USER'S MANUAL

OPTICON

Ruggedized Portable Data Terminal.

Document：PHL-7100, PHL-7200 User's manual
Distributed: Opticon Sensors Europe B.V., Hoofddorp

CAUTION: This information is subject to change without prior notice.

Limited warranty and disclaimers

UNDER ALL CIRCUMSTANCES THIS MANUAL SHOULD BE READ ATTENTIVELY, BEFORE INSTALLING AND OR USING THE PRODUCT.

Serial number

A serial number appears on all Opticon products. This official registration number is strictly related to the device purchased. Make sure that the serial number appearing on your Opticon device has not been removed. Removing the serial number might affect the warranty conditions and liability disadvantageously, so please be strict at maintaining the label with serial number on the Opticon product.

Warranty / Warranty period / Liability

Unless otherwise agreed in a contract, all Opticon products are warranted for the period of two years after purchase, covering defects in material and workmanship. Opticon will repair or, at its opinion, replace products that prove to be defective in material or workmanship under proper use during the warranty period. Opticon will not be liable in cases where modifications are made by the customer. In such case the standard repair charge will be applicable. The standard charge for repair will also be applicable in cases where no defect is found at all. These rules also apply for products that are still under warranty. Under no circumstance will Opticon Sensors Europe, be liable for any direct, indirect, consequential or incidental damages arising out of use or inability to use both the hardware and software, even if Opticon has been informed about the possibility of such damages.

Packaging

The packing materials are not harmful for the environment. We recommend that you save all packing material, as it should be used whenever you need to transport your scanner (eg. for service). Damage caused by improper repacking is not covered by the warranty.

Trademark

Trademarks used are property of their respective owners.

Opticon Sensors Europe B.V.
email support department: **support@opticon.com**

Internet: www.opticon.com

Table of Contents

Chapter 1. Introduction

Congratulations on purchasing the Opticon PHL-7000 series Portable Data Terminal (PDT), a Microsoft Windows®CE .Net rugged PDT. Its special combination of features makes it perfect for using in a wide range of applications. These features as:

- λ Intel® XScale™ PXA255 400MHz 32 bits RISC processor
- λ Windows® CE .NET 4.2 Operating System
- λ 128 MB SDRAM & 64 MB FlashROM
- λ User accessible SD/CF slot
- λ 240 x 320, 3.5” Color TFT display with touch panel
- λ Numeric keypad or aphanumeric keypad with LED backlight
- λ 802.11b Wireless LAN support (optional)
- λ Bluetooth support (optional)
- λ Integrated 1D or 2D bar code reader

1.1 About this Manual

The following chapters contained in this manual are:

Chapter 1: Introduction, General information about the PDT.

Chapter 2: Getting started, Describe the basic use of the PDT.

Chapter 3: Setting, Provide basic instructions for customizing the PDT.

Chapter 4: Communication, Describe how to use all kinds of communication of the PDT.

Chapter 5: Software Application, Describe the installed applications on the PDT.

For configuration of the bar code reader, refer to the Opticon Universal Menu Book.
The Universal Menubook can be downloaded from www.opticon.com

1.2 User and Product Safety

- Do not stare into the laser or LED beam directly or shine it into eyes.

- Never use strong pressure onto the screen or subject it to severe impact, as the LCD panel could become cracked and possibility cause personal injury. If the LCD panel is broken, never touch the liquid inside because the liquid irritates the skin.

- Although the PDT has passed the test of IP54 standard for water and dust resistance, avoid prolonged exposure to rain or other concentrated moisture. Such conditions exceeds the IP54 standard, and could result in water or other contaminants entering into the PDT.

- Use only the original approved AC Adapter with the PDT. Use of an unapproved AC Adapter could result in electrical problems, or even cause a fire or electrical shock to the user.

- Do not disassemble the PDT. Servicing should be done by Opticon only. If the PDT or accessories gets damaged due to wrong handling or unauthorized repair, warranty is void. In case the warranty seals are broken, warranty is void too.

- Make regularly back-ups of all important data.

- Under no circumstance will Opticon be liable for any direct, indirect, consequential or incidential damages aring out of the use or inability to use both the hardware and software and/or any data loss, even if Opticon has been informed about the possibility of such damages.

1.3 Battery Safety

Lithium-ion battery packs might get hot, explode, ignite and/or cause serious injury if exploded by abusive using. Please follow the safety warnings listed as below:

- Do not throw the battery pack in fire. Do not expose the battery to high temperatures.
- Do not connect the positive battery pack with negative battery pack to each other with any metal object (like wire).
- Do not carry or store battery pack together with metal objects.
- Do not pierce the battery pack with nails or drills, strike the battery pack with a hammer, step on the battery pack or otherwise expose it to strong impacts, shocks or excessive force.
- Do not solder onto the battery pack.
- Do not expose battery pack to liquid or allow the battery contacts to get wet.
- Do not disassemble or modify the battery pack. The battery pack contains safety and protection measures, which, if damaged, may cause the battery pack to generate heat, explode or ignite.
- Do not discharge the batteries outside the PHL-7000 series PDT. Do not use the battery in another device then the PDT or IRU-7000 series cradles. Otherwise, the battery pack can be damaged, or its life expectancy reduced. If the device causes any abnormal current to flow, it may cause the battery pack to become hot, explode or ignite and cause serious injury.
- In the event the battery pack leaks and the fluid gets into one’s eye, do not rub the eye. Rinse well with water and immediately seek medical care. If left untreated, the battery fluid could cause damage to the eye.

1.4 FCC Statement

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 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 of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the distance between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

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.

IMPORTANT NOTE:

FCC Radiation Exposure Statement:

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. To maintain compliance with FCC RF exposure compliance requirements, please avoid direct contact to the transmitting antenna during transmitting.

This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter, except the built-in Bluetooth device which has been certified with this product.

LED AND LASER SAFETY INFORMATION

- Class 1 LED/Laser Product
- Do not stare at the LED/Laser or shine into eyes
- Do not allow young children to use the product without adult supervision
- Do not replace/repair the LED/Laser, these are not user replaceable
- Do not shine the LED/Laser on a shiny reflective surface

1.5 Recycling & disposal instructions.

Do not throw this product in the home waste bin. For proper end-of-life treatment consult the Environmental care section of www.opticon.com

1.6 Regulatory information.

CE For CE, FCC, RoHS and other Document of Conformities, consult the Regulatory section of www.opticon.com

1.7 Product Labeling

The PHL-7100 series PDT has several labels as showed in Figure 1-1 and 1-2.

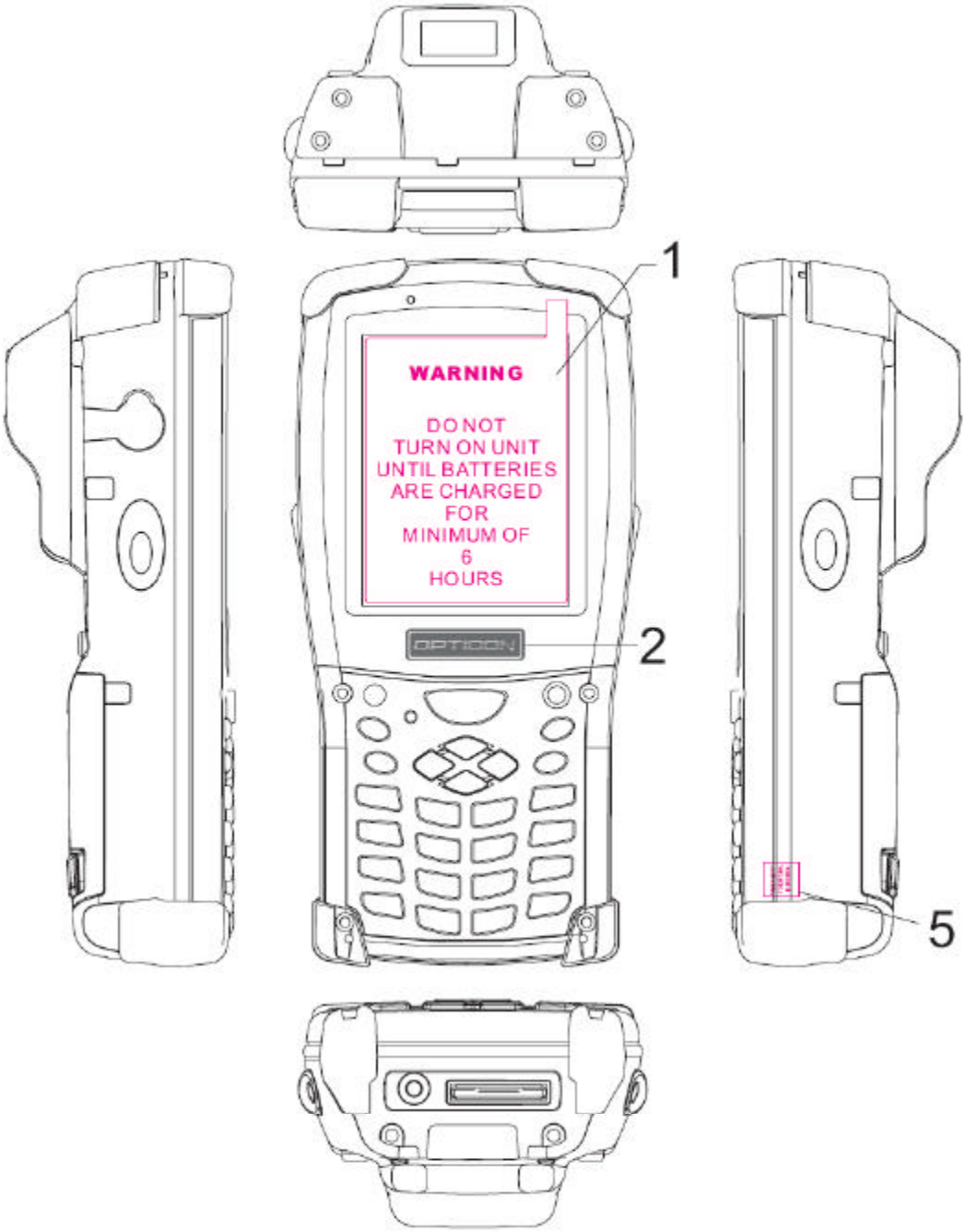


Figure 1-1 **PHL-7100 Labeling (Front and side views)**

Label nr.	Description
1	LCD panel protection film
2	Opticon logo
5	Warranty seal PDT

Table 1-1 **Front labeling**

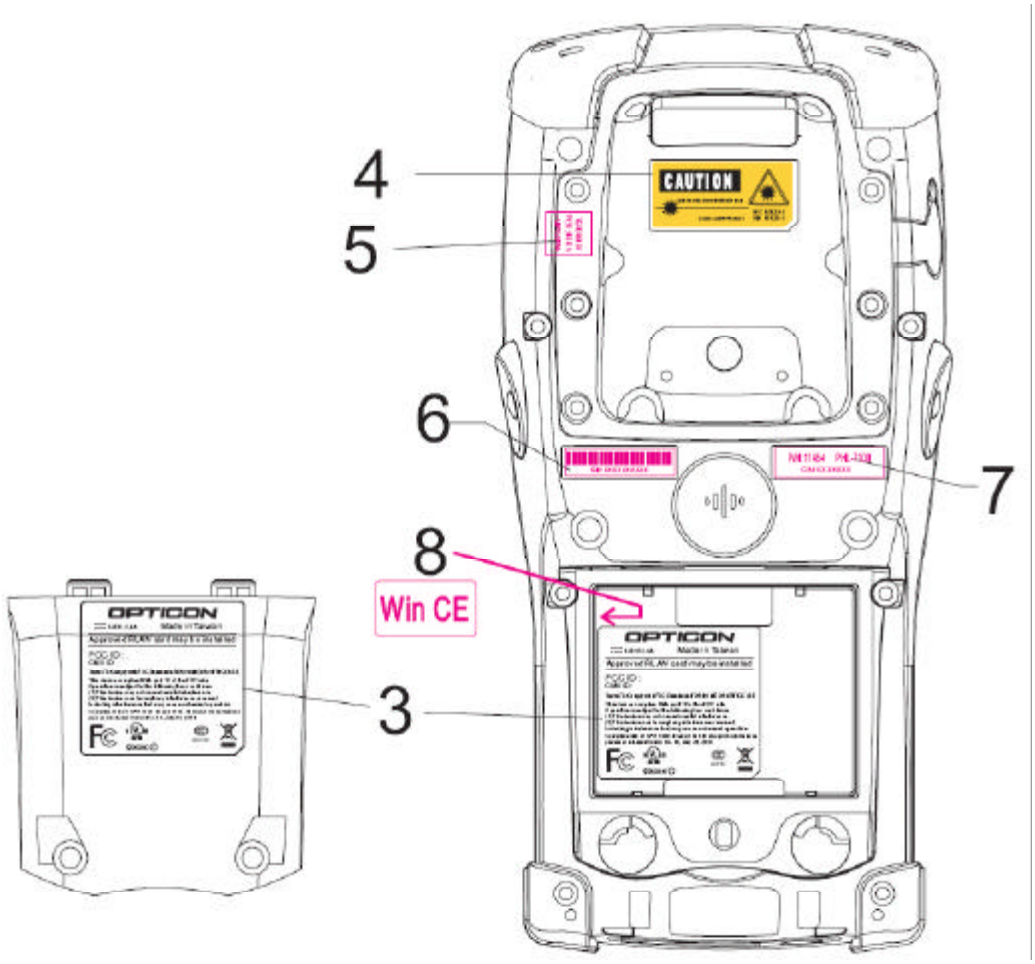


Figure 1-2 **PHL-7100 Labeling (Rear view)**

Label nr.	Description
3	System and regulatory label
4	LED/Laser radiation warning label
5	Warranty label bar code reader
6	Serial number
7	Article number and model number
8	Windows CE .NET label

Table 1-2 **Rear labeling**

The PHL-7200 series PDT has several labels as showed in Figure 1-3 and 1-4.

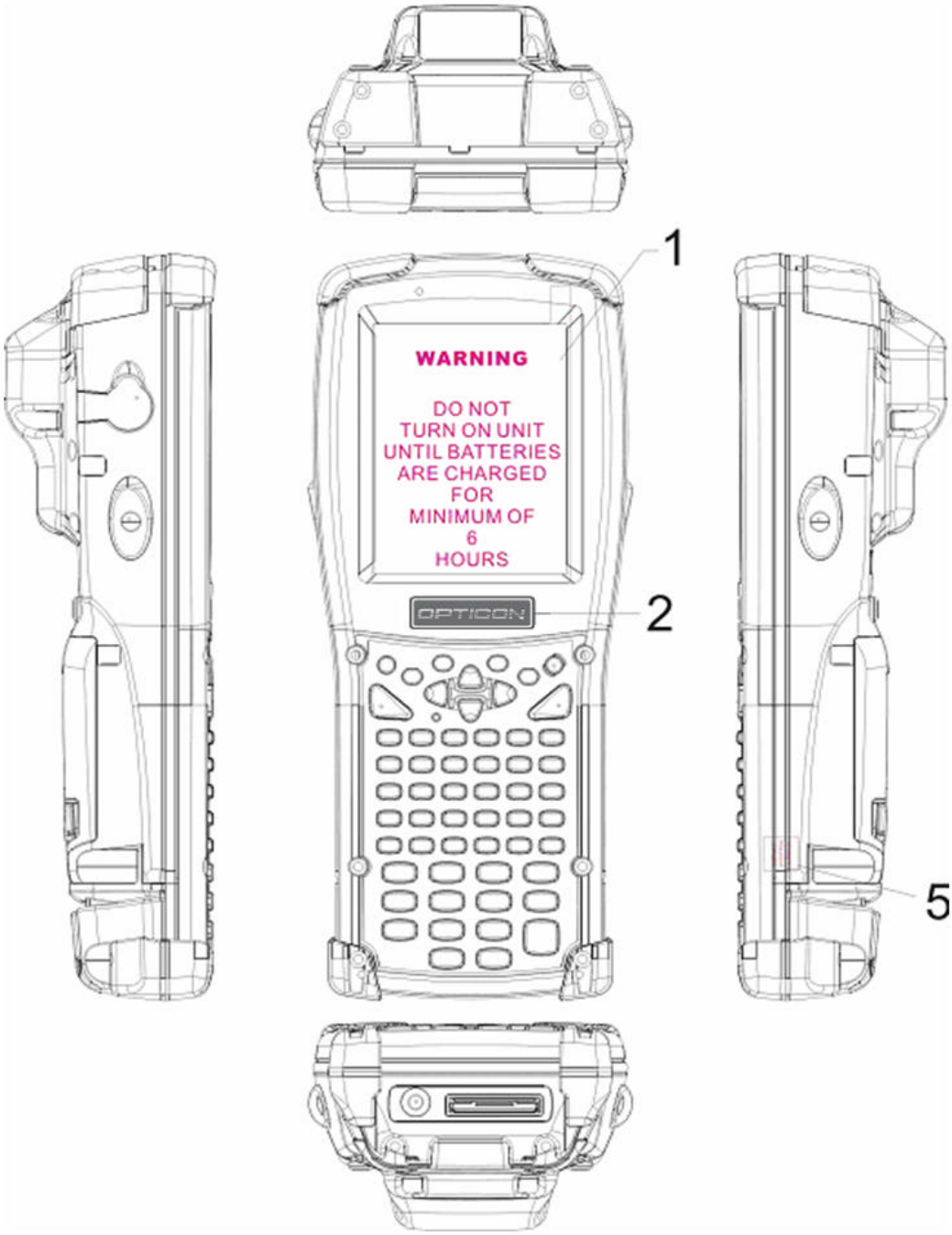


Figure 1-3 **PHL-7200 Labeling (Front and side views)**

Label nr.	Description
1	LCD panel protection film
2	Opticon logo
5	Warranty seal PDT

Table 1-3 **Front labeling**

Figure 1-4 **PHL-7200 Labeling (Rear view)**

Label nr.	Description
3	System and regulatory label
4	LED/Laser radiation warning label
5	Warranty label bar code reader
6	Serial number
7	Article number and model number
8	Windows CE .NET label

Table 1-4 **Rear labeling**

1.8 System Specifications

The PHL-7000 series detailed specifications as follows. Unless otherwise noted, all the specifications are subject to change without prior notification.

PHL-7100, PHL-7200	
Processor	- 400MHz Intel PXA255 32 bits RISC CPU
Memory	- 64 MB Flash ROM - 128 MB SDRAM
Display	- 240 x 320 3.5” TFT 256K Color LCD with LED backlight
Audio	- One mono speaker - 2.5mm Stereo earphone jack with microphone input
Radio Support	- **Wireless LAN:** 802.11b (optional) - **Bluetooth:** Ver 1.2, class II (optional)
Communication Ports	- **USB:** Support USB v1.1 both host and client. (PDT and Cradle) - **Serial**: RS232 via optional cable or Cradle.
Scan Engine	- **Default:** 1D laser bar code reader - **Optional:** 2D CMOS SXGA (1280*1024) bar code reader
Expansion Slot	- One SD Card slot (SD memory only, no SDIO support) - One Compact Flash type-II slot (Availability depends of PHL-7000 model)
LED	- One triple-color LED for charging indication and alarm notification - One dual-color LED for bar code reader indicator

<table>
<tr><th colspan="3">PHL-7100, PHL-7200</th></tr>
<tr><td>Power System</td><td colspan="2">- Standard Li-Ion battery pack, 3.7V, 3000mAh
- Advanced smart battery
- Built-in battery charger
- 2.4V/15mAh rechargeable backup battery
- Battery cover sensor switch
- Power adapter:
100~240VAC, 50/60Hz input ;
5VDC, 2.6A output</td></tr>
<tr><td rowspan="2">Keypad</td><td>PHL-7100</td><td>- Power button
- 4-way navigation button
- 4 application keys
- 3 bar code reader trigger keys
- Software reset input button
- 1 Pistol grip trigger button
- 16 alpha-numeric keyboard</td></tr>
<tr><td>PHL-7200</td><td>- Power button
- 4-way navigation button
- 4 application keys
- 4 bar code reader trigger keys
- Software reset input button
- 1 Pistol grip trigger button
- 44 alpha-numeric keyboard</td></tr>
<tr><td rowspan="2">Dimensions and Weight</td><td>PHL-7100</td><td>- Dimensions:
L : 192.5mm
W: 91.3mm / 78mm
H: 60.6mm / 42.2mm
- Weight:
560g with standard battery pack
500g without battery pack</td></tr>
<tr><td>PHL-7200</td><td>- Dimensions:
L : 200 mm
W: 91.3mm / 78mm
H: 60.6mm / 42.2mm
- Weight:
660g with standard battery pack
600g without battery pack</td></tr>
</table>

PHL-7100, PHL-7200	
Color	- Black
Optional Peripherals and Accessories	- RS232 serial cable for PDT - USB host cable for PDT - High-capacity Li-Ion battery pack (3.7V, 4000mAh) - Compact Flash RFID card cover - IRU-7000 single slot cradle + battery charger - IRU-7004 4-slot battery charger - Power adapter for IRU-7000 and IRU-7004 100~240VAC, 50/60Hz input ; 5VDC, 6.5A output - Car adapter - Holster - Display Protect film
Software	- Microsoft Windows CE.NET 4.2 Professional

Table 1-5 **System Specification**

1.9 Environment and durability.

Operating Temperature	14°F ~ 122°F(-10°C ~ 50°C)
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Humidity	5% ~ 80% (non-condensing)
Drop	5ft (1.5m) Drop on concrete
Water & Dust proof	IP54 certified and IP64 compliant
Vibration	MIL STD 810F

Table 1-6 **Environmental and durability**

1.10 Warranty and after service

Should this PDT require service, please contact your local reseller. In case of technical questions, send an email to **support@opticon.com** and provide information about the product name, the serial number (see chapter 1.7 "Product labeling" and/or chapter 3.2.3.1 "Information") and provide a detailed problem description.

Chapter 2. Getting started

2.1 Check the package

Open the package and check if no parts are missing or damaged:

2.1.1 PHL-7100

Figure 2-1 **Package contents**

1. PHL-7100 PDT
2. Stylus
3. USB client cable for PDT
4. Earphone/ microphone set
5. Standard AC adapter 5VDC/2.6A
6. AC power cord
7. Standard battery pack (3.7V, 3000 mAh)
8. CF support guide
9. Quick Guide (not shown in the picture)

2.1.2 PHL-7200

Figure 2-2 **Package contents**

1. PHL-7200 PDT
2. Stylus
3. USB client cable for PDT
4. Earphone/ microphone set
5. Standard AC adapter 5VDC/2.6A
6. AC power cord
7. Standard battery pack (3.7V, 3000 mAh)
8. CF support guide
9. Quick Guide (not shown in the picture)

2.2 General View of the PDT

2.2.1 PHL-7100 front view

Figure 2-3 **PHL-7100 front view**

2.2.2 PHL-7100 rear view

Figure 2-4 **PHL-7100 rear view**

1	Bar code reader LED indicator	“Red” color	Bar code reader on
		“Green” color	Successful reading
2	Charge LED indicator	“Red” color	Charging battery
		“Green” color	Battery fully charged
3	LCM / touch panel	User input on touch panel by stylus	
4	Left scan key Right scan key Scan key	Start scanning bar codes by pressing any of these three scan keys	
5	Power key	Put the PDT into suspend mode Awake the PDT from suspend mode	
6	F1 ~ F4 key	Application keys, hot keys of application program defined by end user.	
7	Navigation key	Navigation keys for left, right, up and down directions	
8	Alpha-Numeric keys	Numeric keys, change to alpha keys	
9	Alpha key	Toggle alpha-mode for alpha-numeric keys	
10	Fn key	This key is used in combination with other keys to type special characters and perform system functions.	
11	Enter key	This key confirms data entry	
12	Earphone Jack Connector	Connector input for earphone set	
13	USB / RS232 Synchronization port	A connector to support USB host, client and RS232.	
14	Scan window	Bar code reader window	
15	Stylus	Use the stylus for selecting items and entering information.	
16	Battery Cover	Protect battery pack and remain IP54 rating	
17	Battery cover latch	To keep battery cover locked	
18	Hand Strap	This strap can be sealed tighter or looser	
19	Speaker	1.5W speaker for audio output	
20	DC Power Jack	A connector to input power suppy to PDT.	
21	End Cap	Protect CF slot and SD slot from dust and water	

Table 2-1 **Description of PHL-7100 General View**

2.2.3 PHL-7200 front view

Figure 2-5 **PHL-7200 front view**

2.2.4 PHL-7200 rear view

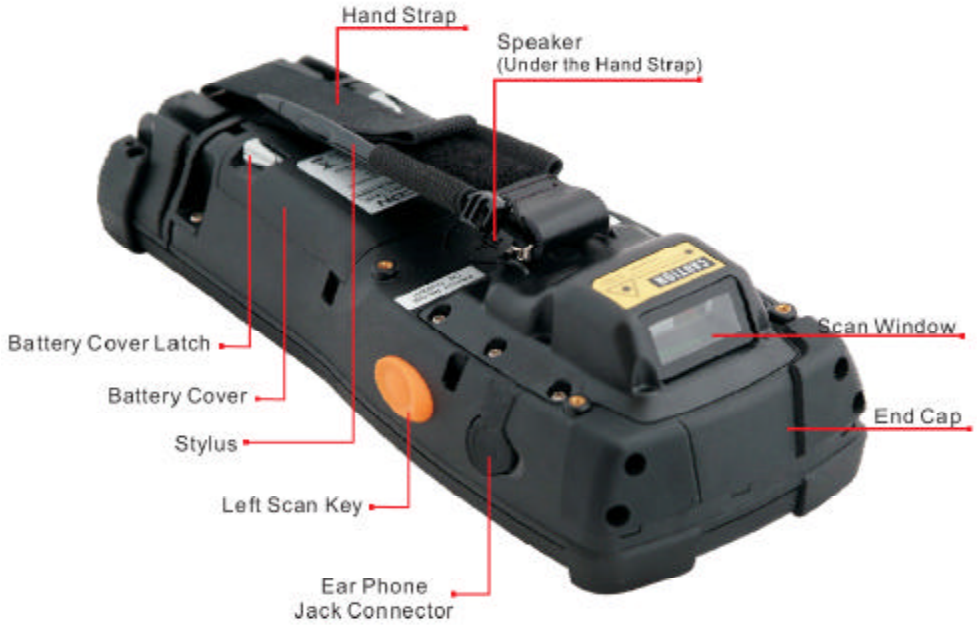


Figure 2-6 **PHL-7200 rear view**

1	Bar code reader LED indicator	“Red” color	Bar code reader on
		“Green” color	Successful reading
2	Charge LED indicator	“Red” color	Charging battery
		“Green” color	Battery fully charged
3	LCM / touch panel	User input on touch panel by stylus	
4	Left side scan key Right side scan key Left upper scan key Right upper scan key	Start scanning bar codes by pressing any of these four scan keys	
5	Power key	Put the PDT into suspend mode Awake the PDT from suspend mode	
6	F1 ~ F4 key	Application keys, hot keys of application program defined by end user.	
7	Navigation key	Navigation keys for left, right, up and down directions	
8	Numeric keys	Numeric keys	
9	Alpha key	Alpha keys	
10	Fn key	This key is used in combination with other keys to type special characters and perform system functions.	
11	Enter key	This key confirms data entry	
12	Earphone Jack Connector	Connector input for earphone set	
13	USB / RS232 Synchronization port	A connector to support USB host, client and RS232.	
14	Scan window	Bar code reader window	
15	Stylus	Use the stylus for selecting items and entering information.	
16	Battery Cover	Protect battery pack and remain IP54 rating	
17	Battery cover latch	To keep battery cover locked	
18	Hand Strap	This strap can be sealed tighter or looser	
19	Speaker	1.5W speaker for audio output	
20	DC Power Jack	A connector to input power suppy to PDT.	
21	End Cap	Protect CF slot and SD slot from dust and water	

Table 2-2 **Description of PHL-7200 General View**

2.3 Charging the Battery Pack

Before using the PDT, install and charge the battery by executing the steps described in this paragraph.

2.3.1 Installing the battery pack

1. On the PDT attached with a hand-strap, detach the hand-strap.

Figure 2-7 **Release the Hand strap from PDT**

2. Turn both battery cover latches downwards and lift the battery cover away from the PDT.

Figure 2-8 **Detach the battery cover from PDT**

3. Insert the battery pack into the battery compartment with the label facing upwards, and ensuring the battery snaps into it's place.

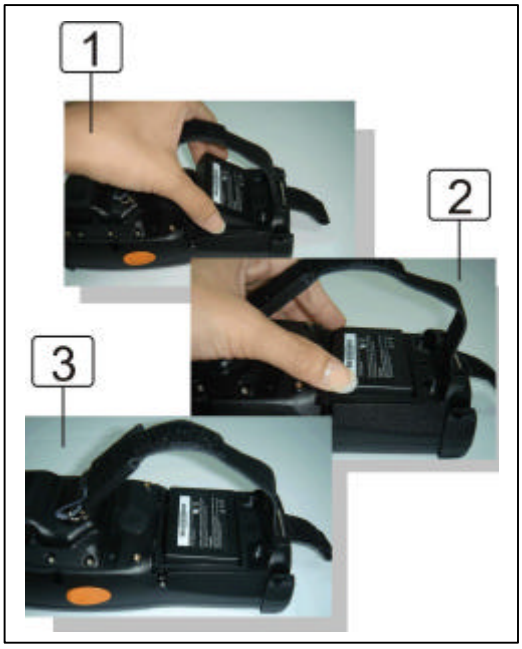


Figure 2-9 **Insert the battery pack**

4. Install the battery cover by inserting the top first, and then press the bottom in firmly. Turn both the battery cover latches upwards to secure the cover to the PDT.

Figure 2-10 **Replace the battery cover**

2.3.2 Charging the battery pack with Power Adapter

1. Connect the power cord to the power adapter.
2. Plug in the connector of the power adapter to the PDT.
3. Connect the power cord to a power source.

Figure 2-11 **Charging with power adapter (PHL-7100 shown)**

4. Charging time : to charge the battery pack for the first time, it needs approximately 6 hours. Subsequent charging time is approximately 4 hours.

- When charging the battery pack, the charge LED indicator on the PDT turns on Red.
- After the battery pack is fully charged, the charge LED indicator turns to Green.

2.3.3 Charging the battery pack with IRU-7000

CAUTION: IRU-7000 power adapter (5VDC/6.5A) is different from PDT power adapter (5VDC/2.6A). Please use the IRU-7000 Cradle power adapter only.

a) Leave the battery pack inside the PDT :

1. Connect the power cord to the power adapter
2. Plug in the connector of the power adapter to the IRU-7000
3. Connect the power cord to a power source
4. Insert the PHL-7100 into the IRU-7000. In case of PHL-7200 insert the support bracket in IRU-7000 first, thereafter insert PHL-7200 in IRU-7000.

Figure 2-12 **Charging with IRU-7000 cradle**

- When charging the battery pack, the charge LED indicator on the PDT turns on Red.
- After the battery pack is fully charged, this LED indicator turns to Green.

b) Place the spare battery pack into the IRU-7000's spare battery charging slot :

1. Connect the power cord to the power adapter
2. Plug in the connector of the power adapter to the IRU-7000
3. Connect the power cord to a power source
4. Insert the battery pack into the IRU-7000 spare battery slot

- When charging the battery pack in the IRU-7000 spare battery slot, the IRU-7000 charging LED indicator turns on Red.
- After the battery pack is fully charged, this LED indicator turns to Green.

CAUTION: Do not remove the battery pack too long from PDT after you have already full-charged the battery pack and backup battery pack and start to use the PDT. Otherwise the data stored inside SDRAM memory will be lost. Please also keep in mind power the PDT off if you want to change the main Battery pack.

2.4 Handling the PDT

2.4.1 Starting the PDT

Press the power key to turn ON/OFF the PDT. If the PDT does not power on, perform a cold boot, see chapter 2-7 Resetting.

CAUTION: When a battery is fully inserted in PDT for the first time, the PDT powers on and boots automatically.

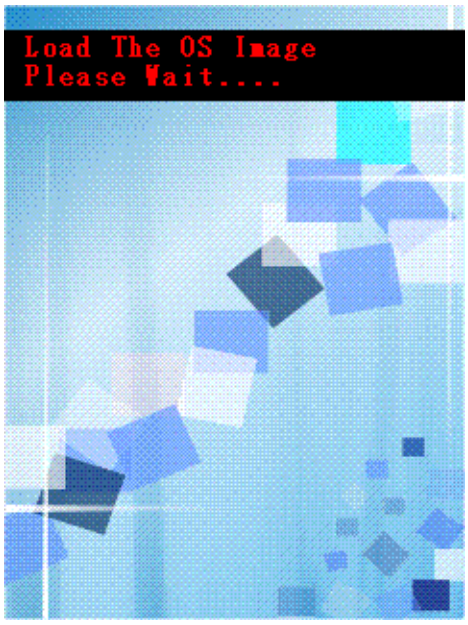


Figure 2-13 **Starting the PDT**

When the PDT is powered on for the first time, it initializes its system. A splash screen (figure 2-10) appears for a short period of time followed by the WinCE.NET 4.2 window.

2.4.2 Power on / off

To turn ON the PDT

Press the power key briefly ( ). If the PDT does not power on, perform a cold reset, see chapter 2.7.

While the PDT initializes its file system, the splash screen displays for about 30 seconds followed by the calibration screen. Every time you perform a cold reset, these screens will appear.

To turn OFF the PDT

Press the power key again. This action does not actually turn off the PDT, it only turns the PDT into suspend mode. All running applications remain as you left them, until you press the power key again to resume operation of the PDT.

2.4.3 Calibration of the touch Screen

On the initial boot-up of the PDT, the stylus calibration screen opens. Use the stylus to press and hold briefly on the center of each target as it moves around the screen.

If necessary, adjust the backlight on the PDT to make the screen readable (see chapter 2.4.4 Adjusting the brightness).

When you experience that the touch screen function is poor or the operation does not match the exact location it should be, please recalibrate the screen by using the stylus to tap the **Start > Settings > Control Panel > Stylus**, to open the "**Calibration**" to recalibrate again.

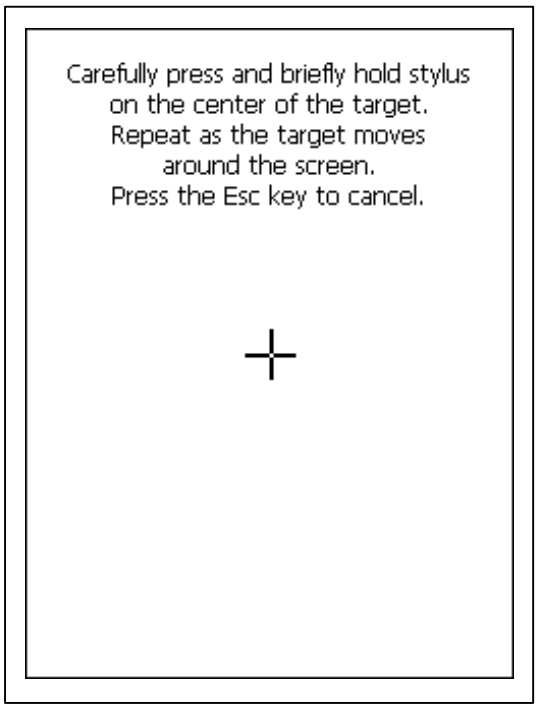


Figure 2-14**Calibration**

2.4.4 Adjusting the brightness

The factory default for the brightness is in middle level. You can adjust the brightness to meet your environment and comfort as:

1) Increase brightness: Press the Fn key and then press on the right key of Navigation key .

2) Decrease brightness: Press the Fn key and then press on the left key of Navigation key .

3) The display will dim automatically, if you do not perform any operation for a specific period of time. This will help to save the battery power. You can set up the specific period of time to see chapter 2.7 as reference.

2.4.5 To mute the sound

To mute the sound, press the Fn key first, and then press the ESC key to turn off and on of the sound.

2.4.6 Using the stylus

The stylus is located next to hand-strap on the rear of the PDT as illustrated in figure 2-3 PDT rear view. The stylus function is similar as the mouse on a PC. Use the stylus to:

1) Navigate the display, select menu item and open optional applications.
2) Tap the characters on soft keyboard panel.
3) Hold the stylus on the screen and drag across the screen to select multiple items.

CAUTION: Never use a pen, pencil or any other sharp object on the display to avoid damage of the touch screen.

2.4.7 Using the PHL-7100 keypad

Figure 2-15 **PDT Keypad**

Key	Main Function	Fn + Main Function	Alpha + Main Function
	User configurable Default : None		
	Main bar code scan key		
	Power On/Off		
	Internet Explorer		
	Microsoft WordPad		
	Inbox		
	File Explorer		
	Right	Backlight Increase	
	Left	Backlight Decrease	
	Down	Page Down	
	Up	Page Up	
	ESC	Audio Mute	$ €
	Backspace	TAB	Caps
	Change to letters		
	Function change		
	1	@	: \
	2	’	A B C
	3	+	D E F
	4	Paste	G H I
	5	Del	J K L
	6	−	M N O
	7	Copy	P Q R S
	8	&	T U V
	9	*	W X Y Z

Key	Main Function	Fn + Main Function	Alpha + Main Function
	**0**	**Space**	〔 〕
	**.** (Point)	**Start Menu**	, ;
	**Enter**	／	＝ %

Table 2-3 **Keypad list**

Reset Key	Functionality	Definition
	**Warm Reset**	Press “**F1**” and “**F4**” button simultaneously.
	**Cold Reset**	Press “**Power**”, “**F1**” and “**F4**” button simultaneously.

Table 2-3 **Special reset key combinations**

Key	Main Function	Definition
	**User configurable Default : None**	Configure its function by customer demand.
	**Main BarCode Scan Key**	Activates the scan function of PDT.
	**Power On/Off**	Puts the terminal into and wakes the terminal from suspend mode.
	**Internet Explorer**	Application key 1, **User can define F1 function from setting.**
	**Microsoft WordPad**	Application key 2, **User can define F2 function from setting.**
	**Inbox**	Application key 3, **User can define F3 function from setting.**
	**File Explorer**	Application key 4, **User can define F4 function from setting.**
	**Right**	Move the cursor one character to the right. The cursor will move continuously if button remains is pressed.
	**Left**	Move the cursor one character to the left. The cursor will move continuously if button remains pressed.

Key	Main Function	Definition
	**Down**	Move the cursor down one row or line The cursor will move continuously if button remains pressed.
	**Up**	Move the cursor up one row or line The cursor will move continuously if button remains pressed.
	**ESC**	This key performs a cancel action
	**Backspace**	"**Backspace"** key, it moves the cursor back one space each time the key is pressed. It deletes the previous character each time it is pressed if you are typing text. The cursor will move continuously if button remains pressed.
	**Change to letters**	1. The  key enables you to toggle between the **numeric** and **alpha** modes. Numeric mode is when you type numbers with number keys. Alpha mode is when you type letters with the number keys. 2. When you press  key, the "Alpha" icon appears at the task bar to indicate alpha mode is enabled. The keypad stays in the alpha mode until you press  key again.
	**Function change**	The  key is used in combination with other keys to type special characters and perform system functions.
	**1**	Number key "1"
	**2**	Number key "2"
	**3**	Number key "3"
	**4**	Number key "4"

Key	Main Function	Definition
	**5**	Number key “5”
	**6**	Number key “6”
	**7**	Number key “7”
	**8**	Number key “8”
	**9**	Number key “9”
	**0**	Number key “0”
	**.**	Dot key
	**Enter**	This key confirms data entry

Table 2-4 **Definition of main Function**

2.4.7.1 Special Function by “Fn” + main Function

The “Fn” key is used in combination with other keys to type special characters and perform system functions.

Key Sequence	Fn + Main Function	Definition
	**Backlight Increase**	Increase the LED backlight brightness of display screen(make lighter) You must press  key, then press  key to increase backlight brightness each time.
	**Backlight Decrease**	1. Decrease the LED backlight brightness of display screen (make darker) 2. You must press  key, then press  key to decrease backlight brightness each time.
	**Page Down**	1. Move the cursor down one page. The cursor will move continuously if button remains pressed.

Key Sequence	Fn + Main Function	Definition
		2. You must press Fn key, then press PgDn key to cursor down one page each time.
Fn PgUp	**Page Up**	1. Move the cursor up one page. The cursor will move continuously if button remains pressed. 2. You must press Fn key, then press PgUp key to cursor up one page each time.
Fn ESC	**Audio Mute**	1. Toggle the audio mute/on 2. You must press Fn key, then press ESC key to enable audio mute or turn on audio function each time.
Fn BS	**TAB** (Tabulation)	1. The “TAB” function is to move the cursor to the next tab stop or the next control (on a form) 2. To do this function by pressing Fn key first, and then pressing BS key each time.
Fn 1	@ (at)	Enter an {@, at} by pressing Fn key, then pressing 1 key.
Fn 2	’	Enter a {’} by pressing Fn key, then

Key Sequence	Fn + Main Function	Definition
		pressing 2 key.
Fn 3	＋ (Plus Sign)	Enter a plus sign by pressing Fn key, then pressing 3 key
Fn 4	**Paste**	1. It is to do “Paste” function. 2. To do this function by pressing Fn key first, and then pressing 4 key each time.
Fn 5	**Del** (Delete)	1. The “Delete” function delete the next character forward each time. 2. To do “Delete” function by pressing Fn key first, and then pressing 5 key each time.
Fn 6	－ **(**Minus Sign)	Enter a minus sign by pressing Fn key, then pressing 6 key.
Fn 7	**Copy**	1. Copy action. 2. You must press Fn key, then press 7 key to do “Copy” action each time.
Fn 8	& (AND)	Enter an AND sign by pressing Fn key, then pressing 8 key.
Fn 9	＊ (Asterisk)	Enter an asterisk sign by pressing

Key Sequence	Fn + Main Function	Definition
		 key first, and then pressing  key.
	**Space**	1. The “Space” function is to input a space at the cursor. 2. To do this function by pressing  key first, and then pressing  key each time.
	**Start Menu**	1. It displays the Start menu. 2. To do this function by pressing  key first, and then pressing  key each time.
	／ (Backslash)	Enter a backslash by pressing  key first, and then pressing  key.

Table 2-5 **Special Function key define**

2.4.7.2 Alpha keys by “Alpha” + main Function

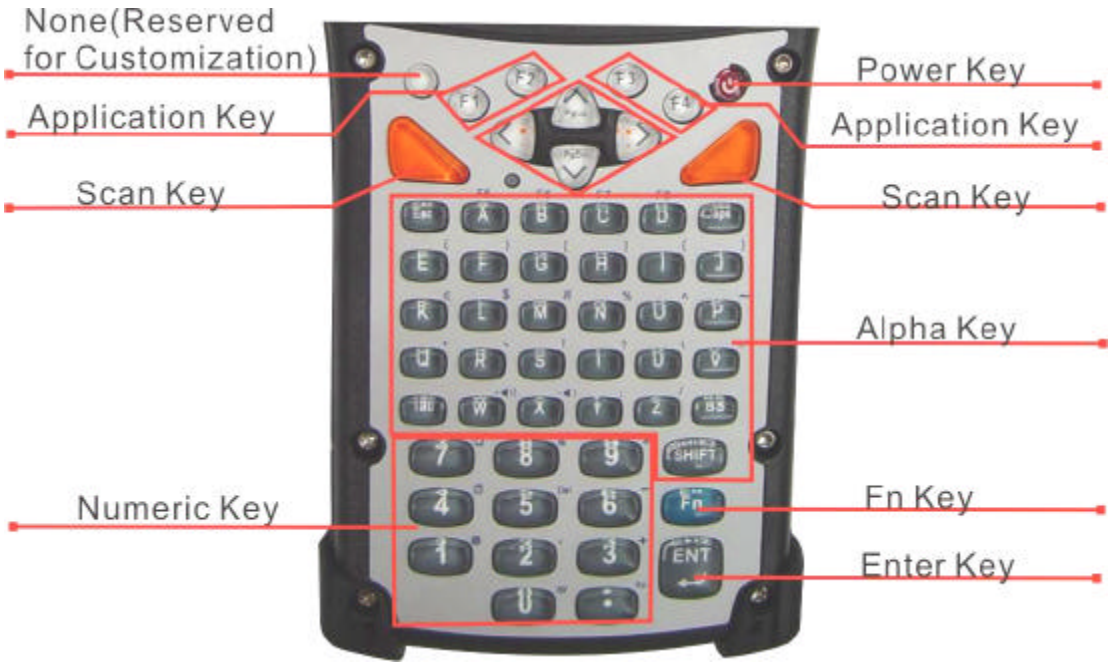
1. The  key enables you to toggle between the numeric and alpha modes. Numeric mode is when you type numbers with number keys. Alpha mode is when you type letters with the number keys.
2. When you press  key, the “Alpha” icon appears at the task bar to indicate Alpha mode is enabled. It means Alpha mode is disabled if the “Alpha” icon is not present at Task bar. The keypad stays in the alpha mode until you press  key again. For an example to type “cap1” word, press  < wait 0.5 seconds >  .
3. If you want to type a lowercase “c”, press  (The  key three times, the  key is needed if it’s the first alpha character keying in). If a letter that is on the same key as the last letter entered, wait two seconds after you pressed the last key, then you can enter the correct series of keystrokes to create the next letter.
4. While you are in the Alpha mode and you press  key to set the Caps mode, the Caps mode remains until you press  key again.
5. The “A” icon appears at the task bar during Caps mode.

To enter	Press the Keys	To enter	Press the Keys
$		€	
Caps			
:		\	
a		A	
b		B	
c		C	
d		D	
e		E	
f		F	

To enter	Press the Keys	To enter	Press the Keys
g		G	
h		H	
i		I	
j		J	
k		K	
l		L	
m		M	
n		N	
o		O	
p		P	
q		Q	
r		R	
s		S	
t		T	
u		U	
v		V	
w		W	
x		X	
y		Y	
z		Z	
〔		〕	
,		;	
=		%	

Table 2-6 **Alpha + Numeric keys define**

2.4.8 Using the PHL-7200 keypad



Key	Main Function	Fn + Main Function
	None	
	Main Barcode Scan Key	
	Power On/Off	
F1	Internet Explorer	
F2	Microsoft WordPad	
F3	Inbox	
F4	File Explorer	
	Right	Increase of Brightness
	Left	Decrease of Brightness

Key	Main Function	Fn + Main Function
	Down	Page Down
	Up	Page Up
	Esc	
	Caps	
	Tab	
	Backspace	
	A	F5
	B	F6
	C	F7
	D	F8
	E	(
	F	)
	G	[
	H	]
	I	{
	J	}
	K	€
	L	$
	M	#
	N	%
	O	^
	P	~
	Q	,
	R	、
	S	!
	T	?
	U	\
	V	=
	W	
	X	
	Y	;
	Z	/
	1	@

Key	Main Function	Fn + Main Function
2	2	’
3	3	＋
4	4	Paste
5	5	Del
6	6	—
7	7	Copy
8	8	&
9	9	＊
0	0	Start Menu
.	.	Space
SHIFT	SHIFT	
Fn	Function change	
ENT	Enter	

Table 2-6 **Keypad list**

Assembler Key	Functionality	Definition
F1 F4	**Warm Reset**	Press “**F1**” and “**F4**” button simultaneously.
F1 F4	**Cold Reset**	Press “**Power**”, “**F1**” and “**F4**” button simultaneously.

Table 2-3 **Special reset key combinations**

Key	Main Function	Definition
	None	Configure its function by customer demand.
	Main Barcode Scan Key	The key activates the scan function of PDT
	Power On/Off	The key puts the terminal into and wakes the terminal from suspend mode
F1	**Internet Explorer**	Application key 1, **User can define F1 function from setting.**

Key	Main Function	Definition
F2	**Microsoft WordPad**	Application key 2, **User can define F2 function from setting.**
F3	**Inbox**	Application key 3, **User can define F3 function from setting.**
F4	**File Explorer**	Application key 4, **User can define F4 function from setting.**
	**Right**	Move the cursor one character to the right. The cursor will move continuously if button is pressed continuously.
	**Left**	Move the cursor one character to the left. The cursor will move continuously if button is pressed continuously.
	**Down**	Move the cursor down one row or line The cursor will move continuously if button is pressed continuously.
	**Up**	Move the cursor up one row or line The cursor will move continuously if button is pressed continuously.
	**Esc**	This key performs a cancel action
	**Caps**	Conversion of the capital & lower case of the alpha key.
	**Tab**	The “TAB” function is to move the cursor to the next tab stop or the next control (on a form)
	**Backspace**	“**Backspace”** key, it moves the cursor back one space each time the key is pressed. It deletes the previous character each time it is pressed if you are typing text. The cursor will move continuously if button is pressed continuously.
	**A ~ Z**	Use the alpha keys for alphabetic characters.
	**1 ~ 0**	Numeric value keys.
	**.**	Point key