kardex Automate Electronics Production System User Guide

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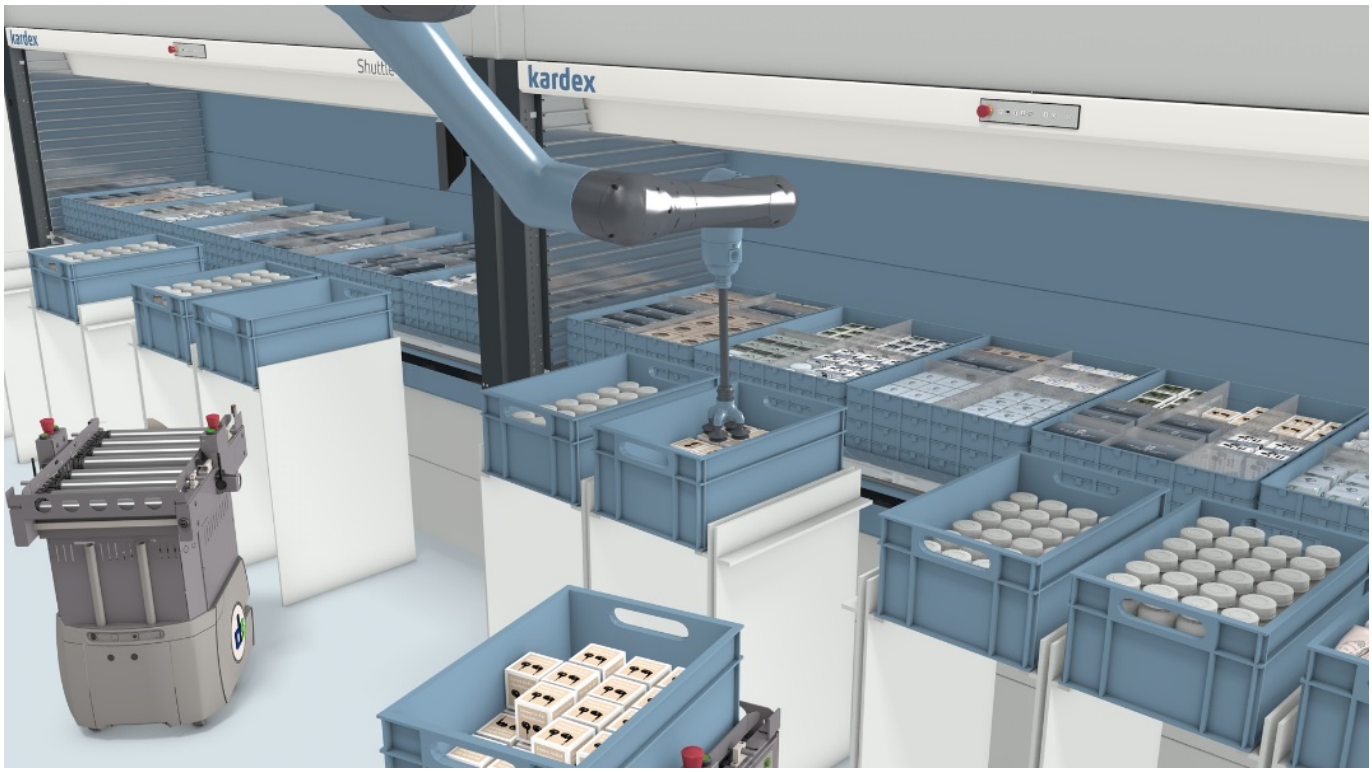


Specifications

- **Product Name:** Automated Electronics Production System
- **Manufacturer:** Kardex
- **Features:** High-density storage, transparent & accurate picking, controlled storage environment
- **Space Saving:** Up to 85% of warehouse space saved
- **Picking Accuracy:** Up to 99%
- **Inventory Management:** FIFO principle, automated, and paperless
- **Storage Environment:** Fire protection, ESD protection, clean, dust-free storage

Product Usage Instructions

More Space

- The high-density automated storage solutions provided by Kardex offer significant space-saving benefits of up to 85%.
- These systems utilize the entire building space efficiently.
- Access openings across multiple floors enable ergonomic picking for workers, ensuring quick and easy retrieval of items.

Transparent and Accurate Picking

- Ensure precise control of stock levels and traceable material flow by utilizing the advanced software features that come with the system.
- Embrace the FIFO principle to avoid material aging and reduce wastage.
- The automated inventory management system facilitates timely inventory replenishment, just-in-time restocking, and error-free retrieval processes.

Controlled Storage Environment

- Implement industry-tailored features to meet cleanroom, humidity, temperature regulations, fire protection, ESD protection, and maintain a clean, dust-free storage environment.
- These features are essential when working with sensitive electronic components to ensure their longevity and functionality.

FAQ

- **Q:** How much warehouse space can be saved with the automated storage solutions?
- **A:** Up to 85% of warehouse space can be saved using the high-density automated storage solutions from Kardex.
- **Q:** What is the accuracy rate of picking with these systems?
- **A:** The pick-and-put accuracy rate can be as high as 99%, ensuring efficient and error-free picking processes.
- **Q:** How does the system handle inventory management?
- **A:** The system utilizes advanced software for automated and paperless inventory management, following the FIFO principle to maintain stock levels and trace material flow accurately.

Time for change

- When a warehouse cannot grow any further by simply adding more workers, it’s time for the next step. This is when new, state-of-the-art technology and automation become essential. For many years companies in the electronics industry have been requesting space-saving solutions and safe storage for electronic components like SMD reels.
- New standards and especially new possibilities should lead warehouse managers to rethink their current processes. It is not necessary to spend hours picking the right item needed for the next production step or find it dusty.
- Often manufacturers in the electronics industry turn to automated solutions when they can no longer properly manage a small warehouse area filled with moisture-sensitive items, the lack of an efficient warehouse management system, long search times,
- inaccurate picking results, and dusty storage locations.
- This solution guide reveals common warehouse challenges and why automation is the right direction to go. It’s time to prepare for a safe, efficient, and resilient future.
- Kardex would like to introduce you to new technologies to update your electronics warehouse and production.

Challenges in the electronics industry

- Stumped by how to gain accurate control over warehouse inventory while maintaining cleanroom conditions and environmental temperatures, warehouse managers in the electronics industry, undoubtedly face complex intralogistics.
- It’s difficult to pick the right items quickly when many look similar. Without the right tools in place to maintain a standard inventory process, material flow will constantly be disrupted, and inaccurate, and sensitive components will expire or suffer from too much dust before even being used. Not to mention the lack of operator satisfaction caused by nonergonomic work conditions imposed by heavy lifting, pushing, and pulling.
- Even when processes are going well and business is increasing, this too causes hurdles. Often the current warehouse space is not sufficient in size due to rising business demands, a new range of products, or changing batch sizes – then what? Warehouse operators need to decide if they build an extension or an entirely new location. Or is it better to more efficiently utilize the current space? Regardless of the route taken, it’s a likely concern that production will suffer from downtime or poor integration.

Warehouse challenges in the electronics industry – do these sound familiar to you?

- Lack of sufficient space Am I optimizing my warehouse including unusual angles and floor to ceiling space?

Unstable climatecontrolled storage and humidity levels

- How can I ensure the right storage environment?

Outdated inventory control methods

- Why can’t I guarantee traceability and accurately document stored items?

Inaccurate, lengthy searching and picking

- How can I reduce picking times and errors when items look so similar?

What automation brings to the industry
Based on decades of hands-on experience partnering with warehouses worldwide, Kardex understands how to use automation to strengthen warehouse intralogistics and help companies stay a step ahead of the competition. Kardex’s automated solutions are fast, accurate, and designed to meet the unique challenges electronic warehouses face.

- High-density, automated storage solutions save up to 85 % of warehouse space and utilize the entire building space.

- State-of-the-art technology ensures transparent stock levels and a pick-and-put accuracy rate of up to 99 %.

- Industry-tailored features meet cleanroom, humidity, and temperature regulations.

More space
High-density, automated storage solutions save up to 85% of warehouse space and utilize the entire building. When needed, they feature access openings across multiple floors making ergonomic picking both quick and easy for workers.
One unit can store multiple items even if they are in different dimensions and various weights. This is ideal as product ranges expand and batch sizes change. Warehouses can react to fluctuating market needs in an instant and they don’t need multiple storage systems for different products.

Transparent and accurate picking

- Electronic components often look very similar, increasing the risk of more picking errors.

- Pick-to-light technology says goodbye to this problem. Workers simply follow colors or laser pointers which minimize errors significantly. To further support a high accuracy rate, Kardex offers space-saving and flexible boxes for their automated storage and retrieval systems.
- They provide a structured and organized overview. By easily subdividing them, they enable various storage locations and store items individually, decreasing the risk of errors even further.
- Just as important as picking accuracy is a precise control of stock levels and traceable material flow. Advanced software provides the FIFO (first in, first out) principle to avoid material aging and reduce partially used SMD reels.
- Automated and paperless inventory management ensures timely inventory replenishment, just-in-time and simple retrieval, and maintains a permanent inventory without downtime. They make it easy to handle SMD reels and Kardex has seen a 100% error-free retrieval rate of SMD reels for the setup/removal process when working with former clients.

Controlled storage environment

- Warehouse operators should have full control over humidity and temperature levels to protect sensitive goods. Kardex systems offer an optional climate function. Unit temperatures may range from -25 °C to 60 °C and authorized uses may reduce unit humidity by up to 5 %, when necessary.
- When working with electronics, it’s important to feel secure and implement solutions that meet industry requirements. Fire protection, ESD protection, and clean, dust-free storage are a must.

Best Practices in the Electronics Industry

- Kardex works hand in hand with electronic companies worldwide.
- Kardex dives deep into its customers’ warehouses to understand the challenges and tailor automated solutions.
- Let’s take a look at a few examples.

Rohde & Schwarz – 100% error-free retrieval of SMD reels
With 85+ years of experience, Rohde & Schwarz GmbH & Co. KG is an international measuring, information, and instrumentation company based in Germany.

Kardex has integrated multiple solutions throughout the years at Rohde & Schwarz including 12 Kardex Megamat systems, a refrigerator unit, an absorption dyer, Pickby- Voice, and warehouse management software. These enabled Rohde & Schwarz to:

- Maintain a constant air humidity of only 5% with a substantially reduced nitrogen consumption
- Increase throughput by 50% without changing the number of staff
- Minimize loss of “expensive” dry air in the access area via a special seal
- Register, document, and control all dry storage systems from one PC

NKT Photonics – flexible storage solutions
NKT Photonics in Denmark supplies optical fibres and industrial fibre lasers to markets such as material processing, biophotonics, metrology, optical sensors, and others. A new production line in a newly attached building and the desire to improve its supply chain caused NKT Photonics to adapt its intralogistics.
Kardex’s Vertical Carousel Module Kardex Megamat 350 and Kardex Power Pick System warehouse management software enabled NKT Photonics to:

- Reduce storage space from 200m2 to 30m2
- Store approximately 500 different items
- Increase the accuracy of warehouse operations substantially

TCI Group – optimize ceiling height
The TCI Group, based in Italy, has been a leading electronic component producer worldwide for more than 30 years covering a wide range of products within the field of lighting, such as electronic and electromagnetic ballasts, ignitors, LED modules and power supplies, electronic transformers, emergency kits, and electronic systems for lighting control.
Kardex’s three Kardex Shuttle, 183 trays with ESD protection, position indicators, transport carts, and Kardex Power Pick System software enabled the TCI Group to:

- Reduce storage space by 65% from 48 m2 to 16 m2
- Store goods in an orderly, clean and dust-free manner
- Increase productivity (1,100 daily operations without increasing staff)
- Complete just-in-time stock control

Optimize electronics warehouses

Regardless of the load height or size, Kardex systems fit various products and needs. High-density storage and small footprints reduce the necessary warehouse space by up to 85 %. Also, accurate inventory management is achieved every time. The software enables permanent monitoring of stock levels in real-time via a direct link to the enterprise resource planning (ERP) system. Furthermore and most important for the electronics industry, Kardex systems offer:

- Meets the requirements necessary for cleanroom conditions

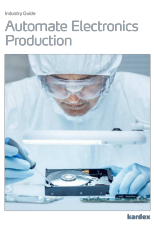
- Adapts constantly to SMD reels in various dimensions / extremely flexible

- Select optional, comprehensive ESD protection

- Regulate the humidity and temperature when storing sensitive items

kardex.com.

Documents / Resources

	kardex Automate Electronics Production System [pdf] User Guide Automate Electronics Production System, Electronics Production System, Production System, System

References

- Official Site of Kardex | Kardex Remstar | Kardex Mlog
- User Manual