

Varstrom TSDZ2B

Varstrom TSDZ2B 48V500W Mid Drive Ebike Conversion Kit with Sw2m58 Display User Manual

1. INTRODUCTION

This manual provides essential information for the installation, operation, maintenance, and troubleshooting of your Varstrom TSDZ2B 48V500W Mid Drive Ebike Conversion Kit with Sw2m58 Display. Please read this manual thoroughly before installation and use to ensure proper function and safety.

2. KEY FEATURES

- **Upgraded TSDZ2B Mid Motor:** Features a seamless one-piece reduction gear assembly and a bidirectional freewheeling clutch for reduced motor resistance and effortless pedaling.
- **Powerful Performance:** The TSDZ2B mid-motor delivers 100N.m maximum torque and a top speed of up to 45 KM/H, providing robust assistance for various terrains.
- **Torque Sensor System:** Equipped with a precision torque sensor for instant pedal assistance, ensuring a natural and responsive riding experience.
- **Centralized Safety & Balance:** The mid-mounted motor design distributes weight evenly for enhanced stability. It includes an integrated cadence sensor and is sealed for waterproofing.
- **Multiple Riding Modes:** Supports Throttle, Pedal Assist, and Bike Mode for adaptable cycling adventures.
- **Digital Display:** The Sw2m58 display provides essential riding data and control over the kit's functions.

3. COMPATIBILITY

The TSDZ2B mid drive kit is designed for universal compatibility with most bicycles. It fits bottom brackets with a length of 68mm to 73mm (2.68in/2.87in) and an inner diameter of 34mm to 36mm (1.34in/1.42in). This includes mountain bikes, road bikes, city bikes, and tricycles. The design preserves your bike's integrity and enhances weight distribution for a balanced ride.

GOOD COMPATIBILITY

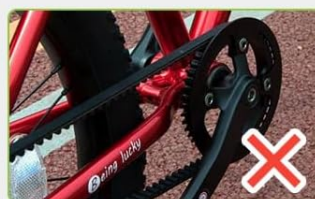


Bottom Bracket: 68-73MM



Inner Diameter: Between 33.5-36MM

More information please refer the below description



Belt Drive Chainring



Coaster Bike



mountain bike



City bike



Road bike



Recumbent bike

Image: Bottom bracket dimensions (68-73mm length, 33.5-36mm inner diameter) and examples of compatible bicycle types including mountain, city, road, and recumbent bikes.

4. PACKING LIST

The Varstrom TSDZ2B 48V500W Mid Drive Kit includes the following components:

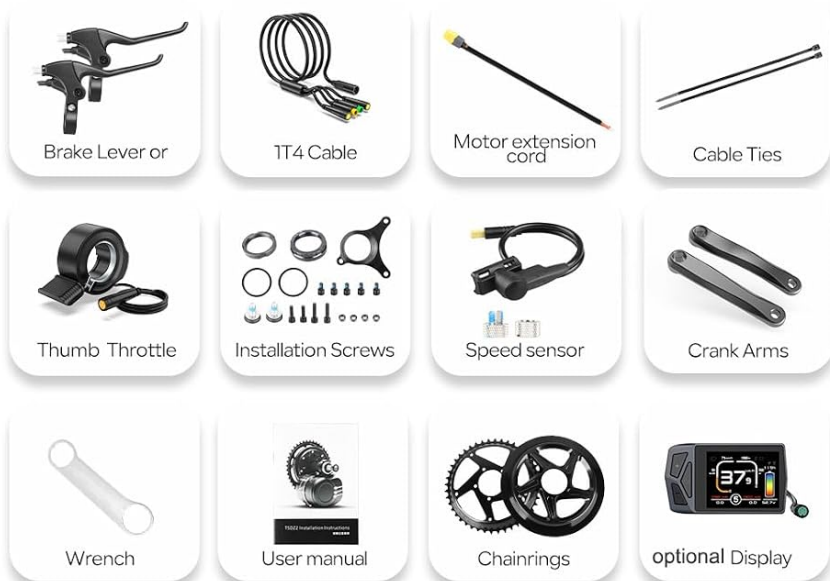
- TSDZ2B Mid-Mounted Motor
- Brake Levers (or sensors)
- TT4 Cable
- Motor Extension Cord
- Cable Ties
- Thumb Throttle
- Installation Screws and accessories
- Speed Sensor

- Crank Arms
- Wrench
- User Manual (this document)
- Chainrings
- Sw2m58 Digital Display

Please note: The battery is not included and must be ordered separately.

PACKING LIST

VARSTROM x **TONGSHENG**



Optional Battery



Image: Visual representation of the Tongsheng mid-mounted motor and all accompanying accessories, including brake levers, cables, throttle, installation hardware, speed sensor, crank arms, wrench, user manual, chainrings, and the Sw2m58 display.

5. SETUP AND INSTALLATION

Installation of the TSDZ2B mid drive kit requires mechanical aptitude. If you are unsure about any steps, professional installation by a qualified bicycle mechanic is recommended.

5.1 Pre-Installation Checks

- Ensure your bicycle's bottom bracket dimensions (68-73mm length, 34-36mm inner diameter) are compatible.
- Verify all components listed in the packing list are present and undamaged.
- Ensure you have the necessary tools for bicycle maintenance and electrical connections.

5.2 General Installation Steps

1. Remove the existing crankset and bottom bracket from your bicycle.
2. Install the TSDZ2B motor into the bottom bracket shell. Secure it firmly using the provided nuts and washers.
3. Attach the chainring to the motor.
4. Install the crank arms onto the motor spindle.
5. Mount the Sw2m58 display on the handlebars.
6. Install the brake levers (or sensors) and thumb throttle on the handlebars.
7. Mount the speed sensor on the chainstay, ensuring the magnet passes within 10-15mm of the sensor.
8. Connect all cables to the motor and display according to the wiring diagram. Ensure all connections are secure and waterproof.
9. Install your chosen battery (sold separately) and connect it to the motor system.
10. Route and secure all cables neatly using cable ties to prevent interference with moving parts.



Image: Simplified wiring diagram illustrating connections between the motor, display, brake levers, throttle, speed sensor, and battery.

6. OPERATING INSTRUCTIONS

Once installed and powered, the TSDZ2B kit offers various modes to enhance your cycling experience.

6.1 Riding Modes

- **Pedal-only Mode:** The motor provides no assistance. The bike functions as a standard bicycle.
- **Pedal Assist Mode (PAS):** The motor provides assistance proportional to your pedaling effort, detected by the torque sensor. The level of assistance can be adjusted via the display.
- **Throttle Mode:** The motor provides power independently of pedaling, controlled by the thumb throttle.
- **Walk Assist Mode:** Provides low-speed assistance for pushing the bike while walking.

48V 500W POWERFUL MOTOR



100N.m

Max Torque



45km/h

Max Speed



35°

Angle



IP65



3.6KG

Throttle Ebike Mode



Pedal Assit Mode



Walk Assit Mode



Image: Diagram showing the motor's specifications (100N.m Max Torque, 45km/h Max Speed, IP65 rating, 3.6KG weight) and icons representing Throttle Ebike Mode, Pedal Assist Mode, and Walk Assist Mode.

6.2 Sw2m58 Display Functions

The Sw2m58 digital display provides real-time information and allows you to control various settings.

MULTIFUNCTION LCD DISPLAY



Image: Close-up of the Sw2m58 LCD display showing various indicators: Headlight status, Battery Percent/Voltage, Real Speed, PAS Level, Walk Assist Mode, Total Mileage, Single Mileage, Error Code, Low Voltage Warning, Max Speed, and Average Speed.

- **Power On/Off:** Press and hold the power button to turn the system on or off.
- **PAS Level Adjustment:** Use the '+' and '-' buttons to cycle through assistance levels.
- **Information Display:** The display shows current speed, battery level, PAS level, total mileage, trip mileage, maximum speed, average speed, and error codes.
- **Settings:** Access settings to adjust wheel diameter, unit system (km/h or mph), and other parameters. Refer to the full display manual for detailed instructions on accessing and changing settings.

7. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your ebike conversion kit.

- **Cleaning:** Keep the motor, display, and connections clean. Use a damp cloth; avoid high-pressure washing directly on electrical components.

- **Cable Inspection:** Periodically check all cables and connectors for wear, damage, or loose connections. Ensure waterproof seals are intact.
- **Fastener Check:** Ensure all bolts and fasteners, especially those securing the motor to the bottom bracket, are tightened to the manufacturer's specifications.
- **Speed Sensor:** Verify the speed sensor and magnet maintain the correct distance (10-15mm) and are securely mounted.
- **Battery Care:** Follow the battery manufacturer's instructions for charging, storage, and maintenance.
- **General Bicycle Maintenance:** Continue regular maintenance of your bicycle's mechanical components (brakes, chain, tires, gears) as you would with a non-electric bike.

8. TROUBLESHOOTING

This section addresses common issues you might encounter.

Problem	Possible Cause	Solution
Motor not providing assistance / No power	Loose battery connection, low battery, motor cable disconnected, error code on display.	Check battery connection and charge level. Inspect all motor and display cables for secure connections. Refer to display error codes for specific issues.
Inaccurate speed/distance readings on display	Incorrect wheel diameter setting, speed sensor/magnet misalignment, faulty speed sensor.	Verify wheel diameter setting in display menu. Ensure speed sensor magnet is 10-15mm from the sensor. Check sensor cable for damage.
Motor randomly cutting out	Speed sensor issue, loose electrical connection, overheating.	Check speed sensor alignment and distance to magnet (10-15mm). Inspect all multi-pin connectors for secure fit. Allow motor to cool if used extensively.
Display data (time, avg speed) is incorrect	Display firmware, specific display model limitations.	Some display models may have specific data calculation methods. Consult the detailed display manual or contact support for clarification on specific data fields.

9. SPECIFICATIONS

Feature	Specification
Model Name	TSDZ2B
Motor Type	Mid Drive, Torque Sensored
Voltage	48V
Rated Power	500W
Peak Power	720W

Feature	Specification
Max Torque	100 N.m
Max Speed (Assisted)	45 KM/H
Compatible Bottom Bracket Length	68-73mm
Compatible Bottom Bracket Inner Diameter	34-36mm
Display Model	Sw2m58 LCD Display
Weight	3.6 KG
Manufacturer	Suzhou Tongsheng Electric Co., Ltd.

10. WARRANTY AND SUPPORT

Your Varstrom TSDZ2B Mid Drive Ebike Conversion Kit comes with the following warranty and support:

- **Return Policy:** 30 Days return time.
- **Warranty Service:** 365 days warranty service.
- **Technical Guidance:** Lifelong technical guidance service.

For technical assistance, warranty claims, or any questions regarding your product, please contact the seller, Greenergia, or Varstrom customer support.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page’s manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question