



Relay Configuration Guide

BMAC Module

version D

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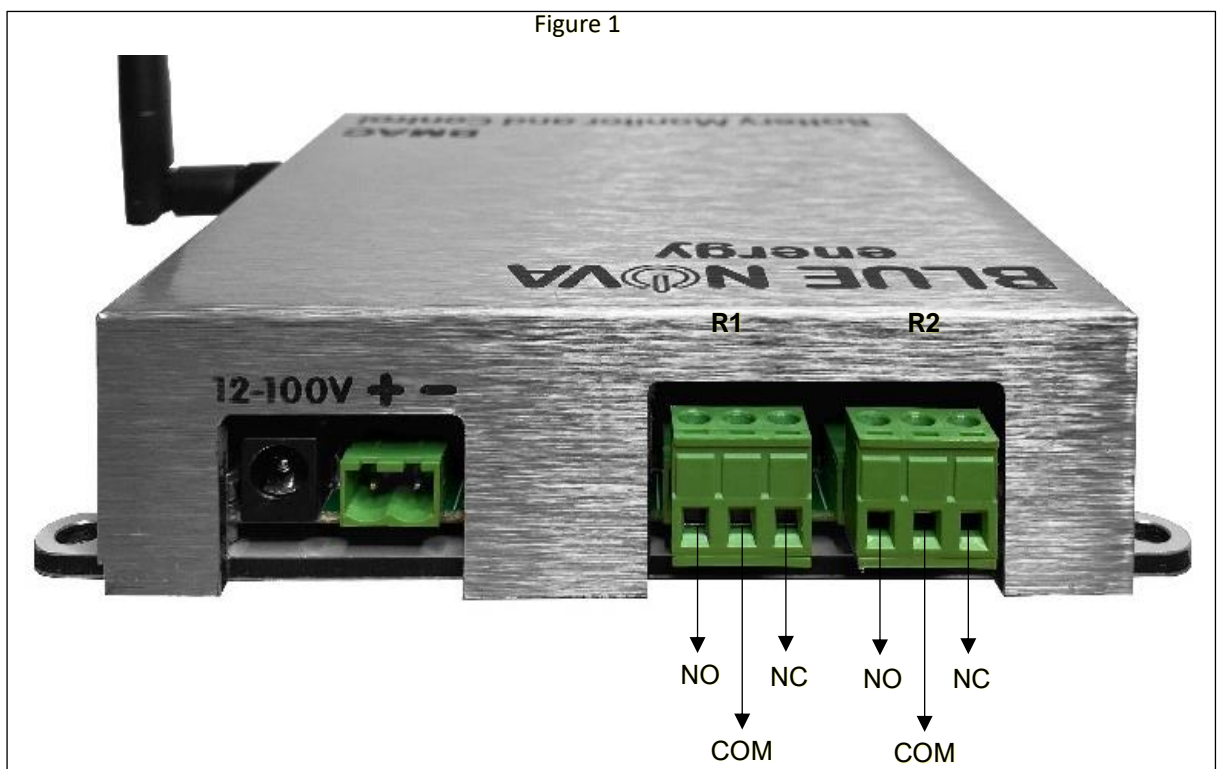
A. DOCUMENT SCOPE

This document covers configuration of the dry-contact relays on the BlueNova® BMAC module. If you have any questions or comments, kindly contact BlueNova® Development.

B. RELAY CONFIGURATION

BlueNova's BMAC module includes dry contact relays (R1 and R2) that can be used to control charging and discharging. R1 controls discharging and R2 controls charging.

1. **Relay connections:** Relay contact pinouts are shown in Figure 1 below:



2. **Battery discharge configuration:** A discharge SOC threshold and hysteresis can be set on the BMAC local monitoring page (Accessible through 192.168.4.1). Figure 2 shows the "Relay Configuration" section that can be found at the bottom of the local monitoring page. Slider values can be changed and will be saved when the "Set Parameters" button is clicked. The page will auto-refresh when configuration was successful.
3. **SOC threshold:** When the system SOC drops below the set threshold, R1 will stop discharging according to the states in Table 1. Discharging will only be re-enabled once the system SOC reaches a value of **(SOC Threshold + Hysteresis)**.

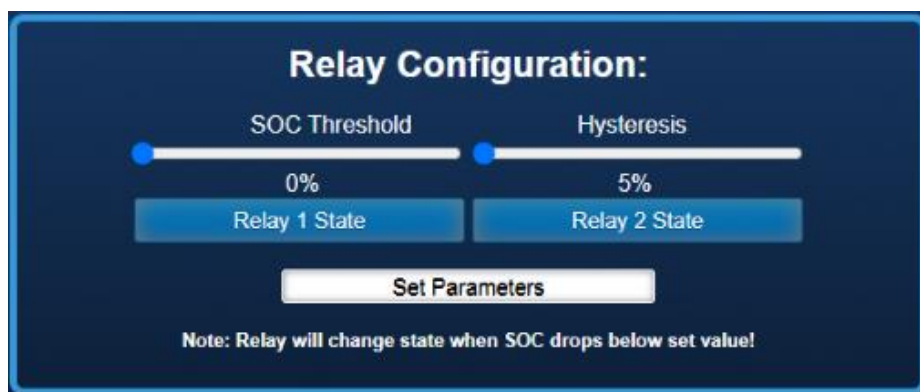


Figure 2

System state	R1 State	R2 State
Discharging allowed	OFF	N/A
Discharging not allowed	ON	N/A
Charging allowed	N/A	OFF
Charging not allowed	N/A	ON

Table 1

4. **Charge/discharge control:** Charging and discharging will be disabled under any fault/error condition and will also safely stop charging or discharging according to the voltage setpoints in Table 2 below:

	Disconnect	Reconnect
Over-charge (Relay 2)	Vcell \geq 3.5V	Vcell < 3.45V
Over-discharge (Relay 1)	Vcell \leq 2.9V	Vcell > 3V

Table 2