EG4® 6000XP MONITOR SYSTEM WORKING MODES

This guide will assist the user in configuring and customizing the intergrated working modes of the 6000XP off-grid inverter.

1. OPERATING MODE DESCRIPTION

The EG4 6000XP inverter has several different preset working modes that allow the user to configure the system to meet their demands through extensive customization. By following the guide below, the user can easily set the station's needs depending on the time of day among several other factors.

Working Mode Definitions:

Off-Grid Mode
The system will operate in a pre-set priority system. In this mode, the user will experience the inverter drawing power from the solar arrays to power the loads. When/if the solar power is insufficient, the inverter will then draw from the battery bank for loads. Only as a last resort will the inverter switch to bypass mode to power loads from AC input.

Bypass Mode
Grid power will carry the load demand, while solar energy is directed towards the charging of the battery.

Power Backup Mode
The battery will solely discharge its stored energy in the event of a power outage from the grid.

AC Charge Mode
During AC charge time, if solar power is insufficient, the grid power will supplement by charging the battery.

2. OFF GRID MODE

Source Priority: Solar > Battery > Utility Grid (SBU)
If solar power is higher than the load, solar is used to take the load first and extra solar power will charge the battery.
If solar power is lower than the load, solar and battery will take the load together, and the system will discharge until battery is lower than EOD Voltage/SOC.

2.1 CONFIGURATION VIA APP&WEB

- **AC Charge Time:** 00:00-00:00 (all 3 stages should be the same)

AC Charge Start Time 1	[0, 23]	:	[0, 59]	Set	AC Charge Start Time 2	[0, 23]	:	[0, 59]	Set	AC Charge Start Time 3	[0, 23]	:	[0, 59]	Set
AC Charge End Time 1	[0, 23]	:	[0, 59]	Set	AC Charge End Time 2	[0, 23]	:	[0, 59]	Set	AC Charge End Time 3	[0, 23]	:	[0, 59]	Set

- **AC Charge Based On:** Disable.

AC Charge Based On (?)	Disable	Set

- **On-Grid EOD SOC/Voltage:** Default or set to desired level point at which the Grid/Utility will take over from battery.

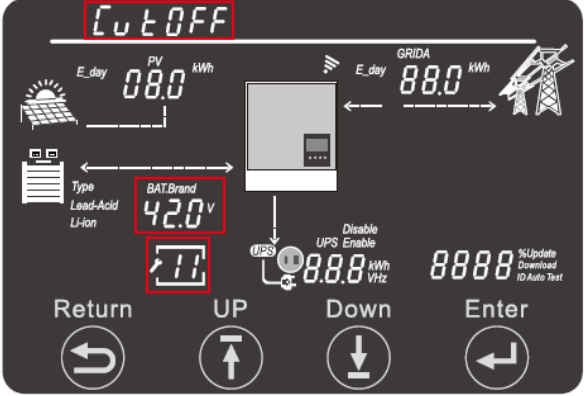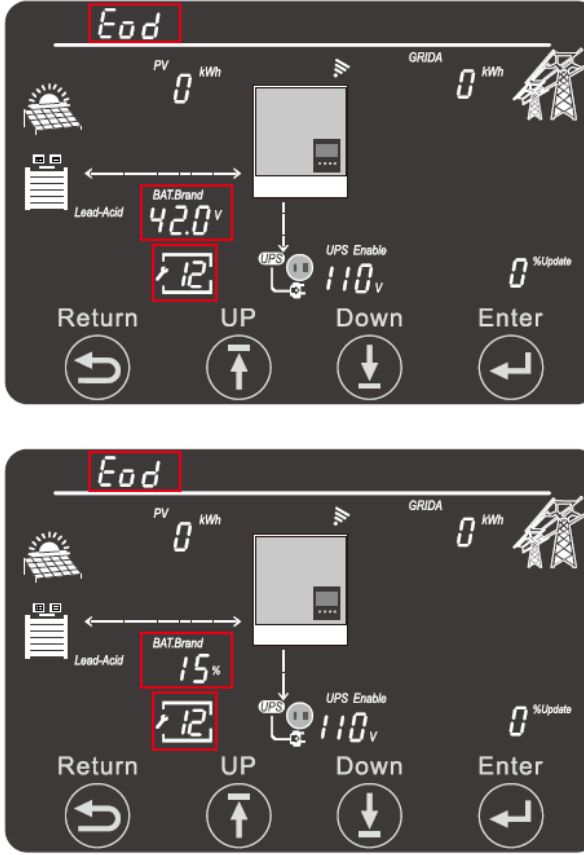| On Grid EOD Voltage(V) (?)	[40, 58]	Set	On Grid EOD SOC(%) (?)	[10, 90]	Set

- **Off-Grid Cut-off SOC/Voltage:** Set< On-Grid EOD

Discharge Cut-off Voltage(V) (?)	[40, 56]	Set	Discharge Cut-off SOC(%) (?)	[0, 90]	Set

2.2   CONFIGURATION VIA LCD

- **Setting 11 (Off-Grid Cut-off SOC/Voltage):** Set < On-Grid EOD
- **Setting 12 (On-Grid EOD SOC/Voltage):** Default or set to desired level point at which the Grid/Utility will take over from battery.
- **Setting 14 (AC Charge):** Disable
- **Setting 15 (AC First Time):** 00:00-00:00 (all 3 stages should be the same)

11	CutOFF: Cut off Voltage/SOC		This setting allows the user to set the cutoff Voltage or SOC based on the selection made in Setting 10, TEOd. **Cutoff Voltage:** 40.0 – On-Grid EOD Voltage **Default:** 42V **Cutoff SOC:** **Range:** 0 – On-Grid EOD SOC% **Default:** 15%
12	EOD: Battery Discharge Cutoff	 	This setting allows the user to set the End of Discharge Voltage and SOC parameters. **End of Discharge Cutoff Voltage:** **Range:** Cutoff Voltage – 58V **Default:** 42V **End of Discharge Cutoff SOC:** **Range:** Cutoff SOC – 90% **Default:** 15%

3. BYPASS MODE

Source Priority: Utility Grid > Solar > Battery (USB)
Bypass Mode: Grid AC will take the load and solar is used to charge battery.
Power Backup Mode: Battery will only discharge when grid power is out.

3.1 CONFIGURATION VIA APP&WEB

- **AC Charge Time:** 00:00-23:59 (Or setting according to the required time. If Time 1 is 00:00-23:59, it means the feature is enabled all day.)

AC Charge Start Time 1 [0, 23] : [0, 59] Set	AC Charge Start Time 2 [0, 23] : [0, 59] Set	AC Charge Start Time 3 [0, 23] : [0, 59] Set
AC Charge End Time 1 [0, 23] : [0, 59] Set	AC Charge End Time 2 [0, 23] : [0, 59] Set	AC Charge End Time 3 [0, 23] : [0, 59] Set

- **AC Charge Based On:** Disable.

AC Charge Based On (?)	Disable ˅	Set

- **On-Grid EOD SOC/Voltage:** Default or set to desired level point at which the Grid/Utility will take over from battery.

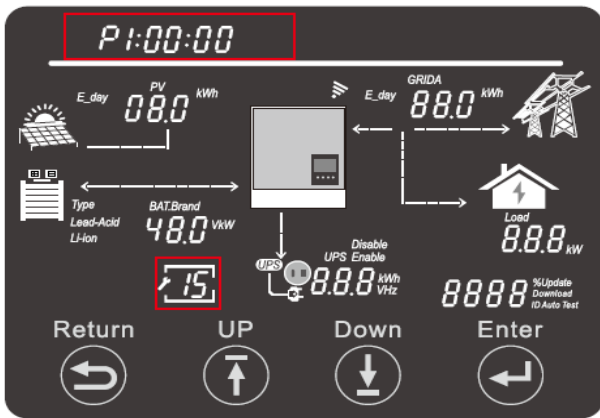| On Grid EOD Voltage(V) (?)	[40, 58]	Set	On Grid EOD SOC(%) (?)	[10, 90]	Set

- **Off-Grid Cut-off SOC/Voltage:** Set< On-Grid EOD

Discharge Cut-off Voltage(V) (?)	[40, 56]	Set	Discharge Cut-off SOC(%) (?)	[0, 90]	Set

3.2 CONFIGURATION VIA LCD

- **Setting 11 (Off-Grid Cut-off SOC/Voltage):** Set < On-Grid EOD.
- **Setting 12 (On-Grid EOD SOC/Voltage):** Default or set to desired level point at which the Grid/Utility will take over from battery.
- **Setting 14 (AC Charge):** Disable
- **Setting 15 (AC First Time):** 00:00-23:59 (Or setting according to the required time. If Time 1 is 00:00-23:59, it means the feature is enabled all day.)

15	AC Input Load Timer Settings		This setting allows the user to set the Start/End times for the Grid/Utility to supply power to the load. **Start Time1-3:** 00:00 – 23:59 **Default:** 00:00 – 00:00 **End Time1-3:** 00:00 – 23:59 **Default:** 00:00 – 00:00

4. AC CHARGE (AND BYPASS) MODE

Source Priority: Utility Grid > Solar > Battery (USB)
AC Charge Mode: Grid AC will also charge battery during AC charge time if solar power is not enough.
Bypass Mode: Grid AC will take the load and solar is used to charge battery.
Power Backup Mode: Battery will only discharge when grid power is out.

4.1 CONFIGURATION VIA APP&WEB

- **AC Charge Based On:** Set according to time or battery Voltage or SOC.

AC Charge Based On (?) <Empty> Set
<Empty>
Disable
Time (According to)
Battery Voltage (According to)
Battery SOC (According to)
Battery Voltage and Time (According to)
Battery SOC and Time (According to)

AC Charge Start Time 1 [0, 23]
AC Charge End Time 1 [0, 23]
AC Charge Start Battery Voltage(V) (?)

- **If according to time, AC Charge Time:** 00:00 – 23:59 (Or setting according to the required time. If Time 1 is 00:00 – 23:59, it means the feature is enabled all day.)

AC Charge Start Time 1 [0, 23] : [0, 59] Set   AC Charge Start Time 2 [0, 23] : [0, 59] Set   AC Charge Start Time 3 [0, 23] : [0, 59] Set
AC Charge End Time 1 [0, 23] : [0, 59] Set   AC Charge End Time 2 [0, 23] : [0, 59] Set   AC Charge End Time 3 [0, 23] : [0, 59] Set

- **If according to battery Voltage or SOC:** Set start and end Voltage or SOC.

AC Charge Start Battery Voltage(V) (?) [38.4, 57] Set   AC Charge End Battery Voltage(V) (?) [48, 59] Set
AC Charge Start Battery SOC(%) (?) [1, 90] Set   AC Charge End Battery SOC(%) (?) [20, 100] Set

- **On-Grid EOD SOC/Voltage:** Default or set to desired level point at which the Grid/Utility will take over from battery.
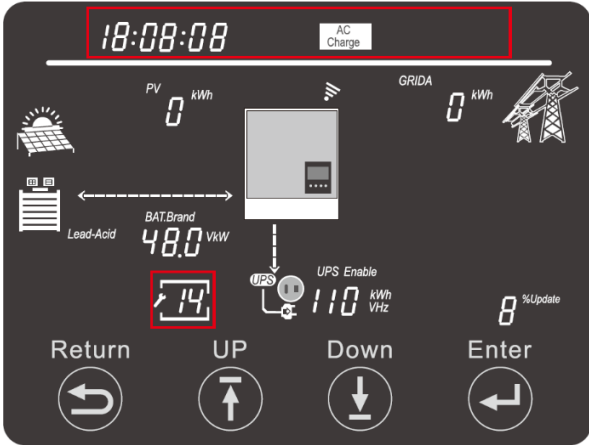
On Grid EOD Voltage(V) (?) [40, 58] Set   On Grid EOD SOC(%) (?) [10, 90] Set

- **Off-Grid Cut-off SOC/Voltage:** Set< On-Grid EOD

Discharge Cut-off Voltage(V) (?) [40, 56] Set   Discharge Cut-off SOC(%) (?) [0, 90] Set

4.2 CONFIGURATION VIA LCD

- **Setting 11 (Off-Grid Cut-off SOC/Voltage):** Set < On-Grid EOD.
- **Setting 12 (On-Grid EOD SOC/Voltage):** Default or set to desired level point at which the Grid/Utility will take over from battery.
- **If according to battery voltage or SOC**: Set start and end voltage or SOC.
- **If according to time, AC Charge Time:** 00:00 – 23:59 (Or setting according to the required time. If Time 1 is 00:00 – 23:59, it means the feature is enabled all day.)
- **Setting 14 (AC Charge):** Set according to time or battery voltage or SOC.

14	AC Charge Setting	To configure AC charging, the user must first enable AC Charging, confirm the full battery SOC value, and set the confirmation time periods 1, 2, and 3. **AC Charge Control Settings for Voltage and SOC:** **Voltage:** **Start Voltage:** 35.4 – 52V **End Voltage**: 48 - 59V **SOC:** **Start SOC:** 1 – 90% **End SOC:** 20 – 100% **AC Charge Control Settings for Start/End Times:** **Start Time1-3:** **Range:** 00:00 – 23:59 **Default:** 00:00 – 00:00 **End Time1-3:** **Range:** 00:00 – 23:59 **Default:** 00:00 – 00:00

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