

# MORNSUN

## LI24 Series

### 24W, SINGLE OUTPUT DIN-RAIL POWER SUPPLIES

LI24 is a series of DIN-Rail green power supplies with high efficiency and excellent price/performance ratio provided by MORNSUN. This series provide stability and high immunity against electrical disturbance for loads in industrial process controls, machine tools and other equipment exposed to a difficult industrial environment. Compact size, light weight, standard Din Rail installation (35mm) and other features of these power supplies, which saves a lot of space for your design. Build-in large capacitor provides for you enough hold-up time.



### PRODUCT FEATURES

- |   |   |
|---|---|
| 1 Standard Din Rail installation                      | 8 Efficiency: 85% typ                         |
| 2 AC and DC all in one (input from the same terminal) | 9 Heat dissipation: natural                   |
| 3 Universal input voltage:90VAC to 264VAC             | 10 Switching frequency: 60kHz                 |
| 4 Output voltage adjustable                           | 11 MTBF>200,000 hours                         |
| 5 Low ripple & noise                                  | 12 Meet product standards of industrial class |
| 6 Input under voltage lockout                         | 13 Redundancy Module                          |
| 7 Overload and short-circuit protection               | 14 3-year product warranty                    |

### PRODUCT PROGRAM

Model	Output power	Input voltage range	Output voltage	Output current	Ripple & noise (typ.)	Efficiency %(typ.)
LI24-10B05	24W	100 - 240VAC (90 - 264VAC) 50/60Hz	5V	4±0.1 A	50mV	75
LI24-10B12			12VA	2±0.1A		85
LI24-10B24			24V	1±0.05A		87

#### Notes:

- Ripple and Noise were measured by a method with twisted-pair wires;
- Unless otherwise specified, all specifications above are measured at rated input voltage and rated output load, TA=25°C, humidity < 75%;
- All specifications stated in this datasheet are subject to the above listed models only. For specifications of non-standard models, please contact our technical support team directly.

### GENERAL SPECIFICATIONS

Temperature	operating: storage: power derating above 55°C: (LI24-10B05 derating above 50°C)	-25°C to +70°C max -25°C to +85°C max 3.75% /°C
humidity		95% max
Temperature coefficient		0.02%/ °C
Switching frequency		60KHZ
Efficiency		85% typ.
Isolation voltage	Input/Output	3000VAC
MTBF		200,000h @ 25°C
EMI		EN55022, level B    FCC Part 15, level B
EMS	--- Electrostatic discharge ESD --- RF field susceptibility --- Electrical fast transients/bursts on mainsline --- Surge	IEC/EN 61000-4-2    4kV/8kV IEC/EN 61000-4-3    3V/m IEC/EN 61000-4-4    1kV IEC/EN 61000-4-5 level 3    1kV/2kV
Safety standards		UL 60950, IEC 60950, EN 60950
Safety approval		UL 60950, IEC 60950, EN 60950
Safety class		Class 1
Case protection		IP 20
Mounting		35mm DIN-Rail

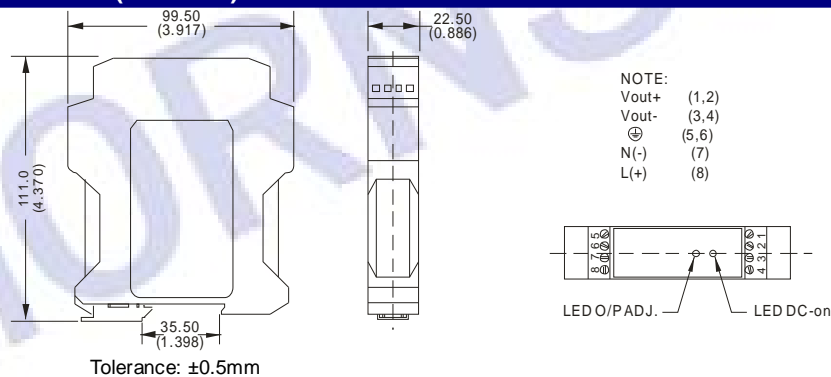
## INPUT SPECIFICATIONS

Input voltage range	100 - 240VAC(90 - 264VAC) 140 - 340VDC(120 - 370VDC)
Input frequency	47 - 63Hz
Input current(full load)	115VAC      230VAC 450mA      220mA
Inrush(<2ms)	115VAC      230VAC 16A          30A
Input under voltage lockout	80VAC (±10%)
Input under voltage return difference	≤20VAC
External fuse(recommended)	3.15A/250V slow blow

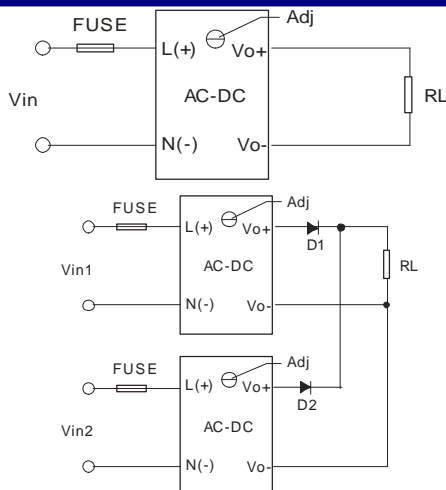
## OUTPUT SPECIFICATIONS

Output voltage	LI24-10B05 LI24-10B12 LI24-10B24	Regulate range(TYP.) 5.0 - 5.5VDC 12 - 14VDC 24 - 28VDC
Voltage set accuracy		±2%
Input variation		±0.5%
Load variation (10% - 90%)		±1%
Output ripple & noise(peak-peak)	20MHz Bandwidth	50mV typ.
Short circuit protection		Continuous and auto resume
Over current protection	LI24-10B05 LI24-10B12 LI24-10B24	4.4A typ. 2.4A typ. 1.3A typ.
Over voltage protection	LI24-10B05 LI24-10B12 LI24-10B24	6.5V max 20V max 30V max
Hold-up time	Vin=230Vac	80ms typ.

## OUTLINE DIMENSIONS (Unit:mm)



## TYPICAL APPLICATION



### General Application

1. Vin: 90 - 264VAC or 120 - 370VDC;
2. Adj: Adjusting terminal of output voltage. Users can adjust any load freely within the range of output voltage according to your own need.

### Parallel connection Application

1. Two same Din Rail power supplies are in use of parallel connection application, Vin1 and Vin2 are both 90-264VAC or 120-370VDC;
2. Adj: Adjusting terminal of output voltage. Users can adjust any load freely within the range of output voltage according to your own need.
3. When AC-DC2's output voltage is a little lower than AC-DC1's, AC-DC2 is becoming a spare power supply for load, as Vin1 is off or AC-DC1 is in fault.
4. When Vin1 and Vin2 are supplying power to Din Rail power supply alternately, Din Rail power supply will work alternately and supply power to load sostenuto.