# OPTICON

# Data Collection

## Beyond Versatile. It's Unique.

**Ideal tool for:**
- ✔ Postal
- ✔ (Retail) Logistics
- ✔ Access Control
- ✔ Data Reporting

Scan          Communicate

# OPTICON

## SIMPLE DESIGN

The Opticon data collectors are all equipped with an integrated 1D or 2D scanner, on-board memory and a real-time clock to perform their core task: store barcodes with a time stamp for registration purposes. The OPL9700 series and PX25 operate on a rechargeable battery, while the DCL1500 series work with replaceable AAA batteries. The keypad and the interface(s) vary per model.

### **+** SCANNER

Opticon integrated its industry leading scan engines. The laser engine brings a powerful 100 scans per second to read various barcode symbologies. The CMOS imager captures 2D codes at a powerful 30 frames per second to read DataMatrix, QR Code and many other codes.

### **+** RTC

The built-in real-time clock adds the exact time to the scanned barcodes for real-time identification.

### **+** DURABLE

Withstanding drops of 1.5 meter on concrete, these data collectors are reliable devices for daily use. All models are suitable for indoor applications. The OPL9700 series are sealed up to IP 54 standards and also suitable for outdoor use.

## ✛ RANGE IN NAVIGATION AND CONTROL OPTIONS

The different models allow operation for all kinds of applications. For simple routine jobs the one button model might fit. For more control, three button models (with or without display) and keypad models (always supplied with display) are available.

## ✛ LIGHT

The average dimension of about 4 cm width and weight around 100 grams provide a comfortable fit of all models.

## ✛ ON-BOARD MEMORY

The on-board memory provides program and data storage on every data collector.

## ✛ SOFTWARE

With the optionally available Software Development Kit, advanced business applications can be developed in C-language.

## ✛ BATTERY CHARGING

Several stations for single charging or multiple charging are available. The DCL1500 series runs on user-replaceable AAA batteries.

# OPTICON

## PRODUCTS FOR DATA COLLECTION

OPL9712    OPL9714    OPL9715    OPL9723    OPL9724   OPL9725

## PRODUCTS FOR COMMUNICATION

### SERIAL SINGLE CRADLE

**CRD9723RU**

for OPL9700 series +  PX25

- docking and charging

- serial connection via RS232 and USB

### SERIAL MULTIBAY CRADLE

**CRD9723RU1**

for OPL9700 series + PX25

- 5 slots charging

- 1 slot serial connection via RS232 and USB

**CRD9723RU5**

for OPL9700 series + PX25

- 5 slots charging

- 5 slots serial communication via RS232 and USB

- network chain connectivity

OPL9727    OPL9728    PX25    DCL1530    DCL1531

## GSM CRADLE

### CRD9727

for OPL9700 series + PX25

- docking and charging

- GSM/GPRS network communication

## USB CABLE

### for DCL1500 series

- direct USB connection to USB hosts

  or other USB devices

## MODEM CRADLE

### CRD9726

for OPL9700 series + PX25

- docking and charging

- dial-up modem connection

### CRD1531

for DCL1500 series

- docking and charging

- dial-up modem connection

# Communicate

## ON-BOARD COMMUNICATION

All models are equipped with an IrDA interface, allowing program loading and batch communication. For wireless communication, several models are equippped with a Bluetooth interface. The models with a GPS receiver allow the geographical location to be recorded together with the barcode data.

### BLUETOOTH

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

### GPS

The models with integrated GPS module add position tracking to the data collection possibilities. The GPS receiver allows to record the real-world coordinates (X,Y) with the other registrations.

## MEMORY SCANNING

The OPTICON data collector range does also contain pocket models for memory scanning. For more details refer to the separate documentation of the OPN2000 series Pocket Memory Scanners.

| Single key | Bluetooth | Display | Keypad | GPS |

# Markets

## ✓ Postal

### Applications

- Postal item identification
- Delivery confirmation
- Drop-off time registration
- Proof of delivery
- Optional GPS route tracking

In order to prove the accuracy of the activities within the postal industry, all outdoor activities need to be identified. With the simply designed but aggressively scanning data collection device the mobile workers can scan barcodes on-route with which they identify the place. Adding GPS enables workers to collect the geographical position on-route that will be saved with the scanned barcode of the parcel at the point of delivery. The collected data are stored on the device and can be uploaded to the central database via a dedicated docking station.

## ✓ (Retail) Logistics

### Applications

- Stock management
- Storage location tracking
- Order picking
- Merchandise control
- Delivery tracking
- Optional real-time server connection
- Optional GPS route tracking

With the barcode scanning and data collection device you can update all transactions encountered in and around the warehouse supply chain. Update the inventory status and transmit data at the end of the handled shift. Use Bluetooth for real-time server connection and belt printer options. Track & trace the truck loads on-route by logging the geographical location. Feeding the data back into the enterprise management system provides all updated article information. Expected lead times and fleet information can all be managed with the extensive data collector range.

## ✓ Access Control

### Applications

- Entrance control
- Check-out
- Visitor counting
- Peak time registering
- Lead-tracking
- Optional real-time tracking

Access control and visitor registration can be combined when using the abilities of ticket reading. Barcode reading not only controls the ticket's validity, it enhances many control options. Collected data of visitor tickets with added time stamp contains all information needed for end-of-day visitor management reports. The Bluetooth model provides real-time connnectivity to nearby stations that are linked to central server data to monitor visitor data during the event. The use of the data collector reduces labor expense and provides correct traceable input.

## ✓ Data Reporting

### Applications

- Tracing task performances
- Inspection logging
- Report management
- Electronic ordering
- Attendance management
- Serial number registration
- Spare parts inventory

Registering performed tasks and inspection checks provide understanding in the work flow, from the production floor or financial department to healthcare tasks or field service operations. Barcode scanning solutions are quick registration solutions with remarkable labor reduction. Connectivity to any enterprise administration software is available, Bluetooth communication belongs also to the options. The scanner combines article identification with an accurate time stamp.

# + Basic Product Specifications

## Operation
- CPU:
  DCL1500, OPL9700: 16-bit
  PX25: 32-bit
- Software: Programmable in C-language
  PX25: Software development kit with WinARM compiler free downloadable
  DCL1500, OPL9700: Ansi-C Cross compiler obtainable. Software development kit free downloadable
- RTC: Supports year, month, day, hour, minute, second (leap year supported)

## Memory
- FlashROM:
  PX25: 4MB
  OPL9714, OPL9715: 1 MB
  Other models: 512 kB
- RAM:
  PX25: 2 MB SRAM
  OPL9728: 1 MB
  OPL9724, OPL9725, OPL9727: 128 kB
  Other models: 512 kB

## Display
  PX25, DCL1530, DCL1531, OPL9712, OPL9714, OPL9715, OPL9723, OPL9724, OPL9728
- Type:
  OPL9723, OPL9724: Graphic LCD
  Other models: Graphic LCD with backlight
- Size: 12 x 64 pixels
- Mode: Landscape / 180º rotation
- Font size: 6x6 / 6x12 / 8x8 / 8x16 dots

## Operating indicators
- Visual: 1 LED (red/green/orange)
- Non-visual: Buzzer

## Operating keys
- Depending on model: 1 key / 3 keys / keypad 18 keys

## Communication
- USB: DCL1500:
  Mini USB, Ver. 1.1, VCP, USB-A connector
- IrDA: Ver. 1.2
  PX25, DCL1500: Baudrate 9600 bps - 115.2 kbps
  OPL9700: Baudrate 2400 bps - 115.2 kbps
- Bluetooth:
  range up to 10 m, 1 to 1 connection, master/slave mode, authentication and encryption
  PX25: Ver. 1.2, HID, SPP
  OPL9712, OPL9724: Ver. 2.0, SPP, DUN
- GPS: OPL9714, OPL9715:
  NMEA 0183, SiRF Star III, 4.8 kbps

## Power
- Rechargeable battery: Lithium-Ion
  OPL9714, OPL9715: 3.7V 1000mAh
  Other OPL9700: 3.7V 600mAh
  PX25: 3.7V 1880mAh

## Power (continued)
- Dry cell battery: DCL1500: 2 x AAA, 1200mAh
- Backup battery: Rechargeable battery
  OPL9714, OPL9715: Manganese silicon lithium 3mAh
  Other OPL9700, DCL1500 series: Lithium 3.5mAh
  PX25: Manganese silicon lithium battery 3.4mAh
- Operating time: Consult individual datasheets
- Data retention time: Ca. 72 hours
- Charging method:
  DCL1500: Enclosed USB cable, separate cradle CRD1531
  OPL9700: Separate cradle CRD9720 series
  PX25: Separate cradle CRD9722/CRD9723RU, separate power supply

## Barcode scanner Optics
  DCL1500, OPL9700:
- Light source: 650 nm visible laser diode
- Scan method: Vibrating mirror
- Scan rate: 100 scans/sec
- Reading pitch angle: -25 to 0º, 0 to +25º
- Reading skew angle: -50 to -8º, +8 to +50º
- Reading tilt angle: -20 to 0º, 0 to +20º
- Curvature: R>15 mm (EAN8), R>20 mm (EAN13)
- Min. resolution at PCS 0.9: 0.15 mm / 6 mil
- Min. PCS value: 0.45
- Depth of field: At PCS 0.9, Code 39
  35 - 300 mm / 1.38 - 11.81 in

## 2D Imager Optics
  PX25:
- Light source: Illumination 4 red LEDs 630 nm, aiming 2 green LEDs 527 nm
- Scan method: CMOS area sensor, SXGA (1.3 million pixels), gray scale
- 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°
- Focal plane: 85 mm / 3.35 in from window
- Curvature: R>15 (EAN8), R>20 (EAN13)
- Min. resolution at PCS 0.9: 0.1 mm / 4 mil
- Min. PCS value: 0.45
- Field of view: Horizontal 47º, Vertical 37.5º
- Depth of field: At PDF417 and Code 39
  35 - 140 mm / 1.38 - 5.51 in

## Supported Symbologies
- Barcode (1D):
  All models: 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-ISSN, Matrix 2of5, MSI/Plessey, S-Code, Telepen, Tri-Optic, UK/Plessey
  Extra PX25: ISMN
- Postal code: All models: Chinese Post, Korean Postal Authority code
  Extra PX25: Intelligent Mail Barcode, Postal JPN, POSTNET
- 2D code: All models: Composite Codes, MicroPDF417, PDF417
  Extra PX25: Aztec Code, Aztec Runes, Codablock F, Data Matrix, (ECC200/ECO-140), Maxi Code (mode 2~5), Micro QR Code, QR code

## Durability
- Consult individual datasheets

## Physical
- Dimensions (w x h x d):
  Consult individual datasheets
- Weight body: Depending on model (incl. battery), min. 85 g / 3 oz , max. ca. 130 g / 4.6 oz
- Case: PX25, OPL9714, OPL9715: ABS, Black
  Other models: ABS, Lilacgrey

## Regulatory & Safety
- Product compliance:
  All models: CE, FCC, VCCI, RoHS,
  PX25: EN 300-328, ETS 301-489
  OPL9700, DCL1500: JIS-C-6802 Class 2, IEC 60825-1 Class 2, FDA CDRH Class II

## Enclosed items
- Rechargeable battery: PX25, OPL9700
- Dry cell battery 2 x AAA batteries: DCL1500
- Hand strap

## Sold separately
- Cradles: Consult inside information or the individual datasheets
- Nylon case: DCL1500, OPL9700: With swivel clip, with swivel clip & window, with fixed clip
- Power supply: PX25: 100-240V/0.5A, 50/60 Hz, 6V/2A (for battery charging)

| Models | Functionality | Communication | Battery | Scanner |
|---|---|---|---|---|
| DCL1530 | 3-key + Display | IrDA, USB | Dry cell | Barcode |
| DCL1531 | Keypad + Display | IrDA, USB | Dry cell | Barcode |
| OPL9712 | Keypad + Display | IrDA, Bluetooth | Rechargeable | Barcode |
| OPL9714 | 3-key + Display | IrDA, GPS | Rechargeable | Barcode |
| OPL9715 | Keypad + Display | IrDA, GPS | Rechargeable | Barcode |
| OPL9723 | 3-key + Display | IrDA | Rechargeable | Barcode |
| OPL9724 | 3-key + Display | IrDA, Bluetooth | Rechargeable | Barcode |
| OPL9725 | 1-key | IrDA | Rechargeable | Barcode |
| OPL9727 | 3-key | IrDA | Rechargeable | Barcode |
| OPL9728 | Keypad + Display | IrDA | Rechargeable | Barcode |
| PX25 | Keypad + Display | IrDA, Bluetooth | Rechargeable | 2D |

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