CRD9823-RU

Data Collector Cradle

OPTICON

Specifications Manual

All information subject to change without notice.

Document History

Model Number:	CRD9823 RU	Specification Number:	
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Limited Warranty and Disclaimers

PLEASE READ THIS MANUAL CAREFULLY BEFORE INSTALLING OR USING THE PRODUCT.

Serial Number

A serial number appears on all Opticon products. This official registration number is directly related to the device purchased. Do not remove the serial number from your Opticon device. Removing the serial number voids the warranty.

Warranty

Unless otherwise agreed in a written contract, all Opticon products are warranted against defects in materials and workmanship for two years after purchase. Opticon will repair or, at its option, replace products that are defective in materials or workmanship with proper use during the warranty period. Opticon is not liable for damages caused by modifications made by a customer. In such cases, standard repair charges will apply. If a product is returned under warranty and no defect is found, standard repair charges will apply. Opticon assumes no liability 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 recyclable. We recommend that you save all packing material to use should you need to transport your scanner or send it for service. Damage caused by improper packaging during shipment is not covered by the warranty.

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1. Abstract

This manual provides specifications for the CRD9823-RU cradle designed for the Opticon OPL (OPL97XX and OPL98XX) series data collectors. The CRD9823-RU cradle supports USB and RS232 interfaces and can also used to charge the OPL.

2. Overview

The CRD9823-RU cradle can be used to charge the OPL series data collectors. Additionally, it provides a way for data communication between the OPL data collector and a host computer. The Opticon OPL data collectors all have an IrDA communication interface and this cradle acts as a bridge between the USB/RS232 interface available on every computer and the IrDA interface in the OPL data collector.

The CRD9823-RU communicates with the OPL data collectors via infrared data communication (IrDA1.2, low-power) and can communicate with a host computer via either USB (USB 2.0, CDC class virtual comm. port) or RS232C.

The CRD9823-RU has three status LED's, a red LED that indicates that the power is switched on, a green LED that blinks when the cradle receives data via IrDA and a yellow LED that blinks when data is received via USB or RS232.

The baud rate for RS232 & IrDA can be configured via special software on the host computer but it can also be configured via a block of switches that are accessible via the bottom of the cradle. Supported baud rates are 1200, 2400, 4800, and 9600 bps, 19.2kbps, 38.4kbps, 57.6kbps and 115.2 kbps.

3. Physical Features

3.1. Dimensions

W 98.5 x D 71.5 x H 67.0 mm

3.2. Weight

80 g

4. Environmental Specifications

4.1. Operating Temperature and Humidity

Temperature: 0 to 40° C (32 to 104° F)

Humidity: 30 to 80%

4.2. Storage Temperature and Humidity

Temperature: -20 to 60° C (-4 to 140° F)

Humidity: 30 to 90%

5. Electrical Specifications

Only use dedicated Opticon approved AC adapters with this cradle. The output of such a AC adapter should be 6V/2A. It is not possible to power the cradle via USB.

5.1. Absolute Maximum Ratings

Parameter	Value	Unit
Power supply voltage (VCC to GND)	-0.3 to 6.5	V
Input voltage (D+, D-)	-0.5 to 0.5	V
Input voltage (RS-232C IN)	±30	V
Input voltage (RS-232C OUT)	±15	V

5.2. Recommended Operating Conditions

Item	Symbol	Conditions	Min	Typ	Max	Unit
Power supply voltage	V_{DD}	DC power supply	5.5	6.0	6.5	V

6. Interface Specifications

6.1. External Interface Connector and Pin Assignment

6.1.1. DC Power Supply Connector (EIAJ Type 3)

Pin	Signal Name	Notes
Inward	+6 V	Power supply +6 V
Outward	GND	Ground

6.1.2. Connector for USB on PC Side (USB Type B)

Pin	Signal Name	I/O	Notes
1	VBUS	P	USB bus power supply
2	D-	I/O	Data -
3	D+	I/O	Data +
4	GND	P	Ground

6.1.3. Connector for RS-232C on PC Side (Ten-electrode modular jack)

Pin	Signal Name	I/O	Notes
1	GND	P	Ground
2	CTS	I	For baud rate software control
3	TXD	O	Transmit data to PC
4	RXD	I	Receive data from PC
5	NC	-	Not connected
6	GND	P	Ground
7	NC	-	Not connected
8	DSR	I	For baud rate software control
9	NC	-	Not connected
10	GND	P	Ground

6.2. Communications Interface

The baud rate can be configured via DIP switches on the bottom of the cradle. The baud rate can also be configured by using special software on the host.

6.2.1. Baud rate Configuration using DIP switches

To disable software configuration, set SW4 to OFF.

Baud rate can be configured using SW1–SW3 as listed in the table below.

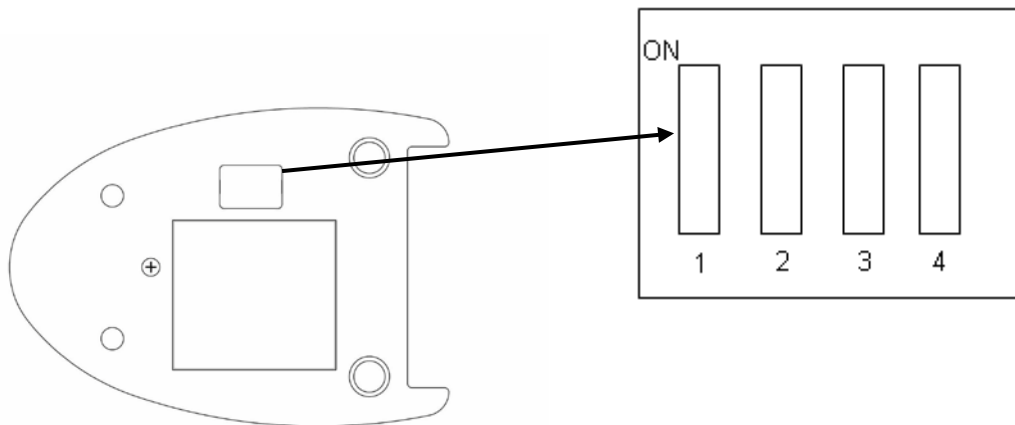| Baud rate	DIP Switch			
	SW1	SW2	SW3	SW4
115.2 kbps	ON	ON	ON	OFF
57.6 kbps	OFF	ON	ON	OFF
38.4 kbps	ON	OFF	ON	OFF
19.2 kbps	OFF	OFF	ON	OFF
9600 bps	ON	ON	OFF	OFF
4800 bps	OFF	ON	OFF	OFF
2400 bps	ON	OFF	OFF	OFF
1200 bps	OFF	OFF	OFF	OFF

Figure 1: DIP switch settings

Remove the cover and change the settings. Put the cover back on when finished.

6.2.2. Baud Rate Configured Using Software

To allow configuration using software on the host computer, set SW4 to ON. The other DIP switches are not used when SW4 is ON.

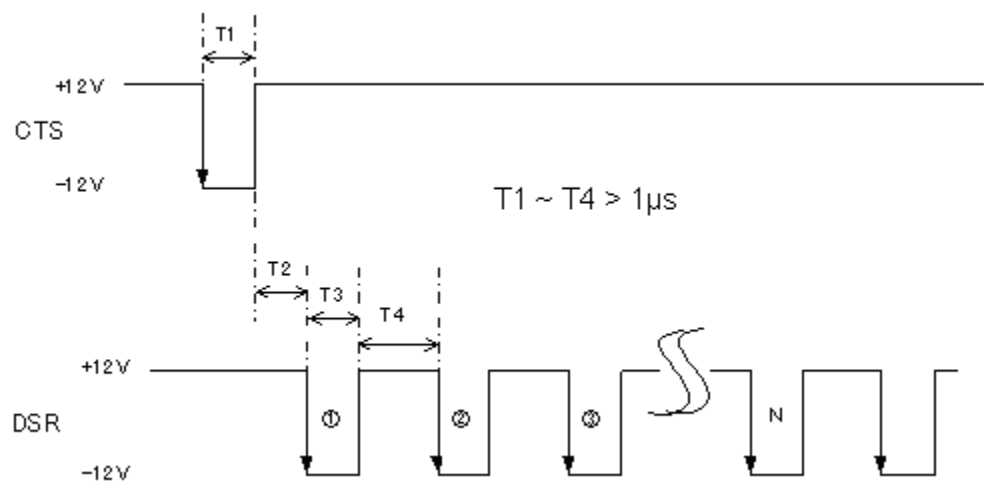| CTS Line	DSR Line	Baud Rate	Remarks
↓ Edge	0 pulse	115.2 kbps	Reset Pulse Count
	1 pulse	57.6 kbps	
	2 pulse	38.4 kbps	
	3 pulse	19.2 kbps	
	4 pulse	9600 bps	
	5 pulse	4800 bps	
	6 pulse	2400 bps	
	7 pulse	1200 bps	

Figure 2: Signal timing when software is configured

7. Cables and Connectors
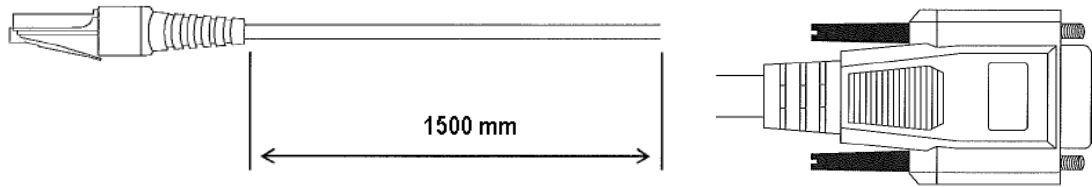
7.1. RS232-C Cable

Figure 3: RS-232C cable

Type:	Straight	
Diameter:	φ3.8 ±0.15 mm	
Length:	1500 ±100, -0 mm	
Cores:	8 insulated wires, 1 conductive wire	
Connectors	Left	RJ50 (10-pin modular jack)
	Right	DB9, female

7.2. USB A-B Cable
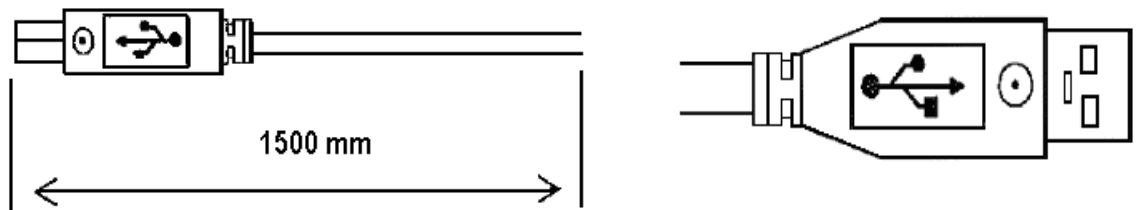
Figure 4: USB cable

Type:	Straight	
Diameter:	Φ4.7 ±0.15 mm	
Length:	1500 ±50 mm	
Cores:	4 insulated wires, 1 conductive wire	
Connectors	Left	USB-B type
	Right	USB-A type

8. Labels

The serial number shown below is affixed to the specified location on the cradle.
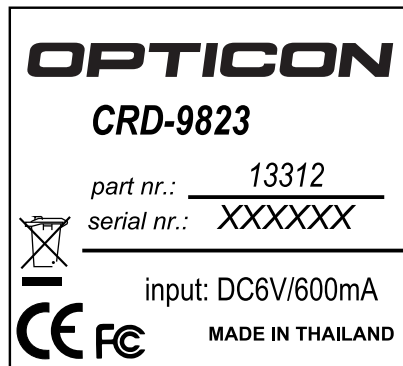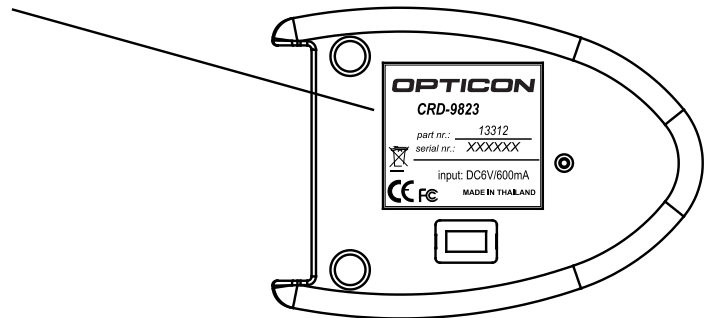
8.1. Product label

Figure 5: Product label on the bottom of the cradle
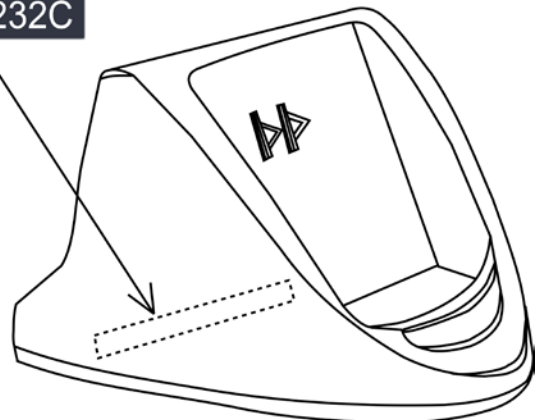
8.2. Interface Label

Figure 6: Label on the back side of the cradle

9. Packaging Specifications

9.1. Individual Packaging

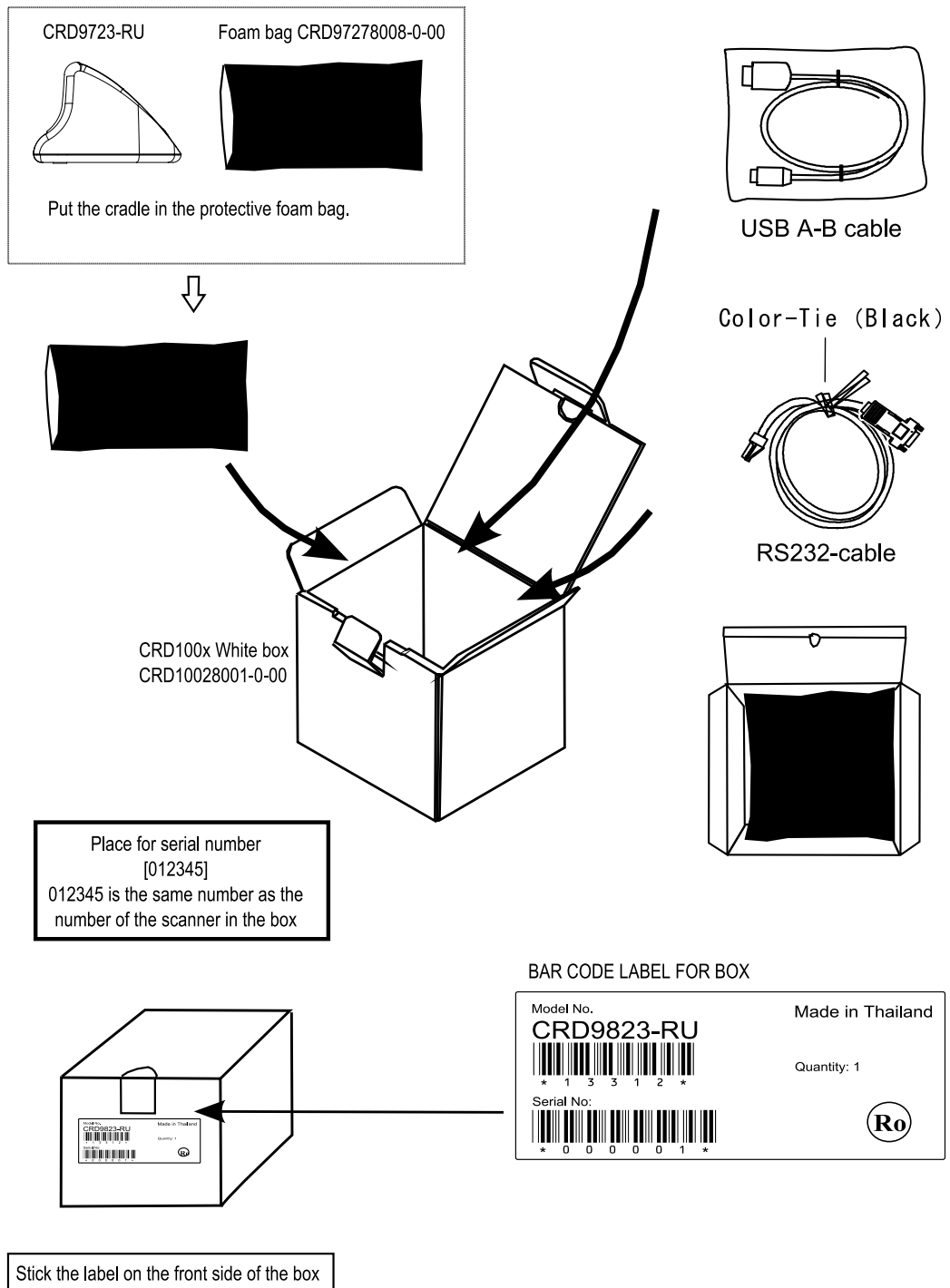Put the cradle in a protective foam bag and place it in an individual packing box.

CRD9723-RU	Foam bag CRD97278008-0-00

Put the cradle in the protective foam bag.

USB A-B cable

Color-Tie (Black)

RS232-cable

CRD100x White box
CRD10028001-0-00

Place for serial number
[012345]
012345 is the same number as the
number of the scanner in the box

BAR CODE LABEL FOR BOX

Model No.
CRD9823-RU

* 1 3 3 1 2 *

Serial No:

* 0 0 0 0 0 1 *

Made in Thailand

Quantity: 1

Ro

Stick the label on the front side of the box

Figure 7: Individual packaging specification
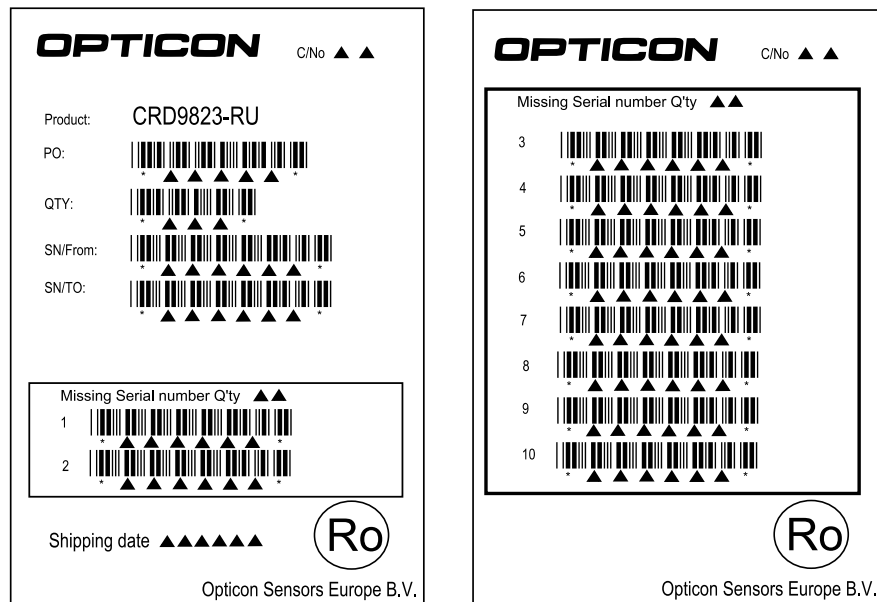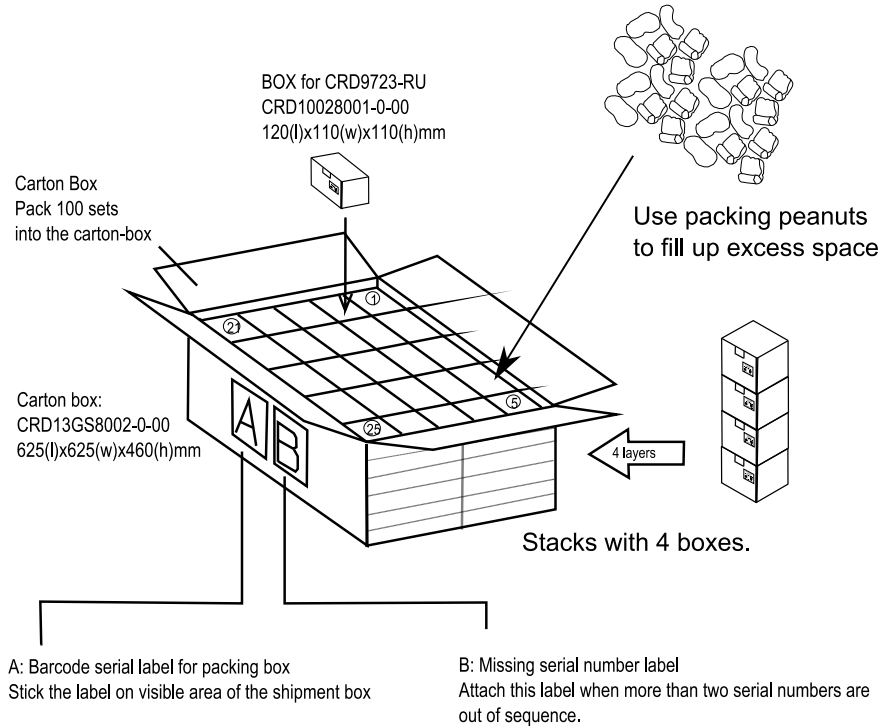
9.2. Collective Packaging

Figure 8: Collective packaging specification

Note: The "RO" mark labeled on the package tray or package box guarantees that the applicable product has passed our test of RoHS restrictions compliance (the restriction of the use of certain hazardous substances in electrical and electronic equipment, 2002/95 EC). However, this document does **not** have any legal weight in the European Union.

10. Regulatory Compliance

10.1. EMC

EN55022

EN55024

FCC Part 15 Subpart B Class B: 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.

10.2. RoHS

RoHS: The restriction of the use of certain hazardous substances in electrical and electronic equipment, 2002/95 EC.

11. Safety recommendations

Handle this product carefully. Do not subject it to any of the following.

Shock

- Do not throw or drop the cradle.
- Do not place heavy objects on the cables.

Temperature Conditions

- Do not use the cradle at temperatures outside the specified operating temperature range.
- Do not subject the cradle to temperatures outside the specified storage temperature range.
- Do not forcibly bend the cables, especially at low temperatures.

Foreign Materials

- Do not immerse the cradle in liquids.
- Do not subject the cradle to chemicals.

Other

- Do not disassemble this product.
- This cradle may degrade the reception of nearby radio/television sets.
- The cradle may be damaged by high voltage spikes such as caused by lightning.
- The cradle may not operate properly when placed very close to a cellular phone.

12. Mechanical Drawings
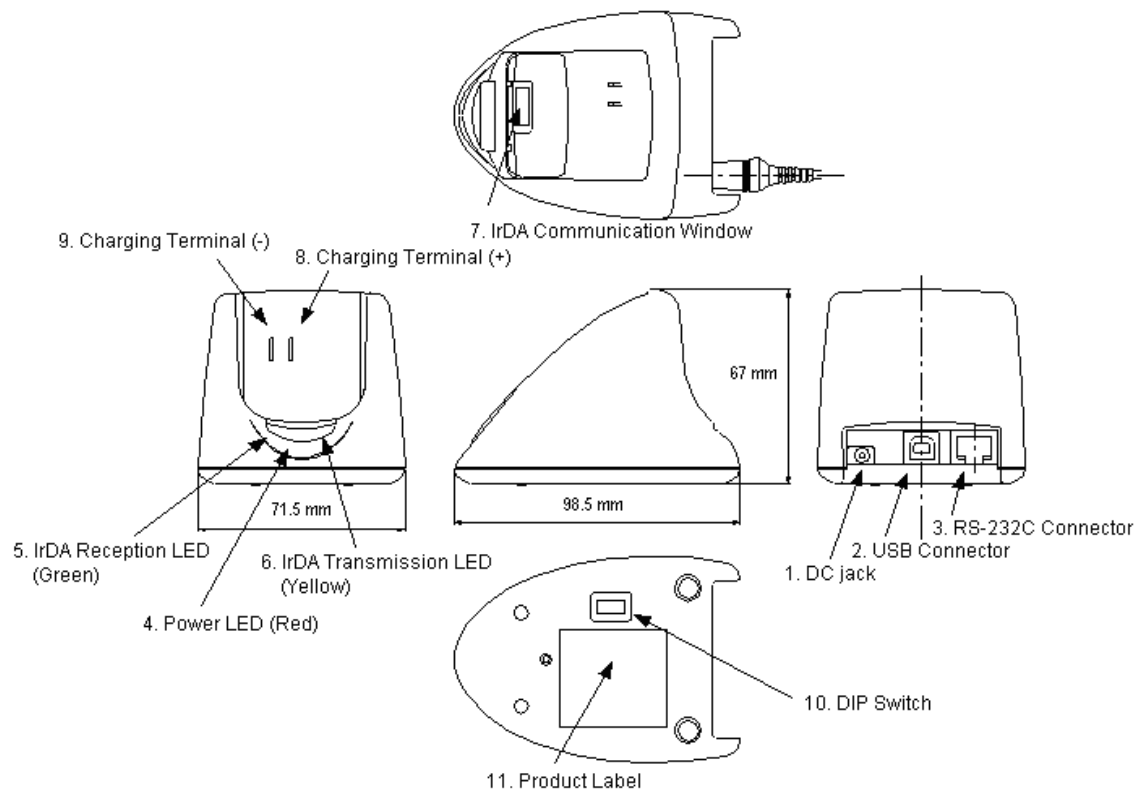
Dimensions: W 98.5 x D 71.5 x H 67.0 mm

Figure 9: Mechanical drawing

No.	Name	
1	DC jack	DC jack for the dedicated AC adapter
2	USB connector	USB communication connector to the host computer
3	RS-232C connector	RS-232C communication connector to the host computer
4	Power LED (Red)	Red LED lights when the power is on
5	IrDA reception LED (Green)	Green LED blinks when receiving data via IrDA
6	IrDA transmission LED (Yellow)	Yellow LED blinks when transmitting data via IrDA
7	IrDA communication window	IrDA communication window
8	Charging terminal (+)	Charging Terminal (+) to the OPL-97xx
9	Charging terminal (-)	Charging Terminal (-) to the OPL-97xx
10	DIP switch	To configure the baud rate.
11	Product label	