Wireless Intelligent Thermometer

1. Introduction

Tempatch™ Wireless Intelligent Thermometer is produced by ECH (ChangZhou) Medical Instrument Co., Ltd. The wireless thermometer, model ECH-b1, is a battery-operated electronic device with an intended use of measuring human temperature precisely. This device is intended for continual armpit temperature measurement for persons of all age.

2. Intended Use

The products can be used in hospital and at home, it is not suitable for ICU or other emergency situations.

The product has three models according to its shape and dimension:

ECH-b1-S for children (Children under 14 can't use it alone. Adult guardian must help them using the product.)

ECH-b1-M and ECH-b1-L for adults

Welcome to use our product.

- Please read the user manual before using the device for properly usage;
- Please read and understand the Safety Precautions and Warnings in user manual before using the device;
- Please keep the user manual after reading for further reference;
- Warranty is at the end of the user manual, please do not discard it.

3. Parameter

Model	ECH-b1-S, ECH-b1-M, ECH-b1-L
Dimension	ECH-b1-S: 30.3mm(w)* 64mm(l)* 2.7mm(h) ECH-b1-M: 30.3mm(w)* 79mm(l)* 2.7mm(h) ECH-b1-L: 30.3mm(w)* 94mm(l)* 2.7mm(h)
Weight	ECH-b1-S: 5.1g ECH-b1-M: 6.1g ECH-b1-L: 6.9g
Operating Life	Up to 240 hours. Frequently power on/off or disconnect with mobile equipment could shorten the operating life.
Environmental condition *Transport and Storage	-10~50℃(14~122℉)/15~98%RH(no-condensing) / atmospheric pressure range of 700~1060hPa

＊Use	10~40℃(50~104℉)/RH(no-condensing) / atmospheric pressure range of 700~1060hPa
Measure position	Axillary (under the arm) – APP display axillary temperature, which is different from temperature measurement taken orally.
Temperature Range	25.1~44.9℃ (77.1~112.9℉)
Temperature Indication	Less Than 37.0℃ (98.6℉) – gradient from WHITE to GREEN Equal to or greater than 37.0℃ (98.6℉) - gradient from WHITE to RED Alert temperature (default alert temperature in APP is 38.0℃ (100.4℉) – WARNING LINE
Measurement Accuracy	$\pm$0.1℃ for 32-42℃, $\pm$0.2℃ for 25.1-33.9℃/42.1-44.9℃(0.2℉ for 89.6~107.6℉, $\pm$0.4℉ for 77.1-93.1℉/107.7-112.9℉)
Display resolution	0.1℃ (0.1℉)
Respond time	Once applied to the body, the device need up to 8 minutes to reach a stable reading
Transmission Distance	Up to 10 meters when applied to the body
Water Ingress Protection	IP22 – Protected from damage due to water dripping on the product
Standards	ISO 80601-2-56 standards for clinical thermometer IEC 60601-1 Medical Design Standards, 3rd Edition IEC 60601-1-2 Electromagnetic compatible
Radio regulations	Bluetooth® Version 4.0 FCC Part 15 EN 300 328, EN 301 489-1/-17, EN 62479
Compatible Smart Devices	IOS 7.1 or later/ Android™ 4.4 or later based smart phones with Bluetooth® 4.0 interface. Visit www.ech-med.com for a list of compatible devices.

4. Safety Precautions and Warnings

Precautions:

When using this product, please always follow these safety precautions to insure the patch thermometer can read accurate temperature and to avoid skin irritation. Failure to follow those precautions may cause inaccurately temperature reading, delay in treatment, skin irritation or mild comfort.

⚠ DO NOT use the patch thermometer for any purposes except body temperature measurement;

⚠ DO NOT apply the patch thermometer on wounds, sores or abrasions;

⚠ DO NOT excessively bend or twist the patch thermometer before apply to the body;

⚠ DO NOT immerse the patch thermometer in water. The patch may be removed before bathing or shower and then re-applied afterwards;

⚠ DO NOT use the patch thermometer if it has been damaged or immersed in water;

⚠ DO NOT attempt to disassemble the patch thermometer, there are no parts can be re-used.

Consult with your doctor before using on children under 2 years old.

Patch thermometer adhesive may irritate sensitive skin. Contact your doctor if irritation persists.

Patch thermometer is NOT intended to use during patient transport outside the healthcare facility.

Warning:

No modification of this product is allowed;

The product or its components are not intended for other uses, repair or replacement.

The product is powered by 3V non-rechargeable battery. Do not intend to recharge, make other usage, or repair the battery.
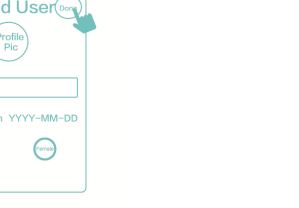
The product can be used safely on self.

5. Instruction for Use
- Apply the patch thermometer on dry clean skin;
- The sensor – the end marked "underarm" – must be placed in the center of the armpit;
- The arm should be relaxed along the side of the body to enclose the sensor in the armpit;
- Temperature measurement may be affected by ambient temperature, especially if the patch thermometer is exposed to cold ambient temperature;
- Temperature data from the patch thermometer can be read up to 10 meters (33 feet) away depending upon a number of factors, including obstruction between the patch thermometer and the smart device, and the position of the patch on the body. For better performance, move the smart device closer to the patch thermometer.
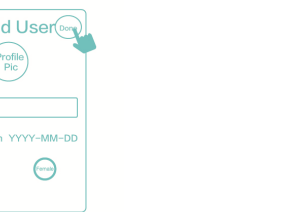
6. Operation Guide

1. Download and install Tempatch™ APP on the compatible smart device;
2. Press the "Power" button on the patch thermometer until the green light flashes two times; then the patch thermometer starts.
3. Use Tempatch™ APP scan the QR code on the back of the patch thermometer;
4. After Tempatch™ APP showing "connected", apply the patch thermometer under the armpit and make sure the sensor is in the center of the armpit;
5. Body temperature is displayed in Tempatch™ APP;
6. After using, the patch thermometer can be turned off. Press the "Power" button until the green light flashes two times; then the patch thermometer is powered off;
7. Please read "APP user guide" as reference for using APP.

7. APP User Guide

1 Scan and Download APP

2 Sign-in and Add User

< Sign-in
Mobile Phone
Next

< Sign-in
verification code sent to
xxxxxxxxxxx
verification code 55秒
Password
Confirm Password
Submit

< Add User Done
Profile Pic
Name
Date of Birth YYYY-MM-DD
Male Female

3 Long-press Power to Turn-on

underarm
power
Green light flashes 2 times, then start

4 Turn on Bluetooth Scan to Connect

< User Name
37.30
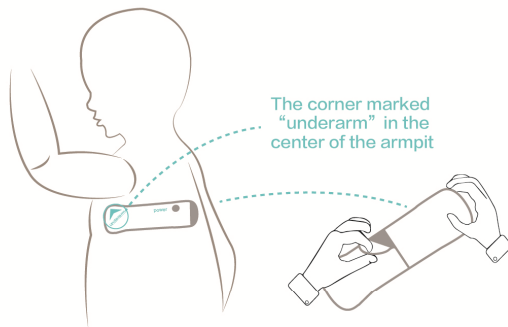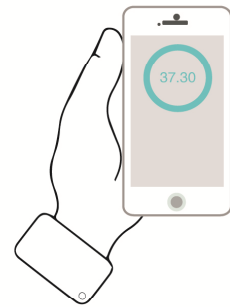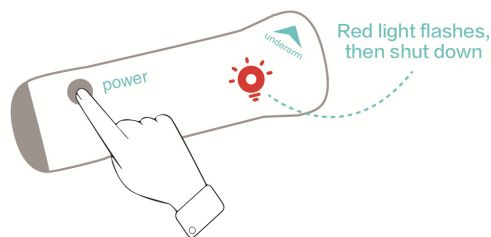
< Scan
Certificate
YYYY-MM-DD
0C-40MM
V015FF5PQ
PASS
Product QR Code

5 **Apply the Patch under the Arm**
（The arm should be relaxed alone the side of body to enclose the sensor in the armpit）

The corner marked "underarm" in the center of the armpit

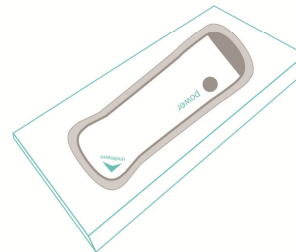**6** **Start Monitoring**
（Transmission distance will be up to 10 meters when applied to the body）

37.30

7 **Long-Press Power to Turn-off**

Red light flashes, then shut down

underarm

power

8 **Keep Patch in the Box for Next Time**

power

underarm

8. Remind and Alert

Medicine Remind

User can create Medicine Remind. User will receive beep sound for a set time. The function can be manually turned on or turned off.

"Bluetooth is OFF" Alert

If Bluetooth is off, a dialogue box "Bluetooth is OFF" will appear with beep sound. The function is on by default, user cannot turn it off.

Fever Alert

The default temperature for High Temperature Alert is 38C. User can create default temperature by himself/herself. User can manually turn on or turn off the function. When the function is turned on, it still works even if the APP runs in the background.

Detached Alert

If your Tempatch comes off (The temperature is lower than 32 degree C for 3 minutes), a dialogue box "Detached" will appear with an audio alert. User can manually turn on or turn off Detached Alert. When the function is turned on, it still works even if the APP runs in the background.

High-Low Temperature Remind

If temperature is higher than 45.0 degree C, APP displays "High". If temperature is lower than 25.0 degree C, APP displays "Low".

9. Cleaning & Disinfection

The product can be cleaned and disinfected.

Use 75% concentrated medicinal alcohol wipe the surface of the device to clean and disinfect the patch after each use.

⚠ Use cleaning agents and other disinfectants other than alcohol may damage the product or cause safety risk;
⚠ DO NOT soak the product in any liquid;
⚠ After cleaning and disinfection, viscosity between the product and human body could be reduced. The viscosity will recover after alcohol dry out.

10. Troubleshooting

Problem	Troubleshooting Hints
Patch thermometer is not bound to Tempatch^{TM} APP after scanning QR code	Patch thermometer may not be powered on. Press the "Power" button to activate and rescan QR code.
Tempatch^{TM} APP shows the patch thermometer "unconnected"	Move the smart device running Tempatch^{TM} APP closer to the patch. Temperature data from the patch thermometer can be read up to 10 meters away. The distance may be reduced by wall and obstructions between the patch and the smart device.
Temperature from the patch thermometer are lower than expected	*Make sure that the patch thermometer is properly positioned with the sensor – the end marked "underarm" – in the center of the armpit. ＊Lower than expected temperature readings can also be caused by exposure to cold ambient

	temperatures, for example, when the arm is raising exposing the sensor to cold ambient temperature. ＊Confirm the patch thermometer is correctly reading temperature by measuring oral temperature with a digital thermometer.
Temperatures from the patch thermometer are higher than expected	Confirm the thermometer is correctly reading temperature by measuring oral temperature with a digital thermometer.
No audible alert is received from the smart device when the patch is detached or when a temperature alert is generated.	*Check to insure that the phone volume is set to an audible level and is not set to mute; ＊Check settings for the Tempatch^{TM} APP to insure that notifications are enable and sounds is enabled for notifications; ＊Note that the audible alert only sounds for a short period. The visual notification remains active in the APP until cancelled by the user.
No notification is received when temperature measured by the patch thermometer exceeds the user set alert level.	*Check to insure that the smart device running the Tempatch^{TM} APP is in range of the patch thermometer. No temperature alert will be generated when the smart device is out of range of the patch thermometer. ＊Check to insure that the APP is running. No alert will be generated if the APP is not running.

11. Package List

Patch thermometer （Patch*1 for Child and Adult set / Patch*4 for Family Set）
User manual (with warranty) *1

12. Warranty

The expired date of **Tempatch**™ Wireless Intelligent Thermometer is two years from production date. **Tempatch**™ Warrants each new **Tempatch**™ against defects in materials or workmanship within the expired date, and agrees to replace any defective product without charge.

IMPORTANT:

This warranty does not cover damage resulting from accident, misuse or abuse, or lack of reasonable care. No responsibility is assumed for any special, incidental or consequential damages. In order to obtain warranty replacement, please email us: service@ech-med.com or go to our Company Website at: www.ech-med.com

NOTE:

No other warranty, written or verbal is authorized by **Tempatch**™. This warranty gives you specific legal rights and you may also have other rights which vary from state to state. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusion and limitations may not apply to you.

13. FCC Statement and Legal Notices

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.

FCC WARNING: any changes of modification not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment under FCC regulations.

NOTE: 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 or more 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 difference from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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