

# ZE511/ZE521 Print Engines

Mission critical doesn't compromise – neither do Zebra print engines

Your lines and equipment must stand up to the 24/7/365 test, but you need more than just durable performance. Keep your operations moving forward with Zebra's rugged ZE511 and ZE521 print engines, intelligently engineered to make your work easier – today and tomorrow. These purpose-built essential workers deliver it all: fast print speeds and all-metal construction for demanding operation, innovative features and forward capabilities for years of use, onboard analytics and expedited maintenance elements to maximize uptime, along with optional field-installable RFID encoding for advanced tracking. And, they feature Zebra's exclusive, industry-leading Print DNA™ software suite that makes them easy to setup, manage, maintain and secure – onsite or remotely. So, go ahead. Push the limits. A Zebra print engine won't let you down.



## Innovation has Arrived

### Extending the ZE500 Series Legacy

Advancing the ZE500 Series, ZE511 and ZE521 print engines build on this proven legacy with faster print speeds, performance-enhancing capabilities and evolving intelligence that make them stand apart. Added features such as the 4.3-inch, full-color LCD touch screen make operation easier. Add field-installable RFID printing and encoding capabilities featuring Zebra's exclusive technology and new algorithms for easy calibration and media flexibility.

## Engineered to Endure

### Encased Design Withstands Harsh Environments

The 4-inch ZE511 and 6-inch ZE521 deliver rugged durability to push the limits. Engineered without the need for cooling fans, their external cabinets are designed to resist debris and water ingress making them ideal in dusty environments or where water may be splashed.

## Easy to Use

### Simple to Integrate and Operate

The ZE511 and ZE521 are incredibly easy to integrate and use. Deploy them anywhere with setup tools, wizards and emulation capabilities. The large color touch screen and intuitive user interface make setup and operation easy with minimal training. Mount the screen where it's convenient for you, up to two meters from the print engine, and rotate the screen to match your space. See printer status at a glance, make expedited settings changes and access support.

## Put it to Work for Years

### Forward Focused to Match your Evolving Business Needs

Printers should add to your operations, not create obstacles. Remove the hassle with the ZE511 and ZE521, engineered to handle tomorrow's technology. With the revolutionary Print DNA software suite, they have the innovative edge to grow with your business.



**Push the limits. Non-stop printing plus evolving capabilities for your mission-critical operations.**

For more information, please visit [www.zebra.com/ze511-ze521](http://www.zebra.com/ze511-ze521)

## Proven to Perform

### Outstanding Print Speeds and Quality

Keep your lines moving quickly with best-in-class print speeds, up to 18 inches per second. For 203 dpi use cases printing faster than 14 ips, select the optional high-speed printhead<sup>1</sup>. For premium print resolution, choose the 600 dpi option<sup>1</sup>.

### Connect Your Way With Comprehensive Communication

Add your ZE511 or ZE521 to your existing wired and wireless networks or connect them directly to any PC. Every ZE511 and ZE521 comes with USB, Serial, Ethernet, a dual USB Host port and Bluetooth™ 4.1. Add an optional Parallel, 802.11 a/c wireless or Ethernet card to the open internal communication slot. And, with the included Print Touch tag (NFC), you can simply tap a compatible mobile device on the ZE511 or ZE521 to pair and print.

## Simple to Maintain and Service

### Predict Maintenance Needs to Minimize Downtime

Use onboard analytics to predict and schedule maintenance to prevent unexpected downtime. Troubleshoot remotely and swap out the extended-life modular drive quickly and easily via only three screws for offline servicing to keep workflows moving.

### New Printhead Design Expedites Replacement

The ZE511 and ZE521 have an improved socketed printhead design that eliminates tools with the quick-release tab. Easily remove all three platen, pinch and peel rollers in minutes from the front of the print engine without the need to remove the unit from the print-and-apply system.

### Interior Space and Frustration-Free Details

Captured fasteners eliminate lost hardware. Quickly access internal components via a hinged cage system that swings open wide for fast, simple maintenance, newly designed with even more interior workspace.

### Explore Managed Print Services (MPS) With Assurance

Looking to gain control and visibility of your print engines with MPS? Zebra's thermal printers with Print DNA, including the ZE511 and ZE521, make it easy. They're engineered for durability, and they offer innovative remote management, analytics and security capabilities that make them the obvious choice for MPS.

With the Print DNA software toolset, your Zebra MPS provider can remotely manage and optimize your printers, track and automate supplies replenishment and ensure security. This leaves you free to lower your operating costs and minimize your IT workload.

## Don't Compromise – Drive Performance with the Most Innovative Software Suite

### Simple to Deploy, Use, Manage and Secure

Now including Zebra's innovative Print DNA software suite, powered by our Link-OS operating system, the ZE511 and ZE521 are incredibly easy to integrate, manage and secure.

### Make Setup Efficient

Provision printers quickly and easily by mirroring using a USB flash drive including firmware, embedded files and settings. Or, configure using a mobile device and Zebra's Printer Setup Utilities.

### Update, Troubleshoot and Monitor—All From a Single Location

With Zebra's Printer Profile Manager Enterprise, part of Print DNA, you have the ability to easily manage, secure and troubleshoot your networked print engines from any location. And an intuitive browser-based interface lets you see status at a glance, quickly triage issues to minimize downtime and perform updates and maintenance.

### Unparalleled, Peace-of-Mind Printer Security

Security risks are real and costly. Endpoints are becoming popular targets – including networked thermal printers and print engines. Shield yourself from cyberattacks with Zebra's PrintSecure, part of Print DNA. Use it to easily configure your printers via secure connections, identify vulnerabilities, block unauthorized access and detect events before they happen.

# Specifications

# Markets and Applications

## Standard Features

- Print Methods: Thermal transfer and direct thermal printing
- Orientation: right-hand or left-hand
- 4.3 in. color touch screen with intuitive menu for quick operation and settings
- Industrial all-metal construction
- Communications: USB 2.0, RS-232 Serial, 10/100 Ethernet, Bluetooth 4.1, Dual USB Host, Applicator Interface
- Adjustable transmissive and fixed reflective media sensors
- Quick release, thin film printhead with E3 Element Energy Equalizer for superior print quality
- Real-time clock
- Rotatable screen
- Zebra Designer Essentials: easy label design tool free at [www.zebra.com/zebradesigner](http://www.zebra.com/zebradesigner)
- ENERGY STAR certified
- PDF Direct

## Printer Specifications

|                                 |                                                                                                                                                                                                                  |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Resolution                      | ZE511: 203 dpi/8 dots per mm<br>300 dpi/12 dots per mm (optional)<br>600 dpi/24 dots per mm (optional)ZE521: 203 dpi/8 dots per mm<br>300 dpi/12 dots per mm (optional)                                          |
| Memory                          | 512MB SDRAM, 512MB Flash                                                                                                                                                                                         |
| Maximum Print Width             | ZE511: 4.09 in./104 mm<br>ZE521: 6.6 in./168 mm                                                                                                                                                                  |
| Maximum Print Speed             | ZE511: 18 ips/457 mm per second @ 203 dpi <sup>2</sup><br>14 ips/356 mm per second @ 300 dpi<br>6 ips/152 mm per second @ 600 dpiZE521: 14 ips/356 mm per second @ 203 dpi<br>12 ips/305 mm per second @ 300 dpi |
| Media Sensors                   | Transmissive and reflective                                                                                                                                                                                      |
| Maximum Continuous Print Length | ZE511: 203 dpi: 150 in./3801 mm<br>300 dpi: 100 in./2540 mm<br>600 dpi: 50 in./1270 mmZE521: 203 dpi: 150 in./3801 mm<br>300 dpi: 100 in./2540 mm                                                                |

## Media Characteristics

|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Minimum Label and Liner Length | ZE511: <ul style="list-style-type: none"><li>• Applicator mode, backfeed on: 0.50 in./12.7 mm</li><li>• Applicator mode, backfeed off: 0.25 in./6.4 mm</li><li>• Stream mode: 0.25 in./6.4 mm</li><li>• Rewind mode: 0.25 in./6.4 mm "loose loop"</li><li>• Tear-off mode, backfeed on: 0.50 in./12.7 mm</li><li>• Tear-off mode, backfeed off: 0.25 in./6.4 mm</li></ul> ZE521: <ul style="list-style-type: none"><li>• Applicator mode, backfeed on: 3.0 in./76.2 mm</li><li>• Applicator mode, backfeed off: 1.0 in./25.4 mm</li><li>• Rewind mode: 1.0 in./25.4 mm "loose loop"</li><li>• Tear-off mode, backfeed on: 3.0 in./76.2 mm</li><li>• Tear-off mode, backfeed off: 1.0 in./25.4 mm</li></ul> |
| Media Width                    | ZE511: .625 in./16 mm - 4.5 in./114 mm<br>ZE521: 3 in./76 mm - 7.1 in./180 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Thickness                      | ZE511: 0.0053 in./0.135 mm to 0.010 in./0.254 mm<br>ZE521: 0.003 in./0.076 mm to 0.012 in./0.305 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Media Types                    | Continuous, die-cut or black mark                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

## Barcode Symbolologies

Barcode Ratios: 2:1, 7:3, 5:2, and 3:1  
Linear Barcodes: Code 11, Code 39, Code 93, Code 128 with subsets A/B/C and UCC Case Codes, ISBT-128, UPC-A, UPC-E, EAN-8, EAN-13, UPC and EAN 2-or 5-digit extensions, Plessey, Postnet, Standard 2-of-5, Industrial 2-of-5, Interleaved 2-of-5, Logmars, MSI, Codabar and Planet Code  
2D Barcodes: Codablock, PDF417, Code 49, DataMatrix, MaxiCode, QR Code, TLC 39, MicroPDF, RSS-14 (and composite), Aztec

## Fonts and Graphics

Zebra Global printing solution including Unicode™  
Swiss 721 font standard  
Bitmap fonts A to H and GS symbols are expandable up to 10 times, height- and width-independent  
  
Smooth-scalable font Ø (CG Triumvirate™ Bold Condensed<sup>3</sup>) is expandabledot-by-dot, height- and width-independent  
IBM™ Code Page 850 International Characters  
Firmware support for downloadable TrueType™ fonts  
Additional fonts available  
Supports user-defined fonts and graphics, including custom logos

## Consistently Exceptional Zebra Certified Supplies

Printing supplies can impact everything from printhead lifespan to operational efficiency. That's why we design, produce and rigorously pretest our own line of thermal printing supplies to ensure consistent, optimized performance in your Zebra printer. We offer the widest selection of in-stock RFID labels and tags for general purpose, advanced and specialty use applications, in a variety of sizes and materials, using inlays from leading manufacturers.  
[www.zebra.com/supplies](http://www.zebra.com/supplies)

## Service When You Need It

You invest in Zebra printers to better serve your customers and boost operational efficiency. Now, you can ensure predictable performance and eliminate unbudgeted repair expenses with Zebra OneCare™. You get unmatched technical support direct from Zebra, as well as comprehensive repair services, including accidental damage and defined repair turn-around times. And Zebra's Visibility Services provide the real-time insight into printer operational information you need to increase printer availability and optimize utilization within your workflows.  
[www.zebra.com/zebraonecare](http://www.zebra.com/zebraonecare)

## Recommended Services

|                          |                                                                                                                                                                                                                                                                                                                 |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Zebra OneCare Select™    | Comprehensive Coverage, including printheads, normal wear and accidental breakage<br>Priority access 24x7 live technical support and software updates<br>Advance Replacement and Express Shipping (Next Day Device Replacement)<br>Standard Commissioning<br>Online Return Material Authorization (RMA) support |
| Zebra OneCare Essential™ | Comprehensive Coverage, including printheads, normal wear and accidental breakage<br>Priority access 8x5 live technical support and software updates<br>Three-day depot repair turnaround time plus free return ground shipping<br>Online Return Material Authorization (RMA) support                           |

### Ribbon Characteristics

|                 |                                                                                |
|-----------------|--------------------------------------------------------------------------------|
| Standard Length | 1,968 ft./600 m                                                                |
| Width           | ZE511: 1 in./25.4 mm to 4.2 in./107 mm<br>ZE521: 3 in./76 mm to 7.1 in./180 mm |
| Core I.D.       | 1 in./25.4 mm ID                                                               |

### Operating Characteristics

|                  |                                                                                                                                                                                                                                     |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Environmental    | Operating Temperature: 31°F to 104°F/0°C to 40°C<br>Operating Humidity: 20% to 95% non-condensing R.H.<br>Storage/Transportation Temperature: -40°F to 160°F/-40°C to 71°C<br>Storage Humidity: 5% to 95% non-condensing R.H.       |
| Electrical       | Universal power supply with power-factor correction 90–264 VAC, 47–63 Hz                                                                                                                                                            |
| Agency Approvals | • Standards approvals: IEC 62368-1; EN 55032, Class A; EN 55035; EN 61000-3-2, 3-3<br>• Product markings, but not limited to: cTUVus; CE; FCC A; ICES-003; VCCI; RCM; CCC; EAC; S-Mark; KCC; BSMI; India-BIS; In-Metro; Energy Star |

### Physical Characteristics

|        |                                                  |
|--------|--------------------------------------------------|
| Depth  | ZE511: 14.9 in./379 mm<br>ZE521: 17.2 in./438 mm |
| Width  | ZE511: 9.6 in./245 mm<br>ZE521: 9.6 in./245 mm   |
| Height | ZE511: 11.8 in./300 mm<br>ZE521: 11.8 in./300 mm |
| Weight | ZE511: 34 lbs/15.4 kg<br>ZE521: 38 lbs/17.3 kg   |

### Options and Accessories

|               |                                                                                                                       |
|---------------|-----------------------------------------------------------------------------------------------------------------------|
| Communication | • Parallel port option card<br>• Dual band 802.11ac Wi-Fi™ and Bluetooth option card<br>• 10/100 Ethernet option card |
| Accessories   | • Extend peel bar kit<br>• User Interface extension and mounting kit                                                  |
| RFID          | • UHF field-installable RFID kit for 4 in. and 6 in. print widths                                                     |

### Firmware

ZBI 2.0 — Optional powerful programming language that lets printers run stand-alone applications, connect to peripherals, and much more.  
ZPL and ZPL II — Zebra Programming Language provides sophisticated label formatting and printer control and is compatible with all Zebra printers.

### Footnotes

1. Available on the ZE511 model only
2. Maximum print speed is 18 ips/457 mm per second at 203 dpi in direct thermal mode. Maximum print speed is 14 ips/356 mm per second at 203 dpi in thermal transfer mode.
3. Contains UFST™ from Agfa Monotype CorporationFor optimum print quality and printer performance, use Genuine Zebra supplies.Specifications subject to change without notice.

### Print DNA Software

This printer is supported by our Print DNA suite of software capabilities to get your printer up and running quickly and securely, and enable your printer to evolve with your business needs. Print DNA features may vary by model, and some features may require a license. For more information, please visit [www.zebra.com/printdna](http://www.zebra.com/printdna).