

# Croise.*a* Thermo Capsule Smart Thermometer

## / COMPONENTS /



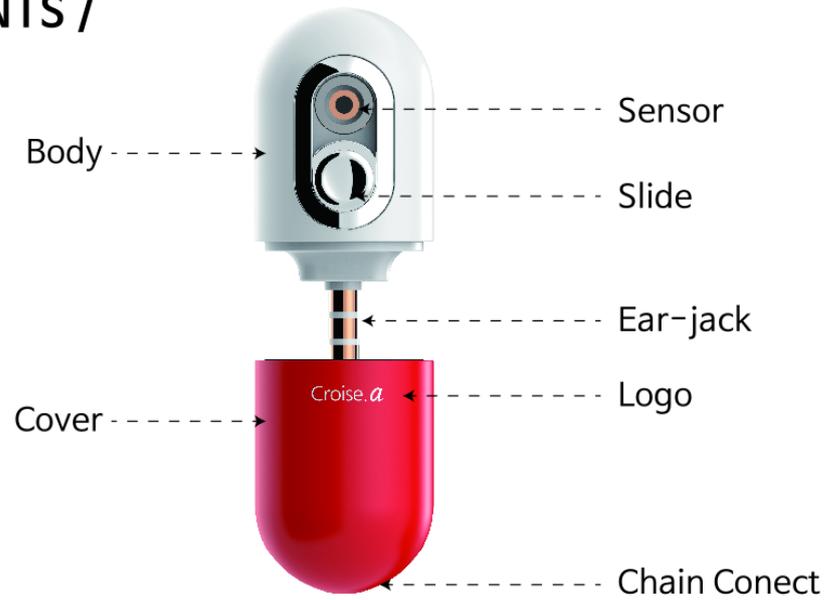
Product



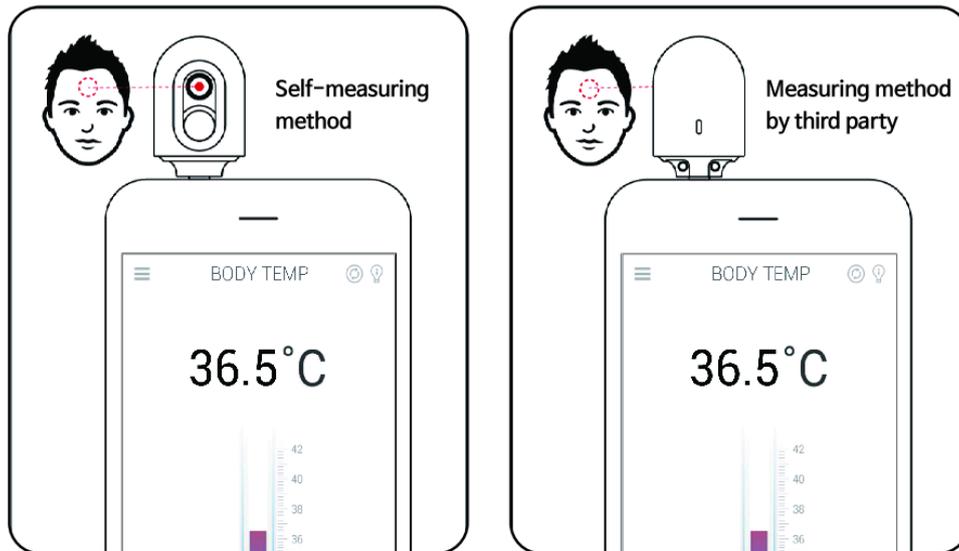
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<b>PRODUCT SPECIFICATION</b>	
Product Name	Croise.a Thermo Capsule
Name of Item	Skin infrared thermometer
Model	PTD-100
Item Authorization No.	JEIN 15-4136
Purpose	Instrument to measure the body temperature by measuring the infrared luminance of the skin like forehead, etc.
Measurement range	Body temperature : 32~42°C
	Accuracy : $\pm 0.2^{\circ}\text{C}$ (36~39°C) / other accuracy : $\pm 0.3^{\circ}\text{C}$
Measurement time	Within 5 seconds
Measuring method	Infrared radiation energy measurement
Rated power	DC 3.0V (1.5DC, 250mAh x 2)
Weight	13g (main body 9.2g, Cover 3.8g)
Communication method	$\varnothing 3.5$ earphone jack (quadripolar) / CTIA
Component	1 Set (finished product 1 ea)
Compatibility	Android 4.2 or above / iOS 7.0 or above

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## 1. INSTALLATION OF APPLICATION



### 1) Install Croise.a app in the smartphone

Please search Croise.a in the Google Play or Apple APP Store and install it.

### 2) Running application

Run application by touching the icon of Croise.a.

(Croise.a application runs in the environment of Android 4.4 or above or IOS 7.0 or above.)

## 2. CONNECTING PRODUCT



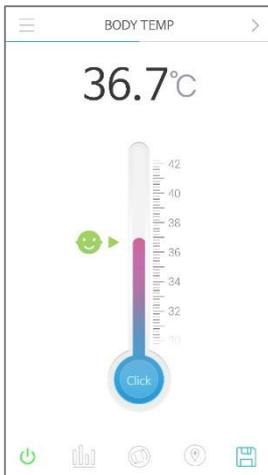
### 1) Connect the capsule to the earphone jack of smartphone.

Connect the capsule as shown in right and lower the slider.

(When the connection is made normally, LED on the main body blinks.)

If the earphone jack is located the bottom of smartphone, much convenient measurement is possible by touching the icon at the top right.

### 3. BODY TEMPERATURE

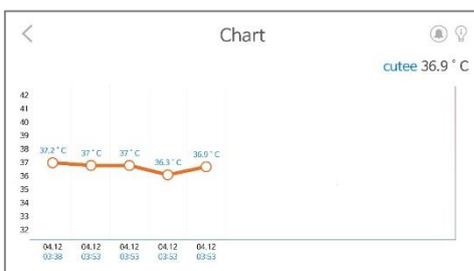


#### 1) The body temperature can be measured immediately.

When the click button in the APP screen is touched after simply connecting the body temperature capsule, the body temperature is measured.

Check the body temperature displayed at the top and save it by touching 'SAVE' button at the right side of bottom if you want to save it.

### 4. CHART



#### 1) The temperature measured can be managed with statistics.

If Croise.a APP is used, the body temperature can be measured and saved.

The body temperature saved is remained in the record and can be viewed with graph.

## 5. OBJECT TEMPERATURE



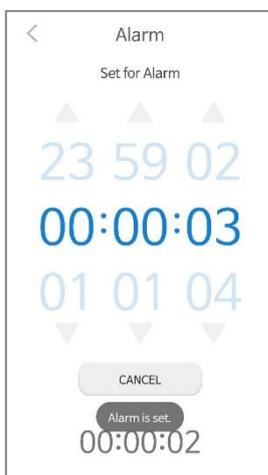
- 1) **Not only the body temperature but also the object temperature can be measured accurately.**

If the emissivity of the specific object is applied, it can be measured more accurately.

The emissivity can be applied by selecting the icon at the bottom and in the EMS mode, the emissivity of more diverse objects can be applied.

The air temperature should be measured after raising the slide of capsule and accurate measurement is possible by exposing more than 10 minutes in the air.

## 6. ALARM



- 1) **Alarm can be set in order to measure the temperature regularly.**

Alarm works like stop watch and after elapsing the time set, alarm will be sounded.

## 7. SEARCHING



- 1) **The facilities such as neighboring hospital, pharmacy or emergency room, etc can be searched immediately.**

The neighboring facilities are searched using Google Map (it may be varied depending on the country).

In case of high body temperature, it may be an emergency and we recommend that you would visit the neighboring medical facility for medical diagnosis by the doctor or pharmacist.

## 8. Using Precaution

- 1) In case of severe wriggling at the time of measuring infants and children, measurement error may be taken place as distance between skin surface and sensor is not maintained constantly and so, be sure to measure again after those are calmed down.
- 2) When body temperature measurement posture is not upright, its value may be inaccurate.
- 3) Be sure to measure body temperature under room temperature after condition of test subject is stable.
- 4) After exercise, going home, during rainy day or right after bathing, body temperature may be inaccurate.
- 5) For the accurate measurement, please measure after removing the foreign materials such as hair, cosmetics, etc. In addition, in case that lens of product sensor is stained with foreign materials, measurement may be inaccurate and so, be sure to start measurement after removing such materials.
- 6) Please measure temperature at the middle of forehead above eyebrow. Depending on the

position of forehead, temperature distribution may differ.

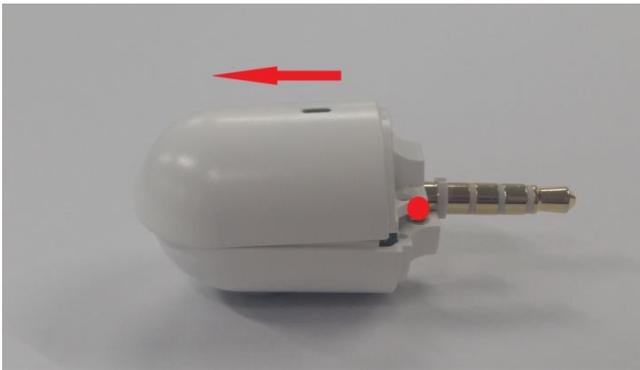
- 7) The temperature values measured from the right and left forehead may be different.
- 8) When the battery has insufficient charge, the measurement may be inaccurate. Please use the product after replacing the battery.
- 9) When measuring, place the temperature sensing unit on the part to measure and check the result through the smart phone screen after the vibration from the main unit announcing that the measurement is completed.
- 10) If the infant may come inside from outside or the thermometer is moved to other place where the temperature environment, measure after elapsing more than 30 minutes.
- 11) Do not allow the infant to suck the probe or battery of the thermometer or touch with wet hands.
- 12) Under the following circumstance, repeat the measurement more than three times.
  - Infant within 09 days after birth
  - For the infant under 3 years only, the value out of the average temperature range is displayed
  - If the product is used for the first time or when having no experience of using any similar product
- 13) 13. If you are sweating on your forehead, we recommend measuring the rear of your ear lobes. Please throw back your hair completely, attach the thermometer to the rear of your ear lobe vertically. Please move along shortly with your ear lobe and measure above and below.

## **9. Storage and care after use**

- 1) Since the sensor area is very sensitive, please maintain it clean and not to be damaged for accurate measurement.
- 2) Avoid the flammables and direct sunlight and store at the place without dust and pollutant.
- 3) Keep it at the place out of water
- 4) Please keep the product at a place where vibration or impact is not taken place.
- 5) It is recommended to keep the product under room temperature but if kept in other place than room temperature, be sure to use the product after keeping the product under room temperature for 30 minutes before use.

- 6) Cleaning method: In case that sensor is contaminated, carefully clean sensor with cotton swab after dipping it into ethyl alcohol. Do not use sensor for about 1 hour after cleaning it.

## 10. BATTERY REPLACEMENT



### 1) Battery can be replaced with the battery sold in market.

- (1) Remove the screw at the back of the main unit (Red point) with the precision screwdriver.
- (2) Separate the back of the main unit through pushing out as a red arrow in the above picture.
- (3) Replace the battery after disassembling front and back of the product and Assemble the product in reverse order.
- (4) Two preinstalled batteries are the 25mAh with LR41 size and can be purchased through the surrounding facilities and the internet.
- (5) Battery can be used about 1 year based on 15 times of measurement per day. (Body temperature measurement)

## 11. Try to use the temperature capsule as follows!

- 1) Frequently measure the temperature of the baby. We recommend you to use the alarm function, too.
- 2) Is the interior too hot or cold? Measure the air temperature.
- 3) Does your mobile phone or notebook emit too much heat? Measure the temperature of the object. If EMS mode is used, the temperature of the object can be measured more

accurately.

- 4) Do you want cook delicious dishes? Measure the temperature of the food materials when cooking.
- 5) Do you want the bath or half bath much effectively. Measure the water temperature with temperature capsule.
- 6) We recommend you to measure the milk temperature
- 7) so that the baby eats the milk much better.

## **12. TIP**

### **1) Normal body temperature based on measurement site**

Forehead : 95.0~99.5°F(35.0~37.5°C)

Nostril: 96.4~100.4°F(35.8~38°C)

Oral Cavity : 95.9~99.5°F(35.5~37.5°C)

Armpit: 94.4~99.1°F(34.7~37.3°C)

Anus: 97.8~100.4°F(36.6~38.0°C)

### **2) Normal temperature based on age**

0~2 Years old : 97.52~100.4°F(36.4~38.0°C)

3~10 Years old : 96.9~100.0°F(36.1~37.8°C)

11 Years old~65 Years old : 96.6~99.6°F(35.9~37.6°C)

Over 65 Years old : 98.2~99.5°F(36.8~37.5°C)

### **3) The reason why normal body temperature is required to be maintained**

As enzymatic activity that ensures activity of body organs is taken place at 98.6~99.5°F.(37~37.5°C)(Based on Core Body Temperature)

### **4) Body change by body temperature (Based on Core Body Temperature)**

Below 82.4°F(28.0°C) : Heart Function Stop(Death Standard)

84.2°F(29.0°C) : Pulse, Respiration Slow-down

86.0°F(30.0°C) : Coma

91.4°F(33.0°C) : Muscular Rigidity

95.0°F(35.0°C) : Body Trembling

96.8°F(36.0°C) : Feel Cold

99.5°F(37.5°C) : Normal

### **5) Immunity change by body temperature change**

When body temperature is decreased by 1.8°F(1°C) : Immunity is decreased by over 30%.

When body temperature is increased by 1.8°F(1°C) : Immunity is increased up to 70%.

When straining sympathetic nerve by overwork, stress and taking chemical drugs irritating sympathetic nerve, blood circulation is aggravated and if blood circulation is not made smoothly, body gets cold.

When body temperature is increased, immunity is increased and fever is healing reaction of body.

### **6) Body Temperature per Hour**

Time of highest body temperature : Between 4~6 hours P.M.

Time of lowest body temperature : Dawn between 4~6 hours A.M.

Best time for exercise effect is afternoon (Between 4-6 hours P.M.) when aerobic exercise like running is suitable.

Regular confirmation of heartbeat and body temperature during exercise is helpful for healthy life.

### **7) Diseases accompanied by hypothermia**

Digestive disease : Chronic dyspepsia / Gastroduodenal ulcer / Gastritis / Constipation / Diarrhea / Hemorrhoid

Thyroid gland disease : Hyperthyroidism / Hypothyroidism / Hormone secretion decrease syndrome

Liver disease : Hepatitis / Liver cirrhosis / Liver cancer

Cardiovascular disease : Angina pectoris / Hypotension / Stroke

Bone, joint disease : Degenerative arthritis / Rheumatic arthritis

Obesity, Male disease

### **8) First aid of hypothermia**

Maintain body in curling-up position

Keep hand warm. (Warming heat being escaped through hand is corresponding to 1/3 of total body warming heat.)

Drink warm water. (In case of hypothermia, drinking alcohol is the most dangerous method.)

### **9) If your baby has a fever**

Dress your baby thin and light clothes and make the room cool.

Still fever? Please consider using wet-towel to lower the fever.

Drink tea or water for rehydration.

Still fever? You have to see a doctor and intake a fever reducer.

### **10) Proper Bath Temperature**

(1) Half Bath : Body temperature +4°C is proper and it is said that if exceeding 42°C, people are apt to feel tired with ease and smooth blood circulation is difficult. As bath time, app. 30 minutes is proper but if time is extended, side effect may be taken place as moisture is excessively discharged. Half bath directly reduces stress as it relaxes muscular tension and it is also effective for insomnia.

- (2) Baby Bath : Temperature similar to 37~39°C - baby body temperature is proper and as baby skin is more sensitive than adult, bathing water of which temperature is higher than body temperature may induce skin erythema, hives, xerosis and so, precaution is required.
- (3) Foot Bath : Taking foot bath for 15-20 minutes under 38~40°C enough to create sweat in forehead, back, armpit is effective. It is said that when feeling fatigue, taking foot bath within 15 minutes under high temperature of 42~45°C is effective for fatigue recovery. Like half bath, proper temperature and time control are required.

### **11) Proper Temperature by each food**

- (1) Water : Water of 4°C is near to hexagonal structure as it gets colder and absorbed in body rapidly and it is effective for discharging waste product through metabolism or diuretic effect.
- (2) Coffee : When exceeding 92~95°C - 100, caffeine having bitter taste is extracted abundantly and under 70°C, tannin ingredient having acerbic taste of coffee gets strong.
- (3) Tea : 70~80°C - If water temperature is high, bitter taste gets strong as vitamin is destroyed and caffeine gets thicker and so, it is recommendable to ooze boiled water after cooling down for a while.
- (4) Wine : Sparkling/white wine 6~12°C, Red wine 14~18°C - If utilizing proper temperature by each wine, its rich and vivid fragrance could be enjoyed.
- (5) Fried Cuisine : 170~180°C - Cook fried food by half-submerging material. If frying under low temperature, fried food gets fatty and not crispy by absorbing a lot of oil before moisture in material is oozed out. If frying under high temperature, food may be burnt.
- (6) Baby powder milk : 70°C - If mixing powdered milk under this temperature, a lot of bacteria including food poisoning bacteria could be exterminated and so, see usage by each product. But if feeding, app. 35°C is said to be proper.



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