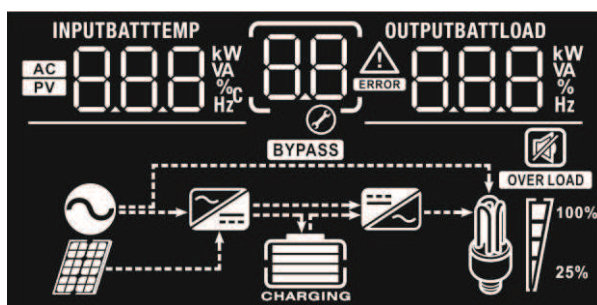














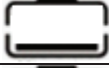









LCD Display Icons









Icon	Function description	
Input Source Information		
	Indicates the AC input.	
	Indicates the PV input	
	Indicate input voltage, input frequency, PV voltage, battery voltage and charger current.	
Configuration Program and Fault Information		
	Indicates the setting programs.	
	Indicates the warning and fault codes. Warning:  flashing with warning code.	
	Fault:  lighting with fault code	
Output Information		
	Indicate output voltage, output frequency, load percent, load in VA, load in Watt and discharging current.	
Battery Information		
	Indicates battery level by 0-24%, 25-49%, 50-74% and 75-100% in battery mode and charging status in line mode.	
In AC mode, it will present battery charging status.		
Status	Battery voltage	LCD Display
Constant Current mode / Constant Voltage mode	<2V/cell	4 bars will flash in turns.
	2 ~ 2.083V/cell	Bottom bar will be on and the other three bars will flash in turns.
	2.083 ~ 2.167V/cell	Bottom two bars will be on and the other two bars will flash in turns.
	> 2.167 V/cell	Bottom three bars will be on and the top bar will flash.
Floating mode. Batteries are fully charged.		4 bars will be on.






In battery mode, it will present battery capacity.

Load Percentage	Battery Voltage	LCD Display
Load > 50%	< 1.717V/cell	
	1.717V/cell ~ 1.8V/cell	
	1.8 ~ 1.883V/cell	
	> 1.883 V/cell	
50% > Load > 20%	< 1.817V/cell	
	1.817V/cell ~ 1.9V/cell	
	1.9 ~ 1.983V/cell	
	> 1.983	
Load < 20%	< 1.867V/cell	
	1.867V/cell ~ 1.95V/cell	
	1.95 ~ 2.033V/cell	
	> 2.033	


Load Information

	Indicates overload.			
	Indicates the load level by 0-24%, 25-50%, 50-74% and 75-100%.			
	0%~25%	25%~50%	50%~75%	75%~100%
				

Mode Operation Information

	Indicates unit connects to the mains.
	Indicates unit connects to the PV panel.
	Indicates load is supplied by utility power.
	Indicates the utility charger circuit is working.
	Indicates the DC/AC inverter circuit is working.

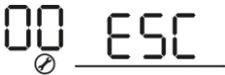
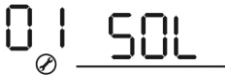

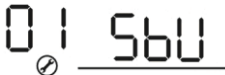




Mute Operation

	Indicates unit alarm is disabled.
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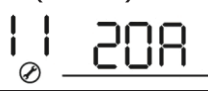

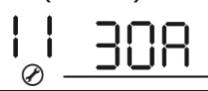


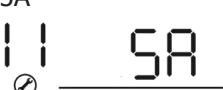



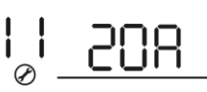
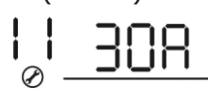










LCD Setting























After pressing and holding ENTER button for 3 seconds, the unit will enter setting mode. Press "UP" or "DOWN" button to select setting programs. And then, press "ENTER" button to confirm the selection or ESC button to exit.

Setting Programs:

Program	Description	Selectable option	
00	Exit setting mode	Escape 	
01	Output source priority: To configure load power source priority	Solar first 	Solar energy provides power to the loads as first priority. If solar energy is not sufficient to power all connected loads, battery energy will supply power the loads at the same time. Utility provides power to the loads only when any one condition happens: - Solar energy is not available - Battery voltage drops to either low-level warning voltage or the setting point in program 12.
		Utility first (default) 	Utility will provide power to the loads as first priority. Solar and battery energy will provide power to the loads only when utility power is not available.
		SBU priority 	Solar energy provides power to the loads as first priority. If solar energy is not sufficient to power all connected loads, battery energy will supply power to the loads at the same time. Utility provides power to the loads only when battery voltage drops to either low-level warning voltage or the setting point in program 12.
02	Maximum charging current: To configure total charging current for solar and utility chargers. (Max. charging current = utility charging current + solar charging current)	Available options in 1KVA 24V and 1KVA/3KVA 48V models:	
		10A 	20A (default) 
		Available options in 2-3KVA 24V models:	
		20A 	30A (default) 
		Available options in 2-3KVA 24V/48V Plus and 4-5KVA 48V models:	

		10A (Not available for 2-3KVA 24V Plus) 02 10A	20A 02 20A
		30A 02 30A	40A 02 40A
		50A 02 50A	60A (default) 02 60A
03	AC input voltage range	Appliances (default) 03 APL	If selected, acceptable AC input voltage range will be within 90-280VAC.
		UPS 03 UPS	If selected, acceptable AC input voltage range will be within 170-280VAC.
04	Power saving mode enable/disable	Saving mode disable (default) 04 SDS	If disabled, no matter connected load is low or high, the on/off status of inverter output will not be effected.
		Saving mode enable 04 SEN	If enabled, the output of inverter will be off when connected load is pretty low or not detected.
05	Battery type	AGM (default) 05 AGM	Flooded 05 FLD
		User-Defined 05 USE	If "User-Defined" is selected, battery charge voltage and low DC cut-off voltage can be set up in program 26, 27 and 29.
06	Auto restart when overload occurs	Restart disable (default) 06 Lfd	Restart enable 06 LFE
07	Auto restart when over temperature occurs	Restart disable (default) 07 tfd	Restart enable 07 tFE
08	Output voltage (only available for 120Vac models)	110V 08 110 ^v	120V (default) 08 120 ^v
09	Output frequency	50Hz (default) 09 50 _{Hz}	60Hz 09 60 _{Hz}

11	Maximum utility charging current	Available options in 1KVA 24V and 2KVA 24V Plus 120Vac model:	
		10A 	20A(default): 
		Available options in 2-3KVA 24V and 2-3KVA 24V Plus models:	
		20A 	30A (default) 
		Available options in 1KVA/3KVA 48V and 2-3KVA 48V Plus models:	
		10A 	15A(default): 
		Available options in 2KVA 48V Plus 120Vac model:	
		5A 	10A(default) 
		Available options in 4KVA/5KVA 48V models:	
		2A 	10A 
12	Setting voltage point back to utility source when selecting "SBU priority" or "Solar first" in program 01.	20A 	30A (default) 
		Available options in 24V models:	
		22.0V 	22.5V 
		23.0V (default) 	23.5V 
		24.0V 	24.5V 
		25.0V 	25.5V 
		Available options in 48V models:	
		44V 	45V 

		46V (default)	47V
			
		48V	49V
			
		50V	51V
			
13	Setting voltage point back to battery mode when selecting "SBU priority" or "Solar first" in program 01.	Available options in 24V models:	
		Battery fully charged	24V
			
		24.5V	25V
			
		25.5V	26V
			
		26.5V	27V (default)
			
		27.5V	28V
			
		28.5V	29V
			
		Available options in 48V models:	
		Battery fully charged	48V
			
		49V	50V
			

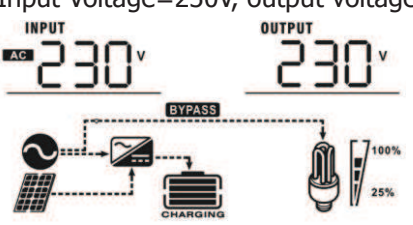
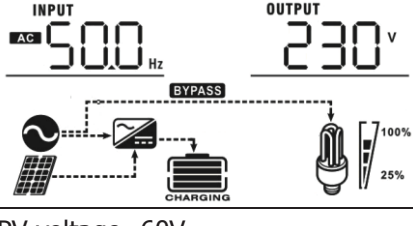
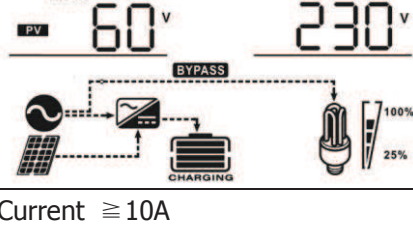
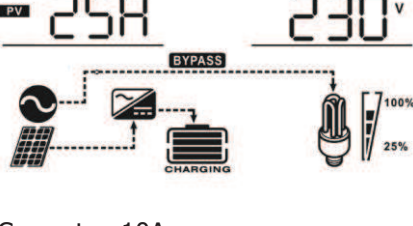
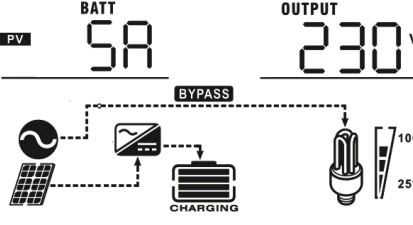
		51V 13 51.0 ^{BATT} _v	52V 13 52.0 ^{BATT} _v
		53V 13 53.0 ^{BATT} _v	54V (default) 13 54.0 ^{BATT} _v
		55V 13 55.0 ^{BATT} _v	56V 13 56.0 ^{BATT} _v
		57V 13 57.0 ^{BATT} _v	58V 13 58.0 ^{BATT} _v
16	Charger source priority: To configure charger source priority	If this inverter/charger is working in Line, Standby or Fault mode, charger source can be programmed as below:	
		Solar first 16 C50	Solar energy will charge battery as first priority. Utility will charge battery only when solar energy is not available.
		Utility first 16 CUE	Utility will charge battery as first priority. Solar energy will charge battery only when utility power is not available.
		Solar and Utility (Only available for 4KVA/5KVA model) 16 SNU	Solar energy and utility will charge battery at the same time.
		Only Solar 16 050	Solar energy will be the only charger source no matter utility is available or not.
		If this inverter/charger is working in Battery mode or Power saving mode, only solar energy can charge battery. Solar energy will charge battery if it's available and sufficient.	
18	Alarm control	Alarm on (default) 18 60N	Alarm off 18 60F
19	Auto return to default display screen	Return to default display screen (default) 19 ESP	If selected, no matter how users switch display screen, it will automatically return to default display screen (Input voltage /output voltage) after no button is pressed for 1 minute.

		Stay at latest screen 19 LEP	If selected, the display screen will stay at latest screen user finally switches.
20	Backlight control	Backlight on (default) 20 LON	Backlight off 20 LOF
22	Beeps while primary source is interrupted	Alarm on (default) 22 AON	Alarm off 22 AOF
23	Overload bypass: When enabled, the unit will transfer to line mode if overload occurs in battery mode.	Bypass disable (default) 23 bYd	Bypass enable 23 bYE
25	Record Fault code	Record enable 25 FEN	Record disable (default) 25 FdS
26	Bulk charging voltage (C.V voltage)	24V model default setting: 28.2V CU 26 ^{BATT} 28.2 ^v	
		48V model default setting: 56.4V CU 26 ^{BATT} 56.4 ^v	
		If self-defined is selected in program 5, this program can be set up. Setting range is from 24.0V to 29.2V for 24V model and 48.0V to 58.4V for 48V model. Increment of each click is 0.1V.	
27	Floating charging voltage	24V model default to 27.0V FLU 27 ^{BATT} 27.0 ^v	
		48V model default setting: 54.0V FLU 27 ^{BATT} 54.0 ^v	
		If self-defined is selected in program 5, this program can be set up. Setting range is from 24.0V to 29.2V for 24V model, 48.0V to 58.4V for 48V model. Increment of each click is 0.1V.	
29	Low DC cut-off voltage	24V model default setting: 21.0V COU 29 ^{BATT} 21.0 ^v	
		48V model default setting: 42.0V COU 29 ^{BATT} 42.0 ^v	

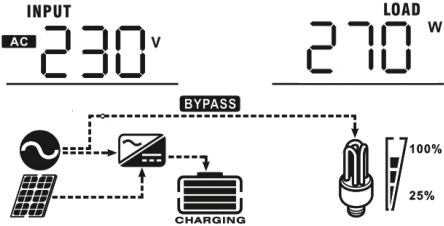
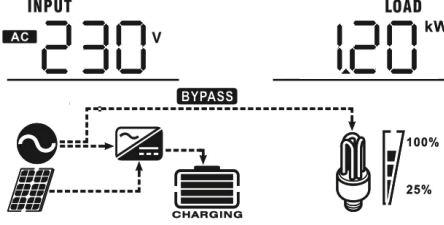
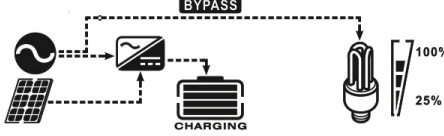
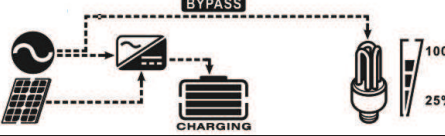
		<p>If self-defined is selected in program 5, this program can be set up. Setting range is from 20.0V to 24.0V for 24V model, 40.0V to 48.0V for 48V model. Increment of each click is 0.1V. Low DC cut-off voltage will be fixed to setting value no matter what percentage of load is connected.</p>
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Display Setting








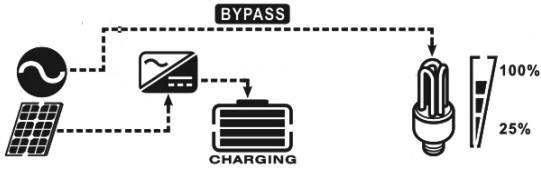
The LCD display information will be switched in turns by pressing "UP" or "DOWN" key. The selectable information is switched as below order: input voltage, input frequency, PV voltage, MPPT charging current, MPPT charging power, battery voltage, output voltage, output frequency, load percentage, load in VA, load in Watt, DC discharging current, main CPU Version and second CPU Version.

Selectable information	LCD display
Input voltage/Output voltage (Default Display Screen)	<p>Input Voltage=230V, output voltage=230V</p> 
Input frequency	<p>Input frequency=50Hz</p> 
PV voltage	<p>PV voltage=60V</p> 
MPPT Charging current	<p>Current $\geq 10A$</p>  <p>Current < 10A</p> 

MPPT Charging power	<p>MPPT charging power=500W</p>
Battery voltage/ DC discharging current	<p>Battery voltage=25.5V, discharging current=1A</p>
Output frequency	<p>Output frequency=50Hz</p>
Load percentage	<p>Load percent=70%</p>
Load in VA	<p>When connected load is lower than 1kVA, load in VA will present xxxVA like below chart.</p> <p>When load is larger than 1kVA ($\geq 1\text{kVA}$), load in VA will present x.xkVA like below chart.</p>

Load in Watt	<p>When load is lower than 1kW, load in W will present xxxW like below chart.</p>  <p>When load is larger than 1kW ($\geq 1\text{kW}$), load in W will present x.xkW like below chart.</p> 
Main CPU version checking	<p>Main CPU version 00014.04</p> 
Secondary CPU version checking	<p>Secondary CPU version 00003.03</p> 

Operating Mode Description

Operation mode	Description	LCD display
Standby mode / Power saving mode Note: *Standby mode: The inverter is not turned on yet but at this time, the inverter can charge battery without AC output. *Power saving mode: If enabled, the output of inverter will be off when connected load is pretty low or not detected.	No output is supplied by the unit but it still can charge batteries.	Charging by utility. 
		Charging by PV energy. 
		No charging. 
Fault mode Note: *Fault mode: Errors are caused by inside circuit error or external reasons such as over temperature, output short circuited and so on.	PV energy and utility can charge batteries.	Charging by utility. (Only available in 1K/2K/3K model) 
		Charging by PV energy. 
		No charging. 
Fault mode Note: *Fault mode: Errors are caused by inside circuit error or external reasons such as over temperature, output short circuited and so on.	Utility can power loads when the unit starts up without battery. (Only available in 4K/5K model with single operation)	Power from utility 
Line Mode	The unit will provide output power from the mains. It will also charge the battery at line mode.	Charging by PV energy 
		Charging by utility. 