

Preliminary specifications

dual reader  
RF-IDtag / barcode

# PHL 2700

RF-ID  
handheld terminal

The PHL2700 terminal is a programmable handheld terminal, well suited for a variety of indoor portable applications. Different identification methods can be chosen for data collection: the built-in scanner is able to read all popular barcodes in combination with RF-ID tags.

The PHL2700 terminal can be programmed in C-language. The clear and easily readable graphic display enables the user to use the terminal in combination with advanced application programs.

Operating power is supplied by the main battery. A rechargeable battery pack, that can be charged in the cradle, or non-rechargeable penlite batteries can be used.

For communication the PHL2700 is provided with an IrDA interface. Through this interface the terminal is able to communicate with the cradle, or apart from the cradle to all computer devices that use IrDA. Also belt printers can easily be approached by the PHL2700 thanks to the smart location of the IrDA window.

## Features

- Rechargeable Nickel Metal Hydride battery pack

- 8 MB Memory available

- Easily readable graphic display

- RS232 data transmission by cradle

- Built-in IrDA interface

- Integrated laser technology and RF-ID technology

## Benefits

- Long life batteries

- Enables continuous working even with large data storage

- Enables advanced applications

- Easy data storage into the computer system

- Ideal to use together with portable computers, like note books.

- Possibility to read both bar codes and RF-ID tags



## IRU2700

cradle for data transmission and charging rechargeable battery pack



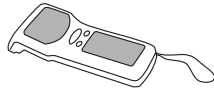
## Dual data collection

programmability and portability  
barcode reading and RF tag reading  
in one terminal

# PHL2700 RF-ID handheld terminal

## Electrical specifications

Main battery	<input type="checkbox"/> rechargeable pack: Ni-MH <input type="checkbox"/> dry cell: Alkaline penlite <input type="checkbox"/> optional: other 2 x AA-size penlite
Main battery operating time	<input type="checkbox"/> Ni-MH: When having every 10 seconds on: 1 sec laser, 0.4 sec. green LED, 0.4 sec. buzzer, 1 sec. RFIDtag reading, 0,2 sec. RFIDtag writing, operating time is: approx. 22 hours <input type="checkbox"/> Alkaline: When having every 10 seconds on: 1 sec laser, 0.4 sec. green LED, 0.4 sec. buzzer, 1 sec. RFIDtag reading, 0,2 sec. RFIDtag writing, operating time is: approx. 43 hours <input type="checkbox"/> Different operation conditions affect the operating time <input type="checkbox"/> Use of other penlite batteries affect the operating time
Backup battery	Lithium (CR2032)
Backup battery operating time	If fully charged: 30 days backup time
Battery management	<input type="checkbox"/> Low voltage indicated on the terminal display. <input type="checkbox"/> When battery is low the terminal switches off automatically.
Charging method	<input type="checkbox"/> Rechargeable Ni-MH pack in terminal via cradle



## Functionality

Memory	<input type="checkbox"/> ROM: 32 kB <input type="checkbox"/> FlashROM (for O/S and program): 512 kB <input type="checkbox"/> fast RAM: 2kB <input type="checkbox"/> battery backed up D-RAM (for data): 8 MB
Microprocessor	16-bit
Real time clock	Quartz RTC, time and date programmable, leap year handling, (accuracy $\pm$ 60 sec./month)
Display	<input type="checkbox"/> 128x64 Pixels graphic LCD with backlight <input type="checkbox"/> Character fonts: 4/8 lines x 16 characters 5/10 lines x 21 characters
Keyboard	<input type="checkbox"/> 27 keys total (26 keys user definable) <input type="checkbox"/> 8 Function keys <input type="checkbox"/> Alpha/Numeric mode
Trigger mode	Manual
Programming	Functionality is provided by user application. The application may be downloaded from PC via cable, com port or IrDA.
Interfaces supported	<input type="checkbox"/> RS232 by direct cable <input type="checkbox"/> RS232 by cradle <input type="checkbox"/> IrDA on terminal
Transmission speed	<input type="checkbox"/> RS232 direct cable: 2400 - 115200 baud <input type="checkbox"/> RS232 cradle: 2400 - 115200 baud <input type="checkbox"/> IrDA terminal: 2400 - 115200 baud

## Specifications laser module (barcode reading)

Light source	650 nm visible laser diode
Scan rate	100 scans/sec
Decode rate	100 decodes/sec
Reading width	62 mm at 30 mm 111 mm at 100 mm
Resolution at PCS 0,9	0.15 mm (6mil)
Depth of field	0 - 140 mm (at PCS 0.9, res. 0.25)

## Specifications RF-ID module (RF-ID tag reading)

Reading range	up to 15 mm, dependent on type of RF-ID tag
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## Physical specifications

Dimensions (l x w x d)	177 x 62 x 41 mm
Case material	ABS
Weight	body (excl. battery): 195 g
Direct cable	optional for maintenance: RS232 - DB9 female

## Supported symbologies

Chinese Post 2of5 - Codabar incl. ABC and CX - Code 39 - Code 93 - Code 128 - EAN-8 incl. +2,+5 - EAN-13 incl. +2,+5  
IATA - Industrial 2of5 - Interleaved 2of5 - Italian Pharmaceutical - Laetus - Matrix 2of5  
MSI/Plessey - UK/Plessey - S-Code - Telepen - UPC-A incl. +2,+5 - UPC-E incl. +2,+5

## Supported RF Tags

Philips I-Code Texas Instruments Tag-It (on request: Gemplus GEM wave)

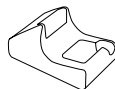
## Supported RF Frequencies

13,56 MHz (on request: 125 KHz, Low frequency) For more information contact Opticon.

## Environmental specifications

Temperature	<input type="checkbox"/> 0 - 50 °C in operation <input type="checkbox"/> -10 - 60 °C in storage
Humidity (non condensing)	<input type="checkbox"/> 20 - 80 % in operation <input type="checkbox"/> 20 - 90 % in storage
Shock: drop:	1.5 m drop onto concrete surface
Shock: vibration:	10 - 50 Hz with 1G for 30 min, cycle for X,Y,Z.
Ambient light rejection	<input type="checkbox"/> fluorescent 3.000 lux max. <input type="checkbox"/> direct sun 50.000 lux max.
Emission	According to EN50081, part 1
Immunity	According to EN50082, part 1
R&TTE	According to EN300-330
Protection against dust and moisture	According to IEC529, IP 42
Safety, Laser class	According to IEC825, Class I laserproduct

# IRU-2700 cradle



## Physical specifications

Dimensions (l x w x d)	150 x 90 x 81 mm
Case material	ABS
Weight	250 g
Standard connector	RS232 - D Sub 9P Female RS485 - 6 pins modular plug

## Functionality

Interfaces supported	<input type="checkbox"/> RS232 <input type="checkbox"/> RS485
Serial communication	<input type="checkbox"/> RS232 Baudrate: 1200 - 115200 <input type="checkbox"/> RS485 Baudrate: 1200 - 115200
Transmission modes	<input type="checkbox"/> Half duplex RS232 <input type="checkbox"/> Half duplex RS485
Parity	Odd, Even, None

## Environmental specifications

Temperature	<input type="checkbox"/> 0 - 40 °C in operation <input type="checkbox"/> -20 - 60 °C in storage
Humidity (non condensing)	<input type="checkbox"/> 30 - 85 % in operation <input type="checkbox"/> 30 - 90 % in storage
Shock: vibration:	10 - 50 Hz with 1G for 30 min, cycle for X,Y,Z.
Emission	According to EN50081, part 1
Immunity	According to EN50082, part 1

## Electrical specifications

Battery charging time	<input type="checkbox"/> when battery in terminal: 8 hours charge
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Preliminary specifications are subject to change without notice. Printed 06-2000