

# Active UHF Tag

## i-Q310 SET ISO 18000-7 Sensor 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
- sensor logging.

Using advanced UHF radio frequency technology, i-Q310 SET 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 Sensor Tag offers sensors for door breach, light intrusion, temperature, humidity and shock. 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
- USB 2.0 Hardwire Interface
- Speaker
- 3-year battery lifetime and more
- Replaceable battery
- Easy attachment to assets
- Security sensors
- Sensor indication and labeling
- User access to tag functions
- Status reporting
- 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.
- 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 easy on/off mounting bracket, the tag is easily and securely attached to any asset.
- The tag utilizes a door breach sensor as well as light, temperature, humidity and shock sensors.
- Features "sensor on/off" indication and also provides the type of sensor(s) selected indicator labeling.
- The tag provides user selectable method to access the sensor activation, alarm status, and low battery state of the tag without the need for an interrogator.
- The tag sends sensor activation state and alarm status to the reader during collections.
- 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).

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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, includes data collects and at least 50 local accesses of sensor activation state and alarm status
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
Vibration	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	5.81 in. x 2.17 in. x 1.5 in.
Dimensions w/ mount:	6.19 in. x 2.17 in. x 1.77 in.
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**

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