



speen

flow.



USER MANUAL

Speen flow series

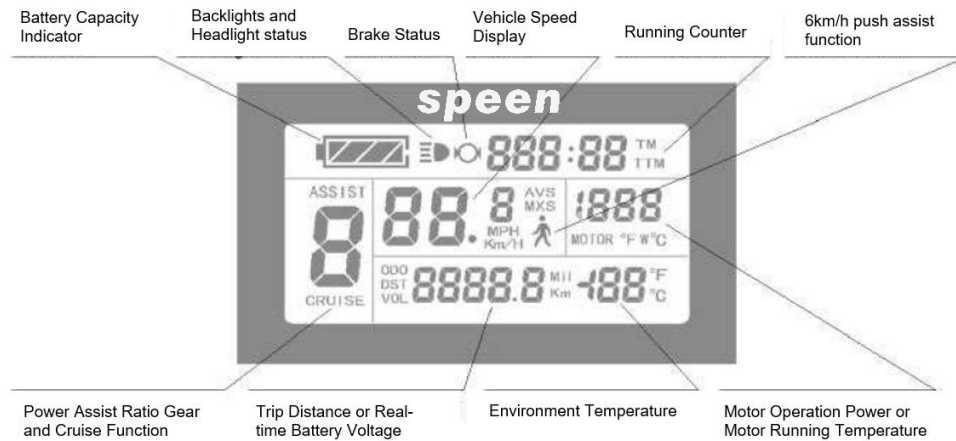
Thank you for choosing a Speen product and placing your trust and confidence in us. This manual contains important information about the installation, use and maintenance of your Speen product. For further questions, please contact our customer service.

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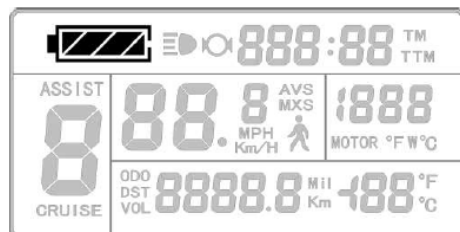
1. Display

1.1 Display content

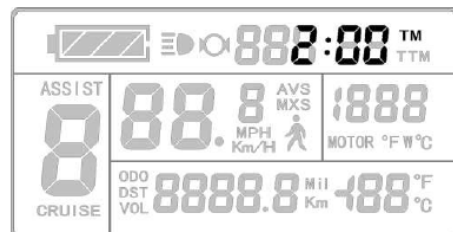


1.2 Display 1

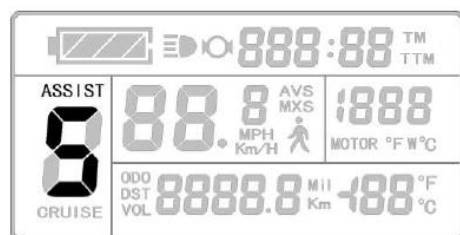
This display will be always visible on start-up



Battery Capacity Indicator



Single Trip Time (TM)



Power Assist



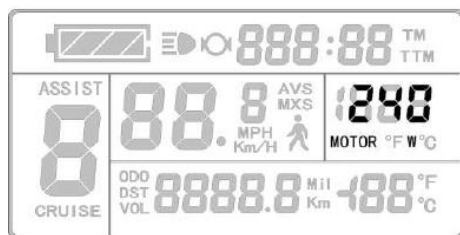
Real-Time Trip Speed (Km/H)



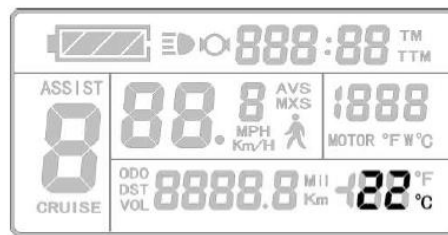
Single Trip Distance (DST)



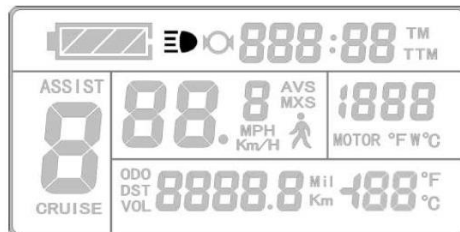
6Km/H Push Function



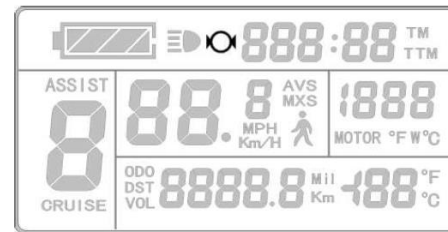
Motor Operation Power



Environment Temperature



Backlight



Brake Status

To enter display 2, press the button whilst in display 1. The interface will be as the display shown below.



Display 2



Total Trip Time (TTM)



Total Trip Distance (ODO)



Single Average Speed (AVS)

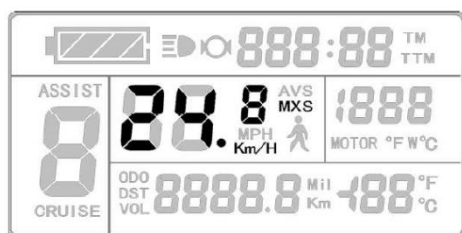
In riding mode, this display will change back to 'display 1' within five seconds.

1.4 Display 3

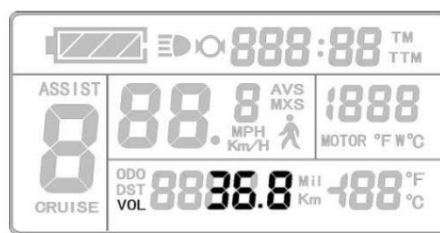
To enter display 3, press the  button whilst in display 2. The interface will be as the display shown below.



Display 3




Single Maximum Speed (MXS)



Real-Time Voltage (VOL)

In riding mode, the single maximum speed will change back to real time speed within five seconds.

To return to display 1, press the  button

1.5 Battery Capacity Indicator

When the battery capacity is over 70%, four bars from the battery indicator will be displayed. As the battery capacities drop, the bars will change accordingly. Once the power capacity is less than 15%, the battery indicator will be empty and show zero bars. If the power display frame flashes, it is due to voltage shortage where the controller will power off.



1.6 Power Push Function

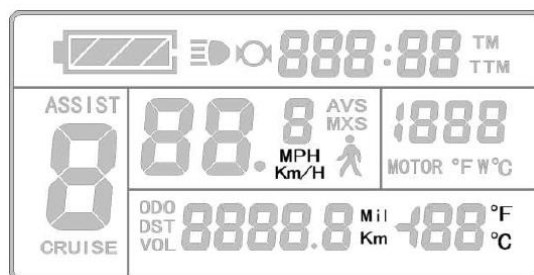
The power push function will provide power until the vehicle reaches 6km/h, by pushing the button. The meter assist function icon will flash while the function is active. By releasing the button, the function will be revoked.

1.7 Maximum Trip Speed

Within 5 seconds of turning on the meter, simultaneously hold the button and the button for 3 seconds to enter general project settings. "MXS" and the speed will be displayed, indicating the maximum riding speed. To adjust, press the button to increase, or the button to decrease the speed. Once the desired speed is selected, press the button to confirm.

1.8 Units

While in the general project setting, cycle through the menu using the button until the values of units are flashing. Use the button and the button to scroll through the selection of units. Confirm selection by pressing the button.



Definition Table of Metric/Imperial Units:

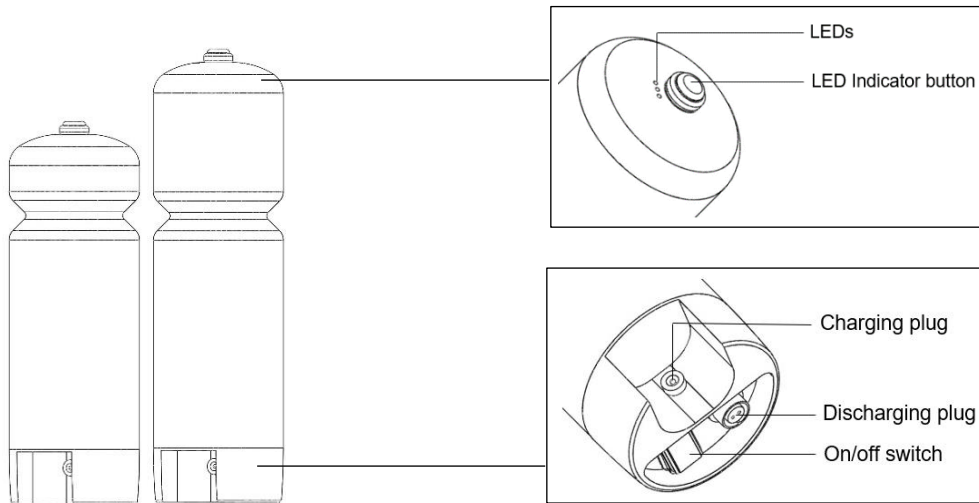
Unit	Metric	Imperial
Speed	Km/H	MPH
Distance	Km	Mil
Temperature	°C	°F

2. Battery

2.1 Safety instructions

- The Speen lithium battery pack contains enough stored energy and volatile material, that significant heat release and damage will occur in case of inappropriate use or in case of negligence.
- Ensure that every person using, connecting or installing the device has been sufficiently instructed, and always has access to these operating instructions.
- Don't leave your battery charging unattended in a place sensitive to fire.
- Do not charge the battery from the discharge wires, and similarly do not discharge the pack from the coaxial charging port.
- Do not charge the battery while it is still in the bottle cage. This can cause damage to the charger or the charging plug. Always take out the battery before charging.
- The battery pack can be charged only at an ambient temperature ranging from 10 °C to 45 °C. Always ensure that the battery pack temperature has reached a temperature from 10 °C to 45 °C before charging
- Never charge the battery pack using a different charger than the one provided by the manufacturer.
- Do not cover the battery pack while charging.
- Battery pack should be protected from high volumes of water – Never clean it using running water.
- Do not open or modify the battery pack.
- Protect the battery pack against severe power surges or mechanical loads. Do not operate the battery pack in the case of visible damage to the housing or cable.
- Damaged cables or parts may only be replaced or repaired by the manufacturer or qualified personnel of cooperating partners.
- Do not twist the throttle while turning on the battery pack.
- If the battery pack falls, ensure that all connectors and switches, as well as the case of the battery pack are not severely damaged. In case of severe damage to the battery, keep the battery away from people or property and contact the manufacturer

2.2 Battery content



Speen produces three types of battery packs: the flow 1, the flow 1.5 and the flow 1.5+. The image above shows the size of the flow 1 on the left, and the flow 1.5 and the 1.5+ on the right. Each type offers its own cycling range, but the same user policy

2.3 How it works

This specific battery pack is designed to support up to 250 W electric motors. Any other use may cause damage to the battery pack. For long-lasting battery life, recharge the battery pack after each use. There is no benefit to periodically running deep discharge cycles on the pack for reconditioning. In order for the battery to be functional, turn the on/off switch at the bottom to the ON position (I).

To easily connect the power cable, align the red dot on the cable's connector with the red dot on the discharging plug shown in figure 1. The discharge wires of the battery pack are protected by a Battery Management System (BMS), that will cut out if there is excessive current or if any battery cells are not working.

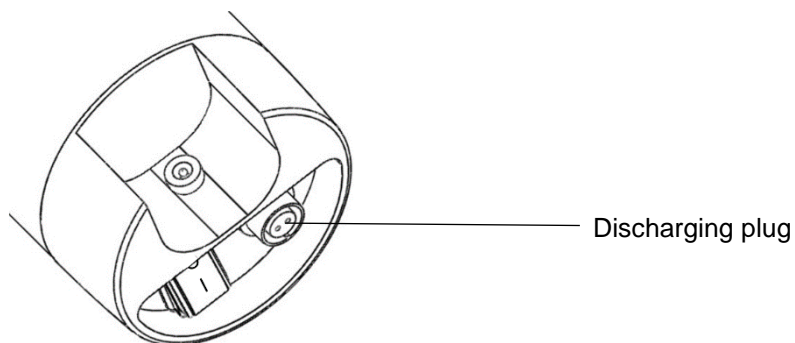


Figure 1

2.4 Charging

The battery is charged via a charging port on the side of the battery, as shown in Figure 2. With the 42V 2A battery charger, the recharge time for an empty battery is approximately 3-4 hours. Never charge if the battery pack feels too hot or too cold. When the battery pack is charging, the charger's led indicator is red. The charger's indicator turns green once the battery is fully charged. Do not leave the battery pack charging for more than 24 consecutive hours.

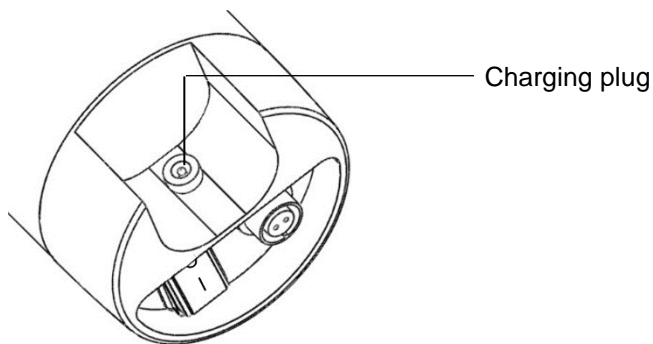


Figure 2

2.5 LED indicator

While pushing the led indicator button (Figure 3), the LEDs show the charge level of the battery. The LED light shows you the right indication, when the battery pack has been turned on. The number of 1, 2 and 3 turned on lights, show respectively low, medium and high level of battery capacity.

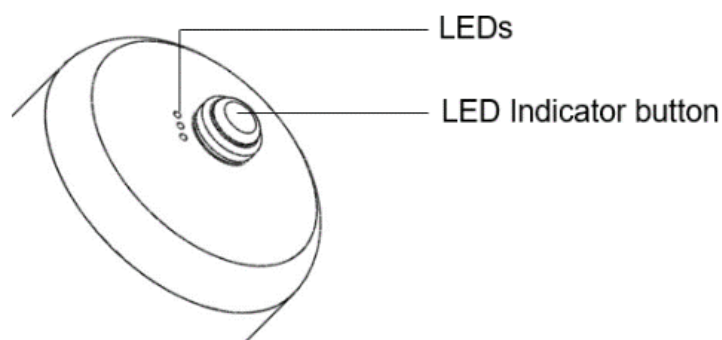


Figure 3

2.6 Bottle Cage

The battery pack must be placed only in bottle cages approved by the manufacturer. Any other bottle cage may cause damage to the battery or your bike's frame. Always ensure that the battery pack fits tightly in the bottle cage before use.

2.7 Operational Features

Operation in low temperatures

There is no harm in running the battery at cold temperatures, if the temperature is above -20 °C. Even though, it is recommended to store the battery indoors. This way, it starts off in a warmer state and therefore it will deliver better performance while in use. The battery should not be charged at temperature below 10°C.

Operation in wet weather

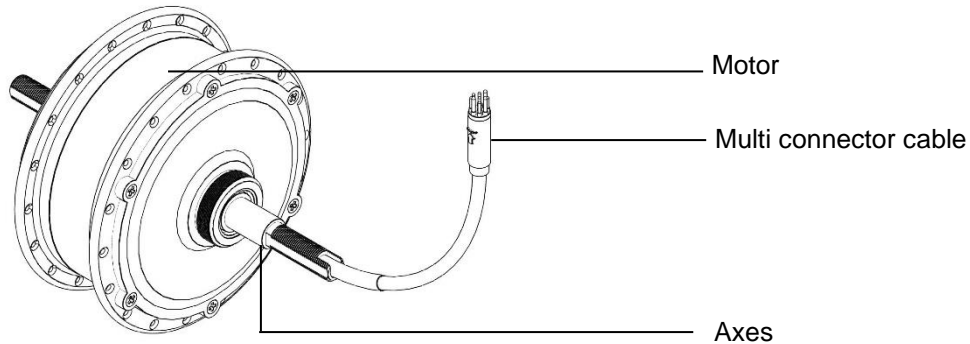
It is necessary to cover the charging plug with its cap, and the discharging plug should be connected to the motor controller connector. If the motor controller connector is wet, first dry the connector's pins with a clean and dry cloth before use.

Flying/traveling

To travel with an e-bike, the battery pack needs to be shipped separately using an appropriate courier service. Air travel regulations prohibit lithium battery packs that have over 100 watt-hours of capacity to be transported by passenger aircraft, unless packaged to IATA standards as Class 9 dangerous goods.

3. Motor

3.1 Explanation of figure



Speen produces two motor variants. Shown here is the freewheel version of the motor. The same features apply to the cassette version.

3.2 Proper use




1. Always purchase and install the Speen system at an authorized Speen reseller or retailer. Do not install or adjust the motor or any other part of the system without supervision of a certified professional.
2. Never touch the motor or parts near the motor after intensive use of the Speen system. After intensive use, the temperature of the motor might be too high to handle safely.
3. Using a battery other than the original Speen battery to power the system, can damage the working of the controller, the motor and other parts of the system.
4. There is a case of a spin out, when the motor is not installed correctly into the rear dropouts of the frame where high torque is applied by the motor. An authorized Speen reseller or dealer should install the motor according to Speen safety standards.

4. Operation

4.1 Before the first ride

Charge the battery to full and let it rest for about an hour before using it.

4.2 Before every ride

1. For optimal duration of your e-bike, make sure that your battery is sufficiently charged before using it. The LED lights on top indicate the battery level with a push on the LED indicator button.
2. Make sure that the battery pack is safely secured into the bottle cage before connecting it to the power cable.
3. Connect the power cable to the battery, by aligning the red dot on the cable's connector with the red dot on the discharging plug.
4. After connecting the power cable, turn the battery's power switch to the on (I) position.
5. To turn on the LCD display located on the handlebar, press the  button. The assistance level can be controlled with the  and  buttons.
6. The system is ready to be used.

5. Maintenance and service

5.1 Battery longevity

The battery life cycle is related to the extent of discharge of the average use cycle. It is recommended to keep the capacity level of the battery above 1/3. The remaining 1/3 of power can be used occasionally but is recommended to be used as a reserve capacity. This type of use will result in the battery pack enduring 1000 to 2000 charge and discharge cycles. It is recommended to recharge your battery pack after each use.

Batteries have a calendar life that causes them to degrade over time even when properly charged. If the battery pack will not be used for more than a month, it is recommended to fully charge before storing it. Furthermore, periodically recharge the battery to full power every 3 months in case of not using it. For typical e-bike riders, the battery will be ready for replacement after five years of use. As a battery ages, there will be more voltage sag under load and less available capacity. If the battery pack breaks suddenly down, it is usually caused by a wiring or BMS issue, not an end-of-life issue

5.2 Self discharge in storage

Although lithium cells have very low amount of self-discharge, the BMS protection circuit inside the battery pack always consumes a small amount of current. If the battery is already empty when initially stored, this small current will drain the cells over the permanent shutdown threshold of the BMS in a few weeks or months. At this point the pack can no longer be charged or discharged. To prevent this from happening, be sure to charge the battery before storage, and periodically recharge it every 3 months while it is being stored.

5.3 Disposal

At the end of the battery's life cycle, it must be disposed of as electronic waste in accordance with the disposal regulation of your district / country / state. Keep away from fire.

