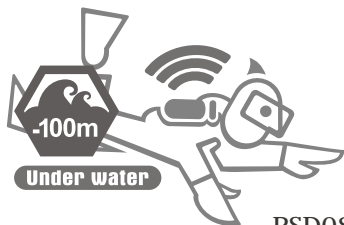




Yes! w rade

ADVANCED



PSD08-BI

PLUS / PSD08-DI

INSTRUCTION MANUAL

Non-metallic FIR portable heating technology.

INDEX

- P.2 **Thermalution Yellow Grade**
- P.3 **Yellow Grade introduction**
- P.4 **Components & specifications**
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- P.8 **How to wear the undersuit**
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- P.10 ... **How to connect the batteries onto the undersuit**
- P.11 **How to wear the forearm strap**
- P.12 **How to operate the controller**
- P.13 **How to connect the charging dock**
- P.16 **How to charge the batteries**
- P.18 **Batteries**
- P.19 **Lithium-ion battery handling precautions**

Thermalution Yellow Grade *ADVANCED*

➔ Power Heated Undersuit

Thermalution[®] Yellow Grade is the latest technology that facilitates you to stay warm and pleasant in oceans up to 100 meters (300ft) deep. You can wear the Thermalution[®] Yellow Grade under your dry suit or wetsuit.

Thermalution[®] Yellow Grade has a wireless temperature micro-controller with three levels of temperature control. It is very easy to adjust the temperature during your aquatic activities. Thermalution[®] Yellow Grade apparel will uplift your game to a truly sensational experience.

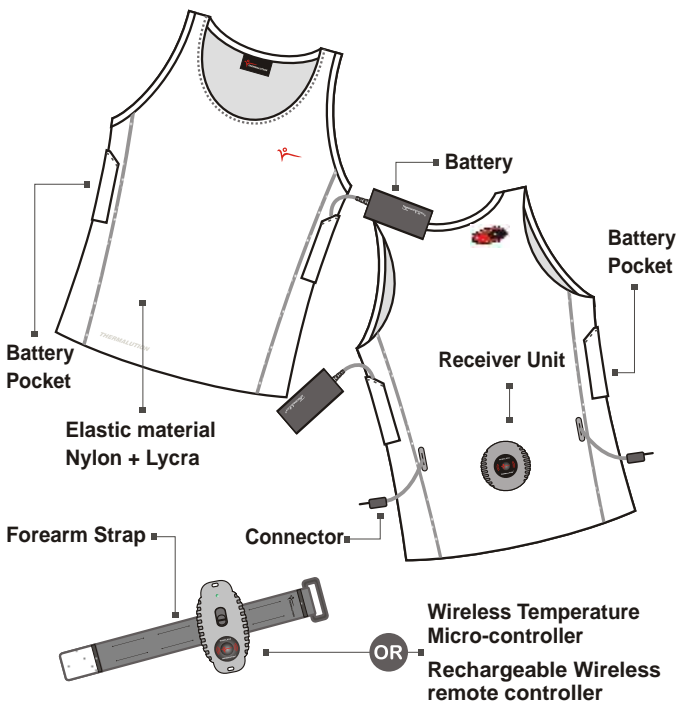
The high capacity lithium polymer battery has been tested under water to be waterproof.



Thermalution Yellow Grade *ADVANCED*

➔ Introduction

The Thermalution® Yellow Grade needs to be worn underneath a wetsuit in order to function properly.



Components & Specifications

For **ADVANCED** PSD08-BI



Wireless Temperature Micro-Controller

← **Model No.:** SPE-005-D

3 Settings:

Low (Green) / Medium (Orange) / High (Red)

OR

For **ADVANCED PLUS** PSD08-DI



Rechargeable Wireless remote controller

← **Model No.:** SPE-005-F

3 Settings:

Low (Green) / Medium (Orange) / High (Red)



Wireless charging dock

Model No.: SPE-004-E

Input : DC5V, 1500mA

Transmission distance : 10 mm

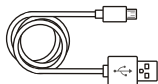
Size : 81 x 150 x 9 mm

Optional



Power adaptor

5V / 1A

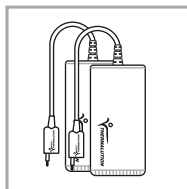


Charging cable

USB connector



Forearm Strap
Model No.:
COC-011-C

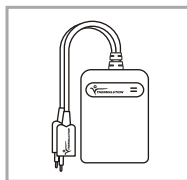


Battery 2pc.

Model No.: SPE-002-E

Output: 7.4 V / 4400mAh

Lithium Polymer Battery

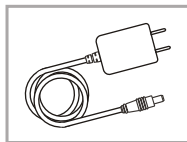


Battery Charger

Model No.: SPE-004-A

Input: 12VDC / 1A

Output: 8.4VDC / 0.5A x 2

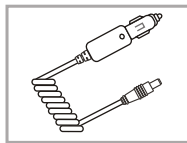


Power Adaptor 1set. (For charger)

Model No.: COE-010-C

Input: AC 100-240V / 1A

Output: DC 12V, 1A



Car Power Adaptor

(Sold separately / For battery charger)

Model No.: COE-013-A

Input: 12VDC / 2A **Output:** 12 V



**WIRELESS
CONTROLLER**



WATER PROOF



**3 level setting
temperature**



Powered heating



Ultraviolet ray



**Temperature with
micro-controller**



**500
charges**

**PSD08-BI
PLUS: PSD08-DI**



HEATING ZONE



Under water



**WIRELESS
CHARGING**

For Plus



**Non-metallic
heating wire**

MADE IN TAIWAN



➔ Characteristics:

- Suitable for depths up to 100m (300ft) deep.
- Non-metallic heating panel positioned on the back to warm up your core area.
- Wireless temperature micro-controller with on/off switch and 3 temperature settings and lights indication.
- Built in microchip within controller providing extra stability for temperature control.
- Heats up within minutes.
- Heat lasting 180-240 minutes.
- High capacity lithium-polymer batteries.
- Batteries could be recharged for 500 times.
- 100V~240V Universal Dual battery charger.
- Therapeutic Far Infrared Technology (FIR).
- Fabric:
Ultraviolet protective material for enhanced sustainability against solar radiation.

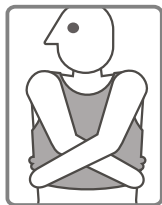
➔ How to wear the undersuit:

- Thermalution® Yellow Grade heated undersuit functions as a thermal layer under the wetsuit.
- Thermalution® Yellow Grade heated undersuit needs to be worn underneath a wetsuit in order to function properly.
- To ensure best heating performance, please always charge up the batteries before use.
- Wireless temperature micro-controller needs to be fastened by the forearm strap.



There is limited power remaining in the enclosed batteries. We recommend that you fully charge the batteries before you use them.* To achieve the optimum condition, the batteries will need to be fully charged and discharged for the first few times.

* Fully charge means over night charging for at least 8 hours.



! Attention !:

- ← When taking off the undersuit, please do not pull on the collar; instead remove the clothing by pulling on

the bottom of the clothes. This would prevent damage due to strain on the heating module.

Washing Instructions:

- Remove batteries before washing.
- Hand wash only.
- Do not tumble dry.
- No spin or bleach.
- Water temperature must be below 30 Fahrenheit.
- Please use clean water to rinse the suit straight after diving. In particular, flush out the salty sea water or any grime in both connectors.
- Please do not store away the undersuit if it is still wet. Keep it in a cool and dry place.

! Attention !:



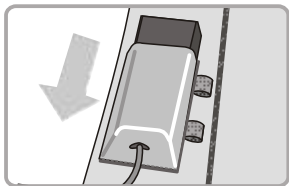
← Please flush the undersuit and the battery connectors with clear water immediately after use, and blow dry with an air gun. This would prevent corrosion caused by salt water. Do not tumble dry.



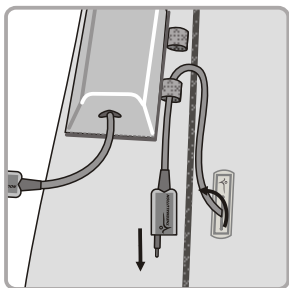
← **Wireless Temperature Micro-controller**
The wireless remote controller has a built-in non-rechargeable and non-changeable battery. The remote controller can be used for around 2 years or more, depending on how

frequent it is in use. Please switch off the remote controller when the product is not in use.

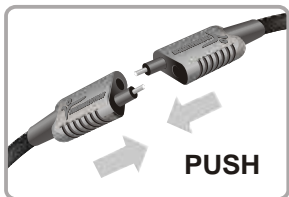
How to Connect the Batteries onto the Undersuit:




Push the battery connector through the hole at the bottom of the battery pocket . Place the battery inside the battery pocket.



Push the undersuit power connector through the side hole first as shown in the diagram.



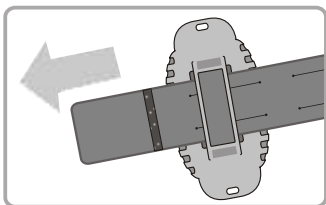
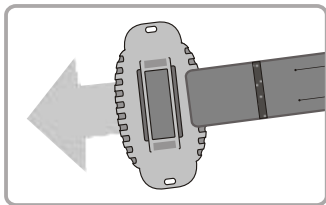
Connect both connectors.

 Connecting batteries with each other is absolute prohibited, it may cause serious damage to the battery themselves.

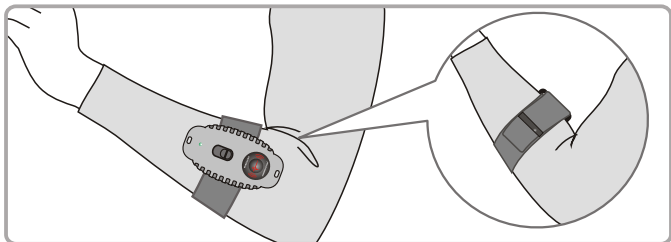
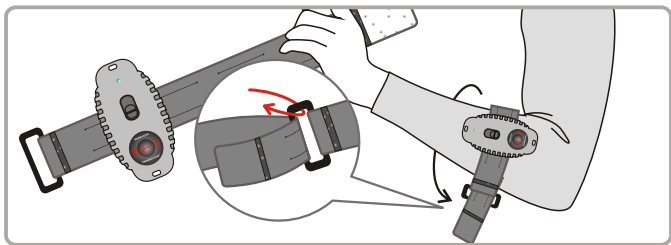
! Attention !: — — — — —

- Connect the battery cables and place the batteries in the battery pockets before you wear the undersuit.
- Once you have connected both batteries the receiver will vibrate for 1 sec as a confirmation of connection.

How to wear the Forearm Strap:



Insert the forearm strap through the tunnel of the controller with the velcro hook side facing out as shown in the diagram.

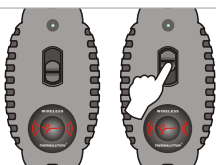


Affix the strap around your forearm and adjust the controller to a comfortable position.

How to Operate the Controller:

Wireless Temperature Micro-controller Rechargeable Wireless remote controller

1



Push the button upward once to adjust between the temperature settings:



Low (GREEN) High (RED)
Mid (ORANGE) OFF

Please note that the battery life of the wireless controller is approximately 1 - 1.5 years.

2



When the setting is on "**Low**" the light indicator on the controller is **green**, it will flash every second and the receiver will vibrate once then stop.

When the setting is on "**Mid**" the light indicator on the controller is **orange**, it will flash every second and the receiver will vibrate twice then stop.

When the setting is on "**High**" the light indicator on the controller is **red**, it will flash every second and the receiver will vibrate three times then stop.

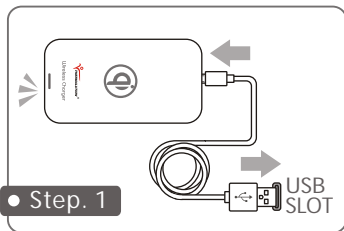
When the setting is on "**OFF**" the light indicator will be off. The receiver will emit an extended vibration then stop.



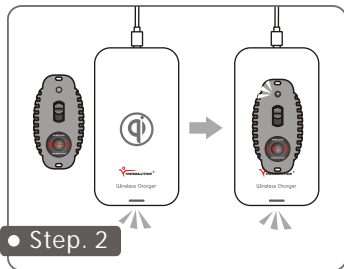
Please adjust the wireless controller to OFF status when you are not using the gear.

The receiver on your back will vibrate frequently when the battery of the undersuit is low.

How to Connect the Charging dock:



Plug the charging cable into an USB slot in the computer, or mobile phone adaptor (5V / 1A) with the other end to the charging dock. The light indication on charging dock is Green.



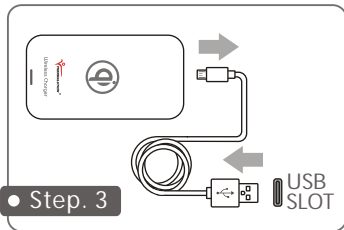
Make sure that there's nothing on top of the charging dock. Place your wireless controller on top of the charging dock. A prompt tone will indicate the controller has started charging. Refer to the table below for the different colors of light of the charging devices.

Charging dock

Charging	Complete
Blue light	Green light

Rechargeable Controller

Charging	Complete
Orange light	Green light



The light will turn green to indicate the controller is fully charged. Disconnect the charger cable from the charging dock, then unplug from the USB slot.

Attention (Rechargeable Wireless remote controller)

1. The charging dock will sound a continuous tone with blue and green flashing lights to indicate the wireless controller has been placed in an incorrect position. Please adjust the controller on top of the charging dock until the tone stops and the indication light turns blue.
2. When the battery of the rechargeable wireless controller is low, the light indicator will flash twice every second.



Warning!

- Please disconnect the power plug when the product is not activated.
- Please connect both connectors on the undersuit before you store it away.
- Do not allow water into the connectors, and wipe them dry before using.
- Do not turn the power on if the connectors are still wet.
- Fully charge the batteries before use.
- The feeling of warmth produced by the Thermalution® heated undersuit is dependent on the weather conditions, environment and heat sensitivity of each user. We suggest wearing a shirt under the Thermalution® heated undersuit if you feel too warm when it is directly on your skin.
- When used in sludge technical diving or salty waters, please make sure to rinse the whole suit and flush both connectors after every use.

Product specific safety information

Handle your device, charger and accessories with care. The following suggestions help you protect your warranty coverage:

1. Keep your device dry. If your device gets wet, allow the device to dry.
2. Do not use or store the device in dusty or dirty areas.
3. Do not store the device in high temperatures.
4. Do not store the device in cold temperatures.
5. Do not attempt to open the device.
6. Unauthorized modifications may damage the device and violate regulations governing radiodevices.
7. Do not drop, knock, or shake the device.
8. Rough handling can break internal circuit boards and mechanics.
9. Keep the device surface clean.
10. Do not use mobile phone power adaptors with output voltage over 5V.



Attention ! Parts of the product are magnetic.

Metallic material may be attracted to the product. Do not place bank cards or other magnetic storage media near the product, because info stored on them may be erased.



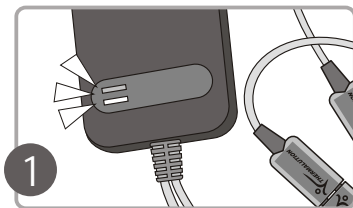
Warning !

Manufacturers of medical devices recommend a minimum separation of 15.3 cm (6 inch) between a wireless device and an implanted medical device, such as a pacemaker or implanted cardioverter defibrillator, to avoid potential interference with the medical device.

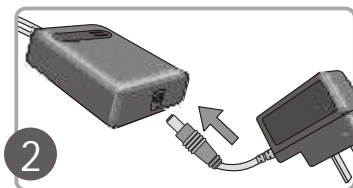
Persons who have such devices should:

Always keep the wireless device more than 15.3 cm (6 inch) from the medical device. Not carry the wireless device in a breastpocket. Follow the manufacturer's directions for the implanted medical device.

How to Charge the Batteries:

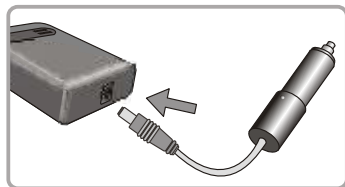


Once connected to power the charger will flash a green then red light to indicate successful connection. Please wait for lights to switch off before connecting batteries to charger.

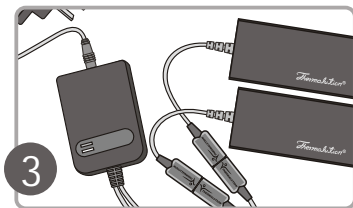


Connect the battery charger with the universal AC power adaptor.
(100~240 V)
(COE-010-C)

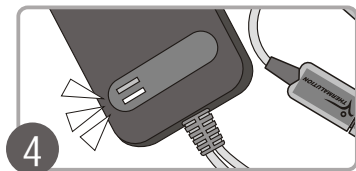
or



(When using
the car battery charger)
Connect the charger with the cigarette light adaptor in the car. (COE-013-A)



Plug batteries to the dual battery charger (SPE-004-A) to recharge 2 batteries simultaneously.



Charge the batteries until the light turns green.

The light indicator on the battery charger will the charging status:

- Red light : charging.
- Green light flashing : 90% charged.
- Green light still : 100% fully charged.

CAUTION

- Red light flashing : charging circuit may be overheating.
- Orange light flashing : short circuit.
- If you notice a problem with the charger , remove the batteries and the power adaptor, disassemble all the connectors and contact your local dealer for further assistance.

MAINTENANCE

In order to improve battery life, the batteries are required to be fully charged before storage. Furthermore we recommend the battery to be fully charged and discharged every two months. This can be achieved simply by using your product frequently. Alternatively, you can discharge the batteries by plugging them on the product and switching it on without wearing it.

The SPE-004-A Battery Charger

Before using the SPE-004-A charger, read and follow the warning notices on this manual.

The SPE-004-A charger is for use with SPE-002-E batteries. Do not use with incompatible batteries. The supplied power cable is intended solely for use with the SPE-004-A charger and is for indoor use only.

The SPE-002-E Battery

Before using the SPE-002-E battery, read and follow the warning notices on this manual.

Do not use the battery at ambient temperatures below 0 °C (32 °F) or above 40 °C (104 °F). During charging, the temperature should be in the vicinity of 5 to 35 °C (41 to 95 °F).

Note that the battery may become hot during use; wait for the battery to cool down before charging. Failure to comply with these precautions could damage the battery, impair its performance, or prevent it from charging normally.

When the Battery Is Not in Use

When the battery is not in use, do not connect it to the undersuit or battery charger.

The undersuit and battery charger would draw minute amounts of current even when off; if left in place, the battery could be drained to the point that it no longer functions.

Lithium-ion Battery Handling Precautions

Danger

1 Do not disassemble or modify the battery pack. The battery pack is equipped with built-in safety/protection features. Should these features be disabled, the battery pack can leak acid, overheat, emit smoke, burst and/or ignite.

2 Do not connect the positive (+) and negative (-) terminals with a metallic object such as wire. Do not transport or store the battery pack together with metal objects such as necklaces, hair pins, etc. Otherwise, short-circuiting will occur, overcurrent will flow, causing the battery pack to leak acid, overheat, emit smoke, burst and/or ignite, or the metallic object such as wire, necklace or hair pin can generate heat.

3 Do not discard the battery pack into fire or heat it. Otherwise, its insulation can melt down, its gas release vent or safety features will be damaged and/or its electrolytes can ignite, possibly leading to acid leakage, overheating, smoke emission, bursting and/or ignition.

4 Do not use or leave the battery pack near a heat source such as a fire or a heater (80°C / 176°F or higher). If the resin separator should be damaged due to overheating, internal short-circuiting may occur, possibly leading to acid leakage, overheating, smoke emission, bursting and / or ignition.

5 Do not recharge the battery pack near fire or in extremely hot weather. Otherwise, hot temperatures can trigger its built-in protective features, inhibiting recharging, or may damage the built-in protective features. Therefore it may be charged with an extremely high current and voltage, and, as a result, abnormal chemical reactions may occur, possibly leading to acid leakage, overheating, smoke emission, bursting and/or ignition.

6 Do not pierce the battery pack with a nail or other sharp objects, strike it with a hammer, or step on it. Otherwise, the battery pack will become damaged and deformed, internal short-circuiting may occur, possibly leading to acid leakage, overheating, smoke emission, bursting and/or ignition.

7 Do not use an apparently damaged or deformed battery pack. Otherwise, acid leakage, overheating, smoke emission, bursting and/or ignition of the battery pack may occur.

8 Do not strike or throw the battery pack. The impact might cause leakage, overheating, smoke emission, bursting and/or ignition. Also, if the protective feature in it becomes damaged, it could become charged with an extremely high current and voltage, abnormal chemical reactions may occur, which may cause acid leakage, overheating, smoke emission, bursting and/or ignition.

9 To recharge the battery pack, use the specifically designed battery charger and observe the recharging conditions specified by PETATECH. A recharging operation under non-conforming recharging conditions (higher temperature and larger voltage/current than specified, modified battery charger, etc.) can cause the battery pack to be overcharged, or charged with extremely high current, which may cause abnormal chemical reactions, possibly leading to acid leakage, overheating, smoke emission, bursting and/or ignition.

10 Do not directly solder the battery pack. Otherwise, the heat may melt down its insulation, damage its gas release vent or safety features possibly leading to acid leakage, overheating, smoke emission, bursting and/or ignition.

11 Do not reverse the positive (+) and negative (-) terminals. Otherwise, during recharging, the battery pack will be reverse-charged, which may cause abnormal chemical reactions. Alternatively, it may cause an excessively high current during discharging which may lead to acid leakage, overheating, smoke emission, bursting and/or ignition.

12 The positive (+) and negative (-) terminals are arranged in a particular orientation. Do not force the connection if you cannot easily connect the battery pack terminals to the battery pack charger or other equipments. Confirm that the terminals are correctly oriented before connection. Reversing the terminals will result in reverse-charging, possibly leading to acid leakage, overheating, smoke emission, bursting and/or ignition of the battery pack.

13 If the battery pack leaks, and the electrolyte gets into the eyes, do not rub them. Instead, rinse the eyes with clean running water and immediately seek medical attention. Otherwise eye injury may occur.

14 Do not connect the battery pack to an electrical outlet, vehicle cigarette lighter, etc. When subjected to a large voltage, overcurrent may flow on the battery pack, possibly leading to acid leakage, overheating, smoke emission, bursting and/or ignition.

15 Do not use the battery pack for a purpose other than those specified. Otherwise, its guaranteed performance will be lost and/or its service life will be shortened. Depending on the equipment in which the battery pack is used, excessively high current may flow through battery pack, possibly damaging it and leading to acid leakage, overheating, smoke emission, bursting and/or ignition.

Warning

1 Do not use the battery pack in combination with primary battery packs (such as dry-cell battery packs) or battery packs of different capacities or brands. Otherwise, the battery pack may be overdischarged during use or overcharged during recharging, abnormal chemical reactions may occur, possibly leading to acid leakage, overheating, smoke emission, bursting and/or ignition.

2 If recharging operation fails to complete even when a specified recharging time has elapsed, immediately stop further recharging. Otherwise, acid leakage, overheating, smoke emission, bursting and/or ignition may occur.

3 Do not put the battery pack into a microwave oven or pressurized container. Rapid heating or disrupted sealing may lead to acid leakage, overheating, smoke emission, bursting and/or ignition.

4 If the battery pack leaks or gives off a bad odor, remove it from any exposed flame. Otherwise, the leaking electrolyte may catch fire, and the battery pack may emit smoke, burst and/or ignite.

5 If the battery pack gives off odor, generates heat, becomes discolored or deformed, or in any way appears abnormal during use, recharging or storage, immediately remove it from the equipment or battery pack charger and stop using it. Otherwise, the problematic battery pack may develop acid leakage, overheating, smoke emission, bursting and/or ignition.

Caution

- 1** Do not use or subject the battery pack to intense sunlight or hot temperatures such as: left in a car in a hot weather. Otherwise, acid leakage, overheating and/or smoke emission may occur. Also, its guaranteed performance will be lost and/or its service life will be shortened.
- 2** The battery pack incorporates built-in safety devices. Do not use it in a location where static electricity (greater than the manufacturer's guarantee) may be present. Otherwise, the safety devices may be damaged, possibly leading to acid leakage, overheating, smoke emission, bursting and/or ignition.
- 3** The guaranteed recharging temperature range is 0 to 40°C(104°F). A recharging operation outside this temperature range may lead to acid leakage and / or overheating of the battery pack, and may cause damage to it.
- 4** If acid leaking from the battery pack contacts your skin or clothing, immediately wash it away with running water. Otherwise, skin inflammation can occur.
- 5** Store the battery pack in a location where children cannot reach it. Also, make sure that a child does not take out the battery pack from the battery pack charger or equipment.
- 6** Before use, carefully study the operation manual and precautions. For further information, contact your nearest PETATECH distributor or representative. Safe keep the manual for future reference.
- 7** For recharging procedures, refer to the operation manual of your battery pack charger.
- 8** If you find rust, bad odor, overheating and/or other irregularities when using the battery pack for the first time, return it to your supplier or vendor.



Thermalution® Thermal system Quality Warranty and Service

Dear Thermalution® consumers,
Thank you for purchasing Thermalution® products.

We, Petatech International Co., Ltd. Guarantees this product against defective components, faulty workmanship and any defect in materials associated with the thermal system only for a period of 12 months from the date of purchase. Products subjected to the above conditions will be rectified a replacement of the product by Thermalution® authorized distributors / retailers from whom this product was purchased.

If your product is faulty within the warranty period:

Should your Thermalution® product have faults within the warranty period, please return it to the distributor / retailer from whom it was purchased. In most cases the distributor / retailer will send the product to Petatech International Co., Ltd. Taiwan for a repair cost inquiry.

Conditions

- 1 The product must have been purchased from Thermalution® authorized Distributors / Retailers. As proof of purchase, retain the original sales docket indicating the date and seller of purchase.
- 2 The warranty applies only to faults caused by defective components associated with the thermal system.
- 3 The warranty does not cover faults caused by failure to comply with the product's instruction manual. Consumers are requested to read the instruction manual before using of Thermalution® products.
- 4 In the event of a failure, Petatech shall be under no liability for any injury or any loss or damage caused to property or products other than the product under warranty. This warranty does not prejudice your rights under common law and statute, and is in addition to the normal responsibilities of the distributor / Retailer and Petatech International Co., Ltd.
- 5 The warranty on this product will be voided if the product is altered or modified by the consumer.

Thermalution® product number # _____

Authorized Distributor/Retailer _____

Country: _____ **Purchase date:** _____





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info@thermalution.com / www.thermalution.com