

# Active UHF Tag i-Q310 CST ISO 18000-7 Container Security Tag



The i-Q310 series of tags is IDENTEC SOLUTIONS' well-established generation of Intelligent Long Range® (ILR®) active RFID tags based on the ISO 18000-7 standard.

ILR provides highly accurate, real-time data collection without human intervention in wireless applications such as:

- identification
- tracking and tracing.

Using advanced UHF radio frequency technology, i-Q310 CST tags transmit and receive data at distances of up to 100 meters (300 feet).

These tags include also hardware interface for fast and secure data upload and a database based memory of up to 128 kilobytes, as well as 32 kilobytes of memory for sensor logging.

The Container Security Tag offers a door breach sensor, as well as light, temperature, humidity and shock sensors. The thresholds for the breach condition can be specified by the user.

The standardized anti-collision multi-tag-handling algorithm allows communication to tags even when thousands of tags are within the interrogator's read zone.

Because of its very low power consumption, the tag can operate effectively for over 3 years. Integrated speaker supports acoustic signalization during search, locate and alarms.

The i-Q310 tag line can withstand the abuse expected from work processes; the tags come in various form factors and with various features and memory sizes and are ideal fit for high volume tracking of assets.

## Features

- 100-meters (300 ft) read/write range
- 128K byte user memory
- 32KB memory for sensors
- 433 MHz operating frequency
- ISO / IEC 18000-7 compatible
- Security sensors
- USB 2.0 Hardwire Interface
- Speaker
- 3-year battery lifetime and more
- Replaceable battery
- Easy attachment to containers
- External antenna
- Sensor indication and labeling
- Alarm and battery status indication
- Communication on demand only
- Non-line-of-sight data transmission

## Benefits

- Allows automated identification, tracking and tracing of assets without human intervention.
- Stores up to 128KB of user data.
- Additional 32KB of memory is available for sensor logging.
- Allows low-power, long communication range and high data transmission rates with minimal interference due to local conditions.
- Manufacturer independent interoperation. US DoD and NATO ITV compatible.
- The tag utilizes a door breach sensor as well as light, temperature, humidity and shock sensors.
- Fast and secure data transfer with USB connection with mini-B connector.
- Acoustic signalization during search, locate, alarms.
- Delivers long-time maintenance-free operation, without battery replacement.
- Battery is replaceable to extend the tag's lifetime, tag provides battery status to the reader.
- Using integrated door mounted bracket, the tag is easily and securely attached to the containers.
- The tag utilizes external antenna for communication with the reader.
- Tag features "sensor on/off" indication and also provides the type of sensor(s) selected indicator labeling.
- The tag provides alarm and battery low indication without the need for a reader.
- Eliminates RF flooding through software-controlled read/write operations.
- Allows tags to be buried while transmitting for improved tracking/locating efficiency.

## IDENDEC SOLUTIONS

IDENDEC SOLUTIONS is a leading global supplier of innovative RFID systems (Radio Frequency Identification) with communication ranges of up to 100 m.

With its unique Intelligent Long Range® (ILR®) technology, IDENDEC SOLUTIONS offers innovative and economical solutions for automated data gathering, identification, tracking and localization of objects.

ILR® technology makes it possible to ensure that

- the right goods,
- in the right amounts,
- in the right condition,
- with the right information
- are located at the right place
- at the right time,

leading to increased efficiency and quality improvements in Production, Logistics and Supply Chain Management. To learn more about how ILR® technology can increase efficiency of your business, contact IDENDEC SOLUTIONS or visit our website at [www.identecsolutions.com](http://www.identecsolutions.com).

In Europe:

+43 5577 87387-0, or  
[sales@identecsolutions.at](mailto:sales@identecsolutions.at)

In North America:

1-866-402-4211 (toll free), or  
[sales@identecsolutions.com](mailto:sales@identecsolutions.com)

Information in this document is subject to change without notice and becomes contractual only after written confirmation by IDENDEC SOLUTIONS. "IDENDEC SOLUTIONS", "Intelligent Long Range", "ILR", "i-LINKS", "i-Q", "i-D", "i-B", "i-CARD", "i-PORT", "Solutions. It's in our name.", "Smarten up your assets." and the stylized "i" are trademarks or registered trademarks of IDENDEC SOLUTIONS, Inc. and/or IDENDEC SOLUTIONS AG.

Copyright © 2008 by IDENDEC SOLUTIONS.  
All rights reserved.  
Version 1.2 08/08

This device complies with Part 15 of the FCC Rules and with RSS-210 of Industry Canada.

Operation is subject to the following two conditions:  
(1) This device may not cause harmful interference, and  
(2) This device must accept any interference received, including interference that may cause undesired operation.

## Technical Specifications

### Performance

Read rate Up to 100 tags/s (Collect Tag Identification Code only)  
Max. response time < 150 ms (single tag)

### RF Communication

Read range Up to 100 m (300 feet) @ free air  
Write range Up to 100 m (300 feet) @ free air  
Operating frequency 433.92MHz  
Data rate (download to tag) 27.778 Kbits/s  
Data rate (upload to reader) 27.778 Kbits/s  
Frequency 433.92MHz international ISM band  
Modulation FSK ± 50 kHz at 27.778 kHz data rate  
Sensitivity -85dBm / range at least 300ft (~100m)  
Maximum transmission power 1mW– comply with national regulations  
Standard / Certification ISO/IEC 18000-7

### Hardwire Communication

Standard USB 2.0  
Connector Mini-B

### Electrical

Power source Lithium battery (replaceable)  
Expected battery life Typically 3 years and more depending on usage  
Battery monitoring Yes

### Data

Data retention >10 years without power  
Write cycles 100,000 writes to a tag  
User memory size 128K bytes  
Memory for sensors 32K bytes  
Identification code 32 bit fixed ID

### Environmental

Operating temperature -40°C to +80°C (-40°F to +176°F)  
Humidity 10% to 90% relative humidity at 30°C (+86°F)  
Shock 50 G, 3 times DIN IEC 68-2-27  
Multiple drops to concrete from 1 m (3 ft)  
3 G, 20 sine wave cycles, 5 Hz to 150 Hz,  
DIN IEC 68-2-6  
5 G, noise 5 Hz to 1000 Hz, 30 minutes  
DIN IEC 68-2-64

### Physical

Dimensions 5 in. x 2.5 in. x 2.0 in. (tag without the mount)  
Enclosure Plastic (ASA / Luran® S)  
Weight 100 g (3.52 ounces)  
Enclosure rating IP 65

**WARNING: Changes or modifications not expressly approved by manufacturer could void the user's authority to operate the equipment**

Contents subject to change without notice.

[www.identecsolutions.com](http://www.identecsolutions.com)

Europe:

**Austria:** IDENDEC SOLUTIONS AG, Millennium Park 2, 6890 Lustenau / AUSTRIA Tel: +43 (0)5577 87387-0 Fax: +43 (0)5577 87387-15

**Germany:** IDENDEC SOLUTIONS Deutschland GmbH, Hertzstr. 10, 69469 Weinheim / GERMANY Tel.: +49 (0)6201 9957-0 Fax: +49 (0)6201 9957-99

North America:

**USA:** IDENDEC SOLUTIONS INC., Liberty Plaza II, 5057 Keller Springs Rd. Suite 375, Addison, Texas 75001 Tel: +1(972) 535 4144 Fax: +1(469) 424 0404