Smart Charging Wireless Programming Solution

- NPB-450-NFC

Technical Service Center/Zhendong Wang
wangzd@meanwell.cc

Near Field Communication (NFC) is a widely used short-range wireless communication technology that enables data transfer between different devices, offering the advantages of encrypted transmission and high transmission rates.

MEAN WELL has recently introduced the NPB-450-NFC model, an addition to the NPB-450 series. This model is designed to seamlessly integrate with the NFC function of mobile phones. Whether the charger has an AC input or not, the MEAN WELL APP enables users to adjust charging parameters through short-range sensing.

In contrast to the NPB-450 with SBP-001 programmer, which requires connection to a computer for settings, the NFC function simplifies the setup process. NFC models eliminate the need for an additional SBP-001 programmer and any physical connections. Charging parameters can be effortlessly adjusted using a communication cable, significantly enhancing convenience and reducing costs.



Figure 1. Diagram of NFC application

As shown in Figure 2, in addition to the basic parameters such as constant current (CC), constant voltage (CV), float voltage (FV), and taper current (TC) that can be set through the mobile app interface, there are also options to set the charging curve timeout function and the reactivation of charging after reaching full charge.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

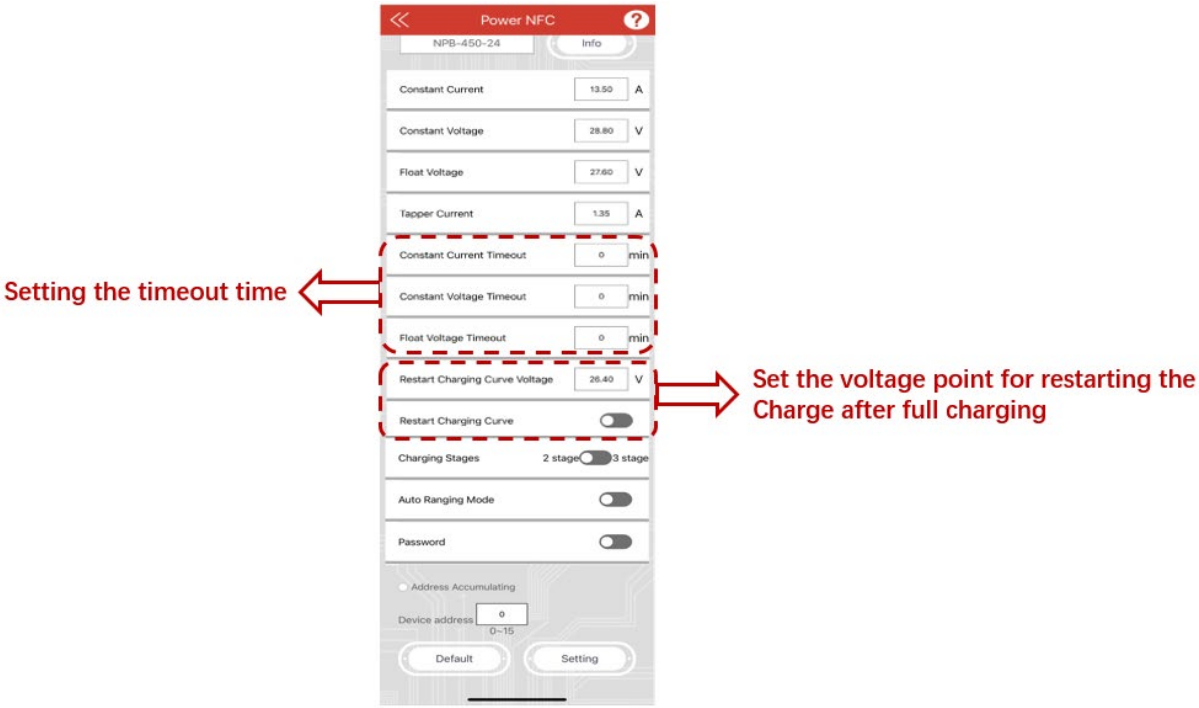


Figure 2. NFC setting interface

1. **Power supply curve timeout function:**
   You can set the timeout duration for three charging states: CC (constant current), CV (constant voltage), and FV (float voltage). When the charging time in any of these stages reaches the specified timeout duration, the charger will cut off the output. This feature facilitates charging management, making it more streamlined and intelligent.

2. **Restart the charging function after charging:**
   After enabling the recharge function and setting the restart voltage point, when the battery voltage falls below the restart voltage point, the charger will restart the charging process, beginning from the CC stage. This feature is applicable in scenarios where the NPB (Non-Programmable Battery) backend is simultaneously connected to both the battery and other loads (as shown in Figure 3). When the power required by the loads exceeds what the NPB can provide, the battery will contribute a portion of the power, leading to a decrease in battery voltage. When the power required by the loads decreases, and the battery voltage is below the restart voltage point, the NPB will automatically initiate the battery charging process.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

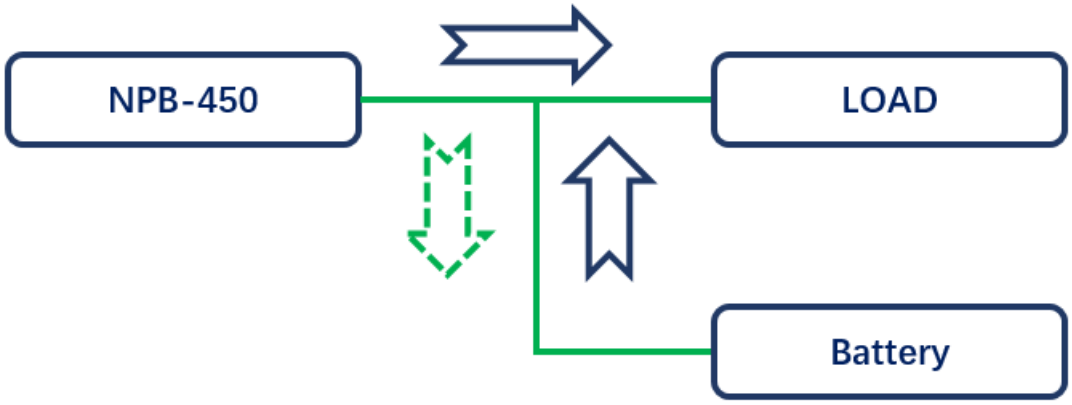


Figure 3. Diagram of charger and battery supplying power at the same time

Additionally, for security reasons, NPB-450-NFC features a password function. Once a password is set, subsequent configuration operations on the NPB will also necessitate the entry of the password. For further details on the functions of NPB-450-NFC, please consult the official NPB user manual and refer to related instructional videos.

For related product and application requirements, please contact MEAN WELL distributors or MEAN WELL Technical Service Center. Also, do not forget to stay tuned for online products and solutions courses on MEAN WELL virtual EXPO.



Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000