

# DS8100 Series Handheld Imagers

The ultimate in performance, innovation and manageability

The final step of a shopping journey is a retailer's last chance to make a good impression. Whether customers are using curbside pickup or in-store checkout, they expect speed and convenience. With the DS8100 Series handheld imager, you can elevate the customer experience and deliver frictionless transactions at every touchpoint — from cashier manned and self-checkout lanes to curbside and in-store pickup. The DS8100 Series rises above conventional imagers, providing unprecedented scanning performance so cashiers and self-checkout customers can easily scan any barcode the first time, every time. You get a wide range of innovations, including interchangeable power sources — a PowerPrecision+ battery and PowerCap™ capacitor<sup>1</sup>. And every DS8100 Series imager is engineered with DataCapture DNA, Zebra's exclusive software ecosystem that simplifies every stage of the scanning experience over the life of your device. Keep checkout lines moving with the DS8100 Series, the ultimate in handheld scanning performance and innovation.



## Unprecedented Performance

### Unparalleled performance on virtually every barcode in any condition

Only the DS8100 Series combines the power of an 800 MHz microprocessor, the highest sensor resolution in its class and Zebra's exclusive PRZM Intelligent Imaging technology. With this unique combination of hardware and advanced algorithms, the DS8100 Series instantly captures the most problematic barcodes — including dense, poorly printed, crinkled, faded, distorted, dirty or damaged, as well as electronic barcodes on dimly lit displays.

### Superior scan range

A scanning range up to 24 in./61 cm, a high resolution imaging sensor and a bright "aiming spot" improve checkout speed. Now, cashiers in busy checkout environments can easily scan items in a customer's shopping cart — without leaving the cash-wrap.

## Innovation beyond the barcode

### Swappable power options reduce your investment risk

Two interchangeable power options are available to power your devices: a PowerPrecision+ battery or a PowerCap capacitor. You can swap power options at any time on all models, right in your facility — no need to purchase separate battery-free and battery powered devices. And managing your power sources is easy. Since the PowerPrecision+ battery and PowerCap capacitor can report their model and serial numbers, you'll always know which power source is in each scanner.

On a single charge, the advanced PowerPrecision+ battery provides over three around-the-clock days of continuous scanning, plus a wealth of metrics for better battery management.

The PowerCap capacitor is ideal when the scanner can always be inserted into a charging cradle when not in use. The largest capacitor in its category, the superior PowerCap offers 2,000 scans on a full charge and 100 scans after as little as 35 seconds in the cradle — both metrics are four times the competition.





# Specifications

## Physical Characteristics

Dimensions	Corded DS8108 and Cordless DS8178: 6.6 in. H x 2.6 in. W x 4.2 in. D 16.8 cm. H x 6.6 cm. W x 10.7 cm. D  Standard Cradle: 2.8 in. H x 3.3 in. W x 8.3 in. D 7.1 cm. H x 8.4 cm. W x 21.1 cm. D  Presentation Cradle: 2.9 in. H x 3.7 in. W x 4.8 in. D 7.4 cm. H x 9.4 cm. W x 12.2 cm. D
Weight	Corded DS8108: 5.4 oz./154 g Cordless DS8178: 8.3 oz./235.3 g Desk/Wall Cradle: 7.1 oz./202 g Presentation Cradle: 6.5 oz./182 g
Input Voltage Range	DS8108: 4.5 to 5.5VDC DS8178 Cradles: 5V: 4.7 to 5.5VDC; 12V: 10.8 to 13.2VDC
Current <sup>2</sup>	Corded DS8108 Operating Current at Nominal Voltage (5.0V): 450 mA Cradle: 470 mA (typical) Standard USB; 743mA (typical) 12V
Color	Nova White, Twilight Black
Supported Host Interfaces	USB Certified, 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 and volume), dedicated Power Charge Gauge

## Performance Characteristics

Light Source	Aiming Pattern; circular 617nm amber LED
Illumination	(2) 645nm red 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	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 - 6.0 mil; QR Code - 6.0 mil; PDF - 5.0 mil

## 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
Radio Frequency Devices	47 CFR Part 15, Subpart B, Class B
Digital Apparatus	ICES-003 Issue 6, Class B

## Accessories

Standard cradle, presentation cradle, wall mount bracket, spare battery, spare PowerCap; document capture stands

## Decode Capabilities<sup>5</sup>

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, SecurPharm, DotCode, Dotted DataMatrix
Digimarc	Digital watermark technology

## Decode Ranges (Typical)<sup>6</sup>

Symbology/Resolution	Near/Far
Code 39: 3 mil	2.2 in./5.6 cm to 5.0 in./12.7 cm
Code 39: 20 mil	0 in./0 cm to 36.8 in./93.5 cm
Code 128: 3 mil	2.6 in./6.6 cm to 4.5 in./11.4 cm
Code 128: 5 mil	1.6 in./4.1 cm to 8.4 in./21.3 cm
Code 128: 15 mil	0 in./0 cm to 27.1 in./68.8 cm
PDF 417: 5 mil	2.3 in./5.8 cm to 6.4 in./16.3 cm
PDF 417: 6.7 mil	1.8 in./4.6 cm to 8.5 in./21.6 cm
UPC: 13 mil (100%)	0 in./0 cm to 24.0 in./61.0 cm
Data Matrix: 7.5 mil	2.1 in./5.3 cm to 6.9 in./17.5 cm
Data Matrix: 10	1.1 in./2.8 cm to 9.9 in./25.1 cm

## Markets and Applications

### Retail

- Point-of-Sale (POS)
- Self-checkout
- Buy Online Pickup In Store (BOPIS)
- Buy Online Pickup At Curb (BOPAC)
- Loyalty applications
- Electronic coupon redemption
- Backroom receiving
- Inventory management

### Hospitality

- Check-in
- Ticketing (concerts, sporting events and more)
- Loyalty cards

### Transportation and Logistics

- Shipping and receiving
- Picking
- Product tracking
- Ticketing (airports, train and bus terminals)
- Postal

### Light/Clean Manufacturing

- Product and component tracking
- Work-in-process (WIP)

### Government

- Lottery and gaming
- Administration
- Banking

## User Environment

Operating Temperature	32° to 122° F/0° to 50° C
Charging Temperature	32° to 104° F/0° to 40° C
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 1.5 ft./0.5 m tumbles <sup>3</sup>
Environmental Sealing	IP52
Electrostatic Discharge (ESD)	DS8108/DS8178 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 Class 2: Output power adjustable down from 2 dBm in 8 Steps

## Power

PowerPrecision+ Li-Ion Battery	Capacity: 2500 mAh Number of scans from full charge: 65,000 <sup>4</sup> Charge time from empty to full: 9 hours over USB Charge time from audible low charge warning to Ready-to-Scan at 20% of full charge (default): 3 hours over USB
PowerCap Capacitor	Capacity: 440 F Number of scans from full charge: 2,000 <sup>4</sup> Number of scans from Ready-To-Scan at 20% of full charge (default): 200 <sup>4</sup> Number of scans from Ready-To-Scan at 15% of full charge: 100 <sup>4</sup> Charge time from empty to full: 30 min over USB Charge time from audible low charge warning to Ready-to-Scan at 20% of full charge (default): 90 sec over USB Charge time from audible low charge warning to Ready-to-Scan at 15% of full charge: 35 sec over USB

## Decode Ranges (Typical)<sup>6</sup>

mil	
QR: 20 mil	.1 in./3 cm to 17.6 in./44.7 cm

## Warranty

Subject to the terms of Zebra's hardware warranty statement, the DS8178 and the CR8178 are warranted against defects in workmanship and materials for a period of three years from the date of shipment. The DS8108 is warranted against defects in workmanship and materials for a period of five years from the date of shipment. Complete Zebra hardware product warranty statement: [www.zebra.com/warranty](http://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. <a href="http://www.zebra.com/123scan">www.zebra.com/123scan</a>
Symbol Scanner SDK	Generates a fully-featured scanner application, including documentation, drivers, test utilities and sample source code. <a href="http://www.zebra.com/scannersdkforwindows">www.zebra.com/scannersdkforwindows</a>
Scanner Management Service (SMS)	Remotely manages your Zebra scanner and queries its asset information. <a href="http://www.zebra.com/sms">www.zebra.com/sms</a>

## Footnotes

1 Requires firmware version CAACXS00-004-R00 or later.  
2 Refer to Product Reference Guide for currents when other power sources are used.  
3 1 tumble = 0.5 cycle.  
4 At one scan per second.  
5 Refer to Product Reference Guide for complete list of symbologies.  
6 Printing resolution, contrast, and ambient light dependent. Specifications are subject to change without notice.

## DataCapture DNA

DataCapture DNA is a suite of highly intelligent firmware, software, utilities and apps exclusively engineered to add functionality and simplify the deployment and management of Zebra scanners. For more information about DataCapture DNA and its applications, please visit [www.zebra.com/datacapturedna](http://www.zebra.com/datacapturedna)




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