



**Shenzhen Hi-Link Electronic Co., Ltd.**

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## **15W Series DIN-Rail Power Supply**

**15LI-20B12PR2**

**15LI-20B24PR2**



# Contents

|                                                         |   |
|---------------------------------------------------------|---|
| 1.DIN-rail Power Supplies .....                         | 1 |
| 2.Product Model .....                                   | 1 |
| 3.Product Features .....                                | 1 |
| 4.Environmental Conditions .....                        | 2 |
| 5.Electrical Characteristics .....                      | 2 |
| 5.1.Input Characteristics .....                         | 2 |
| 5.2.Output Characteristics (12V/1250mA) .....           | 3 |
| 5.3.Output Characteristics (24V/625mA) .....            | 4 |
| 6.Input Voltage vs. Load Characteristics .....          | 5 |
| 7.Derating Curve .....                                  | 5 |
| 8.Safety Characteristics .....                          | 5 |
| 8.1.Certifications .....                                | 5 |
| 8.2.Safety and EMC .....                                | 5 |
| 9.Marking, Packaging, Transportation, and Storage ..... | 6 |
| 9.1.Marking .....                                       | 6 |
| 9.1.1.Product Marking .....                             | 6 |
| 9.1.2.Packaging Marking .....                           | 6 |
| 9.2.Packaging .....                                     | 6 |
| 9.3.Transportation .....                                | 6 |
| 9.4.Storage .....                                       | 6 |
| 10.Outline Dimensions .....                             | 7 |

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## 1. DIN-Rail Power Supply Series

The 15W DIN-rail power supply series is a compact, high-efficiency product designed by Hi-Link Electronic. It features a maximum AC input voltage of 265V, low temperature rise, low power consumption, high efficiency, high reliability, and high safety isolation. These power supplies are suitable for applications in industries such as automation control, communication equipment, and instrumentation.

## 2. Product Model

| Model<br>(MODEL)  | Module Shell<br>Size<br>(mm) | Output Power<br>(W) | Output<br>Voltage<br>(V) | Output<br>Current<br>(mA) | Notes |
|-------------------|------------------------------|---------------------|--------------------------|---------------------------|-------|
| HLK-15LI-20B12PR2 | 91*23*57                     | 15                  | 12                       | 1250                      |       |
| HLK-15LI-20B24PR2 |                              | 15                  | 24                       | 625                       |       |

## 3. Product Features

1. Universal input voltage (85–265 VAC)
2. Low power consumption, eco-friendly; no-load power loss <0.3W
3. Low ripple and noise
4. Reliable output short-circuit, over-voltage, and over-current protection with auto-recovery
5. High efficiency and high power density
6. Input-to-output isolation withstand voltage: 3000 VAC
7. 100% full-load burn-in and testing
8. High reliability and long service life design
9. Complies with UL and CE standards; design meets EMC and safety testing requirements
10. Encapsulated with high-quality, eco-friendly, waterproof, and thermally conductive adhesive; moisture-proof and vibration-resistant; meets IP65 waterproof and dustproof standards
11. Cost-effective solution with excellent price-performance ratio
12. Operates without the need for external circuitry
13. 1-year quality warranty

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## 4. Environmental Conditions

| Project Name          | Technical Specifications                                                 | Unit | Notes                                                       |
|-----------------------|--------------------------------------------------------------------------|------|-------------------------------------------------------------|
| Operating temperature | -25—+60                                                                  | °C   |                                                             |
| Storage temperature   | -40—+80                                                                  | °C   |                                                             |
| Relative humidity     | 5—95                                                                     | %    |                                                             |
| Cooling method        | Natural cooling                                                          |      |                                                             |
| Atmospheric pressure  | 80—106                                                                   | Kpa  |                                                             |
| Altitude              | ≤2000                                                                    | m    |                                                             |
| Vibration             | Vibration: 10–500 Hz, 2G, 10 min/cycle, 60 min along each axis (X, Y, Z) |      | Meets the requirements for Class II highway transportation. |

## 5. Electrical Characteristics

### 5.1. Input Characteristics

| Project Name              | Technical Specifications | Unit | Notes          |
|---------------------------|--------------------------|------|----------------|
| Rated input voltage       | 100-240                  | Vac  |                |
| Input voltage range       | 85-264                   | Vac  | or 120–350 VDC |
| Maximum input current     | ≤0.4                     | A    |                |
| Input frequency           | 47-63                    | Hz   |                |
| Input start-up time       | ≤2000                    | mS   |                |
| Long-term reliability     | MTBF≥100, 000            | h    |                |
| Recommended external fuse | 2A/250Vac                |      | Slow-blow      |

**Note:** Tested at room temperature.

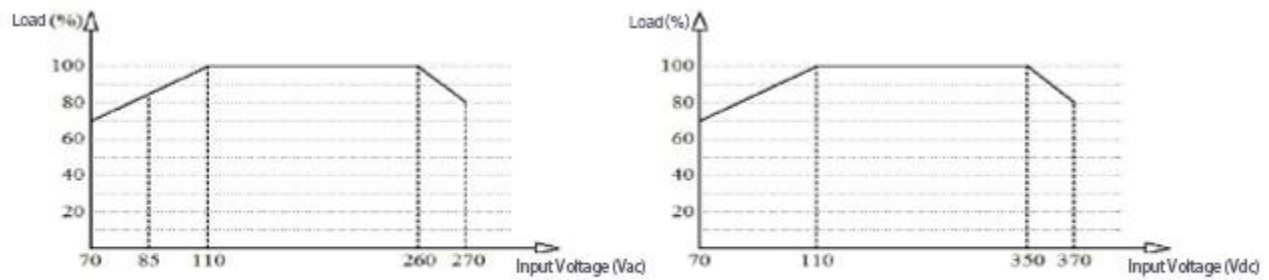
## 5.2. Output Characteristics (12V/1250mA)

| Project Name                         | Technical Specifications                                                                                                                                              | Unit | Notes                                                           |
|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----------------------------------------------------------------|
| No-load rated output voltage         | 12.0±0.2                                                                                                                                                              | Vdc  |                                                                 |
| Full-load rated output voltage       | 12.0±0.2                                                                                                                                                              | Vdc  |                                                                 |
| Output voltage adjustment range      | 10.8-13.8                                                                                                                                                             | Vdc  |                                                                 |
| Maximum short-term output current    | ≥1400                                                                                                                                                                 | mA   | It can withstand significant short-term high-voltage overloads. |
| Rated output current                 | 1250                                                                                                                                                                  | mA   |                                                                 |
| Line regulation                      | ±0.2                                                                                                                                                                  | %    |                                                                 |
| Load regulation                      | ±0.2                                                                                                                                                                  | %    |                                                                 |
| Efficiency at low input voltage      | Vin=115Vac, full load output ≥84                                                                                                                                      | %    |                                                                 |
| Efficiency at high input voltage     | Vin=230Vac, full load output ≥84                                                                                                                                      | %    |                                                                 |
| Output ripple and noise (mVp-p)      | ≤100<br>Rated input voltage, full load output. Tested using a 20MHz bandwidth oscilloscope with 10μF and 0.1μF capacitors connected in parallel at the load terminal. | mV   |                                                                 |
| Turn-on/turn-off overshoot amplitude | (Rated input voltage, 10% load) ≤5                                                                                                                                    | %Vo  |                                                                 |
| Output overcurrent protection        | 110–150% of maximum output load                                                                                                                                       | A    | Does not damage the entire unit                                 |
| Output short-circuit protection      | Direct short circuit during normal operation; automatic recovery after the short circuit is removed                                                                   | A    | Does not damage the entire unit                                 |

### 5.3. Output Characteristics (24V/650mA)

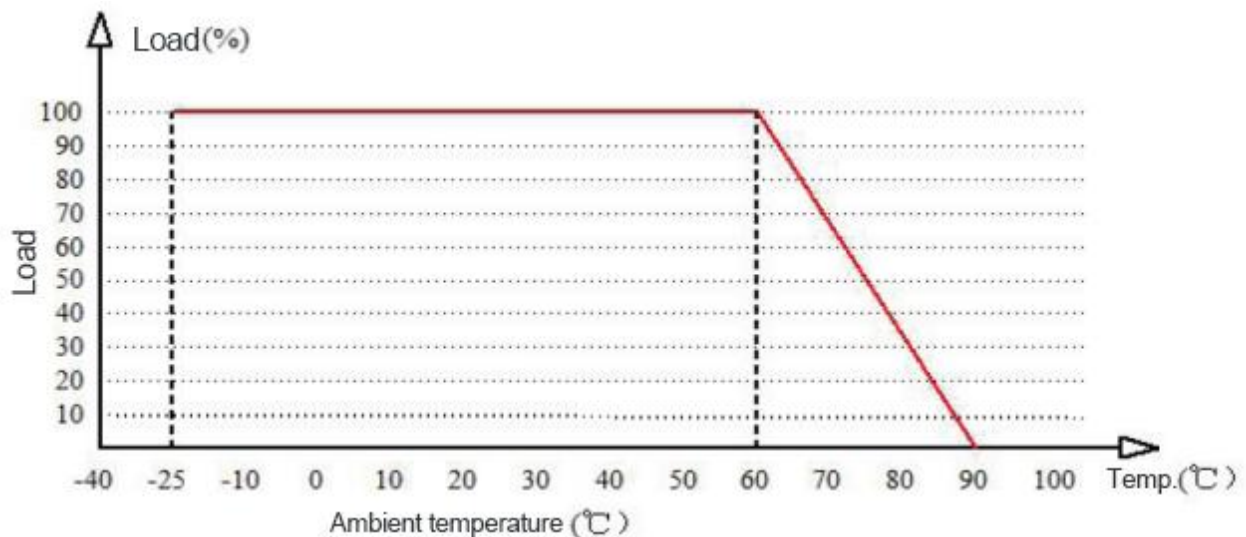
| Project Name                         | Technical Specifications                                                                                                                                              | Unit | Notes                                                           |
|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----------------------------------------------------------------|
| No-load rated output voltage         | 24.0±0.1                                                                                                                                                              | Vdc  |                                                                 |
| Full-load rated output voltage       | 24.0±0.1                                                                                                                                                              | Vdc  |                                                                 |
| Output voltage adjustment range      | 21.5-29.0                                                                                                                                                             | Vdc  |                                                                 |
| Maximum short-term output current    | ≥800                                                                                                                                                                  | mA   | It can withstand significant short-term high-voltage overloads. |
| Rated output current                 | 625                                                                                                                                                                   | mA   |                                                                 |
| Line regulation                      | ±0.1                                                                                                                                                                  | %    |                                                                 |
| Load regulation                      | ±0.1                                                                                                                                                                  | %    |                                                                 |
| Efficiency at low input voltage      | Vin=115Vac, full load output ≥86                                                                                                                                      | %    |                                                                 |
| Efficiency at high input voltage     | Vin=230Vac, full load output ≥86                                                                                                                                      | %    |                                                                 |
| Output ripple and noise (mVp-p)      | ≤100<br>Rated input voltage, full load output. Tested using a 20MHz bandwidth oscilloscope with 10μF and 0.1μF capacitors connected in parallel at the load terminal. | mV   |                                                                 |
| Turn-on/turn-off overshoot amplitude | (Rated input voltage, 10% load) ≤5                                                                                                                                    | %Vo  |                                                                 |
| Output overcurrent protection        | 110–150% of maximum output load                                                                                                                                       | A    | Does not damage the entire unit                                 |
| Output short-circuit protection      | Direct short circuit during normal operation; automatic recovery after the short circuit is removed                                                                   | A    | Does not damage the entire unit                                 |

## 6. Input Voltage vs. Load Characteristics



Input voltage vs. load characteristic curve

## 7. Derating Curve



## 8. Safety Characteristics

### 8.1. Certifications

The product design complies with UL and CE safety certification requirements. (Customers are responsible for obtaining UL and CE certifications and must follow the reference circuit design.)

### 8.2. Safety and EMC

- Input design utilizes a UL-certified 2A/250Vac slow-blow fuse or a 10 $\Omega$  wire-wound resistor;
- PCB is constructed using double-sided copper-clad laminate with a 94-V0 fire rating;
- Safety standards: Complies with UL1012, EN60950, UL60950;

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- Isolation voltage (I/P-O/P): 2500Vac;
  - Insulation resistance (I/P-O/P): >100MΩ @ 500Vdc, 25°C, 70% RH;
  - Conducted and radiated emissions: Complies with EN55011, EN55022 (CISPR22);
  - Electrostatic discharge (ESD): IEC/EN 61000-4-2 Level 4 (8 kV contact / 15 kV air discharge);
  - RF radiated immunity: IEC/EN 61000-4-3 (refer to application notes).

## **9. Marking, Packaging, Transportation, and Storage**

### **9.1. Marking**

#### **9.1.1. Product Marking**

A unique barcode label is affixed to the appropriate location on the product, ensuring the traceability of information such as the production date and batch number. The content complies with the requirements of national and industry standards.

#### **9.1.2 Packaging Marking**

The product packaging bears the manufacturer's name, address, postal code, product model, and date of manufacture (year, month, and day), as well as shipping marks such as "This Side Up," "Keep Dry," and "Handle with Care," all of which comply with the GB 191 standard.

### **9.2. Packaging**

The product is packaged using dedicated blister trays for separation and shock protection, in compliance with the GB 3873 standard.

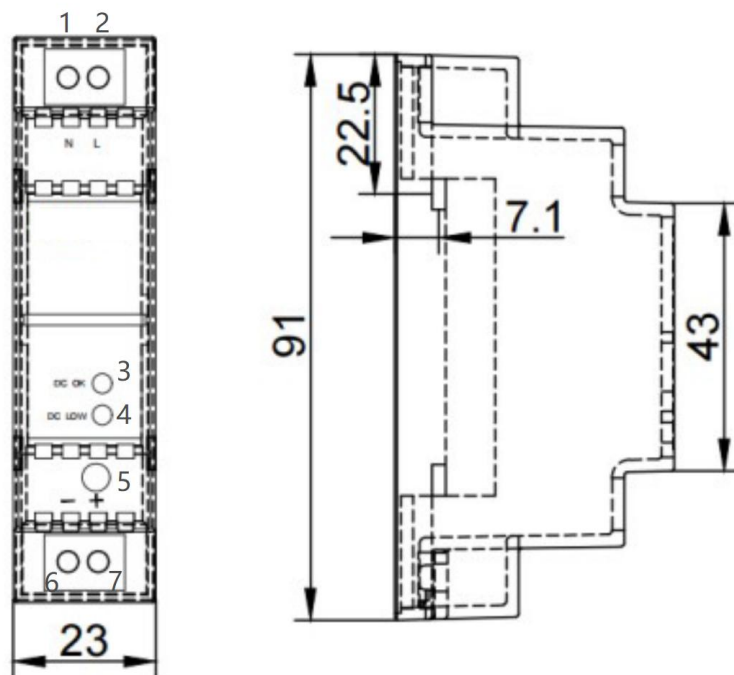
### **9.3. Transportation**

The packaged product is suitable for transport by any means of conveyance; during transit, it must be protected by a cover and shielded from severe vibration, impact, and similar hazards.

### **9.4. Storage**

Product storage shall comply with the provisions of GB 3873.

# 10. Outline Dimensions



**Note:**

- 3. Normal load output indicator
- 4. Low-load/no-load output indicator
- 5. Output voltage adjustment knob

**Dimensional tolerance:**

Length, width, and height tolerance:  $\pm 1$  mm

| Pin Functions |     |
|---------------|-----|
| 1             | AC  |
| 2             | AC  |
| 6             | -Vo |
| 7             | +Vo |