

OPERATING MANUAL

CICLOMASTER
CM423i

Congratulations on your purchase!

With the **CICLOMASTER CM 423i** you have acquired a wireless electronic bike computer with the highest level of precision heart rate measurement. It has state-of-the-art electronics, is waterproof and is designed to give you many years of service.

A new feature of the **CICLOMASTER CM 423i** is that the **CICLOZone®**, which uses personal data about the user and their fitness on that day to calculate the ideal heart rate range for optimal training (see also Chap. 5).

Please read this operating manual carefully before use.

Package contents



- 1 - CICLOMASTER CM 423i
- 2 - Handlebar bracket (with 0-rings for mounting)
- 3 - Transmitter (with cable tie for mounting)
- 4 - Spoke magnet
- 5 - Transmitter belt (heart rate transmitter)
- 6 - Elastic chest belt (adjustable)

1. General

The **CM 423i** switches to standby mode if no wheel or heart rate pulse is received for 15 minutes. Then the display only shows the time. If any button is pressed or a signal is received from the built-in movement sensor (reacts when the device moves, e.g. by use of the handlebar mounting or if the wheel moves) the **CM 423i** switches into normal operating mode (this also activates the speed and heart rate receiver).

Caution: Basically, anyone who begins fitness training should undergo a health check, but this applies particularly to beginners and persons starting again, who are over 35 years old and have known previous illnesses or physical complaints. In particular, if there are also risk factors present, for example smoking, high blood pressure, increased blood fat level, diabetes, sedentary lifestyle and an overweight condition, it is absolutely necessary that a doctor be consulted. **Wearers of a heart pacemaker should only use heart rate monitoring devices with their doctor's agreement!**

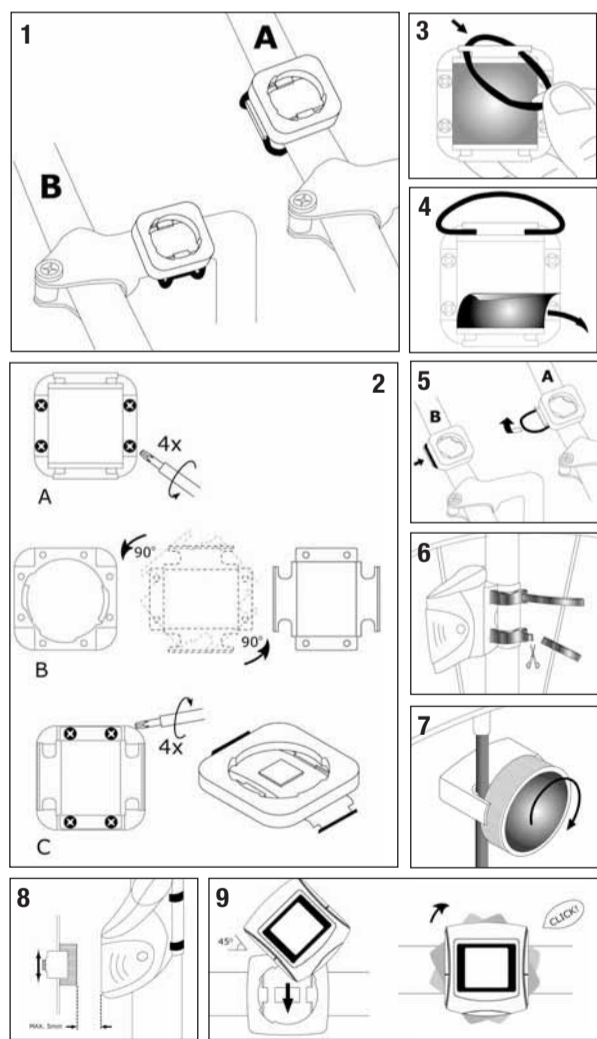
Heart rate monitoring is only possible if the chest belt with the transmitter is worn correctly (see Chap. 2.2) and the **CM 423i** is within the range of the transmitter (max. distance 70cm). The heart rate can also be measured if the **CM 423i** is not mounted on the wheel.

2. Preparation

Inserting the battery:
Insert battery type CR2032 with the positive terminal facing up. Close battery cap with a coin. After inserting the battery, the display will show all segments briefly, then display shows "km/h" with a flashing value (to set the unit of measurement, see Chap. 3.1 below). If no symbols at all or meaningless symbols appear on the display, remove the battery and re-insert it.

2.1 Mounting of handlebar bracket and transmitter

The handlebar bracket can be mounted on the handlebar or stem (see pictures). **Picture 1:** Mounting is possible on the handlebar bracket (Position A) or on the stem (Position B). **Picture 2:** Change bracket mounting orientation from Position A to Position B. **Picture 3:** Fasten one side of the bracket **Picture 4:** Remove the protective tape **Picture 5:** Stretch the rubber ring under the handlebar and fasten it to the other side of the bracket. **Picture 6:** Secure the sensor on the fork by tightening the cable ties and cut off the loose ends (max. distance between transmitter and handlebar bracket is 60 cm.; preferably mount on the right-hand side, handlebar bracket and transmitter should be on the same side) **Picture 7:** Fix the magnet on a spoke so that it will face the sensor. **Picture 8:** Adjust the magnet position and fine-tune the sensor if necessary (Max. distance 5 mm) **Picture 9:** Rotate the **CM 423i** a quarter-turn to the left and install it into the bracket. Then rotate it a quarter-turn to the right to lock it. To unlock it **CM 423i**, rotate a quarter-turn to the right and remove from the handlebar bracket.



2.2 Wearing the transmitter belt

The transmitter belt is inserted in the elastic chest belt and worn around the upper part of the body. The transmitter (plastic part with writing) should be positioned over the middle of the stomach at the base of the breastbone and the writing on the transmitter must be legible (when seen from the front) (see picture). The electrodes built into the left and right side of the transmitter in the belt must be in contact with the skin. Tighten the belt so that permanent contact is guaranteed during movement, and the belt cannot slip.

If the **CM 423i** does not display any heart rate, this may be due to a lack of contact between the skin and the electrodes. It often helps if the electrodes and the underlying skin are moistened. The best contact is obtained with an electrode gel (available from pharmacies).

3. Basic settings

The following applies for all settings:
The right-hand button changes the flashing value, and brief pressure on the left button stores this value and changes to the next value to be set flashes or the next display appears.
If the **CM 423i** is to be used with 2 bikes, a number of settings for each bike must be input separately. Once when ① is shown on the display and once when ② appears.

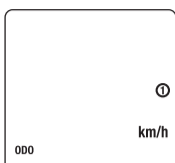
3.1 Setting the unit of measurement, total distance, wheel circumference and the service interval

Press the right-hand button briefly a number of times until the following display (ODO) appears:



The total distance ridden so far can be entered here.

By pressing the right-hand button for 3 sec., the following display appears:



Unit of measurement kilometres or miles

Switch using the right-hand button (continue with left button). This chooses whether distances are displayed in kilometres or miles.

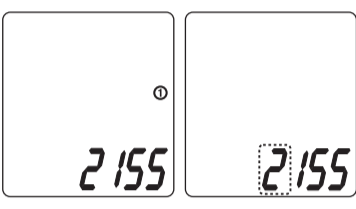
Set total distance

Set using right and left-hand buttons (continue with left-hand button). Default value = 0 km or current value Input range max = 99999 km or mi. The total distance ridden so far can be entered here.



Wheel circumference 1 or 2

Pressing the right-hand button briefly displays the first figure. Set using the right-hand button (continue with left button). Default value = 2155 mm (Bike 1) or 2000 mm (Bike 2), or previous set value. Input range min. = 0 mm Input range max. = 3999 mm

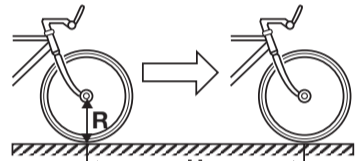


The wheel circumference can be read off the following table or be measured yourself.

Tyre size	Circumference	Tyre size	Circumference		
40-559	26 x 1.5	2026 mm	47-622	28 x 1.75	2268 mm
44-559	26 x 1.6	2051 mm	40-635	28 x 1 1/2	2265 mm
47-559	26 x 1.75	2070 mm	37-622	28 x 1 3/8	2205 mm
50-559	26 x 1.9	2026 mm	20-622	700 x 20C	2114 mm
54-559	26 x 2.00	2089 mm	23-622	700 x 23C	2133 mm
57-559	26 x 2.125	2114 mm	25-622	700 x 25C	2146 mm
37-590	26 x 1 3/8	2105 mm	28-622	700 x 28C	2149 mm
32-620	27 x 1 1/4	2199 mm	32-622	700 x 32C	2174 mm
40-622	28 x 1.5	2224 mm			

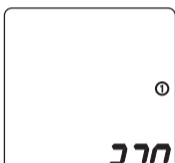
Measurement of the wheel circumference (U)

(for more precise adjustment, see pict.) Make a mark on the front tyre and on the floor (e.g. with chalk). Move the bike straight ahead by exactly one tyre rotation (for a more precise measurement ensure the pressures are correct and sit on the bike), and mark the position on the floor. Now measure the distance exactly between the two marks on the floor to give you the exact wheel circumferences (in mm).



Set service interval 1 or 2

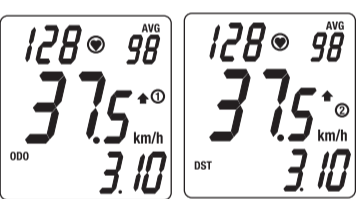
Press briefly on the left button to confirm the displayed value, or to change the value, press the right-hand button briefly, and the first digit will start flashing. Set using right and left buttons (continue with left-hand button). Default value = 600 km or m or enter the residual value until the next service. Input range = 200 - 899 km or m



The service interval can be entered here, e.g. after how many kilometres the brakes should be adjusted or similar. The service interval counts backwards from the value entered. If it has reached zero, the service symbol appears on the display. Then a new service interval can be entered. The service symbol then disappears from the display. If the **CM 423i** is to be used on two bikes, these two settings must be input again for the second bike.

3.2 Switching to the second bike's wheel circumference

To switch to the second bike (and back again), press the right-hand button for 5 seconds while in the DST display, and on the right of the display, near the speed, the symbol ① or ② will appear.

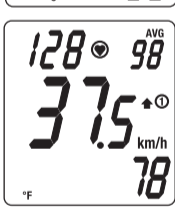


3.3 Selecting the temperature unit

Press the right-hand button briefly a number of times until the following display (Temperature) appears:



By pressing for 3 seconds on the right-hand button, you can set the measurement unit for the temperature from degrees Celsius (°C on the display) to degrees Fahrenheit (°F on the display) and back again.



3.4 Adjusting the time

Press the right-hand button briefly a number of times until the following display (time) appears:

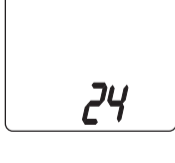


By pressing the right-hand button for 3 sec., the following display appears:



Set time

Set using right and left buttons (continue with left button). Input range = 00:00 - 23:59 or 0:00 - 12:59 Here, the current time is displayed.



3.5 Inzone

Press the right-hand button briefly a number of times until the following display (C) appears:

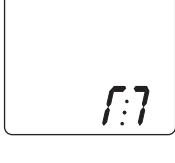
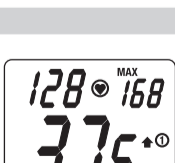


By pressing the right-hand button for 3 sec., the following display appears:



Gender

Switch using the right-hand button (continue with left-hand button). This is where you set the gender (M = male, F = female)



Age

Set using the right-hand button (continue with left button). Input range 12 to 70. This is where you set the age of the user.



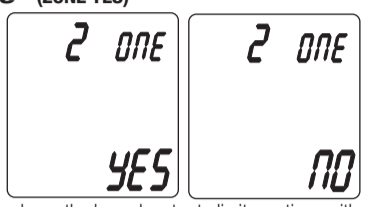
Fitness level

Set using right and left buttons (continue with left button). This is where you set the fitness level of the user. Input range 1-4, which means:
1 unfit
2 moderately fit
3 fit
4 Top Form



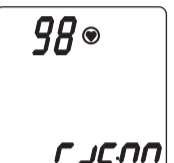
Calculate CICLOZone® (ZONE YES)

(By pressing briefly on the right-hand button, '1U') appears on the display. By pressing briefly on the left button, the automatic calculation of the heart rate limits can be viewed, and the heart rate limits can be adjusted manually. The adjustable display shows the lower heart rate limit continue with function 'set heart rate limits manually', see chapter below.

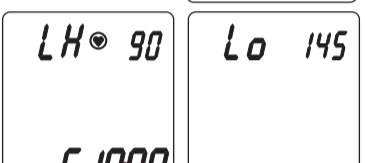


For the automatic calculation of the **CICLOZone®**, put on the transmitter belt, adopt a rest position (e.g. sitting relaxed) and start the calculation by pressing briefly on the left button.

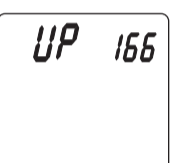
On the display of the **CM 423i** a countdown starts from 5 minutes. During this time, remain seated and relax quietly, so that the lowest heart rate is measured for use in calculating the heart rate limits. In the upper display, the lowest value measured so far is displayed.



At the end of the countdown, the lowest heart rate measured is shown in the upper display. By pressing briefly on the left button, the lower value (heart rate lower limit) of the calculated **CICLOZone®** is displayed.



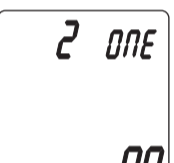
Now, by pressing on the right-hand button, the upper limit (heart rate upper limit) of the calculated **IN-ZONE®** is displayed.



Press the left button again, to restore the **CM 423i** to normal operating mode.

Set heart rate manually.

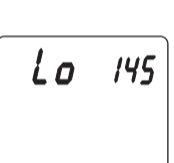
In set mode, while 'ZONE YES' is displayed, press briefly on the right-hand button to switch to 'NO'.



If you press briefly on the left button, the heart rate lower limit appears.

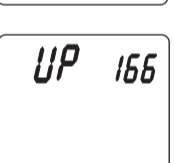
Heart rate lower limit (Lo)

Switch using the right-hand button (continue with left button). Input range 30 to 179 Here, the desired heart rate lower limit can be set.



Heart rate upper limit (UP)

Set using the right-hand button (continue with left button). Input range 100 to 240 Here, the desired heart rate upper limit can be set.



The display now shows the lower limit again (by pressing briefly on the right-hand button, the upper limit set appears), and by pressing the left button briefly, the **CM 423i** switches back to normal operating mode.

Now all settings are finished.

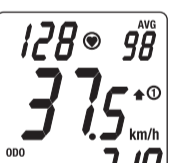
4. Functions

The individual functions can each be called up in sequence by pressing briefly on the right-hand button (forwards) or the left-hand button (backwards).

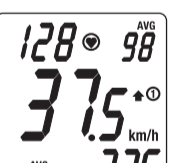
In operating mode, during all functions the instantaneous speed appears in the middle of the display and the upper display shows the current heart rate on the left, and the average (AVG) heart rate on the right (except in time / MAX HR) mode.

All functions (except time and heart rate display) have an automatic start/stop (if the **CM 423i** is on the handlebar bracket), i.e. measurement starts shortly after the first registered revolution of the wheel (or pedal), and ends a few seconds after the last wheel (or pedal) revolution. Heart rate is only displayed when the chest belt is worn.

The values displayed for distance, riding time and average speed can be reset to zero by pressing for 3 seconds on the left-hand button in DST mode.



The maximum speed can be reset to zero by pressing for 3 seconds on the left-hand button in MAX (Speed) mode.



The maximum and average heart rate, calories and target zone display (times below, within and above the limits) can be reset to zero by pressing for 3 seconds on the left-hand button in C (Calories) mode.

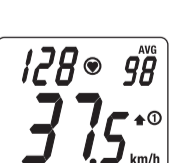


The total values can be deleted by removing the batteries – which also deletes all settings.

The individual functions and their meaning is explained below.

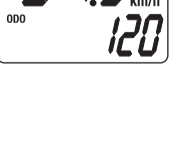
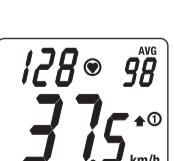
Current speed (SPD)

Displays the current speed in km/h (or m/h = miles per hour) and is always shown in the middle part of the display. The arrows (on the right of the display) show whether the rider is faster (▲) or slower (▼) than the instantaneous average speed. If both arrows are displayed, then the rider is riding within the instantaneous average speed. Value range: 0 199.9 km/h or m/h



Heart rate / average heart rate (AVG)

Shows the current heart rate on the left of the upper display. At the same time, the average heart rate is shown on the far right in some modes. Value range: 30 - 240 beats per minute. If the rider is above or below the heart rate limits (calculated by **CICLOZone®** or set manually) an up arrow appears (if the limit has been exceeded) or a down arrow appears (if the limit is below the lower limit) on the right-hand side of the upper display beside the current heart rate.



Plays the current temperature. Value range: 00:00 - 23:59 or 00:00 to 12:59

Total distance (ODO)

Shows the total kilometres ridden so far. Value range: 0 - 99999 km or m (= miles)



Day distance (DST)

Shows the kilometres ridden that day. Value range: 0 - 999.99 km or m



The values displayed for daily distance, riding time and average speed can be reset to zero by pressing for 3 seconds on the left-hand button in DST mode.

Riding time (TM)

Shows the time ridden so far (without rest periods, i.e. if there is no wheel rotation, this time is not counted). Measurement starts with the first and stops a few seconds after the last wheel movement. Value range: 0 - 9:59:59 h **Note:** When the maximum values are reached for the functions daily kilometres, total kilometres or daily riding time, the value is reset to zero.



Average speed (AVG)

Displays the average speed. Value range: 0 - 199.9 km/h or m/h



Maximum speed (MAX)

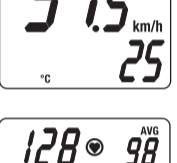
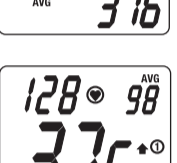
Shows the highest speed ridden. Value range: 0 - 199.9 km/h or m/h



The maximum speed can be reset to zero by pressing for 3 seconds on the left button in MAX mode.

Temperature (°C)

Displays the current temperature. Value range: -10 °C to +60 °C or 14 °F to 140 °F



SCROLL

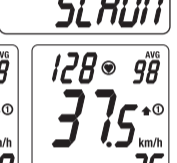
The following details are displayed in succession, at 2-second intervals:

- DST (Daily kilometres)
- TM (Riding time)
- AVG (Average speed)
- Temperature



Calorie display (C) / maximum heart rate (MAX)

Shows the calories burned so far, at the same time, in the top right corner, the display shows the maximum heart rate. Value range: 0 - 9999 KCal Value range maximum heart rate: 30 - 240 beats per minute.



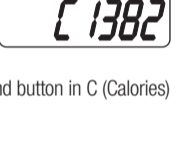
Time above the set upper heart rate limit (UP)

Shows the time for which training has been above the set upper heart rate limit. Value range: 0 - 9:59:59



Time inside the set upper heart rate limit (IN)

Shows the time for which training has been inside the set upper heart rate limit. Value range: 0 - 9:59:59



Time below the set lower heart rate limit (Lo)

Shows the time for which training has been below the set lower heart rate limit. Value range: 0-9:59:59



5. CICLOZone®

Philosophy and use:
CICLOZone® is a totally personal fitness service in the form of a training monitor. Using personal data and pulse rate at rest, the **CICLOZone®** calculated the optimal training regime. Whether you are walking, Nordic Walking, cycling, indoor-cycling and much more ... **CICLOZone®** monitors your individual cardiovascular training. Want to improve your fitness? Shed pounds? Train to improve your health? Everyone has their own reason for training. But how should you train to reach your goal in the most efficient way? How do you achieve the right intensity of training? **CICLOZone®** is **THE** optimal Training regime for strength, endurance and fat burning.

What can the CICLOZone® do?
It calculates the optimal training regime for strength, endurance and fat burning. This is an individual programme and forms a training recommendation, which is always done at between 70% and 80% of the maximum heart rate. (+/- 5% deviation, taking account of the current heart rate at rest and fitness level). Using **CICLOZone®**, the issue of burning fat is considered and shown in the right light, that less is not always more.

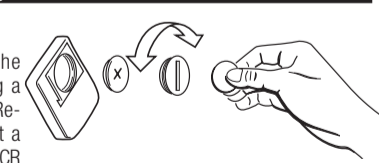
6. Changing the battery

CicloMaster CM 423i:
Unscrew battery cap at the rear of the computer using a coin to turn it to the left. Remove old battery and insert a new 3V Lithium battery Typ CR 2032 with the positive terminal facing up. Screw cap back on. **Do not over-tighten the battery cap.**

Transmitter: Remove 4 screws from the rear and remove cover. Remove old battery and insert a new 3V Lithium battery Typ CR 2032 with the positive terminal facing up. Refit the backplate (check the waterproof seal) and secure it with the four screws (using the cross-head and without over-tightening!)

Transmitter belt: Remove the battery cap on the rear with a coin and remove the old battery. Insert a new battery, type CR2032, with the positive terminal facing up, and replace and screw back the battery cap.

Please do not dispose of old batteries in household waste, but put them into a selective collection system.



7. Servicing and care

Protect against direct sunlight, heat and frost (below 0°C and above 50°C).

Cleaning the heart rate transmitter belt:
The transmitter belt with its built-in special electrodes cannot be