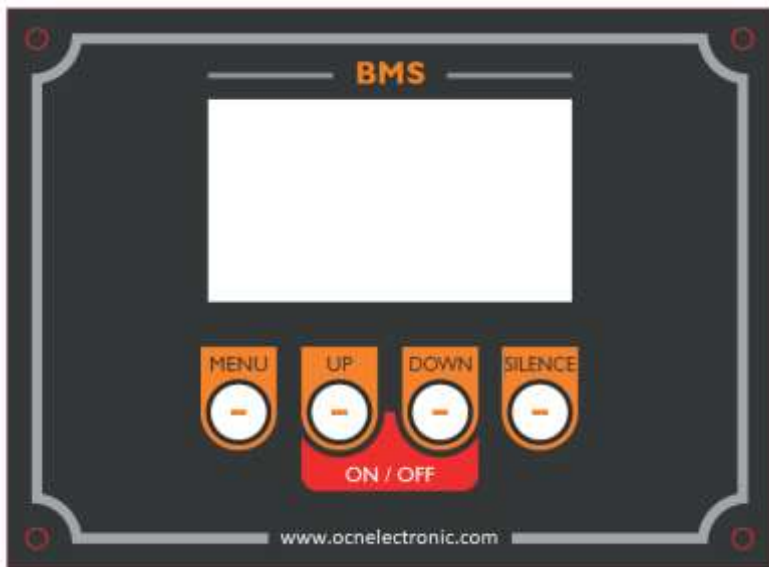


# BMS USER MANUAL



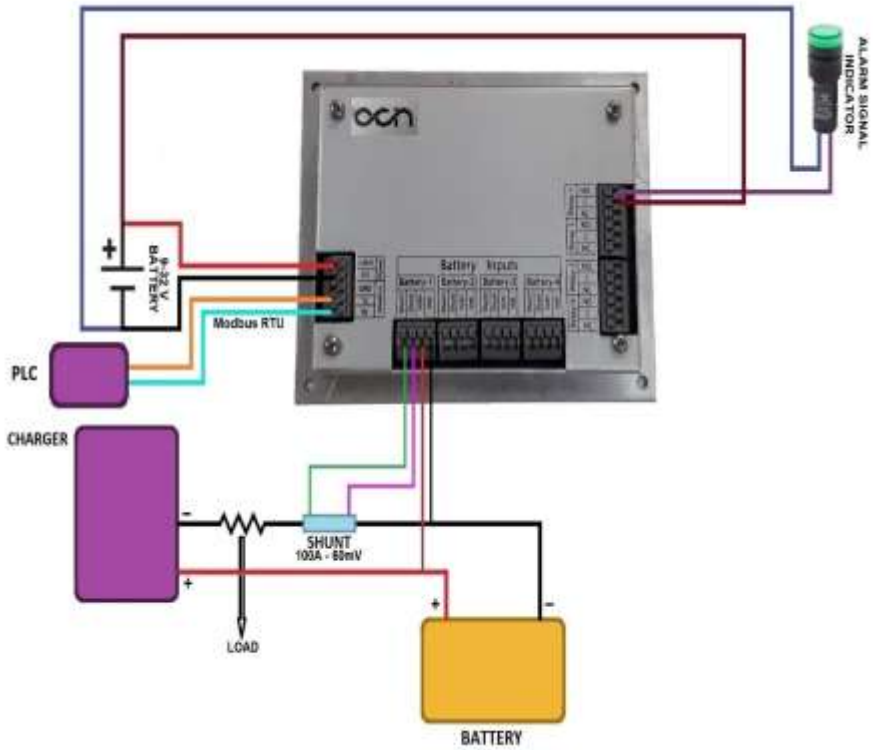
# CONTENTS

<b>GENERAL FEATURES .....</b>	<b>2</b>
<b>SETUP .....</b>	<b>3</b>
<b>SETTINGS .....</b>	<b>6</b>
<b>TROUBLESHOOTING .....</b>	<b>11</b>
<b>DIMENSIONS.....</b>	<b>12</b>

## GENERAL FEATURES

- Ability to operate in the range of 9-32 V DC.
- 4 battery voltage and capacity monitoring.
- 4 alarm relay outputs.
- Communication with Modbus RTU.
- The screen brightness can be adjusted by the user.
- Setting alarm delay time
- English and Turkish language options.

# SETUP



Picture 1.0 Installation Diagram

- **Connecting the power cable:** Connect the (+) end of the power cable to the (+) pin on the **Power** section of the **BMS**, and the (-) end with the (-) pin on the Power section of the **BMS**.
  
- **Connecting the battery and the shunt:** Connect the (+) part of the shunt, which is connected in series to the (-) line between the charger and the battery, and the **Shunt+** pin of the relevant battery connection on the **BMS**. Make a connection between the (-) part of the shunt connected in series to the (-) line between the charger and the battery and the **Shunt-** pin of the relevant battery connection on the **BMS**. Make a connection between the (+) terminal of the battery and the (+) terminal of the relevant battery in the **Battery Inputs** section of the **BMS**. Connect the cable between the shunt at the (-) part of the battery and the charger, and the (-) terminal of the relevant battery in the **Battery Inputs** part of the **BMS**.

- **Connecting the alarm signal lamp:** Take a jumper from the **(+)** end of the supply cable and connect it to the **Common (C)** terminal of the alarm relay output of the relevant battery. If you want the alarm signal lamp to light in alarm; Make a connection between the **Normally Open (NO)** pin and the **(+)** end of the lamp. If you want the alarm signal lamp to turn on when the alarm is terminated; Make a connection between the **Normally Closed (NC)** pin and the **(+)** terminal of the lamp. Take a jump from the **(-)** end of the supply cable and connect it to the **(-)** end of the lamp..
- **Modbus RTU connection:** Make a connection between **Tx** terminal of **PLC** and **Tx** terminal of **BMS**, and between **Rx** terminal of **PLC** and **Rx** terminal of **BMS**.

**Note:** When making device connections, make sure that all power is disconnected.

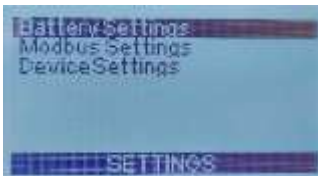
## SETTINGS

### ***Settings Menu:***



Long press the **MENU** button to open the settings menu and move the **UP** and **DOWN** buttons to the relevant section and briefly press the **MENU** button.

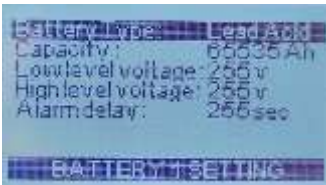
### ***Battery Settings:***



After entering the settings menu, move to **Battery Settings** with the **UP** and **DOWN** keys and briefly press the **MENU** key.



After entering the battery settings menu, press the **UP** and **DOWN** keys on the relevant battery and briefly press the **MENU** key. Thus, the setting interface of the relevant battery is entered.



**To activate battery voltage measurement;** With the **UP** and **DOWN** keys, the battery type is selected and by short pressing the **MENU** key, other battery settings are accessed.

**To set low and high voltage alarm levels;** By briefly pressing the **MENU** button, the **Low level voltage** is reached and/or the **High level voltage** is reached, and the desired voltage levels are reached with the **UP** and **DOWN** keys.

**To change the capacity value:** Short press the **MENU** key to highlight the Capacity, press the **UP** and **DOWN** keys to reach the desired capacity value.



## Modbus Communication Settings:



After entering the Settings menu, move to **Modbus Settings** with the **UP** and **DOWN** keys and press the **MENU** key for a short time.



**Setting the Unit ID value;** With the **UP** and **DOWN** keys, the desired value is reached and by short pressing the **MENU** key, **Baud Rate** is set.

**Setting the Baud Rate;** With the **UP** and **DOWN** keys, the desired value is reached and by pressing the **SILENCE** key, the settings are saved in the memory and the upper menu is returned.

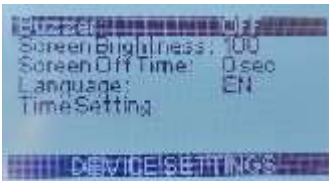
Register Address	Register Name	Format	Function
41	Aku-1 Voltage	Unshort	R
42	Aku-1 Capacity	Unshort	R
43	Aku-2 Voltage	Unshort	R
44	Aku-2 Capacity	Unshort	R
45	Aku-3 Voltage	Unshort	R
46	Aku-3 Capacity	Unshort	R
47	Aku-4 Voltage	Unshort	R
48	Aku-4 Capacity	Unshort	R

*Table 1.0 Modbus Register Table*

## ***Device Settings:***



After entering the Settings menu, go to **Device Settings**. Short press the **MENU** button.

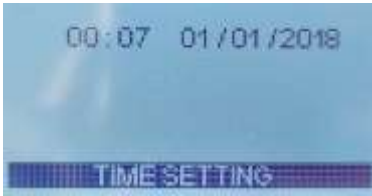


**To mute the buzzer;** With the **UP** and **DOWN** keys, the **OFF** position is reached and by short pressing the **MENU** key, the **Screen Brightness** is adjusted.

**To change the screen brightness;** With the **UP** and **DOWN** keys, the screen brightness is adjusted to the desired state and by short pressing the **MENU** key, Screen Time is set.

**To change the screen backlight off time;** The desired position is reached with the **UP** and **DOWN** keys and the language setting is reached by pressing the **MENU** key briefly.

**To change the language setting:** Use the **UP** and **DOWN** keys to reach the desired language and press the **SILENCE** key to save the settings and return to the upper menu.



**To set the date and time;** With the **UP** and **DOWN** keys, the **Time setting** is highlighted and the **MENU** button is briefly pressed, thus entering the Time setting interface.

**To set the clock;** By short pressing the **MENU** button, Clock is highlighted, The clock is set to the desired value with the **UP** and **DOWN** keys.

**To set the minute;** By pressing the **MENU** button briefly, **Minute** is highlighted, by pressing the **UP** and **DOWN** buttons, the minute is set to the desired value.

**To set the day;** short press the **MENU** key to hover over the **Day**,  
With the **UP** and **DOWN** keys, the day is brought to the desired value.

**To set the month;** by pressing the **MENU** key briefly, the **Month** is hovered over, **UP** and with the **DOWN** keys, the moon is brought to the desired value.

**To set the year;** By short pressing the **MENU** button, the **Year** is highlighted, with the **UP** and **DOWN** buttons, the year is set to the desired value.

Press the **SILENCE** button to save the settings and return to the upper menu.

## TROUBLESHOOTING

### ***When the device is not running:***

Check the power cable entries.

### ***When voltage information is not received:***

Check the connection of the voltage input of the relevant battery.

Check if the relevant battery is active.

### ***When Capacity Information Doesn't Come:***

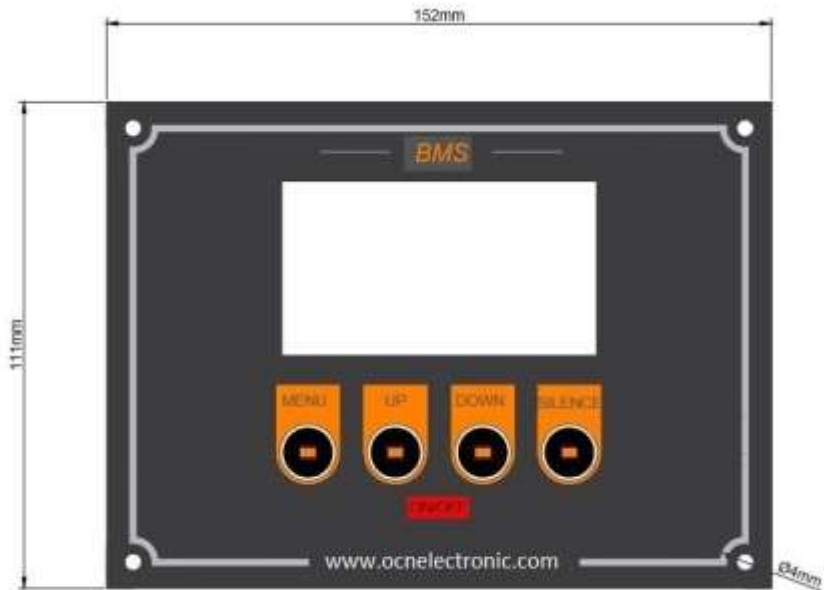
Check the connection of the relevant battery shunt input.

### ***When Buzzer Doesn't Work:***

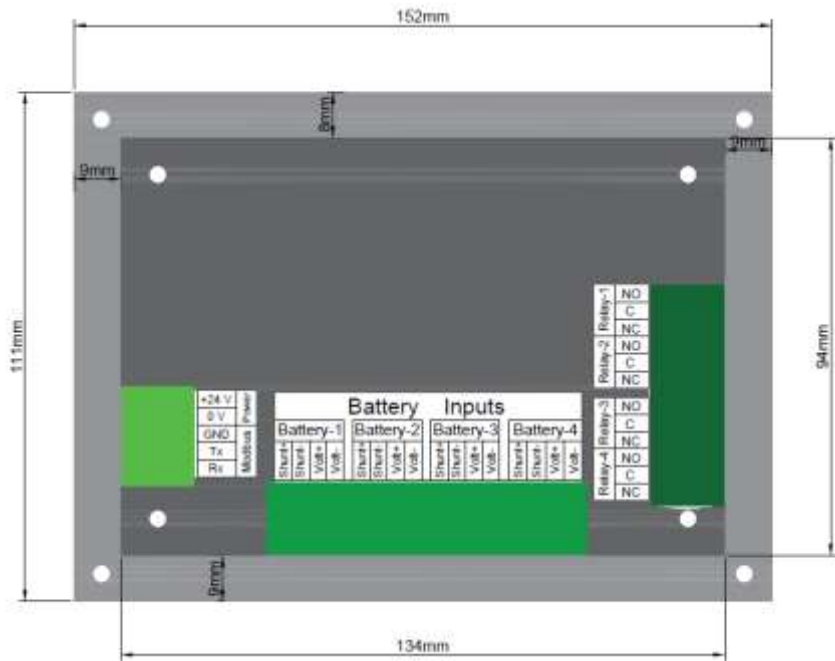
Make sure the buzzer is on by checking the settings.

## DIMENSIONS

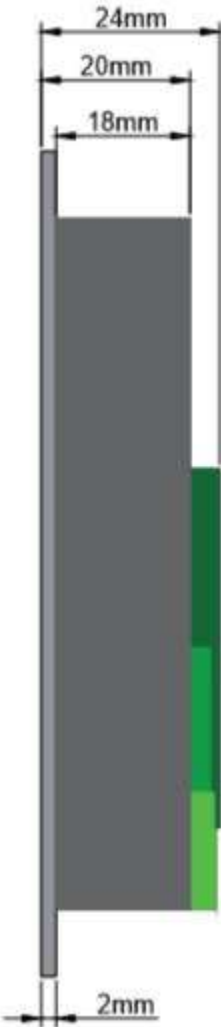
**Top View:**



**Back view:**



Side view:



**Notes;**



**OCN ELEKTRONİK VE TİCARET A.Ş.**

İçmeler Mahallesi Altunay Sokak

No:33 Kat:3 İ Kapı No:11

Tuzla/İSTANBUL

Telefon : +90 (216) 629 29 19

E-Posta : [info@ocnelectronic.com](mailto:info@ocnelectronic.com)

<http://ocnelectronic.com>