

QIWO QW80BL007-1200 (110V-1200W 3000RPM)

QIWO BLDC Motor and Driver Instruction Manual

Model: QW80BL007-1200 (110V-1200W 3000RPM)

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of your QIWO Brushless DC (BLDC) Motor and its accompanying driver. Please read this manual thoroughly before using the product to ensure safe and efficient operation. This motor is designed for applications requiring high speed, high torque, and low noise performance.

2. SAFETY INFORMATION

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

- Always disconnect power before performing any installation, wiring, or maintenance.
- Ensure all electrical connections are secure and properly insulated to prevent short circuits.
- This product operates with high voltage. Only qualified personnel should perform installation and wiring.
- Do not operate the motor or driver in wet or damp conditions.
- Ensure proper ventilation for the motor and driver to prevent overheating.
- Keep hands and loose clothing away from moving parts of the motor during operation.
- Verify the input voltage matches the motor and driver specifications (110-130VDC or 220-240VDC).

3. PACKAGE CONTENTS

Upon unpacking, please verify that all items listed below are present and undamaged:

- QIWO BLDC Motor
- QIWO BLDC Motor Driver

Note: Cables and other accessories may be sold separately or included depending on the specific package.

4. PRODUCT FEATURES

Motor Driver Functions:

- Integrated Hall position sensor for precise control.
- External potentiometer interface for stepless speed regulation.
- Supports external analog speed control.
- Six-digit display panel for speed monitoring.
- Compatible with 220-240V or 110-130V power supply.
- External switch connection for forward and reverse direction selection.
- Built-in thermal protection.
- Overcurrent protection.
- Hall error protection.

5. SPECIFICATIONS

Motor Parameters (Model: QW80BL007-1200)

Parameter	Value
Rated Power	1200W
Input Voltage	110-130VDC (or 220-240VDC for other variants)
Rated Speed	3000 RPM (or 6000 RPM for other variants)
Holding Torque	3.81 N.m
Flange Size	80mm
Output Shaft Diameter	14 mm
Number of Poles	6
Material	Aluminum
Item Weight	6 Kilograms

Dimensional Drawings

Refer to the following diagrams for detailed motor and driver dimensions.

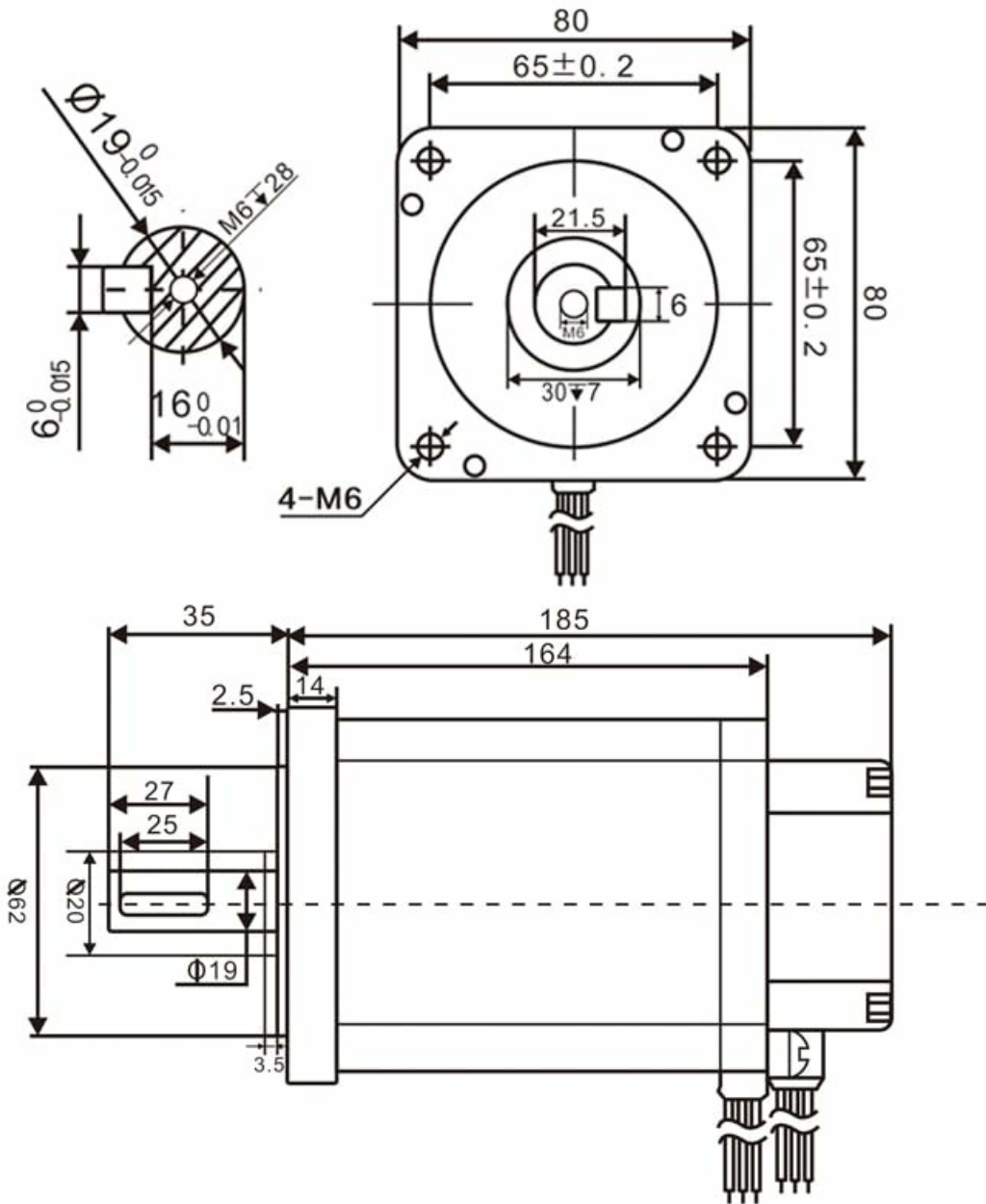


Figure 1: Motor Dimensional Drawing. This diagram illustrates the precise measurements of the motor body, flange, and shaft, including keyway dimensions and mounting hole details.



Figure 2: Motor Isometric View with Dimensions. This image provides a perspective view of the motor with major dimensions such as length (185mm), flange width (80mm), and shaft diameter (14mm) clearly marked.

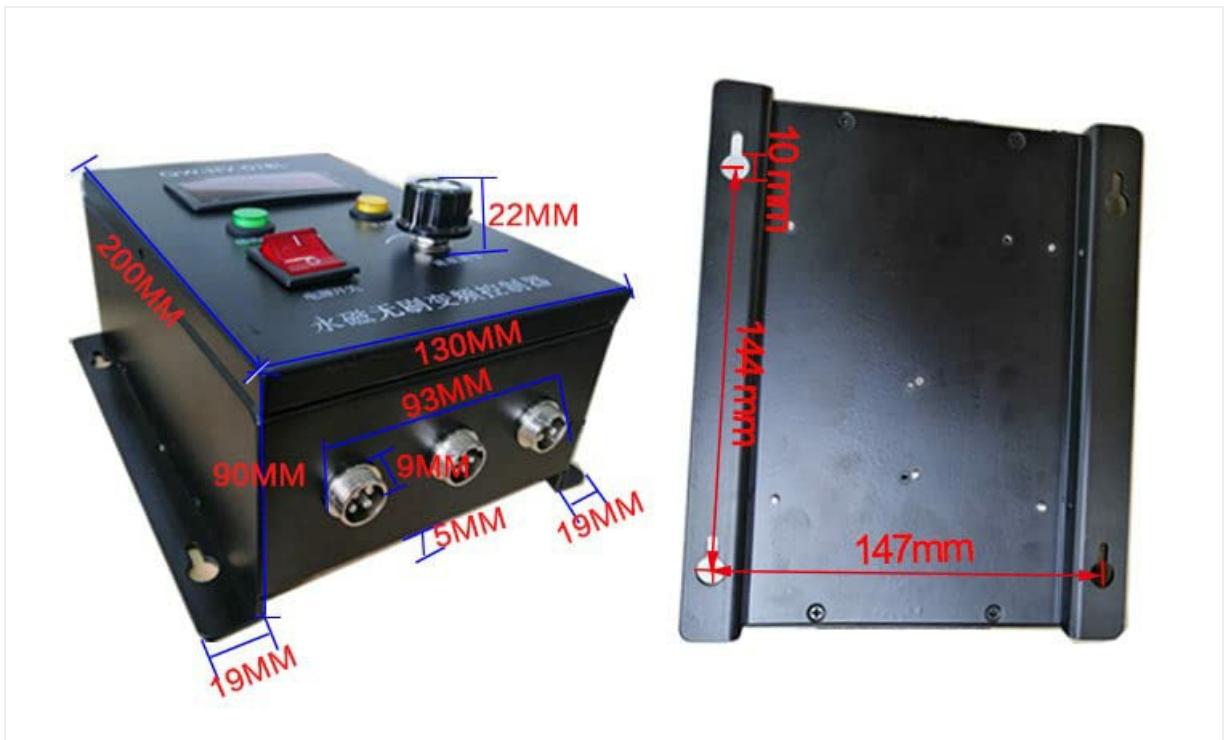


Figure 3: Driver Dimensional Drawing. This diagram shows the physical dimensions of the motor driver unit, including its length (200mm), width (130mm), height (93mm), and mounting bracket details.

Additional Motor Parameter Tables

The following tables provide parameters for various QIWO BLDC motor models, including different power, speed, and torque ratings. Please locate your specific model for reference.

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	φ6	φ6	φ6	φ6	φ6	φ6
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	φ6	φ6	φ6	φ6	φ6	φ6
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

Figure 4: Motor Parameter Table (Part 1). This table details specifications for various QW80BL007 series motors, covering rated power, speed, torque, motor length, flange, shaft diameter, and weight.

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

Figure 5: Motor Parameter Table (Part 2). This table continues the specifications for QW80BL007 series motors, providing data for higher power and torque models.



Figure 6: Motor Parameter Table (Part 3). This table presents specifications for additional QIWO BLDC motor models, including QW90BL008 and QW110BL008 series, with varying flange sizes and power ratings.

6. SETUP AND WIRING

Proper wiring is crucial for the safe and correct operation of the BLDC motor and driver. Follow these steps carefully.

6.1 Component Identification



Figure 7: Motor and Driver Connection Ports. This image identifies the three main connection ports on the driver: Motor Port (four core), Hall Port (five core), and Power Port (three core, AC 220V).

- **Motor Port:** Four-core connector for the main motor power phases.
- **Hall Port:** Five-core connector for the Hall effect sensors, providing rotor position feedback to the driver.
- **Power Port:** Three-core connector for AC power input (110-130V or 220-240V, depending on model).

6.2 Wiring Procedure

1. **Mounting:** Securely mount the motor and driver in their intended locations. Ensure adequate space for ventilation around both components.
2. **Motor Connection:** Connect the motor cable to the "Motor" port on the driver. Ensure the connector is fully seated and locked.
3. **Hall Sensor Connection:** Connect the Hall sensor cable from the motor to the "Hall" port on the driver. This connection is critical for proper motor commutation.
4. **Power Connection:** Connect the power cable to the "Power" port on the driver. Ensure the power source matches the driver's specified voltage (110-130V AC or 220-240V AC).
5. **External Controls (Optional):** If using external potentiometer or analog speed control, connect them to the designated terminals on the driver (refer to the driver's specific wiring diagram if available, not shown in provided images).
6. **Direction Switch (Optional):** If using an external forward/reverse switch, connect it to the appropriate terminals on the driver.

CAUTION: Double-check all wiring before applying power to prevent damage to the motor or driver.

7. OPERATING INSTRUCTIONS

This section details how to operate your QIWO BLDC motor using the provided driver.

7.1 Driver Control Panel Overview



Figure 8: Driver Control Panel. This image highlights the key controls and indicators on the driver's front panel, including the digital speed display, Run/Stop button, FWD/REV switch, speed regulation knob, and power switch.

- **Five-digit display speed panel:** Shows the current motor speed (RPM).
- **Run/Stop button:** Initiates or halts motor operation.
- **FWD/REV switch (F/R):** Selects the motor's direction of rotation (Forward/Reverse).
- **Speed regulator (Min/Max):** A potentiometer knob for stepless adjustment of motor speed.
- **Power switch:** Main ON/OFF switch for the driver unit.

7.2 Basic Operation

1. **Power On:** Ensure all connections are secure. Turn the main Power switch to the "ON" position. The display panel should illuminate.
2. **Set Direction:** Use the FWD/REV switch to select the desired rotation direction.
3. **Adjust Speed:** Rotate the Speed regulator knob to the minimum position.
4. **Start Motor:** Press the "Run/Stop" button to start the motor. The motor will begin to rotate at the minimum speed.
5. **Increase Speed:** Slowly rotate the Speed regulator knob clockwise to increase the motor speed. Observe the

speed on the digital display.

6. **Stop Motor:** Press the "Run/Stop" button to stop the motor. The motor will decelerate and stop.
7. **Power Off:** After stopping the motor, turn the main Power switch to the "OFF" position.

7.3 External Control Options

The driver supports external control for speed regulation and direction. Consult the driver's specific wiring diagram for detailed connection points for these features.

- **External Potentiometer:** Connect an external potentiometer to the designated terminals for remote speed control.
- **Analog Speed Control:** Use an external analog voltage signal (e.g., 0-5V or 0-10V) to control the motor speed.
- **External Direction Switch:** Connect an external switch to control the forward/reverse direction remotely.

8. MAINTENANCE

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

- **Cleaning:** Periodically clean the motor and driver surfaces to remove dust and debris. Use a soft, dry cloth. Do not use liquid cleaners directly on electrical components.
- **Ventilation:** Ensure that the ventilation openings on both the motor and driver are clear and unobstructed to prevent overheating.
- **Connections:** Regularly inspect all electrical connections for tightness and signs of wear or corrosion. Retighten if necessary.
- **Environmental Conditions:** Operate the motor and driver within their specified environmental conditions (temperature, humidity) to prevent damage.
- **Shaft Inspection:** Check the motor shaft for any signs of damage or excessive runout.

WARNING: Always disconnect power before performing any maintenance or cleaning.

9. TROUBLESHOOTING

This section provides solutions to common issues you might encounter. If the problem persists, contact customer support.

Problem	Possible Cause	Solution
Motor does not start.	No power to driver. Power switch OFF. Run/Stop button not pressed. Incorrect wiring. Hall sensor error.	Check power supply. Turn Power switch ON. Press Run/Stop button. Verify all connections (Motor, Hall, Power). Check Hall sensor cable and connections.
Motor runs erratically or at incorrect speed.	Speed regulator set too low/high. Hall sensor issue. External control conflict.	Adjust speed regulator. Check Hall sensor connections. Ensure only one speed control method is active (internal knob or external).

Problem	Possible Cause	Solution
Motor overheats.	Overload condition. Insufficient ventilation. High ambient temperature.	Reduce load on motor. Ensure clear airflow around motor and driver. Operate in a cooler environment.
Driver display shows error code.	Overcurrent, thermal protection, or Hall error activated.	Refer to driver's specific error code documentation (if available). Address the underlying cause (e.g., reduce load, check connections, allow to cool).

10. WARRANTY AND SUPPORT

This QIWO product is backed by a commitment to quality. While specific warranty details are not provided in this manual, general support information is as follows:

- **Returns:** The product typically includes a 30-day easy return policy. Please refer to your purchase documentation for specific terms.
- **Customer Support:** For technical assistance, troubleshooting beyond this manual, or warranty inquiries, please contact QIWO customer support through your original point of purchase or the manufacturer's official channels.