



# Alpha-40L RFID Mobile Label Barcode Printer

## Reliable RFID Labeling Solution On-the-Go Enhances Operational Efficiency and Traceability

The Alpha-40L RFID mobile printer complements the prestigious TSC Printronix Auto ID stationary RFID product line, giving resellers and end users coverage for multiple applications across various industries. The Alpha-40L RFID is RAIN UHF compliant, user-friendly, heavy-duty and drop-resistant, supporting next generation smart, RFID-enabled solutions for printing and encoding RFID labels in advanced track and trace applications to boost productivity.

The Alpha-40L RFID supports versatile media types, including standard receipts and labels, as well as encoding RFID labels for a smarter and faster solution, when and where you need them. This innovative mobile RFID printer has an auto-calibration function that is simple and easy to use. Users can start printing and encoding RFID labels without the assistance of complicated user manuals, guides or separate software utilities.

With the Apple-certified MFi Bluetooth® 5.0 connection and 802.11 a/b/g/n/ac Wi-Fi fast roaming features, the Alpha-40L RFID not only provides reliable and seamless communication with users' devices, but also securely prints labels wherever they are needed.

The impressive Alpha-40L RFID mobile printer complements industrial models by providing a more convenient option to print and encode RFID labels anytime, anywhere in challenging environments. The new mobile RFID printer provides a full line of accessories to assist in performing diverse labeling tasks while on the go. A high-capacity smart battery paired with SOTI Connect IoT management tool or TSC Console remote printer management system enables you to work confidently all day, while it continuously monitors battery power consumption and performance.

## Applications

### Retail

- Exception tagging
- In-store tagging
- Mobile workforce remote tagging
- Relabeling of items for online sales

### Healthcare

- Laboratory sample and drug management
- Sterilization and waste management
- Device and asset management, including RTLS

### Transportation & Logistics

- Labeling of shipments without the need for dedicated print stations
- Direct to store or consumer delivery
- Closed-loop airline baggage tracking

### Manufacturing & Construction

- Remote tagging of in-field assets
- On-site personnel identification
- On-site time and attendance

### Food & Beverage

- In-field tagging to ensure correct product information
- In-store tagging of perishable and high-value items
- Tagging of processed/reprocessed items without dedicated print stations

## Key Features

### Performance



- RAIN UHF compliant, encodes based on GS1 EPC Gen2 v2/ ISO 18000-63 standards
- Supports multiple brands of commonly available RFID inlays and chips
- Works with gap or black mark RFID labels on 0.75", 1.0", and 1.5" cores, and labels down to 0.625" in length
- Industry-leading automatic RFID label calibration for easy setup
- Overstrikes RFID labels not encoded successfully

### Rugged Mobility



- IP54-rated for dust and water resistance
- Withstands 1.0 m tumble and 1.8 m drop
- Meets MIL-STD-810G military standards
- Optional protective case withstands 2.5 m drop
- 802.11 a/b/g/n/ac Wi-Fi module for fast roaming and enterprise-grade security
- Apple-certified MFi Bluetooth® 5.0 with NFC tap-to-pair for easy connectivity
- Full line of accessories for hands-free mobility













### Printer Management



- SOTI Connect and TSC Console remote printer management tools
- TSC Sense Care auto scans and detects bad printhead dots and monitors battery life to ensure full shift productivity
- TSC Mobile Utility App for easy troubleshooting
- SDK software packs for quick development

**TSC PRINTRONIX**  
AUTO ID

## Accessories

Alpha-40L RFID	Description	User option
	<b>Protective Case with Shoulder Strap</b> The protective case provides an extra level of protection for harsh environments, especially outdoor use.	✓
	<b>Shoulder Strap</b> Designed to carry the printer directly without a protective case.	✓
	<b>Belt Clip</b> Provides a complete hands-free solution.	✓
	<b>Li-ion Smart Battery</b> The Li-ion smart battery works with TSC Console and SOTI Connect to monitor battery information, charge cycles, and remaining capacity.	✓
	<b>1-Slot Docking Cradle</b> Easily charge the printer without removing the battery.	✓
	<b>4-Slot Docking Cradle</b> Easily charge multiple printers without removing the battery.	✓
	<b>1-Slot Battery Charger</b> Quickly charge the battery without any downtime.	✓
	<b>4-Slot Battery Charger</b> Well-suited for heavy-duty missions.	✓
	<b>12-24VDC Vehicle Power Adaptor</b> Plug and charge using the vehicle power socket	✓
	<b>12-60 VDC Vehicle Power Adaptor</b> Plug and charge using the vehicle power socket	✓
	<b>Battery Eliminator</b> Connect printer directly to vehicle power source with open-ended wire to eliminate the need for a battery. Can be used with vehicle mount adaptor.	✓
	<b>Vehicle Mount Adaptor</b> Easily mount the printer on a forklift.	✓

## Alpha-40L RFID | Data Sheet

Model	Alpha-40L RFID	
Resolution	8 dots/mm (203 dpi)	
Printing method	Direct Thermal	
Max. print speed	Up to 5 ips	
Max. print width	104 mm (4.09")	
Max. print length	2,794 mm (110")	
Enclosure	Plastic with rubber over molded	
Physical dimension (W x H x D)	160 mm x 191 mm x 79 mm (6.30" x 7.52" x 3.11")	
Weight (including battery)	1,025 g (2.26 lbs)	
Drop specification	1.8 m (6 ft), with IP54 case can be 2.5 m (8.2 ft)	
IP rating	IP54 (w/o case, paper path is excluded)	
Max. roll capacity	67 mm OD	
Processor	32-bit RISC CPU	
Memory	<ul style="list-style-type: none"> <li>Standard: 128 MB SDRAM, 128 MB Flash, microSD card reader for Flash memory expansion, up to 32 GB</li> <li>Factory Option: 256 MB SDRAM, 512 MB Flash, microSD card reader for Flash memory expansion, up to 32 GB</li> </ul>	
Interface	Either one selected <ul style="list-style-type: none"> <li>Type C USB 2.0 + MFi Bluetooth® 5.0 + Passive NFC tag</li> <li>Type C USB 2.0 + 802.11 a/b/g/n/ac with Bluetooth® 4.2 + Passive NFC tag</li> </ul> <i>*Type C is for communication only.</i>	
Power	7.4V DC, 6,200 mAh Li-ion rechargeable smart battery	
Operation button	7 buttons (Power, Feed/Pause, Menu, Navigation keys)	
User interface	<ul style="list-style-type: none"> <li>2 LED indicators (battery charging status, printer status)</li> <li>2.3" color LCD display, 320 x 240 pixels</li> </ul>	
Sensors	<ul style="list-style-type: none"> <li>Reflective sensor</li> <li>Transmissive sensor</li> <li>Head open sensor</li> </ul>	
Real time clock	Standard	
Internal fonts	<ul style="list-style-type: none"> <li>8 alpha-numeric bitmap fonts</li> <li>Monotype Imaging® true type font engine with one CG Triumvirate Bold Condensed scalable font</li> </ul>	
Barcode	<ul style="list-style-type: none"> <li>1D barcode Code128UCC, Code128 subsets A \ B \ C, EAN128, Interleaved 2 of 5, Interleaved 2 of 5 with check digit, Standard 2 of 5, Industrial 2 of 5, Code39, Code39 with check digit, Code93, EAN13, EAN8, UPCA, UPCE, EAN and UPC 2 (5) digits add-on, Codabar, Postnet, MSI, MSI with check digit, PLESSEY, China post, ITF14, EAN14, Code11, TELEPEN, TELEPEN number, PLANET, Code49, Deutsche Post Identcode, Deutsche Post Leitcode, LOGMARS</li> <li>2D barcode CODABLOCK F mode, GS1 DataBar, GS1 DataMatrix, Maxicode, AZTEC, PDF417, QR Code, Micro PDF417, TLC39</li> </ul>	
Printer language	Print: TSPL-EZC (EPL2, ZPL2, CPCL), or ESC-POS RFID: TSPL, ZPL2	
RFID	RAIN UHF Passive (GS1 EPC Gen2 v2 / ISO 18000-63) Fixed Position Antenna Minimum Label/Tag Pitch 0.625" (15.9 mm) Counters: Tracks good/overstruck labels/tags	
Media type	Die-cut, black mark, receipt, fan-fold, continuous (outside wound)	
Media width	50.8 ~ 112 mm with liner (2" ~ 4.4")	
Media thickness	0.06 ~ 0.16 mm (0.002" ~ 0.06")	
Media height	15.9 ~ 2,794 mm (0.625" ~ 110")	
Media core diameter	25.4 mm (1") *19.1 mm (0.75") (with adapters included with printer) *38.1 mm (1.5") (with adapters included with printer)	
Environment condition	<ul style="list-style-type: none"> <li>Operation: -20 ~ 50 °C (-4 ~ 122 °F), 10 ~ 90% non-condensing</li> <li>Storage: -30 ~ 70 °C (-22 ~ 158 °F), 10 ~ 90% non-condensing</li> <li>Charging: 0 ~ 40 °C (32 ~ 104 °F), 10 ~ 90% non-condensing</li> </ul>	
Accessories	<ul style="list-style-type: none"> <li>Quick start guide</li> <li>Belt clip</li> <li>Media core adapters</li> <li>Li-ion battery</li> <li>Power adapter</li> </ul>	
Limited warranty	<ul style="list-style-type: none"> <li>Printer: 2 years</li> <li>Print head: 25 km (1 million inches) or 12 months which comes first</li> <li>Platen: 50 km (2 million inches) or 12 months which comes first</li> <li>Battery: 1 year</li> </ul>	
Factory options	<ul style="list-style-type: none"> <li>Media sensor position (default center, right, or left side)</li> </ul>	
User options	<div> <ul style="list-style-type: none"> <li>Type C USB 2.0 cable</li> <li>IP54-rated environmental case with shoulder strap</li> <li>Shoulder strap</li> <li>Li-ion smart battery</li> <li>1-slot docking cradle</li> <li>4-slot docking cradle</li> </ul> </div> <div> <ul style="list-style-type: none"> <li>1-slot battery charger</li> <li>4-slot battery charger</li> <li>12-24VDC vehicle power adaptor</li> <li>12-60VDC vehicle power adaptor</li> <li>12-48VDC power source with battery eliminator</li> <li>Vehicle mount adapter can be used with RAM® MOUNTS</li> </ul> </div>	

\* Product models and specifications are subject to change without notice.



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