

# Website Setting Introduction For SNA3-5k ECO Hybrid Inverter

**Version:3.0**

## **History**

| <b>Version</b>  | <b>Record of modification</b>      | <b>Date</b> |
|-----------------|------------------------------------|-------------|
| Initial version | Initial version                    | 2020-8-27   |
| V2.0            | The settings function change a lot | 2020-11-21  |
| V3.0            |                                    | 2021-7-7    |

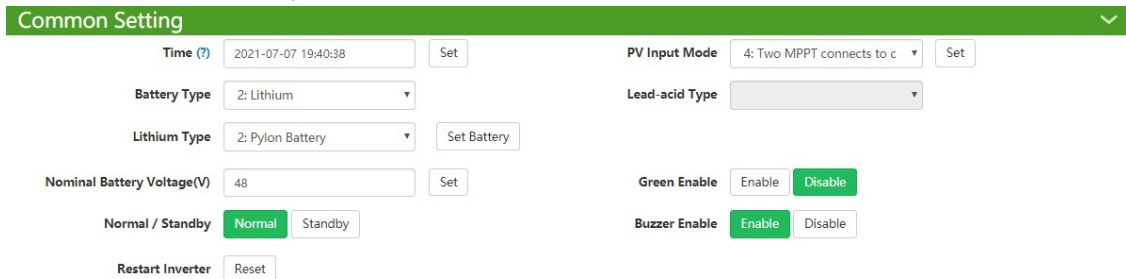
This Document is used to give a explanation of settings in the website and APP to Lux Power customers for [ECO Hybrid Inverter](#). The monitor system may change anytime, so if you find the settings described below is different from what you see, you can contact [info@luxpowertek.com](mailto:info@luxpowertek.com) for help.

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## PART1 : SETTING EXPLANATION

### 1. Common Setting



The screenshot shows the 'Common Setting' interface with the following fields and controls:

- Time (?)**: 2021-07-07 19:40:38, with a 'Set' button.
- Battery Type**: 2: Lithium, with a dropdown arrow.
- Lithium Type**: 2: Pylon Battery, with a dropdown arrow and a 'Set Battery' button.
- Nominal Battery Voltage(V)**: 48, with a 'Set' button.
- Normal / Standby**: Two buttons, 'Normal' (highlighted in green) and 'Standby'.
- Restart Inverter**: A 'Reset' button.
- PV Input Mode**: 4: Two MPPT connects to c, with a dropdown arrow and a 'Set' button.
- Lead-acid Type**: A dropdown menu.
- Green Enable**: Two buttons, 'Enable' and 'Disable' (highlighted in green).
- Buzzer Enable**: Two buttons, 'Enable' (highlighted in green) and 'Disable'.

- ❖ **Time** : Local time of the inverter, the input format is 2019-02-14 14:44:00.  
Format yyyy-MM-dd HH:mm:ss
- ❖ **PV Input Mode**: The connection way of solar module for two strings
- ❖ **Battery Type**: Choose the battery type as lead acid or Lithium type
- ❖ **Lithium Type**: Choose battery brand for Lithium battery
- ❖ **Battery Capacity/Nominal battery Voltage** : Battery capacity and nominal voltage for lead-acid.
- ❖ **Normal/Standby**: "Standby" is used to set the whole system to standby mode, stop feed in and charge, discharge; "Normal" is used to set the whole system to auto run status.
- ❖ **Buzzer Enable**: When enable it, buzzer will on when press the key or there is any warning or fault
- ❖ **Restart Inverter**: Restart the inverter remotely, if there is any fault in the system and inverter can not restart automatically, users can try to restart remotely
- ❖ **Green Function Enable**: if users enable this, When off grid output power is lower than 60w for 10 minutes, the inverter will turn off the output to save energy

## 2. Application Setting

Application Setting

EPS Voltage Set(V)
230
Set

EPS Frequency Set(Hz)
50
Set

AC Input Range
0: APL(Utility Range90-280
Set

Max. Generator Input Power(W)
7369
Set

AC First

AC first Start Time 1
00 : 00
Set

AC first Start Time 2
00 : 00
Set

AC first Start Time 3
00 : 00
Set

AC first End Time 1
16 : 00
Set

AC first End Time 2
16 : 00
Set

AC first End Time 3
16 : 00
Set

Hybrid Setting

PV&AC Take Load Jointly
Enable
Disable

Export to Grid
Enable
Disable

Export Power Percent(%)
50
Set

Parallel Settings

Set System Type (?)
Single Phase Parallel
Set

Battery Shared
Enable
Disable

Set Composed Phase (?)
Phase R
Set

- ❖ **EPS Voltage Set:** Off- grid output voltage
- ❖ **EPS Frequency Set:** Off- grid output frequency
- ❖ **AC Input Range:** inverter will go to battery mode if the utility is out of range
  - 0:APL (Utility Range 90-280V 20ms)
  - 1:UPS (Utility Range 170-280V 10ms)
- ❖ **Max. Generator:**the max power generator able to output, after users set this setting, inverter will limit the load power and charging power lower than this setting
- ❖ **AC First Start Time/End Time1/2/3:** When users set AC first start time and AC first end time, then
  - system will use AC to take the load during the setting time if AC available
  - Battery will not discharge during the setting time if AC available

### Hybrid setting group

- ❖ **PV/AC Take Load Jointly:** SONAR can work as traditional off grid inverter or as a hybrid inverter. When disable PV&AC Take load Jointly, it will work as a traditional off grid inverter, otherwise it will work as a hybrid

- ❖ **Export to Grid/Export Power percent:** Users can also enable export function if it is allowed and set export power percent

### Parallel setting group

- ❖ **Set System Type**
  - **No Parallel:** System has only one eco hybrid inverter running
  - **Single Phase Parallel:** There are more than one inverter in the system and all the inverters are in the same phase
  - **Three Phase Parallel:** There are more than one inverter in the system and all the inverters are in three phase
- ❖ **Set Composed Phase :** if the system is three phase system, need to set the inverter phase in the system
- ❖ **Battery Shared:** If all inverters in the system share a battery bank, then need to enable battery shared setting.

### 3. Charge Setting

Charge Setting
▼

Charge Current Limit(A)

Set

**Lead Acid**

Charge Voltage(V)

Set

Floating Voltage(V)

Set

Equalization Period(Days)

Set

Equalization Voltage(V)

Set

Equalization Time(Hours)

Set

**AC Charge**

AC Charge
According to Time ▼
Set

AC Charge Battery Current(A)

Set

AC Charge Start Time 1
 : 
Set

AC Charge End Time 1
 : 
Set

AC Charge Start Time 2
 : 
Set

AC Charge End Time 2
 : 
Set

AC Charge Start Time 3
 : 
Set

AC Charge End Time 3
 : 
Set

AC Charge Start Battery Voltage(V)

Set

AC Charge Start Battery SOC(%)

Set

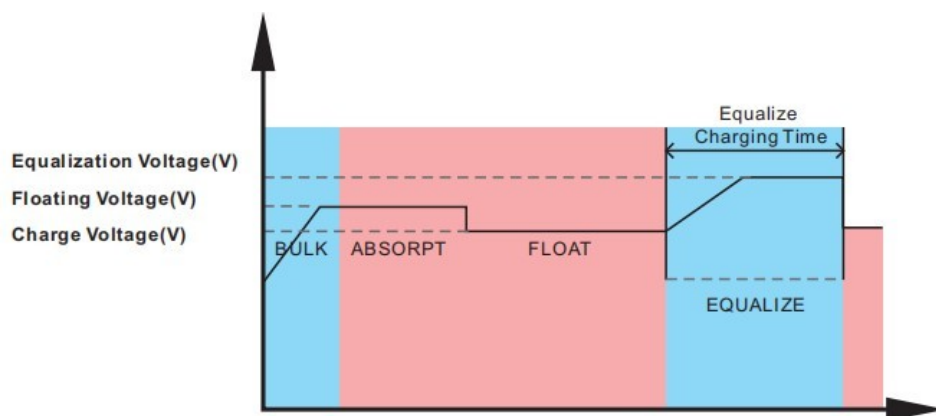
AC Charge End Battery Voltage(V)

Set

AC Charge End Battery SOC(%)

Set

- ❖ **Charge Current Limit:** Max battery charge current include AC and solar charge, 140A max
- ❖ **Lead Acid battery settings:** inverter will charge battery as below curve, users can set voltage for each stage
  - Charge Voltage(V)
  - Floating Voltage(V)
  - Equalization Voltage(V)
  - Equalization Period(Days)
  - Equalization Time(Hours)



#### ❖ AC Charge

**Disable:** The system will not use AC to charge the battery(except Li ion BMS set force charge flag )

**According to Time:** During the setting time, system will use AC to charge the battery until battery full and battery will not discharge during the setting time.

**According to Battery Voltage:** During the setting time, system will use AC to charge the battery if battery voltage is lower than [AC Charge Start Battery Voltage](#) and will stop when Voltage is higher than [AC Charge End Battery Voltage](#). And battery will not discharge during the setting time.

**According to Battery SOC:** During the setting time, system will use AC to charge the battery if battery SOC is lower than [AC Charge Start Battery SOC](#) and will stop when Voltage is higher than [AC Charge End Battery SOC](#). And battery will not discharge during the setting time.

## 4. Discharge Setting

| Discharge Setting                |                      |     |
|----------------------------------|----------------------|-----|
| Discharge Control                | According to Voltage | Set |
| Battery Warning Voltage(V)       | [40, 50]             | Set |
| Discharge Cut-off Voltage(V) (?) | [40, 50]             | Set |
| On Grid EOD Voltage(V)           | [40, 56]             | Set |
| Discharge Current Limit(A)       | [0, 140]             | Set |
| Battery Warning SOC(%)           | [0, 90]              | Set |
| Discharge Cut-off SOC(%)         | [0, 90]              | Set |
| On Grid EOD SOC(%)               | [10, 90]             | Set |

- ❖ **Discharge Control** : Using battery voltage or SOC to control battery warning or discharge point
- ❖ **Battery Warning Voltage**: If customer set 'Discharge control' as 'According to voltage' , when battery voltage is lower than the setting voltage, inverter will report battery low warning; when battery voltage is higher than setting+2V , the inverter will stop warning.
- ❖ **Battery Warning SOC /Battery Warning Recovery SOC**: If customer set 'Discharge control' as 'According to SOC' , when battery SOC is lower than the setting SOC, inverter will report battery low warning; when battery SOC is higher than setting+10%, the inverter will stop the warning.
- ❖ **Discharge cut off voltage/ Discharge cut off SOC**: stop discharging point when there is no utility, when battery voltage/SOC is lower than the setting voltage, inverter will go to standby mode when there is no utility
- ❖ **On grid EOD voltage**: stop discharging point when with grid. If customer set 'Discharge control' as 'According to voltage' , when battery voltage is lower than the setting voltage, inverter will go to bypass mode. When the battery voltage is higher than (EOD voltage+3V) , it will go back to battery discharge mode
- ❖ **On grid EOD SOC**: stop discharging point when with grid. If customer set 'Discharge control' as 'According to SOC' , if battery SOC is lower than the

setting voltage, inverter will go to bypass mode. When the battery SOC is higher than (EOD SOC+10%) , it will go back to battery discharge mode.

❖ Parameter

|                               |                                                  |                                            |
|-------------------------------|--------------------------------------------------|--------------------------------------------|
| Battery Voltage Range         | 46.4V-60V(Li)<br>38.4V-60V(Lead_Acid)            |                                            |
| High DC Cut-off Voltage       | 59VDC(Li)<br>60VDC(Lead_Acid)                    |                                            |
| High DC Recovery Voltage      | 57.4VDC(Li)<br>58VDC(Lead_Acid)                  |                                            |
| Low DC Warning Voltage        | load < 20%                                       | 44.0VDC (Settable)                         |
|                               | $20\% \leq \text{load} < 50\%$                   | Warning Voltage@ load < 20% – 1.2V         |
|                               | load $\geq 50\%$                                 | Warning Voltage@ load < 20% – 3.6V         |
| Low DC Warning Return Voltage | Low DC Warning Voltage @ Different load +2V      |                                            |
| Low DC Cut-off Voltage        | load < 20%                                       | 42.0VDC (Settable)                         |
|                               | $20\% \leq \text{load} < 50\%$                   | Cut-off Voltage@ load < 20% – 1.2V         |
|                               | load $\geq 50\%$                                 | Cut-off Voltage@ load < 20% – 3.6V         |
| Low DC Cut-off Return Voltage | Cut-off Voltage@ load < 20%<br>$\geq 45\text{V}$ | Low DC Cut-off Voltage @<br>load < 20% +3V |
|                               | Cut-off Voltage@ load < 20%<br>< 45V             | 48V                                        |
| Low DC Warning SOC            | 20% SOC (Settable)                               |                                            |
| Low DC Warning Return SOC     | Low DC Warning SOC+10%                           |                                            |
| Low DC Cut-off SOC            | 15% SOC(GridOn) (Settable)                       |                                            |
|                               | 15% SOC (GridOff) (Settable)                     |                                            |
| Low DC Cut-off Return SOC     | Low DC Cut-off SOC+10%                           |                                            |
| Charge Cut-off Voltage        | 58.4VDC                                          |                                            |
| Low DC Force Charge Voltage   | 40V or Cut-off Voltage@ load < 20% – 2V          |                                            |
| Low DC Force Charge SOC       | 5% or Cut-off SOC – 5%                           |                                            |