TSC | REV UP SAVINGS

Automotive Solutions Guide

Stronger Together

Solutions to Automotive Challenges
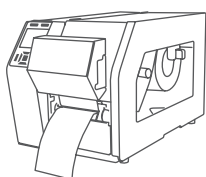
TSC Solution: Barcode Quality

Consequences for barcode failures in the automotive supply chain include carrier loss, chargebacks, automation errors, and product rework. The good news is that most of these concerns can be mitigated by employing a barcode inspection system using 100% verification. Our exclusive ODV barcode inspection technology easily validates and verifies barcode labels. Built on the robust T8000 and T6000e printer platforms, ODV-2D grades barcodes to ISO standards and stores a detailed report of each transaction. Our exclusive technology reads each barcode, overstrikes the entire label of a rejected barcode, and reprints a new label automatically.

TSC Solution: Part Traceability

Traceability programs continue to save lives and limit costs associated with recalls and mistakes in the automotive industry. Downstream and upstream traceability requires standard identification and unique part marking to capture supply chain data in real time. This data is often tied directly to test measurements and workstation parameters within production planning systems to confirm quality for just-in-time manufacturing and assembly. Traceability can require fitting more data into tighter spaces which has become easier with TSC Auto ID's 600 dpi printheads that support high-resolution, high-capacity 2D symbologies like data matrix.

TSC Solution: Minimize Logistics Costs

Managing inventory levels in warehouses has become a favorite pastime for operations managers looking to optimize and control overhead costs, but they are big places and movement and motion in these facilities is expensive. With mobile printing solutions, there is no need for employees to spend valuable time retrieving labels and documentation from centralized printers. With the ability to print when and where they need it, employees can accomplish more in less time. One of the best ways to reduce shipping errors is to print labels at the point of application rather than from a central location. Our TSC Auto ID Alpha-30L and Alpha-40L mobile printers come equipped with a pretty flexible platform of options for connecting or mounting the mobile printers to a forklift or vehicle.
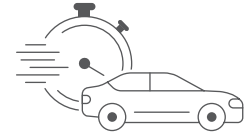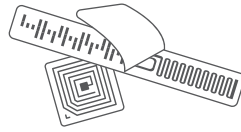
Barcode Verification
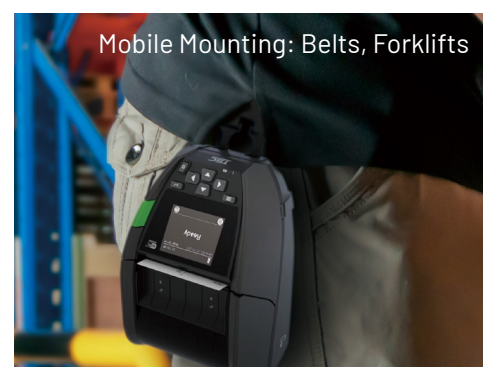
Mobile Mounting: Belts, Forklifts

Solutions to Your Supply Chain, Traceability, & Automation Challenges

MINIMIZE
Downtime

MAXIMIZE
Efficiency

REDUCE
Chargebacks

STOP
Compliance Fees

TSC Solution: RFID tags for Automotive

RFID has become a trusted industrial standard in automotive manufacturing owing to improvements in tagging costs, standards in encoding and formatting, and improvements in read range performance for demanding applications. Beyond becoming the best practice for managing lifecycles for components like tires, RFID is also digitizing configurations, kitting, traceability, and logistics. TSC Auto ID is enabling these applications with our award-winning RFID print and encode platform. We offer hard-to-find features including 4 and 6-inch print widths, the ability to print on standard RFID labels and on-metal tags, a 600 dpi version for the smallest labels and the most accurate calibration in the industry.

TSC Solution: Automation for Auto

Automation continues to drive cost and quality improvements in automotive manufacturing. You can also automate your labeling. The TSC PEX Series print engines produces barcode labels at fast print speeds allowing for labeling in record time. The mechanism is designed to fit easily in any print and apply system thanks to its fully compatible structure and GPIO interface. We work with dozens of ISV and integrators with the most print language compatibility of any manufacturer. PEX print engines are ideal for automotive manufacturing and logistic applications where high-speed and high-demand label printing is required to keep up with production and industry regulations and is configurable for automated RFID applications.

Automated RFID tagging
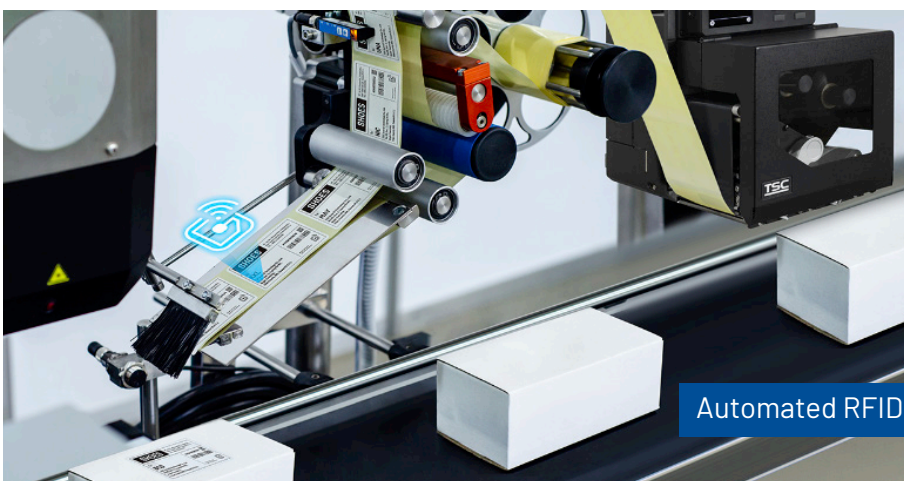
T6000e
Enterprise-Level Industrial Printer

The T6000e RFID printer is designed for high-volume RFID label applications of up to 10,000 labels per day. The printer includes an internal and external antenna giving it the flexibility to support a wide range of RFID applications including on-metal and standard RFID labels. This versatile series is available in 4-inch and 6-inch print widths with 203/300/600 dpi print resolution and includes a full suite of communication options.

T6000e
RFID Journal's Top 10 Products of 2020

RFID System	**Encoding** – RAIN / UHF **Standard** – GS1 EPC Gen2 v2 / ISO 18000-63 **Antenna** – Internal adjustable & external fixed **Printer Languages** – PGL, ZGL, STGL, MGL
RFID Labels	**Types** – Standard / On-Metal / Other **On-Metal Tags** – Thickness up to 0.088" (2.2mm) **Label Pitch** – Down to 0.625" (16mm) **RFID Label Calibration** – Automatic
Chip (IC) / Inlays	**Chips** – Includes Alien, Asygn, Axzon, EM Micro, Fudan, Impinj, Kiloway, NXP, Tego **Inlays** – Check our RFID Solution webpage for the latest list of supported chips and inlays
RFID Data Validation	**Encoding Failures** – Full / Partial Label Overstrike (Depends on label length) **RFID Label Counter** – Tracks good/bad labels
Print Resolution	203dpi, 300dpi, 600dpi
Max Print Speed	4" 14ips@203dpi, 12ips@300dpi, 6ips@ 600dpi 6" 12ips@203dpi, 10ips@300dpi
Max Print Width	4.1", 6.55"
Media Handling	Tear, Cutter, Peel/Rewind*, Batch/Rewind*
Interfaces	**Standard** – Ethernet, USB Host/Device, Serial **Optional** – 802.11 a/b/g/n/ac, Parallel, GPIO

T8000
Industrial Printer with Barcode Verification

With unmatched reliability and durability in demanding industrial applications, the T8000 is easy to use, and 100% verifiable output, the workhorse printer designed to keep printing in tough environments where other printers can't survive. The ODV-2D installs on either the T8000 or T6000e printers and is the first system that grades barcodes to ISO 15415, 15416 and 15426 standards and stores a detailed report of each transaction.

Barcode Support	**1D** – Code 39, Code 93, Code 128, UPC/EAN (and supplements), I 2/5 **2D** – Datamatrix (Square, Rectangle), PDF 417, QR	
OCV / Blemish Detect / Pattern Match / Duplicate Check	Using Perceptor PTXL	
Printer Footprint (L / W / H)	22" x 11.7" x 13"	24" x 13.4" x 14.5"
Print Resolution	203dpi, 300dpi	
Max Print Speed	8ips@203dpi / 300dpi	
Max Print Width	4.1"	6.5"
Media Handling	Tear, Peel, Cutter	Tear, Peel
Regulatory compliances	**Emissions** – FCC, CE, CCC **Safety** – cTUVus, CE, EAC, SABS, RCM, CCC, KC, S-MARK, NOM **Environmental** – RoHS, WEEE, Energy Star 3.0	
Interfaces	**Standard** – Serial RS232, USB, and Ethernet 10/100Base T **Optional** – Wi-Fi802.11a/b/g/n/ac, GPIO, Parallel	

PEX-2000
Enterprise-Level Print Engin

The PEX-2000 Print Engine seamlessly combines high-performance RFID encoding with exceptional reliability in a compact design for automating item level RFID tagging. With a rich legacy, it effortlessly incorporates into any print and apply system, providing a comprehensive solution.

RFID System	**Encoding** – RAIN / UHF **Standard** – GS1 EPC Gen2 v2 / ISO 18000-63 **Antenna** – Internal fixed **Printer Languages** – PGL, ZGL, STGL, MGL	
RFID Labels	**Label / Tags** – Standard **Label Pitch** – Down to 0.625" (16mm) **RFID Label Calibration** – Automatic	
Chip (IC) / Inlays	**Chips** – Includes Alien, Asygn, Axzon, EM Micro, Fudan, Impinj, Kiloway, NXP, Tego **Inlays** – Check our RFID Solution webpage for the latest list of supported chips and inlays	
RFID Data Validation	**Encoding Failures** – Full / Partial Label Overstrike (Depends on label length) **RFID Label Counter** – Tracks good/bad labels	
Print Resolution	203dpi, 300dpi, 600dpi	203dpi, 300dpi
Max Print Speed	8ips@203dpi / 6ips@300dpi / 6ips@600 dpi	14ips@203dpi / 12ips@300dpi
Max Print Width	4.1"	6.61
Media Handling	Peel, Cutter	
Interfaces	**Standard** – Ethernet, USB Host/Device, Serial **Optional** – 802.11 a/b/g/n/ac, MFI Bluetooth 5.0	

Alpha-40L RFID
Enterprise Mobile Printer

Complementing the stationary printers, the Alpha-40L brings mobility to your print/encode RFID labeling applications. Designed to support up to 1,000 labels per day, the Alpha-40L is ideal for lower volume on-demand RFID labeling applications where the convenience of printing/encoding at the point of need is essential.

RFID System	**Encoding** – RAIN / UHF **Standard** – GS1 EPC Gen2 v2 / ISO 18000-63 **Antenna** – Fixed position **Printer Languages** – TSPL, ZPL
RFID Labels	**Label / Tags** – Standard **Label Pitch** – Down to 0.625" (16mm) **RFID Label Calibration** – Automatic
Chip (IC) / Inlays	**Chips** – Includes Alien, Asygn, Axzon, EM Micro, Fudan, Impinj, Kiloway, NXP, Tego **Inlays** – Check our RFID Solution webpage for the latest list of supported chips and inlays
RFID Data Validation	**Encoding Failures** – Full / Partial Label Overstrike (Depends on label length) **RFID Label Counter** – Tracks good/bad labels
Print Resolution	203dpi
Max Print Speed	5ips
Max Print Width	4.1"
Media Handling	Tear
Interfaces	**Standard** – USB-C with either Wi-Fi 802.11 a/b/g/n/ac or MFi Bluetooth 5.0

*Four-inch, internal antenna only
** Performance may be limited depending on label construction

Benefits to TSC Enterprise Solutions

Maximize Productivity

TSC Auto ID coined the metric mean-time-between-failures (MTBF). With MTBFs measured in years, our mission is to maximize asset up-time and your productivity. Advanced engineering, all-metal construction, high-capacity ribbons, and smarts make for a 24/7 asset that keeps pace with your operation.

Interoperability that Scales

Our emulation library includes all major printer languages, Postscript, PDF, IPDS, and legacy data streams to ensure seamless plug-and-play integration into your ERP system or environment whether it's home-built or supported by 3rd parties. Our printers support the widest array of label and ribbon combinations with the broadest allowable specs for label dimensions, label accuracy, thicknesses, and materials.

Lowest Cost of Ownership

Our ODV-2D systems for thermal printers are designed to provide 100% automated label inspection and barcode verification including overstriking and reprinting bad barcodes without intervention from the operator. We control chart your printers' performance over time alerting the need to perform cleaning or routine maintenance that improves productivity, eliminates chargebacks, and saves you time and money.

Most Advanced RFID encoding

RFID encodings for the Automotive industry often utilize specific ISO standards which require "6-bit encoding." TSC Auto ID is the only RFID printer manufacturer with native support for 6-bit encodings. This native support eliminates the extra step of converting users' everyday data into another data format, such as hexadecimal.

Shortest Deployment & Down Times

TSC Auto ID offers quick-change memory cartridges to support rapid deployments. Functioning like a "SIM" card for a phone, once inserted, a printer immediately takes on all configurational information, essential files and fonts, IP and MAC addresses, and security protocols to get your production line back on track slashing deployment and upgrade times in your facility.

World-class Training and Support

TSC Auto ID has dedicated resources to engineer, coordinate, and deliver for our automotive customers. Our experienced staff of field engineers ready to support and solve the most challenging automotive applications, and high trained technicians are ready to help with configurations and answer your printing/IT questions

OEM Genuine Supplies

TSC

CORPORATE HEADQUARTERS
TSC Auto ID Technology Co., Ltd.
Tel: +886 2 2218 6789
E-mail: apac_sales@tscprinters.com

ASIA PACIFIC
TSC Auto ID Technology Co., Ltd.
Tel: +886 2 2218 6789
E-mail: apac_sales@tscprinters.com

EMEA
TSC Auto ID Technology EMEA GmbH
Tel: +49 (0) 8106 37979 000
E-mail: emea_sales@tscprinters.com

AMERICAS
TSC Auto ID Technology America Inc.
Tel: +1 657 258 0808
E-mail: americas_sales@tscprinters.com

LI ZE PLANT
TSC Auto ID Technology Co., Ltd.
Tel: +886 3 990 6677
E-mail: apac_sales@tscprinters.com

KOREA
TSC Korea Representative Office
Tel: +82 2 852 3322
E-mail: apac_sales@tscprinters.com

RUSSIA
TSC Auto ID Technology EMEA GmbH
Tel: +7 495 646 3538
E-mail: emea_sales@tscprinters.com

MEXICO
TSC Mexico Representative Office
Tel: +1 52 (33) 3673 1406
E-mail: americas_sales@tscprinters.com

CHINA
Tianjin TSC Auto ID Technology Co., Ltd.
Tel: +86 22 5981 6661
E-mail: apac_sales@tscprinters.com

INDIA
TSC India Representative Office
Tel: +91 2249 679 315
E-mail: apac_sales@tscprinters.com

MIDDLE EAST
TSC Auto ID Technology ME Ltd, FZE
Tel: +971 4 2533 069
E-mail: emea_sales@tscprinters.com

BRAZIL
TSC Brazil Representative Office
Tel: +55 (11) 3554 7225
E-mail: americas_sales@tscprinters.com

20240614