DS4600 Series for Electronics Manufacturing

Improve productivity and quality control in electronics and light manufacturing

You rely on barcodes to track components and ensure product quality when manufacturing cell phones, computers, televisions, servers and other products. Your workers need to capture barcodes of all sizes and on all surfaces — instantly and flawlessly. And with the DS4600 Series for Electronics Manufacturing, they can. These versatile corded and cordless scanners can capture laser etched direct part marks, high density and low contrast codes, in addition to 4-inch wide barcodes. Designed specifically for electronics and light industrial manufacturing operations, the DS4600-DPE is ideal for clean rooms and other dust-free, water-free environments. A wide decode range enables the capture of direct part marks and high density barcodes, nearer and farther than a general purpose scanner — giving your workers true point-and-shoot simplicity. And Zebra DNA enhances every stage of your scanning journey, from setup and security to management and optimization.



Resets the Bar for Versatility and Performance

Capture It All — From Direct Part Marks to Extra-Wide Barcodes
No matter what type of marks and barcodes are found in your manufacturing operations, you can capture them all with the DS4600-DPE. It easily reads the tiny and dense laser etched DPM codes on plastic and metal subcomponents, as well as ink mark, chemical etch, inkjet mold and thermal spray. And the same imager can read 4-inch wide barcodes found on picklists, carton labels and packages, delivering outstanding value — you can use the same device for multiple applications throughout your operations.

Count On Great Performance to Keep Your Production Line Moving
What makes the DS4608-DPE unique? Its exclusive rear engine design creates more room for a built-in diffuser — providing optimal illumination on a wide variety of surfaces. Indirect lighting enables the capture of marks printed on shiny and reflective surfaces, while direct light provides the bright light needed to successfully read low contrast barcodes and laser-etched marks. And the 800 MHz microprocessor, megapixel sensor and Zebra's exclusive PRZM Intelligent Imaging technology further improve performance on challenging barcodes.The result? High-confidence scanning for fewer exceptions and workflow disruptions.

Capturing High Density Barcodes Is Easier Than Ever
Direct part marks and high density barcodes can be tough to scan, but not with the DS4600-DPE. This intuitive imager has the widest decode range in its class — enabling workers to position it at a more natural distance to see the barcode they are scanning. The result is point and shoot simplicity for some of the most challenging barcodes.

Haptic and Visual Feedback — Ideal for Noisy Production Lines
On the production line, the traditional beep tone can be hard to hear. That's why the DS4600-DPE offers multiple feedback modes: haptic/vibration, a good decode LED that's visible from any position, a traditional beep tone, plus Zebra's Direct Decode Indicator that projects the illumination on the barcode. No matter how noisy your environment might be, workers instantly know they are about to utilize the right component — there's no need to stop and verify that a scan was completed.

Day-in, Day-out Dependability on the Production Line
Your production line doesn't stop, and neither does the DS4600-DPE. It's engineered for durability, inside and out. IP52 sealing protects against spills, while an exclusive double-sealed optical system protects the critical optical components from dust and liquid — ensuring that the 'eye' of the scanner always captures the sharpest possible barcode image for fast and reliable decoding. The recessed scan window protects against smudges, dirt and scratches, which can impact performance. And the scanner is built to survive multiple 6 ft (1.8m) drops to concrete and 2,000 tumbles in our punishing tumble test.

On-the-Fly Switching Between Handheld and Hands-Free
Simply place the scanner in the optional presentation stand or presentation cradle to automatically switch to hands-free mode; pick up the scanner for handheld mode — no setting changes required.

Do More With Productivity-Enhancing Innovation

Streamline Workflows with GS1 Label Parsing
With Label Parse+, the DS4600-DPE can instantly capture and parse GS1 label barcode data, enabling workers to capture expiration dates, lot number, manufacturing location and more.

Capture Multiple Barcodes With One Press of the Scan Trigger
With Multi-Code Data Formatting (MDF), the DS4600-DPE can scan multiple barcodes with a single trigger pull and transmit only the barcodes you need, in the order your application expects. You get superior versatility and value — the same imager that can read small dense codes on the production line can also read multiple paper codes on packages in the receiving area.

Single Out One Barcode From Many
With Zebra's Preferred Symbol, the DS4600-DPE can capture and output only the preferred barcode, so workers no longer have to waste time physically covering nearby barcodes before scanning.

A Better Cordless Experience With Zebra

Full-Shift Power your Workers Can Count On
The cordless DS4678-DPE supports more than 50,000 scans in a single charge — that's more than 13 hours of continuous scanning.

Choice of Standard and Presentation Cradles
The Presentation Cradle provides convenient hands-free scanning and charges the battery during use. The Standard Cradle can sit on a desktop or be mounted on a wall. And Zebra's Connect+ Contact technology assures reliable, corrosion-free charging over the life of the scanner.

Keep Track of Your Cordless Imagers
With Virtual Tether, you won't have to worry about downtime caused when a cordless imager is misplaced in the receiving area or in a picking bin. Both the imager and cradle alert when a scanner is taken beyond its range or left out of the cradle for a predefined length of time. That means devices are always where they should be, fully charged and ready for use.

Eliminate Wireless Network Interference with Wi-Fi Friendly Mode
Zebra's exclusive Wi-Fi Friendly Mode ensures that cordless imagers won't interfere and disrupt your Wi-Fi network.

Industry-Preferred Management Tools

Effortless Deployment
The DS4600-DPE couldn't be easier to setup. Right out of the box, the imager is configured for the applications you use every day, while auto-host detect cables automatically select the right host interface — just plug in the scanner and you're ready to go.

Up-To-The-Minute Insight Into Every Aspect of Your Imagers
Remote Diagnostics automate the recording of scanner asset information, health and statistics, parameter settings and barcode data — giving you the information needed for event verification, blockchain traceability, pilot site ROI generation, troubleshooting and predictive fleet-wide trend analysis.

Make Data-driven Decisions Informed by Your Imagers
Do more with your DS4600-DPE devices with Zebra's IoT Connector, a fully automated real-time data collection tool that routes data from your scanners into your preferred IoT endpoint. The result? You can mine the data and get the insights needed to make decisions in real time.

Zebra DNA — Set Up. Secure. Manage. Optimize.
With more than 50 years of field-proven innovation, Zebra knows the scanning journey better than other providers. That's why we've engineered Zebra DNA into all of our scanners. This suite of software tools provides constant visibility, increases uptime and gives you the flexibility to respond to changing needs. For example, 123Scan simplifies every step of deploying your scanners. With Advanced Data Formatting, you can easily create scanner data formatting rules to optimize your workflows and solve business problems. Powerful complimentary management software enables easy remote management. And much more.

Specifications

Physical Characteristics	
Dimensions	**Corded DS4608-DPE:** 6.5 in H x 2.6 in W x 3.9 in D 16.5cm H x 6.7cm W x 9.8cm D **Cordless DS4678-DPE:** 6.6 in H x 2.6 in W x 4.2 in D 16.8cm H x 6.6cm W x 10.7cm D **Standard Cradle:** 2.8 in H x 3.3 in W x 8.3 in D 7.1cm H x 8.4cm W x 21.1cm D **Presentation Cradle:** 2.8 in H x 3.3 in W x 8.3 in D 7.1cm H x 8.4cm W x 21.1cm D
Weight	**Corded:** 5.7 oz (161.9g) **Cordless:** 7.9 oz (225g) **Standard Cradle:** 7.1 oz (201.3g) **Presentation Cradle:** 6.5 oz (184.3g)
Input Voltage Range	**Corded:** 4.5 to 5.5 VDC Host Powered; 4.5 to 5.5 VDC External Power Supply **Standard/Presentation Cradle:** 4.7 to 5.5 VDC Host Powered; 10.8 to 13.2 VDC External Power Supply
Operating Current at Nominal Voltage (5.0V)	**Corded:** 340 mA (typical) **Standard/Presentation Cradle:** 470 mA (typical) Standard USB; 743mA (typical) 12V
Standby Current (Idle) at Nominal Voltage (5.0V)	**Corded:** 150 mA (typical)
Color	Twilight Black
Supported Host Interfaces	USB, RS232, TGCS (IBM) 46XX over RS485
Keyboard Support	Supports over 90 international keyboards
User Indicators	Direct Decode Indicator, Good Decode LEDs, Rear view LEDs, Beeper (adjustable tone and volume), haptic/vibration
Performance Characteristics	
Light Source	Aiming Pattern: circular 528nm true green LED
Illumination	(2) warm white LEDs
Imager Field of View	34° H x 21.6° V nominal
Image Sensor	1280 x 800 pixels
Minimum Print Contrast	15% 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
Symbol Decode Capability[1]	
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, DotCode, Dotted DataMatrix, MaxiCode, QR Code, Micro QR, Han Xin, Postal Codes, SecurPharm
Minimum Element Resolution	Code 39 – 2.0 mil DataMatrix – 4.0 mil

User Environment	
Operating Temp.	+32.0F to +122.0F (0.0C to +50.0C)
Storage Temp.	-40.0F to +158.0F (-40.0C to +70.0C)
Humidity	5% to 95% RH, non-condensing
Drop Specification	Designed to withstand multiple drops at 6.0 ft (1.8m) to concrete
Tumble Specification	Designed to withstand 2,000 tumbles in 1.5 ft (0.5m) tumbler
Sealing	IP52
ESD	Scanner/Standard Cradle/Presentation Cradle: ESD per EN61000-4-2, +/-15 KV Air, +/-8 KV Direct, +/-8 KV Indirect
Ambient Light Immunity	0 to 10,000 foot candles/0 to 107,000 Lux
Radio Specifications (DS4678-DPE)	
Bluetooth Radio	Standard Bluetooth Version 5.2 with BLE: Class 1 330ft (100m) and Class 2 33ft (10m), Serial Port and HID Profiles; adjustable power: Class 1: output power adjustable down from 2dbm in 8 steps; Class 2: output power adjustable down from 0dbm in 8 steps
Battery (DS4678-DPE)	
Battery	Type: Li-Ion with asset reporting Capacity: 2,500 mAh Number of scans from full charge: 50,000[3] Charge times from empty to full: 2 hours 15 minutes over external 12V 4 hours 30 minutes over external 5V 3 hours over BC1.2 USB 7 hours 45 minutes over standard USB
Decode Ranges (Typical)[2]	
Symbology/Resolution	Near/Far
Code 128: 2 mil	0.3 in to 2.3 in (0.8cm to 5.8cm)
Code 128: 3 mil	0 in to 3.5 in (0cm to 8.8cm)
Code 128: 15 mil	4.2 in to 8.6 in (10.7cm to 21.8cm)
Code 39: 2 mil	0.2 in to 3.0 in (0.5cm to 7.6cm)
Code 39: 3 mil	0 in to 3.8 in (0cm to 9.6cm)
Code 39: 5 mil	0 in to 5.2 in (0cm to 13.2cm)
PDF 417: 4 mil	0 in to 3.3 in (0cm to 8.4cm)
PDF 417: 5 mil	0 in to 3.8 in (0cm to 9.6cm)
PDF 417: 6.6 mil	0 in to 4.5 in (0cm to 11.4cm)
UPC: 13 mil (100%)	0 in to 8.5 in (0cm to 21.5cm)
DataMatrix: 4 mil	0.2 in to 2.8 in (0.5cm to 7.1cm)
DataMatrix: 5 mil	0 in to 3.4 in (0cm to 8.6cm)
DataMatrix: 10 mil	0 in to 4.8 in (0cm to 12.2cm)
QR Code: 10 mil	0 in to 4.5 in (0cm to 11.4cm)

Markets and Applications

Electronics and Light Industrial Manufacturing

- Product assembly
- Traceability
- Quality assurance
- Inventory and materials management
- Replenishment
- Picking

Utilities and Maintenance	
123Scan	Programs scanner parameters, upgrades firmware, provides scanned barcode data and prints reports. www.zebra.com/123Scan
Scanner SDK	Generates a fully-featured scanner application, including documentation, drivers, test utilities and sample source code. www.zebra.com/windowssdk
Scanner Management Service (SMS)	Remotely manages your Zebra scanner and queries its asset information. www.zebra.com/sms
Regulatory	
Environmental	2011/65/EU and EN 50581:2012 and EN IEC 63000:2018
Electrical Safety	UL 60950-1, second edition, CAN/CSA-C22.2 No. 60950-1-07. EN 60950-1:2006/A2:2013 IEC 60950-1:2005/A2:2013 IEC 62368-1 (ed.2); EN 62368-1:2014
LED Safety	IEC 62471:2006 (Ed.1.0); EN 62471:2008
EMI/RFI	FCC: 47 CFR Part 15, Subpart B, Class B ICES-003 Issue 6, Class B EN 55032, Class B EN 55024 EN 55035 EN 60601-1-2:2015, IEC 60601-1-2:2014

Accessories

Gooseneck Intellistand, Cup, Standard Cradle, Presentation Cradle

Warranty

Subject to the terms of Zebra's hardware warranty statement, the DS4678 and the CR8178 are warranted against defects in workmanship and materials for a period of three years from the date of shipment. The DS4608 is warranted against defects in workmanship and materials for a period of five years from the date of shipment. For the complete Zebra hardware product warranty statement, please visit: www.zebra.com/warranty

Recommended Services

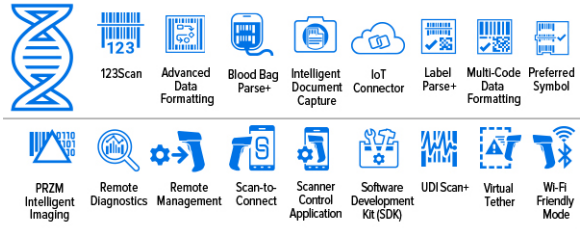
Zebra OneCare Select; Zebra OneCare Essential; Zebra OneCare Battery Maintenance

Footnotes

1. Refer to Product Reference Guide for complete list of symbologies.
2. Printing resolution, contrast and ambient light dependent.
Specifications are subject to change without notice.

Zebra DNA

Zebra DNA is a suite of highly intelligent firmware, software, utilities and apps exclusively engineered to ensure maximum performance from every Zebra scanner. For more information, please visit www.zebra.com/zebradna



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