



CATEYE® CYCLOCOMPUTER

CC-HB100

WITH HEART RATE MONITOR FUNCTION

INSTRUCTION MANUAL

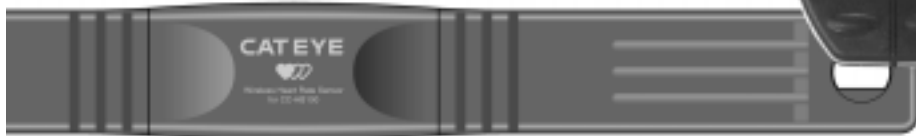
MODE D'EMPLOI

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MANUAL DE INSTRUCCIONES



Introduction

Thank you for purchasing CATEYE CYCLOCOMPUTER Model CC-HB100. As well as cyclocomputer functions, this model has heart rate monitor functions, which enables safe and scientific training, by monitoring heart rate with a Wireless Heart Rate Sensor. Double pulse wireless heart rate transmission helps prevent interference caused by shocks and outer noises, offering the most accurate measuring. In addition to functioning as a cyclocomputer, it can be used as a heart rate monitor for other non-cycling exercise programs. The features are as follows:

Heart Rate Monitor Functions:

- * Measures current heart rate with a Wireless Heart Rate Sensor.
- * Gives target zone training by setting upper/lower heart rate limits, with flashing alarm symbols.
- * Measures average heart rate in conjunction with the elapsed time of riding.
- * Estimates and totals calorie consumption calculated from the heart rate.

Cyclocomputer Functions:

- Current speed
- Maximum speed
- Average speed
- Total distance
- Trip distance
- Elapsed time
- Clock time
- * Auto (Automatic start/stop) function.

Before operating, thoroughly familiarize yourself with this manual so that you understand the functions completely. Keep this manual along with the warranty card for future reference.

Index

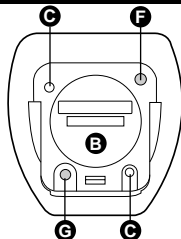
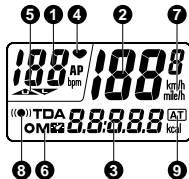
Names	4
For Safe Operations	5
Button Functions	6
How to Use as a Cyclocomputer	
1. Main Unit Preparation	7
2. Mounting to Bicycle	8
3. Auto (Automatic Start/Stop) Function	9
4. Power Saving Function	9
How to Use as a Heart Rate Monitor	
1. Wireless Heart Rate Sensor	10
2. Before Attaching	10
3. Attaching Wireless Heart Rate Sensor	10
4. Setting Upper/Lower Heart Rate Limit	11
Measuring and Display	11
Heart Rate Training	13
Troubleshooting	14
Replacing Battery	
1. Main Unit	16
2. Wireless Heart Rate Sensor	16
Replacing Electrode Belt	17
Spare Accessories	17
Specifications	18
Limited Warranty	19
Setting Values Cross Reference Table	19

Names

Main Unit

A Display

- Heart Rate Display
- Speed Display
- Sub Display
- Heart Rate Symbol
- Alarm Symbol of Upper/Lower Heart Rate Limit
- Mode Symbol
- Speed Scale Symbol
- Wheel Sensor Signal Symbol
- Auto (Automatic Start/Stop) Mode Symbol



B Battery Cover

C Contact

D Mode Button

E Start/Stop Button

F AC (All Clear) Button

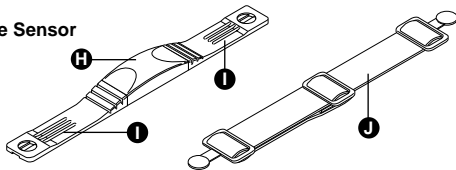
G Set Button

Wireless Heart Rate Sensor

H Transmitter

I Electrode Belt

J Attachment Belt



Accessories/Attachments

K Bracket

L Wire

M Sensor

N Sensor Band A (Large/Small)

O Sensor Band B

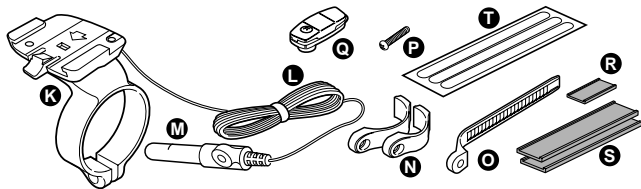
P Sensor Screw

Q Magnet

R Sensor Band Rubber Pad

S Bracket Rubber Pad (2 pcs.)

T Wire Securing Tape



For Safe Operations

For safe and appropriate use, always observe the following.

- WARNING**
- If you are a pacemaker user, never use this.
 - Don't use this model in an airplane.
 - In case your skin reacts with the Wireless Heart Rate Sensor and presents a sign of rash or eruption, refrain from frequent use.
 - Don't pay too much attention to your cyclocomputer functions when riding. Keep your eyes on the road and give due consideration to safe riding.

FOR BEST OPERATIONS

Wireless Heart Rate Sensor

- In the following places, strong electromagnetic wave will interfere correct measuring:
 1. Places near television sets, radios, motors/engines, or in an automobile/railroad car
 2. A railroad crossing, near railway lines, television transmitting station, radar base
- Don't place more than two transmitters within the radius of 1.5 meters of the main unit. Avoid using this unit together with other cordless devices at the same time.
- Don't drop or impact the main unit/transmitter.
- Always keep the Wireless Heart Rate Sensor clean by wiping off sweat with mild soap.
- Don't bend, twist or pull hard at the electrode belt.
- The electrode belt is expendable. It may deteriorate and present function error after a long term use. Replace with a new one when you notice a sign of deterioration.

Main Unit

- Don't leave the main unit exposed to direct sunlight for extended periods of time.
- Never disassemble the main unit.
- Check relative position of sensor and magnet periodically.
- When using this unit as an independent heart rate monitor apart from bicycle, switch off the Auto (automatic start/stop) function and use the right button for operation.
- If the space between the buttons and the body becoming clogged with mud or sand, it will hinder button operation. Wash it off softly with water.
- When the contact gets wet, dry it off with cloth; rust will cause function error.
- For cleaning, use mild soap, and wipe dry with a soft cloth. Never apply paint thinner, benzine or alcohol to the computer. Damage will result.
- Maximum transmission for the Wireless Heart Rate Sensor is about 80 cm.

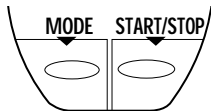


Fig.1

Left Button

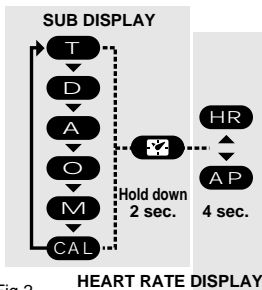


Fig.2

T	-----	Elapsed Time
D	-----	Trip Distance
A	-----	Average Speed
O	-----	Total Distance
M	-----	Maximum Speed
CAL	-----	Calorie Consumption
	-----	12-Hour Clock
HR	-----	Heart Rate
AP	-----	Average Heart Rate

Button Functions

Left Button (Mode Button)

With each press of this button, the mode symbol shifts as shown in Fig. 2.

* If this button is held for about 2 seconds, symbol (12-hour clock) is displayed. If pressed for over 4 seconds, heart rate display is changed from the current heart rate to AP (average heart rate) or from AP to the current heart rate.

Right Button (Start/Stop Button)

With each press, this button starts or stops measuring of trip distance(D), elapsed time(T), average speed(A), average heart rate(AP), and calorie consumption(CAL). During operation, the speed scale symbol flashes.

* In the Auto (automatic start/stop) function [when is on], this button does not work (refer to page 9).

Set Button (on the back)

This button is used for the following operations:

For switching on/off the Auto (automatic start/stop) function

----- press this button in T, D or A mode

For setting the wheel circumference ----- press this button in O mode (but in stop state)

For setting clock time ----- press this button in display (but in stop state)

For setting the upper/lower heart rate limit

----- press this button in M mode (but in stop state)

AC Button (on the back)

This button erases all the data stored in memory. Don't press this button except after replacing the battery or when irregular display occurs. Since all the memories are cleared off, set the necessary data again according to "Main Unit Preparation" (refer to page 7).

Reset

When the left and right buttons are pressed simultaneously, trip distance, elapsed time, average speed, maximum speed, average heart rate and calorie consumption returns to zero.

* If this operation is executed in O display, it doesn't reset the data; instead, the wheel circumference stored in memory is displayed.

How to Use as a Cyclocomputer



Fig.3

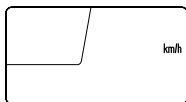


Fig.4

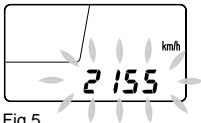


Fig.5



Fig.6

1. Main Unit Preparation

The following must be completed before operation.

-1.How to Measure Wheel Circumference

In order to get the accurate value, measure the wheel circumference (L) actually from the tire of your bicycle (Fig.3). Put a mark on the tire tread, and ride one full wheel revolution; then mark the ground at the end of one revolution and measure the distance between the two marks. Or, "Setting Values Cross Reference Table" (page 19) can tell you the approximate wheel circumference according to the tire size.

-2.Setting Speed Scale

First, press the AC button; all displays illuminate and then "km/h" symbol appears. With each press of the right button, "km/h" and "mile/h" appears alternately. Select the desired scale and press the Set button to fix the scale.

-3.Setting Wheel Circumference

The preset value of this cyclocomputer is 2155mm (standard value for 700 x 32C wheel) (Fig. 5). When using 2155mm without revision, press Set button and this value is set. For revision, press the right button to increase the number and the left button to decrease, when the number is blinking. To increase/decrease the number rapidly, hold down the button. When the desired number appears, press the Set button and the value is set.

-4.How to Reset or Change Wheel Circumference

Get the stop state in O display, and press the Set button. The stored number flickers. Then revise the number according to the above.

⊛ Setting Clock Time

Hold down the left button for about 2 seconds. Get the stop state by the press of right button. Then press the Set button; the digits for hours flicker. With each press of the right button, the digits increase by one. (To increase rapidly, hold down the button.) Then, press the left button and the digits for minutes flicker. After having increased the digits to the desired number, press the Set button, and the time is set. For accurate time setting, display the number which is 1 minute ahead of the present time; then at the tone of the time signal, press the Set button.

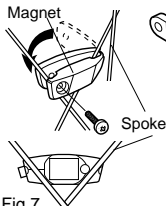


Fig. 7

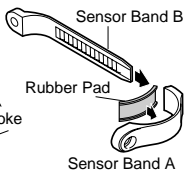


Fig. 8

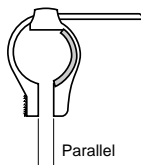


Fig. 9

2. Mounting to Bicycle

- Attach the magnet on the right spokes of the front wheel. The spokes must run correctly through the inside of the magnet as in Fig. 7.
- Attach the sensor with sensor bands A/B to the right fork. Choose a band that fits the fork diameter (S size for up to 24 ϕ , L for oversize).

1. Insert the band B into the slit of band A, and put the rubber pad inside of the band A (Fig. 8). Adjust the length in order that the screw-fastening part of the bands are parallel when mounted to the fork (Fig. 9).

*To pull out the band B from band A, tug strongly.

2. Mount the adjusted bands to the fork along with the sensor, by temporarily tightening the screw (Fig. 10).

3. Align the magnet's center and the sensor's marking line (Fig. 11), and make sure of 2mm clearance between the magnet and sensor (Fig. 12). Then tighten the screw securely. Cut off the excess of sensor band B.

- Secure the wire with tape as in Fig. 13. Wind the wire round the outer cable upto the handlebar. When adjusting the length, be careful that the wire will not hinder handlebar operation.
- By using the rubber pad, attach the bracket close to the handlebar stem (Fig. 14).

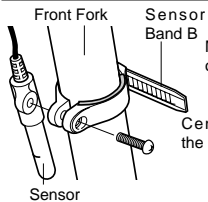


Fig. 10

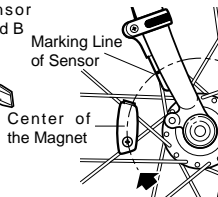


Fig. 11

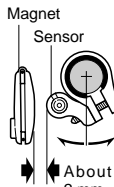


Fig. 12

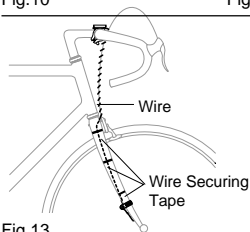


Fig. 13

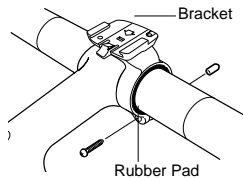


Fig. 14

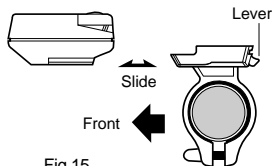


Fig.15

Mounting Main Unit

Slide the main unit onto the bracket from front until it clicks into position. The contacts will automatically connect. To remove the unit, pull it off forward while pushing down the lever (Fig. 15).

Test

Mount the main unit. Spin the wheel to check if the sensor pulse symbol (⊖●) flashes. If not, adjust the relative positions of the magnet and sensor following the instructions.

This completes the mounting process.



Fig.16

3. Auto (Automatic Start/Stop) Function

This function enables the main unit to start or stop automatically without operation of the right button, in which **AT** symbol appears on the screen (Fig. 16).

How to Switch on/off Auto Function

When the Set button is pressed in T, D or A mode, **AT** symbol appears and Auto function is on. To clear this function off, press SET button again and **AT** symbol disappears.

- In this function, it starts/stops by perceiving revolutions of the wheel, so it stops measuring the elapsed time when the wheel ceases moving.
- While this function is on, 2 seconds may be elapsed at the moment when the main unit is mounted onto the bracket.
- When using this unit as an independent heart rate monitor apart from bicycle, switch off this function. Operation of the right (Start/Stop) button is needed.

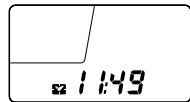



Fig.17

4. Power Saving Function

When the main unit is left without receiving any signal for about 60 minutes continuously, power supply is shut down and the unit will be in "sleep" state displaying only  display (Fig. 17).

By receiving signal from the wheel, or by a press of the right or left button, the unit "wakes up".



Fig. 18

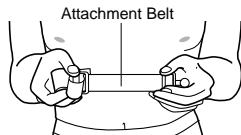


Fig. 19

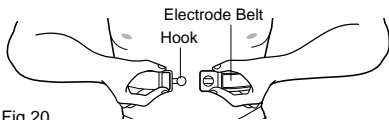


Fig. 20

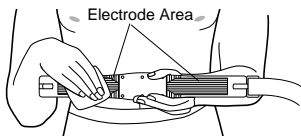


Fig. 21

How to Use as a Heart Rate Monitor

When the wireless heart rate sensor is placed on your chest, the heart rate is measured. Target zone training is available by setting the upper/lower heart rate limit.

1. Wireless Heart Rate Sensor

The Wireless Heart Rate Sensor adopts the principals medical electrocardiograph, in a simplified and miniaturized form.

Medial electrocardiograph calculates heart rate through several electrodes attached to the skin, by measuring the minute electrical activity of the heart. The Cat Eye CC-HB100 Wireless Heart Rate Sensor measures heart rate through two built-in electrodes placed on the chest. Those two electrodes perceive the minute electrical activity of the heart while the transmitter sends the signal to the main unit, enabling easy and accurate heart rate measurements. (Fig.18)

* Maximum transmitting distance: about 80 cm

2. Before Attaching

- The wireless heart rate sensor should be placed at the center of your chest. The electrode belts must make skin contact.
- For best results, moisten the electrode areas or smear electrolytic cream (which is utilized for electrocardiograph) before wearing.
- If skin irritation occurs, the Wireless Heart Rate Sensor can be worn over lightweight underwear; in this case, always moisten the electrode areas.

3. Attaching Wireless Heart Rate Sensor

1. Adjust the length of the attachment belt to your lower chest (breast) size (Fig. 19). Make certain the belt is secure and comfortable.
2. Lock the belt with the hook in position. The electrode areas should be contacting your skin closely (Fig. 20). If attaching it on underwear, carefully moisturize electrode areas (Fig. 21).

Note: In cold or dry conditions, lightly moisturizing electrodes will correct any

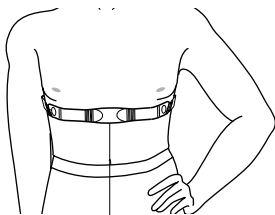


Fig.22 Transmitter



Fig.23



Over Upper Limit Below Lower Limit

Fig.24

measurement errors that may result.

- Adjust the position of the transmitter to locate it at the center of your lower chest (under your breast) (Fig. 22).
- Check if the power saving function of the main unit is off. If it is still on, release it by pressing either the right or left button.
- Place the main unit in front of your body, and check if symbol appears on the display and if your heart rate is displayed. If it doesn't work, re-adjust the location of the wireless heart rate sensor and moisturize the electrode area.

Note: When the main unit is used independent of the bicycle, or the bicycle is stopped, switch off the Auto (automatic start/stop) function. If auto function is on, average heart rate can not be displayed.

4. Setting Upper/Lower Heart Rate Limit

Get M mode by pressing the left button, and press the right button to get stop state. Then press the Set button. First, the figure for upper limit flashes on the upper display (Fig. 23), so get your desired number of the upper limit by pressing the right button to increase and the left to decrease. To increase/decrease rapidly, hold down the button. By pressing the Set button, this upper limit is set; and then the figure on lower display flashes. Again get your desired number of the lower limit by the same process. By pressing the set button again, the setting operation is complete.

* Once the upper/lower limit is set, the alarm symbol will appear when your heart rate exceeds/drops down the limits (Fig. 24).

Notice - Battery Life Update:

The expected battery life in the chest transmitter is approximately 2 years (average use of one hour per day). If the Heart Rate reading on the computer seems to be lower than actual or is not responding, the transmitter battery is at the end of its useful life. Please replace the battery in the chest transmitter with a fresh CR2032.

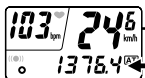
Measuring and Display

S Current Speed

Always displayed on the speed display and updated once a second.

0.0 (3.0) - 65.9 mile/h [0.0 (4.0) - 105.9 km/h]





O Total Distance

Continuously counted until the battery wears down. The increment is 0.1 mile [km] from the 0.0 to 9999.9 range, and 1 mile [km] from the 10,000 to 99,999 range.

0.0 - 99.999 miles [km]



M Maximum Speed

Displays the maximum instantaneous speed. With Reset operation, it returns to zero.

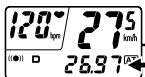
0.0 (3.0) - 65.9 mile/h [0.0 (4.0) - 105.9 km/h]



A Average Speed

Displays the average speed from the start to the current point. With Reset operation, it returns to zero. When the elapsed time exceeds 27:46'39", or the trip distance exceeds 999.99 mile [km], it stops calculation of average speed and displays (.E).

0.0 - 65.9 mile/h [0.0 - 105.9 km/h]



D Trip Distance

Displays the distance from the start to the current point. With Reset operation, it returns to zero.

0.00 - 999.99 mile [km]



T Elapsed Time

Displays the time from the start to the current point, in units of hours, minutes and seconds. With Reset operation, it returns to zero.

0:00'00" - 9:59'59"



12-Hour Clock

Displays the present time.



CAL Calorie Consumption

Estimates and displays the calorie consumption from the start to the current point, while Wireless Heart Rate Sensor is attached. With Reset operation, it returns to zero.

0.0 - 9999.9 kcal



HR Heart Rate

Displays the current heart rate while Wireless Heart Rate Sensor is attached.
0 (30) - 199 bpm
If it exceeds 200 bpm, the third digit drops. (Example: 205 bpm = 05 bpm)



AP Average Heart Rate

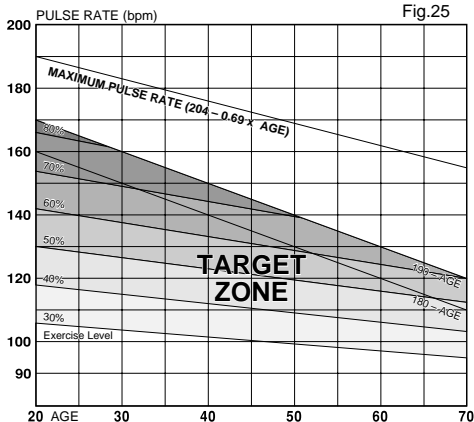
Displays the average heart rate from the start to the current point, while Wireless Heart Rate Sensor is attached. With Reset operation, it returns to zero.
0 - 199 bpm

Heart Rate Training

Generally, heart rate goes up while exercising. The harder you exercise, the more your heart rate goes up. Thus heart rate is a good indication of the exercise intensity. Setting a certain heart rate and making an effort to maintain that rate is a scientific training method, which can be utilized by beginners or top level athletes. Before starting a training program, consult a medical specialist or trainer.

1. General training for improving health

By setting your target zone (your target heart rate), you can train to improve your health through bicycling. Depending on your physical strength, the training level from 30% up to 70% is possible. Desirable frequency is: more than three times a week; and more than twenty or thirty minutes at a time. For obtaining your target zone, refer to Fig. 25, which illustrates the correlation between the heart rate and training level. For beginners, the level of 30% or so is recommended; from this point, gradually increase according to your experience. For the highest goal, the level of 70% or so is enough to reach. Meanwhile, for the purpose of losing weight, train at the comparatively lower level for a longer time; for more than one hour, if possible.



2. Training for Racers

Get your resting heart rate and maximum heart rate, as precisely as possible. According to your goal, set your target zone referring to the following:

A) Training for longer physical-endurance

Aiming at races which last for several days
60% - 70% (aerobic exercise)

B) Training for physical-endurance of about two hours

70% - 80% (aerobic exercise)

C) Training for pushing power at full force which lasts for about forty seconds

more than 85% (anaerobic exercise)

D) Training for instantaneous maximum power which lasts for several seconds

more than 95% (anaerobic exercise)

- **Training level (%)** = $\frac{(\text{Target heart rate}) - (\text{Resting heart rate})}{(\text{Maximum heart rate}) - (\text{Resting heart rate})} \times 100$
- **Target heart rate** = $(\text{Maximum heart rate} - \text{Resting heart rate}) \times \frac{\text{Training level}}{100} + \text{Resting heart rate}$
- **Resting heart rate**

Your resting heart rate is measured when awakening in the morning

- **Maximum heart rate**

As a standard, the following calculations are generally used: $(220 - \text{age})$ or $(204 - 0.69 \times \text{age})$.
For the precise figure, please consult a book which specializes heart rate training.

Troubleshooting

If a malfunction occurs, check the following before taking the unit to repair.

- When current speed does not appear, short-circuit the contacts on the back with metal. If the speed display returns, the main unit is in normal condition.
- When the heart rate measuring is not correct, first check if there is any object around which interferes with measuring such as radio systems, etc.

Trouble / Check Items / Remedy

Display response is slow.

Is it the temperature under 0°C (32°F)?

It returns to normal when the temperature rises. It does not affect the data.

No display appears.

Has the battery in the main unit worn out?

Replace it with a new one (CR2032).

Incorrect data appears.

Press AC button and set the necessary data again.

Current speed does not appear.

Is there anything on the contact of the main unit or the bracket?

Wipe the contact clean.

Is the distance between sensor and magnet too far?

Are the magnet's center and the Sensor's marking line aligning?

Adjust the position of the Magnet and Sensor correctly.

Is the wire broken?

Replace the Bracket & Sensor part with a new one.

Transmission signal loss in damp or wet conditions.

Water or condensation may collect between the bracket sensor and the computer causing an interruption in the data transmission.

Wipe the contacts with dry cloth. Contacts can also be treated with a water repellent silicon jell from an automotive parts or hardware store. Do not use industrial water repellent; it may damage the bracket.

The right button doesn't start/stop measuring.

Is the unit in the Auto mode?

In the Auto mode, the right button doesn't function.

The unit doesn't receive the heart rate.

Is it in the "sleep" state by power saving function?

Press either the right or left button to release this function.

Is the Wireless Heart Rate Sensor in correct position?

Adjust the position according to the instruction.

Is the Wireless heart rate sensor attached loosely?

Attach it correctly so that the electrode belts are contacting your skin closely.

Is your skin dry (especially in winter)?

Lightly moisturize the electrode areas.

Has the battery of the Wireless Heart Rate Sensor worn out?

Replace it with a new one.

Have the electrode belts deteriorated after long term use?

Replace them with new ones.

The heart rate display occasionally becomes zero.

Is the Wireless heart rate sensor in correct position?

Adjust the position according to the instruction.

If the display becomes zero at normal distance from the main unit (and returns normal when you get near)?

The battery has worn out. Replace it with a new one.

Replacing Battery

When the battery has worn out, replace it with a new one according to the following instruction.

Caution: Safely dispose of the old battery; and don't place it within children's reach. If swallowed by mistake, consult a doctor immediately.

1. Main Unit

Battery Life: approx. 2 years (if used for 1 hour per day) Remove the battery cover on the back with a coin or similar opener (Fig. 26). Insert a new lithium battery (CR2032) with the (+) pole upward as illustrated. Close the cover securely.

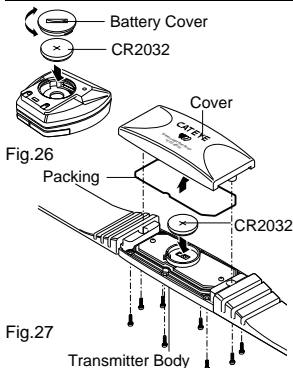
* Make sure to press the AC button and set the necessary data again after replacing the battery.

2. Wireless Heart Rate Sensor


Battery Life: approx. 2 years (if worn for 1 hour per day)

Note: The Wireless heart rate sensor is consuming the battery automatically while worn.

When you are not measuring heart rate, remove it from your chest.



Specifications

Display ranges	
Current speed	S 0.0 (3.0) to 65.9 mile/h ⁰ (27 inch) ±0.5 mile/h (under 31 mile/h) [0.0 (4.0) to 105.9 km/h]
Total distance	O 0.0 to 99,999 mile [km] ±0.1 mile [km]
Maximum speed	M 0.0 (3.0) to 65.9 mile/h ±0.5 mile/h [0.0 (4.0) to 105.9 km/h]
Average speed	A 0.0 to 65.9 mile/h [105.9 km/h] ±0.3 mile [km]
Trip distance	D 0.00 to 999.99 mile [km] ±0.01 mile [km]
Elapsed time	T 0:00'00" to 9:59'59" ±0.003%
12 hr. clock time	 0:00' to 11:59' ±0.003%
Average heart rate	AP 0 to 199 bpm ±1 bpm
Heart rate	HR 0 (30) to 199 bpm ±1 bpm If it exceeds 200 bpm, the third digit drops.
Calorie consumption	CAL 0.0 to 9,999.9 kcal Estimation
Controller:	4-bit 1-chip microcomputer (crystal controlled oscillator)
Display:	Liquid crystal
Sensor:	No-contact magnetic sensor
The length of the wire:	70cm
Transmitting system:	Directional electromagnetic induction (Double pulse system)
Transmitting distance:	About 80 cm
Power supply/service life:	Main unit: Lithium battery (CR2032 x 1) approx., 2 years (use time: 1 hr./day) Wireless heart rate sensor: Lithium battery (CR2032 x 1) approx. 2 years (use time: 1 hr./day)
Operating temperature range:	0 to 40°C (32 to 104°F)
Storage temperature range:	-20 to 50°C (-4 to 122°F)
Applicable cycle sizes:	10 to 3,000 mm [Initial value: 2,155 mm]
Upper heart rate limit range:	(lower limit) to 199 bpm [Initial value: 180 bpm]
Lower heart rate limit range:	0 to (Upper limit) [Initial value: 0 bpm]
Dimension/weight:	Main unit: 1-29/32 x 1-13/16 x 7/8" [48.3 x 45.6 x 21.5 mm] / 1.16 oz [33 g] Wireless heart rate sensor: 13 x 1-7/16 x 17/32" [330 x 36.5 x 13.5 mm] / 2.33 oz [66 g]

*The specification and design are subject to change without notice.

Limited Warranty

2-Year Warranty: **Only Main Unit/Transmitter** (excluding battery and electrode belt)

If trouble occurs during normal use, the part is repaired or replaced free of charge. The service must be performed by CATEYE Co., Ltd.. and the product which needs service must be returned to CATEYE Co., Ltd. directly by purchaser. When returning the product for CATEYE warranty service, pack it very carefully, and enclose the warranty certificate and instructions for repair. Please make sure to write or type your name and address clearly on the warranty certificate, so that the product can be shipped back to you as soon as the necessary repair/adjustment is completed. Insurance, handling and transportation charges to our service shall be borne by person desiring service. Attachments such as batteries, bracket, sensor, electrode belts/attachment belt are not included in this warranty.

Address for service

CATEYE CO.,LTD.

2-8-25, Kuwazu, Higashi Sumiyoshi-ku,
Osaka 546-0041 Japan
Attn.: CATEYE Customer Service Section
Phone: 81-6-6719-7781 FAX: 81-6-6719-2362

Service & Research Address for United States Consumers:

CATEYE Service & Research Center

1705 14th St. 115 Boulder, CO 80302
Phone: 303-443-4595 Toll Free: 800-5CATEYE
Fax: 303-473-0006
e-mail: CatEyeUSA@aol.com

Setting Values Cross Reference Table

*The tire size is marked on both sides of the tire.

TIRE SIZE	L(mm)	TIRE SIZE	L(mm)	TIRE SIZE	L(mm)	TIRE SIZE	L(mm)
16 x 1-3/8	1282	26 x 1.25	1953	26 x 2.35	2083	700 X 23C	2096
20 x 1.75	1491	26 x 1-1/8 Tubular	1970	27 x 1	2145	700 X 25C	2105
24 x 1	1753	26 x 1-3/8	2068	27 x 1-1/8	2155	700 X 28C	2136
24 x 3/4 Tubular	1785	26 x 1-1/2	2100	27 x 1-1/4	2161	700 X 30C	2170
24 x 1-1/8 Tubular	1795	26 x 1.40	2005	27 x 1-3/8	2169	700 X 32C	2155
24 x 1-1/4	1905	26 x 1.50	1985	650 x 35A	2090	700C Tubular	2130
24 x 1.75	1890	26 x 1.75	2023	650 x 38A	2125	700 X 35C	2168
24 x 2.00	1925	26 x 1.95	2050	650 x 38B	2105	700 X 38C	2180
24 x 2.125	1965	26 x 2.00	2055	700 x 18C	2070	700 X 44C	2224
26 x 1(559mm)	1913	26 x 2.1	2068	700 x 19C	2090		
26 x 1(650c)	1952	26 x 2.125	2070	700 X 20C	2086		