



# The Smarter Choice

TSC barcode label printer  
Solution Brochure: Manufacturing



TSC aims to enhance your company's success



TSC aims to enhance your company's success

02\_03

■  
**About TSC**

A Top-5 global barcode printer manufacturer

04\_05

■  
**Corporate philosophy and product advantages**

The Smarter Choice



# Contents

06\_07

■  
**Workflow automation, error-free operation**

Smooth factory operation with more stable production capacity

08\_09

■  
**Boost efficiency with automated production lines**

Increase production line stability, efficiency, and lower personnel costs.

10\_11

■  
**No more breakdowns in production! Control quality with traceability**

In both the office and on the factory floor, easily manage the flow of products and information with the use of barcodes.

12\_13

■  
**Successful supply chain management is no longer a dream**

Manage inventory effectively with barcodes.

14\_15

■  
**Eliminates safety concerns in one simple step, and supports pallet and specifications label printing**

One label to offer both warning signs and provide tracking management for materials.

16\_17

■  
**Success story**

18\_19

■  
**Product Overview & Recommendation**

20

■  
**Global location**

# TSC

## A Top-5 global barcode printer manufacturer

Trusted by customers around the world. More than 3 million units sold



All it takes to simplify your processes, make significant savings on manpower, and improve the accuracy of inventory management, production and distribution, is a simple barcode label. These are just a few of the advantages of utilizing automatic identification products.

TSC thermal printer division of Taiwan Semiconductor Co., Ltd. was set up in 1991 for OEM partnership with Eltron. Fair prices, excellent durability, high quality, and dedicated professional support services have given Taiwan Semiconductor a market advantage that has attracted international attention and patronage. The company continued to improve its operations, products and services to meet customer needs as well as strengthen its position in the automatic identification market. TSC started to sell its products in North America and Europe, and then expanded to include Africa and the Pacific Rim economies to build a client base that spans the Globe.

As the thermal printer division grew globally, Taiwan Semiconductor decided to maximize long-term competitiveness and future business development. The thermal printer division became an independent entity under the name of TSC Auto ID Technology Co., Ltd. in 2007, which focuses solely on the manufacture and sales of barcode label printers and became an over-the-counter-listed company in November 26th 2008.

In January 2016, TSC finished the acquisition of the US barcode printer division of Printronix Inc. With this acquisition, TSC became one of the top-5 global barcode printer brands. This acquisition incorporated 40 years of Printronix experience in the barcode printing industry into TSC and will enable the development of even more innovative products. Together, TSC's increased sales and service network around the globe will allow TSC to be more reactive to customer needs. Combining both companies mark a giant milestone in the path toward the goal of becoming the world's number one all-round, supplier of automatic identification solutions.

# Corporate philosophy and product advantages



## The Smarter Choice

High performance barcode and label printers at a fair price

Changes in global industry have made automatic identification systems almost mandatory. Customer requirements have become increasingly demanding in terms of specifications, features, quality, costs and services. Any one of these details can be the key to success of a product. How accurately and quickly a company can grasp the market trend and respond to the needs of customers is often what determines marketplace success.

TSC believes that excellent quality and dedicated services are vital to ensure brand loyalty. At TSC, we not only have a professional technical team, but we also pay close attention to the needs of our customers around the world, particularly with respect to the development of new products.

TSC is a Taiwanese brand, dedicated to the highest standards in terms of design, user-friendliness, stability and durability. We have supplied more than 3 million label printers to the automatic identification market—a testimony to the world-class quality of our products. The TSC business philosophy encompasses innovation, professionalism, and dedication to build a brand and quality customers can trust.

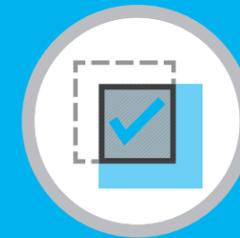
TSC engineers focus on system integration and product applications to ensure that all of our barcode printers can achieve a seamless match with existing customer systems, without any need for changes in factory equipment or processes. This "trouble-free replacement" helps to streamline processes, reduce the error rate, improve production efficiency, lower production costs, and even improve quality. Our clients tell us that not only is TSC on par with or better than other international brand manufacturers in terms of quality, but most importantly our products are highly firmware-compatible. Switching to TSC from another brand requires minimal setup. Our longstanding experience in all vertical market applications, flexible customized services, and the reliability of our products together form the core of TSC competitiveness and success.

We do everything it takes to fulfill the TSC brand promise every day with our smart products and excellent customer service.

If you are looking for a high quality, durable, and compatible barcode printer at a reasonable price, one which can easily be integrated into your current system and comes with great after-sales services, then TSC is the obvious choice.



Our R&D team responds to market trends with the development of new product functions and work to ensure compatibility to satisfy the needs of the market.



Product customization and integration and trouble-free replacement ensures smooth system installation.

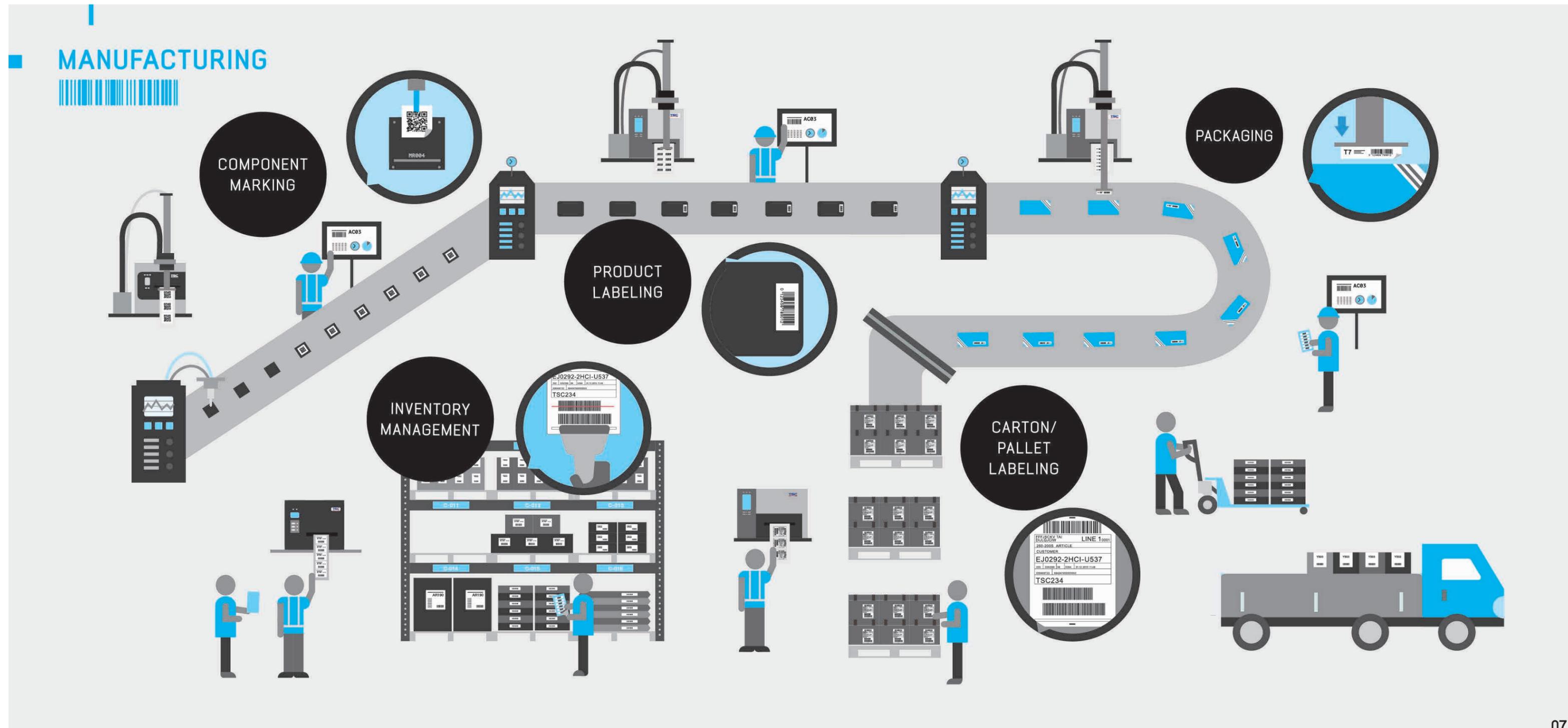


Every printer is given two 100% inspections to ensure perfect quality and reliability.



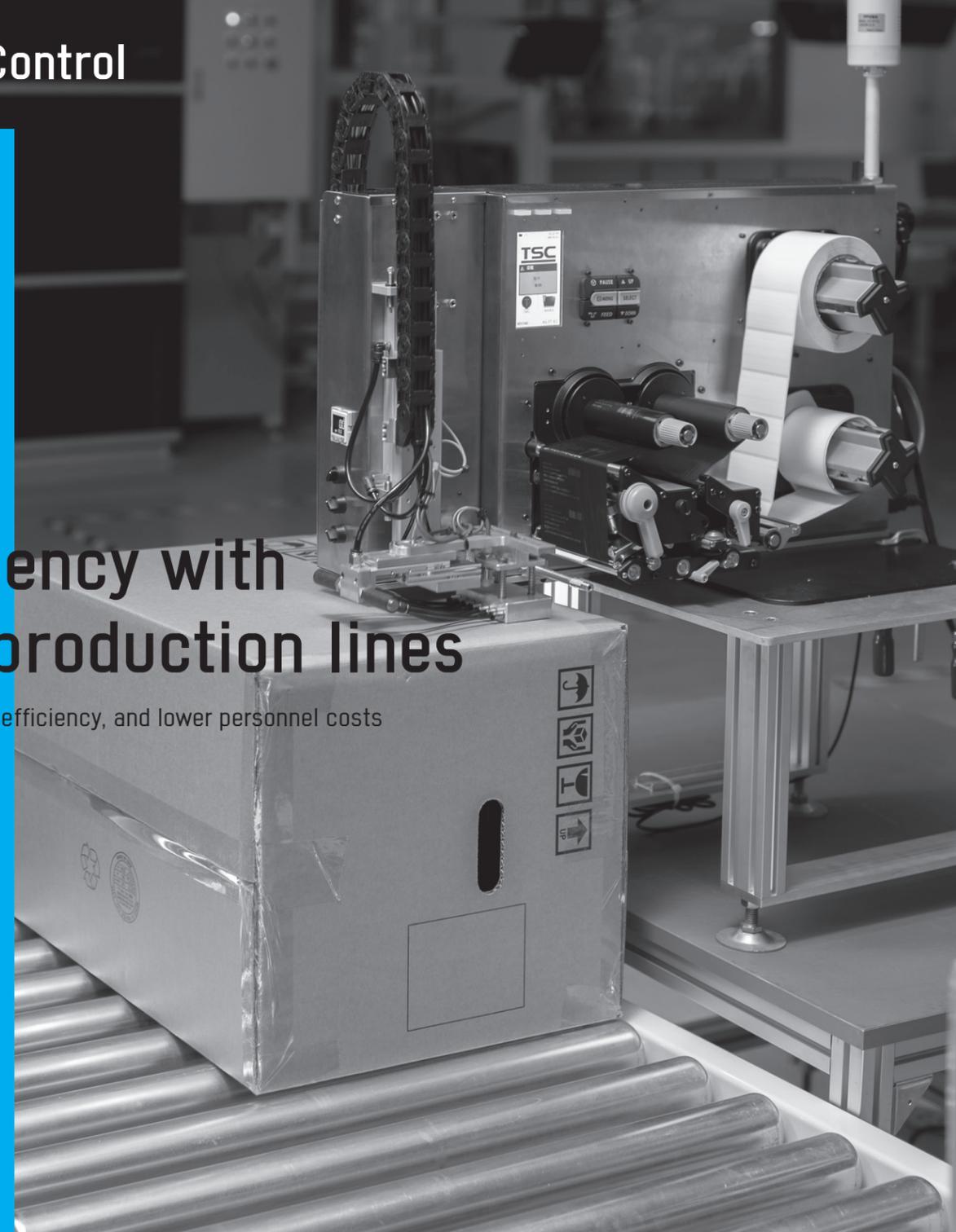
# Workflow Automation Error-free operation

Smooth factory operation with more stable  
production capacity



## Boost efficiency with automated production lines

Increase production line stability, efficiency, and lower personnel costs



Model\_ MX240P Series



### Key Features

- Heavy duty die-cast aluminum design that is built to handle high-volume demand cycles
- 4.3" color LCD includes new UI design with 6-button menus and touch panel for more user friendly operation
- Ribbon and media capacity monitor widget helps detect supply levels
- Auto TPH resolution switch detection
- Available in 203 dpi, 300 dpi and 600 dpi resolutions which makes it ideal for printing very small 2D barcodes, graphics, fine print and other ultra-high-resolution images
- TSPL-EZ™ firmware for plug-n-play ease and includes Eltron® and Zebra® language support

For the proper management of semi-manufactured goods, the challenge for manufacturers is to protect goods from damages, deterioration, misplacements, or losses. One of the variable factors in controlling production is human error. The effects of "human error" on daily operations can vary widely depending on the physiological and psychological conditions of the operators. Using automated equipment that can operate 24 hours a day without fault would help minimize or even eliminate this issue.

Repetitive tasks can cause operators to lose focus and experience fatigue during production. Efficiency and quality are both compromised as a result of human limitations. In addition to the human factor effecting production, different products are demanding increasingly complex operating methods, which can result in lower efficiency and higher error rates. Enterprises must also contend with the rising cost of operator wages and benefits, which would inevitably incur higher labor costs. While the above problems may seem like somewhat minor concerns, all together they can and have been known to cause businesses to fail.

This is precisely why many enterprises with production lines of highly repetitive and continuous tasks have chosen TSC. Through installing TSC label printer to automatic labeling system, you can program-control the printers, set the labeling methods in advance, and send the signals to the GPIO, and the system will instantly begin the automated process of labeling with great precision. The system can be easily adjusted for your needs depending on different operational facilities and the conditions of the environment, such as for small operating spaces. TSC effortlessly combines reliability, quality, and compatibility to produce a system that will work in any environment.

TSC places great emphasis on user-experience and comprehensive integration. We design our products to help users increase productivity, lower error rates, and lower costs of unnecessary expenditures. This is why TSC is the first choice for semiconductor manufacturers, other digital and electronic goods manufacturers, even manufacturers of cosmetic products, pharmaceutical products, processed foods, and many other markets! Seamless integration, software compatibility, and product reliability are a few of the advantages that have allowed TSC products to earn the trust and adoration of clients from all over the world.

### Recommended Products: MX240P Series

Designed especially for production lines, the highly efficient flagship industrial MX240P series of models feature a tough and sturdy design with easy and intuitive touch-panel controls. With built in 536 MHz high speed processor, it makes fast and accurate calculations, boosting print quality and efficiency. The MX240P can hold up to a ribbon maximum length of 600 m reducing the need to change ribbons as frequently as well as production downtime. The MX240P series is easy to use and highly efficient, perfect for 24 hours high volume labeling demands.

Product specifications please refer to page 18 and 19.

## No more breakdowns in production! Control quality with traceability

In both the office and on the factory floor, easily manage the flow of products and information with the use of barcodes



Model\_ TTP-2410MT Series

### Recommended Products: TTP-2410MT Series

The TTP-2410MT series is the smarter choice for high quality product labels. With the "Thermal Smart Control" print head control technology, no matter how many items you need printed, the print head will always be uniformly heated, providing precise and high quality barcodes. The TTP-2410MT series printers can hold up to a 600 m ribbon supply, eliminating the need to manually change ribbons frequently, resulting in a much smoother printing process.

### Key Features

- Heavy duty die-cast aluminum design that is built to handle high-volume demand cycles
- 4.3" color LCD includes new UI design with 6-button menus and touch panel for more user friendly operation
- Ribbon capacity monitor widget helps detect supply levels
- Auto TPH resolution switch detection
- Available in 203 dpi, 300 dpi and 600 dpi resolutions which makes it ideal for printing very small 2D barcodes, graphics, fine print and other ultra-high-resolution images
- TSPL-EZ™ firmware for plug-n-play ease and includes Eltron® and Zebra® language support

In the past it took a lot of personnel to log and record semi-manufactured goods and products into databases, or to enter them into digital systems. This process not only took large amounts of human resources, but was also prone to errors. Production and sales activities have become more complex and diverse than ever before. In order to gain a competitive advantage in an ever-evolving environment, production quality has to be efficient and without error.

TSC has developed the solution for your product management challenges. The solution is as simple as using a barcode label. By using a barcode label, you have access to all the information you need. Barcodes can store information about the product, prices, and stock levels. By scanning the barcode and sending the information to a centralized computer system, you get information in real time.

## IDs for your goods!

Manufacturers usually set up barcode labelers on the workstations on the factory floor. Then, as the raw materials are processed into semi-manufactured goods, they are promptly labeled for their different purposes. When made into the final products, the barcodes can provide a comprehensive inventory status, complete with all the categories and total stock numbers. As data is continually being transmitted to update the system at headquarters, you will have the information on every single semi-manufactured good or final product, such as its location or status, at your fingertips, combining both production and sales data into one simple database.

Using a TSC label printer to install an automatic labeling system allows you to enjoy the benefits of higher quality products. As the main database at headquarters is updated in real time, employees and operators will pay more attention to their respective tasks, and be held accountable for the confirmation of product specifications, weight, and quality.

The system also allows users to easily trace products. If consumers ever have doubts about the quality of a product, you can trace its production process through the barcode and find the source of the problem. Not only will this improve internal management, it will also greatly increase consumer confidence and trust in the quality of the product, resulting in higher sales figures.

TSC products will not only assist clients in lowering error rates and costs, but also in increasing efficiency and productivity. More importantly, it is highly compatible with any product and can be easily integrated into a production line. We also provide clients with speedy customer service and assistance, another reason why so many have chosen to partner with us!

Product specifications please refer to page 18 and 19.

## Successful supply chain management is no longer a dream

Manage inventory effectively with barcodes



Model\_ ME240 Series

Model\_ Alpha-4L

### ME240 Series Key Features

- Die-cast print mechanism, ideal for KIOSK system or customized solutions for packaging, product marking and other applications
- Available in 203 dpi and 300 dpi resolutions
- 2-button 3-LED (basic model)/6-button LCD control panel (advanced model)
- TSPL-EZ™ firmware for plug-n-play ease

### Alpha-4L Key Features

- Rugged and reliable mobile printing delivers your labels wherever you need
- Fast print speeds of up to 102 mm (4") per second
- High capacity 5800 mAh rechargeable Li-ion batteries
- Linerless ready
- Plastic design with rubber over-mold construction that withstands 1.5 m (5 ft) drop and endure 1.8 m (6 ft) drop with its protective case
- IP54-rated protective case to resist dust and water (use option)

There's a common saying in the manufacturing industry: "Inventory is a necessary evil". Without proper inventory management, manufacturers may run into shortages of materials, causing the whole production line to grind to a halt, delaying shipments and cutting deeply into revenues. On the other hand, having too much inventory adds to storage and insurance costs on top of effecting profit margins and working capital. This is especially true for products with a short life cycle such as digital goods, and even more so for perishable goods such as food products. Thus, many have been asking the same question: is it possible to make inventory management more efficient?

## Easily monitor current levels of inventory

With comprehensive system integrators and services, TSC has the perfect answer for you! It all begins with production planning and scheduling purchasing.

After laying down production plans and purchase schedules, manufacturers can use a TSC label printer to generate labels with product specifications, product numbers, purchasers, purchasing times. Information can then be logged and any further inventory management activities, such as material inspection or warehouse storage, can be assisted by a barcode scanner. Not

only will this simplify the processes of purchasing and database management, it can also calculate purchasing costs with high precision, lowering the chance for human errors.

Since inventory and material are properly labeled prior to shipping, the need for shipment and inventory verification is reduced drastically. Through the use of barcode labels, the rate of errors decreases while simultaneously making material management more accurate. By using real time information, the company can keep inventory at a constant level, eliminating the problems of material shortages or insufficient storage space. It allows you to accurately manage inventory, fully implement a "First In First Out" system, and lessen the problems of overstocking.

### Recommended Products: ME240 Series, Alpha-4L

From attaining materials to shipping out products, the labeling and warehouse management system can accurately detect and record the changes in inventory. To account for the needs of warehouse managers who are constantly on the move, the smaller ME240 introductory model series or the portable Alpha-4L of models are both good options, and are integral components to optimizing inventory management.

Product specifications please refer to page 18 and 19.

## Eliminates safety concerns in one simple step, and supports pallet and specifications label printing

One label to offer both warning signs and provide tracking management for materials



Model\_ TTP-2610MT Series TTP-286MT Series

### TTP-2610MT/TTP-286MT Series Key Features

- Heavy duty die-cast aluminum design that is built to handle high-volume demand cycles
- 4.3" color LCD includes new UI design with 6-button menus and touch panel for more user friendly operation
- Available in 203 dpi and 300 dpi
- TSPL-EZ™ firmware for plug-n-play ease and includes Eltron® and Zebra® language support
- TTP-2610MT Series: Thermal Smart Control™ print technology produces cleanest, high quality barcodes
- TTP-2610MT Series: Auto TPH resolution switch detection
- TTP-286MT Series: 600 m ribbon capacity for high volume printing

Packaging is the most important process before shipping products out. In the past, packaging tasks such as product separation and boxing were all done by hand. This information would then be sent to packaging factories before mass production. Every packer would have a list of information, complete with box sizes, weight, the items that go into each box, and product specifications etc. To streamline the process, many enterprises have integrated automatic barcode labeling systems, combining all the necessary information onto one barcode label, eliminating the complex task of having to manually verify all the information. All you need now to access the information is to scan the barcode.

## Complex messages on one label!

Labeling during the selection process can decrease the time needed for inspection and verification, minimize the error rates in the selection process, and save time on the overall operation. That's why many enterprises make it a top priority to select a system that can combine and process complex data and display all the necessary information on one label, while at the same time being sturdy, reliable, and efficient, along with a reasonable price tag. TSC's products are known for its high quality, seamless compatibility, sturdy construction and reliability. Our products increase packaging productivity by allowing for easy and painless integration into any automated packaging production line, increasing packaging productivity.

TSC's wide label models are suited for logistics and warehousing, pallet labeling, large containers and cargo labeling. It can also print complex graphics and handle large volumes of printing, such as environmental hazard or other warnings labels, or inventory management labels, making these models well suited for a diverse range of needs.

### Recommended Products: TTP-2610MT Series, TTP-286MT Series

In the past, product categorization, boxing, and verifying shipment specifications took up vast amounts of human resources. Nowadays, companies aim to increase work efficiency and lower error rates. TSC's TTP-2610MT series and TTP-286MT series of products can easily meet the demands of production. Whether you need complex graphics or warning labels, it can all be printed clearly onto one label, with an option for wide label designs up to a maximum width of 6.6 inches and 9.5 inches.

## Success story

### Customized solution to enhance production efficiency

High performance and compact design easily integrates into the production line



**Market\_**  
Food Industry

**Application\_**  
Pick and pack processing

**Model\_**  
TTP-247

**Background:**

Dole Corporation in Costa Rica was experiencing quality-control issues at its banana-packing facility. Since bananas vary in weight from bundle to bundle, keeping the weight of shipping crates uniform was a constant challenge. Dole needed to ensure that each packaged crate contained enough bananas by weight.

**Solution:**

To address the problem, a Costa Rican systems integrator, Roma Representative, developed an integrated solution that combined a weigh scale and TSC TTP-247 thermal transfer desktop printer connected via Ethernet. A worker places an empty container onto the scale and begins packing it with banana bundles. After the case reaches the correct weight, the printer automatically prints a case identification label, and it is sent down the line for final packaging and shipment. If there are any weight discrepancies, the box is transferred to an inspection station.

The Ethernet-equipped TSC TTP-247 proved to be a durable, cost-effective label-printing solution for Dole. The small-footprint printer fit easily into cramped spaces on the production line and offered a rugged design that performed reliably and durably, despite tough packing-line conditions. Its large-capacity 300 meter ribbon supply and large 5" OD supply of labels minimized the downtime required to change media.

**Benefits:**

- Increased production line efficiency
- Improved quality control on the pick/pack line
- Minimized downtime when changing ribbons and labels
- Easy drop-in media loading due to user-friendly clamshell design

### Fast & precise automatic labeling for high volume printing

Reduce labor cost and human error



**Market\_**  
Food Industry, Manufacturing, Cosmetics, Logistics

**Application\_**  
Low-cost Print & Apply System - LCA-3500

**Model\_**  
TTP-2410MT

**Background:**

Small-and medium-size companies frequently run into problems when labelling and identifying packages, boxes, sacks and paper bags containing fresh meat, fruit, and vegetables or non-perishable food items such as noodles, mushrooms and sausages. Packaging labels are often printed and manually applied, a time-consuming, costly and error-prone process. To alleviate these problems, companies have been investing in industrial barcode printers that are designed to produce high-quality labels quickly and affordably. The encrypted label data is electronically readable with barcode scanners during transport, delivery and storage.

**Solution:**

Dalektron GmbH, a long-time TSC Auto ID Technology EMEA partner and distributor, has created a low-cost print-and-apply system that uses TSC's high-performance TTP-2410MT industrial label printer and a general purpose I/O (GPIO) expansion board, coupled with the LCA-3500 print-and-apply system. This innovative solution is used in food and manufacturing industry, the cosmetics and logistics, and supports a wide range of label sizes and types, including round, rectangle, butterfly and sealing labels.

The adjustable-speed LCA-3500 is designed for half or fully automatic operations and can be integrated easily into any production line. Its standard applicator is equipped with a 200 dpi printhead, with 300 dpi and 600 dpi resolution printheads available as options. The LCA-3500 can be used in top-down, bottom-up or side positions, making it ideal for a wide range of print-and-apply applications. Its pneumatic vacuum plate, which is used for the reception of labels, can accommodate various product heights. The LCA-3500 supports USB, Ethernet, serial and parallel interfaces.

**Benefits:**

- Increased production line efficiency
- Improved quality control on the pick/pack line
- Minimized downtime when changing ribbons and labels
- Easy drop-in media loading due to user-friendly clamshell design

# Product Overview & Recommendation

Recommended product overview								
	4" Width							
	MX240P Series			TTP-2410MT Series			ME240 Series	
	MX240P	MX340P	MX640P	TTP-2410MT	TTP-346MT	TTP-644MT	ME240	ME340
Resolution	203 DPI	300 DPI	600 DPI	203 DPI	300 DPI	600 DPI	203 DPI	300 DPI
Max. Print Speed	18 IPS	14 IPS	6 IPS	14 IPS	10 IPS	4 IPS	6 IPS	4 IPS
Max. Print Width	4.09"	4.09"	4.09"	4.09"	4.09"	4.09"	4.09"	4.09"
Max. Print Length	1000"	450"	100"	1000"	450"	100"	90"	40"
Ribbon	600 M			600 M			450 M	
Memory	<ul style="list-style-type: none"> <li>• 512 MB Flash memory</li> <li>• 512 MB SDRAM</li> <li>• microSD Flash memory card reader for Flash memory expansion, up to 32 GB</li> </ul>			<ul style="list-style-type: none"> <li>• 128 MB Flash memory (factory option 512 MB)</li> <li>• 128 MB SDRAM (factory option 256 MB)</li> <li>• SD Flash memory card reader for Flash memory expansion, up to 32 GB</li> </ul>			<ul style="list-style-type: none"> <li>• 4 MB Flash memory</li> <li>• 8 MB SDRAM</li> <li>• SD Flash memory card reader for Flash memory expansion, up to 4 GB</li> </ul>	
LED/LCD	<ul style="list-style-type: none"> <li>• 4.3" color LCD with 6-button menus and touch panel operation</li> </ul>			<ul style="list-style-type: none"> <li>• 4.3" color LCD with 6-button menus and touch panel operation</li> </ul>			<ul style="list-style-type: none"> <li>• 3-LED with 2-button menus (basic model)</li> <li>• LCD with 6-button menus (advanced model)</li> </ul>	
Interface	<ul style="list-style-type: none"> <li>• RS-232</li> <li>• Centronics</li> <li>• USB 2.0</li> <li>• Internal Ethernet, 10/100 Mbps</li> <li>• USB host * 2 (front side), for scanner or PC keyboard</li> <li>• GPIO + Centronics (dealer option)</li> <li>• Internal Bluetooth 4.0 (dealer option)</li> <li>• Slot-in 802.11 a/b/g/n wireless (user option)</li> </ul>			<ul style="list-style-type: none"> <li>• RS-232</li> <li>• Centronics</li> <li>• USB 2.0</li> <li>• Internal Ethernet, 10/100 Mbps</li> <li>• USB host, for scanner or PC keyboard</li> <li>• GPIO (factory option)</li> <li>• Bluetooth (user option)</li> <li>• Slot-in 802.11 b/g/n Wireless (user option)</li> </ul>			<ul style="list-style-type: none"> <li>• RS-232</li> <li>• USB 2.0</li> <li>• Internal Ethernet, 10/100 Mbps (factory option)</li> <li>• USB host, for scanner or PC keyboard (factory option)</li> <li>• Centronics (factory option)</li> <li>• Bluetooth (user option)</li> </ul>	
Physical Dimension (WxHxD)	300 mm X 393 mm X 510 mm 11.81" X 15.47" X 20.08"			270 mm X 308 mm X 515 mm 10.63" X 12.13" X 20.28"			286 mm X 259 mm X 434 mm 11.26" X 10.20" X 11.09"	

	ALPHA-4L	ME240 Series	TTP-2410MT Series	MX240P Series	TTP-2610MT Series	TTP-286MT Series
Warehousing & distribution	●	●	●	●		
Shelf & rack labeling		●	●	●	●	●
Industrial-duty printing			●	●		
Compliance labeling		●	●	●	●	●
Work-in-process		●	●	●		
Order fulfillment			●	●		
Ticketing	●		●	●		
Electronics & jewelry labeling			●	●		
Shipping & receiving	●		●	●		
Pallet labeling					●	●
Inventory management		●		●	●	●
Drum labeling					●	●
Custom signage					●	●
Graphics, logos and texts					●	●
Multiple-up labels					●	●
Warning labels					●	●



**ID SERVICES**  
Parc Club de l'Université  
4 rue Jacques Monod  
91400 Orsay - France  
**Tel + 33 1 69 35 10 00**  
**Fax + 33 1 69 35 10 01**