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› Varstrom Tong-Sheng 48V 750W Mid Drive E-Bike Conversion Kit SWM58 Manual

Varstrom 48V 750W Mid Drive Kit

Varstrom Tong-Sheng 48V 750W Mid Drive E-Bike Conversion Kit SWM58 Instruction Manual

Model: 48V 750W Mid Drive Kit

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1. OVERVIEW

The Varstrom Tong-Sheng 48V 750W Mid Drive E-Bike Conversion Kit transforms your standard bicycle into a high-performance electric bike. Designed for versatility, this kit provides powerful assistance for various terrains, from city commuting to challenging mountain trails. Its integrated torque sensor ensures a natural and responsive riding experience, adapting motor assistance to your pedaling force.

This kit is compatible with most standard bikes featuring a 68-73mm bottom bracket and 34-36mm inner diameter, making it a DIY-friendly solution for e-bike enthusiasts.

Video: Tong-Sheng Mid Drive Motor Kit Overview. This video provides a general overview of the Tong-Sheng mid-drive motor kit and its capabilities.

2. SETUP & INSTALLATION

Before beginning installation, ensure your bicycle is clean and stable. Gather all components from the packing list and necessary tools.

2.1. Packing List

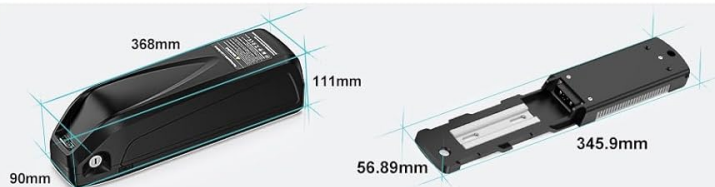
Your kit includes the following components:

- TSDZ8 48V 750W Mid Drive Motor
- SWM58 Display
- 1T4 Main Wire Harness
- Thumb Throttle
- 44T Chainring

- Speed Sensor
- Wrench
- Brake Levers (Optional)
- Crank Arms
- Washers

BATTERY SPECIFICATION

- 48V 13Ah Shark Battery
- 48V 17.5Ah
- 48V 17.5Ah



Battery	48V 13Ah	48V 17.5Ah	48V 17.5Ah
Energy	624Wh	840Wh	840Wh
Cell	Grade A 18650 2600mAh	L*-G / Sam*-sung 18650 3500mAh	Grade A 18650 3500mAh
BMS Protection	30A	30A	30A
USB Port	5V 1A	5V 1A	5V 1A
Charging Temperature	0-45°C	0-45°C	0-45°C
Discharge Temperature	-15-65°C	-15-65°C	-15-65°C
Size	368*90*111mm	368*90*111mm	368*90*111mm
Weight	About 4.25kg	About 4.04kg	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		

- 48V 19.2Ah Shark Battery



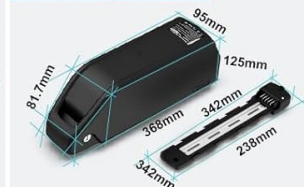
- 48V 20Ah Shark Battery



- 48V 20Ah VoltzX Battery



- 52V 20Ah Shark Battery



Battery	48V 19.2Ah	48V 20Ah	48V 20Ah	52V 20Ah
Energy	921.6Wh	960Wh	960Wh	1040Wh
Cell	Samsung 21700 4800mah	Samsung 21700 5000mAh	Samsung 21700 5000mAh	Samsung 21700 5000mAh
BMS Protection	30A	30A	30A	30A
USB Port	No	5V 1A	5V 2A USB 20V 3A Type-C	No
Charging Temperature	0-45°C	0-45°C	0-45°C	0-45°C
Discharge Temperature	-15-65°C	-15-65°C	-15-65°C	-15-65°C
Size	362*90*109mm	367*90*127mm	365*109*140mm	368*95*125mm
Weight	About 4.8kg	About 4.7kg	About 5.2kg	About 5kg
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			

Image: Packing List. This image displays all the components included in the Varstrom Tong-Sheng 48V 750W Mid Drive E-Bike Conversion Kit.

2.2. Pre-Installation Steps

1. Remove your bike's existing crankset, chainring, and bottom bracket.
2. Clean the bottom bracket shell thoroughly.
3. Ensure your bike's bottom bracket dimensions are compatible (68-73mm width, 34-36mm inner diameter).

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

Image: Motor Compatibility and Specifications. This image illustrates the dimensions and compatibility requirements for the mid-drive motor.

2.3. Motor Installation

1. Attach the 44T chainring to the mid-drive motor using the provided bolts.
2. Carefully slide the motor assembly into the bottom bracket shell of your bike frame.
3. Secure the motor using the Y-shaped motor mount bracket on the left side of the bike. Tighten the fixing nut with 40Nm force.
4. Install the crank arms onto the motor spindle and secure them.
5. Install the chain, ensuring proper tension.

2.4. Component Installation

- **Speed Sensor:** Mount the speed sensor on the rear chainstay, ensuring the magnet on the wheel spoke passes within 10-15mm of the sensor.
- **Brake Levers:** Replace your existing brake levers with the provided ones, which include motor inhibitor sensors.
- **Thumb Throttle:** Install the thumb throttle on your handlebar.
- **SWM58 Display:** Mount the SWM58 display on your handlebar in a comfortable viewing position.
- **Wiring:** Connect all components (motor, display, throttle, brake levers, speed sensor) using the 1T4

main wire harness. Ensure all connections are secure and waterproof. Use zip ties to manage cables neatly along the frame.

- **Battery:** Install the battery mount on your bike frame (if applicable) and then slide the battery onto the mount.

Video: BAFANG BBS Mid Drive Motor for eBike - Installation Video. This video demonstrates the detailed installation process for a mid-drive motor kit.

Video: Ebike Conversion Kit Installation. This video provides a general guide on installing an e-bike conversion kit.

3. OPERATING INSTRUCTIONS

3.1. SWM58 Display Functions

The SWM58 display provides essential information and control over your e-bike system:

- **Power On/Off:** Press and hold the power button to turn the system on or off.
- **Speed:** Displays current speed (KM/H or MPH).
- **Battery Level:** Shows the remaining battery charge.
- **Assist Levels:** Adjust pedal-assist levels (3 or 5 levels available) to control motor assistance.
- **Trip/ODO:** View current trip distance or total odometer reading.
- **Error Codes:** Displays error codes if any system malfunctions occur.
- **Headlight Indicator:** Indicates if the headlight is on.
- **Brake Indicator:** Shows when brakes are engaged.

DISCOVER MORE ABOUT THE SWM58 DISPLAY



Screen :	3.8 inch High-Brightness Color LCD	Speed Limit Setting :	0 to 100km/h
Dimensions (L*W*H) :	93.4mm x 56.4mm x 6.4mm	Handlebar Mounting Diameter :	31.8mm/25.4mm/22.2mm (Bottom only supports 22.2mm)
Unit of Speed :	KMH/MPH	Assist Levels :	3, 5
Operating Voltages :	24V, 36V, 48V, 52V	Wheel Diameter Configuration:	√

Image: SWM58 Display. This image details the features and specifications of the SWM58 display unit.

3.2. Riding Modes

- **Pedal-Assist Mode:** The motor provides assistance as you pedal. Adjust the assist level via the SWM58 display.
- **Throttle Mode:** Use the thumb throttle for power on demand, without pedaling.

4. MAINTENANCE

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

- **Battery Care:** Charge the battery regularly, even when not in use, to maintain its health. Store the battery in a cool, dry place. Avoid fully discharging the battery.
- **Motor & Drivetrain:** Keep the motor and chainring clean. Lubricate the chain regularly. Check for any loose bolts or connections on the motor and other components.
- **Brakes:** Periodically check brake pads for wear and ensure brake levers are functioning correctly.
- **Cables:** Inspect all cables for wear, damage, or loose connections. Ensure they are securely fastened to the frame.

5. TROUBLESHOOTING

If you encounter issues with your e-bike kit, refer to the SWM58 display for any error codes. Common issues and their potential solutions are listed below:

- **Motor Not Engaging:** Check all cable connections, especially the main power cable and motor sensor. Ensure the battery is charged and properly seated. Verify that the brake levers are not stuck in the engaged position.
- **Display Not Turning On:** Check battery connection and charge level. Inspect the display cable for damage.
- **Inconsistent Power:** Ensure the speed sensor is correctly aligned with the magnet (10-15mm gap). Check for loose connections in the motor or display wiring.
- **Error Codes:** Consult the SWM58 display manual for specific error code meanings and troubleshooting steps.

6. SPECIFICATIONS

6.1. Motor 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

Image: Motor Compatibility and Specifications. This image provides a visual and tabular breakdown of the motor's technical data.

Tong-Sheng 48V 750W Mid Drive Motor

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

6.2. SWM58 Display Specifications

DISCOVER MORE ABOUT THE SWM58 DISPLAY



Screen :	3.8 inch High-Brightness Color LCD	Speed Limit Setting :	0 to 100km/h
Dimensions (L*W*H) :	93.4mm x 56.4mm x 6.4mm	Handlebar Mounting Diameter :	31.8mm/25.4mm/22.2mm (Bottom only supports 22.2mm)
Unit of Speed :	KMH/MPH	Assist Levels :	3, 5
Operating Voltages :	24V, 36V, 48V, 52V	Wheel Diameter Configuration:	√

Image: SWM58 Display. This image details the features and specifications of the SWM58 display unit.

SWM58 Display

Feature	Value
Screen	3.8 inch High-Brightness Color LCD
Dimensions (L*W*H)	93.4mm x 56.4mm x 6.4mm
Unit of Speed	KMH/MPH
Operating Voltages	24V, 36V, 48V, 52V
Speed Limit Setting	0 to 100km/h
Handlebar Mounting Diameter	31.8mm/25.4mm/22.2mm (Bottom only supports 22.2mm)
Assist Levels	3, 5

6.3. Battery Specifications (Optional)

PACKING LIST



Motor



SWM58 Display



Brake Type (Optional)



1T4 cable



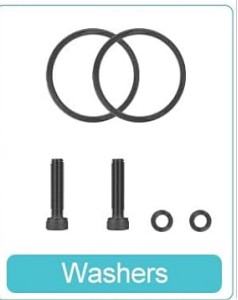
Speed Sensor



Thumb Throttle



Crank Arms



Washers

Image: Battery Specification. This image provides detailed specifications for various optional battery configurations.

48V 17.5Ah Rear Rack Battery (Grade A Cell)

Feature	Value
Battery	48V 17.5Ah
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

7. WARRANTY & SUPPORT

Varstrom products are designed for durability and performance. For warranty information, please refer to the specific warranty card included with your product or visit the official Varstrom website.

For technical support, troubleshooting assistance, or any questions regarding your e-bike conversion kit, please contact Varstrom customer service through the retailer where you purchased the product or via the contact information provided in your product documentation.

You can also visit the Varstrom Store on Amazon for additional resources and product information.