



# i-Q310 SET ISO/IEC 18000-7 SENSOR TRANSPONDER



The i-Q310 series of transponders is IDEN TEC SOLUTIONS' well-established generation of SensorSMART active RFID transponders based on the ISO/IEC 18000-7 standard.

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

- identification
- tracking and tracing of cargo, vehicles, and other assets,
- sensor logging.

Using advanced UHF radio frequency technology, i-Q310 SET transponders transmit and receive data at distances over 140 meters (460 feet).

These transponders include also hardwire

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 Transponder offers sensors for light intrusion, temperature, humidity as well as shock. The thresholds for the breach condition can be specified by the user.

Because of its very low power consumption, the transponder can operate effectively for over 5 years. Integrated speaker supports acoustic signalization during search, locate and alarms.

## BENEFITS

140-meters (460 ft) read/write range - 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.

433 MHz operating frequency- Allows low-power, long communication range and high data transmission rates.

ISO / IEC 18000-7 compatible - Manufacturer independent interoperation. US DoD and NATO ITV compatible.

Speaker - Acoustic signalization during search, locate, alarms.

5-year battery lifetime and more - Delivers long-time maintenance-free operation, without battery replacement.

Battery is replaceable to extend the transponder's lifetime, reverse during transport storage.

Flexible mounting - Direct with tie-wraps. Optional Mounting bracket or magnetic mount.

## FEATURES

- 140-meters (460 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
- 5-year battery lifetime and more
- Replaceable battery
- Flexible mounting
- Security sensors
- LED for sensor and battery status

Information in this document is subject to change without notice and becomes contractual only after written confirmation by IDEN TEC SOLUTIONS. "IDEN TEC 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 IDEN TEC SOLUTIONS, Inc. and/or IDEN TEC SOLUTIONS AG.

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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.



# i-Q310 SET ISO/IEC 18000-7 SENSOR TRANSPONDER

IDEN TEC SOLUTIONS delivers innovative wireless sensor technology and systems that are helping transform the way business manages industrial processes and safeguards lives.

Committed to developing industry-leading, low power and long-range sensor based solutions, IDEN TEC SOLUTIONS' SensorSMART networks have been setting the industry standard since 1999. Currently deployed on every continent throughout the globe in the Marine, Intermodal & Logistics, Oil, Gas & Mining, Construction industries as well as sought out by the world's leading system integrators and governments; IDEN TEC SOLUTIONS patented technology is helping to optimize productivity in some of the continent's most challenging situations. Robust, flexible and powerful IDEN TEC SOLUTIONS technology delivers when others cannot.

IDEN TEC SOLUTIONS is privately held, with its corporate office located in Lustenau, Austria, and North American headquarters in Dallas, Texas, along with service centers in Germany, Australia and Norway. For more information, please visit [www.identecsolutions.com](http://www.identecsolutions.com).

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.

## TECHNICAL SPECIFICATIONS

### Performance

Read/Write range	up to 140 m (460 feet) in free air (line of sight)
Communication	
Operating frequency	433.92 MHz
Air protocol	ISO/IEC 18000-7
Data rate	27.778 Kbits/s
Modulation	FSK ± 50 kHz at 27.778 kHz data rate
Sensitivity	-95dBm
Transmit power	≤ 0 dBm to comply with national regulations

### Hardwire Communication

Standard	USB 2.0
Connector	Mini-B

### Electrical

Power source	3.6V Lithium battery (replaceable)
Expected battery life	Typically 5 years and more, depending on usage
Battery monitoring	Yes

### Data

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

### Environmental

Operating temperature	-30°C to +70°C (-22°F to +158°F)
Storage temperature	-40°C to +70°C (-40°F to +158°F)
Humidity	10% to 90% relative humidity at 30°C (+86°F)
Shock & Vibration	Multiple drops to concrete from 1 m (3 ft) MIL-STD 810F
Enclosure rating	IP 65

### Physical

Dimensions	147 mm L x 55 mm W x 39 mm H (5.79 in. L x 2.17 in. W x 1.53 in. H)
Dimensions w/ mount:	156 mm L x 55 mm W x 45 mm H (6.25 in. L x 2.17 in. W x 1.75 in. H )
Enclosure	PC/ABS with UV inhibitors, UL 94 V0
Color	Black
Weight	100 g (3.52 ounces), (125 g with battery)

### Approvals

Radio	FCC Part 15, EN 300220, RSS-210
EMC & Immunity	EN 301489
Safety	EN 60950
Ordnance	HERO Listed

### Accessories

Magnetic Mount	PN 388474
Mounting Bracket	PN 389879

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