

# OPTICON

## PHL8000 Series

Beyond Rugged. *It's Flexible.*



Ideal tool for:

- ✓ Transport
- ✓ Logistics
- ✓ Retail
- ✓ Hospitality



Scan



Interact



Communicate

# OPTICON



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Beyond Rugged. It's Flexible.





# Scan

## FAST AND AGGRESSIVE SCANNING PERFORMANCE

The PDA terminal integrates a high performance barcode scanner. The pre-installed software includes an on-board running application that enables to read the barcodes instantly. There is no need to install any software development kit before scanning. The terminal scans out of the box.



### + 1D

Opticon integrated its industry leading laser scan engine, reading barcodes at a speed of 100 scans per second. This engine is integrated in the PHL8112, 8214, 8212 and 8214. The series is sealed up to IP 65 standards. This makes the terminal suitable for every day use in harsh situations.

### + 2D

The PHL8152 uses Opticon's 2D CMOS imager engine. This (1.3 mega-pixel) grey-scale imager reads - besides the regular linear barcodes - 2D and stacked codes.

### + REAL-TIME MOBILITY

The terminal is driven by an Intel Processor and Microsoft CE 5.0, delivering fast on-demand access to well-known on-board applications. Wireless communication options support this standard configuration. Bluetooth and W-LAN connect to peripheral devices and to back office data networks.



### + DURABLE

The ruggedized PHL8000 series withstands drops of 1.5 meter on concrete.

# Interact



The PHL8000 series is equipped with Windows CE, the core version of Windows operating systems. Version 5.0 features a Windows familiar graphical user interface and the most popular Windows applications, suitable for the storage capacity and speed of the device.

## + USER APPLICATIONS



Windows CE 5.0 together with the strong Intel Processor make it easy for organizations to run different applications on one device. Available technologies combined with software components enable the user to create customized solutions. The PHL8000 series has SDK support for its operating system. With the software development kit and Visual Studio the user has the opportunity to build native applications, which can be loaded on the device.



## + KEYPAD

The keypad layout provides clear and easy operable keys. The backlight function on the keypad eases the distinction of the keys in weaker light conditions. Multiple keyboard options provide flexibility, to fit every user preference.

## + HIGH-CAPACITY BATTERY

The PHL8000 series is standard equipped with a 2200 mAh battery, developed to be used in all kinds of demanding situations. This power supply can easily be replaced by an optional 4000 mAh high-capacity battery, adding even more mobile power.

# Communicate

## REMOTE FLEXIBILITY AND ACCESSIBILITY

The wireless options of connectivity on the PHL8000 series provide access to the surrounding (network) system and allow the operator of the PDA to keep track of the changes in the central business process regardless of the physical location.



### + IRDA INFRARED

The IrDA interface is ideal for data exchange to a belt printer.

### + VOIP PREPARED

The W-LAN integration and microphone support offer a platform to install VoIP (Voice over IP) software tools. The only investment is a one-time training for speech recognition. The communication technology to send the voice over IP to the host and vice versa is already available.



### + CHARGING AND COMMUNICATION

The terminal can be charged by the dedicated cradle (IRU8000), with charging and communication features. Two slots provide charging of both the docked terminal and a spare battery. The cradle is equipped with an IrDA interface allowing data transfer when the scanner is put in the cradle. External communication is supported by either an RS232 or USB interface.



### + WIRELESS LAN 802.11B

The PHL8000 series is standard equipped with W-LAN. The W-LAN interface provides real-time interoperability and license-free use. Several network safety options are available for authentication and encryption.

### + BLUETOOTH 2.4 GHZ

Use the widely available and reliable Bluetooth wireless communication protocol to connect to any mobile or stationary device with Bluetooth capacity.

### + OPTIONAL GPRS/EDGE 850/900/1800/1900HZ

The PHL8114 and 8214 are equipped with GPRS and EDGE, allowing employees to make optimal use of telecommunication.

## Transport



### Applications

- On-line delivery confirmation
- Controlling (error reduction)
- Signature capturing
- Customer relationship management
- Location tracking / Route status

In logistic environments, goods are continuously moving from indoor to outdoor. Scanning devices, identifying these switching goods, need to be water-resistant and ruggedized enough to withstand falls. Article information and logistic specific information are essential to keep track of the goods in the logistic process. With the PHL8000 series, this process can be optimized when truck drivers on the road scan the bills and other documents and transfer the collected information instantly.

## Logistics



### Applications

- Shipping confirmation
- Internal distribution
- Stock location
- Inventory management
- Order picking

The PHL8000 series is built from a user's perspective. Combined with a warehouse management system and communication network, employees have all necessary information available in real-time. Wireless connectivity allows you to use location-based tracking of stock in the warehouse, enabling your staff to pinpoint the exact location of an item at any time. This leads to an increase in productivity.

## Retail



### Applications

- In-store management
- Stock movement
- Price checking
- Instant order entry
- Asset management

The PHL8000 series realizes transparency in the flow of goods to improve in-store management. Proactive handling of accurate data is crucial. Using the PHL8000 series gives employees clear insight in the inventory and the possibility to instantly enter orders. This not only helps to limit administration costs, it also provides visibility of economic trends for management decision making.

## Hospitality



### Applications

- Supply management
- Customer order entry
- Purchasing order entry
- Menu checking
- Reporting / trend analysis

Service to the customer is number one priority in the hotel and catering industry. The PHL8000 series provides insight information about customer behavior and creates transparency in the flow of goods. Real-time order transmission will save time spent from the customer's table to the kitchen. Apart from that, quick acting will increase customer loyalty. The administrative features of this mobile terminal even provide the possibility to have inside information about VIP arrangements immediately available.

## + Basic Product Specifications

### Operation

- CPU: Intel® PXA270 32-bit RISC 520Mhz
- O/S: Windows CE 5.0
- Software: Wordpad, Internet Explorer, Inbox, Active Sync, Messenger, Opticon scanner application, Accessories. Upgradeable via user accessible SD
- RTC: Supports year, month, day, hour, minute, second (leap year supported)

### Memory

- FlashROM: 128 MB
- RAM: 128 MB SDRAM
- Expansion: User accessible SD + HC

### Display

- Type: Graphic Transflective TFT with touch panel, 256K color with adjustable backlight
- Size: 3.5", 240 x 320 pixels
- Mode: Portrait

### Operating indicators

- Visual: 1 LED (red/green scanning indication)
- Non-visual: Buzzer

### Operating keys

- Entry options: Backlit keypad for all models  
PHL8212, PHL8214: Full keypad 44 keys total incl. 26 alpha(numeric) keys  
PHL8112, PHL8114, PHL8152: Numeric keypad 29 keys total incl. 12 (alpha)numeric keys

### Communication

- RS232: Baudrate 150 bps - 115.2 kbps, serial cable connector
- USB: Ver. 1.1, full speed, serial cable connector client, optional host
- IrDA: Baudrate automatically determined, including IrDA protocol stack
- Bluetooth: Ver. 1.2, SPP, DUN, OPP, HID (only keyboard support), output power class 2, range 5-10 m
- W-LAN: 802.11b/g, CCK, TKIP, WEP, WPA, WPA2, EAP, LEAP, PEAP, AES, PSK (pre-shared, static, dynamic), Cisco CCX compatible Ver. 4
- Telecom: PHL8114, PHL8214: GPRS/EDGE, quad-band 850/900/1800/1900, GPRS Class 12, EDGE Class 10
- Audio: Speaker/microphone (mono), headset connector (stereo)

### Power

- Rechargeable battery: Lithium-Ion 3.7V 2200mAh
- High-capacity battery: Optional 3.7V 4000mAh
- Backup battery: 1 rechargeable backup Lithium-Ion Polymer battery
- Charging method: Enclosed power supply, separate cradle IRU8000, separate car charging adapter
- Battery charging time: Ca. 3 or 5.5 hours when charging through power supply, ca. 4 or 7 hours when charging by cradle Standard battery (resp. Standard or High-capacity battery)

### Barcode scanner Optics

- PHL8112, PHL8114, PHL8212, PHL8214:
- Light source: 650 nm visible laser diode
- Scan method: Vibrating mirror
- Scan rate: 100 scans/sec
- Reading pitch angle: -35 to 0°, 0 to +35°
- Reading skew angle: -50 to -8°, +8 to +50°
- Reading tilt angle: -20 to 0°, 0 to +20°
- Curvature: R>15 (EAN8), R>20 (EAN13)
- Min. PCS value: 0.45
- Depth of field: At PCS 0.9, Code 39  
50 - 650 mm / 1.97 - 25.59 in

### 2D Imager Optics

- PHL8152:
- Light source: Illumination 4 red LEDs 630 nm, aiming 2 green LEDs
- Scan method: CMOS area sensor (gray-scale), 1024 (V) x 1280 (H) Pixels
- Scan rate: Up to 30 fps
- Trigger mode: Manual, multiple read
- Reading pitch angle: -50 to 0°, 0 to +50°
- Reading skew angle: -60 to 0°, 0 to +60°
- Reading tilt angle: 360°
- Curvature: R>15 (EAN8), R>20 (EAN13)
- Min. PCS value: 0.45
- Depth of field: At PCS 0.9, PDF417  
50 - 215 mm / 1.97 - 8.46 in

### Supported Symbolologies

- Barcode (1D): JAN/UPC/EAN incl. add on, Codabar/NW-7, Code 11, Code 39, Code 93, Code 128, GS1-128 (EAN-128), GS1 DataBar (RSS), IATA, Industrial 2of5, Interleaved 2of5, ISBN-ISMN-ISSN, Matrix 2of5, MSI/Plessey, S-Code, Telepen, Tri-Optic, UK/Plessey
- Postal code: Chinese Post, Korean Postal Authority code
- 2D code:  
All models: Composite Codes, MicroPDF417, PDF417  
Extra PHL8152: Aztec Code, Aztec Runes, Data Matrix, (ECC200/ECO-140), Maxi Code (mode 2~5), Micro QR Code, QR code

### Durability

- Temperature in operation: -10 to 50 °C / 14 to 122 F
- Temperature in storage: -20 to 60 °C / -4 to 140 °F
- Humidity in operation: 5 - 95% (non-condensing)
- Drop test: 1.5 m / 5 ft drop onto concrete surface
- Protection rate: IP 65

### Physical

- Dimensions (w x h x d):  
82 x 155 x 31/33 mm / 3.23 x 6.10 x 1.22/1.30 in
- Weight body: Depending on model (incl. battery)  
Min: Ca. 350 g / 12.3 oz  
Max: Ca. 360 g / 12.7 oz
- Case: Black

### Regulatory & Safety

- Product compliance: CE incl. LVD, FCC, cUL, RoHS, TUV, JIS-C-6802 Class 2, IEC 60825-1 Class 2, FDA CDRL Class II

### Enclosed items

- Power supply 100-240V/0.6A, 50/60 Hz, 5V/2.6A + Power cord
- Standard battery 3.7V 2200mAh
- USB client cable
- Hand strap
- Stylus + Spring cord
- Ear microphone (stereo)

### Sold separately

- IRU8000 Cradle: Serial communication, charging
- IRU7004 spare battery charger
- High-capacity battery Lithium-Ion 3.7V 4000mAh
- GSM ear microphone (mono)
- RS232 serial cable
- USB host cable
- Car charging adapter
- Nylon case fixed clip

### Models

	PHL 8112	PHL 8114	PHL 8152	PHL 8212	PHL 8214
<b>Communication</b>					
• Bluetooth	●	●	●	●	●
• IrDA	●	●	●	●	●
• RS232	●	●	●	●	●
• USB	●	●	●	●	●
• W-LAN	●	●	●	●	●
• Telecom		●			●
<b>Scanner</b>					
• Barcode	●	●		●	●
• 2D imager			●		
<b>Keypad</b>					
• Numeric	●	●	●		
• Full				●	●