

# Active UHF Tag i-Q Series



The i-Q series of tags is IDENDEC SOLUTIONS' well-established generation of Intelligent Long Range® (ILR®) active RFID tags.

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

- identification
- tracking and tracing
- localization and
- temperature monitoring.

Using advanced UHF radio frequency technology, i-Q tags transmit and receive data at distances of up to 30 meters (100 feet) from a handheld device or up to 100 meters (300 feet) from a fixed interrogator.

The unique, highly sophisticated 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 6 years.

Tags of the i-Q series are available with expandable memory and an optional sensor for monitoring temperature.

Also, the optional LED supports visual recognition, such as, for example, for "pick-by-light" applications.

The i-Q tag line can withstand the abuse expected from work processes; the tags are very economical and an ideal fit for high volume tracking of assets and people.

## Features

- 100 meters (300 ft) read/write range
- 8,000 Bytes memory (Option: 32,000)
- UHF operating frequencies
- 100 tags/sec. identification rate
- 2,000 tags simultaneous identification
- Temperature logging (Option)
- LED (Option)
- 6 year battery lifetime
- Communication on demand only
- Non-line-of-sight data transmission
- Low cost

## Benefits

- Allows automated identification, tracking and tracing of assets and people without human intervention.
- Stores user and process information as well as temperature data onto the tag to provide real-time tracking and tracing. Can be used as an electronic packing slip or as an electronic shop traveler.
- Allows low-power, long communication range and high data transmission rates with minimal interference due to local conditions.
- Provides reliable identification of fast moving-objects.
- Large numbers of tags can be identified virtually simultaneously.
- Measures and logs the temperature of goods in definable intervals.
- Provides visual identification of an addressed tag ("pick by light").
- Delivers long-time maintenance-free operation, without battery replacement.
- Eliminates RF flooding through software-controlled read/write operations.
- Allows tags to be buried while transmitting for improved tracking/locating efficiency.
- Economical tracking of large quantities of assets using high-performance active technology.

## IDENDEC SOLUTIONS

IDENDEC SOLUTIONS is the global leader in active wireless tracking solutions. A commitment to developing ground-breaking, industry-specific tracking solutions featuring proprietary patented technology has placed IDENDEC SOLUTIONS in the international forefront as a technology provider for innovation and as a complete solution provider in the automotive, oil, gas and mining industries.

Utilized by the world's leading organizations and system integrators, IDENDEC SOLUTIONS' award-winning technology portfolio offers robust, highly effective tracking solutions that manage critical process and optimize supply chain flow. Privately held since 1999, IDENDEC SOLUTIONS has provided asset management solutions and support to a variety of organizations, including an impressive roster of Fortune 500 clients such as Volkswagen, Audi, Deutsche Post and General Electric. Headquartered in Lustenau, Austria, the company's North American headquarters are located in Dallas, Texas, with customer service centers in Hong Kong, Germany, Australia and Norway. For more information, please visit: [www.identecsolutions.com](http://www.identecsolutions.com).

Information in this document is subject to change without notice and becomes contractual only after written confirmation by IDENDEC SOLUTIONS.

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.

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

"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.

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## Technical Data

### Performance

Read rate	Up to 100 tags/s (Identification Code only) Up to 35 tags/s @ 128 bit data reading
Max. response time	< 150 ms (single tag)
Multiple tag handling	Up to 2,000 tags in the read zone

### Communication

Read range to i-PORT 3	Up to 100 m (300 feet) @ free air
Write range to i-PORT 3	Up to 100 m (300 feet) @ free air
Operating frequency	868 MHz (EC) or 915 MHz (NA)
Data rate (download to tag)	115.2 kbits/s
Data rate (upload to reader)	115.2 kbits/s
Maximum transmission power	0.75 mW ERP
Standards / Certification	EN 300 220 (EC); FCC Part 15 (US); Industry Canada

### Electrical

Power source	Lithium battery (not replaceable)
Expected battery life	> 6 Years @ 600 times 128 bit readings/day
Battery monitoring	Yes

### Temperature logging (Option)

Number of samples	13,312 (i-Q32T)
Interval	User definable in intervals from 1 to 255 minutes
Accuracy	± 0.5°C (1°F) over a range of -40°C to +85°C (-40°F to +185°F)
Resolution	0.25°C (0.5°F)

### Data

Data retention	> 10 years without power
Write cycles	100,000 writes to a tag
Memory size	7,855 bytes user definable (i-Q8) 32,431 bytes user definable (i-Q32)
Identification code	48 bit fixed ID

### Environmental

Operating temperature	-40°C to +85°C (-40°F to +185°F)
Shock	50 G, 3 times DIN IEC 68-2-27 Multiple drops to concrete from 1 m (3 ft)
Vibration	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	131 mm x 28 mm x 21 mm (5.2 in. x 1.1 in. x 0.85 in.)
Enclosure	Plastic (ASA / Luran® S)
Weight	50 g (1.75 ounces)
Enclosure rating	IP 65

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