CATALOGS 5.1

RFID systems

MERAKY TECHNOLOGY

New refresh

“The key of the future”

MERAKY® TECHNOLOGY

TABLE OF CONTENTS

RFID systems

What is it?

RFID systems have invaded Spain and the international aircraft, in almost all areas in which it is necessary to control certain data, generally in a massive way, whose monitoring in manual mode requires a simplification facilitating the work. and speed up production.

RFID, a radio frequency identification system, is already present in Europe in various types of industries ranging from textiles to commerce to the world of agriculture, hotels and even aviation.

RFID tags are implemented according to the data and environments in which they operate, with different frequency ranges depending on the data transmission capacity to be communicated between its components. Therefore, we can distinguish different types of RFID systems based on these ranges.

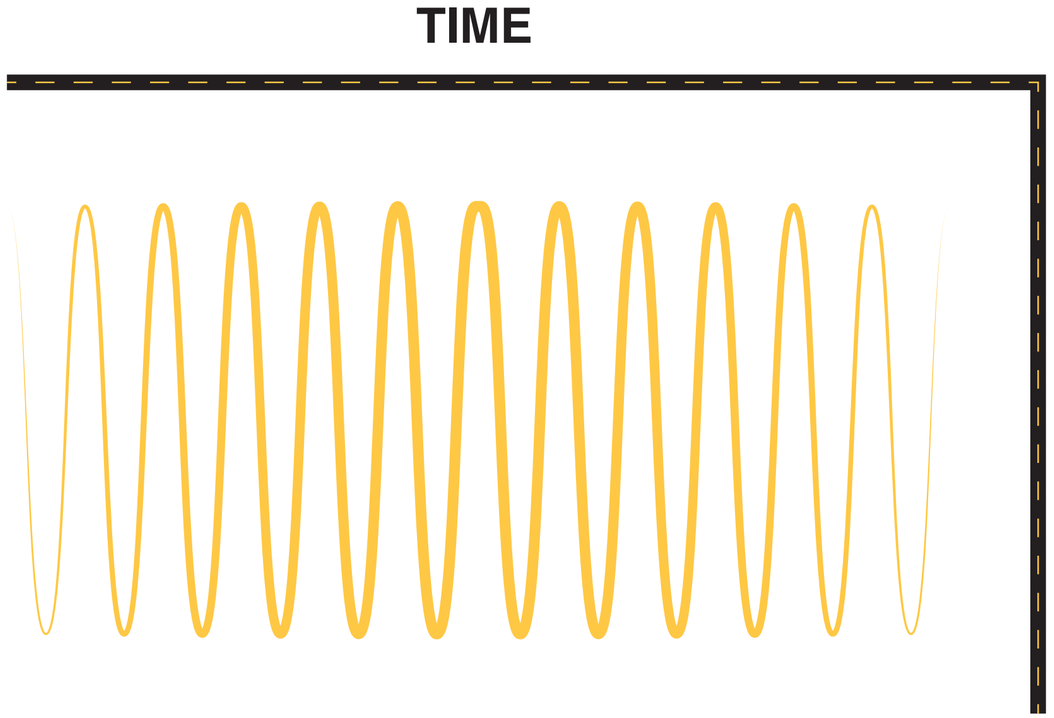
1

UHF or Ultra frequencies

They allow readings between components at distances from 0 to 100 meters and use wavelengths from 820 MHz to 960 GHz.

They transmit data between their components at a faster speed and distance than other types of RFID systems. Due to the reading distance, low cost and high transfer rates associated with the UHF platform, this technology has become very popular for industrial applications and organizations seeking to improve their logistics.

Technology is beginning to solve this type of problem and UHF systems are starting to dominate the sector within their own ecosystem.



2

RFID tags

With a board-like thickness, it contains integrated circuits, RFID UHF and HF antennas as well as several layers of adhesive. With or without a battery, they achieve a very high level of reliability.

RFID labels, cards, tags, or transponders are a kind of flexible, self-adhesive labels in which RFID devices are typically packaged.

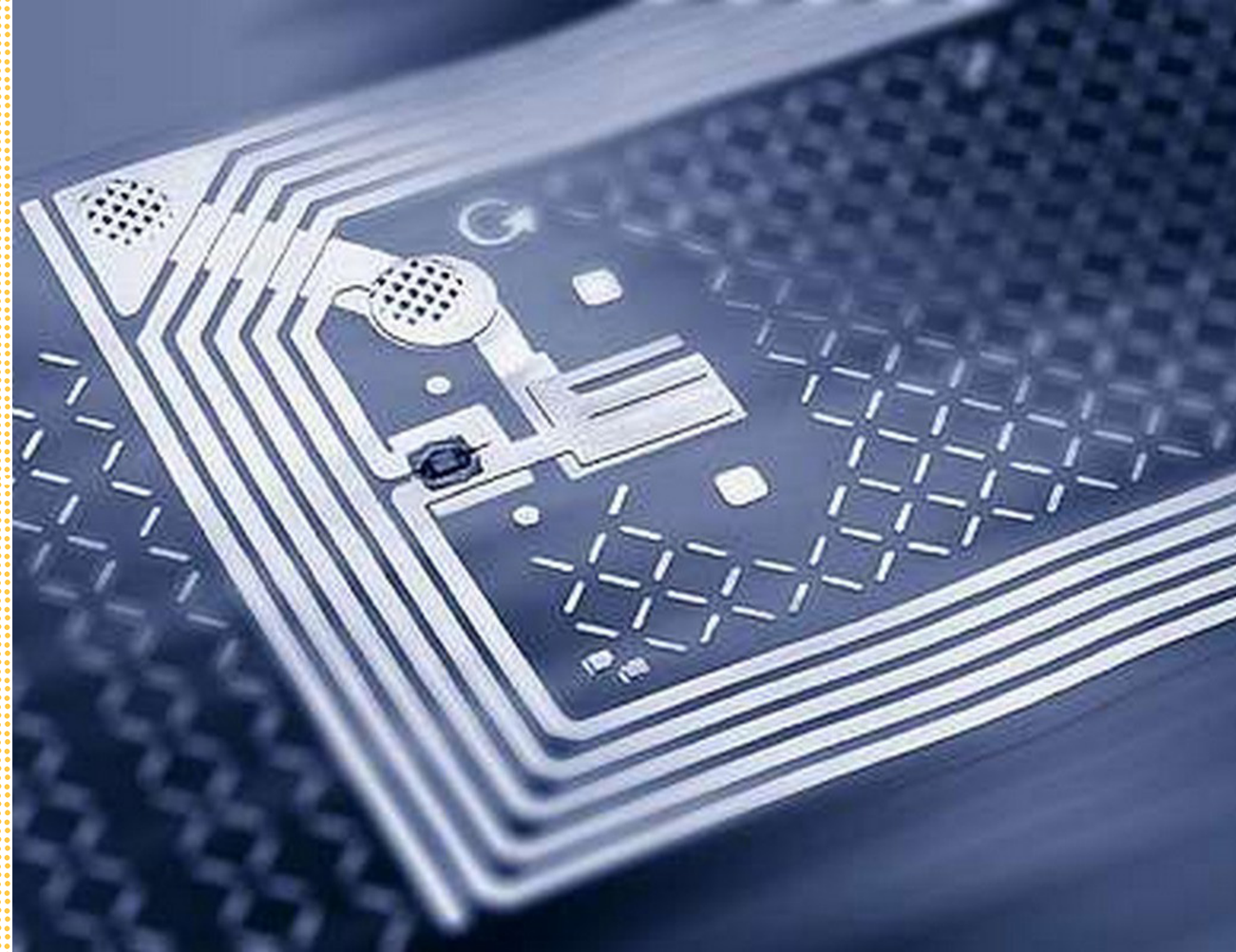
RFID is the abbreviation for “identification by radiofrecuencia”, a remote data storage and retrieval system.

RFID technology aims to transmit the identity of objects by means of radio waves.

RFID tags are like little stickers that can be attached to products, animals or even people and include an antenna to send and respond to radio frequency RFID readers.

One of the main advantages of RFID cards is that when using radio frequencies, it is not necessary for the transmitter and the receiver to be online.

Another advantage is the ability to store data and be programmed, unlike what happens with barcodes, making it the most used technology today for the identification of objects.

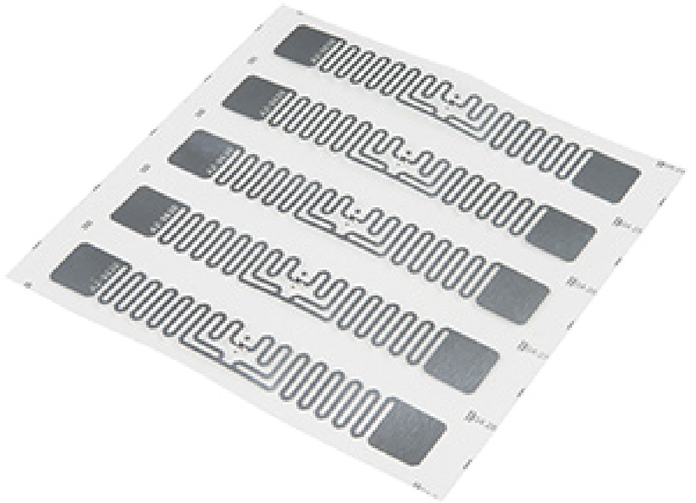


2

Active tags

Properties:

- They work with batteries and actively transmit a constant signal.
- They have the highest reading range among RFID tags. Some manufacturers claim to produce active labels up to 100 meters reading distance.
- They are more expensive because of the cost of the battery and the transmitter



2

Passive labels

Properties:

- They do not have power supply on the label.
- The energy required to activate the chip comes only from the external wave created by the antenna and the nearby RFID reader.
- The reading range is limited by the transmitted power density required to achieve sufficient voltage for the chip to activate.
- They are significantly less expensive than active tags.

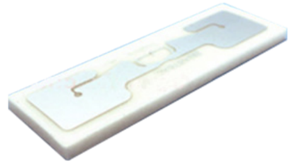
2

Semi-active labels

Properties:

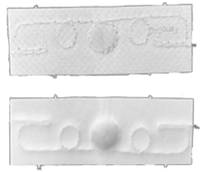
- These include a battery so that the chip always has enough power to turn on, but they do not have an active transmitter.
- Their range is greater than that of passive tags, but at a higher cost and a limited life due to the battery.

For steel



Flexible

Printable



For laundries

2

Tag properties of RFID

Sometimes, one of the most important limiting factors when choosing our RFID tags is the environment in which we will use our system. Therefore, knowing the various solutions available to us is essential to the proper functioning of the latter.

Some of these labels are designed for very specific applications. Here are some representative examples commonly used in the sector.

RFID Readers

With Ethernet connectivity, PoE power supply, connection for 1/2/4 antennas, possibility of connection with GPIO for the activation of external digital signals.

We have different types of RFID reading machines adaptable to the needs of the application. High performance with auto-configuration capability and flexibility for customer-specific configuration. Maximum power and incredible reading ability.

Data is transmitted via the available antennas, although the reader is responsible for data processing and connection to the middleware.

Our fixed RFID readers are equipped with the latest technological advances. For each project, we select the RFID reader best suited to each process to be controlled in the project.

With proper configuration, RFID readers balance UHF operation with the environment to avoid wave interference, providing maximum performance at all times.

3

Hanged station

This RFID station integrated in air transport, allows the identification and coding of items in real time without stopping or slowing down the transport, avoiding cross-reading of tags from other transport lines or from the immediate vicinity.

Specs:

- Connectivity: 10/100 Base-T Ethernet.
- Electric voltage: 400 VAC
- Electric power: 0.5 Kw
- Working temperature: -10 / 50oC.
- Construction: Aluminum and PE.
- Dimensions: 2100x1200x1600mm. (customizable)
- Weight: 110 Kgrs.

Properties:

- Reading labels in real time.
- Label recording.
- Designed for input and output operations.

Data:

- RFID UHF Frequency: ETSI (EU) 865.6-867.6 MHz. FCC (NA) 902-925 MHz.
- RFID UHF Chip compatibility: EPC global Class 1 Gen 2 (ISO 18000-6C).
- RFID UHF Antenna.

Properties:

- Reading labels
- Label recording.
- Built-in tablet / PC with integrated Meraky Software.
- Designed for input and output operations.

Data:

- RFID UHF Frequency: ETSI (EU) 865.6-867.6 MHz. FCC (NA) 902-925 MHz.
- RFID UHF Chip compatibility: EPC global Class 1 Gen 2 (ISO 18000-6C).
- RFID UHF Antenna.

3

Tunnel short

This high-performance RFID tunnel incorporates an automated transport band and sensors that initiate the RFID process by detecting a box or element inside it, communicating the reading / writing result to the WMS (warehouse management system) and displaying the beacons and Touch screen the result of the process. It integrates easily with any transport system and offers the possibility of managing rejections (Y) of rejection for boxes with incorrect readings / writes.

Specs:

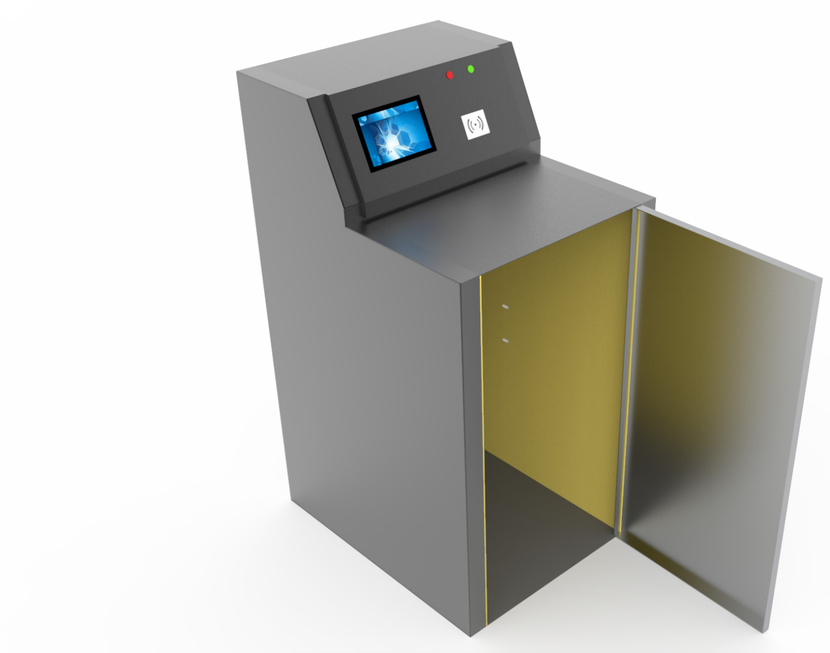
- User interface: Touch terminal.
- Connectivity: 10/100 Base-T Ethernet. Wifi (optional)
- Electric voltage: 400 VAC
- Electric power: 1.5 Kw
- Working temperature: -10 / 50oC.
- Construction: Aluminum and PE.
- Dimensions: 2000x1500x620mm. (customizable)
- Weight: 140 Kgrs.

3

Go tools

Go Tools is an RFID solution to streamline the processes of monitoring, administration and maintenance of tools in environments where any lost or misplaced tool can be a security risk or a reduction in productivity.

- It allows access control to users.
- Indicate in real time the missing tools.
- System notifications and alerts of tools not returned in a configured time frame.



Data:

- RFID UHF Frequency: ETSI (EU) 865.6-867.6 MHz. FCC (NA) 902-925 MHz.
- RFID UHF Chip compatibility: EPC global Class 1 Gen 2 (ISO 18000-6C).
- RFID UHF Antenna.

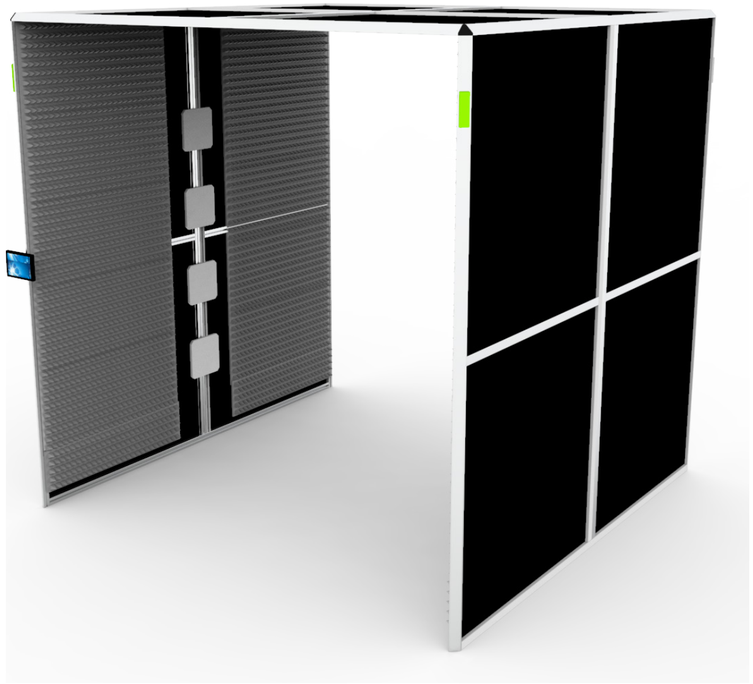
3

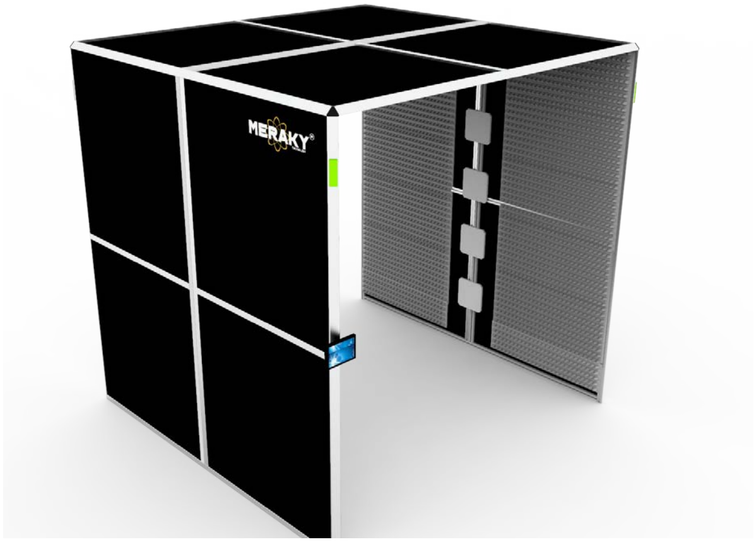
Slight station

RFID reading portico that allows the registration of merchandise in the passage area, indicating the directionality of the operation, identification of the operator or transport and validation of the recorded readings. Notify the status of the transaction in real time by means of integrated screen and beacons, warning of possible errors in the content of the detected elements.

Specs:

- User interface: Touch terminal.
- Connectivity: 10/100 Base-T Ethernet. Wifi (optional)
- Electric voltage: 400 VAC
- Electric power: 1.5 Kw
- Working temperature: -10 / 50oC.
- Construction: Aluminum and PE.
- Dimensions: 2500x2600x2600mm. (customizable)
- Weight: 160 Kgrs.





Properties:

- Reading labels
- Label recording.
- Tablet / PC with integrated Meraky software.
- Integrated management software
- Valid for entry and exit operations.

Data:

- RFID UHF Frequency: ETSI (EU) 865.6-867.6 MHz. FCC (NA) 902-925 MHz.
- RFID UHF Chip compatibility: EPC global Class 1 Gen 2 (ISO 18000-6C).
- RFID UHF Antenna.

3

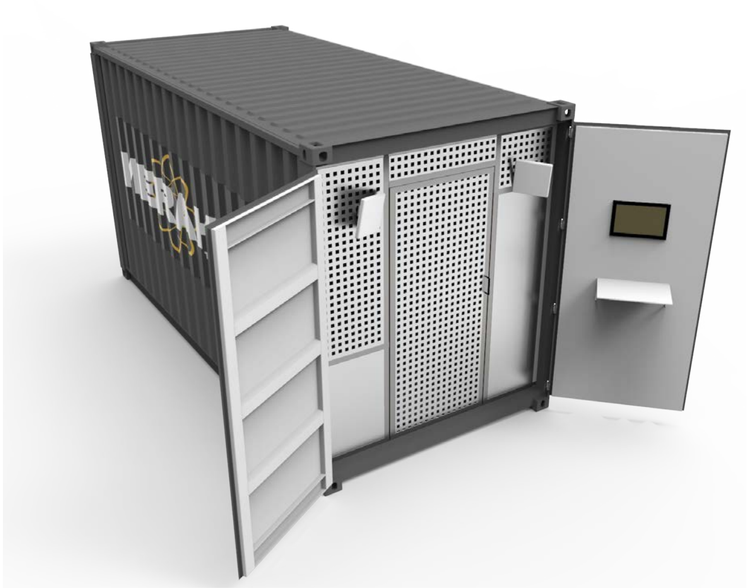
Container RFID

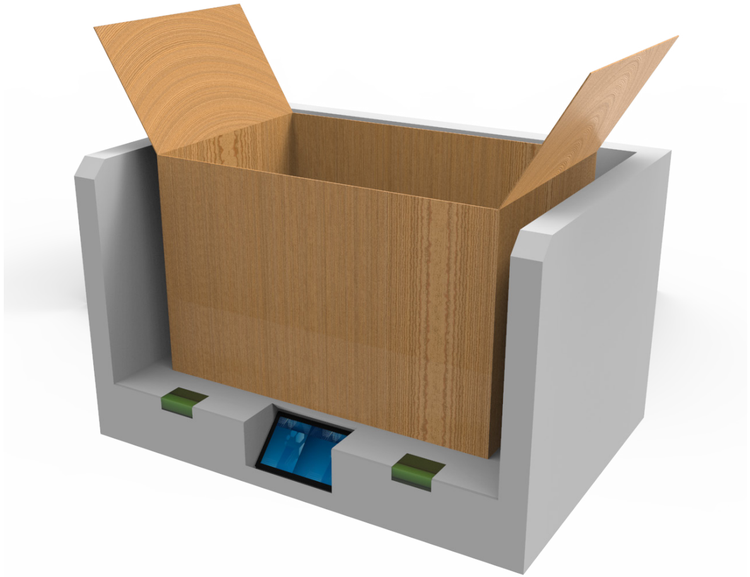
The time spent searching for equipment and tools can lead to costly time delays and inactivity. The Meraky system integrated in the RFID Container provides accurate and real-time tracking data, identifying the operator that requires an asset and indicating the exact location.

- It allows access control to users.
- Indicates the exact location of the assets.
- Indicate the assets in real time.
- System of notifications and alerts of assets not returned in a configured time frame.

Storage Container that used technology to store and read information at a distance through labels located on objects (several meters to KM generally 100 - 1,000 MHz). Its use is more widespread for the control of the storage of parts.

Tracking and tracing: Technology that allows to determine the current and previous position of the merchandise as the container.





Properties:

- Reading labels.
- Tablet / PC with integrated Meraky software.

Data:

- RFID UHF Frequency: ETSI (EU) 865.6-867.6 MHz. FCC (NA) 902-925 MHz.
- RFID UHF Chip compatibility: EPC global Class 1 Gen 2 (ISO 18000-6C).
- RFID UHF Antenna.

3

Drawer packing

Designed to validate the packing processes in real time, Drawer packing assists the operator indicating if the products that are being introduced inside the box are the expected ones, eliminating human error, thus avoiding preventive future errors in the following points of the transport chain. Allows support for boxes with mono-reference and multi-reference content.

Specs:

- User interface: Touch terminal.
- Connectivity: 10/100 Base-T Ethernet. Wifi (optional)
- Electric voltage: 230 VAC
- Electric power: 0.5 Kw
- Working temperature: -10 / 50oC.
- Construction: Aluminum and PE.
- Dimensions: 800x800x950mm.
- Weight: 55 Kgrs.

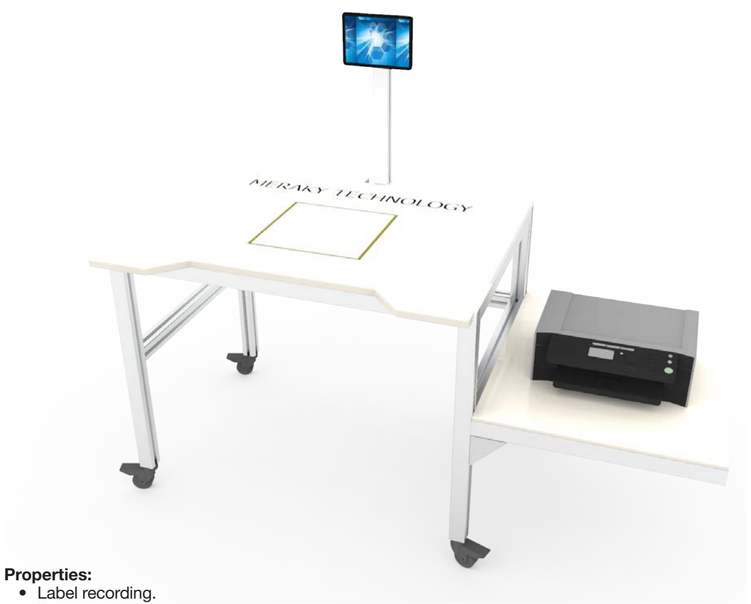
3

Ordering table

Table that allows the preparation of expeditions quickly and efficiently, incorporates an RFID reader that generates a detail of the registered elements, deducting from the stock the elements that make up the expedition. It is very useful for e-commerce platforms (e-commerce).

Specs:

- User interface: Touch terminal.
- Connectivity: 10/100 Base-T Ethernet. Wifi (optional)
- Electric voltage: 230 VAC
- Electric power: 0.5 Kw
- Working temperature: -10 / 50oC.
- Construction: Aluminum and PE.
- Dimensions: 1400x950x750mm. (Customizable)
- Weight: 65 Kgrs.



Properties:

- Label recording.
- Tag reading.
- Tablet / PC with integrated Meraky software.
- Designed for input and output operations.

Data:

- RFID UHF Frequency: ETSI (EU) 865.6-867.6 MHz. FCC (NA) 902-925 MHz.
- RFID UHF Chip compatibility: EPC global Class 1 Gen 2 (ISO 18000-6C).
- RFID UHF Antenna.

Properties:

- Label recording.
- Tag reading.
- Tablet / PC with integrated Meraky software.
- Designed for input and output operations.

Data:

- RFID UHF Frequency: ETSI (EU) 865.6-867.6 MHz. FCC (NA) 902-925 MHz.
- RFID UHF Chip compatibility: EPC global Class 1 Gen 2 (ISO 18000-6C).
- RFID UHF Antenna.

3

Work table

Table of reoperation of articles that allows the detection and solution of errors. Assists the operator through the built-in touch screen to avoid human errors and ensure proper re-incorporation of items in the production chain.

Specs:

- User interface: Touch terminal.
- Connectivity: 10/100 Base-T Ethernet. Wifi (optional)
- Electric voltage: 230VAC.
- Electric power: 0.5 Kw.
- Working temperature: -10 / 50oC.
- Construction: Aluminum and PE.
- Dimensions: 2000x950x750mm. (Customizable)
- Weight: 95Kgrs.

3

Oven Waves

Oven Waves is a safe space for reading / writing RFID tags. Thanks to its versatility, all kinds of RFID operations can be performed quickly, assisting the operator to eliminate human error and increase production.

Specs:

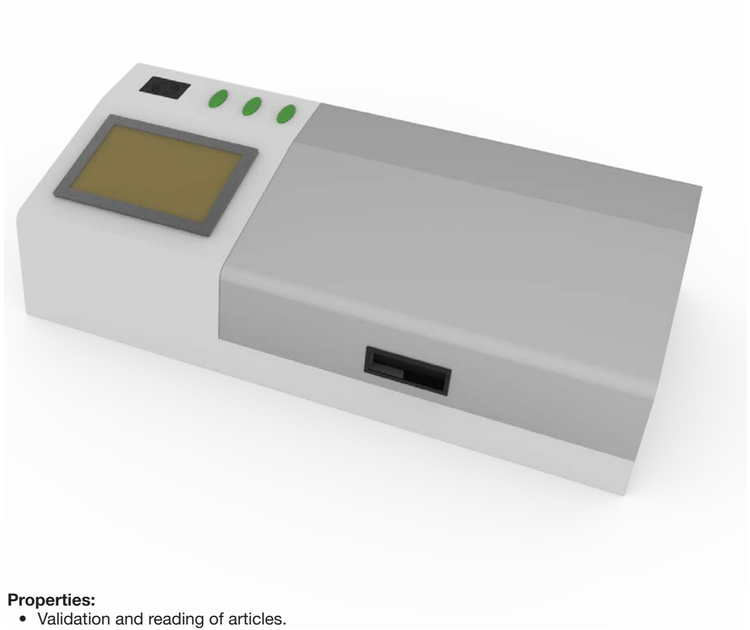
- User interface: Touch terminal.
- Connectivity: 10/100 Base-T Ethernet. Wifi (optional)
- Electric voltage: 230 VAC
- Electric power: 0.5 Kw
- Working temperature: -10 / 50oC.
- Construction: Aluminum and PE.
- Dimensions: 650x750x550mm.
- Weight: 75 Kgrs.

Properties:

- **T**ag recording.
- Tag reading.
- Built-in tablet / PC with integrated Meraky software.
- Design for input and output operations.

Data:

- RFID UHF Frequency: ETSI (EU) 865.6-867.6 MHz. FCC (NA) 902-925 MHz.
- RFID UHF Chip compatibility: EPC global Class 1 Gen 2 (ISO 18000-6C).
- RFID UHF Antenna.



Properties:

- Validation and reading of articles.
- Label recording.
- Built-in tablet / PC with integrated Meraky software.
- Valid for item entry and exit operations.
- Stock report generator
- Article loss alarm.

Data:

- RFID UHF Frequency: ETSI (EU) 865.6-867.6 MHz. FCC (NA) 902-925 MHz.
- RFID UHF Chip compatibility: EPC global Class 1 Gen 2 (ISO 18000-6C).
- RFID UHF Antenna.

3

Safe Drawer

Safe Drawer is a stock and inventory control system for environments that handle valuable items, such as jewelry. It incorporates a sales interface (POS) that updates the stocks of the products in real time. Showing the system administrator reports on stock, sales volume, theft, etc ...

Specs:

- User interface: Touch terminal.
- Weight: 15 Kg
- Dimensions: 800x400x180 mm.
- Construction: Aluminum, PP.

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