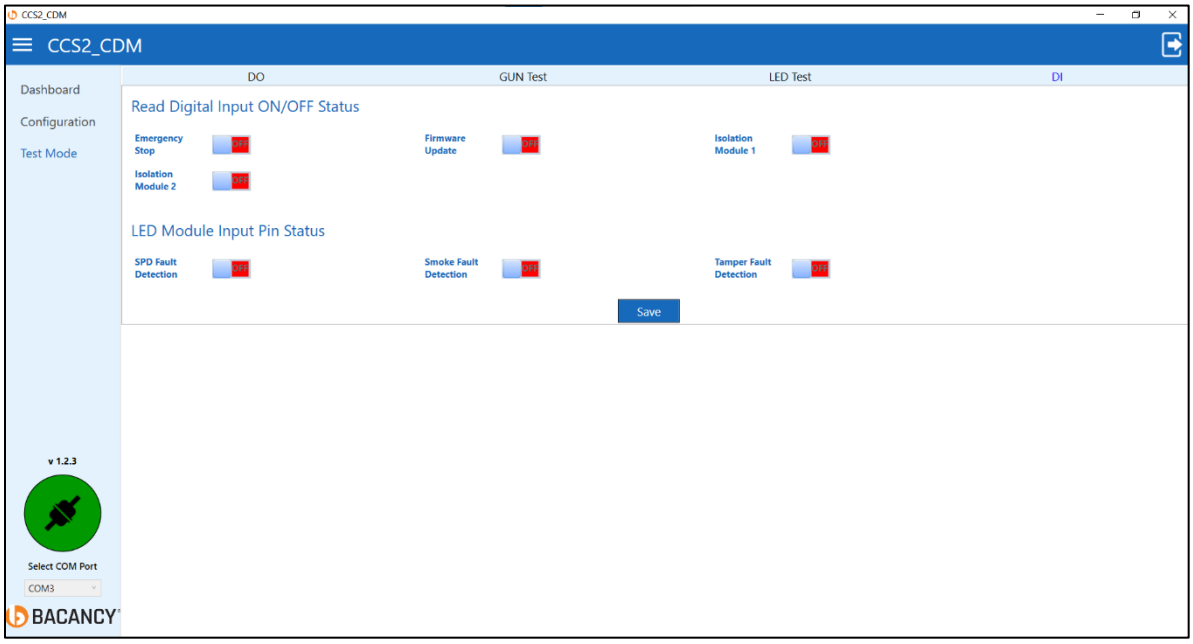

Figure 91 Turn "ON" digital inputs according to your requirements

Step 2. Click the "Save" button.

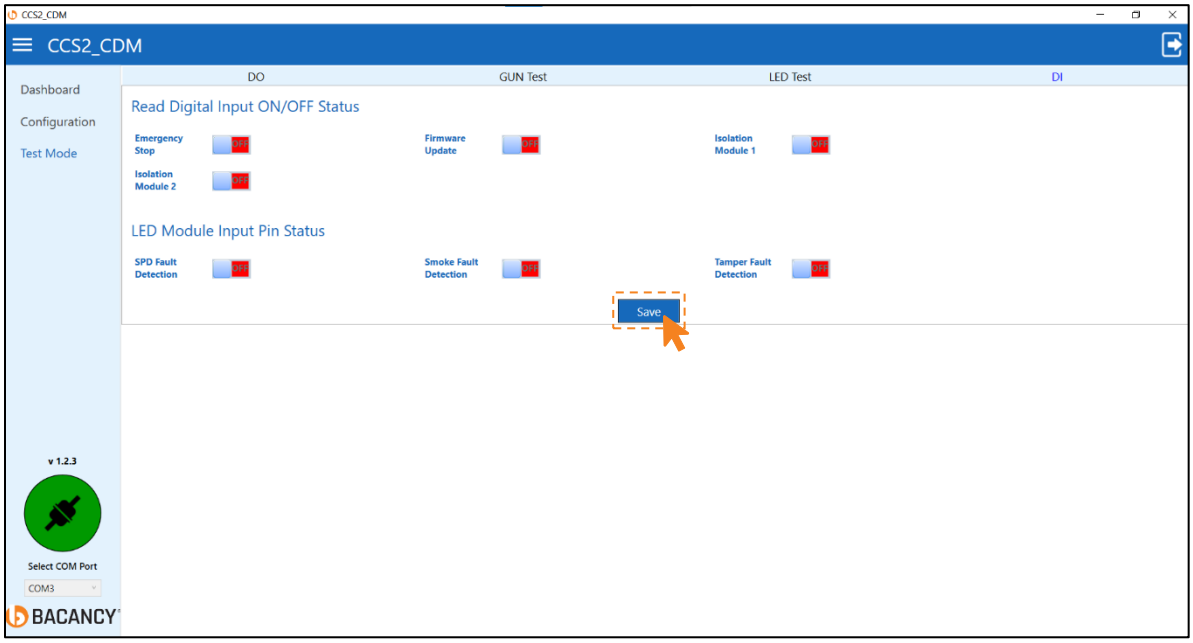

Figure 92 Click the "Save" button to save the Digital Input Test Mode.

3.6 Logout

Step 1. To exit the CCS2 CDM application, click the “Log Out” button, as shown in the image below.

NOTE!	Logout Properly
	After configuration, the user should be required to log out so the system can function effectively. Otherwise, the entire system will be reset automatically.

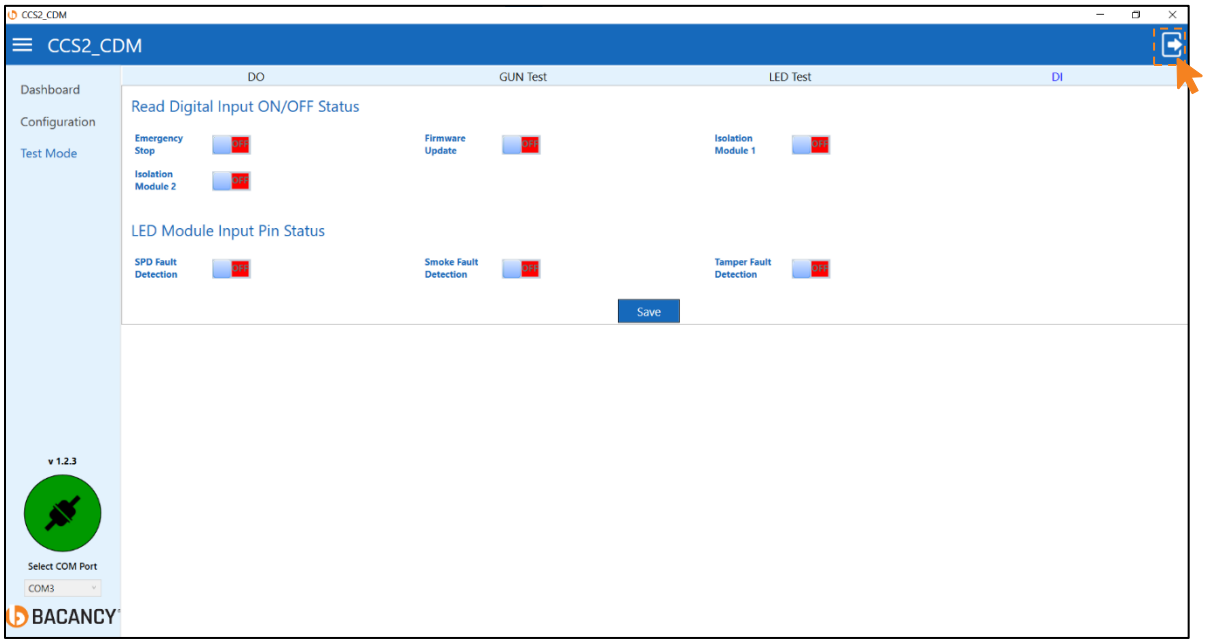

Figure 93 To exit the CCS2 CDM application, click the “Logout” button.

4 Appendix

4.1 Abbreviations and Glossary

AC	*Alternating current, a type of electrical current in which the current repeatedly changes direction.*
AP	Access Point
BLE	*Bluetooth Low Energy*
COM Port	*COM (communication port) is the original, yet still common, name of the serial port interface on PC-compatible computers.*
DC	*Direct current (DC) is a one-directional flow of electric charge.*
EVSE	*Electric vehicle supply equipment (EVSE) is the basic unit of EV charging infrastructure. The EVSE accesses power from the local electricity supply and utilises a control system and wired connection to safely charge EVs.*
GSM	*GSM (Global System for Mobile Communication) is a digital mobile network that is widely used by mobile phone users in Europe and other parts of the world.*
Hz	*Hertz, the SI unit of frequency, is equal to one cycle per second.*
IP	*The Internet Protocol (IP) is the network layer communications protocol in the Internet Protocol Suite for relaying datagrams across network boundaries. Its routing function enables internetworking and essentially establishes the Internet.*
LED	*A light-emitting diode (LED) is a semiconductor device that emits light when current flows through it.*
MAC	*A MAC address (short for medium access control address) is a unique identifier assigned to a network interface controller (NIC) for use as a network address in communications within a network segment.*
MCU	*A Motor Control Unit (MCU) is an electronic module that interfaces between the pack of batteries and the motor to control the electric vehicle's speed and acceleration based on the throttle input.*
OCPP 1.6	*The OCPP 1.6 (Open Charge Point Protocol) enables the integration between equipment from different manufacturers.*
OTA	*An over-the-air update is a firmware or operating system update that is downloaded by the device over the internet.*
PLC	*A programmable logic controller is a type of tiny computer that can receive data through its inputs and send operating instructions through its outputs.*
RFID	*Radio-frequency identification (RFID) uses electromagnetic fields to automatically identify and track tags attached to objects.*
RGB	*Red, Green, Blue*

RYB	*Conventionally, the three phases are designated as red-R, yellow-Y, and blue-B phases.*
SPD	*Surge protective device (SPD) is used to protect electrical and electronic devices from the transient overvoltages (surges)*
STA	*Wireless Client / Station*
Type-2 Connector	*The IEC 62196 Type 2 connector is used for charging electric vehicles, mainly within Europe, as it was declared standard by the EU.*
Wi-Fi	*Wi-Fi is a family of wireless network protocols based on the IEEE 802.11 family of standards, which are commonly used for local area networking of devices and Internet access, allowing nearby digital devices to exchange data by radio waves.*

Bacancy Systems PVT LTD,
15-16, Times Corporate Park,
Near Thaltej-Shilaj Road,
Opp. Copper Stone Flats,
Thaltej, Ahmedabad,
Gujarat, India, 380059

www.bacancysystems.com

systems@bacancysystems.com

+91 90160 28817

Helpdesk: https://bacancy.freshdesk.com/a/dashboard/default