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Fault Code	Fault Event	Icon on
01	Fan is locked when inverter is off	
02	Inverter transformer over temperature	
03	Battery voltage is too high or AC input L/N wires are reversed	
04	Battery voltage is too low	
05	Output short circuited	
06	Inverter output voltage is high	
07	Overload time out	
08	Inverter bus voltage is too high	
09	Bus soft start failed	
11	Main relay failed	
21	Inverter output voltage sensor error	
22	Inverter grid voltage sensor error	
23	Inverter output current sensor error	
24	Inverter grid current sensor error	
25	Inverter load current sensor error	
26	Inverter grid over current error	
27	Inverter radiator over temperature	
31	Solar charger battery voltage class error	
32	Solar charger current sensor error	
33	Solar charger current is uncontrollable	
41	Inverter grid voltage is low	
42	Inverter grid voltage is high	

43	Inverter grid under frequency	
44	Inverter grid over frequency	
51	Inverter over current protection error	
52	Inverter bus voltage is too low or component temperature is too high	
53	Inverter soft start failed	
55	Over DC voltage in AC output	
56	Battery connection is open	
57	Inverter control current sensor error	
58	Inverter output voltage is too low or component temperature is too high	

## 6.10 Warning Indicator

Warning Code	Warning Event	Icon on
61	Fan is locked when inverter is on.	
62	Fan 2 is locked when inverter is on.	
63	Battery is over-charged.	
64	Low battery.	
67	Overload.	
70	Output power derating.	
72	Solar charger stops due to low battery.	
73	Solar charger stops due to high PV voltage.	
74	Solar charger stops due to over load.	
75	Solar charger over temperature.	
76	PV charger communication error.	
77	Parameter error.	

## 6.11 Trouble Shooting

Problem	LCD/LED/Buzzer	Explanation/Possible cause	What to do
Unit shuts down automatically during startup process.	LCD/LEDs and buzzer will be active for 3 seconds and then complete off.	The battery voltage is too low.	1. Re-charge the battery. 2. Return to repair center if the error still exists.
No response after power on.	No indication.	1. Battery breaker is open. 2. The battery voltage is far too low. 3. Ambient temperature is too high or too low. 4. Battery is protected by BMS.	1. Close the battery breaker. 2. Re-charge the battery. 3. Operate at the approx. ambient temperature. 4. Return to repair center if the error still exists.
Mains exist but the unit works in battery mode.	Input voltage is displayed as 0 on the LCD and green LED is flashing.	Input breaker is tripped.	Check if AC breaker is tripped or AC wiring is connected right .
	Green LED is flashing.	Insufficient quality of AC power. (Shore or Generator)	1. Check if AC wires are too thin and/or too long. 2. Check generator (if applied) is working well or check if input voltage range setting is correct. (APL, GEN)
When the unit is turned on, internal relay is switched on and off repeatedly.	LCD display and LED are flashing.	Battery breaker is opened.	Close the battery breaker.
Buzzer beeps continuously and red LED is on.	Fault code 07	Overload error. The device is overload 110% and time is up.	Reduce the connected load.
	Fault code 05	Output short circuited.	Check if wiring is connected right and remove abnormal load.
	Fault code 02	Internal temperature of device component is over 90°C.	Check whether the air flow of the unit is blocked or whether the ambient temperature is too high.
	Fault code 03	Battery is over charged.	Stop charging the battery.
		AC input L/N wires are reversed	Check AC input.
	Fault code 01	Fan fault.	Replace the fan.
	Fault code 06/58	Output abnormal .(Output voltage below than 95Vac or is higher than 150Vac)	1.Reduce the connected load. 2.Return to repair center if the error still exists.
	Fault code 08/09/53/57	Internal components failed.	Return to repair center.
	Fault code 51	Over current or surge.	1.Reduce the connected load.
	Fault code 52	Inverter bus voltage is too low or component temperature is too high.	2.Restart the unit. 3.Return to repair center if the error still exists.
	Fault code 55	Output voltage is unbalanced.	
Fault code 56	1.Battery breaker is opened 2.Battery is protected by BMS. 3.Fuse is burnt.	1.Close the battery breaker. 2.Re-charge the battery. 3.Return to repair center if the error still exists.	

## 7 SPECIFICATIONS

Table 1 Line Mode Specifications

MODEL	3.5KW	5.5KW
<b>Input Voltage Waveform</b>	Sinusoidal (utility or generator)	
<b>Nominal Input Voltage</b>	230Vac	
<b>Low Loss Voltage</b>	90Vac±7V(APL,GEN); 170Vac±7V(UPS) 186Vac±7V(VDE)	
<b>Low Loss Return Voltage</b>	100Vac±7V(APL,GEN);180Vac±7V(UPS) 196Vac±7V(VDE)	
<b>High Loss Voltage</b>	280Vac±7V(APL, UPS,GEN) 253Vac±7V(VDE)	
<b>High Loss Return Voltage</b>	270Vac±7V(APL,UPS,GEN) 250Vac±7V(VDE)	
<b>Max AC Input Voltage</b>	300Vac	
<b>Nominal Input Frequency</b>	50Hz / 60Hz (Auto detection)	
<b>Low Loss Frequency</b>	40Hz±1Hz(APL,UPS,GEN) 47.55Hz±0.05HZ(VDE)	
<b>Low Loss Return Frequency</b>	42Hz±1Hz(APL,UPS,GEN) 47.55Hz±0.05HZ(VDE)	
<b>High Loss Frequency</b>	65Hz±1Hz(APL,UPS,GEN) 51.5Hz±0.05HZ(VDE)	
<b>High Loss Return Frequency</b>	63Hz±1Hz(APL,UPS,GEN) 50.05Hz±0.05HZ(VDE)	
<b>Output Short Circuit Protection</b>	Line mode: Circuit Breaker Battery mode: Electronic Circuits	
<b>Efficiency (Line Mode)</b>	>95% ( Rated R load, battery full charged )	
<b>Transfer Time</b>	10ms typical (UPS,VDE) 20ms typical (APL)	
<p><b>Output power derating:</b> When AC input voltage drops to 170V depending on models, the output power will be derated</p>	<p>230Vac model:</p> <p>The graph illustrates the output power derating for a 230Vac model. The vertical axis represents Output Power, and the horizontal axis represents Input Voltage. The output power is constant at the Rated Power level from 170V up to 280V. At 170V, the power begins to derate linearly, reaching 50% of the Rated Power at 90V. Below 90V, the output power is zero.</p>	

Table 2 Charge Mode Specifications

<b>MODEL</b>	<b>3.5KW</b>	<b>5.5KW</b>
<b>Battery Voltage</b>	25.6Vdc	51.2Vdc
<b>Utility Charging Mode</b>		
<b>Max. Charging Current @Nominal Input Voltage</b>	60A(± 4A)	100A(± 4A)
<b>Charging Algorithm</b>	4-Step	
<b>Solar Charging Mode</b>		
<b>Max.PV Array Open Circuit Voltage</b>	450Vdc	
<b>Normal Operating Voltage Range</b>	60-360Vdc	
<b>Typical PV Input Current</b>	18A	27A
<b>Max. Charging Current</b>	MPPT-100A (±4A)	
<b>Charging Algorithm</b>	4-Step	
<b>Standby Power Consumption</b>	2W	
<b>Battery Voltage Accuracy</b>	+/-0.3%	
<b>PV Voltage Accuracy</b>	+/-2.5V	
<b>Joint Utility and Solar Charging</b>		
<b>Max Charging Current</b>	100A(± 4A) (GRID:60A max)	100A(± 4A) (GRID:100A max)
<b>Default Charging Current</b>	100A(± 4A)	100A(± 4A)
<b>Charging algorithm</b>		

Table 3 Battery Mode Specifications

MODEL	3.5KW	5.5KW
Rated Output Power	3500W	5500W
Output Voltage Waveform	Pure Sine Wave	
Output Voltage Regulation	230Vac±5%	
Output Frequency	50Hz or 60Hz	
Peak Efficiency	92%	
Overload Protection	1s@≥150% load;10s@105%~150% load	
Nominal DC Input Voltage	24Vdc	48Vdc
Cold Start Voltage	23.0Vdc	46.0Vdc
Low DC Warning Voltage	23.0Vdc(Settable)	46.0Vdc(Settable)
Low DC Cut-off Voltage	22.4Vdc	44.8Vdc
High DC Recovery Voltage	29Vdc	58Vdc
High DC Cut-off Voltage	30Vdc	60Vdc

Table 4 Battery Specifications

MODEL	3.5KW	5.5KW
Battery Chemistry	LiFePO4	
Nominal Voltage	25.6V	51.2V
Capacity	125Ah	200Ah
Nominal Energy	3200Wh	5120Wh
Rated Charge/Discharge Current	125A	150A
Recommend Depth of Discharge	90%	

Table 5 General Specifications

MODEL	3.5KW(125Ah)	3.5KW(200Ah)	5.5KW
Dimension (D*W*H), mm	648*480*185	850*480*185	850*480*185
Operating Temperature Range	Charge:0°C ~ 50°C Discharge:-10°C ~ 50°C		
Storage Temperature	-15°C~ 35°C		
Humidity	5%~95% RH (No condensation)		
Altitude Without Derating	2000m		
Protection Degree	IP20		
Safety Certification	CE		