QIWO 110V-1000W 3000RPM

QIWO Brushless Motor 110V-1000W 3000RPM User Manual

Model: 110V-1000W 3000RPM

1. Introduction

This manual provides essential information for the safe and efficient operation of your QIWO 110V-1000W 3000RPM Brushless DC (BLDC) Motor and its accompanying driver. Please read this manual thoroughly before installation and operation to ensure proper usage and to prevent damage to the equipment or injury to personnel.

2. Safety Information

WARNING: Failure to follow these safety instructions may result in electric shock, fire, or serious injury.

- Ensure all power connections are made by a qualified electrician and comply with local electrical codes.
- Always disconnect power before performing any installation, maintenance, or troubleshooting.
- The motor and driver can generate heat during operation. Avoid touching them directly without proper insulation or allowing them to come into contact with flammable materials.
- Protect the motor from foreign matter such as water, liquids, or metal particles. Ingress of such materials can cause severe damage to the motor, especially for semi-open type motors (e.g., 1000W 12000 RPM models).
- For specific motor variants, such as the 1000W 12000 RPM model operating in Hall-free mode, ensure the motor is started under a light load to prevent damage.
- Do not operate the motor or driver if any part is damaged.

3. Product Overview

The QIWO Brushless Motor system includes a high-torque BLDC motor and a dedicated driver for precise

control. This package typically contains:

- 1 x QIWO Brushless Motor
- 1 x BLDC Motor Driver

The motor features an 80mm square flange and a 14mm output shaft, designed for various industrial and scientific applications requiring high speed and low noise.

4. Specifications

Motor Parameters (Model: 110V-1000W 3000RPM)

- **Rated Power:** 1000W
- **Input Voltage:** 110-130VDC
- **Rated Speed:** 3000 RPM
- **Holding Torque:** 3.18 N.m
- **Flange:** 80mm
- **Output Shaft Diameter:** 14mm
- **Number of Poles:** 6
- **Motor Length:** 165mm
- **Material:** Aluminum
- **Item Weight:** Approximately 5.2 kg (11.44 lbs)

General Motor and Driver Specifications

Parameter	Unit	Value
Brand	-	QIWO
Model Name	-	QW80BL007-1000
Voltage (Driver Input)	Volts	220 (AC)
Horsepower	Watts	1000
Material	-	Aluminum
Manufacturer	-	QIWO

Motor Parameter Tables (Various Models)

The following tables provide detailed specifications for various QIWO brushless motor models, including rated power, speed, torque, and physical dimensions. Please refer to these tables for specific model characteristics.

parameter	Unit	Model					
		QW80BL007 30-450	QW80BL007 45-450	QW80BL007 55-450	QW80BL007 80-450	QW80BL007 30-550	QW80BL007 60-550
Rated Power	W	450	450	450	450	550	550
Rated Speed	RPM	3000	4500	5500	8000	3000	3000
Rated Torque	N.m	1.43	0.96	0.78	0.54	1.75	1.75
Motor Length	mm	104	104	104	104	116.5	116.5
Flange	mm	80	80	80	80	80	80
Shaft Outer Diameter	mm	14	14	14	14	15	14
Length Of Output Shaft	mm	30	30	30	30	30	30
Mounting Hole	mm	ф6	ф6	ф6	ф6	ф6	ф6
Location Of Threaded	mm	65	65	65	65	65	65
Keyway	mm	5*5*21	5*5*21	5*5*21	5*5*21	5*5*21	5*5*21
Weight	kg	1.7	1.7	1.7	1.7	2.5	2.5

parameter	Unit	Model					
		QW80BL007 30-650	QW80BL007 60-650	QW80BL007 30-750	QW80BL007 60-750	QW80BL007 30-1000	QW80BL007 60-1000
Rated Power	W	650	650	750	750	1000	1000
Rated Speed	RPM	3000	6000	3000	6000	3000	6000
Rated Torque	N.m	2.07	1.03	2.39	1.19	3.18	1.59
Motor Length	mm	130	130	145	145	165	165
Flange	mm	80	80	80	80	80	80
Shaft Outer Diameter	mm	14	14	14	14	14	14
Length Of Output Shaft	mm	30	30	30	30	30	30
Mounting Hole	mm	ф6	ф6	ф6	ф6	ф6	ф6
Location Of Threaded	mm	65	65	65	65	65	65
Keyway	mm	5*5*21	5*5*21	5*5*21	5*5*21	5*5*21	5*5*21
Weight	kg	2.2	2.2	2.9	2.9	3.5	3.5

Detailed specifications for various QIWO motor models, including rated power, speed, torque, and physical dimensions.

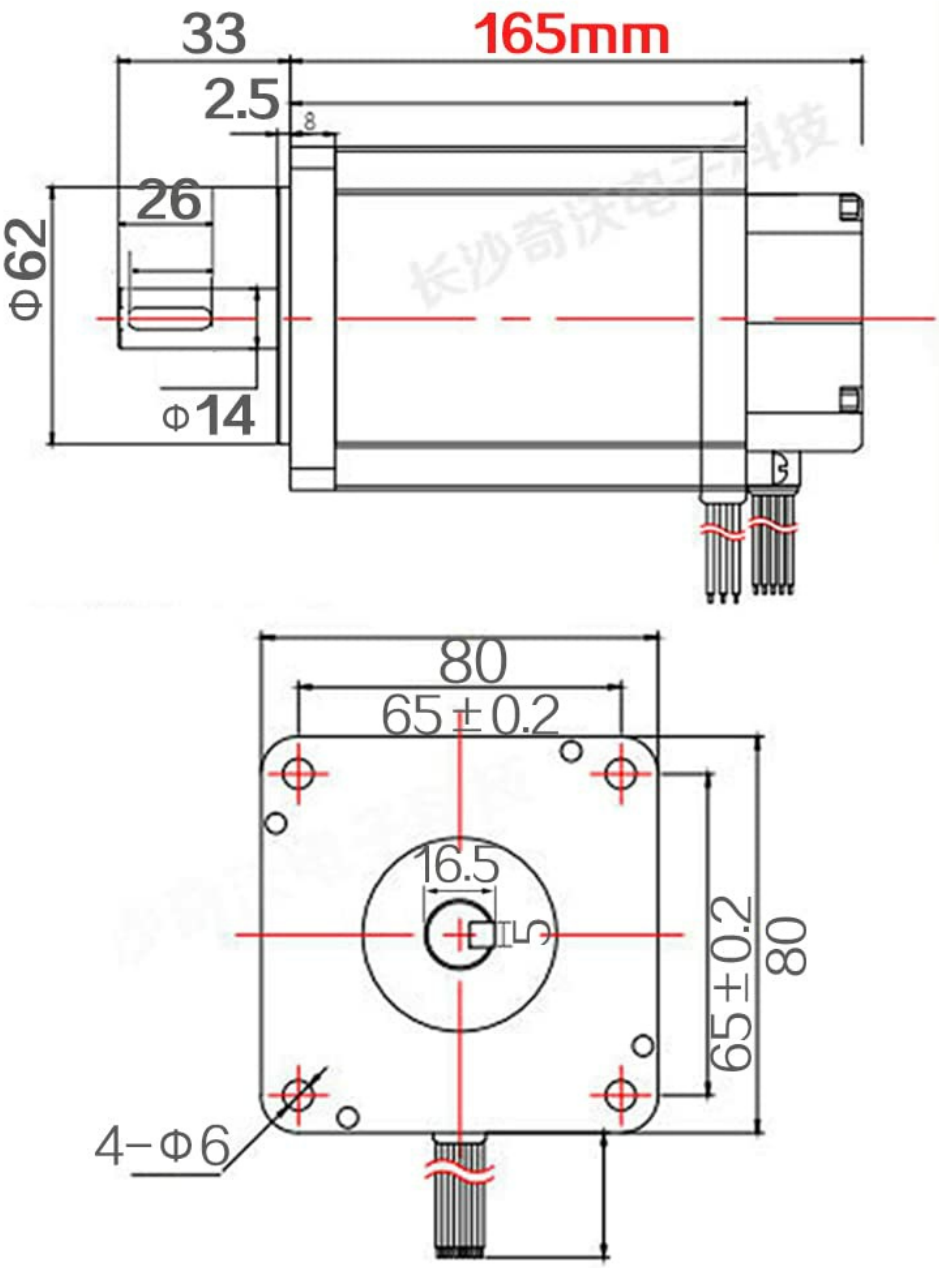
Parameter	UNIT	Model			
		QW80BL007 120-1000	QW90BL008 30-1500	QW110BL008 30-2000	QW110BL008 30-3000
Rated Power	W	1000	1500	2000	3000
Rated Speed	RPM	12000	3000	3000	3000
Rated Torque	N.m	0.8	4.78	6.37	9.55
Motor Length	mm	165	168	198	248
Flange	mm	80	55.5	55.5	55.5
Shaft Outer Diameter	mm	14	19	19	19
Length Of Output Shaft	mm	30	40	34.5	34.5
Mounting Hole	mm	ϕ6	ϕ8.5	ϕ8.5	ϕ8.5
Location Of Threaded	mm	65	88.9	88.9	88.9
Keyway	mm	5*5*21	6*25	6*25	6*25
Weight	kg	3.5	7.5	9.6	11.5

Further motor specifications including rated power, speed, torque, and physical dimensions for a broader range of QIWO motor models.

5. Setup

5.1 Mechanical Installation

Mount the motor securely using appropriate fasteners. Ensure proper alignment with the driven load to prevent excessive vibration or wear. Refer to the dimension diagrams for mounting hole patterns and overall motor size.



Detailed technical drawing showing the motor's length (165mm), flange diameter (80mm), shaft diameter (14mm), and mounting hole specifications.

An angled view of the motor highlighting the 165mm length, 80mm square flange, and the removable keyway on the 14mm output shaft.

The motor driver should also be mounted in a stable location, away from excessive heat, moisture, and vibration. Ensure adequate ventilation around the driver.

Measurements for the motor driver unit, including its length (200mm), width (130mm), and mounting hole positions.

An overview of the motor driver unit, displaying its dimensions and the QIWO brand logo, providing context for mounting.

5.2 Electrical Connections

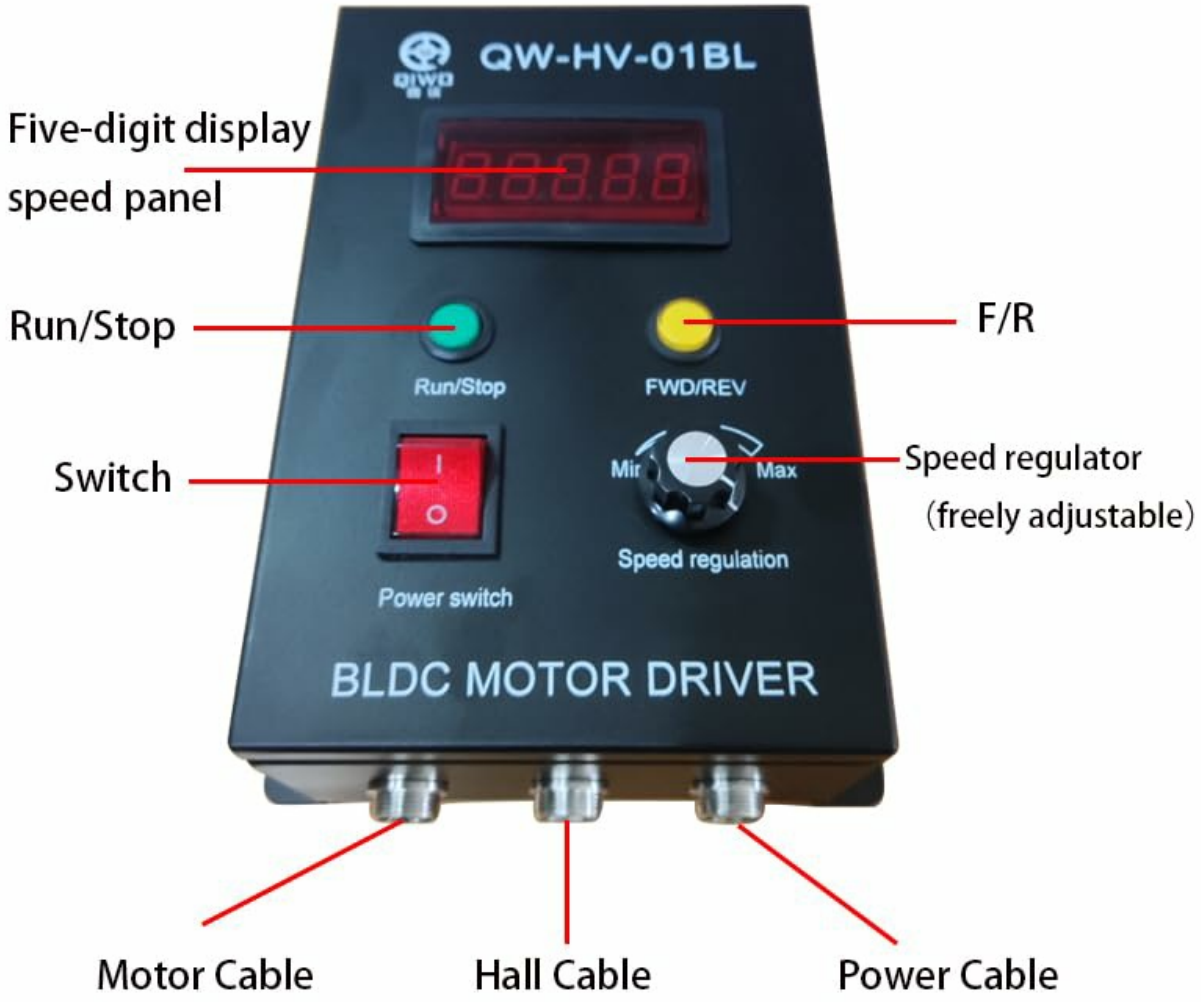
Connect the motor and power supply to the driver as shown in the diagram below. Ensure all connections are secure and correctly polarized.

Illustration of the motor driver's connection ports: Motor Port (four core), Hall Port (five core), and Power Port (three core, AC 220V). Ensure correct wiring for your specific voltage (110V or 220V).

- **Motor Port:** Connect the motor cable (four core) to this port.
- **Hall Port:** Connect the Hall sensor cable (five core) from the motor to this port.
- **Power Port:** Connect the AC power cable (three core) to this port. Ensure the input voltage matches your motor driver's rating (e.g., AC 220V or AC 110V).

6. Operating Instructions

The motor driver provides intuitive controls for motor operation. Familiarize yourself with the control panel components:



Front view of the motor driver showing the five-digit speed display, Run/Stop button, FWD/REV switch, and speed regulator knob.

- **Power Switch:** Toggles the main power to the driver.
- **Run/Stop Button:** Initiates or halts motor rotation.
- **FWD/REV Switch:** Selects the direction of motor rotation (Forward/Reverse).
- **Speed Regulator Knob:** Adjusts the motor's rotational speed. Turn clockwise to increase speed, counter-clockwise to decrease.
- **Five-digit Display:** Shows the current operating speed of the motor.

Starting the Motor:

1. Ensure all electrical connections are correct and secure.

2. Turn on the main Power Switch.
3. Set the FWD/REV switch to the desired direction.
4. Press the Run/Stop button to start the motor.
5. Adjust the Speed Regulator knob to achieve the desired RPM.

Stopping the Motor:

1. Press the Run/Stop button to halt motor rotation.
2. Turn off the main Power Switch when operation is complete.

7. Maintenance

Regular maintenance ensures the longevity and optimal performance of your QIWO brushless motor and driver.

- **Cleaning:** Keep the motor and driver free from dust, dirt, and debris. Use a soft, dry cloth for cleaning. Do not use solvents or abrasive cleaners.
- **Inspection:** Periodically inspect all electrical connections for tightness and signs of wear or damage. Check the motor for any unusual noises or vibrations during operation.
- **Ventilation:** Ensure that the motor and driver have adequate airflow to prevent overheating. Clear any obstructions from ventilation openings.
- **Environmental Protection:** Protect the unit from moisture, corrosive environments, and extreme temperatures.

Brushless motors generally require less maintenance than brushed motors due to the absence of brushes and commutators, but regular checks are still recommended.

8. Troubleshooting

If you encounter issues with your QIWO brushless motor system, refer to the following common troubleshooting steps:

Problem	Possible Cause	Solution
Motor does not start	No power supply Incorrect wiring Run/Stop button not pressed	Check power connections and source Verify motor, Hall, and power wiring Press the Run/Stop button
Motor runs erratically or vibrates excessively	Loose connections Motor or load imbalance Damaged Hall sensors	Check all electrical and mechanical connections Inspect motor and load for balance Contact support if Hall sensors are suspected
Motor overheats	Overload Insufficient ventilation High ambient temperature	Reduce load on the motor Ensure clear airflow around motor and driver Operate within specified temperature ranges

Problem	Possible Cause	Solution
Speed cannot be adjusted	Speed regulator knob malfunction Driver fault	Check the knob for physical damage Contact support for driver inspection

If the problem persists after attempting these solutions, please contact QIWO customer support for further assistance.

9. Warranty and Support

QIWO products are manufactured to high-quality standards. For information regarding warranty coverage, terms, and conditions, please refer to the documentation provided at the time of purchase or contact your vendor. For technical support, inquiries, or service, please reach out to QIWO customer service through the official channels provided by your retailer or on the QIWO website.