# DS8100-HC Series Handheld Imagers

## BETTER WORKFLOWS FOR HEALTHCARE PROFESSIONALS.
## BETTER EXPERIENCES FOR PATIENTS.

As a healthcare provider, you need to deliver the very best in care, every second of every day. That means giving your healthcare professionals the tools they need to improve patient outcomes, increase productivity and streamline everyday processes. With the purpose-built DS8100-HC, you can. With the ability to instantly capture the most difficult to read barcodes; an industry-first housing that offers maximum protection against the spread of bacteria; Night Mode with Vibrate for can't miss feedback on decodes and a built-in lamp, the DS8100-HC can seamlessly integrate into existing healthcare workflows to boost process efficiencies and ensure that patients are left undisturbed until necessary. Combined with Zebra's complimentary manageability tools to simplify the setup, deployment, performance monitoring and ongoing management of your scanners, the DS8100-HC is the ideal solution to enhance patient safety, the productivity of staff members and the efficiency of point-of-care operations.

### IMPROVED PATIENT EXPERIENCES

**Unparalleled Performance on Virtually Every Barcode in Any Condition**
Only the DS8100-HC Series combines the power of an 800 MHz microprocessor, a high-resolution megapixel sensor and Zebra's exclusive PRZM technology. With this unique combination of hardware and advanced algorithms, the DS8100-HC Series instantly captures the most problematic barcodes found in pharmacies, labs and at the point-of-care — including dense, tiny, curved, poorly printed, shiny, crinkled, faded, distorted, dirty or damaged, as well as electronic barcodes on dimly lit displays.

**First-of-its-kind Housing Offers Maximum Protection Against the Spread of Infection**
Only the DS8100-HC offers a purpose-built housing specially designed to help prevent the spread of bacteria. Special plastics allow for Safe wipe-downs with the widest selection of the harshest and most aggressive disinfectants used in today's hospitals. And concealed screw holes and seams eliminate areas where bacteria could hide — even after a wipedown.

**Flexible User-Selectable Feedback Including Night Mode with Vibrate**
Choose from a wide array of easily controllable feedback modes designed for virtually any hospital environment. From the Intensive Care Unit to a quiet night shift or a busy and more noisy day shift, there is a feedback mode that will instantly notify your healthcare workers that a barcode was properly captured — without disturbing patients.

In addition to the standard LED, vibrate and beeper feedback, Zebra's Direct Decode Indicator flashes illumination onto the barcode to confirm that it has been captured. Clinicians can be confident that a medicine, specimen or IV bag was properly scanned — without interrupting the work flow to look at the scanner.

With Night Mode, healthcare workers can switch between vibrate and beeper feedback by simply depressing the trigger for a few seconds.

And it's easy to control it all. Enable vibrate, beeper and the Direct Decode Indicator individually or in any combination, and easily adjust beeper volume, beeper frequency and illumination intensity.

**Patient Safety**
The DS8100's green aiming spot avoids blue wavelengths, which can potentially cause eye injury.

### ADAPTABLE TO CLINICIAN WORKFLOWS

**Continuous 24 Hour Scanning**
With Zebra's exclusive PowerPrecision+ smart battery in the cordless DS8178-HC, your nurses and workers will always have the power they need for the busiest shift. Devices are always available — no need for charging mid-shift.

**Exclusive Battery Charge Gauge**
No more guess work on the status of a battery at the start of a shift. The DS8178-HC is the only scanner in its class that makes it easy to see at a glance whether a battery needs to be replaced before the scanner is placed into service. And since the battery can be changed without special tools, it can be changed at the point of care if necessary.

### Choice Of Compact USB Powered Cradles

The minimal footprint of the presentation cradle easily fits on the most crowded workstation-on-wheels (WOWs), allowing nurses to easily switch between hands-free and handheld modes as needed. The desk/wall cradle can be mounted on a wall, mechanical arm or mobile workstation, and is a perfect solution for facilities that put a computer in every room.

### Doubles as a Workstation Lamp

The scanner's built-in lamp can illuminate a nurse's workspace, so there's no need to disturb sleeping patients by turning on the room lights.

### Eliminate Bluetooth Interference with Zebra's Proprietary Wi-Fi Friendly Mode

Ensure that your DS8178-HC Bluetooth scanners only operate on channels that are not shared with your wireless LAN (WLAN), protecting WLAN service levels for your caregivers, workers, patients and visitors.

### FIPS 140-2 Certified

The DS8100-HC Series is FIPS 140-2 validated and certified to keep patient data safe and secure.

### Locate a Misplaced Scanner in Seconds

The cradle's paging button can easily locate a misplaced scanner so nurses don't need to waste critical time searching for a misplaced scanner.

### Apple Certified for iPads and iPhones

Are your healthcare workers using iPads or iPhones? No problem. The Bluetooth DS8178-HC is Apple-certified — enabling you to bring Zebra's advanced scanning technology to these mobile devices.

## UNRIVALED MANAGEABILITY

### Visionary Visibility into Scanning and Battery Performance Metrics — only from Zebra

Track metrics that include symbology and decode speed to spot and correct barcode issues before they impact worker productivity and the quality of care. And with a wealth of battery health information, including charge cycles consumed, a State-of-Health meter and remaining percentage of full charge capacity, you can easily spot and replace aging batteries before they can no longer last a full shift. Armed with this information, you can order and install new batteries before battery failures interrupt critical operations at the point of care.

### Easily Manage All of Your Scanners with Powerful Complimentary Tools

With 123Scan, you can easily create configuration barcodes to program scanners. If your imagers are in multiple locations across the country or around the world, with Scanner Management Service (SMS), you can configure and update the firmware for any DS8100-HC Series device that is plugged into the host — no depot staging or user action is required — such as the scanning of a configuration barcode.

### Easy Application Development

Get everything you need to easily integrate scanning into your business applications with our Scanner Software Development Kits (SDKs) for Windows, Android, iOS and Linux. These SDKs provide documentation, drivers, test utilities and sample source code.

### Improve virtually every aspect of patient care with the DS8100-HC.

The DS8100-HC Series gives nurses and other healthcare staff the tools they need to provide their patients with the best of care — and perform everyday duties faster and more accurately.

- Patient identification
- Medication administration
- Specimen collection
- Patient admission
- Caregiver accountability and audit trail
- Dietary management
- Chain of custody for controlled substances
- Inventory management

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## THE DS8100-HC SERIES — WHEN YOUR OPERATIONS DEMAND THE ULTIMATE IN PERFORMANCE, WORKFORCE PRODUCTIVITY AND PATIENT CARE.

For more information, visit **www.zebra.com/ds8100hc** or access our global contact directory at **www.zebra.com/contact**

# DS8100-HC Series Specifications

## PHYSICAL CHARACTERISTICS

| | |
|---|---|
| Dimensions | Corded DS8108-HC and Cordless DS8178-HC:<br>6.6 in. H x 2.6 in. W x 4.2 in. D<br>16.8 cm. H x 6.6 cm. W x 10.7 cm. D<br><br>Desk/Wall Cradle:<br>2.8 in. H x 3.3 in. W x 8.3 in. D<br>7.2 cm. H x 8.4 cm. W x 21.1 cm. D<br><br>Presentation Cradle:<br>2.9 in. H x 3.7 in. W x 4.8 in. D<br>7.3 cm. H x 9.4 cm. W x 12.3 cm. D |
| Weight | **Corded DS8108-HC:** 5.5 oz./156 g<br>**Cordless DS8178-HC:** 8.3 oz./235 g<br>**Desk/Wall Cradle:** 7.1 oz./202 g<br>**Presentation Cradle:** 6.5 oz./182 g |
| Input Voltage Range | **DS8108-HC:** 4.5 to 5.5VDC<br>**DS8178-HC Cradles:** 5V: 4.7 to 5.5VDC; 12V: 10.8 to 13.2VDC |
| Current[1] | **Corded DS8108-HC Operating Current at Nominal Voltage (5.0V):** 450 mA<br>**Cradle:** 470 mA (typical) Standard USB; 743mA (typical) 12V |
| Color | Healthcare White |
| Supported Host Interfaces | USB, RS232, Keyboard Wedge, TGCS (IBM) 46XX over RS485 |
| Keyboard Support | Supports over 90 international keyboards |
| FIPS Security Certification | Certified Compliant with FIPS 140-2 |
| User Indicators | Direct Decode Indicator, Good Decode LEDs, Rear View LEDs, Beeper (Adjustable Tone & Volume), Battery Indicator; Vibration |

## PERFORMANCE CHARACTERISTICS

| | |
|---|---|
| Light Source | Aiming Pattern: True Green (528 nm) Circular |
| Illumination | Two (2) Warm White LEDs |
| Imager Field of View | 48° H x 37° V Nominal |
| Image Sensor | 1,280 x 960 pixels |
| Minimum Print Contrast | 16% minimum reflective difference |
| Skew/Pitch Roll Tolerance | +/- 60°; +/- 60°; 0-360° |

## IMAGING CHARACTERISTICS

| | |
|---|---|
| Graphics Format Support | Images can be exported as Bitmap, JPEG or TIFF |
| Image Quality | 109 PPI on an A4 document |
| Minimum Element Resolution | Code 39 - 3.0 mil; Code 128 - 3.0 mil; Data Matrix - 5.0 mil; QR Code - 5.0 mil; PDF - 4.0 mil |

## USER ENVIRONMENT

| | |
|---|---|
| Operating Temperature | Scanner: 32° to 122° F/0° to 50° C<br>Presentation Mode: 32° to 104° F/0° to 40° C |
| Charging Temperature | 32° to 104° F/0° to 40° C |

## USER ENVIRONMENT (CONTINUED)

| | |
|---|---|
| Storage Temperature | -40° to 158° F/-40° to 70° C |
| Humidity | 5% to 95% RH, non-condensing |
| Drop Specification | Designed to withstand multiple drops at 6.0 ft./1.8 m to concrete |
| Tumble Specification | Designed to withstand 2,000 tumbles at 1.5 ft./0.5 m tumbler[2] |
| Environmental Sealing | IP42 |
| Electrostatic Discharge (ESD) | **DS8108-HC/DS8178-HC and Cradles:** ESD per EN61000-4-2, +/-15 KV Air, +/-8 KV Direct, +/-8 KV Indirect |
| Ambient Light Immunity | 0 to 9,000 Foot Candles/0 to 96,840 Lux |

## RADIO SPECIFICATIONS

| | |
|---|---|
| Bluetooth Radio | **Standard Bluetooth Version 4.0 with BLE:** Class 1 330 ft. (100m) and Class 2 33 ft. (10m), Serial Port and HID Profiles |
| Adjustable Bluetooth Power | Class 1: Output power adjustable down from 4 dBm in 8 Steps<br>Class 2: Output power adjustable down from 2 dBm in 8 Steps |

## BATTERY

| | |
|---|---|
| Battery Capacity/ Battery Type | 2,500 mAh Li-Ion Power Precision+ Battery |
| Scans Per Battery Charge | 65,000 (1 scan per second) |
| Operating Time Per Full Charge[3] | 83 hours |

### Typical Charge Time from Empty to Full Charge

| Power Source | Desk/Wall Cradle | Presentation Cradle |
|---|---|---|
| Standard USB | 7 hrs 45 min | 9 hrs 15 min |
| BC1.2 USB | 3 hrs | 3 hrs 15 min |
| External 5V Source | 4 hrs 30 min | 5 hrs |
| External 12V Source | 2 hrs 15 min | 2 hrs 15 min |

## REGULATORY

| | |
|---|---|
| Electrical Safety | EN 60950-1 2ed + A11 + A1 + A12 + A2:2013, IEC 60950-1 2ed + A1 + A2, UL 60950-1, CAN/CSA-C22.2 No. 60950-1-07 |
| Environmental | RoHS EN 50581 |
| LED Safety | IEC 62471 |
| IT Emissions | EN 55022 (Class B); EN 55032 (Class B) |
| IT Immunity | EN 55024 |
| Harmonic Current Emissions | EN 61000-3-2 |
| Voltage Fluctuation and Flicker | EN 61000-3-3 |

# DS8100-HC Series Specifications (continued)

## REGULATORY (CONTINUED)

| | |
|---|---|
| **Radio Frequency Devices** | 47 CFR Part 15, Subpart B, Class B |
| **Digital Apparatus** | ICES-003 Issue 6, Class B |
| **Medical Electrical Equipment** | EN60601-1-2: 2015 |

## ACCESSORIES

Standard Cradle, Presentation Cradle, Spare Battery, Document Capture Stands

## DECODE CAPABILITIES[4]

| | |
|---|---|
| **1D** | Code 39, Code 128, Code 93, Codabar/NW7, Code 11, MSI Plessey, UPC/EAN, I 2 of 5, Korean 3 of 5, GS1 DataBar, Base 32 (Italian Pharma) |
| **2D** | PDF417, Micro PDF417, Composite Codes, TLC-39, Aztec, DataMatrix, MaxiCode, QR Code, Micro QR, Chinese Sensible (Han Xin), Postal Codes |

## WARRANTY

Subject to the terms of Zebra's hardware warranty statement, the DS8178 Scanner and CR8178 Cradle are warranted against defects in workmanship and materials for a period of (3) three years from the date of shipment. The Battery: (12) twelve months and the DS8108 Scanner is warranted against defects in workmanship and materials for a period of (5) five years from the date of shipment. Complete Zebra hardware product warranty statement: www.zebra.com/warranty

## RECOMMENDED SERVICES

Zebra OneCare Select; Zebra OneCare Essential

## UTILITIES AND MANAGEMENT

| | |
|---|---|
| **123Scan** | Programs scanner parameters, upgrades firmware, displays scanned barcode data, scanning statistics, battery health, asset data and prints reports. www.zebra.com/123scan |
| **Symbol Scanner SDK** | Generates a fully-featured scanner application, including documentation, drivers, test utilities and sample source code. www.zebra.com/scannersdkforwindows |
| **Scanner Management Service (SMS)** | Remotely manages your Zebra scanner and queries its asset information. www.zebra.com/sms |

## CLEANING INSTRUCTIONS

Please refer to www.zebra.com for instructions on cleaning of healthcare scanners.

## DECODE RANGES (TYPICAL)[5]

| SYMBOLOGY | RESOLUTION | NEAR | FAR |
|---|---|---|---|
| Code 39 | 3 mil | 1.4 in./3.6 cm | 5.1 in./13.0 cm |
| Code 128 | 3 mil | 1.8 in./4.6 cm | 4.1 in./10.4 cm |
| Code 128 | 5 mil | 1.2 in./3.0 cm | 8.1 in./20.6 cm |
| Code 128 | 15 mil | 1.0 in./2.5 cm | 16.9 in./42.9 cm |
| PDF 417 | 5 mil | 1.5 in./3.8 cm | 6.1 in./15.5 cm |
| PDF 417 | 6.67 mil | 1.1 in./2.8 cm | 8.1 in./20.6 cm |
| Data Matrix | 5.0 mil | 1.9 in./4.8 cm | 4.5 in./11.4 cm |
| Data Matrix | 7.5 mil | 1.3 in./3.3 cm | 6.7 in./17.0 cm |
| Data Matrix | 10.0 mil | 0.6 in./1.5 cm | 8.5 in./21.6 cm |
| UPC | 13 mil (100%) | 0.0 in./0.0 cm | 15.9 in./40.4 cm |
| QR | 10 mil | 0.6 in./1.5 cm | 7.7 in./19.6 cm |
| QR | 20 mil | 0.0 in./0.0 cm | 12.5 in./31.8 cm |

[1] Refer to Product Reference Guide for currents when other power sources are used.

[2] Note: 1 tumble = 0.5 cycles

[3] Simulated Checkout profile of 10 scans in 10 seconds with a 50 second rest.

[4] Refer to Product Reference Guide for complete list of symbologies.

[5] Printing resolution, contrast, and ambient light dependent.

\* Available April 2017