

ZT600 Series Industrial Printers

Specifications are provided for reference and are based on printer tests using Zebra Certified Supplies. Results may vary in actual application settings or when using other-than-recommended Zebra supplies. Zebra recommends always qualifying any application with thorough testing.

Standard Features

- Easy side-loading print mechanism
- Cableless quick change platen
- 4.3 in. color touch display with intuitive menu for quick operation and settings management
- Clear media side bi-fold door allows shorter media door opening radius, and easy monitoring of supplies usage without opening the printer
- Thin film printhead—with E3™ Element Energy™ Equalizer
- 1 GB SDRAM (32 MB User Available)
- 2 GB on board Flash memory (512 MB User Available)
- Cortex A9 800MHz Processor
- Serial RS-232, Full Speed (12Mbps) USB 2.0, Bluetooth® 4.0, static NFC tag, and Auto-switching Gigabit Ethernet
- Two front mounted USB Host ports
- Dual media sensors—transmissive and reflective, selectable through software or front panel
- Real-time Clock (RTC)
- ENERGY STAR® Qualified

Programming Languages

- ZPL or ZPL II programming language—selectable through software or front panel
- XML-Enabled Printing—direct connect integration for barcode label printing; eliminates license fees and print server hardware and lowers customization and programming costs



Optional Features

- Modular full-width guillotine style cutter with catch tray—operates under software control cutting labels individually or in strips (not compatible with rewind and peel options)
- Media rewind spindle—rewinds finished roll internally onto 3 in. (76 mm) core or enables label peel and liner rewind
- Ribbon Spindle—Support for ribbon coated side in
- Applicator interface—provides status and control signals for applicators and remote control devices
- Additional fonts options
- RFID capabilities (UHF EPC Gen 2 V2.1/ISO 18000-63)
- Internal IPv4 10/100/1000 Wired Print Server Option Card
- IEEE 1284 Parallel Port
- External IPv6 Print Server (requires Parallel port option)
- Wireless dual radio 802.11ax Wi-Fi™ and Bluetooth 5.3
- Wireless dual radio 802.11ac Wi-Fi and Bluetooth 4.2

Printer Operation

- Thermal transfer and direct thermal printing of barcodes, text and graphics
- Advanced label/media counters
- Auto calibration—printer calibrates when printer is turned on or when printhead is closed using approximately two labels

Zebra DNA™ for Printers

The ZT600 Series is powered by Link-OS™, Zebra's robust printer operating system, and Zebra DNA for Printers, a set of tools and applications designed to optimize your printers' performance over its entire lifecycle. The result is a superior printing experience through better performance, simplified remote manageability and easier integration. Please visit www.zebra.com/zebradna for more information.

Environmental Specifications

- Operating environment:
 - Thermal transfer = 40°F to 104°F (5° to 40°C)
 - Direct thermal = 32°F to 104°F (0° to 40°C)
 - 20% to 85% non-condensing relative humidity
- Storage/transportation environment:
 - -22°F to 140°F (-30° to 60°C) 20% to 85% non-condensing relative humidity

Font Specifications

- Fonts A, B, C, D, E, F, G, H and GS are expandable up to 10 times, height and width independently. However, fonts E and H (OCR-A and OCR-B) are not considered “in-spec” when expanded.
- The scalable smooth font O (CG Triumvirate™ Bold Condensed*) is expandable on a dot-by-dot basis, height and width independent, while maintaining smooth edges. Maximum character size depends on available memory.
- IBM Code Page 850 international character sets are available in the fonts A, B, C, D, E, F, G and O through software control
- Code Page 1250, 1252, 1253, 1254, 1255 Support with font O

Communications Specifications

- USB 2.0, full-speed (12Mbps)
- RS-232 Serial (RS-232C with DB9F connector; Configurable baud rate (2400—115,200kB), parity, and data bits. Stop bits at 1 or 2; Software (XON/XOFF), hardware (DTR/DSR or RTS/CTS) communication handshake protocols)
- Gigabit internal Ethernet supports networks internally integrated option that enables the use of Webview and Alert features
- Bluetooth® 4.0
- Dual front mounted (full-speed) USB Host ports

ZPL and ZPL II

- Communicates in printable ASCII characters
- Unicode™—Compliant
- Compatible with mainframe, mini and PC hosts
- Downloadable objects include graphics, scalable and bitmap fonts, label templates and formats
- Object copying between memory areas (RAM, Onboard Flash memory locations)
- Adjustable print cache
- Data compression
- Automatic memory allocation for format while printing
- Automatic serialization of fields
- Format inversion (white on black)
- Mirror-image printing
- Four position field rotation (0°, 90°, 180°, 270°)
- Slew command
- Programmable label quantities with print, pause, cut control
- User-programmable password
- Status messages to host on request

*Contains UFST® from Agfa Monotype Corporation

Barcode Symbolologies and Specifications

- 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
- 2-dimensional barcodes: Codablock, PDF417, Code 49, DataMatrix, MaxiCode, QR Code, TLC 39, MicroPDF, RSS-14 (and composite), Aztec

Physical Specifications

Parameter	ZT610
Height	15.58 in. (395.68 mm)
Width	10.56 in. (268.2 mm)
Depth	19.88 in. (505.0 mm)
Weight	50 lbs. (22.7 kg)

Media Specifications*

- Media type: continuous, die-cut, notch, hole, or black mark
- Media width (label and liner): 0.79 in. (20 mm) to 4.5 in. (114 mm)
- Minimum label length:
 - ZT610—203/300 DPI
 - Rewind mode: 0.25 in. (6 mm)
 - Peel mode: 0.5 in. (13 mm)
 - Tear-off mode: 0.7 in. (18 mm)
 - Cutter mode: 1.5 in. (38 mm)
 - ZT610—600 DPI
 - Rewind mode: 0.125 in. (3 mm)
 - Peel mode: 0.5 in. (13 mm)
 - Tear-off mode: 0.125 in. (3 mm)
 - Cutter mode: 1.5 in. (38 mm)

- Media thickness (label and liner): 0.003 in. (0.076 mm) to 0.012 in. (0.305 mm) non-cutter
- Maximum media roll size: 8.0 in. (203 mm) outside diameter on a 3 in. (76 mm) inside diameter core
- Transmissive (gap) sensing standards:
 - Interlabel gap: 2–4 mm, preferably 3 mm
 - Sensing notch: 0.25 in. W (6 mm) × 0.12 in. L (3 mm)
 - Sensing hole: 0.125 in. (3 mm) diameter
- Reflective (black mark) sensing standards:
 - Black mark length (parallel to inside media edge): 0.12 in.—0.43 in. (3–11 mm)
 - Black mark width (perpendicular to inside media edge): 0.43 in. (more than 11 mm)
 - Black mark location: within 0.040 in. (1 mm) of inside media edge
 - Black mark density: more than 1.0 Optical Density Units (ODU)
 - Maximum media density: 0.5 ODU

Ribbon Specifications

- Standard lengths: 1476 ft. (450 m)
- Provides 3:1 media roll to ribbon ratios
- Maximum ribbon roll size:
 - 3.2 in. (81.3 mm) outside diameter on a 1.0 in. (25.4 mm) inside diameter core
- Ribbon wound coated-side out
- Ribbon width: 0.79 in. (20 mm) to 4.33 in. (110 mm)

Electrical Specifications

- 250 watt rated Universal power supply with power-factor correction 90–265 VAC, 47–63 Hz
- Agency approvals: IEC 60950-1, EN 55022 Class B, EN 55024, EN 61000-3-2, EN 61000-3-3
- Product Markings: cTUVus, CE, FCC-B, ICES- 003, VCCI, C-Tick, NOM, S-Mark(Arg), CCC, GOST-R, BSMI, KCC, STB, and UkrSEPRO

* Media registration and minimum label length are affected by media type and width, ribbon type, and print speed. Performance improves as these factors are optimized. Zebra recommends always qualifying any application with thorough testing.

ZT610 203 DPI

Printing Specifications

- 203 DPI resolution (8 dots/mm)
- Heater dimension (W × L): 0.0043 in. × 0.0052 in. (0.110 mm × 0.132 mm)
- First dot location measured from inside media edge: 0.14 in. ±0.05 in. (3.5 mm ±1.25 mm)
- Maximum print width: 4.09 in. (104 mm)
- Maximum non-continuous media print length 39 in. (991 mm)
- Maximum continuous media print length 150 in. (3810 mm)
- Programmable print speeds (in. per second): 2, 4, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14
- Barcode modulus “X” dimension:
 - Picket fence (non-rotated) orientation 4.9 mil to 49 mil
 - Ladder (rotated) orientation: 4.9 mil to 49 mil

Font Specifications (203 DPI) 8 dot/mm

Font	Matrix (H × W)	Type [†]	Minimum Character Size (H × W) in. (mm)	Max CPI
A	9 × 5	U-L-D	0.044 × 0.029 (1.1 × 0.74)	33.9
B	11 × 7	U	0.054 × 0.044 (1.37 × 1.1)	22.6
C, D	18 × 10	U-L-D	0.088 × 0.059 (2.2 × 1.5)	16.9
E	28 × 15	OCR-B	0.138 × 0.098 (3.5 × 2.5)	10.1
F	26 × 13	U-L-D	0.128 × 0.079 (3.3 × 2.0)	12.7
G	60 × 40	U-L-D	0.295 × 0.236 (7.5 × 6.0)	4.2
H	21 × 13	OCR-A	0.103 × 0.093 (2.6 × 2.4)	10.7
GS	24 × 24	SYMBOL	0.118 × 0.118 (3.0 × 3.0)	8.4
P	20 × 18	U-L-D	0.098 × 0.089 (2.50 × 2.25)	N/A
Q	28 × 24	U-L-D	0.138 × 0.113 (3.50 × 3.00)	N/A
R	35 × 31	U-L-D	0.172 × 0.153 (4.38 × 3.88)	N/A
S	40 × 35	U-L-D	0.197 × 0.172 (5.00 × 4.38)	N/A
T	48 × 42	U-L-D	0.236 × 0.207 (6.00 × 5.25)	N/A
U	59 × 53	U-L-D	0.290 × 0.261 (7.38 × 6.63)	N/A
V	80 × 71	U-L-D	0.394 × 0.349 (10.0 × 8.88)	N/A
Ø	variable	U-L-D	variable	N/A

[†]U—Uppercase L—Lowercase D—Descenders

ZT610 300 DPI

Printing Specifications

- 300 DPI resolution (11.8 dots/mm)
- Heater dimension (W × L): 0.0027 in. × 0.0043 in. (0.0697 mm × 0.110 mm)
- First dot location measured from inside media edge: 0.08 in. ±0.05 in. (2.1 mm ±1.25 mm)
- Maximum print width: 4.09 in. (104 mm)
- Maximum non-continuous media print length: 39 in. (991 mm)
- Maximum continuous media print length: 100 in. (2540 mm)
- Programmable print speeds (in. per second): 2, 4, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- Barcode modulus “X” dimension:
 - Picket fence (non-rotated) orientation: 3.3 mil to 33 mil
 - Ladder (rotated) orientation: 3.9 mil to 39 mil

Font Specifications (300 DPI) 12 dot/mm

Font	Matrix (H × W)	Type [†]	Minimum Character Size (H × W) in. (mm)	Max CPI
A	9 × 5	U-L-D	0.030 × 0.020 (0.76 × 0.51)	50.0
B	11 × 7	U	0.037 × 0.030 (0.94 × 0.76)	33.3
C, D	18 × 10	U-L-D	0.060 × 0.040 (1.5 × 1.0)	25.0
E	28 × 15	OCR-B	0.137 × 0.087 (3.5 × 2.2)	11.5
F	26 × 13	U-L-D	0.087 × 0.053 (2.2 × 1.3)	18.8
G	60 × 40	U-L-D	0.200 × 0.160 (5.1 × 4.1)	6.3
H	21 × 13	OCR-A	0.100 × 0.093 (2.5 × 2.37)	10.7
GS	24 × 24	SYMBOL	0.080 × 0.080 (2.03 × 2.03)	12.5
P	20 × 18	U-L-D	0.067 × 0.060 (1.69 × 1.52)	N/A
Q	28 × 24	U-L-D	0.093 × 0.080 (2.37 × 2.03)	N/A
R	35 × 31	U-L-D	0.117 × 0.103 (2.96 × 2.62)	N/A
S	40 × 35	U-L-D	0.133 × 0.117 (3.39 × 2.96)	N/A
T	48 × 42	U-L-D	0.160 × 0.140 (4.06 × 3.56)	N/A
U	59 × 53	U-L-D	0.197 × 0.177 (5.00 × 4.49)	N/A
V	80 × 71	U-L-D	0.267 × 0.237 (6.77 × 6.01)	N/A
Ø	variable	U-L-D	variable	N/A

[†]U—Uppercase L—Lowercase D—Descenders

ZT610 600 DPI

Printing Specifications

- 600 DPI resolution (23.62 dots/mm)
- Heater dimension: Each heater consists of a split element. Each half being 13 microns (μm) $\times$ 70 microns (μm)
- First dot location measured from inside media edge: 0.08 in. $\pm$ 0.05 in. (2.1 mm $\pm$ 1.25 mm)
- Maximum print width: 4.09 in. (104 mm)
- Maximum non-continuous media print length: 39 in. (991 mm)
- Maximum continuous media print length: 30 in. (762 mm)
- Programmable print speeds (in. per second): 1, 2, 3, 4, 5, 6
- Barcode modulus "X" dimension:
 - Picket fence (non-rotated) orientation: 1.6 mil to 16 mil
 - Ladder (rotated) orientation: 1.6 mil to 16 mil

Font Specifications (600 DPI) 24 dot/mm

Font	Matrix (H $\times$ W)	Type [†]	Minimum Character Size (H $\times$ W) in. (mm)	Max CPI
A	9 $\times$ 5	U-L-D	0.015 $\times$ 0.010 (0.38 $\times$ 0.25)	100.0
B	11 $\times$ 7	U	0.018 $\times$ 0.015 (0.45 $\times$ 0.38)	66.7
C, D	18 $\times$ 10	U-L-D	0.030 $\times$ 0.020 (0.77 $\times$ 0.51)	50.0
E	28 $\times$ 15	OCR-B	0.137 $\times$ 0.087 (3.4 $\times$ 2.2)	11.54
F	26 $\times$ 13	U-L-D	0.043 $\times$ 0.027 (1.1 $\times$ 0.69)	37.5
G	60 $\times$ 40	U-L-D	0.100 $\times$ 0.080 (2.5 $\times$ 2.0)	12.5
H	21 $\times$ 13	OCR-A	0.100 $\times$ 0.093 (2.5 $\times$ 2.4)	10.71
GS	24 $\times$ 24	SYMBOL	0.040 $\times$ 0.040 (1.0 $\times$ 1.0)	25.0
P	20 $\times$ 18	U-L-D	0.033 $\times$ 0.030 (0.85 $\times$ 0.77)	N/A
Q	28 $\times$ 24	U-L-D	0.047 $\times$ 0.040 (1.19 $\times$ 1.02)	N/A
R	35 $\times$ 31	U-L-D	0.059 $\times$ 0.052 (1.49 $\times$ 1.32)	N/A
S	40 $\times$ 35	U-L-D	0.067 $\times$ 0.059 (1.70 $\times$ 1.49)	N/A
T	48 $\times$ 42	U-L-D	0.080 $\times$ 0.070 (2.04 $\times$ 1.79)	N/A
U	59 $\times$ 53	U-L-D	0.099 $\times$ 0.089 (2.51 $\times$ 2.25)	N/A
V	80 $\times$ 71	U-L-D	0.134 $\times$ 0.199 (3.40 $\times$ 5.06)	N/A
Ø	variable	U-L-D	variable	N/A

[†]U—Uppercase L—Lowercase D—Descenders

ZT620

Physical Specifications

Parameter	ZT620
Height	15.58 in. (395.68 mm)
Width	13.44 in. (341.45 mm)
Depth	19.88 in. (505.00 mm)
Weight	57.4 lbs. (26 kg)

Media Specifications*

- Media type: continuous, die-cut, notch, hole, or black mark
- Minimum label length:
 - Rewind mode: 0.25 in. (6 mm)
 - Peel mode: 0.5 in. (13 mm)
 - Tear-off mode: 0.7 in. (18 mm)
 - Cutter mode: 1.5 in. (38 mm)
- Media thickness (label and liner):
 - 0.003 in. (0.076 mm) to 0.007 in. (0.18 mm) cutter
 - 0.003 in. (0.076 mm) to 0.012 in. (0.305 mm)
- Maximum media roll size:
 - 8.0 in. (203 mm) outside diameter on a 3 in. (76 mm) inside diameter core
- Transmissive (gap) sensing standards:
 - Interlabel gap: 2–4 mm, preferably 3 mm
 - Sensing notch: 0.25 in. W (6 mm) × 0.12 in. L (3 mm)
 - Sensing hole: 0.125 in. (3 mm) diameter
- Reflective (black mark) sensing standards:
 - Black mark length (parallel to inside media edge): 0.12 in.–0.43 in. (3–11 mm)
 - Black mark width (perpendicular to inside media edge): 0.43 in. (more than 11 mm)
 - Black mark location: within 0.040 in. (1 mm) of inside media edge
 - Black mark density: more than 1.0 Optical Density Units (ODU)
 - Maximum media density: 0.5 ODU
- Media width (label and liner): 2.0 in. (51 mm) to 7.1 in. (180 mm)

Ribbon Specifications

- Standard lengths: 1476 ft. (450 m)
- Provides 3:1 media roll to ribbon ratios
- Maximum ribbon roll size: 3.2 in. (81.3 mm) outside diameter on a 1.0 in. (25.4 mm) inside diameter core
- Ribbon wound coated-side out
- Ribbon width: 2.0 in. (51 mm) to 6.7 in. (170 mm)

Electrical Specifications

- 250 watt rated Universal power supply with power-factor correction 90–265 VAC, 47–63 Hz
- Agency approvals: IEC 60950-1, EN 55022 Class B, EN 55024, EN 61000-3-2, EN 61000-3-3
- Product Markings: cTUVus, CE, FCC-B, ICES- 003, VCCI, C-Tick, NOM, S-Mark(Arg), CCC, GOST-R, BSMI, KCC, STB, and UkrSEPRO

* Media registration and minimum label length are affected by media type and width, ribbon type, and print speed. Performance improves as these factors are optimized. Zebra recommends always qualifying any application with thorough testing.

ZT620 203 DPI

Printing Specifications

- 203 DPI resolution (8 dots/mm)
- Heater Dimension: 0.0043 in. x 0.0052 in. (0.110 mm x 0.132mm)
- First dot location measured from inside media edge: -0.10 in. $\pm$ 0.035 in. (2.5mm $\pm$ 0.9 mm)
- Maximum print width: 6.6 in. (168 mm)
- Maximum non-continuous media print length: 39 in. (991 mm)
- Maximum continuous media print length 80 in. (2032 mm)
- Programmable print speeds (in. per second): 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- Barcode modulus "X" dimension:
 - Picket fence (non-rotated) orientation: 4.9 mil to 49 mil
 - Ladder (rotated) orientation: 4.0 mil to 40 mil

Font Specifications (203 DPI) 8 dot/mm

Font	Matrix (H $\times$ W)	Type [†]	Minimum Character Size (H $\times$ W) in. (mm)	Max CPI
A	9 $\times$ 5	U-L-D	0.044 $\times$ 0.029 (1.1 $\times$ 0.74)	33.9
B	11 $\times$ 7	U	0.054 $\times$ 0.044 (1.37 $\times$ 1.1)	22.6
C, D	18 $\times$ 10	U-L-D	0.088 $\times$ 0.059 (2.2 $\times$ 1.5)	16.9
E	28 $\times$ 15	OCR-B	0.138 $\times$ 0.098 (3.5 $\times$ 2.5)	10.1
F	26 $\times$ 13	U-L-D	0.128 $\times$ 0.079 (3.3 $\times$ 2.0)	12.7
G	60 $\times$ 40	U-L-D	0.295 $\times$ 0.236 (7.5 $\times$ 6.0)	4.2
H	21 $\times$ 13	OCR-A	0.103 $\times$ 0.093 (2.6 $\times$ 2.4)	10.7
GS	24 $\times$ 24	SYMBOL	0.118 $\times$ 0.118 (3.0 $\times$ 3.0)	8.4
P	20 $\times$ 18	U-L-D	0.098 $\times$ 0.089 (2.50 $\times$ 2.25)	N/A
Q	28 $\times$ 24	U-L-D	0.138 $\times$ 0.113 (3.50 $\times$ 3.00)	N/A
R	35 $\times$ 31	U-L-D	0.172 $\times$ 0.153 (4.38 $\times$ 3.88)	N/A
S	40 $\times$ 35	U-L-D	0.197 $\times$ 0.172 (5.00 $\times$ 4.38)	N/A
T	48 $\times$ 42	U-L-D	0.236 $\times$ 0.207 (6.00 $\times$ 5.25)	N/A
U	59 $\times$ 53	U-L-D	0.290 $\times$ 0.261 (7.38 $\times$ 6.63)	N/A
V	80 $\times$ 71	U-L-D	0.394 $\times$ 0.349 (10.0 $\times$ 8.88)	N/A
Ø	variable	U-L-D	variable	N/A

[†]U—Uppercase L—Lowercase D—Descenders

ZT620 300 DPI

Printing Specifications

- 300 DPI resolution (11.8 dots/mm)
- Heater dimension (W × L): 0.0027 in. × 0.0043 in. (0.0697 mm × 0.110 mm)
- First dot location measured from inside media edge:
 - -0.10 in. ±0.035 in. (2.5mm ±0.9 mm)
- Maximum print width: 6.6 in. (168 mm)
- Maximum non-continuous media print length: 39 in. (991 mm)
- Maximum continuous media print length: 80 in. (2032 mm)

Font Specifications (203 DPI) 8 dot/mm

Font	Matrix (H × W)	Type [†]	Minimum Character Size (H × W) in. (mm)	Max CPI
A	9 × 5	U-L-D	0.030 × 0.020 (0.76 × 0.51)	50.0
B	11 × 7	U	0.037 × 0.030 (0.94 × 0.76)	33.3
C, D	18 × 10	U-L-D	0.060 × 0.040 (1.5 × 1.0)	25.0
E	28 × 15	OCR-B	0.137 × 0.087 (3.5 × 2.2)	11.5
F	26 × 13	U-L-D	0.087 × 0.053 (2.2 × 1.3)	18.8
G	60 × 40	U-L-D	0.200 × 0.160 (5.1 × 4.1)	6.3
H	21 × 13	OCR-A	0.100 × 0.093 (2.5 × 2.37)	10.7
GS	24 × 24	SYMBOL	0.080 × 0.080 (2.03 × 2.03)	12.5
P	20 × 18	U-L-D	0.067 × 0.060 (1.69 × 1.52)	N/A
Q	28 × 24	U-L-D	0.093 × 0.080 (2.37 × 2.03)	N/A
R	35 × 31	U-L-D	0.117 × 0.103 (2.96 × 2.62)	N/A
S	40 × 35	U-L-D	0.133 × 0.117 (3.39 × 2.96)	N/A
T	48 × 42	U-L-D	0.160 × 0.140 (4.06 × 3.56)	N/A
U	59 × 53	U-L-D	0.197 × 0.177 (5.00 × 4.49)	N/A
V	80 × 71	U-L-D	0.267 × 0.237 (6.77 × 6.01)	N/A
Ø	variable	U-L-D	variable	N/A

[†]U—Uppercase L—Lowercase D—Descenders

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