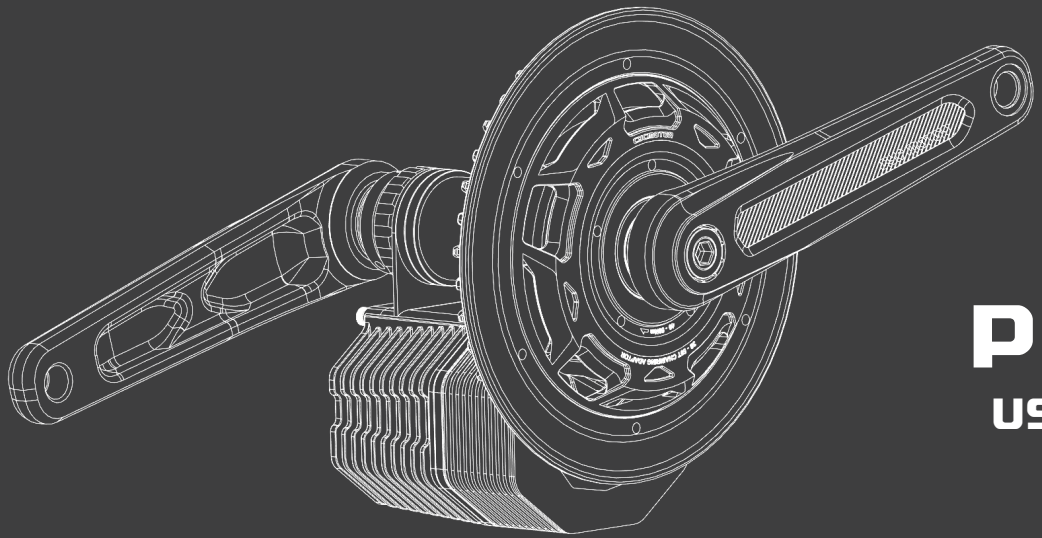
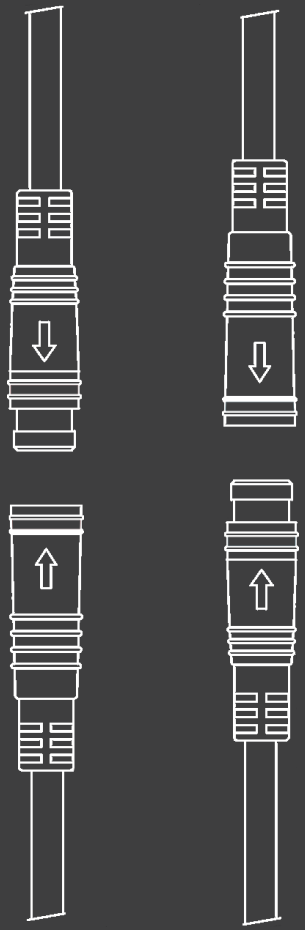


CYCMOTOR LTD.

PHOTON

USER MANUAL



Dear **PHOTON Owner**,

We hope you enjoy this ebike kit as much as we do!

To make things easier for you, we've made a few useful notes here:

1. You can download the user manual and other general resources here: www.cycmotor.com/cycmotor-downloads.

2. Be sure to go through the user guide including the app and display section so that you can familiarise yourself with how the system works.

3. Initial set-up
Initial set-up can be done on the display & does not require the app. Note that to change it on the display, you need to enter the display's settings by holding the MENU button down within the first 15 seconds of the kit being powered on.
   a. Check that your battery voltage is set up to match your battery pack.
   b. Check that your wheel size is set to match your bike.

4. Race and Street Mode
You can switch between Race and Street mode on the display or on the app. Note that to change it on the display, you need to enter into the display's settings by holding the MENU button down within the first 15 seconds of the kit being powered on.

5. For changing advanced settings, please download the CYC Ride Control mobile app available on iOS and Android devices. Contact our team for assistance if needed.

WARNING
Note the arrows on the connectors of peripherals to ensure you do not damage the pins upon installation.
Wires should not be pinched in between components or bent flat.

Thanks for your support!

Cheers for now,
CYC Team

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01 SAFETY & PRECAUTION

General Safety

Kindly read through the entire user manual. This manual contains important information to reduce user risk as well as instructions for this product's proper use. Do not discard the manual but keep it for reference.

Note that the user's personal safety remains the user's responsibility and that the user must contact CYCMOTOR LTD or an official product dealer directly for any further guidelines or assistance.

Never interfere with the movable parts when the drive unit is connected to a power supply. This could result in serious injury if the system is accidently engaged.

This product is a powerful motor system that is dangerous for children and must be handled by an adult at all times. Small components and accessories may also present a choking hazard. Keep the motor system and accessories out of reach from children.

All components and accessories may only be replaced with identical components directly supplied by CYCMOTOR LTD or an official product dealer. CYCMOTOR LTD cannot be held liable for any damages as a result of using unapproved parts.

This product only complies with local, state, and federal regulations if speed limits are set accordingly. Ensure that you have set up your e-bike kit according to your local, state, and federal regulations when using and registering this product on a public road/ area.

Before the Ride

Ensure that the drive unit chain has proper tension. Incorrect tension could cause jamming of the system and result in injury while riding. Inspect the chain tension regularly.

Ensure that the chain is properly lubricated.

When connecting a power supply, make sure that the power supply is completely connected. Faulty connection could result in a short-circuit and damage the controller or batteries.

Inspect all electrical wires and connectors for damage. Ensure that no wires and/ or connectors are pinched in between the components or bent flat.

Secure all wires properly. Ensure that no loose wires are dangling from the bike that could be jammed into any moving parts.

Before turning on the system, ensure that the throttle can be twisted freely without friction and that the throttle can return to its original position without restriction. This is to prevent any uncontrolled responses from the system.

Installation & Use

Do not install anything other than the parts and accessories that came with this drive unit. Doing so could damage the product.

The drive system can be activated and deactivated by holding down the POWER button the display.

Avoid changing the bike gear (note: this is different from the drive unit's assist level) while the drive unit is powering the bike. This may lead to excessive wear on the chain and chainrings or other gear related failure.

When changing gear, it is advised to use human input only. After the gear is changed, you may accelerate again with the throttle or continue using the pedal assist system.

WARNING
Take off with the appropriate assist level & bike gear.

This product is splash proof and rain proof but **NOT WATER PROOF**. Do not submerge it underwater.

Modifications of any kind is not advised. Any issues with this product's performance or damages sustained to the product as a result of modifications will not be supported or warrantied by CYCMOTOR LTD or any authorised product dealer. If this product or its components have been found to be modified, warranty of the product may be limited in the case where troubleshooting and/ or replacement may be needed.

Disclaimer

If you require any more information or have any questions about the user manual CYCMOTOR LTD disclaimer, please feel free to contact us via email at support@cycmotor.com or call +852 3690 8938.

All the information contained in this manual is published in good faith and for general informational purposes only. CYCMOTOR LTD does not make any warranties about the completeness of this information and encourages further inquries if needed. CYCMOTOR LTD will not be held liable for any losses and/ or damages in connection with the use of this product. **The use of this product is at own risk.**

Please contact CYCMOTOR LTD if you are unsure about the assembly instructions or for any further assistance as CYCMOTOR LTD will be held liable for any losses and/ or damages created by the assembly.

The control unit's hardware and software are under the GPL V3 opensource license. VESC® is a trademark and copyright of Mr. Benjamin Vedder. More information can be found at https://www.gnu.org/licenses/gpl-3.0.html. CYCMOTOR LTD's source code can be found at https://github.com/CYC-MOTOR. Different firmware can be loaded to this controller.

WARNING
Any issues with this product's performance or damages sustained to the product as a result of loading unauthorised firmware, will not be supported or warrantied by CYCMOTOR LTD or any authorised product dealer.

02 SPECIFICATION

Description

This product is an electric bike (ebike) drive unit kit which includes a programmed control unit and peripherals. This product is designed to be installed as a conversion system to convert a standard bicycle into an electric bicycle.

Specifications

Rated Voltage	**36 - 52V**
Max. RPM at Crank	**>300 RPM**
Rated Power	**750W (CYC XP6)**
Max. Torque at Crank	**110 N.m. (CYC XP6)**
Colour	**Anodized Black**
Weight of Motor Unit	**3.2kg**
Total Weight with Crank set & BB	**4.5kg**
Crank Arm Length	**165mm or 175mm**
Control Method	**FOC**
Motor Sensor	**Hall & Temp. Sensor**
Chainring	**34T, 38T, 42T & 50T**
Compatibility	**68-83mm, 100mm, 120mm BSA Threaded** **>121mm Pressfit (with adaptor)**

*Bottom brackets not specified may be compatible. Contact CYCMOTOR LTD for more information before making a purchase if your bottom bracket type is not listed above.

Parts List

PHOTON motor assembly

SW102 or DS103 Display

Thumb Throttle

Magnetic Bluetooth Speed Sensor

Bottom Bracket Spacers

Magnetic Brake Sensors (optional)

Controller Extension Wires (optional)

Mounting Support Plate

Parts List

BB92 to BSA adaptors

Crankarms with crankarm bolts

Left BB Cup

Spindle Spacers

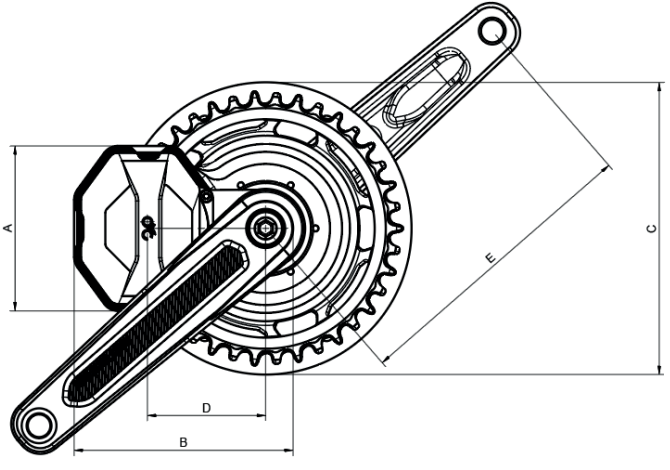
Retaining Lock Ring

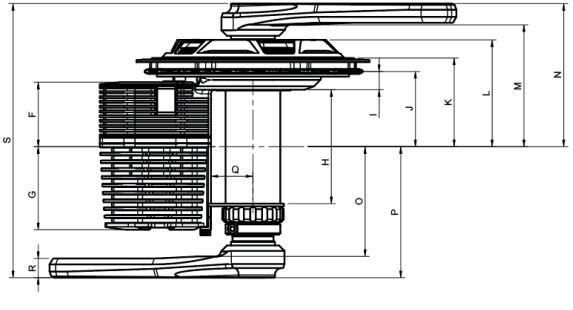
Spindle

Dimensions

BSA Threaded 68/73/83mm Version

A	96mm
B	128mm
C	150mm / 170mm/ 210mm
D	69mm
E	165mm / 175mm
F	47mm
G	60.5mm
H	83mm
I	13.3mm
J	54.8mm
K	64.6mm
L	77.8mm
M	88.9mm
N	104.4mm
O	80.1mm
P	95.6mm
Q	30.55mm
R	14mm
S	200mm

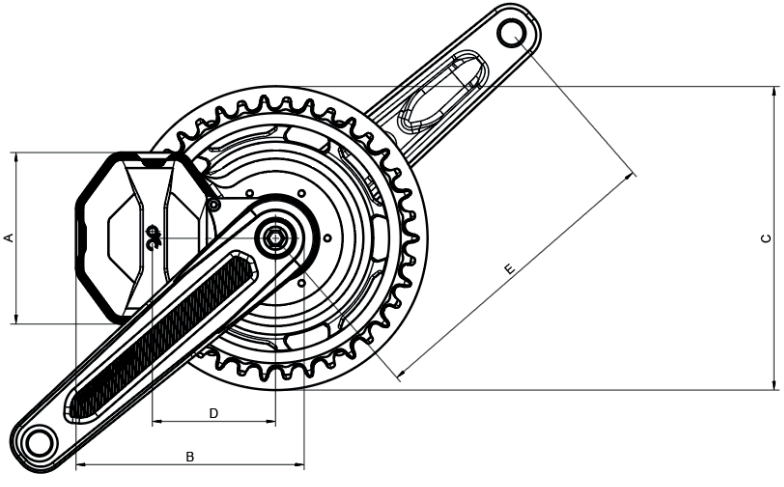


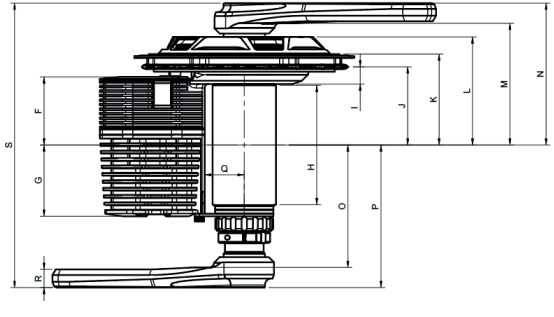


Dimensions

BB92 Version

A	96mm
B	128mm
C	150mm / 170mm/ 210mm
D	69mm
E	165mm / 175mm
F	52.5mm
G	55mm
H	92mm
I	13.3mm
J	60.3mm
K	70.1mm
L	83.3mm
M	94.4mm
N	109.9mm
O	94.6mm
P	110.1mm
Q	30.55mm
R	14mm
S	220mm

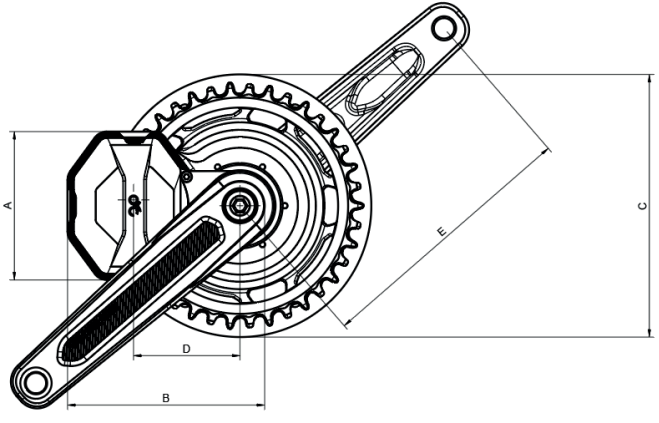


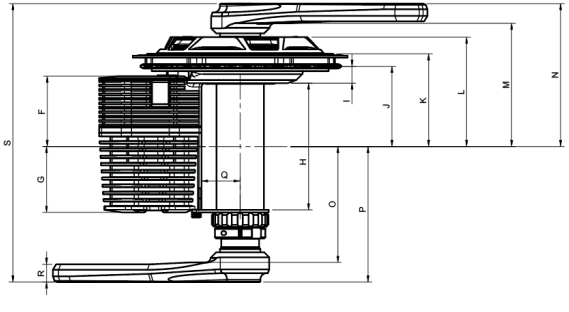


Dimensions

BSA Threaded 100mm Version

A	96mm
B	128mm
C	150mm / 170mm/ 210mm
D	69mm
E	165mm / 175mm
F	55.5mm
G	52mm
H	100mm
I	13.3mm
J	63.3mm
K	73.1mm
L	86.26mm
M	97.4mm
N	112.9mm
O	91.6mm
P	107.1mm
Q	30.65mm
R	14mm
S	220mm

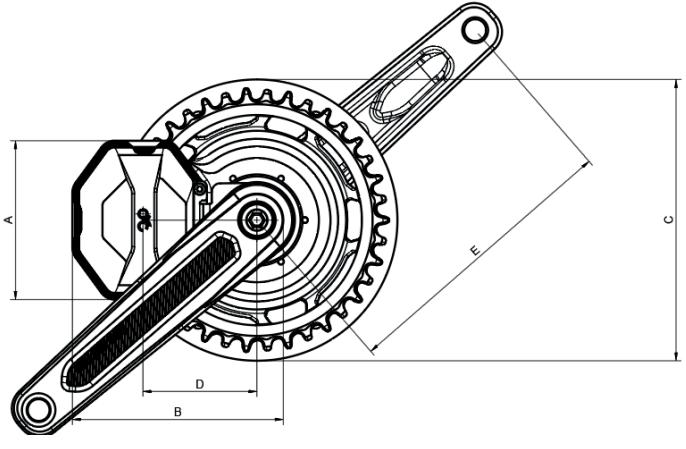


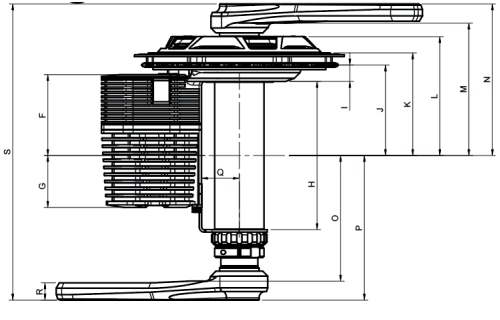


Dimensions

BSA Threaded 120mm Version

A	96mm
B	128mm
C	150mm / 170mm/ 210mm
D	69mm
E	165mm / 175mm
F	65.5mm
G	42mm
H	120mm
I	13.3mm
J	73.3mm
K	83.1mm
L	96.26mm
M	107.4mm
N	122.9mm
O	101.6mm
P	107.1mm
Q	30.65mm
R	14mm
S	230mm





Required Tools

Hex Keys (2.5mm & 10mm)

Adjustable Wrench

Crank Puller

Ø44mm, 16 Notch Bottom Bracket Tool

Press Fit Bottom Bracket Removal Tools
Only for BB92 version

Operating Notice

RIGHT-HAND and LEFT-HAND sides are determined by the bike handle; Right-hand corresponds to the right handle.

Preparing Your Frame

Before you begin, ensure that you have removed the original crankset and bottom bracket from the bicycle frame. This includes any bearings, bottom bracket cups, inserts, and/ or adaptors that might have been fitted. Clean up any grease and/ or debris from your frame's bottom bracket shell and wipe off any excess dirt from your frame around the areas where the drive unit and its peripherals will be installed.

Mounting Options

This product can be mounted in any position around the bicycle frame's bottom bracket shell that supports the drivetrain's movement without obstruction. The chainring assembly together with your bicycle chain must be able to move freely and not come into contact with other components or areas on the bicycle frame.

WARNING

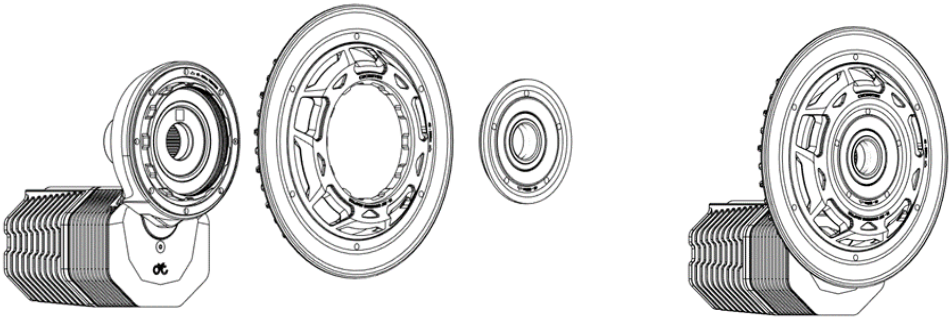
The motor body must be supported against either the bicycle frame or supporting structures in order to prevent the motor body from movement during use.

Adjusting the Width of Bottom Bracket

In order for this product to fit on various different widths of bottom brackets, there are several spacers that come with the kit. These spacers are designed to provide the bottom brackets with necessary spacing between the this product brackets.

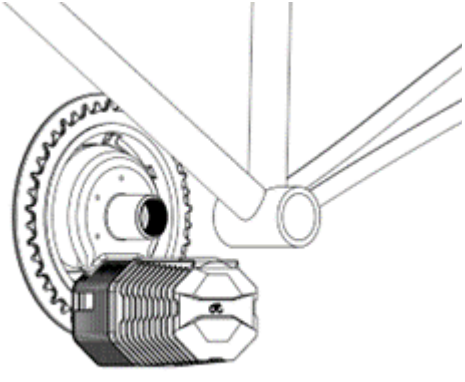
Note that the spacers can be adjusted to accommodate different chain lines as needed.

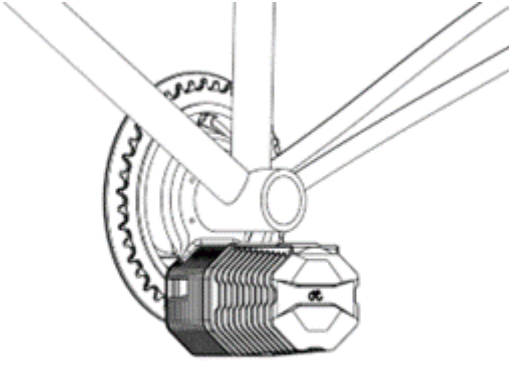
Assembly Instruction



- Install the chainring assembly to the motor unit.
- The chainring assembly splines onto the gear of the motor unit.
- The retaining cap can be threaded on with the provided tool. Please take note of the tightening direction.

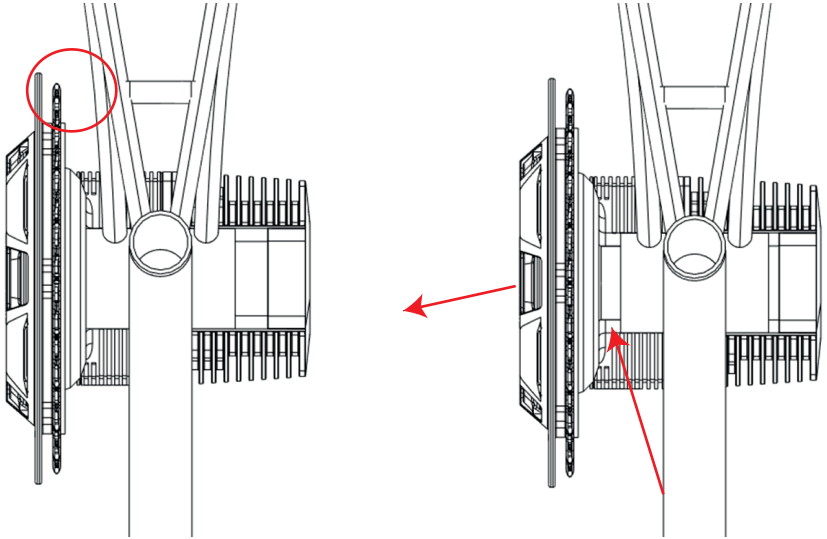
Assembly Instruction





- Insert the motor so that the back of the motor sits closest to the drive side of the bottom bracket.
- Ensure that the motor is mounted from the right hand side of the bicycle frame.

Assembly Instruction

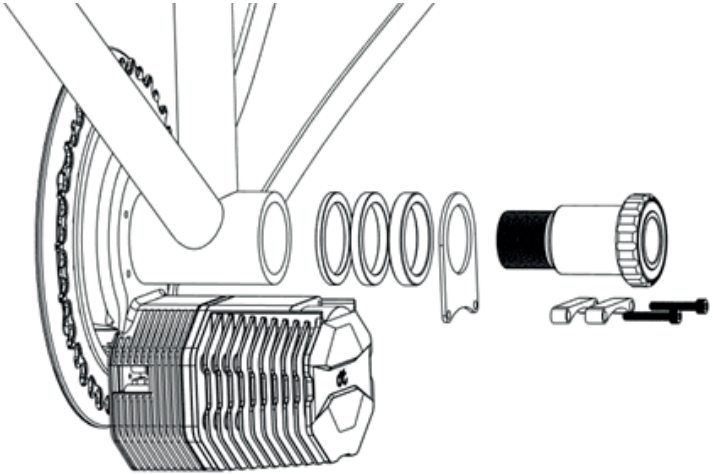


- Take note of the clearance between the chainstay of the bike and the motor unit. Sometimes the motor unit will need to be spaced out additionally to create space for the chainring and chainstay.

Spacer Information

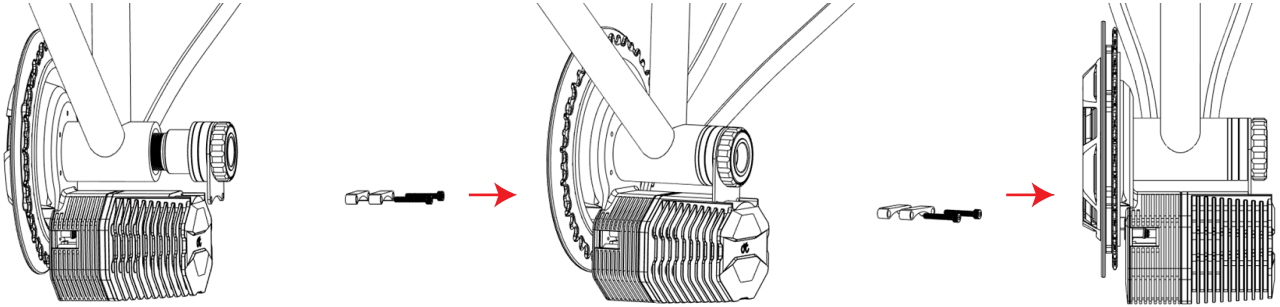
BB Version	Q Factor	Chain Line	Spacer on Left	Spacer on Right	Center Offset
BSA68	200	50.3	5+7	3	-0.1
BSA73	200	49.8	3+7	0	-0.6
BSA83	200	54.8	0	0	4.4
BB92	220	59.3	3+3	0	0.1
BSA100	220	63.3	0	0	2.9
BSA120	230	73.3	0	0	7.4

Assembly Instruction



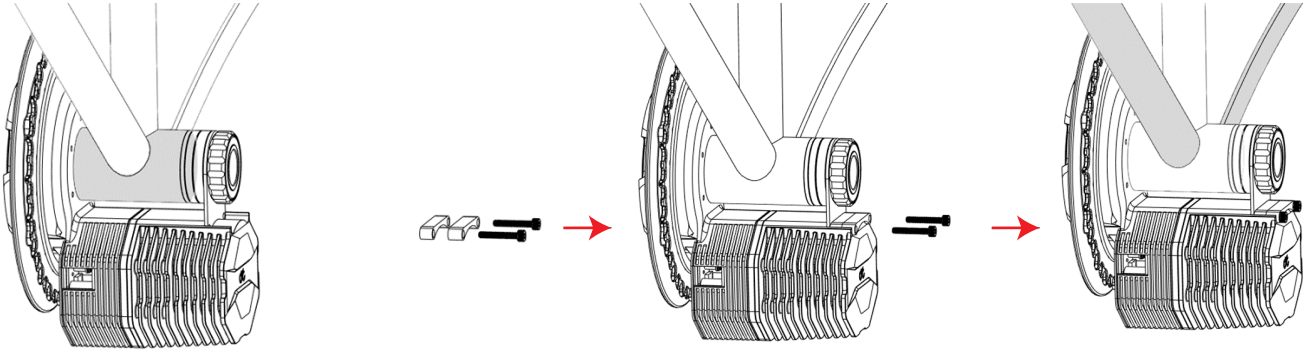
- The PHOTON motor is designed for an effective BB width of 83mm. Thus, the required length needed for a 68 or 73mm bottom bracket needs to be taken up by the provided bottom bracket spacers. You can add a 0.5mm spacer if needed to compensate for bike tolerance.

Assembly Instruction



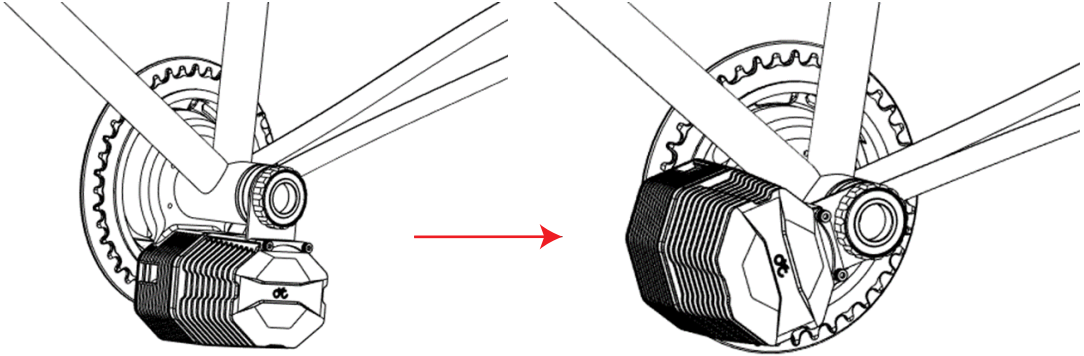
- When inserting the left BB cup with spacers, please ensure that the A-frame support is added to the left BB cup first so that it sits against the tool side of the BB cup. Then place the A-frame in the cutout of the motor housing while inserting the left BB cup into the bottom bracket. Tighten by hand only. If done correctly, the A-frame support should be flush with the cutout of the motor body.

Assembly Instruction



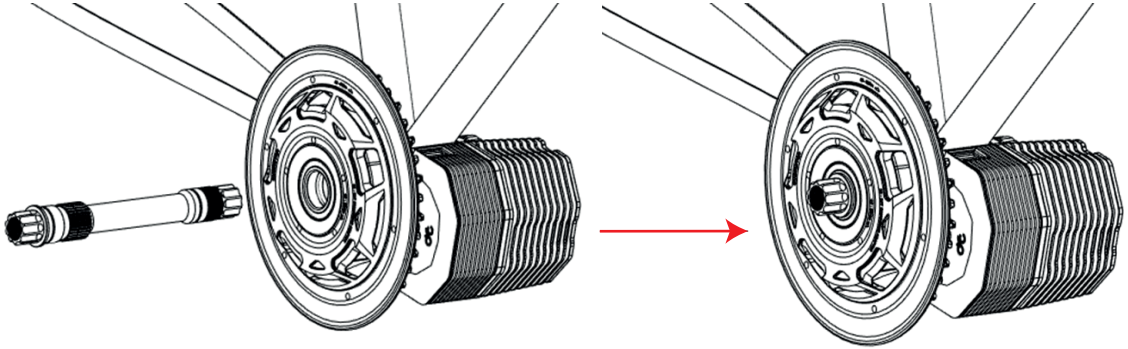
- Place the 8mm & 9mm spacers in the remaining open space of the motor cover and thread the two M4 screws through them and into the body. Securely tighten these screws.

Assembly Instruction



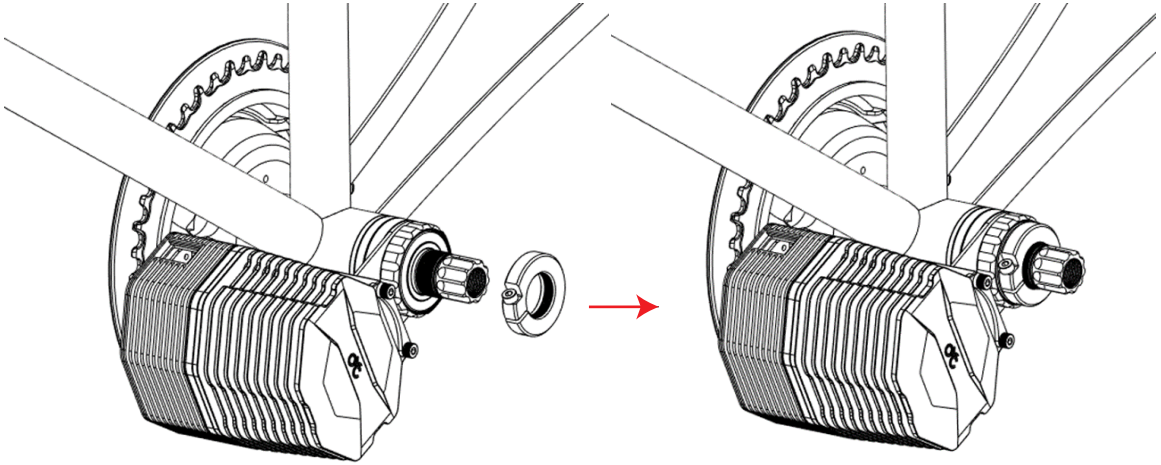
- Pivot the motor up and securely tighten the BB cup of the motor system. Add the mounting support plate to protect the frame if needed.

Assembly Instruction



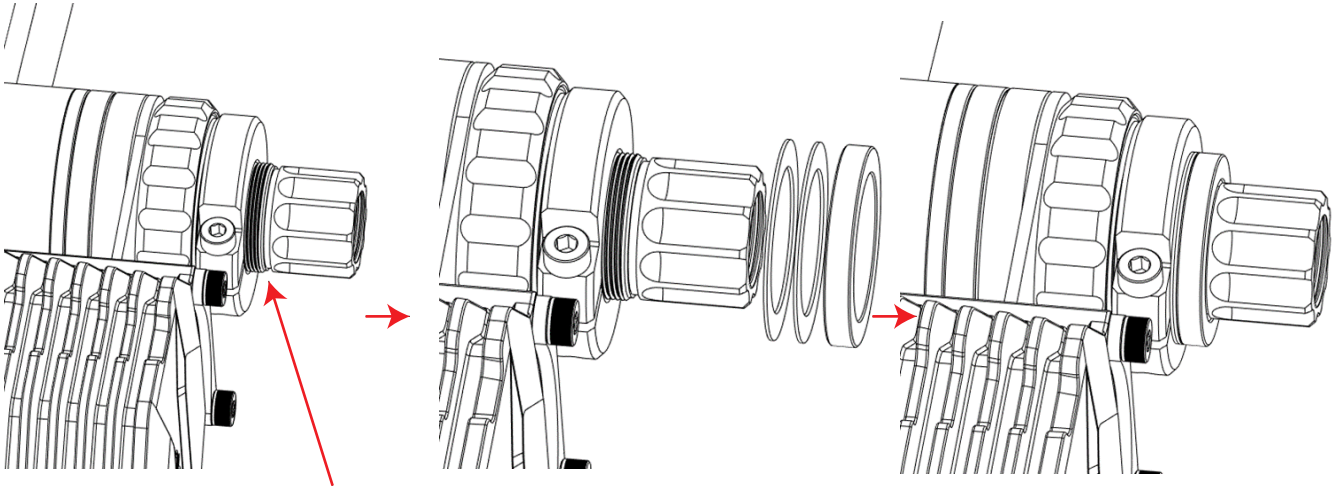
- Take the spindle and insert it through the motor assembly until the step on the shaft is in contact with the motor. We recommend adding grease on the bearing to have better waterproofing.

Assembly Instruction



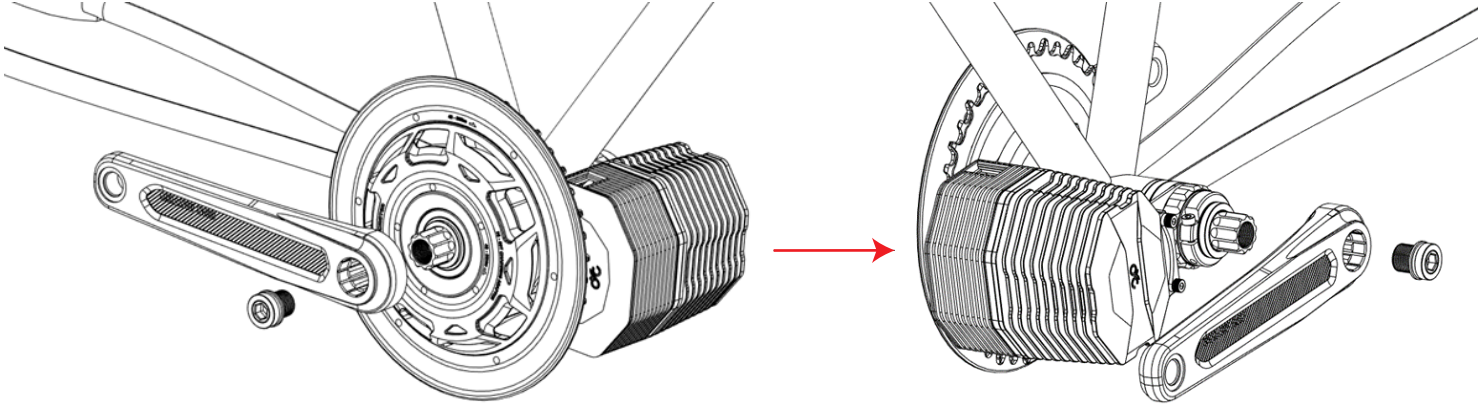
- Thread the lock ring onto the spindle, with step on the lock ring facing towards the bike. Tighten by hand and then tighten the screw on the lock ring.
- Ensure that the spindle can rotate freely.

Assembly Instruction



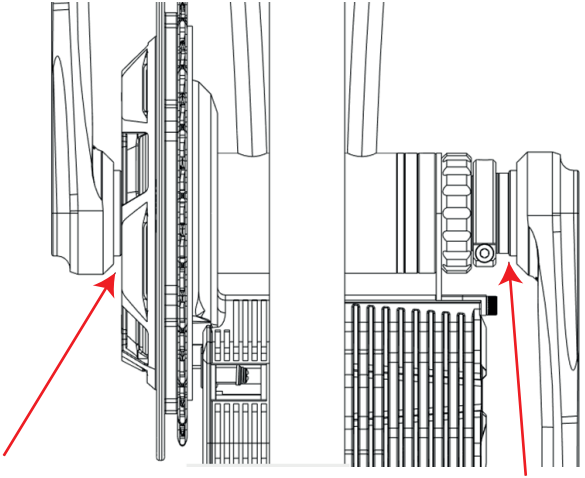
- Add spindle spacers up to the indicated line. We can provide recommended sizes but small adjustments are needed due to variances in BB sizes.

Assembly Instruction



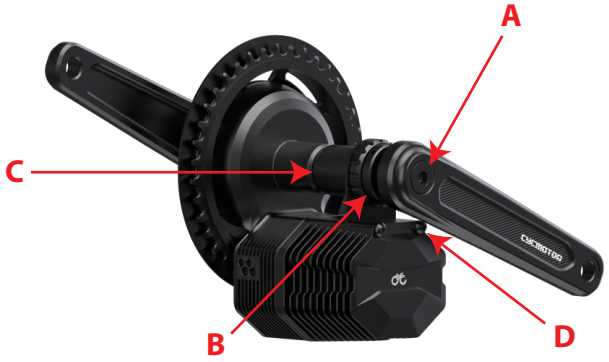
- Install the crankarms and crankarm bolts and tighten accordingly.

Assembly Instruction



- When tightening the crankarms, ensure that the cranks touch the step of the spindle of the drive side and the spindle spacers on the non-drive side so that there is no remaining gap.

Torque Requirement for Bolts



Listing	Component Name	Torque Requirement
A	Crank Arm Bolts	25 - 30 N.m.
B	Lockring	Tighten by hand
C	Left BB Cup	40 - 50 N.m.
D	A-Frame Bolts	5 N.m.

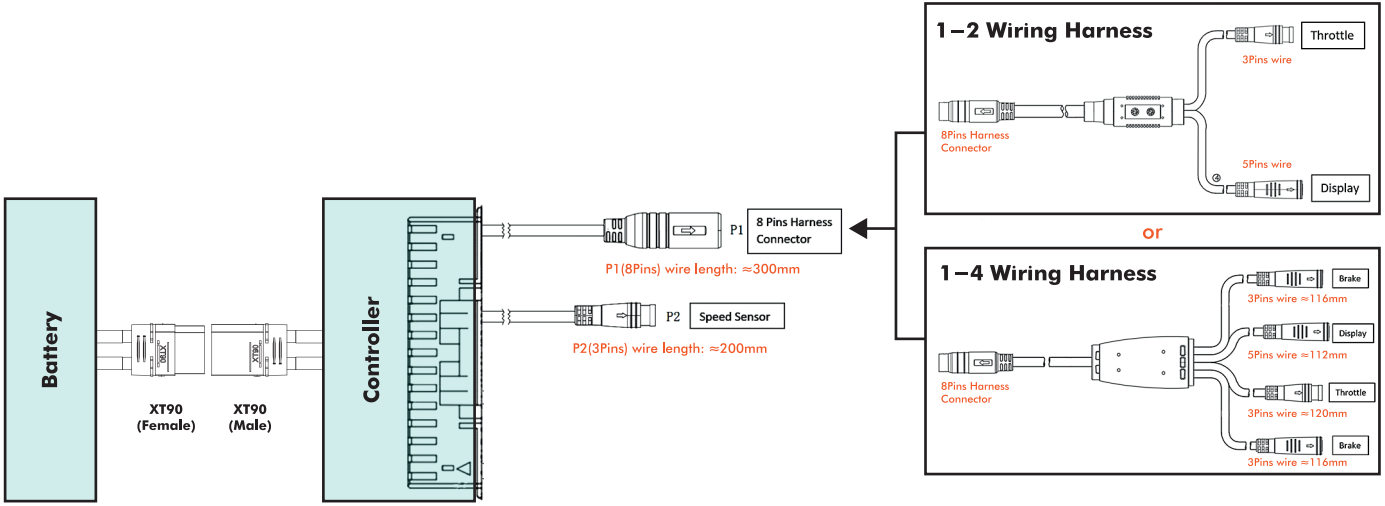
Component Name	Used For	Quantity
M15 Bolts	Crank Arms	2
Hex Socket Head M4*25	A-Frame	2

Wiring & Connection

Connect your controller to the following connectors as per below:

1. Connect the peripheral connector (P1) to the 1-2 or 1-4 wiring harness
2. Connect P2 to the speed sensor

For brake sensors:
Please note if you purchased brake sensors separately, you will need to enable them on the CYC Ride Control app.
*If you purchased brake sensors from another supplier, ensure that the connectors match. A pin-layout may be requested at support@cycmotor.com



OVERVIEW

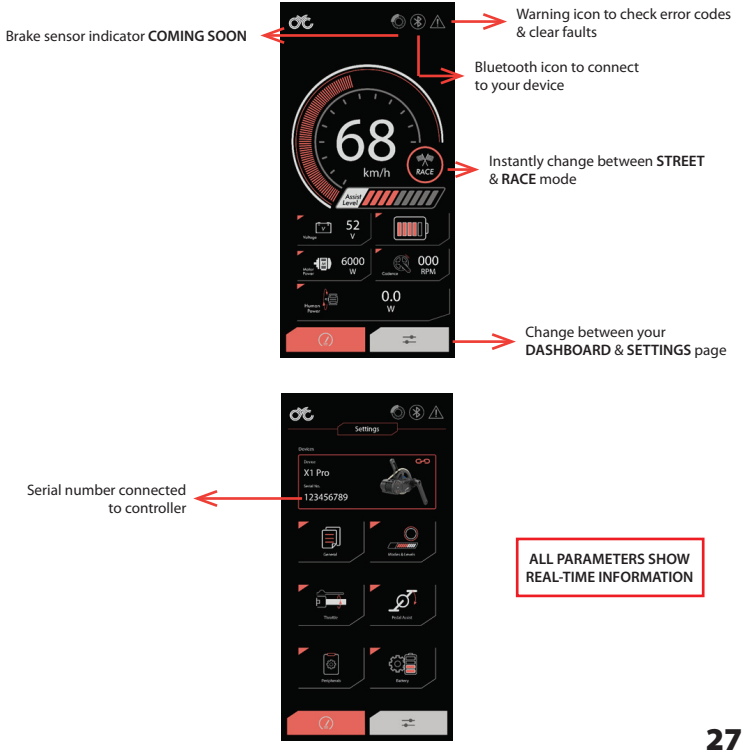
CYC RIDE CONTROL
Monitor & customize your e-bike riding experience for all CYCMOTOR mid-drive systems. Use it as a secondary dashboard, settings set-up, or both. Unleash all the possibilities of e-bike customization at your fingertips.

The mobile app is not the only way to customize your system. The controller is also programmable via the included display- integrated for your convenience.

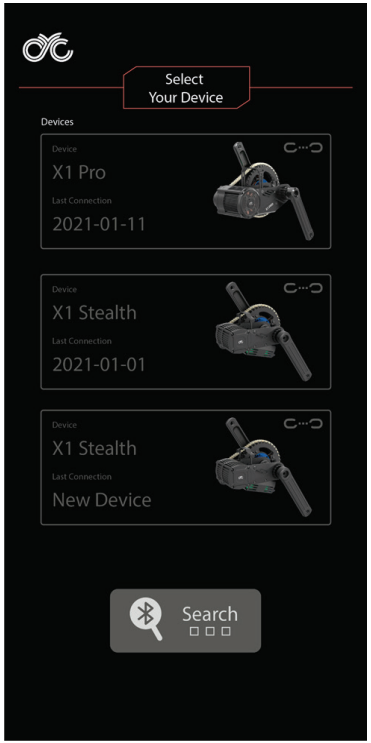
This platform is your go-to-station for your CYCMOTOR kit & X6/X12 controllers.

FEATURES
- Bluetooth connectivity
- Complete with torque sensor configuration
- Compatible with X6 & X12 controllers
- Real-time dashboard for all your motor & riding information
- Fully customizable parameters for pedal assist, throttle & gear preferences

DASHBOARD



CONNECTING A DEVICE



STEP #1:
Open the app and tap the Search button at the bottom of the screen. Kindly ensure your phone's Bluetooth is enabled. (Please keep close to the motor while connecting)

STEP #2:
Available devices will then be listed, select your kit and it will begin connecting to the controller. (Please note signal strength)

STEP #3:
Once connected, the CONNECT icon will change stating you are connected & can select again to disconnect.

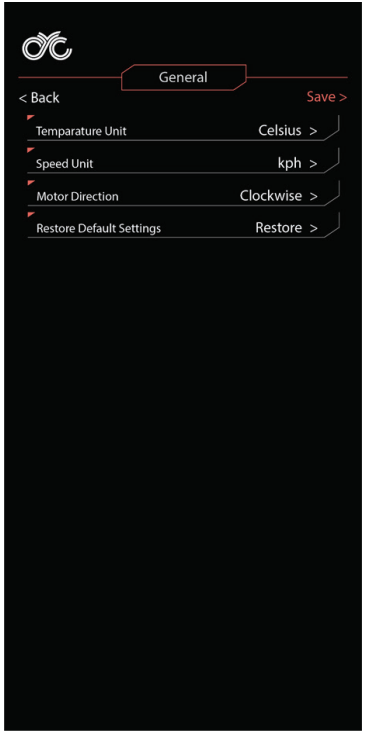
MAIN SETTINGS

The settings page allows you to navigate through different parameter categories. There are six different categories with each providing a set of adjustable parameters or readings from your ebike system.

IMPORTANT
Save all new changes in parameters to flash or risk losing progress. Any changes made that were not saved will be lost after a restart. Note to save after every change in value.

To save to flash, tap the 'Save' button in the upper righthand corner, 'Save successful' message will appear upon completion.

GENERAL



TEMPERATURE UNIT
Set your units to display in degrees Celsius (°C) or Fahrenheit (°F)

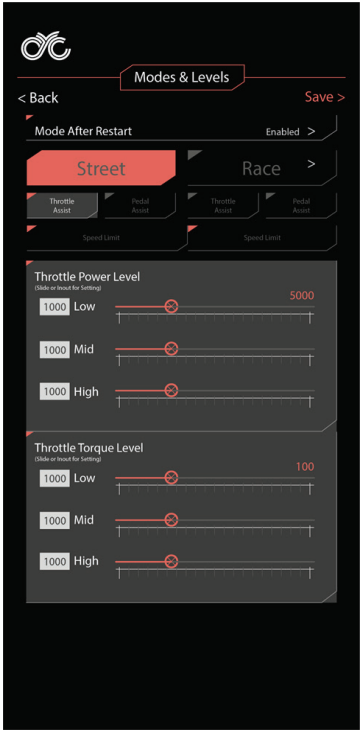
SPEED UNIT
Set the speed unit to miles or kilometers.

MOTOR DIRECTION
This setting is for users who'd want to switch the direction to where the motor is facing. Note that this is reserved for specific uses only.

WARNING: Do not change this setting if using the motor in its default position. Contact CYC for assistance.

RESTORE DEFAULT SETTINGS
Restore to factory/default settings.

MODES & LEVELS

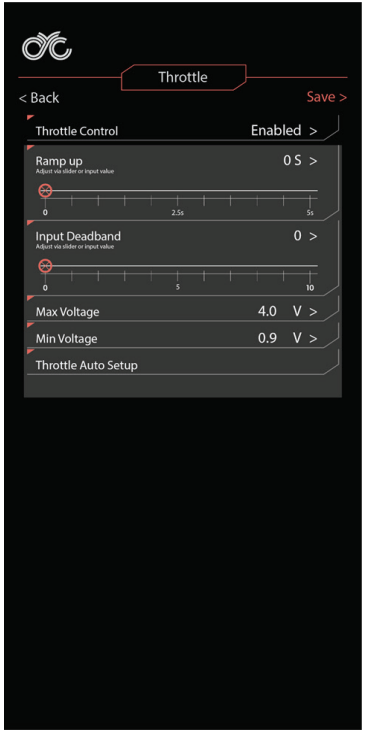


RACE & STREET MODE
You can set the throttle & PAS output independently for both modes.

RACE MODE THROTTLE & PAS
Race Mode is your "boost" or "full power" mode and has parameters set for reaching closer to the system's full capabilities. You can adjust these to your own preference within the capabilities of your controller. The default setting in Race Mode is 1200W & 32kph.

STREET MODE THROTTLE & PAS
Street Mode is intended to be set to your region's legal limits. You can adjust these to your own preference or to your region's legal limits. You can adjust these to your own preference or to your region's legal limits. The default setting in Street Mode is 750W & 25Km/hr.

THROTTLE



RAMPING TIME
This is the time it takes for the motor to achieve the required input. For example, if you open the throttle fully, it will take 250ms (by default) before the motor gives you full power. It will gradually ramp up to full power within the set time. We recommend not to set this below 150ms.

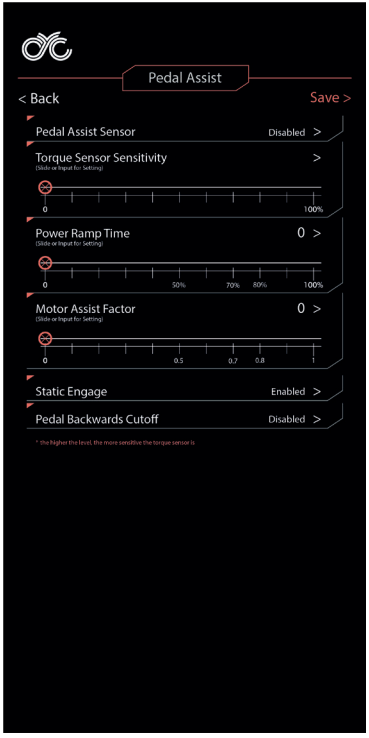
INPUT DEADBAND
This value pertains to opening the throttle when it's completely closed. This is the amount of throttle can be moved from the zero position without generating a response from the motor. If this value is set lower, your throttle will engage quicker and vice versa.

MAX VOLTAGE
This value is the voltage of the throttle when it is fully pressed.

MIN VOLTAGE
This is the output of the throttle when opened fully and is pre-set when purchased. This does not need any change with CYC supplied throttles.

THROTTLE AUTO SETUP
If you'd like to use your own throttle, this will automatically setup the minimum and maximum voltage accordingly. Follow the steps as prompted on the screen.

PEDAL ASSIST



PEDAL ASSIST SENSOR
Enabling pedal assist.

TORQUE SENSOR SENSITIVITY
This value pertains to activating pedal assist when it's completely off. This is the amount of pedal force required to activate the pedal assist. If this value is set higher, your pedal assist will engage with less force and vice versa.

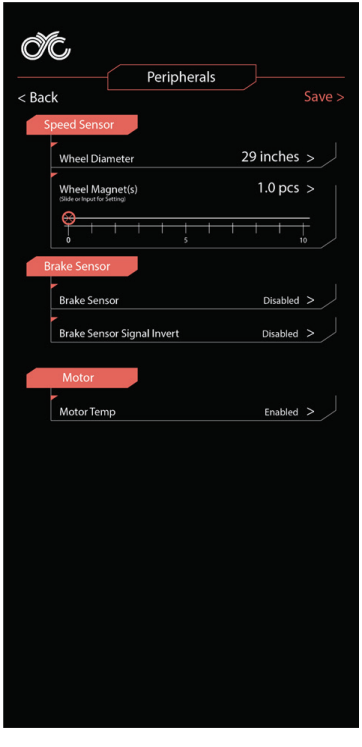
POWER RAMP TIME
The amount of time it takes to reach the desired input. This is the responsiveness of the motor.

MOTOR ASSIST FACTOR
This value pertains to how hard you need to pedal to get full power.

STATIC ENGAGE
This feature allows for a cadence-free pull away. i.e., only torque (40N.m.) is required to activate pedal assist.

Pedal Backwards Cutoff
This features all you to cut the motor power when you pedal backwards.

PERIPHERALS SETUP



SPEED SENSOR
Wheel Diameter
The wheel diameter can be measured or calculated. We advise that this number must be calibrated so that vehicle speed within the app matches display speed. This will give more accurate speed liming under different modes. Remember to set the correct wheel size within the display as well (only applicable to 500c & 750c displays). Kindly refer to your user manual.

Wheel Magnet
This is the number of magnets in the wheel that is communicating with the speed sensor. For more accurate vehicle speed limiting and measurement, we advise to add more magnets to the wheel.

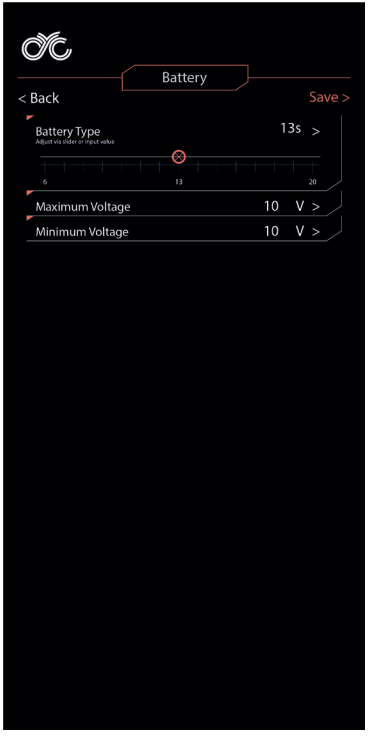
BRAKE SENSOR

Brake Sensor Enable
Enable/Disable brake sensors

BRAKE SENSOR SIGNAL INVERT TAB
If you are using brake sensors from a different supplier, you can use this feature to set up your brake sensors as needed.

MOTOR TEMP
This is an advanced feature and requires a password from CYC to change. This allows you to disable your motor temperature sensor. Contact technical_support@cycmotor.com for more details.

BATTERY



SERIES OF CELLS
10s = 36V, 14s = 52V, 20s = 72V

MAXIMUM VOLTAGE
The value the controller will fault when connecting too high a voltage to the system. An error will be triggered if a battery is too high of a voltage.

MINIMUM VOLTAGE
The value the controller will fault when connecting too low a voltage to the system. This setting can be used to protect your battery if too much voltage sag is detected.

Default Settings Information

Peak Limit & Default Settings	USA (Default)	Canada	EU	UNRESTRICTED
Street PAS	1200W Low 300W, 50% torque Mid 550W, 75% torque High 800W, 100% torque	1000W Low 300W, 50% torque Mid 550W, 75% torque High 750W, 100% torque	750W Low 300W, 50% torque Mid 550W, 75% torque High 750W, 100% torque	2000W Low 300W, 50% torque Mid 550W, 75% torque High 800W, 100% torque
Street Throttle	1200W Low 300W, 50% torque Mid 550W, 75% torque High 800W, 100% torque	1000W Low 300W, 50% torque Mid 550W, 75% torque High 750W, 100% torque	Disabled	2000W Low 300W, 50% torque Mid 550W, 75% torque High 800W, 100% torque
Street Speed Limit	32kph	32kph	25kph	100kph
Race PAS	1200W Low 500W, 50% torque Mid 850W, 75% torque High 1200W, 100% torque	1000W Low 300W, 50% torque Mid 750W, 75% torque High 1000W, 100% torque	1000W Low 300W, 50% torque Mid 750W, 75% torque High 1000W, 100% torque	2000W Low 500W, 50% torque Mid 1000W, 75% torque High 1500W, 100% torque
Race Throttle	1200W Low 500W, 50% torque Mid 850W, 75% torque High 1200W, 100% torque	1000W Low 300W, 50% torque Mid 750W, 75% torque High 1000W, 100% torque	1000W Low 300W, 50% torque Mid 750W, 75% torque High 1000W, 100% torque	2000W Low 50W, 50% torque Mid 1000W, 75% torque High 1500W, 100% torque
Race Speed Limit	45kph	32kph	25kph	100kph

DISCLAIMER

If you require any more information or have any questions about the user manual disclaimer, please contact us via email at technical_support@cycmotor.com.

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Visit **www.cycmotor.com/privacy-policy** for more detailed information.

05 SW102 DISPLAY GUIDE

Product Details

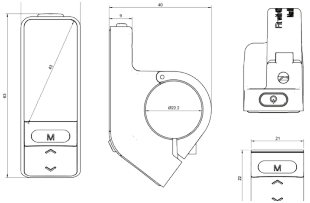
Product Name
Intellegent OLED display, model : SW102
Firmware: CYCMotor Ltd specific firmware

Features
- Minimalist design and process
- High brightness, high contrast 1.3-inch monochromatic OLED screen
- Excellent outdoor design with IP65 waterproof rating

Dimensions & Materials

Materials
Product shell - ABS + PC plastic
Transparent window - 2.5D Tempered glass

Dimensions
L 23mm x W 40mm x H 63mm



Electrical Specifications

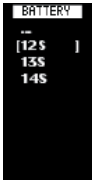
- Power supply：DC 36V/48V/ 52V
- Rated current：12mA
- Shutdown leakage current：<1uA
- Screen specification： 1.3" OLED（64*128 dots）
- Communication method：UART (default)
- Operating temperature：-20℃ ~ 60℃
- Storage temperature：-30℃ ~ 80℃
- Waterproof level: IP65

Quick Start Guide

After unboxing and installing your CYC motor system, there are two main things you need to set up.

1. Change your Battery No. setting according to your rated voltage.

Within 15 seconds of turning on your display, long press the MENU button to enter the settings functions. Press UP/ DOWN to navigate the settings page & MENU to select.



6s = 22.2V	9s = 33.3V	12s = 44.4V
7s = 25.9V	10s = 36V	13s = 48V
8s = 29.6V	11s = 40.7V	14s = 52V

*Please note that 6s to 9s is not compatible with the CYC systems. This will be removed in future batches. Our apologies for the confusion.

2. Change your Wheel setting according to your bike's wheel size.

3. Now, you can set things up like your temperature and speed unit as well as your brightness level. Otherwise, you're good to go!

05 SW102 DISPLAY GUIDE

Product Details

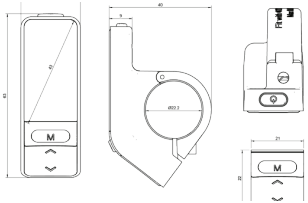
Product Name
Intellegent OLED display, model : SW102
Firmware: CYCMotor Ltd specific firmware

Features
- Minimalist design and process
- High brightness, high contrast 1.3-inch monochromatic OLED screen
- Excellent outdoor design with IP65 waterproof rating

Dimensions & Materials

Materials
Product shell - ABS + PC plastic
Transparent window - 2.5D Tempered glass

Dimensions
L 23mm x W 40mm x H 63mm



Electrical Specifications

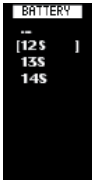
- Power supply：DC 36V/48V/ 52V
- Rated current：12mA
- Shutdown leakage current：<1uA
- Screen specification： 1.3" OLED（64*128 dots）
- Communication method：UART (default)
- Operating temperature：-20℃ ~ 60℃
- Storage temperature：-30℃ ~ 80℃
- Waterproof level: IP65

Quick Start Guide

After unboxing and installing your CYC motor system, there are two main things you need to set up.

1. Change your Battery No. setting according to your rated voltage.

Within 15 seconds of turning on your display, long press the MENU button to enter the settings functions. Press UP/ DOWN to navigate the settings page & MENU to select.



6s = 22.2V	9s = 33.3V	12s = 44.4V
7s = 25.9V	10s = 36V	13s = 48V
8s = 29.6V	11s = 40.7V	14s = 52V

*Please note that 6s to 9s is not compatible with the CYC systems. This will be removed in future batches. Our apologies for the confusion.

2. Change your Wheel setting according to your bike's wheel size.

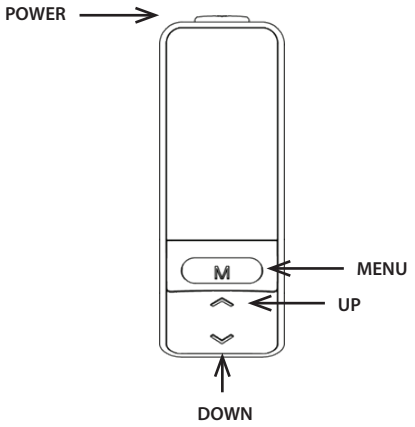
3. Now, you can set things up like your temperature and speed unit as well as your brightness level. Otherwise, you're good to go!

Functionalities

Power On/ Off
Press and hold the POWER button for 2 second to turn the display on/ off. The display will automatically shut down when there is no operation for a period of time.

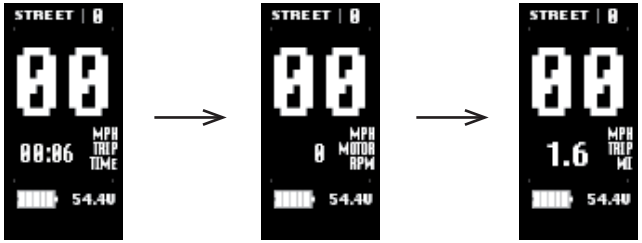
Navigation
1. POWER
2. MENU
3. UP
4. DOWN

The MENU is used to go into your main settings page & your clear data page. It is also used to enter and select a setting or function & finally, it's also used to switch between the various main dashboard information.



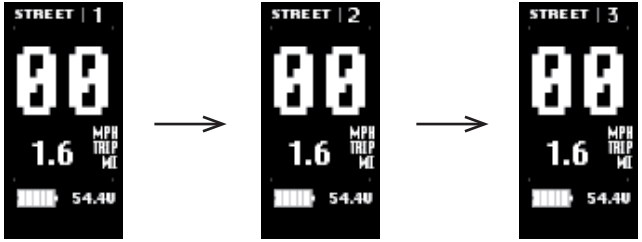
Switch Dashboard

Switch the main dashboard to display different information by pressing the MENU button.



Assist Level Operating

Press the UP/ DOWN button to change the assist level between level 1, 2, and 3. Note that "OFF" means no motor asssitance will be given.

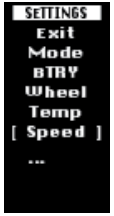


Walk Assist

Long press the DOWN button to activate walk assist. Note that it takes 3 seconds to activate & will deactivate immediately when the button is released.

Settings

Long press the MENU button within 15 seconds of switching on the display to enter the "Settings" page. Note that once the system has been activated for longer than 15 seconds, you will need to restart the motor system to



Clean Trip Data

Wait 15 seconds after starting up the motor system to be able to enter the "Clean Data" menu. Long press the MENU button to clear the previous trip data. Please note that the trip data does not automatically clear once you restart the motor system. This is a manual process.

Error Codes

In certain circumstances, an error code may appear on your display. Contact **techinical_support@cycmotor.com** for assistance. *TBC

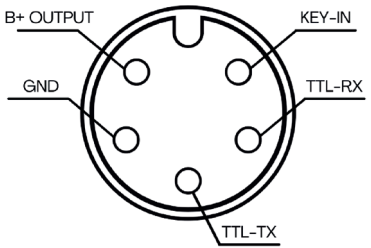
Installation

1. Open the display lock clip, set the display in the left handlebar (standard handlebar sizeΦ22.2). Adjust it in place and tighten the screw accordingly.

Note: **Damage caused by excessive torque is not covered by the warranty**.

Pin Layout

Male 5-Pin Connector



1. Red wire: Anode (36V to 72V)
2. Black wire: GND
3. Yellow wire: TxD (display -> controller)
4. Green wire: RxD (controller -> display)
5. Blue wire: Power cord to the controller

Certification

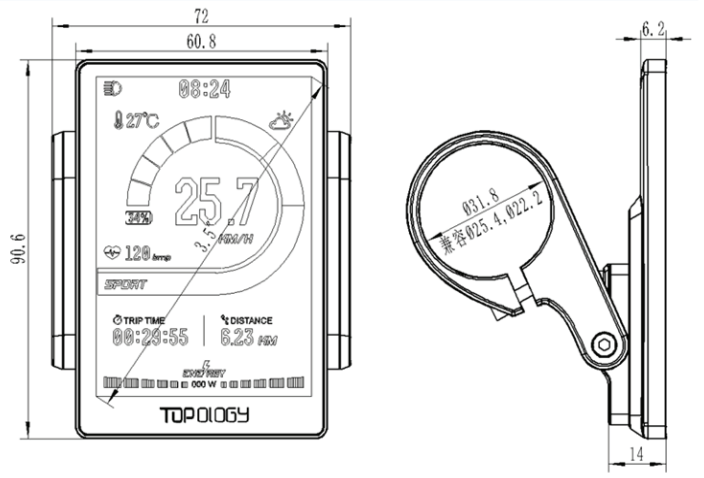
CE / IP65 (waterproof) / ROHS.

Be sure to contact **techinical_support@cycmotor.com** if further assitance is needed. Thank you!

Product Details

Product Name
Intellegent LCD display, model : DS103
Firmware: CYCMotor Ltd specific firmware

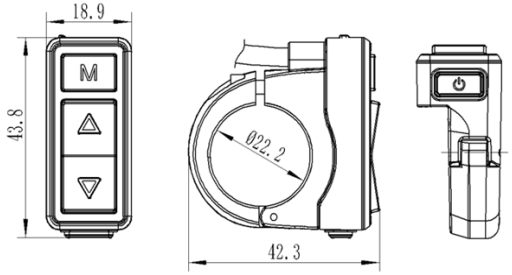
Features
- Simple and lightweight, separate installation bracket design
- High brightness, high contrast 3.5 coloured TFT screen
- Clock function (clock is on when the display shutdown)
- Excellent outdoor design with IP65 level waterproof
- Micro USB serial communication port, convenient maintenace services.



Dimensions & Materials

Materials
Product shell - ABS + PC plastic
Transparent window - Tempered glass

Dimensions
L 110mm x W 68.2mm x H 68mm



Electrical Specifications

- Power supply：DC 24V/36V/48V/ 52V
- Rated current：30ma/36V
- Shutdown leakage current：<1uA
- Screen specification： 3.5" colored TFT (480*320pixels)
- Communication method：UART (default)
- Operating temperature：-20°C ~ 60°C
- Storage temperature：-30°C ~ 80°C

06 DS103 DISPLAY GUIDE

Quick Start Guide

After unboxing and installing your CYC motor system, there are two main things you need to set up.

1. Change your Battery No. settings according to your rated voltage.

Within 15 seconds of turning on your display, long press the MENU button to enter the settings functions. Press UP/DOWN to navigate the settings page & MENU to select.

6s = 22.2 V	9s = 33.3 V	12s = 44.4 V
7s = 25.9V	10s = 36V	13s = 48V
8s = 29.6V	11s = 40.7V	14s = 52V

Please note that 6s to 9s is not compatible with the CYC systems. This will be removed in future batches. Our aplogies for the confusion.

2. Change your Wheel settings according to your bike's wheel size.

3. Now, you can set things up like your temperature and speed unit as well as your brightness level. Otherwise you're good to go!

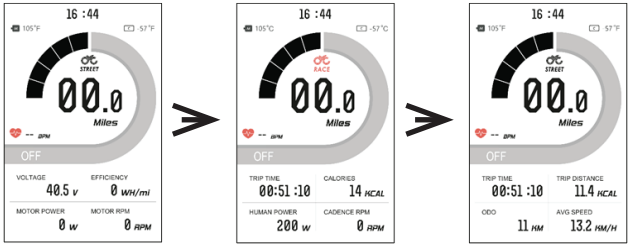
Functionalities

Power On/ Off
Press and hold the POWER button for 3 seconds to turn the display on/ off.

Navigation
The MENU button is used to go into your main settings page & your clear data page. It is also used to enter and select a setting or function.

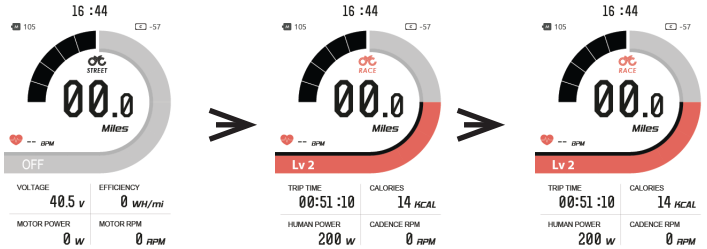
1. POWER
2. MENU
3. UP
4. DOWN

Switch Dashboard
Switch the main dashboard to display different information by pressing the MENU button.



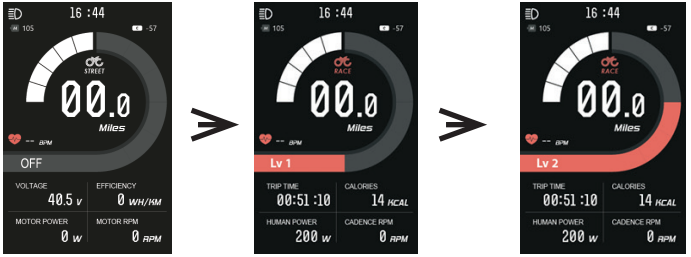
Assist Level Operating

Press the UP/ DOWN button to change the assist level between level 1, 2, and 3. Note that "OFF" means no motor assistance will be given.



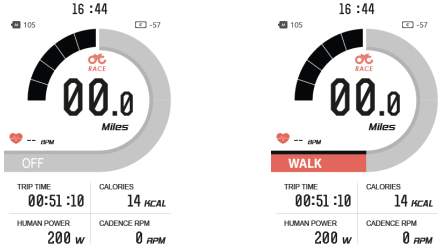
Dark & Light Themed Dashboard

Long press the UP button to switch between light and dark themed dashboard.



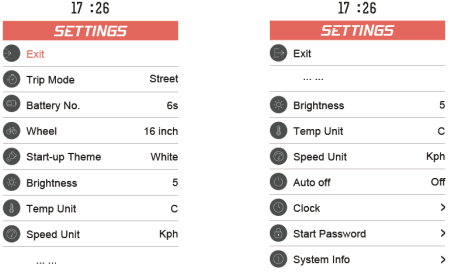
Walk Assist

Hold in the DOWN button to activate walk assist. Note that it takes 3 seconds to activate & will deactivate immediately when the button is released.



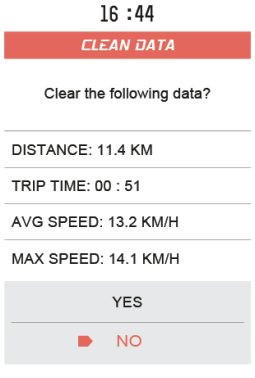
Settings

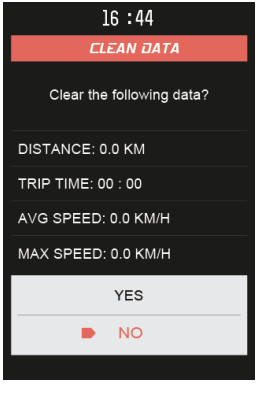
Long press the MENU button within 15 seconds of switching on the display to enter the "Settings" page. Note that once the system has been activated for longer than 15 seconds, you will need to restart the motor system to enter the settings menu.



Clean Trip Data

Wait 15 seconds after starting up the motor system to enter the "Clean Data" menu. Long press the MENU button to clear the previous trip data. Please note that the trip data does not automatically clear once you restart the motor system. This is a manual process.





Error Codes

In certain circumstances, an error code may appear on your display. Contact technical_support@cycmotor.com *Error codes TBC

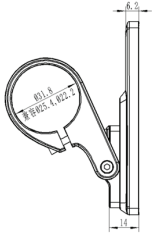
Installation

1. Determine if you need to select the corresponding mounting clamp and rubber clip ring according to the diameter of your handlebar (Applicable handlebar specifications：Φ22.2 ; Φ25.4 ; Φ31.8).
2. Open the display lock clamp and insert the rubber clip (if applicable) into the correct position of the lock clamp.
3. Set the rubber ring in the bracket (if applicable) then assemble on the middle of the handlebar. You can adjust the angle of the display to make the display screen more visible when riding. After fixing the angle, tighten the screws. Tightening torque is 1N.m.
4. Open the lock ring of the switch and set it in the appropriate position on the left side of the handlebar. Adjust the angle and position of the switch as needed in order to ensure that you can operate the switch easily.
5. Fix and tighten the handlebar fixing screw with M3Hex wrench (locking torque is 0.8Nm).

Note: Damage caused by excessive torque is not covered by warranty.

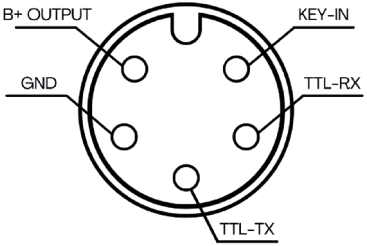
Compatibility

The clamps are suitable for 3x different handlebar sizes: 31.8mm, 25.4mm,



Pin Layout

Male 5-Pin Connector



1. Red wire: Anode (36V to 72V)
2. Black wire: GND
3. Yellow wire: TxD (display -> controller)
4. Green wire: RxD (controller -> display)
5. Blue wire: Power ord to the controller

Cerification

CE / IP65 (waterproof) / ROHS.

Be sure to contact **techinical_support@cycmotor.com** if further assitance is needed.
Thank you!

Error Codes

In certain circumstances, an error code may appear on your display and app. Contact technical_support@cycmotor.com for assistance. Kindly email us your order number & details of the issue with photos/ videos as reference if possible.

For SW102 displays, please log into the CYC Ride Control app to see the corresponding error message.

Error Code on SW102 Display	Error Code on App & DS103 Display
1	Controller Over Voltage
2	Controller Under Voltage
4	Controller Internal Error 1
5	Controller Over Temperature
6	Motor Over Temperature
9	Controller Internal Error 10
10	Controller Internal Error 2
14	Controller Internal Error 3
15	Controller Internal Error 4
16	Controller Internal Error 5
17	Controller Internal Error 6
18	Controller Internal Error 7
23	Controller Internal Error 8
24	Controller Internal Error 9
26	Hall Sensor Error
28	Throttle Error
29	Speed Sensor Error

General Maintenance

You are advised to regularly maintain, clean and check the status of the bike and motor system as dirt will accumulate throughout the rides and additional strain will be taken by the drivetrain due to the powerful motor system. We recommend that users should inspect the bike and motor condition before and after each ride.

Disconnect all power supplies from the drive unit before starting any work (e.g., inspection, repair of the bike, maintenance work etc,) on the bike, transportation or storage. Unintentional activation of the drive could lead to serious damage or injury.

Never reach into the chains, gears or any moving parts while the bike is still in operation.

As the drive unit can get hot after use, be sure to give it some time to cool down before performing any maintenance.

Store the bike in a cool and dry place, sheltered from direct sunlight and potential rain.

Do not attempt to disassemble or modify the drive unit. The drive unit may only be repaired and maintained by qualified experts and only replaced with original spare parts. This will ensure that the safety/ warranty of the drive unit is maintained.

The active moving parts (e.g., chain, gear, speed reducer etc.) should be regularly lubricated to maintain desired performance. In case of any abnormal activity, stop using the drive unit immediately and contact your CYC dealer.

Do not attempt to replace the product parts with the parts that have been found at a local bicycle store as the materials used in the drive unit are specifically designed for their purposes.

All bolts, nuts and screws are required to be tightened to the correct torque, if there is anything loose, stay off the bike. Torque specifications for each bolt and nut is provided.

06 TERMS & CONDITIONS

Warranty

This product has a 2-year warranty period. Man-made failures are excluded from warranty. Terms and conditions apply. Please visit www.cycmotor.com/refund-and-return-policy for more information.

For any queries or complains, please contact us directly at support@cycmotor.com or visit our online store for replacement parts at www.cycmotor.com/shop.

Purchases from a CYC dealer

CYC authorized dealers may have different terms and conditions. If you are experiencing any issues with your item/s and did not purchase the kit directly from us, kindly consult the appropriate dealer. Thank you.

Contact Information

support@cycmotor.com

For customer support, including
- shipping;
- quotes,
- tax, and
- sales

technical_support@cycmotor.com

For technical support, including
- build assistance;
- recommendations;
- troubleshooting, and
- product related queries

Office Hours
Monday to Friday
9am - 6pm
Hong Kong Time
Tel: +852 3690 8938

07 DOWNLOADS

Kindly download the display & mobile app user manuals in our Downloads page (cycmotor.com/cycmotor-downloads) or scan the QR code. All materials listed below are freely available to download on the CYC website.

Included in this link:

- Instruction Card
- User Manual
- Ride Control App User Guide
- SW102 Display User Manual
- DS103 Display User Manual
- Speed Sensor Installation Guide
- Brake Sensor Installation Guide
- 1:1 printouts for mounting reference

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