

Cyber Motions

Product Specifications



Issue Date : 2017/05/31



1. Introduction

The Cyber Motions is mainly providing riders to catch training data for speed, power, cadence and etc. Built-in battery design can be charged by power adapter (5V) or by standard USB chargers. Also, the cyber motions in conjunction with ANT+/BLE wireless transmission, the real-time information can be easily connecting to your cycling computer or smart phone (Android 4.3 above and iOS).

2. Key Features

- Timely interactive training data connections.
- Support ANT+/BLE 2.4GHz wireless transmission.
- Be compatible with 2.4GHz cycling computers.
- Support on peripheral ANT+/BLE wearable devices to enhance cycling data, sports training and health management.
- Smart App integrates GPS, route tracking, time, photos and information to be shared with community network.
- Cassette : Compatible with Shimano, SRAM, Campy systems.
- Quick Release support.



3. Power Hub Specifications

Items	Road Bike
Brand / Model	Cyber Motions R1
Axle size	140 mm
Axle Type	15mm Alloy , QR Support
O.L.D.	M10X 130mm
Spoke Type	Straight-Pull (Opt. J-Bend)
Spoke Hole	24 (Opt.)
Bearing Qty	4 set
Spoke Gauge	14 G
Material	AL6061(Body) AL7075(Axle) Anodizing
Brake type	C-Calip 、 Cyclocross
Free Hub Body	3 Paws
Weight	336.5g (Approx.)
Cassette Compatible	Shimano & SRAM cassette in 9/10/11 speed Campy cassette in 10 / 11 speed



4. Technical Information

Wireless Transfer	ANT+ 2.4GHz
Speed Range Detection	0 ~ 90 KM/H
Power Calibration	Yes (Available update calibration data from App software or compatible ANT+ cycle computer)
Accuracy	± 2%
Battery Capacity	170 mAh
Battery Life Time	68 Hours (by 1 time Charged)
Battery Standby Time	16,000 Hours (Approx.)
Battery Type	Rechargeable
Operation Consumption	2.5mA
Sleep mode current	10.6μA (Include battery self-current consumption 7μA)
Charge Power	Power Adapter 5V (or USB chargers)
Charge Time	2.5Hours (by 0.7C)
Water-Proof	IPx7 (TBD)
Operation Temperature	0 ~ +40°C
Storage Temperature	-10 ~ +60°C

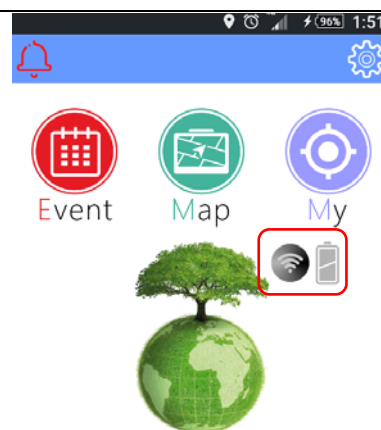
LED Indicators

1. Battery Full : **Blue** (LED light on when battery on full stage)
2. Battery Charging : **Orange** (LED display during power charging stage)
3. Battery Low : When system start-up and power remaining 20%, LED flashes **Red** 5 seconds (1 flash per second)
App software can display the percentage of power. (Smartphone functionality required to support ANT+/BLE.)

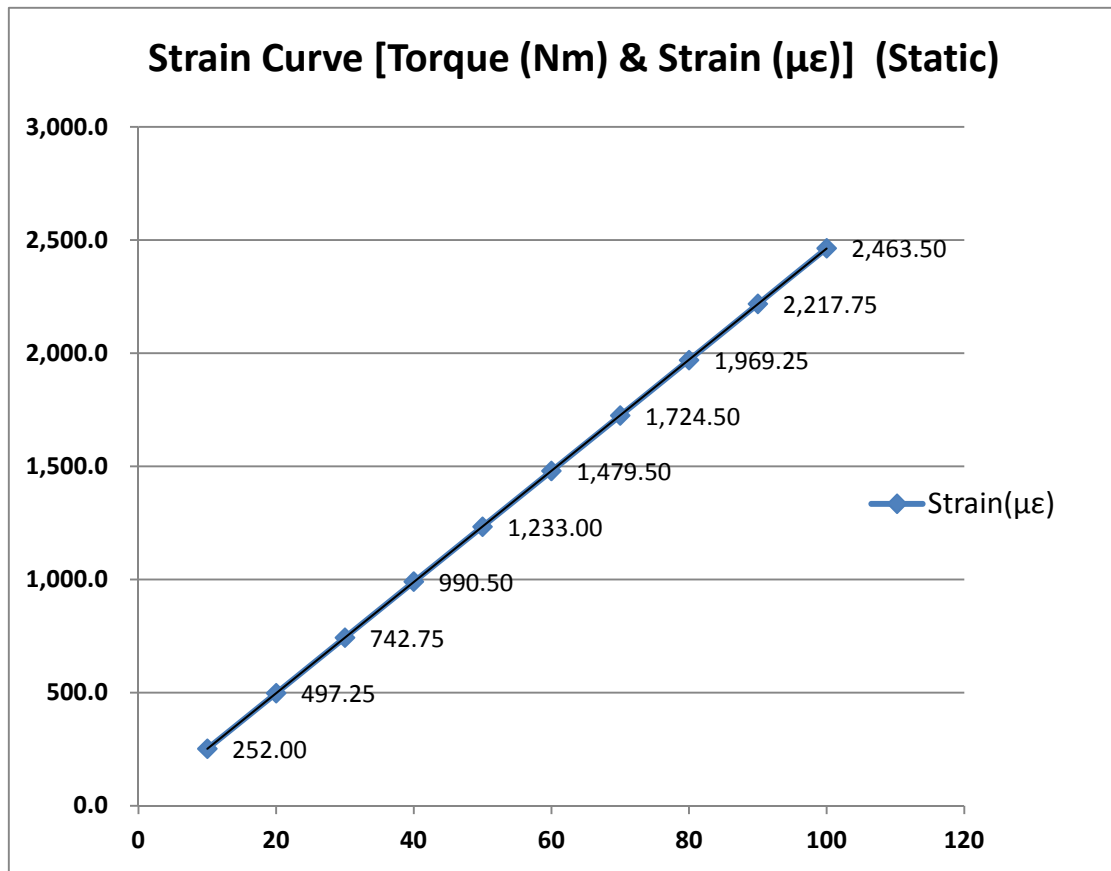
4. ANT+/BLE Active : **Green** Flash 5 seconds (The LED flash lighting when bike startup and power hub connect to smart phone)

App Software Function

1. On-Line Indicator :
ANT+/BLE Wireless Connected to Smartphone
Icon Light On : Wireless connection
Icon Light Off : Wireless disconnection
2. Battery Power Status :
2.1 Normal – Green Light (Mapping ANT+/BLE Profile : New 、 Good 、 OK)
2.2 Low – Red Light (Low 、 Critical)
2.3 Unavailable – Gray Light (Disabled)
3. Display battery power percentage (%).
4. Available enter the gear ratio to achieve more precise cadence.
5. Auto calibration.
6. Combine with smart phone APP to provide cycling data, such as power, speed, distance, cadence and so on.
7. Integrate with ANT+/BLE peripheral devices, such as transmitted heart rate to cycling computer.
8. Enrich cycling information through the functionality of smart phone, such as GPS, G-Sensor and community network.
9. Support Android and iOS platform

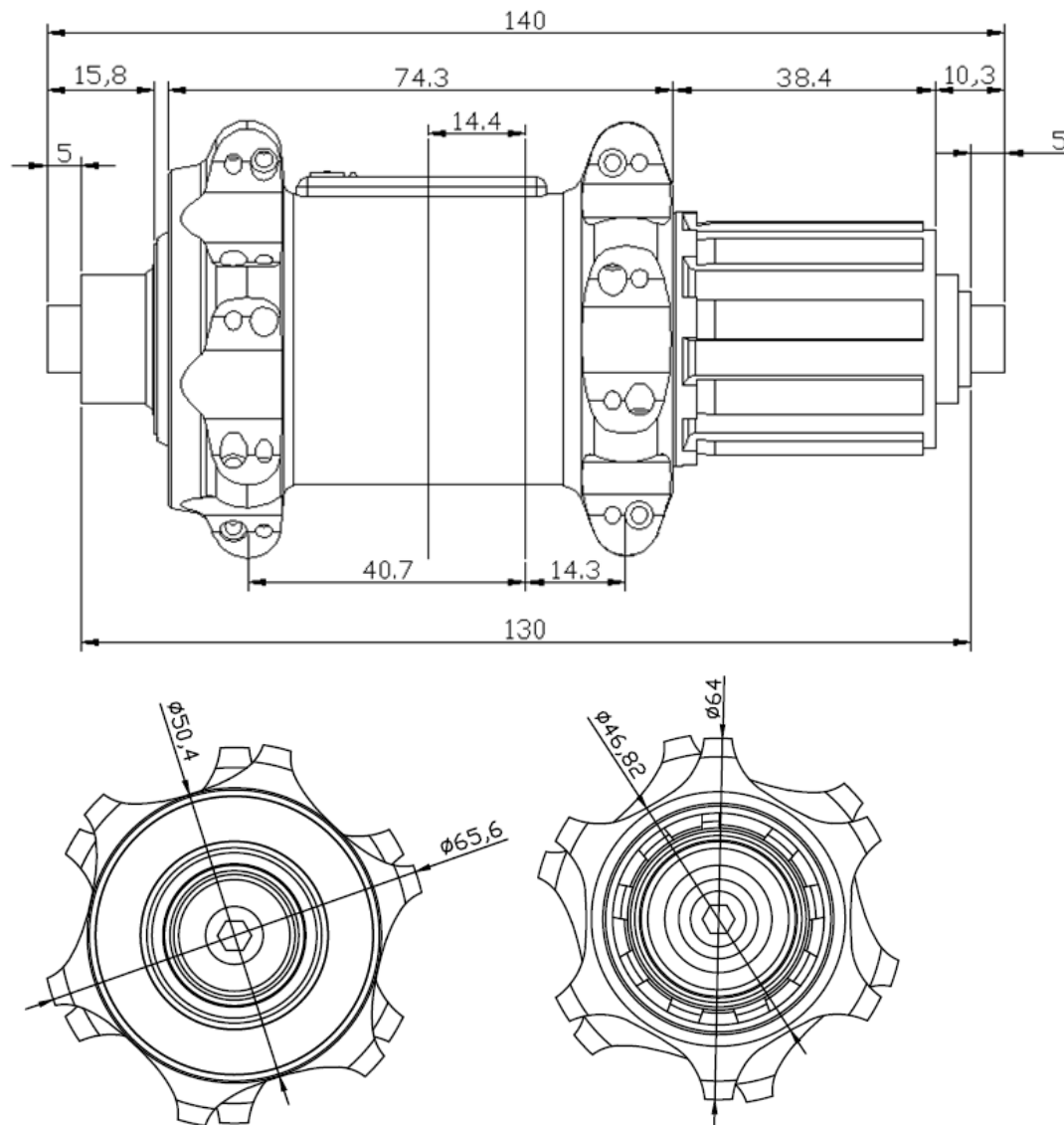


6. Measurement of Torque(Nm) & Strain Gauge($\mu\epsilon$)



Tested Update 2015/12

7. Mechanical Drawings – Power Hubs for Road Bike (None Disc Brake)



Unit : Millimeter (mm)

8. Build Wheel Measurement :

Measurement	Road Bike	
	Non-drive	Drive
Hub center to flange	40.7 mm	14.3 mm
Flange diameter	65.6 mm	64.0 mm
Spoke hole diameter	2.50 mm	2.50 mm

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC RF Radiation Exposure Statement

1. The equipment complies with RF exposure limits set forth for an uncontrolled environment. The antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
2. This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment.
3. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference and
 - (2) this device must accept any interference received, including interference that may cause undesired operation
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