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› Tong-Sheng TSDZ8 48V 750W Mid Drive E-Bike Conversion Kit User Manual

Varstrom TSDZ8 48V 750W Mid Drive E-Bike Conversion Kit

Tong-Sheng TSDZ8 48V 750W Mid Drive E-Bike Conversion Kit User Manual

Model: TSDZ8 48V 750W

Brand: Varstrom

INTRODUCTION

Thank you for choosing the Varstrom Tong-Sheng TSDZ8 48V 750W Mid Drive E-Bike Conversion Kit. This manual provides essential information for the proper installation, operation, and maintenance of your new e-bike system. Designed for high performance and durability, the TSDZ8 kit transforms your standard bicycle into a powerful electric bike, capable of tackling various terrains with ease. Please read this manual thoroughly before beginning installation or operation to ensure safe and optimal performance.

PRODUCT OVERVIEW

The TSDZ8 48V 750W Mid Drive E-Bike Conversion Kit is a comprehensive solution for electrifying your bicycle.

Key Components:

- TSDZ8 48V 750W Mid Drive Motor
- DZ40 Display
- 1T4 Main Wiring Harness
- Thumb Throttle
- 44T Chainring
- Speed Sensor
- Wrench and other necessary installation tools
- Pair of Brake Levers
- Optional Battery (e.g., 48V 17.5Ah Rear Rack Battery)



Figure 1: Overview of the TSDZ8 48V 750W Mid Drive E-Bike Conversion Kit components.

Features:

- **Peak Performance:** 750W motor delivering over 120N.m of torque, with a top speed of approximately 50km/h, ideal for mountain biking and challenging terrains.
- **Seamless Torque Sensor Integration:** Provides intuitive and responsive motor assistance based on your pedaling force for a natural riding feel.
- **Robust and Durable Design:** Engineered with a double clutch system and upgraded internal components for smooth operation and extended motor lifespan.
- **Universal Compatibility:** Designed to fit most standard bikes with a 68-73mm bottom bracket and 34-36mm inner diameter.
- **DIY Friendly Installation:** Comprehensive kit with all necessary components for straightforward conversion.

TSDZ8 MID-DRIVE CONVERSION KIT

Integrated Speed and Torque Sensor for
Enhanced Performance



50KM/H
Max Speed



120N.M
Max Torque

**SPEED & TORQUE
SENSOR INTEGRATED**

Figure 2: TSDZ8 Mid-Drive Motor with Integrated Speed and Torque Sensor.

SPECIFICATIONS

Motor Specifications:

MOTOR COMPATIBILITY AND SPECIFICATIONS



● Rated Voltage :	48V	● Size (L*W*H) :	126*170*204mm 4.96*6.69*8.03inch
● Rated Power :	750W	● Weight :	4.8kg
● Max Torque :	>120N.m	● n0(Rpm) :	125
● Max Speed :	50km/h	● Efficiency :	>80%
● Pedal Sensor :	Speed and Torque Integrated	● Noise Grade :	<55dB
● Shaft Standard :	JIS	● Bike Recommendation :	E-Trekking/E-city / E-tour

Figure 3: TSDZ8 Motor Compatibility and Dimensions.

Attribute	Value
Rated Voltage	48V
Rated Power	750W
Max Torque	>120N.m
Max Speed	~50km/h
Pedal Sensor	Speed and Torque Integrated
Shaft Standard	JIS
Size (L*W*H)	126*170*204mm (4.96*6.69*8.03inch)
Weight	4.8kg
n0(Rpm)	125

Attribute	Value
Efficiency	>80%
Noise Grade	<55dB
Bike Recommendation	E-Trekking/E-city/E-tour

DZ40 Display Specifications:

DISCOVER MORE ABOUT THE

DZ40 DISPLAY

27mm/1.06"

48mm /1.88"

Φ22.2mm /0.86"

14mm/0.55"

Screen :	High-Brightness White Digital Tube	Speed Limit Setting :	0 to 61km/h
Dimensions (L*W*H) :	48mm x 27mm x 15mm	Handlebar Mounting Diameter :	22.2mm
Unit of Speed :	KMH/MPH	Assist Levels :	5
Operating Voltages :	24V , 36V, 48V, 52V	Weight :	0.052kg

Figure 4: DZ40 Display Overview.

Attribute	Value
Screen Type	High-Brightness White Digital Tube
Dimensions (L*W*H)	48mm x 27mm x 15mm
Unit of Speed	KMH/MPH

Attribute	Value
Operating Voltages	24V, 36V, 48V, 52V
Speed Limit Setting	0 to 61km/h
Handlebar Mounting Diameter	22.2mm
Assist Levels	5
Weight	0.052kg

Battery Specifications (Example: 48V 17.5Ah Rear Rack Battery):



Figure 5: Various Battery Specifications.

Attribute	Value (48V 17.5Ah Rear Rack Battery)
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Attribute	Value (48V 17.5Ah Rear Rack Battery)
Energy	840Wh
Cell	Grade A 18650 3500mAh
BMS Protection	30A
USB Port	5V 1A
Charging Temperature	0-45°C
Discharge Temperature	-15-65°C
Size	368*90*111mm
Weight	About 4kg
Cycle Life	>1000 times
Compatible Motor Power	250W 350W 500W 750W 1000W 1200W 1500W
Protection Function	Overcurrent Protection, Overvoltage Protection, Overload Protection, Overcharge Protection, Overdischarge Protection, Temperature Protection, Short Circuit Protection, Cell Voltage Balancing

SETUP AND INSTALLATION

The TSDZ8 kit is designed for straightforward DIY installation. It is compatible with most standard bicycles that have a 68-73mm bottom bracket shell and an inner diameter of 34-36mm. Installation typically takes about an hour with common bicycle tools.

Before You Begin:

- Ensure your bike's bottom bracket dimensions match the requirements.
- Gather all components from the packing list (refer to Figure 6).
- Have basic bicycle tools ready, including a crank puller and bottom bracket tool.
- Disconnect any existing battery if you are replacing an old e-bike system.

TSDZ8 48V 750W Min Drive Kit



✓ Mountain



✓ City



✓ Trails



✓ Road

Figure 6: Packing List of Included Components.

Installation Steps (General Overview):

1. Remove your bike's existing crankset and bottom bracket.
2. Install the TSDZ8 mid-drive motor into the bottom bracket shell. Secure it firmly according to the motor's mounting instructions.
3. Attach the 44T chainring to the motor.
4. Install the crank arms.
5. Mount the DZ40 display on your handlebar (22.2mm diameter).
6. Install the thumb throttle and brake levers.
7. Attach the speed sensor to the rear wheel and frame, ensuring proper alignment with the magnet.
8. Connect all components using the 1T4 main wiring harness. Refer to the wiring schematic (Figure 7) for correct connections.
9. Install the battery (if included) and connect it to the motor system.
10. Perform a final check of all connections and ensure all components are securely fastened.

PACKING LIST



Motor



DZ40 Display



Brake Type (Optional)



1T4 cable



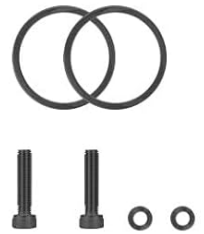
Speed Sensor



Thumb Throttle



Crank Arms



Washers

Figure 7: Wiring Schematic for TSDZ8 Mid-Drive Kit.

OPERATION

Once installed, operating your TSDZ8 e-bike is intuitive. The integrated torque sensor provides a natural riding experience, augmenting your pedaling effort seamlessly.

Getting Started:

- **Power On:** Turn on the battery (if it has a switch) and then press the power button on the DZ40 display.
- **Select Assist Level:** Use the buttons on the DZ40 display to select your desired pedal assist level (typically 1-5). Higher levels provide more motor assistance.
- **Pedal:** Begin pedaling. The motor will engage smoothly based on your pedaling force, thanks to the torque sensor.
- **Throttle (Optional):** If installed, the thumb throttle can provide power without pedaling, useful for starting or cruising.
- **Braking:** The brake levers are designed to cut motor power when applied, ensuring safety.
- **Power Off:** Press and hold the power button on the DZ40 display to turn off the system. Turn off the battery switch if

applicable.

The DZ40 display provides real-time information such as speed, battery level, and assist level. Familiarize yourself with its functions for an optimal riding experience.

MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your TSDZ8 e-bike kit.

- **Cleaning:** Keep the motor, battery, and display clean. Use a damp cloth; avoid high-pressure washing directly on electrical components.
- **Connections:** Periodically check all electrical connections for tightness and corrosion. Ensure cables are not pinched or damaged.
- **Motor:** The TSDZ8 motor is designed for durability. Avoid submerging the motor in water. If you notice unusual noises or performance, consult a qualified technician.
- **Battery Care:**
 - Charge the battery regularly, even when not in use, to maintain its health.
 - Store the battery in a cool, dry place, away from direct sunlight and extreme temperatures.
 - Do not fully discharge the battery frequently.
- **General Bike Maintenance:** Continue regular maintenance of your bicycle's mechanical components (brakes, chain, tires, gears) as you would with any standard bike.

TROUBLESHOOTING

If you encounter issues with your TSDZ8 e-bike kit, consider the following common troubleshooting steps:

- **No Power to Display/Motor:**
 - Check if the battery is charged and turned on.
 - Ensure all electrical connections, especially the main power cable from the battery to the motor, are secure.
 - Inspect cables for any visible damage or pinches.
- **Motor Not Assisting:**
 - Verify that the pedal assist level on the display is not set to zero.
 - Check the speed sensor and its magnet for proper alignment and ensure they are clean.
 - Ensure brake levers are not stuck in the engaged position, as they cut motor power.
- **Unusual Noises from Motor:**
 - Check for any loose components around the bottom bracket area.
 - Ensure the chainring is securely fastened and not rubbing against anything.
 - If noises persist, it may indicate an internal motor issue requiring professional inspection.

For more complex issues or if troubleshooting steps do not resolve the problem, please contact Varstrom customer support or a certified e-bike technician.

WARRANTY AND SUPPORT

Varstrom is committed to providing high-quality products. For specific warranty details regarding your Tong-Sheng TSDZ8 48V 750W Mid Drive E-Bike Conversion Kit, please refer to the warranty information provided at the time of purchase or visit the official Varstrom website.

For technical support, replacement parts, or any inquiries not covered in this manual, please contact Varstrom customer service through the retailer where you purchased the product or directly via the contact information available on the Varstrom brand page or website.

Manufacturer: Suzhou Tongsheng Electric Co., Ltd.

Brand: Varstrom

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