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› Varstrom EKD01 CAN Protocol E-Bike Display User Manual

Varstrom EKD01

Varstrom EKD01 CAN Protocol E-Bike Display User Manual

Model: EKD01

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of your Varstrom EKD01 CAN Protocol E-Bike Display. The EKD01 is designed for use with BAFANG CAN bus mid-motor e-bikes, offering a clear 2.4-inch TFT color screen and essential functions for an enhanced riding experience.



Figure 1: Varstrom EKD01 CAN Protocol E-Bike Display overview.

2. SETUP AND INSTALLATION

2.1 Package Contents

Before installation, please verify that all components are present in the package:

- EKD01 Display x1
- Non-slip mat x1
- Instruction Manual x1



Figure 2: Contents of the EKD01 display package.

2.2 Compatibility

The EKD01 display is exclusively compatible with BAFANG electric motors that utilize the CAN communication protocol. This includes models such as BBS02B, BBS-HD, BBS01B, M620, M600, M560, M510, M500, and M420 mid-motors. It is crucial to verify your motor's communication protocol before making a purchase or proceeding with installation.

ATTENTION



Only compatible with
Bafang CAN protocol motor



BAFANG Mid Motor (CAN)



BAFANG Hub Motor (CAN)



Figure 3: The EKD01 display is compatible only with BAFANG CAN protocol mid and hub motors.

2.3 Physical Installation

- The display is designed to fit handlebars with a diameter of Ø22.2mm or Ø25.4mm. Use the provided non-slip mat if necessary to ensure a secure fit.
- Mount the display in a position that allows for clear visibility of the screen and easy access to the control buttons while riding.
- Secure the display bracket firmly to the handlebar using appropriate tools.

2.4 Electrical Connection

- The EKD01 display features a 5PIN Male triangle Connector.
- Carefully align and connect the display's male connector to the corresponding female connector on your e-bike's wiring harness. Ensure the connection is firm and fully seated to prevent accidental disconnection and ensure proper communication.
- The display and its connector are rated IP67 waterproof, providing protection against dust and temporary immersion

in water.



Figure 4: Close-up of the EKD01 display's 5PIN male triangle connector.

3. OPERATING INSTRUCTIONS

3.1 Display Interface

The EKD01 features a 2.4-inch IPS colorful matrix screen that provides real-time information about your ride. The display is controlled using three integrated buttons.

MULTIFUNCTION LCD DISPLAY



Figure 5: Multifunction LCD display showing indicators for headlight, brake, navigation, maintenance, battery level, real-time speed, average speed, gear, and odometer.

3.2 Basic Functions

- **Power On/Off:** Press and hold the power button to turn the display on or off.
- **PAS Level Selection:** Use the '+' and '-' buttons to cycle through the Pedal Assist System (PAS) levels. The display supports optional 0-3, 0-5, or 0-9 PAS levels, depending on configuration.
- **Language Settings:** The display supports 8 languages: English, French, German, Spanish, Italian, Polish, Dutch, and Czech. These can be selected in the settings menu.
- **ODO Reset:** The odometer (ODO) can be reset to zero through the settings menu.
- **Brightness Setting:** Adjust screen brightness to 30%, 50%, 75%, or 100% for optimal visibility in various lighting conditions.

3.3 Advanced Settings

To access advanced settings, hold the Up and Down buttons together on the main screen. The password for enabling

advanced settings is **2020**. From this menu, you can customize parameters such as speed limits by gear, max power output by gear, and acceleration characteristics (referred to as 'Speed up Character'). Higher values for 'Speed up Character' result in a smoother ramp-up, while lower values provide quicker response.

To toggle between restricted and advanced profiles, hold the Up and Down buttons again from the main screen.

3.4 Navigation Mirroring

The EKD01 display supports navigation mirroring. It can display navigation interfaces from the BIKEGO app, providing on-screen directions and enhancing your riding experience.



Figure 6: The EKD01 display mirroring navigation interfaces via the BIKEGO app.

3.5 Battery Information Monitoring

The display allows you to monitor detailed battery information, including temperature, total voltage, current, and remaining capacity. This feature requires a BAFANG communication-enabled battery and controller to function correctly.

BATTERY INFO MONITORING

View temperature, capacity, cycles, etc.
(Requires Bafang communication-enabled battery and controller)



Figure 7: Display screen showing detailed battery information such as temperature, total voltage, current, and capacity.

4. MAINTENANCE

The EKD01 display is designed for durability with an IP67 waterproof rating, providing protection against dust and temporary immersion in water. To ensure longevity and optimal performance, follow these maintenance guidelines:

- **Cleaning:** Regularly clean the screen and housing with a soft, damp cloth. Avoid using abrasive cleaners, solvents, or harsh chemicals, as these can damage the display surface.
- **Connection Check:** Periodically inspect all electrical connections, especially the 5PIN male triangle connector, to ensure they are secure and free from dirt or corrosion.
- **Temperature Exposure:** Avoid exposing the display to extreme temperatures outside its specified operating range (-20°C to +70°C) for extended periods. Store the e-bike in a temperate environment when not in use.
- **Physical Protection:** While robust, avoid dropping the display or subjecting it to strong impacts.

5. TROUBLESHOOTING

If you encounter issues with your EKD01 display, refer to the following common troubleshooting steps:

- **Display Not Powering On:**

- Check all electrical connections, especially the 5PIN male triangle connector, to ensure they are firmly seated.
- Verify that your e-bike's battery is charged and properly connected to the motor system.
- Ensure the power button is pressed and held sufficiently long to initiate power-on.

- **Incorrect Speed or Distance Readings:**

- Access the display's settings menu and ensure the correct wheel size is configured for your e-bike.
- Check the speed sensor and magnet on your e-bike to ensure they are properly aligned and functioning.

- **Difficulty Accessing Advanced Settings:**

- Ensure you are holding the Up and Down buttons simultaneously from the main screen.
- The correct password for advanced settings is **2020**. If prompted for another password in specific sub-menus, try **0000**.

- **Compatibility Issues:**

- If the display is not functioning with your motor, double-check that your BAFANG motor explicitly uses the CAN communication protocol. The EKD01 is not compatible with all e-bike motors.
- If uncertainty persists, contact Varstrom customer support for assistance.

6. SPECIFICATIONS

PRODUCT SPECIFICATION



• Connector:	5PIN Female	• Size:	L86.8mm * W50.5mm * H12.5mm
• Protocol:	CAN	• Holer:	φ22.2mm/25.4mm
• Screen:	2.4" TFT Screen	• Cable Length:	260mm
• Voltage:	24V/36V/48V/52V	• Waterproof:	IP67
• PAS Level:	0-3,0-5,0-9 Optional	• Brightness:	30%/50%/75%/100% Optional
• Advanced password:	2020	• Operating Temperature:	-20°C ~ 70°C
• Speed Limited:	0km/h ~ 99km/h	• Storage Temperature:	-30°C ~ 80°C
• USB Port :	Type -C 5V1A	• Light-sensitive:	No

Figure 8: Detailed product specifications and dimensions of the EKD01 display.

Feature	Specification
Model	EKD01 Display
Screen Type	2.4" TFT IPS Colorful Matrix Screen
Resolution	320*240px
Dimensions (L×W×H)	86.8mm × 50.5mm × 12.5mm
Connector Type	5PIN Male Triangle Connector (Waterproof)
Communication Protocol	CAN
Voltage Compatibility	24V/36V/48V/52V

Feature	Specification
PAS Levels	0-3, 0-5, 0-9 (Optional)
Waterproof Grade	IP67
Operating Temperature	-20°C to +70°C
Storage Temperature	-30°C to +80°C
Advanced Settings Password	2020
Speed Limit Range	0 km/h ~ 99 km/h
USB Charging Port	Type-C 5V/1A
Handlebar Holder Size	Ø22.2mm / Ø25.4mm
Cable Length	260mm
Brightness Settings	30%/50%/75%/100% Optional
Light-sensitive	No

7. WARRANTY INFORMATION

The Varstrom EKD01 CAN Protocol E-Bike Display comes with a warranty that includes:

- **30-day return policy:** For returns within 30 days of purchase.
- **365-day repair or replacement:** For issues covered under warranty within one year of purchase.

Please retain your proof of purchase, such as a receipt or order confirmation, for all warranty claims.

8. SUPPORT

For any questions regarding compatibility, installation, operation, or troubleshooting that are not covered in this manual, please contact Varstrom customer support. It is recommended to reach out before purchase if you are uncertain about compatibility with your specific e-bike motor.

Contact information can typically be found on the Varstrom official website or through your point of purchase.

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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