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### Varstrom US JJ P860ML-UART Display

## Varstrom P860ML E-Bike Display User Manual

Model: US JJ P860ML-UART Display

Brand: Varstrom

### INTRODUCTION

This manual provides comprehensive instructions for the installation, operation, and maintenance of your Varstrom P860ML E-Bike Display. Please read this manual thoroughly before using the product to ensure proper function and safety. The P860ML display is designed for BAFANG electric bike motors utilizing the UART communication protocol (versions 5.0 to 5.8).

### COMPATIBILITY AND INSTALLATION

#### Compatibility

The P860ML e-bike display is specifically designed for BAFANG mid-motors that use the UART communication protocol, versions 5.0 to 5.8. It features a 5-pin female connector for secure attachment. This display is not compatible with CAN protocol systems.

# ATTENTION



## Display Connector

UART Protocol  
5PIN Female Port



CAN Protocol  
5PIN Male Triangular



## BAFANG Mid Motor



## Hub Wheel Motor



**Image:** This image illustrates the correct 5-pin female UART protocol connector required for the P860ML display, contrasting it with an incompatible CAN protocol connector. Ensure your BAFANG motor uses the UART protocol for proper function.

## Installation

The display holder is compatible with handlebar diameters of 22.2 mm, 25.4 mm, and 31.8 mm. Follow these steps for installation:

- 1. Prepare Handlebar:** Choose a suitable position on your e-bike handlebar for the display. Ensure it does not obstruct your view or control of the bike.
- 2. Attach Holder:** Open the display holder clamp and place it around the handlebar. Use the provided non-slip mats if necessary to ensure a snug fit and prevent rotation.
- 3. Secure Holder:** Tighten the screws on the holder clamp until it is firmly secured to the handlebar. Do not overtighten.
- 4. Mount Display:** Slide the P860ML display onto the holder until it clicks into place.
- 5. Connect Cable:** Locate the 5-pin female connector on the display cable and connect it to the corresponding male connector from your BAFANG motor system. Ensure the connection is secure and fully seated.

6. **Route Cables:** Carefully route and secure all cables to prevent them from snagging or interfering with moving parts.

# PACKING LIST



P860ML Display \*1



Non-slip mat \*4



Screws \*3



Manual \*1

**Image:** This image shows the P860ML display mounted on an e-bike handlebar, illustrating its typical installed position and connection to the control buttons.



**Image:** A close-up view of the P860ML display unit along with its remote button, highlighting the 5-pin connector. This shows the components you will be installing.

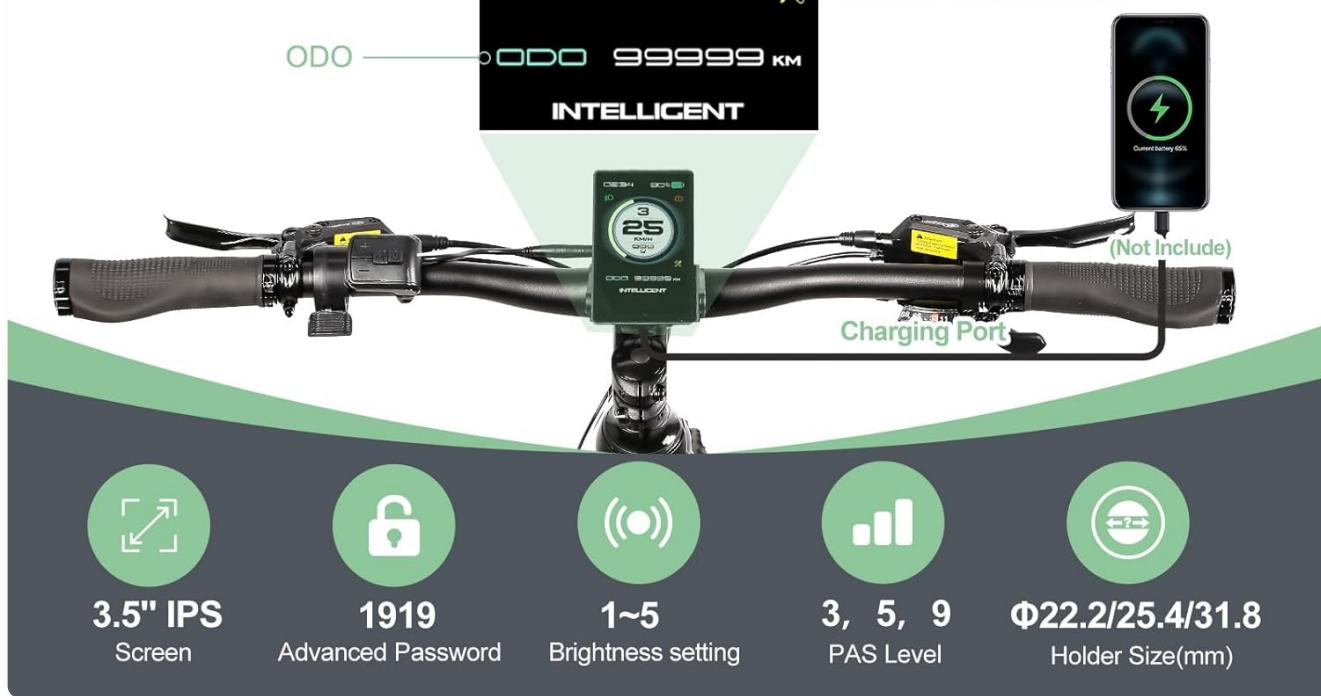
## FEATURES AND FUNCTIONS

The Varstrom P860ML display offers a rich set of features designed to enhance your e-bike riding experience:

- **High Contrast IPS Color Screen:** Features a 3.5-inch IPS color matrix screen for clear visibility in various lighting conditions.
- **Comprehensive Data Display:** Shows real-time speed (SPEED), average speed (AVG SPD), maximum speed (MAX SPD), odometer (ODO), trip distance, battery status, PAS level, error codes, and riding time.
- **Adjustable Backlight Brightness:** Customize the backlight brightness with 5 levels to suit your environment, from low light to bright daylight. Includes an auto-sensing light feature.
- **Multiple Assist Levels:** Supports 3-level, 5-level, or 9-level pedal assist (PAS) modes, with UBE optional, allowing for fine-tuned power delivery.
- **Multilingual Interface:** Supports German, French, English, Italian, Spanish, and Czech languages. English is the default, with easy switching.
- **USB Charging Port:** Equipped with a 5V/500mA USB port for convenient emergency charging of mobile devices.
- **Intelligent Battery Indicator:** Provides a reliable and accurate display of your e-bike's battery charge level.
- **6 km/h Walk Mode:** A dedicated function for easy maneuvering of the e-bike while walking alongside it.
- **Durable Construction:** Encased in ABS+PC material with an IP65 water resistance rating, ensuring reliability in wet conditions.

- **Ergonomic External Button Design:** Easy to operate controls for intuitive interaction.
- **Clock:** Built-in battery keeps the time even when the display is off.
- **Temperature Tolerance:** Suitable for low temperatures, down to -20°C.

# SMART DIGITAL LCD DISPLAY



**Image:** This diagram labels the various indicators and sections of the P860ML display, including time, battery, speed, power, ODO, and maintenance indicators.

# Backlight Brightness

Set the backlight according to your usage habit  
I is darkness , IIII is brightness



**Image:** This image demonstrates the multilingual capabilities of the P860ML display, showing options for English, German, French, Italian, Spanish, and Czech languages.



**Image:** This visual explains how to adjust the backlight brightness of the P860ML display for optimal visibility during both day and night riding conditions.

## SETUP AND CONFIGURATION

The P860ML display allows for various settings adjustments to personalize your riding experience. Access the settings menu using the external buttons.

### Accessing Settings

Typically, a long press of the 'M' (Mode) button or a combination of buttons will enter the settings menu. Navigate through options using the '+' and '-' buttons and confirm selections with the 'M' button.

### Key Settings

- **Language:** Select your preferred language (German, French, English, Italian, Spanish, Czech). Default is English.
- **System:** General system settings.
- **Brightness:** Adjust the display backlight brightness (5 levels).
- **Auto Off:** Configure the time after which the display automatically turns off due to inactivity.
- **USB Port:** Settings related to the USB charging function.

- **Clock:** Set the current time.
- **Scenes:** Potentially allows switching between MODERN and CLASSIC display modes.
- **PAS Level Mode:** Choose between 0-3, 0-5, or 0-9 assist levels.
- **Units:** Switch between Kilometers (KM) and Miles (MI) for speed and distance display.

## Backlight Brightness

Set the backlight according to your usage habit  
I is darkness , II III is brightness



**Image:** This image displays the main settings menu of the P860ML, showing options like Language, System, Brightness, Auto Off, USB Port, Clock, and Scenes.

## OPERATING INSTRUCTIONS

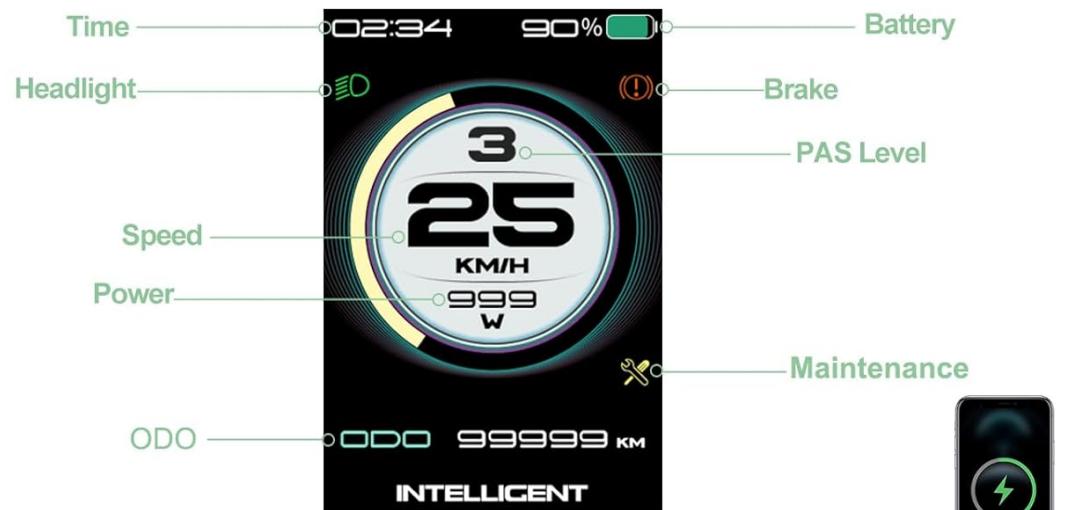
Familiarize yourself with the display's controls for optimal use during your ride.

### Basic Operations

- **Power On/Off:** Press and hold the power button (usually the 'M' button) to turn the display on or off.

- **Adjust PAS Level:** Use the '+' and '-' buttons to increase or decrease the pedal assist level. The current PAS level will be shown on the display.
- **Headlight Control:** Long press the light button (often integrated with the '+' button) to turn the e-bike's headlight on or off.
- **6 km/h Walk Mode:** Long press the '-' button to activate the 6 km/h walk assist mode. The motor will provide low-speed assistance, useful when pushing the bike. Release the button to exit this mode.
- **USB Charging:** Connect your USB device to the USB charging port on the display. This port provides 5V/500mA for emergency charging.
- **Information Display Toggle:** Short press the 'M' button to cycle through different information displays such as ODO, Trip Distance, Riding Time, and Range.

# SMART DIGITAL LCD DISPLAY



**Image:** This image shows the main operational screen of the P860ML display, indicating where speed, PAS level, battery, and other key riding data are shown.

## MAINTENANCE

Proper maintenance ensures the longevity and optimal performance of your P860ML display.

- **Cleaning:** Wipe the display screen and body with a soft, damp cloth. Do not use abrasive cleaners or solvents. Ensure the USB port cover is closed when not in use to prevent dust and moisture ingress.
- **Water Resistance:** The display has an IP65 water resistance rating, meaning it is protected against low-pressure water jets from any direction. Avoid submerging the display in water or exposing it to high-pressure water sprays.
- **Storage:** When not in use for extended periods, store the e-bike and display in a cool, dry place, away from direct sunlight and extreme temperatures.
- **Cable Inspection:** Periodically check all cables and connectors for any signs of wear, damage, or loose connections. Ensure the 5-pin connector is clean and free of debris.

## TROUBLESHOOTING

If you encounter issues with your P860ML display, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Display does not power on.	Low or dead e-bike battery; Loose cable connection; Faulty display or motor.	Charge e-bike battery. Check all cable connections, especially the 5-pin UART connector, ensuring they are fully seated. If problem persists, contact support.
No speed reading or incorrect speed.	Speed sensor dislodged or damaged; Magnet missing or misaligned.	Check the speed sensor and magnet on the wheel. Ensure the magnet passes closely by the sensor. Realign or replace if necessary.
Display shows an error code.	Specific system fault (e.g., motor, controller, battery).	Refer to your BAFANG motor manual for specific error code meanings. Common issues include motor overheating, sensor faults, or communication errors. Address the underlying issue or consult a technician.
USB charging not working.	E-bike battery too low; USB cable faulty; Device not compatible.	Ensure e-bike battery has sufficient charge. Try a different USB cable and device. The port is for emergency charging and may not support all devices.

For issues not listed here or if solutions do not resolve the problem, please contact Varstrom customer support.

## SPECIFICATIONS

Feature	Detail
Model	P860ML
Communication Protocol	UART (Versions 5.0-5.8)
Connector Type	5-Pin Female
Screen Type	3.5-inch IPS Color Matrix Screen
Display Type	LCD, color display
Handlebar Compatibility	22.2 mm, 25.4 mm, 31.8 mm
Operating Temperature	Up to -20°C
Water Resistance Rating	IP65
USB Charging Port	5V/500mA
PAS Levels	3-level, 5-level, 9-level (selectable)
Supported Languages	German, French, English, Italian, Spanish, Czech
Dimensions (Approx.)	96.58mm (3.8") height, 63.78mm (2.51") width, 6.1mm (0.24") thickness

# PARAMETER



- |                                       |   |
|---------------------------------------|---|
| • Voltage: 36V / 48V / 52V            | • Speed Limited : 99KM/H                          |
| • Holder(mm): 22.2 / 25.4 / 31.8      | • Headlight Power: Yes ( Long Press Light Button) |
| • 6KM Walk Mode: Yes (Long Press "-") | • PAS Level: 3/5/9/UBE                            |
| • Backlight Brightness: 5             | • Speed : Max / AVG / Realtime                    |
| • Mileage: ODO / Trip                 | • USB Charing: Yes                                |

**Image:** This image provides detailed dimensions of the P860ML display and lists key parameters such as voltage compatibility, holder sizes, speed limit, PAS levels, and USB charging capability.

## WARRANTY AND SUPPORT

### Warranty Information

The Varstrom P860ML display comes with a 30-day return policy and a 365-day repair or replacement warranty from the date of purchase. This warranty covers manufacturing defects and malfunctions under normal use.

### Customer Support

For technical assistance, troubleshooting, or warranty claims, please contact Varstrom customer support through the retailer where you purchased the product or visit the official Varstrom website for contact information. When contacting support, please have your product model number (US JJ P860ML-UART Display) and purchase details ready.

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