HI-Link HLK-PM01

HLK-PM01 AC-DC 220V to 5V Step-Down Power Supply Module User Manual

Model: HLK-PM01 | Brand: HI-Link

Introduction

This manual provides detailed instructions for the safe and effective use of the HI-Link HLK-PM01 AC-DC 220V to 5V Step-Down Power Supply Module. Please read this manual thoroughly before installation and operation.

Figure 1: Top view of the HLK-PM01 AC-DC 220V to 5V Step-Down Power Supply Module, showing the HI-Link logo, input/output specifications, and model number.

Product Features

- Ultra-thin, subminiature design for compact integration.
- Full voltage input range (90 ~ 264 Vac) for versatile applications.
- Low ripple and low noise output for stable power delivery.
- Integrated output overload and short circuit protection function for enhanced safety.
- High efficiency and power density.
- Designed to meet EMC and safety testing requirements.
- Low power consumption, green environmental protection, with no-load loss less than 0.1 W.
- 100% load test and aging test performed.
- Meets the requirements of UL and CE standards.

Safety Precautions

Always observe the following safety precautions to prevent injury or damage to the module:

- Ensure the input voltage is within the specified range (90-264 Vac).
- Do not exceed the maximum output current of 0.6A.
- Avoid direct contact with the module's pins when power is applied.
- Install the module in a well-ventilated area to prevent overheating.
- Ensure proper insulation and clearance from other components.
- This module is intended for integration into larger electronic systems by qualified personnel.

Setup

1. Pin Configuration

The HLK-PM01 module has clearly labeled pins for input and output connections.

Figure 2: Angled view of the HLK-PM01 module, highlighting the input (AC) and output (+Vo, -Vo) pins.

AC Input: Two pins for AC line voltage (90-264V).

+Vo Output: Positive 5V DC output.

-Vo Output: Negative (Ground) 5V DC output.

2. Electrical Connection

1. Identify the AC input terminals on the module. Connect your AC power source (90-264V) to these two terminals.
2. Identify the +Vo and -Vo output terminals. Connect the positive input of your 5V DC load to +Vo and the negative/ground input to -Vo.
3. Ensure all connections are secure and properly insulated to prevent short circuits.

Note: For optimal performance and safety, consider adding appropriate input filtering and output capacitance as per your application's requirements, although the module has internal filtering.

Operating Instructions

Once the module is correctly wired, operation is straightforward:

1. Apply AC power to the input terminals. The module will immediately begin converting the AC voltage to a stable 5V DC output.
2. Monitor the load to ensure it operates within the module's specified output current (max 0.6A).
3. The module is designed for continuous operation within its specified parameters.

The module features built-in overload and short-circuit protection. In case of an overload or short circuit, the module will automatically protect itself and resume normal operation once the fault condition is removed.

Maintenance

The HLK-PM01 module is designed for maintenance-free operation. However, periodic checks are recommended:

- **Visual Inspection:** Periodically inspect the module and its connections for any signs of physical damage, loose wires, or discoloration.
- **Dust Removal:** Ensure the module is free from excessive dust accumulation, which can impede heat dissipation. Use a soft brush or compressed air if necessary.
- **Temperature Monitoring:** While operating, the surface temperature of the main converter should not exceed 90°C, and the shell surface maximum temperature should not exceed 60°C. Ensure adequate ventilation.

Do not attempt to open or repair the module. Refer to qualified personnel for any issues beyond basic inspection.

Troubleshooting

Problem	Possible Cause	Solution
No 5V output	No AC input power; Incorrect wiring; Module failure.	Verify AC input power supply. Check all wiring connections for correctness and security. If wiring is correct and power is present, the module may be faulty and require replacement.
Output voltage unstable or low	Overload condition; Poor connections; Input voltage fluctuations.	Reduce the load current to below 0.6A. Ensure all connections are firm. Verify the stability of the AC input voltage.
Module is hot	Excessive load; Insufficient ventilation.	Ensure the load current does not exceed 0.6A. Provide adequate airflow around the module.
Module shuts down intermittently	Overload protection triggered; Short circuit detected.	Check for intermittent short circuits or transient overloads on the output. The module should resume operation once the fault is cleared.

Specifications

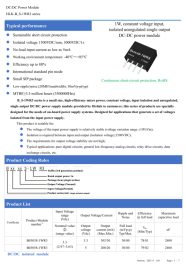
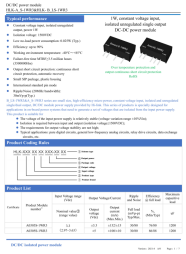
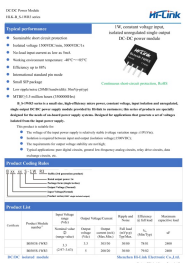
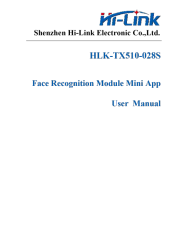
Parameter	Value
Model Number	HLK-PM01
Input Voltage Range	90 - 264 Vac
Output Voltage	5 Vdc
Output Current	0.6 A (Max)
Rated Power	3 W
No-Load Loss	< 0.1 W
Dimensions (L x W x H)	Approximately 35mm x 21mm x 16mm
Protection Features	Output Overload, Short Circuit Protection
Compliance	UL, CE requirements

Note: Dimensions are approximate based on customer reviews. Refer to official HI-Link datasheets for precise measurements.

Warranty and Support

For warranty information and technical support, please contact your point of purchase or visit the official HI-Link website. Keep your purchase receipt as proof of purchase.
For additional resources and product information, you may visit the HI-Link Store on Amazon.

Related Documents - HLK-PM01

	HI-LINK HLK-B S-1WR3 Series 1W Isolated DC/DC Power Module Datasheet Datasheet for the HI-LINK HLK-B S-1WR3 series of 1W constant voltage input, isolated unregulated single output DC-DC power modules. Provides detailed specifications, performance characteristics, application circuits, package information, and product considerations.
	Shenzhen Hi-Link HLK-B30 User Manual: 802.11n+BLE 4.2 Wireless Module Comprehensive user manual for the Shenzhen Hi-Link HLK-B30, a low-consumption wireless module featuring 802.11n Wi-Fi and Bluetooth 4.2. Covers product description, technical specifications, hardware details, application areas, and testing procedures.
	HLK-A S-1WR3 & HLK-B LS-1WR3 1W Isolated DC/DC Power Module Datasheet Datasheet for Hi-link's HLK-A S-1WR3 and HLK-B LS-1WR3 series of 1W, constant voltage input, isolated and unregulated single/dual output DC/DC power modules. Features include high efficiency, wide operating temperature, short circuit protection, and small SIP package. Suitable for various electronic applications requiring isolated power. Includes detailed specifications, application circuits, and considerations.
	Hi-Link HLK-B_S-1WR3 Series 1W DC/DC Power Module Datasheet Technical datasheet for the Hi-Link HLK-B_S-1WR3 series of 1W constant voltage, isolated unregulated single output DC/DC power modules. Details include typical performance, input/output characteristics, general specifications, application circuits, and product list.
	HLK-TX510-028S Face Recognition Module Mini App User Manual User manual for the Shenzhen Hi-Link Electronic Co., Ltd. HLK-TX510-028S Face Recognition Module, detailing setup, hardware connections, and usage of the WeChat mini app for device configuration and feature management.

HLK-B20 BLE 4.2 Wireless Module User Manual

This user manual provides comprehensive information on the Hi-Link HLK-B20, a low-consumption Bluetooth BLE 4.2 wireless control module. It covers product description, technical specifications, hardware details, pin functions, configuration methods, AT commands, and testing procedures.