

# OPN-6000

## 2D CMOS Imager

Designed for a variety of markets such as healthcare, hospitality, retail, and logistics, the OPN-6000 enables real-time barcode scanning into any Bluetooth® ready device. In addition to being extremely small and lightweight, the OPN-6000 comes at an affordable price point that enables any business to integrate barcode scanning into their mobile applications.



## Highlights

- Advanced ergonomic design allows for all day comfort and scanning efficiency regardless of hand size
- Ready-to-go out of the box—just pair it with your Bluetooth device
- By supporting a wide range of Bluetooth and USB interfaces and configurable batch capabilities it integrates seamlessly with almost any existing or new barcode application
- An ultra-fast 100 frames per second (fps) CMOS imager rapidly scans and decodes 1D and 2D barcodes
- Fully configurable and customizable using OptiConnect, OptiConfigure and the OPN Companion application. Programmable using our free software development kit
- Inductive charging or charging via USB-C port
- Bluetooth 5.4 compliant that supports Bluetooth low energy (BLE)
- Audible and visible feedback via LED, vibrating motor and buzzer
- 4 days battery life with 1,000 scans per day
- Extremely durable: IP54 rating and survives 1.5 m drop test
- Configurable and programmable with the free Software Development Kit to customize scanning behavior
- Small form factor: weighs only 52g, 64.4 x 44 x 19.4 mm
- Backed by a two year warranty

# OPN-6000

## Product Specifications



### Operation

**CPU:** 32-bit  
**O/S:** Proprietary  
**RTC:** Supports year, month, day, hour, minute, second (leap year supported)

### Memory

**Flashrom:** 1 MB  
**Ram:** 256 kB  
**External Flashrom:** 2 MB

### Operating indicators

**Visual:** 4 LEDs  
**Non-visual:** buzzer, vibrate

### Operating keys

**Entry options:** 2 keys total, 1 function key, 1 scan key

### Communication

**USB:** USB-C, USB VCP/CDC (Virtual COM port), HID (Human Interface Device), MSD (Mass Storage Device), OPN2001 mode (Companion application)  
**Bluetooth:** Ver. 5.4 Bluetooth Low Energy, HID (Human Interface Device), DFU (Device firmware update), UART (Serial port emulation), BAS (Battery service), OptiConnect service

### Power

**Rechargeable battery:** Lithium-Ion 500 mAh  
**Operating time (Batch, Bluetooth):** 4 days (1000 scans/day)  
**Operating time (Batch, idle):** >6 months  
**Operating time (Bluetooth, idle):** >1 month  
**Data retention time:** Indefinite  
**Charge method:** USB-C cable, or wireless charging  
**Max charging time:** 4 hrs

### 2D Imager optics

**Light source:** Green LED (aiming) and warm white LED (illumination)  
**Scan method:** CMOS area sensor, 640 x 480 pixels, black and white  
**Scan rate:** Up to 100 fps  
**Reading pitch angle:**  $\pm 65^\circ$   
**Reading skew angle:**  $\pm 65^\circ$   
**Reading tilt angle:** 360°

**Curvature:** R>15 mm (EAN8), R>20 mm (EAN13)

**Min. resolution at pcs 0.9:** 0.1 mm / 4 mil

**Min. pcs value:** 0.2 (0.3 for UD model)

**Field of view:** Horizontal 38°, Vertical 28.9°

**Depth of field at code 39:**

55 - 128 mm (0.127 mm) / 2.16 - 5.04 in (5 mil)

54 - 239 mm (0.254 mm) / 2.13 - 9.41 in (10 mil)

71 - 435 mm (0.508 mm) / 2.79 - 17.13 in (20 mil)

**Depth of field at QR code:**

62 - 113 mm (0.169 mm) / 2.44 - 4.45 in (6.7 mil)

24 - 252 mm (0.381 mm) / 0.94 - 9.92 in (15 mil)

### Supported symbologies

**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-ISSN-ISMN, Matrix 2of5, MSI/Plessey, S-Code, Telepen, Tri-Optic, UK/Plessey

**Postal code:** Chinese Post, Intelligent Mail Barcode, Korean Postal Authority code, POSTNET

**2D code:** Aztec Code, Aztec Runes, Chinese Sensible code, Codablock F, Composite codes, Data matrix (ECC200), Passport MRZ (OCR-B), maxi Code (mode 2~5), MicroPDF417, MicroQR Code, PDF417, QR Code

### Durability

**Temperature in operation:** -20 to 60 °C / -4 to 140 °F

**Temperature in storage:** -40 to 70 °C / -40 to 158 °F

**Humidity in operation:** 5 - 90% (non-condensing)

**Humidity in storage:** 5 - 90% (non-condensing)

**Ambient light immunity:** Fluorescent 10,000 lx max, Sunlight 100,000 lx max, Incandescent 10,000 lx max

**Drop test:** 1.5 m / 5 ft drop onto concrete surface

**Protection rate:** IP54

### Physical

**Dimensions (WxHxD):** 64.4 x 44 x 19.4 mm / 2.54 x 1.73 x 0.76 in

**Weight:** Ca. 52g / 1.8 oz

### Regulatory & Safety

CE, FCC, RoHS, IEC/EN 62471, EN IEC 62368, EN 55032, EN 55035

### Items

**Free service:** OptiConnect App, SDK for programming and configuration