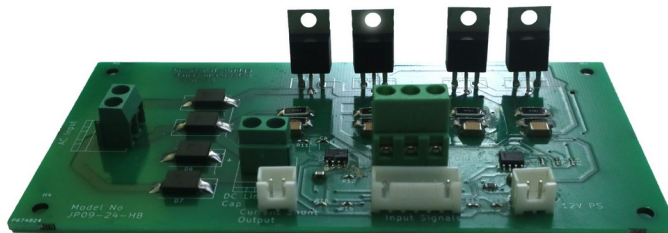


H-Bridge Driver User Manual

Version 1.0

1. Introduction

The Janason Powelec H-Bridge Driver is an industrial-grade power stage designed for driving high-voltage loads using PWM control. It is suitable for motor control, inverters, induction heating, UPS systems and other power electronics applications.



2. Features

- Full H-Bridge topology
- High-speed MOSFET gate drivers
- High-side and low-side gate drive
- Bootstrap supply
- Industrial-grade PCB
- PWM control interface
- On-board protection components

3. Safety

WARNING: This board operates from hazardous DC voltages. Disconnect power before wiring. Never touch the PCB while energized. Use an isolated supply, proper enclosure and insulated tools.

4. Electrical Specifications

Parameter	Specification
Input Supply	Upto 220V DC
PWM Input	TTL/CMOS compatible
Output Stage	Full H-Bridge

5. Functional Description

The input supply is rectified and filtered to create the DC bus. Two gate-driver ICs drive four MOSFETs arranged in a full H-Bridge. PWM signals control the switching sequence to generate the required output waveform.

6. Connector Details

H-Bridge Connection Details			
S. No	Connectro No	Pin NO	Description
1	J2	1	AC Input
2		2	AC Input
3			
	J3	1	DC Bus Capacitor +ve
		2	DC Bus Capacitor -ve
4			
5	J4	1	Inverter Output
6		2	NC
7		3	Inverter Output
8			
9	P5	1	Current shunt feed back +
10		2	Current shunt feed back -
11			
12	P3	1	GND
13		2	NC
		3	Left Low Input
		4	Left high Input
		5	Right Low Input
		6	Right Hign Input

7. Typical Connections

AC Input → Rectifier → DC Bus Capacitor → H-Bridge Driver → Load

PWM Controller → PWM Input Connector

8. Applications

- DC Motor Control
- BLDC Motor Controller
- Inverter
- Induction Heater
- UPS
- Industrial Automation
- Laboratory Development

9. Precautions

- Provide adequate heatsinking.
- Ensure sufficient dead-time.
- Verify bootstrap capacitor polarity.
- Do not exceed voltage/current ratings.
- Never short the output.

10. Troubleshooting

Problem	Possible Cause
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No output	No PWM input or supply missing
MOSFET heating	Insufficient dead-time
Driver not switching	Bootstrap supply missing
Fuse blows	Incorrect wiring or shoot-through