

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 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 802.11a/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.

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 1.0m tumble and 1.8m drop
- Meets MIL-STD-810G military standards
- Optional protective case withstands 2.5m drop
- 802.11a/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 unhealthy printhead dots and monitors battery life to ensure full shift productivity
- TSC Mobile Utility App for easy troubleshooting
- SDK software packs for quick development

Applications

Retail

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

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

Healthcare

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

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



Alpha-40L RFID Accessories

Alpha-40L RFID	Description	User Option
	Protective Case with Shoulder Strap The protective case enhances the extra level of protection for harsh environment especially for the outdoor usage.	V
	Shoulder Strap Designed for carrying the printer directly without a protective case.	V
	Belt Clip Use the belt clip for a complete hands-free solution.	V
	Li-ion Smart Battery The Li-ion smart battery works with TSC Console and SOTI Connect to monitor battery information, charge cycles, and remaining capacity.	V
	1-Slot Docking Cradle Easily charge the printer without removing the battery.	V
	4-Slot Docking Cradle Easily charge multiple printers without removing the battery.	V
	1-Slot Battery Charger Use the 1-slot charger to quickly charge the battery without any downtime.	V
	4-Slot Battery Charger The 4-slot charger is well-suited for heavy-duty missions.	V
	12-24V DC Vehicle Power Adaptor For automobile vehicle plug to charge on the car	V
	12-60V DC Vehicle Power Adaptor For automobile vehicle plug to charge on the car	V
	12-60V DC Vehicle Open End Power Adaptor For charging on the car with open-ended wire	V
	12-48V DC Power Source with Battery Eliminator Connect printer and vehicle power source directly by open-ended wire without using battery. It can be used with vehicle mount adaptor.	V
	12-48V Wire to Wire Battery Eliminator with Power Supply Powers the printers directly from a forklift or vehicle, eliminating the need for batteries. It offers quick, tool-free removal and replacement of the dummy battery pack.	V
	Wire to Wire Dummy Battery Pack Designed to work exclusively with the 12-48V Wire to Wire Battery Eliminator with Power Supply, it eliminates the need for batteries.	V
	Vehicle Mount Adaptor Easily mount the printer on a forklift	V
	Quick Release Vehicle Mount Kit Provides an easy and secure printer mounting solution that combines the convenience of mounting with a quick release for optimal functionality on a forklift.	V
	External Fanfold Media Holder with Expansion Kit Tailored for external media applications, ideal for heavy-duty external media use.	V
	External Fanfold Media Holder with Quick Release Vehicle Mount Kit Crafted for optimal external media management and quick-release features, it enhances overall usability.	V

Alpha-40L RFID Specifications

Model	Alpha-40L RFID	
Resolution	8 dots/mm (203 dpi)	
Printing Method	Direct Thermal	
Max. Print Speed	Up to 127mm(5")/second	
Max. Print Width	104mm(4.09")	
Max. Print Length	2,794mm(110")	
Enclosure	Plastic with rubber over molded	
Physical Dimension	160mm(W)x191mm(H)x79mm(D) 6.30"(W)x7.52"(H)x3.11"(D)	
Weight (Including Battery)	1,025g (2.26lbs)	
Drop Specification	1.8m (6ft), with protective case can be 2.5m (8.2ft)	
IP Rating	IP54 (without case, paper path is excluded)	
Max. Roll Capacity	67mm (2.64") OD	
Processor	32-bit RISC CPU	
Memory	Standard: 128 MB SDRAM, 128 MB Flash, microSD card reader for Flash memory expansion, up to 32 GB Factory Option: 256 MB SDRAM, 512 MB Flash, microSD card reader for Flash memory expansion, up to 32 GB	
Interface	Either one selected • Type C USB 2.0 + MFi Bluetooth 5.0 + Passive NFC tag • Type C USB 2.0 + 802.11 a/b/g/n/ac with Bluetooth 5.0 + Passive NFC tag * Type C is for communication only	
Power	7.4V DC, 6,200mAh Li-ion rechargeable smart battery	
Operation Switch, Button	7 buttons (Power, Feed/Pause, Menu, Navigation keys)	
User Interface	• 2 LED indicators (battery charging status, printer status), • 2.3" color LCD display, 320 x 240 pixels	
Sensors	• Reflective sensor • Transmissive sensor • Head open sensor	
Real Time Clock	Standard	
Internal Fonts	• 8 alpha-numeric bitmap fonts • Monotype Imaging® true type font engine with one CG Triumvirate Bold Condensed scalable font	
Barcode	• 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 • 2D barcode CODABLOCK F mode, GS1 DataBar, GS1 DataMatrix, Maxicode, AZTEC, PDF417, QR Code, Micro PDF417, TLC39	
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" (15.9mm) Counters: Tracks good/overstruck labels/tags	
Media Type	Die-cut, black mark, receipt, fan-fold, continuous (outside wound)	
Media Width	50.8mm - 112mm (2" - 4.4") with liner	
Media Thickness	0.06mm - 0.16mm (0.002" - 0.06")	
Media Height	15.9mm - 2,794mm (0.625" - 110")	
Media Core Diameter	25.4mm (1") *19.1mm (0.75") (with adaptors included with printer) *38.1mm (1.5") (with adaptors included with printer)	
Environment Condition	Operation: -20 °C - 50 °C (-4 °F - 122 °F), 10% - 90% non-condensing Storage: -30 °C - 70 °C (-22 °F - 158 °F), 10% - 90% non-condensing Charging: 0 °C - 40 °C (32 °F - 104 °F), 10% - 90% non-condensing	
Environmental Concern	Comply with RoHS, WEEE, REACH, China RoHS	
Accessories	• Quick start guide • Belt clip • Media core adaptors • Li-ion battery • Power adaptor	
Limited Warranty	• Printer: 2 years • Print head: 25km (1 million inches) or 12 months which comes first • Platen: 50km (2 million inches) or 12 months which comes first • Battery: 1 year	
Factory Options	Media sensor position (default center, right, or left side)	
User Options	• Type C USB 2.0 cable • Protective case with shoulder strap • Shoulder strap • Li-ion smart battery • 1-slot docking cradle • 4-slot docking cradle • 1-slot battery charger • 4-slot battery charger • 12-24V DC vehicle power adaptor • 12-60V DC vehicle power adaptor • 12-60V DC vehicle open end power supply • 12-48V DC power source with battery eliminator • 12-48V wire to wire battery eliminator with power supply • Wire to wire dummy battery pack • Vehicle mount adaptor can be used with RAM® MOUNTS • Quick release vehicle mount kit • External fanfold media holder with expansion kit • External fanfold media holder with quick release vehicle mount kit	



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