

# ND02 Display Instruction Manual

## V2.3

2021/12/27



The instrument-ND 0 2 is simple and beautiful with the unique design of scientific ergonomic curve.The LED is not only clearly visible in the sunlight but also displayed with soft light under the night mode that makes riding safety.

## About our Manual

Please read the manual of N D 0 2 carefully before taking a ride for a better performance.

## Size



## Instruction to display interface



## Model and parameter ND02

Five assisted power display

Level 0 to 5 assisted power

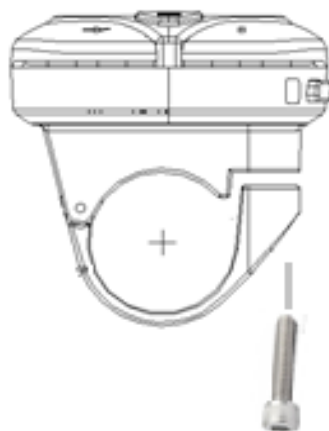
display RS232, ES0.36

Support 24V, 36V, 48V

USB  $\leq 500\text{mA}$

## Installment guide

1. Fix the instrument on the handlebar and adjust a appropriate angel.
2. Install the set screw from the bottom of instrument fixed on the handlebar. It is advised to install the screw manually.



3. Please insert the connectors of instrument and the connector of controller on the occasion of power off.

## Definition of button

There are 4 buttons on the instrument, including the power/mode (M), up(+), down(-) and headlight switch (B)

## Routine operation

### turn on/ off

ON: press the button of M for a long while on the occasion of power off, and enter the password if any, then the instrument starts working, offering the power to controller and working well with controller after 3 seconds.

OFF: press the button of M for a long while on the occasion of on, you can turn off without wasting the power. At this time, the current is less than 1uA.

## Assisted Power Select

Press the button of + or - for a short while, you can change the output power of motor. The default power ranges from level 0 to level 5, 1 the lowest, 5 the highest. When the instrument is on, the default level is 1 just like the red box in picture below.



1-5<sup>st</sup> gear

## Turn on/off headlight

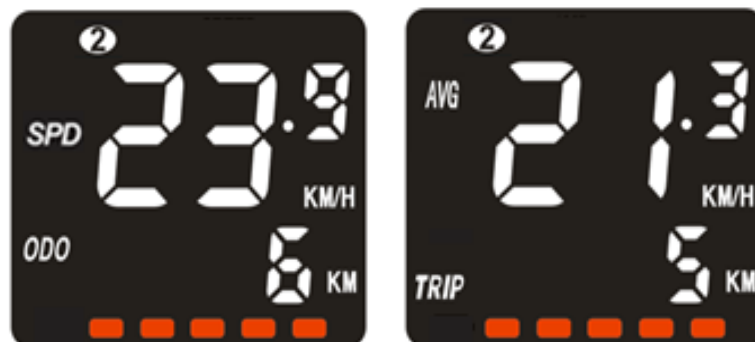
Press the key (+) to turn on the headlight, press the key again to turn off it.

Press the key (B) to turn on the headlight, press the key again to turn off it. Key on the side of the device.



## Display of handover

The instrument will display the current speed and ODO on the occasion of normal work without breakdown. When pressing M, you can switch to AVG and TRIP, with the corresponding indicator light on.



## Capacity display

When voltage is high, 5 battery segments will be alight; when only 1 battery segment is alight, it means low power and needs to be charged.



## Error code display

When something is wrong with the electric control system, the ERR light will be alight and speed position will show the error code.



Only when the fault is excluded can it exit the interface. If the fault happens, the bicycle cannot be ridden.

## Fault code list and meaning:

Failure/state table
01 err currents fault
02 err undervoltage fault
03 err Overrun fault
04 err Blocking protection
05 err Driving mos Pipe Bridge Failure
06 err Driving mos Pipe Down Bridge Fault
07 err Hall fault
08 err Overtemperature inside controller
09 err Throttle failure (Meter decision display)
10 err Brake failure (Meter decision display)
12 err Communications fault (Meter testing)
50 Enter the brake (Meter decision display)
52 Enter cruise (Meter decision display)
53 Entry into force (Meter decision display)
21 err Currents anomalies
22 err Throttle failure
23 err Motor missing phase
24 err Hall fault
25 err Brake anomaly
26: Battery undervoltage, please charge
30 err: Communications fault

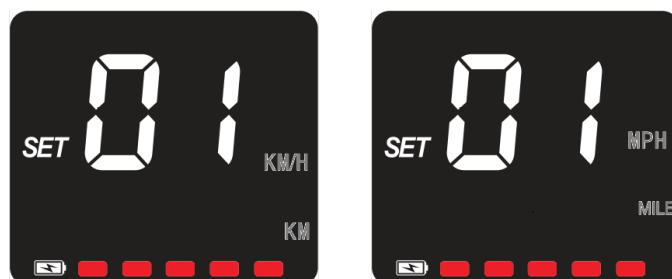
## Parameter setting

In setting menu: You can do settings when pressing + and -, and entering the password 1234 on the occasion of power on and normal work of the parking instrument, just like SE and number 1 in the picture below. (Please note that some types do not have password) You can set the number password by press + and - for a short while. You can set the next number password by pressing M for a short while. Do the same work till entering the correct password and coming into the interface of setting items.



**EXIT Menu:** You can exit the setting menu by pressing M for a long while in any setting menu. Besides, you can exit the setting menu automatically by pressing M for a short while and switching all the setting items.

**SET1(unit setting):** When entering the setting menu, the default setting is SET1. You can switch the mile and kilometer by pressing +/-, with the switching of speed and trip at the same time and corresponding indicator light on. You can quit the interface by pressing M to set the next item for a short while or pressing M for a long while.





SET2(speed limited): When in SET2, the factory default limited speed of the instrument is 25km/h. The effective limited speed ranges from 10 km/h to 41 km/h by pressing +/- . It doesn' t work if over the range. You can quit the interface by pressing M for a short while to set the next item or pressing M for a long while.



SET3(Wheel diameter setting)when in the mode of SET3, the default wheel diameter matches the whole bike, so it is not advised to change it. The wheel diameter can be changed by pressing the key of +/-, including 16 20 22 24 26 700C 28. You can enter the next mode by pressing the key of M.



Set4 (magnetic steel of speed measuring):when in the mode of set4,the default magnetic steel of speed measuring matches the whole bike. The default value is 1 if no exclusions. The number is not advised to changed . You can change it by pressing the of +/- . 1 and 6 can be chosen. You will go into the next setting by pressing the key of M for a short time.



Set5(the total gear setting): when in the mode of set5, the default total assisted gear is 5. You can change it by pressing the key of +/- , with the maximum 5 and the minimum 1.ou will go into the next setting by pressing the key of M for a short time.



## Extension settings

Next to the previous operating procedure.

The following is the extension settings, not all meters.

See date character on back label of meter housing with " n " character for support extension settings. For example:

**LD-902GN-21.05.20n**

**SET6(Flow limit settings):** Meter flow limit settings. Press a to modify, 25a, max. 5a. Press the +/- key short to set the next item.

The current setting will affect the output power of the electric vehicle, and the set current value should not exceed the controller hardware flow limit. Otherwise, the controller will overheat the protection due to the high output current.



**SET7~15(PWM Set):** Set the pwm boost ratio. If the throttle is split and the throttle control speed, pwm1~pwm9 corresponds to 1 ~ 9PAS。 Invalid after setting the number of pwm paths exceeds the total gear. Press a to modify, maximum 100% and minimum 0% . Press the +/- key short to set the next PWM.

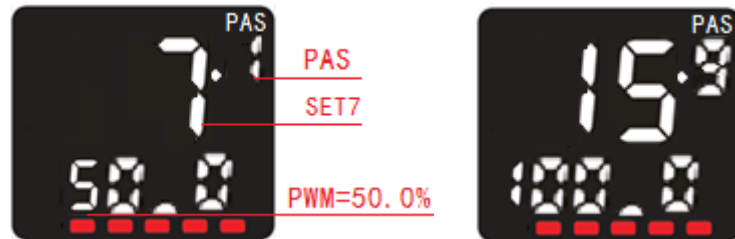
When the pwm is set to 0, the motor output power is 0% .

For example:

Set 1 ~ 3 gear, pwm1~ 3 is 49.4% , 74.9% , 100% ;pwm4~ 9 is invalid.

The 1 ~ 5 gear pwm1~ 5 is 49.4% , 65% , 74.9% , 85% , 100%; pwm6~

9 is invalid.



**SET16(Voltage setting):** Set the battery voltage used. Press +/- key to modify, maximum 48v battery and minimum 24v battery. Press the m key in short press to exit.



**Clear ODO:** Clear the total electric vehicle mileage record.

1. Under the main interface, long press up key and down key simultaneously;
2. input "5555" ;
3. long press M key.
4. Long press m to shut down the save settings.



- factory data reset:**
1. under the main interface, while long press the top key and the lower key;
  2. After entering the setting menu, long press the side to open the key;
  3. Long press m to shut down the save settings.

This item only has side switches with the usb series. The Instrument with a side switch can only operate to restore the factory settings.



## Quality Warranty

### 一、 warranty coverage:

1、 When the malfunction is caused by the quality of the product itself under regular use condition, our company will be responsible for it under guarantee.

2、 24 months from the delivery time of the display out of the factory.

二、 The following conditions are not covered by the warranty.

1、 The shell is open.

2、 The connectors are broken.

3、 The shell is scratched or damaged after out of factory.

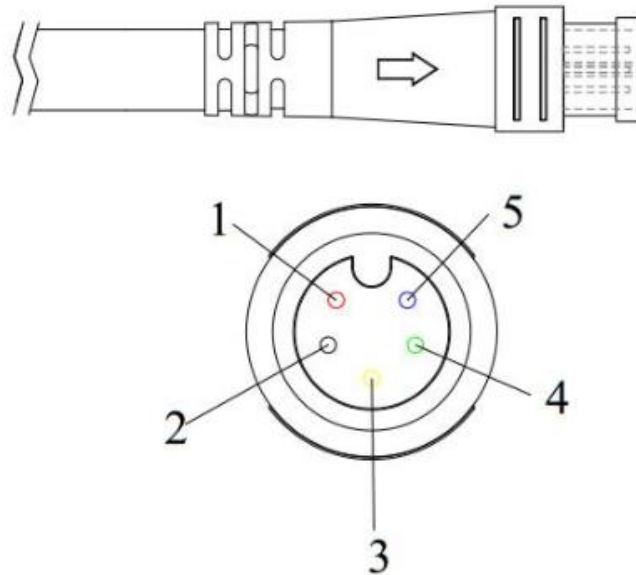
4、 The lead wires from the display are scratched or broken.

5、 Damages are caused by irresistible (e.g. fire, earthquake , etc) or natural disasters (such as lightning, etc.);

6、 The product exceeds the warranty period.

## Wiring Diagram

The display is matched with 5-waterproof wire and the wire definitions are as below.



number	colour	function
1	Red (VCC)	Power B+
2	Black(GND)	Power B-
3	Yellow(TX)	Gorge line: sending message
4	Green (RX)	Gorge line: receiving message
5	Blue (K)	Electric door lock offer weak power to other equipment

Note: Users cannot see the color of the internal wiring because of the water proof connector.