

# CATEYE VELO 9 / VELO 7



CYCLOCOMPUTER  
CC-VL820 / CC-VL520

**Before using the computer, please thoroughly read this manual and keep it for future reference.**

## Warning / Caution

- Do not concentrate on the computer while riding. Ride safely!
- Install the magnet, sensor, and bracket securely. Check these periodically.
- If a child swallows a battery, consult a doctor immediately.
- Do not leave the computer in direct sunlight for a long period of time.
- Do not disassemble the computer.
- Do not drop the computer to avoid malfunction or damage.
- When cleaning the computer, bracket and sensor, do not use thinners, benzene, or alcohol.
- Dispose of used batteries according to local regulations.
- LCD screen may be distorted when viewed through polarized sunglass lenses.

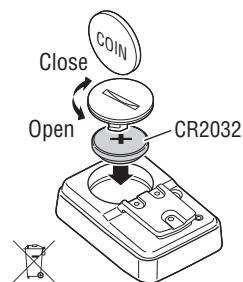
## Maintenance

- To clean the computer or accessories, use diluted neutral detergent on a soft cloth, and wipe it off with a dry cloth.
- If the gaps between the buttons and the unit get clogged with mud or sand, wash them away with water.

## Replacing the battery

When the display becomes dim, replace the battery. Install a new lithium battery (CR2032) with the (+) side facing upward.

\* After replacing the battery, be sure to set the unit again according to the procedure specified in "Preparing the computer" (page 3).



## Troubleshooting

### No display.

Is battery in the computer run down?

Replace with new batteries according to the procedure specified in the section "Replacing the battery".

### Incorrect data appear.

Follow the procedure described "Preparing the computer" (page 3).

**Current speed does not appear.** (First, short-circuit the contact of the computer a few times with a piece of metal. If current speed appears, the computer is working fine and the cause should be attributed to the bracket or the sensor.)

Is the wire broken?

Even if the outside of the wire looks normal, there could be damage. Replace the bracket sensor kit with a new one.

Is the clearance between the sensor and the magnet too large?  
Are the magnet's center and the sensor's marking line aligned?

Re-adjust the positions of the magnet and the sensor.  
(The clearance should be less than 5 mm.)

Is there anything sticking on the contact of the computer or the bracket?

Clean the contact with a cloth.

## Specification

Battery / Battery life	Lithium battery (CR2032) x 1 / Approx. 3 year
* The factory-loaded battery life might be shorter than the above-mentioned specification.	
Controller	4 bit, 1-chip microcomputer (Crystal controlled oscillator)
Display	Liquid crystal display
Sensor	No contact magnetic sensor
Tire size to be selected	26", 700c, 27", 16", 18", 20", 22" and 24", or tire circumference of 100 cm - 299 cm (initial value: 26 inch)
Working temperature	32 °F - 104 °F (0 °C - 40 °C) (This product will not display appropriately when exceeding the Working Temperature range. Slow response or black LCD at lower or higher temperature may happen respectively.)
Dimensions/weight	2-3/16" x 1-15/32" x 5/32" (55.5 x 37.5 x 18.5 mm) / 1.06 oz (30 g)

\* The specifications and design are subject to change without notice.

## Limited warranty

### 2-Year: Computer only

(Accessories/Bracket sensor and Battery Consumption excluded)

CatEye cycle computers are warranted to be free of defects from materials and workmanship for a period of two years from original purchase. If the product fails to work during normal use, CatEye will repair or replace the defect at no charge. Service must be performed by CatEye or an authorized retailer. To return the product, pack it carefully and enclose the warranty certificate (proof of purchase) with instruction for repair. Please write or type your name and address clearly on the warranty certificate. Insurance, handling and transportation charges to CatEye shall be borne by person desiring service.

For UK and REPUBLIC OF IRELAND consumers, please return to the place of purchase. This does not affect your statutory rights.

### CATEYE CO., LTD.

2-8-25, Kuwazu, Higashi Sumiyoshi-ku, Osaka 546-0041 Japan

Attn: CATEYE Customer Service Section

Phone : (06)6719-6863

Fax : (06)6719-6033

E-mail : support@cateye.co.jp

URL : http://www.cateye.com

### (For US Customers)

### CATEYE AMERICA, INC.

2825 Wilderness Place Suite 1200, Boulder CO80301-5494 USA

Phone : 303.443.4595





Toll Free : 800.5CATEYE

Fax : 303.473.0006

E-mail : service@cateye.com

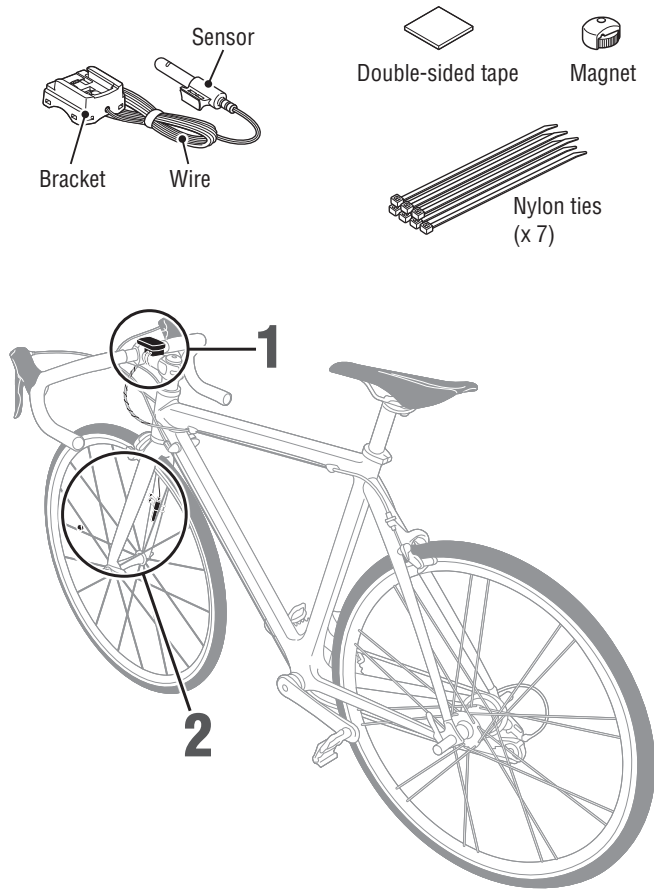
## Spare accessories

### Standard accessories

<b>1603390</b>  Parts kit	<b>1603391</b>  Bracket sensor kit	<b>1699691N</b>  Wheel magnet	<b>1665150</b>  CR2032 Lithium battery
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### Optional accessories

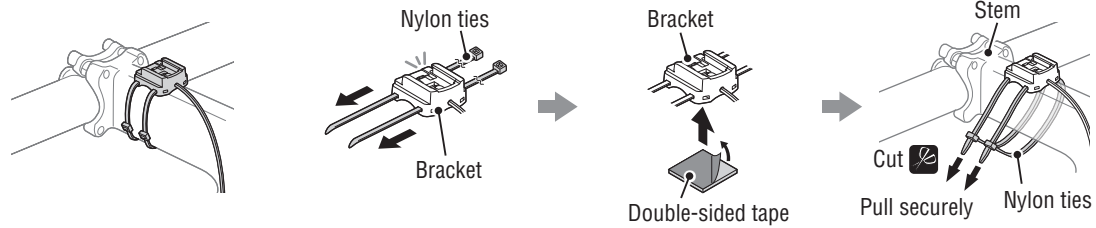
<b>1603491</b>  Heavy duty bracket sensor kit
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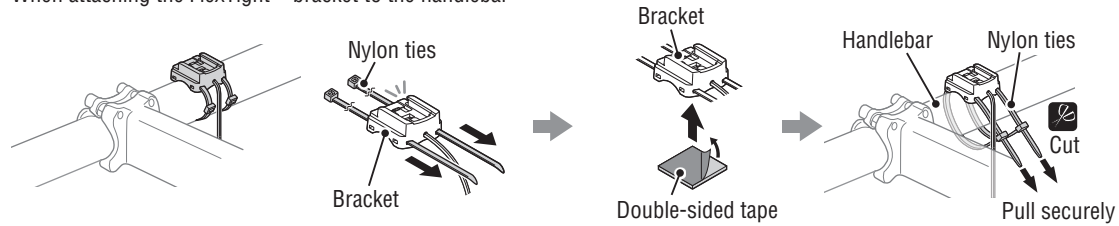
## 1 Attach the bracket to the stem or handlebar

The FlexTight™ bracket can be attached to either the stem or the handlebar, depending on how the bracket fits into the bracket band.

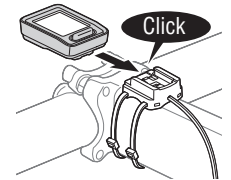
When attaching the FlexTight™ bracket to the stem



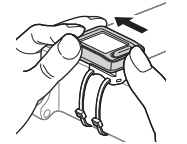
When attaching the FlexTight™ bracket to the handlebar



## Remove/Install the computer



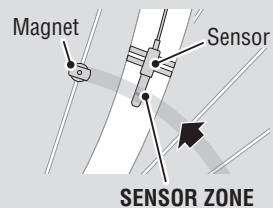
While supporting it by hand,



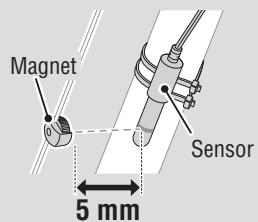
Push it out as if lifting the front up

## Install the sensor and magnet

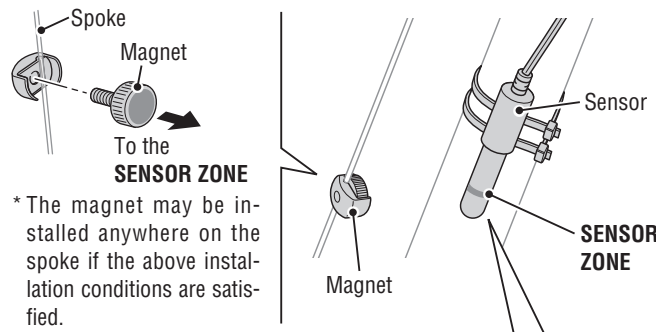
**A** The magnet passes through the sensor zone.



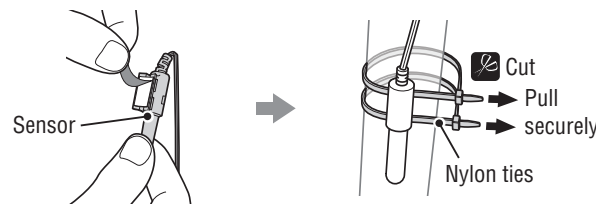
**B** The clearance between the sensor and magnet is 5 mm or less.



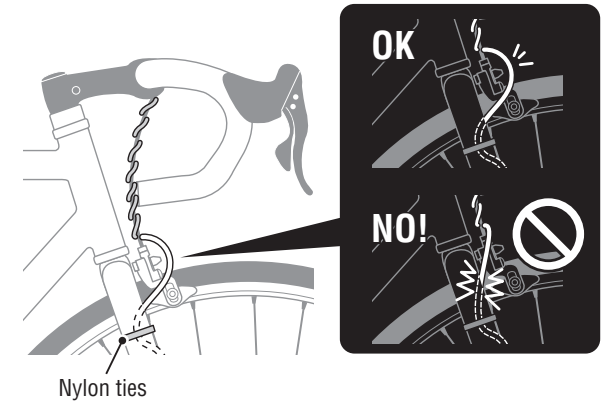
## 2 Install the sensor and magnet



\* The magnet may be installed anywhere on the spoke if the above installation conditions are satisfied.



## 3 Route the wire



**Caution:** Adjust the wire length so that it may not be pulled when the handle is operated.

Perform the clear all data operation as shown below, when you use the unit for the first time or restore the unit to the condition checked at the factory.

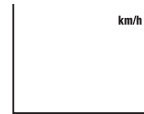
## 1 Clear all data (initialization)

Press the **AC** button on the back of the computer.



## 2 Select the speed unit

Select "km/h" or "mph".



## 3 Set the tire size

Set the tire size by either one of the following methods.

### Simple setting (select from the tire size)

Pressing the **MODE** button changes 26" → 700c → 27" → 205[ ] → 16" → 18" → 20" → 22" → 24" → 26" in order. Select the tire size (inch) of your bicycle, and then press the **SET** button.



\* Generally, the tire size is indicated on the side of the tire.



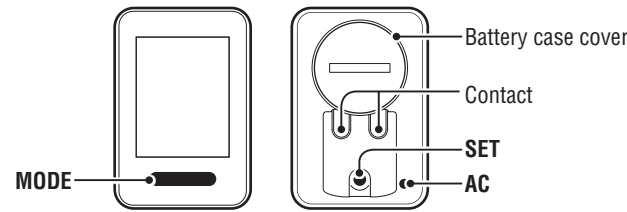
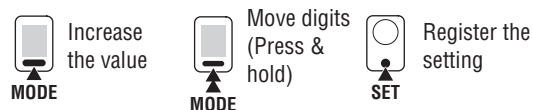
### Detailed setting (enter the numeric value of the tire circumference)

\* Entering the tire circumference ensures more accurate measurements.

- With 205[ ] displayed on the screen, press and hold the **MODE** button.
- Pressing the **MODE** button increases the numeric value flashing, whereas pressing and holding the **MODE** button moves the digit. Enter any value of the circumference in cm, and then press the **SET** button.

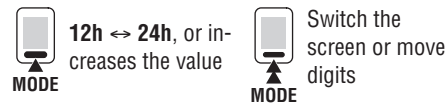
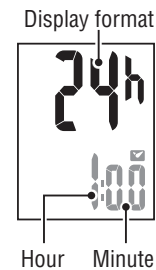


\* Use "Tire circumference reference table" as a guide.



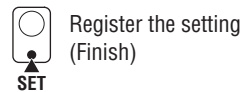
## 4 Set the Clock

- Pressing the **MODE** button switches "24h" and "12h". Select either one of the display formats, and then press the **SET** button.
- Pressing the **MODE** button increases the numeric value flashing, whereas pressing and holding the **MODE** button switches "Hour" to "Minute".



## 5 Press the SET button to complete setting

Press the **SET** button with the current clock displayed. Then, the unit setting is completed, and the unit changes to the Measuring screen.



## Operation test

After installed, check that the computer displays the speed by turning the front wheel. When it is not displayed, check the installation conditions **A** and **B** again (page 2).



## Tire circumference

You can find the tire circumference (L) of your tire size in the chart below, or actually measure the tire circumference (L) of your bicycle.

### How to measure the tire circumference (L)

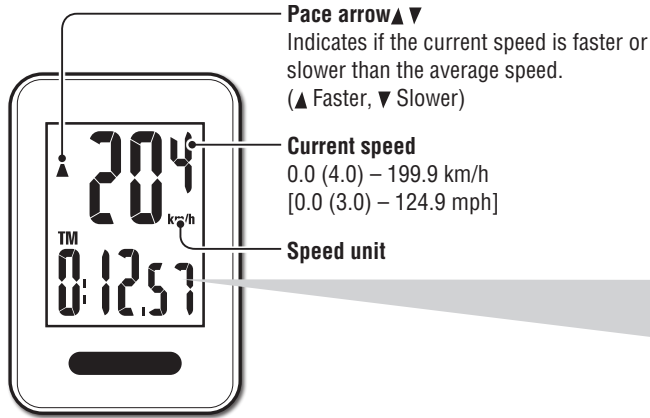
For the most accurate measurement, do a wheel roll out. With the tires under proper pressure, place the valve stem at the bottom. Mark the spot on the floor and with the rider's weight on the bike, roll exactly one wheel revolution in a straight line (until the valve comes around again to the bottom). Mark where the valve stem is and measure the distance.



### Tire circumference reference table

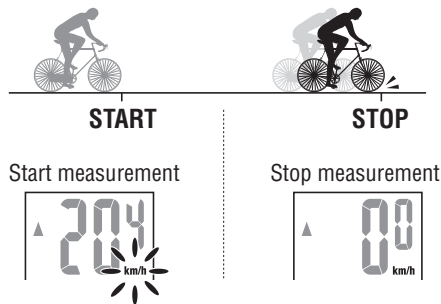
\* Generally, the tire size or ETRTO is indicated on the side of the tire.

ETRTO	Tire size	L (cm)	ETRTO	Tire size	L (cm)
47-203	12x1.75	94	57-559	26x2.125	207
54-203	12x1.95	94	58-559	26x2.35	208
40-254	14x1.50	102	75-559	26x3.00	217
47-254	14x1.75	110	28-590	26x1-1/8	197
40-305	16x1.50	119	37-590	26x1-3/8	207
47-305	16x1.75	120	37-584	26x1-1/2	210
54-305	16x2.00	125		650C Tubuler 26x7/8	192
28-349	16x1-1/8	129	20-571	650x20C	194
37-349	16x1-3/8	130	23-571	650x23C	194
32-369	17x1-1/4 (369)	134	25-571	650x25C 26x1(571)	195
40-355	18x1.50	134	40-590	650x38A	213
47-355	18x1.75	135	40-584	650x38B	211
32-406	20x1.25	145	25-630	27x1(630)	215
35-406	20x1.35	146	28-630	27x1-1/8	216
40-406	20x1.50	149	32-630	27x1-1/4	216
47-406	20x1.75	152	37-630	27x1-3/8	217
50-406	20x1.95	157	18-622	700x18C	207
28-451	20x1-1/8	155	19-622	700x19C	208
37-451	20x1-3/8	1625	20-622	700x20C	209
37-501	22x1-3/8	177	23-622	700x23C	210
40-501	22x1-1/2	179	25-622	700x25C	211
47-507	24x1.75	189	28-622	700x28C	214
50-507	24x2.00	193	30-622	700x30C	215
54-507	24x2.125	197	32-622	700x32C	216
25-520	24x1(520)	175		700C Tubuler	213
	24x3/4 Tubuler	179	35-622	700x35C	217
28-540	24x1-1/8	180	38-622	700x38C	218
32-540	24x1-1/4	191	40-622	700x40C	220
25-559	26x1(559)	191	42-622	700x42C	222
32-559	26x1.25	195	44-622	700x44C	224
37-559	26x1.40	201	45-622	700x45C	224
40-559	26x1.50	201	47-622	700x47C	227
47-559	26x1.75	202	54-622	29x2.1	229
50-559	26x1.95	205	60-622	29x2.3	233
54-559	26x2.10	207			



## Starting/Stopping measurement

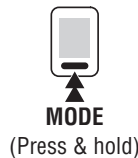
Measurements start automatically when the bicycle is in motion. During measurement, **km/h** or **mph** flashes.



## Resetting data

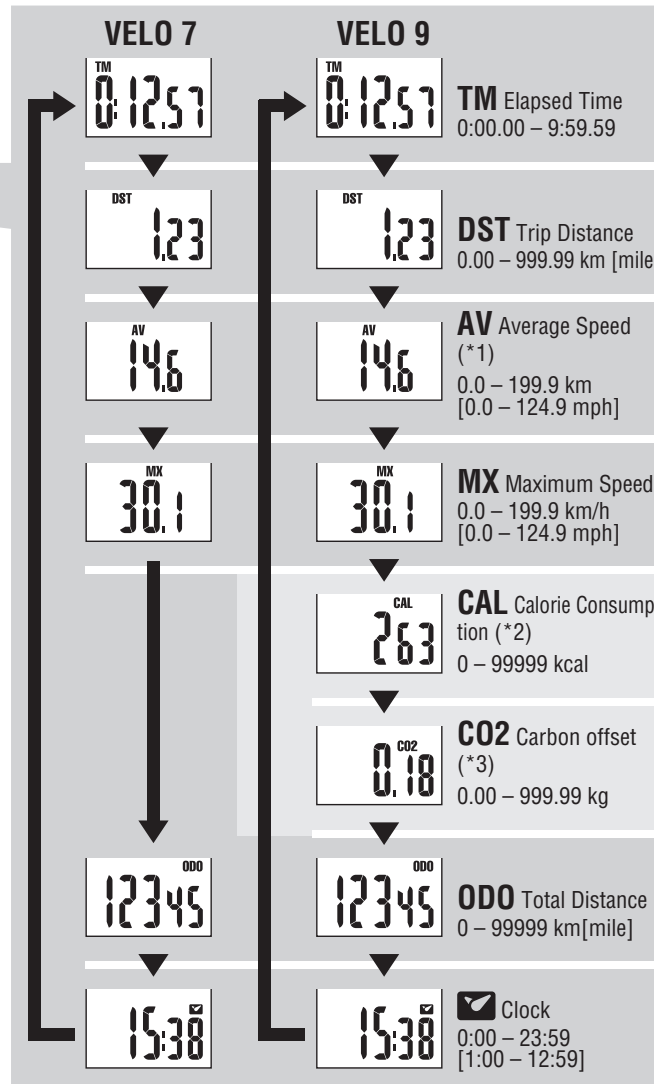
Pressing and holding **MODE** on the measuring screen returns the measurement data to 0.

\* The total distance (**ODO**) is not reset.



## Switching computer function

Pressing the **MODE** button switches the measurement data at the bottom in the order shown in the following figure.

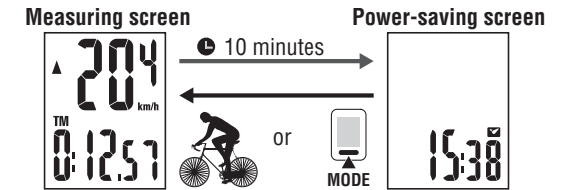


\*1 : When **TM** exceeds about 27 hours, or **DST** exceeds 999.99 km, **.E** will appear. Reset the data.

\*2, \*3 : To be displayed only with VL820.

## Power-saving function

If the computer has not received a signal for 10 minutes, power-saving screen will activate and only the clock will be displayed. When the computer receives a sensor signal, the measuring screen reappears.



## Calorie Consumption (VL820) \*2

This computer measures the calorie consumption by integrating the value calculated from the speed in every second. Check it as a reference value.

Speed	10 km/h [mph]	20 km/h [mph]	30 km/h [mph]
Kcal per hour	67.3 kcal [155.2 kcal]	244.5 kcal [768.2 kcal]	641.6 kcal [2297.2 kcal]

## How to calculate the Carbon offset (VL820) \*3

The Carbon offset are calculated as follows.

Trip distance (km) × 0.15 = Carbon offset (kg)

\* This factor of 0.15 is determined by applying the average value of the overall gasoline-powered passenger cars in 2008 to the equation of the “Carbon offset from 1 km drive of a gasoline-powered car” described on the website of the Ministry of Land, Infrastructure and Transport and Tourism.

## How to change tire size

Display the Total Distance (**ODO**) and press the **SET** button to change the tire size. The setting method is the same as for “Preparing the computer-3” (page 3).



## How to set clock

In the clock mode, press **SET** button on the back, and the display enters clock setting mode. The setting method is the same as for “Preparing the computer-4” (page 3).

