Frequency Power

LP	**1/ 3**	**1/ 3**	**5K**
LZLZ Series Medium Frequency Power Supply	**Input phase**	**Output phase**	**Capacity: 5KVA**

Medium Frequency Power Supply Product Overview

Langrui Electric is dedicated to the research and development and manufacturing of power supply products. The LZ series 400Hz medium-frequency power supply is specifically designed and manufactured for aviation and military electronic equipment. It utilizes advanced and reliable high-frequency power electronic switching conversion technology, a modular structure, and features excellent output waveform quality and strong load adaptability. It is widely used in aircraft manufacturing and maintenance, airborne equipment, radar navigation, and other military electronic equipment requiring 400Hz AC power.

Applicable Standards:

<<GJB1910-94 General Specification for Aircraft Ground Power Supplies>>

<<GJB181-86 Aircraft Power Supply Characteristics and Requirements for Electrical Equipment>>

<<GJB572-88 Aircraft Ground Power Supply Characteristics and General Requirements>>

<<MH/T6018-1999 Ground Static Power Supply>>

GB-1980 Rated Power of Electrical Equipment

Product Description

The LZ series 400Hz medium-frequency power supply is primarily designed to convert mains power through a power conversion circuit into the voltage and frequency required for aviation and military applications. Its main features include providing clean and reliable sinusoidal power output, low harmonic distortion, and high frequency and voltage stability for aviation and military use.

Technical features:

Three-phase independent regulation inverter technology allows the three-phase power supply to adapt to any unbalanced load, and each phase can be used as a single-phase power source to power a load independently.

The product adopts advanced IGBT/SPWM technology, featuring small size, low noise, high reliability, and strong load capacity.

It has a wide input voltage and frequency range, strong anti-interference design, pure sine wave output, low distortion, and excellent stability. It can be used in conjunction with generator sets under the field operating conditions of the military.

High-precision LED digital display shows voltage, current, frequency, and power, with multi-turn potentiometers for precise adjustment and convenient operation.

It has a fast dynamic response speed of less than 2ms and comprehensive protection functions to ensure the safety of the load and power supply, complying with MIL-STD-704 aviation power supply specifications.

Single-phase medium-frequency power supply technical parameters

Power supply model		LZ11-0.5K	LZ11-1K	LZ11-3K	LZ11-5K	LZ11-10K
Rated capacity		500VA	1KVA	3KVA	5KVA	10KVA
Circuit diagram		IGBT/PWM Pulse Width Modulation Method				
Enter	Ph.Num	1- Phase				
	Volt	220V±10%				
	Freq	50Hz/60Hz±10%				
Output	Ph.Num	1- Phase				
	Wfm	Pure Sine Wave				
	Rated Volt	115V				
	Adj.Range	0-150VContinuously Adjustable				
	Load Reg.Rate	≤1%				
	Rated Freq	400Hz				
	Adj.Range	300Hz-500Hz Continuously Adjustable (Custom frequencies available)				
	Freq.Stab	Rated Frequency ≤0.1%; Adjustment Range ≤0.01%				
	Wfm.Dist (THD)	THD≤3%				
	Eff	≥80%（100%Load)				
	Resp.Time	≤2ms				
	Suit.Load	No load type restrictions, but motors and rectifying loads require derating.				
Display		High-precision four-digit digital LED display for voltage, current, frequency, power, and power factor				
Cooling method		Fan Cooling				
Noise level		≤55dB				
Output protection		Complete protection functions and alarm devices for overvoltage, overcurrent, short circuit, and overheating.				
Reliability	MTBF	1.0×105h				
	MTTR	0.5h				
Env	Work.Temp	-25℃-55℃				
	Rel.Hum	0-90% (non-condensing)				
	Altitude	≤2000 meters				

Power supply model	LZ31-15K	LZ31-20K	LZ31-30K	LZ31-60K	LZ31-100K
Rated capacity	15KVA	20KVA	30KVA	60KVA	100KVA
Circuit diagram	IGBT/PWM Pulse Width Modulation Method				

Enter	Ph.Num	3- Phase
	Volt	380V±10%
	Freq	50Hz/60Hz±10%
Output	Ph.Num	1- Phase
	Wfm	Pure Sine Wave
	Rated Volt	115V
	Adj.Range	0-150VContinuously Adjustable
	Load Reg.Rate	≤1%
	Rated Freq	400Hz
	Adj.Range	300Hz-500Hz Continuously Adjustable (Custom frequencies available)
	Freq.Stab	Rated Frequency ≤0.1%; Adjustment Range ≤0.01%
	Wfm.Dist (THD)	THD≤3%
	Eff	≥80%（100%Load)
	Resp.Time	≤2ms
	Suit.Load	No load type restrictions, but motors and rectifying loads require derating.
Display		High-precision four-digit digital LED display for voltage, current, frequency, power, and power factor
Cooling method		Fan Cooling
Noise level		≤55dB
Output protection		Complete protection functions and alarm devices for overvoltage, overcurrent, short circuit, and overheating.
Reliability	MTBF	1.0×105h
	MTTR	0.5h
Env	Work.Temp	-25℃-55℃
	Rel.Hum	0-90% (non-condensing)
	Altitude	≤2000 meters

Three-phase medium-frequency power supply technical parameters

Power supply model		LZ13-0.5K	LZ13-1K	LZ13-3K	LZ13-5K	LZ13-10K
Rated capacity		0.5VA	1VA	3VA	5VA	10VA
Circuit diagram		IGBT/PWM Pulse Width Modulation Method				
Enter	Ph.Num	1- Phase				
	Volt	220V±10%				
	Freq	50Hz/60Hz±10%				
Output	Ph.Num	1- Phase				
	Wfm	Pure Sine Wave				
	Phase voltage	Rated 115V; adjustable range 0-150V (continuously variable)				
	Line voltage	Rated 200V; adjustable range 0-260V (continuously variable)				
	Load Reg.Rate	≤1%				
	Rated Freq	400Hz				
	Adj.Range	300Hz-500Hz Continuously Adjustable (Custom frequencies available)				
	Freq.Stab	Rated Frequency ≤0.1%; Adjustment Range ≤0.01%				
	Wfm.Dist (THD)	THD≤3%				
	Eff	≥80%（100%Load)				
	Resp.Time	≤2ms				
	Suit.Load	No load type restrictions, but motors and rectifying loads require derating.				
Display		High-precision four-digit digital LED display for voltage, current, frequency, power, and power factor				

Cooling method		Fan Cooling
Noise level		≤55dB
Output protection		Complete protection functions and alarm devices for overvoltage, overcurrent, short circuit, and overheating.
Reliability	MTBF	1.0×105h
	MTTR	0.5h
Env	Work.Temp	-25℃-55℃
	Rel.Hum	0-90% (non-condensing)
	Altitude	≤2000 meters

Power supply model		LZ33-15K	LZ33-20K	LZ33-30K	LZ3-45K	LZ33-60K	LZ33-100K
Rated capacity		15KVA	20KVA	30KVA	45KVA	60KVA	100KVA
Circuit diagram		IGBT/PWM Pulse Width Modulation Method					
Enter	Ph.Num	3- Phase					
	Volt	380V±10%					
	Freq	50Hz/60Hz±10%					
Output	Ph.Num	3-phase 4-wire					
	Wfm	Pure Sine Wave					
	Phase voltage	Rated 115V; adjustable range 0-150V (continuously variable)					
	Line voltage	Rated 200V; adjustable range 0-260V (continuously variable)					
	Load Reg.Rate	≤1%					
	Rated Freq	400Hz					
	Adj.Range	300Hz-500Hz Continuously Adjustable (Custom frequencies available)					
	Freq.Stab	Rated Frequency ≤0.1%; Adjustment Range ≤0.01%					
	Wfm.Dist (THD)	THD≤3%					
	Eff	≥80%（100%Load)					
	Resp.Time	≤2ms					
	Suit.Load	No load type restrictions, but motors and rectifying loads require derating.					
Display		High-precision four-digit digital LED display for voltage, current, frequency, power, and power factor					
Cooling method		Fan Cooling					
Noise level		≤55dB					
Output protection		Complete protection functions and alarm devices for overvoltage, overcurrent, short circuit, and overheating.					
Reliability	MTBF	1.0×105h					
	MTTR	0.5h					
Env	Work.Temp	-25℃-55℃					
	Rel.Hum	0-90% (non-condensing)					
	Altitude	≤2000 meters					

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