

RFID Logistics & Inventory Labels for Disposable Packaging

Now more than ever before our countries are connected globally via an intricate network of logistics and supply chains. Based on studies the full visibility of the supply chain and the optimization of inventories are the key initiatives among the companies. As the demand on our logistics infrastructure increases, companies are being pushed to find ways to improve their efficiency.

Whether you are trying to locate a package within a warehouse, as it travels to the next supplier, or even as it arrives into the next country UHF RFID technology will give you the full visibility throughout the whole supply chain. As an engineering company at heart, Confidex designed products for optimum RF performance and cost efficiency on materials commonly used in disposable packaging.

Since 2005 Confidex Smart Industries has become the trusted partner for system integrators and end-users of high performing short-range wireless products to enable Industrial IoT technologies throughout the world. Excellent service, consistent quality and reliable products are in the DNA of our company. Together with our technology partners we build value-adding solutions for asset management, traceability and authentication -applicable in manufacturing, supply chain and automotive. Today, over 200 million assets are equipped with Confidex Tags and Labels.



Related applications

Inbound/outbound logistics

- Pallet, parcel, or component level tracking
- Use with portals, handheld readers, dock doors, and conveyor systems

Inventory management

- "Walk and scan" inventory
- Compatible with Forklift readers

Real Time Location Services (RTLS)

- Heightened location accuracy within warehouse
- Use with integrated overhead reader/antenna systems

Supply chain management (global & domestic)

- Full visibility in any country's allocated frequency band worldwide
- Compatible with all major RFID printer brands
 - Zebra
 - Sato
 - Printronix
 - Toshiba
 - Honeywell

Designed for Logistics

Each label has been carefully designed for optimum **RF performance** in a specific use-case. With RFID tags for disposable packaging it is important to **optimize the cost** of the product while not sacrificing the reliability of the reading large amount of tags. The size of the label is often driven by the existing standardized barcode label layouts and therefore we offer our labels with **various sizes** to meet the dimensional requirements.

Different use-cases might require different features from the product. For example, **high performing single dipole** designs (Casey) are optimum for standard inbound/outbound applications especially with a known asset orientation. **Omni-directional dual dipole** designs (Crosswave) offers increased flexibility with linear reader antennas or RTLS systems as they can be read in any orientation.











The introduction of our **all-surface** label (Ferrowave) allows for the ultimate flexibility in tagging a wide variety of materials with a single label, including metals and liquids. Lastly, we continue our company wide legacy of the importance in material **sustainability** with our plastic-free label design (Leaf).

Personalization

All of our labels are RFID printer-friendly via thermal transfer ribbon method and offer ample space to capture all of the important visual printing required. Confidex can deliver labels also pre-printed and encoded in case requested.

Attachment Methods

"Slap and ship" – it's as simple as that. Our adhesives have been carefully selected based on reliability and cost-efficiency to function best on the materials most utilized in the industry for packaging. Labels are compliant with all major applicator brands.

		
Line of Sight not required		 Barcode must be seen for capture
Hundreds of tag reads per second		 Individual scans only
Read & Write Data with password option		 Data Read Only
Possible with high accuracy		 Not Possible

RFID versus Barcode

	Casey	Leaf	Crosswave Classic	Crosswave NEO	Ferrowave Classic	Ferrowave Flag
Dimensions	92 x 24 x 0,2 mm 3.62 x 0.94 x 0.01"	92 x 27 x 0.2 mm 3.62 x 1.06 x 0.01"	95 x 40 x 0.2 mm 3.62 x 0.94 x 0.01" Other sizes available	75 x 50 x 0.2 mm 2.95 x 1.97 x 0.01" Other sizes available	100 x 17 x 1.1 mm 3.94 x 0.67 x 0.04"	46 x 21 x 0.2 mm 1.81 x 0.83 x 0.01"
Read range (fixed reader)	up to 16 m / 52 ft	up to 10 m / 33 ft	Up to 10 m / 33 ft	Up to 10 m / 33 ft	On metal up to 5 m / 16 ft (see datasheet for other materials)	On metal up to 12 m / 30 ft
Read range (handheld reader)	Up to 8 m / 26 ft	Up to 6 m / 20 ft	Up to 6 m / 20 ft	Up to 6 m / 20 ft	Up to 3 m / 10 ft	Up to 3 m / 10 ft
IC (EPC + user memory in bits)	MR6-P: 128/96 + 32/64	M4E: 496 + 128	M4E: 496 + 128	M730: 128 UCODE 8m: 96 + 32	MR6-P: 128 + 32 M4E: 496 + 128 UCODE 8m: 96 + 32	M4E: 496 + 128
Attachment Method	Adhesive	Adhesive	Adhesive	Adhesive	Adhesive	Adhesive
Delivery format	On reel	On reel	On reel	On reel	On reel	On reel
Special Features	Moisture resistant face material	Plastic-free	Dual dipole with extended memory	Dual dipole performance with the latest chipset	On metal and on liquid capable- true all surface label	Excellent performance on metallic surfaces
Suitable use cases	Disposable carton/ plastic packages.	Disposable carton packages.	RTLS Disposable carton/ plastic packages.	RTLS Disposable carton/ plastic packages.	Short term logistics with metallic packages / liquid containers	Short term logistics with metallic packages

Why polarization matters?

Like with reader antennas there are also different tag antenna designs. Most common shipping labels use single dipole design that is compatible with circular polarized reader antennas, such as Confidex Casey. Reader and tag antenna orientation has to always match for best performance. For applications with linear reader antenna and unknown asset orientation it is recommended to use dual-dipole design, such as Confidex Crosswave product line. This ensures labels is always readable no matter what is the reader antenna orientation.



Confidex Casey
Single Dipole



Confidex Crosswave Classic
Dual Dipole



Benefits for the customer

Inbound & Outbound logistics

- Receiving and staging efficiencies
- Mitigating shipping errors
- Adhering to regulatory standards
- Efficient Cross-docking

Inventory Management

- Monitoring expiration dates
- Reduce stock on-hand
- Reduce manual record keeping
- Easier auditing

Real-time location

- Optimize space, inventory, assets and people
- Decrease time finding equipment or assets
- Follow equipment or assets through a process
- Anti-theft measures

DesignStudio

In addition to Confidex standard product offering, our DesignStudio provides you with uniquely new designed products or standard product modifications for your specific needs, whether simple or complex. With disposable labels that customer specific requirement may be for example a specific direct thermal compliant face material, customer specific dimensions, perforations on the label or such a challenging environment that would require a totally new tag design.



Confidex Ltd
Headquarters
Lumpeenkatu 6, 33900
Tampere, Finland
contact@confidex.com

Confidex North America
Greenville, SC
Confidex France
Nice
Confidex Netherlands
Hoofddorp
Confidex China
Guangzhou