# I. Emergency Power Supply

## 1. LY-D Series Single-Phase Emergency Power Supply

### Product Overview

The LY-D series single-phase emergency power supply is designed in accordance with GB17945-2010 <Fire Emergency Lighting and Evacuation Indicating System>. It is manufactured using modern power electronics and control technologies, and utilizes a battery as its power source and an inverter as its core component. This AC power supply equipment integrates inversion, charging, centralized control, and detection functions.

## Product Description

Our company's LY-D series single-phase emergency power supply is a device that provides backup power for single-phase lighting loads. When a fire, accident, or other emergency causes a power outage, the emergency power supply can provide emergency power to fire exit signs, lighting fixtures, and other critical loads. With the improvement of fire safety standards in various locations, especially in high-rise buildings, large venues, and rail transit systems, emergency power supplies have become an indispensable fire safety device. The equipment consists of an inverter, charger, battery pack, controller, and switching device.

## Technical features:

- Utilizing advanced technology and redundant design, with multi-CPU control and carefully manufactured with high-quality components, ensuring stable performance and high reliability.
- Adopting IGBT high-frequency SPWM inverter technology, providing high power quality, complete control functions, and sufficient output power to adapt to various loads.
- Employing advanced inverter circuitry and original imported power components, resulting in low loss and high efficiency.
- Equipped with a high-power charger using self-controlled charging technology, offering fast charging speed, stable float charging voltage, and intelligent battery unit detection and management system with remote monitoring capabilities.
- Internal functional components adopt a modular design, resulting in a simple structure and convenient maintenance. The LCD displays working status, mains voltage, output voltage, frequency, battery voltage, output current, fault type, and other information clearly. It features audible and visual fault alarms, indicating the fault type, and includes a fault silencing function.
- Possesses excellent output overload protection, short-circuit protection, battery reverse connection protection, over-discharge protection, and other comprehensive protection functions, ensuring strong resistance to misuse.

# LY-D Series Single-Phase Emergency Power Supply Technical Specifications

| model | | LY-D-0.5K------LY-D-20K |
|---|---|---|
| battery | Type | Sealed, maintenance-free lead-acid battery |
| | Backup Time | 90 minutes |
| | Charging Time | Within 20 hours |
| Mains power input | Rated Voltage (V) | 220V/380V |
| | Voltage Range (V) | 220/380±15% |
| | Frequency Range (Hz) | 50hz |
| Emergency output | Rated Voltage (V) | 220Vac |
| | Rated Frequency (Hz) | 50Hz |
| | Voltage Accuracy (V) | 220V±3% |
| | Frequency Accuracy (Hz) | 50Hz±0.05Hz |
| | (THD) | ≤3% (linear load) |
| | Dynamic Response (0~100% Load) | 5% |
| | Power Factor (PF) | 0.8 |
| | Overload Capacity | 150%，10 seconds |
| | Peak Factor (CF) | 3：1 |
| | Inverter Efficiency | 90% (80% resistive load) |
| Working Env. Temp. | Withstand Voltage Requirement (Input/Output) | 2000Vac，1 minute |
| | Noise (1 meter) | ≤50db |
| | Operating Ambient Temp. | -10℃~~+50℃ |
| | Humidity | 0~~90%，No condensation |
| | Operating Altitude m | ≤2000 |
| Protection functions | | Complete protection features include input reverse polarity and undervoltage protection, output overload and short-circuit protection, and over-temperature protection. |
| Other | | It uses a power frequency isolation transformer, provides a pure sine wave output, is completely stable, and has strong load capacity. |

# 2. LY-S Series Three-Phase Emergency Power Supply

## Product Overview

The LY-S series three-phase emergency power supply is designed and manufactured in accordance with GB17945-2010 "Fire Emergency Lighting and Evacuation Indication System," utilizing modern power electronics and control technologies. Powered by batteries and centered around an inverter, it is an AC power supply device that integrates inversion, charging, centralized control, and monitoring functions.

## Product Description

Our company's LY-S series three-phase emergency power supply is a device that provides backup power for three-phase lighting loads. When a fire, accident, or other emergency situation causes a power outage, the emergency power supply can provide emergency power to fire exit signs, lighting fixtures, and other critical loads. With the improvement of fire safety standards in various places, especially in high-rise buildings, large venues, and rail transit systems, emergency power supplies have become indispensable fire safety equipment. The device consists of an inverter, charger, battery pack, controller, contactors KM1, KM2, and KM3, etc. When the device is in automatic operation, if the mains power input is normal, KM1 and KM3 are closed, outputting mains power; at the same time, the mains power charges the battery through the charger, and the inverter is not working. When the mains power is interrupted or abnormal, the controller activates the inverter, and simultaneously controls KM1 to open and KM2 to close, converting the DC power from the battery pack into AC power to supply the emergency output load.

## LY-S Series Three-Phase Emergency Power Supply Technical Specifications

| model | | LY-S-2.2K------LY-S-500K |
|---|---|---|
| battery | Type | Sealed, maintenance-free lead-acid battery |
| | Backup Time | 90 minutes |
| | Charging Time | Within 20 hours |
| Mains power input | Rated Voltage (V) | 380V |
| | Voltage Range (V) | 380±15% |
| | Frequency Range (Hz) | 50hz |
| Emergency output | Rated Voltage (V) | 380VAC |
| | Rated Frequency (Hz) | 50Hz |
| | Voltage Accuracy (V) | 380V±3% |
| | Frequency Accuracy (Hz) | 50Hz±0.05Hz |
| | (THD) | ≤3% (linear load) |
| | Dynamic Response (0~100% Load) | 5% |
| | Power Factor (PF) | 0.8 |
| | Overload Capacity | 150%，10 seconds |
| | Peak Factor (CF) | 3：1 |
| | Inverter Efficiency | 90% (80% resistive load) |
| Working Env. Temp. | Withstand Voltage Requirement (Input/Output) | 2000Vac，1 minute |
| | Noise (1 meter) | ≤50db |
| | Operating Ambient Temp. | -10℃~~+50℃ |
| | Humidity | 0~~90%，No condensation |
| | Operating Altitude m | ≤2000 |
| Protection functions | | Complete protection features include input reverse polarity and undervoltage protection, output overload and short-circuit protection, and over-temperature protection. |
| Other | | It uses a power frequency isolation transformer, provides a pure sine wave output, is completely stable, and has strong load capacity. |

# 3. LY-P Series High-Power Emergency Power Supply

## Product Overview

The LY-P series power-type emergency power supply provides a variable-frequency three-phase emergency power system for fire-fighting facilities or primary loads with only a single power source, addressing the power supply issues and the impact on the power equipment during the motor's operation and startup.

## Product Description

Our company's LY-P series power emergency power supply consists of an inverter, frequency converter, charger, battery pack, controller, remote/local interface, and contactor. Under normal operation, the contactor remains closed; when the mains power input is normal, both the mains power and the battery pack supply power to the inverter, and the mains power simultaneously charges the battery through the charger. When the mains power is interrupted or abnormal, the inverter is powered solely by the battery pack, achieving seamless switching between mains power and battery power. Regardless of whether the inverter is powered by mains power or the battery pack, the inverter and frequency converter will only start when the controller receives a start signal (such as forced start, fire linkage, local start, or remote start), and simultaneously sends the status back to the fire control center. When the controller receives a stop signal or when the battery voltage drops below the specified value, the controller controls the inverter to stop working.

## Technical features:

- Utilizing advanced technology and redundant design, with multi-CPU control and carefully manufactured with high-quality components, ensuring stable performance and high reliability.
- Adopting IGBT high-frequency SPWM inverter technology, providing high-quality output, comprehensive control functions, sufficient output power, and adaptability to various loads.
- Employing advanced inverter circuitry and original imported power components, resulting in low loss and high efficiency.
- LCD Chinese character display screen shows working status, mains voltage, output voltage, frequency, battery voltage, load current, and other parameters clearly; audible and visual fault alarms, with LCD indicating the fault type. Also includes a historical event logging function.
- Equipped with a fully automatic high-power high-frequency SPWM charger, with automatic control of charging current and voltage, fast charging speed, and stable float charging voltage. Intelligent battery unit monitoring and management system, real-time monitoring and automatic inspection of battery connection status, automatic fault location and alarm.
- Optional RS232 communication interface and standard MODBUS communication protocol for remote computer centralized monitoring and management of the EPS.
- Simple operation and convenient maintenance - internal functional components adopt modular design, high degree of automation, simple structure, easy operation, and can operate unattended.
- Self-test function - regular self-testing to improve equipment availability and extend battery life.
- Features excellent output overload protection, short-circuit protection, battery reverse connection protection, over-discharge protection, and other comprehensive protection functions, with strong resistance to misuse.

## LY-P Series High-Power Emergency Power Supply Technical Specifications

| model | | LY-S-2.2K------LY-S-500K |
|---|---|---|
| battery | Type | Sealed, maintenance-free lead-acid battery |
| | Backup Time | 90 minutes |
| | Charging Time | Within 20 hours |
| Mains power input | Rated Voltage (V) | 380V |
| | Voltage Range (V) | 380±15% |
| | Frequency Range (Hz) | 50hz |
| Emergency output | Rated Voltage (V) | 0-380V AC adjustable |
| | Rated frequency (Hz) | 0-50Hz (Variable frequency start-up and normal operation, frequency is adjustable) |
| | (THD) | ≤3% (linear load) |
| | Dynamic Response (0~100% Load) | 5% |
| | Power Factor (PF) | 0.8 |
| | Overload Capacity | 150%，10 seconds |
| | Peak Factor (CF) | 3：1 |
| | Inverter Efficiency | 90% (80% resistive load) |
| Working Env. Temp. | Withstand Voltage Requirement (Input/Output) | 2000Vac，1 minute |
| | Noise (1 meter) | ≤50db |
| | Operating Ambient Temp. | -10℃~~+50℃ |
| | Humidity | 0~~90%，No condensation |
| | Operating Altitude m | ≤2000 |
| Protection functions | | Complete protection features include input reverse polarity and undervoltage protection, output overload and short-circuit protection, and over-temperature protection. |
| Other | | It uses a power frequency isolation transformer, provides a pure sine wave output, is completely stable, and has strong load capacity. |

## 4. LY-K Fast Switching Emergency Power Supply

### Product Overview

With my country's economic development, the number of large-scale buildings and engineering projects, such as stadiums and tunnels, that require a large number of high-intensity discharge lamps (mercury lamps, sodium lamps, metal halide lamps) for lighting is increasing. Due to their special nature and importance, these locations have very high requirements for lighting reliability. According to actual tests, the allowable power outage time for these lamps is less than 3ms. Therefore, measures must be taken to ensure that the time during which the power supply voltage to the lamps is abnormal is less than 3ms. Furthermore, in other industries, some sensitive equipment is also susceptible to instantaneous power interruptions from the mains supply, requiring a fast-switching EPS (Emergency Power Supply) to ensure continuous power to the load.

## Product Description

The LY-K type EPS is a fast and reliable power supply system that detects power supply anomalies and enables rapid switching between two power sources. To achieve fast switching, the system uses one mains power source and one inverter, with the inverter running continuously. Both power sources can supply power to the load via controlled thyristor switches. Because the switching time of the thyristors is in the microsecond range, rapid switching can be achieved as soon as the detection circuit detects a power supply anomaly.

## Technical features:

• Quickly and reliably detects power supply anomalies and enables rapid switching between two power sources.

• The criteria for detecting mains power anomalies can be set according to the user's site conditions.

• Features power supply status indication and fault indication.

• A unique power supply anomaly detection circuit algorithm enables fast and reliable detection of power supply anomalies.

• The main and backup power sources are selectable.

## LY-K Fast-Cutting Type EPS Technical Parameters

| model | | LY-S-2.2K------LY-S-500K |
|---|---|---|
| battery | Type | Sealed, maintenance-free lead-acid battery |
| | Backup Time | 90 minutes |
| | Charging Time | Within 20 hours |
| Mains power input | Rated Voltage (V) | 380V |
| | Voltage Range (V) | 380±15% |
| | Frequency Range (Hz) | 50hz |
| Emergency output | Rated Voltage (V) | 380VAC |
| | Rated Frequency (Hz) | 50Hz |
| | (THD) | ≤3% (linear load) |
| | Dynamic Response (0~100% Load) | 5% |
| | Power Factor (PF) | 0.8 |
| | Overload Capacity | 150%，10 seconds |
| | Peak Factor (CF) | 3：1 |
| | Inverter Efficiency | 90% (80% resistive load) |
| Working Env. Temp. | Withstand Voltage Requirement (Input/Output) | 2000Vac，1 minute |
| | Noise (1 meter) | ≤50db |
| | Operating Ambient Temp. | -10℃~~+50℃ |
| | Humidity | 0~~90%，No condensation |
| | Operating Altitude m | ≤2000 |
| Protection functions | | Complete protection features include input reverse polarity and undervoltage protection, output overload and short-circuit protection, and over-temperature protection. |
| Other | | It uses a power frequency isolation transformer, provides a pure sine wave output, is completely stable, and has strong load capacity. |

## LUG Series Industrial UPS Three-Phase Technical Specifications

| model | | LUG-S- | | | | |
|---|---|---|---|---|---|---|
| | | 10K | 30K | 50K | 75K | 100K |
| DC input | Rated Voltage V | 384 | | | | |
| | Voltage Range V | 300—480 | | | | |
| AC input | Rated Voltage V | 380V | | | | |
| | Voltage Range V | 380±15% | | | | |
| | Frequency Range Hz | 45—65 | | | | |
| | Power Factor PF | 0.8 | | | | |
| Switching time | Bypass↔Inverter ms | ≤4 | | | | |
| | Mains↔DC Panel ms | 0 | | | | |
| AC output | Rated Capacity KVA | 10 | 30 | 50 | 75 | 100 |
| | Rated Voltage V | 380VAC | | | | |
| | Rated Frequency Hz | 50Hz | | | | |
| | Voltage Accuracy V | 380V±3% | | | | |
| | Frequency Accuracy Hz | 50Hz±0.05Hz | | | | |
| | THD | ≤3%(Linear load) | | | | |
| | Dynamic Response Load 0~100% | 5% | | | | |
| | Power Factor (PF) | 0.8 | | | | |
| | Overload Capacity | 150%，10 seconds | | | | |
| | Crest Factor CF | 3：1 | | | | |
| | Inverter Efficiency | 90%(80% resistive load) | | | | |
| Working Env. Temp. | Withstand Voltage Requirements (Input/Output) | 2000Vac，1 minute | | | | |
| | Noise (1 meter) | ≤50db | | | | |
| | Operating Ambient Temp. | -10℃~~+50℃ | | | | |
| | Humidity | 0~~90%，No condensation | | | | |
| | Operating Altitude m | ≤2000 | | | | |
| Protection functions | | Complete protection features include input reverse polarity and undervoltage protection, output overload and short-circuit protection, and over-temperature protection. | | | | |
| Other | | It uses a power frequency isolation transformer, provides a pure sine wave output, is completely stable, and has a strong load capacity. | | | | |

**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.