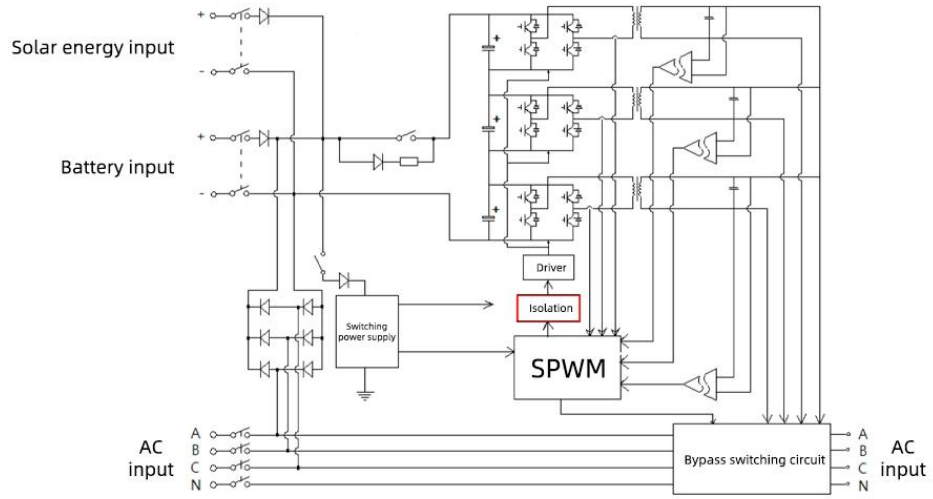
Overview

Working Principle of the Three-Phase New Inverter Power System

When the inverter power supply is operating normally, the DC inverter output is directly supplied to the load through a switching switch. When an inverter fault occurs, the power supply can quickly switch to bypass power supply mode, with a conversion time of <200ms (a fast-switching version with <10ms is available). This provides uninterrupted power to the load. When the inverter returns to normal operation, the power supply automatically switches back to inverter power supply mode. The specific principle is shown in Figure 1:



Schematic diagram of the inverter power supply principle

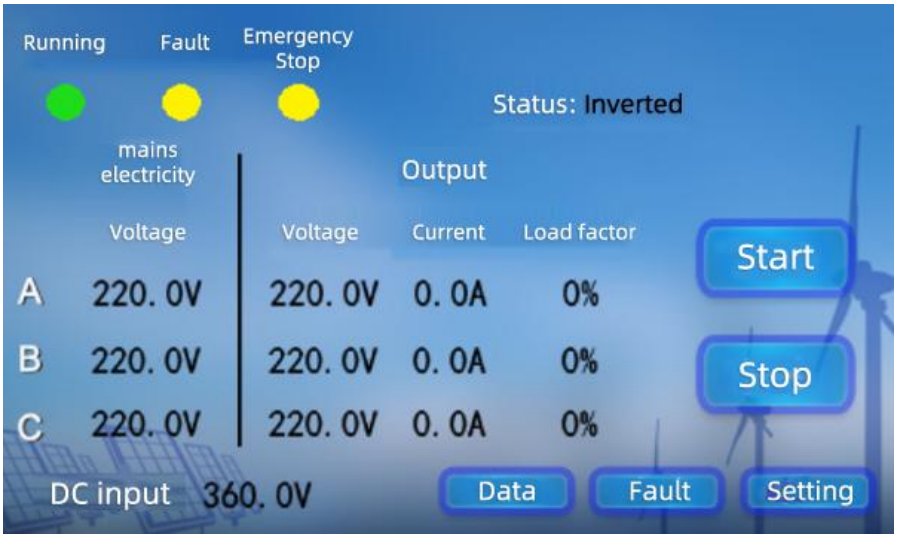
This system's input includes solar power, battery power, and AC power (or generator), prioritized from highest to lowest.

When there is sufficient sunlight, the photovoltaic system directly powers the load via the inverter, with a switching time of 0ms. When solar power is insufficient, the battery directly powers the load via the inverter, with a switching time of 0ms. When both solar power and battery power are insufficient, the mains power is rectified and then supplied to the load via the inverter, with a switching time of 0ms. If the inverter output fails, the mains power (or generator) directly powers the load via the bypass switching circuit, with a switching time of <200ms (a fast-switching version with <10ms is available).

This system requires only a small number of batteries for transitional power, with AC rectification supplementing the power when solar power is insufficient. If the AC input is from a generator, when the solar panels are temporarily obscured by clouds, the small number of batteries can act as a buffer to prevent frequent generator starts.

Panel schematic diagram

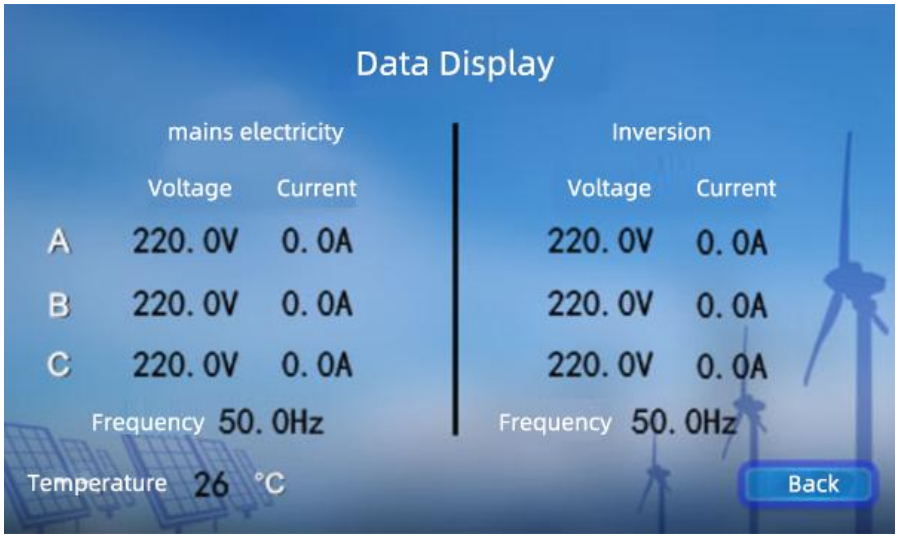
S Main Page



s Fault display subpage

When the corresponding fault occurs, the indicator bar at the back changes from green to red. Mute: Click to silence the fault alarm sound. Reset: After troubleshooting the fault, press this button to clear the recorded fault. Back: Click to return to the main page.

s Data display subpage



Displays detailed information about input and output voltage, current, frequency, and internal temperature. Return: Click to return to the main page.

Power supply technical specifications

Model		LNS*—S—*K							
Power (KVA)		10	30	60	100	200	500	800	1000
Solar Input	Rated Input V (VDC)	60V、120V、150V、240V、300V、450V、525V、600V							
	Input V Customizable	30V-1250VThe interval is customizable							
DC Input	Rated Input V (VDC)	48V、96V、120V、192V、240V、360V、420V、480V							
	Input V Customizable	24V-1000VThe interval is customizable							
AC Input	Allowable Input V Range (VAC)	380±15%							
	Input Freq Range (Hz)	50Hz±5Hz							
	Bypass Transfer Time (ms)	<100 or <10 (optional)							
Communication Output	Output Rated V & Freq	380VAC,50Hz							
	Output V Accuracy (V)	380±1%							
	Output Freq Accuracy (Hz)	50±0.1%							
	Output Rated Current (A)	15.2	45.6	91.2	152	304	760	1216	1520
	THD (Linear Load)	≤3%							
	Dyn Response Time (Load 0-100%)	2ms							
	Power Factor (PF)	0.8							
	Overload Capacity	110%,10 minutes、200%,10 seconds							
	Crest Factor (CF)	3:1							
	Inverter Efficiency	> 90%(80% resistive load)							
WorkingEnvironment	Insulation Strength (In/Out)	1500VAC,1 minute							
	Noise (at 1meter)	≤65dB							
	Operating Ambient Temp	-10℃~+50℃							
	Humidity	0～90%,No condensation							
	Operating altitude (m)	≤2000(Derating is required for altitudes above 2000m)							
Indicator lights		Mains power, inverter							
Display method		LED digital display / Touch screen (optional)							
Protection functions		Input reverse connection protection, input undervoltage protection, output overload protection.							

Guangzhou IDEALPLUSING information technology co., LTD

Tel: +86-20-89282095 E-mall: info@idealplusing.com Mobile/Whatsapp: +86-18928830209

Website: www.idealplusing.com www.idealpowersupply.com

www.jmhvpower.com www.ybyps.com www.azyps.com

ADD: NO.85 Gaopu Road, Tianhe, Guangzhou, Guangdong Province, China. 510520.