IDENTEC
SOLUTIONS

i-Q350L M, Microtag Manual

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Radio Frequency Compliance Statement

IDENTEC SOLUTIONS is the responsible party for the compliance of the following devices:

MODELS:	i-Q350L M	
Region/Country	Organization	Marking
EUROPE	EC	CE
USA	FCC	FFC ID 004-ILR-IQ350LM
Canada	Industry Canada	IC: 3538A-IQ350LM

The user(s) of these products are cautioned to only use accessories and peripherals approved, in advance, by IDENTEC SOLUTIONS. The use of accessories and peripherals, other than those approved by IDENTEC SOLUTIONS, or any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

European Notification according R&TTE Directive

This equipment complies to Art. 6.4 of R&TTE Directive (1999/5/EC). It is tested for compliance with the following standards: ETSI EN 300 220, ETSI EN 301 489, EN 60950

USA Notification

This device complies with part 15 of the FCC Rules. 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.

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Contents

1   Introduction

1.1   Preparations

This installation manual must be read carefully prior to starting the installation. The described installation works assume that installation materials like cable, antenna and tag holder etc are available.

1.2   Recommended Procedure

1.   Check the Scope of Delivery according to the Bill of Delivery
2.   Read this manual completely
3.   Do the initial operation for every single tag
4.   Mount the tags
5.   An additional performance check of the tags and a system test can now be done

1.3   Scope of this Document

This document is the user's manual of the model i-Q350L M.
This document is intended only for mechanical installation rsp. everyday use.

1.4   Responsibility

IDENTEC SOLUTIONS is not responsible for any errors occurring in this document.

1.5   Associated Documents

•   i-Q350L M — ILR350 Microtag Datasheet

1.6   Scope of Delivery—Visual Inspection

Check delivery whether it is complete and for any damages. If the delivery is not complete or damaged immediately inform the carrier. The dispatch and service organization of IDENTEC SOLUTIONS should also be informed to facilitate the repair or exchange of the system.

2 Safety Precautions

Important Safety Note

The devices described in this manual is for exclusive operation by trained employees. Only qualified personnel that know the potential dangers involved should perform the installation, settings, maintenance and repair of the units used.

Operational Safety

The correct and safe use of these systems assumes that operating and service personnel follow the safety measures described in the manual alongside the generally acceptable safety procedures.
If there is a possibility that safe operation cannot be guaranteed the system must be switched off and secured against accidental use. Then the service unit responsible must be informed.

Do not open the housing

There is no need to open the housing. There are no user serviceable parts inside. Set-up and configuration during initial operation is done wireless with the built-in air interface.

Handling Safety

On account of high operating temperature of 70 °C (+158 °F) care must be taken, if the tags are heated. To avoid burn wait a while until the tags have cooled down or use gloves. At temperatures below 0 °C (+32 °F) tags can be iced. In this case, wait a while until tags are warmed up or use gloves.

Battery Inside

All tags contain a battery. That is the reason for the following instructions:

<div align="center">

Warning
Fire, explosion and burn hazard
Risk of explosion if battery is replaced by an incorrect type
Do not recharge, short circuit, crush, disassemble, heat above 70 °C (158 °F)
Do not incinerate, or expose contents to water

</div>

Electrostatic Discharge

This product contains components that are sensitive to electrostatic discharges. Please observe the special instructions for their protection. Incorrect handling can damage the unit and cause the invalidation of the warranty.

Safety Documents

This ILR system was designed, tested and supplied in perfect condition according to document test report EN60950.

Condensation/Change of Temperature

Moving the systems from a cold to a warm environment could lead to dangerous situations due to condensation. Therefore it must be ensured that the system can adjust itself to the warmer temperature.

Spare Parts

We recommend that only original products, spare and replacement parts authorized by IDENTEC SOLUTIONS be used for installation, service and repair. Otherwise IDENTEC SOLUTIONS does not accept any responsibility for materials used, work carried out or possible consequences.

3 Initial Operation

3.1 Configuration of The Tag

Important Note

Do not open the housing! Configuration is done using the built-in air interface of the i-Q350L M.

Configuration

The i-Q350L M is configured according to the specific application by the custom-specific host software.

Things to be configured

- The ping rate: from 0.5 to 300 seconds in steps of 0.5 seconds

- The number of bursts: from 0 to 15 (factory default setting: 5)

- Broadcast Telegram Mode:
    - ILR B2 (ASK) compatible with i-PORT MB, i-CARD CFB
    - ILR 350 (FSK) compatible with i-PORT M 350, i-CARD CF 350

3.2 Tag Handling

The i-Q350L M is intended to be worn by individuals.

With its hook it can be fixed to clothing with snap-fastener straps or Velcro straps e.g. to a buttonhole.

The following picture gives an impression of the convenient size of the tag.

4   Maintenance

4.1   General

In principle, the ILR system is maintenance-free. When correctly installed it operates for many years without any problems.

4.2   Precautionary Maintenance

Regular checking to the system is recommended. Make sure that the housing of the tag has no damage. If there are any damages as holes or cracks, the tags should be replaced and returned to IDENTEC SOLUTIONS immediately.

Regular checking of all ports and cables belonging to the system is recommended. Unstable connections could lead to damage and malfunctions of the system and therefore should be repaired as soon as possible.

A Brief Checklist

- Are all housings intact?

- Are all cables intact?

- Are all connectors intact?

- Are all connectors securely fastened?

- Are all screws still tight?

- Is there suddenly a malfunction at a specific unit?

4.3   Returns

Parts or main components returned for repair or exchange must be handled with great care. PC cards must be returned in the appropriate ESD-protecting packaging material.
All returns should include a completed returns form (see appendix) and be sent to the local distributor or to:

> IDENTEC SOLUTIONS AG
> Service Department
> Millenium Park 2
> 6890 Lustenau
> AUSTRIA / AUTRICHE

5   Technical Data

Operating Data

Operating frequency ILR-RFID	868 MHz (EU) or 920 MHz (NA), further frequencies on request
Transmission power	0.75mW (EU / NA)
Compatibility	depending on Broadcast Telegram Mode:
	- ILR B2 (ASK) compatible with i-PORT MB, i-CARD CFB
	- ILR 350 (FSK) compatible with i-PORT M 350, i-CARD CF 350
Standards/Certification	FCC Part 15 (US), ETSI EN 300 220 (EU)

Communication Data Long-Range RFID (ILR, Response Technology)

Multiple tag handling	Up to 2,000 tags in the read zone
Read/write range response mode	Up to 10 m (30 feet), free air*
Data rate response	19.2 to 115.2 kbits/s

Communication Data Long-Range RFID (ILR, Beacon Technology)

Read range broadcast	Up to 150 m (500 feet) free air*
Operation mode	Transmits marker information in at regular intervals
Repetition rate (ping rate)	0,5 – 300 seconds, adjustable in steps of 0,5 seconds
Data rate broadcast	115.2 kbits/s

* The communication range depends on the antenna type, the antenna cable runs and the environmental conditions.

Communication Data Inductive Loop (Marker)

Read range	Up to several meters
Operating frequency	125 kHz (world-wide approved)
Operation mode	Receives marker ID number and transmits marker information several times

Electrical Data

Power supply	Lithium battery

Configuration

Ping rate	Configurable from 0.5 to 300 seconds in steps of 0.5 seconds
Number of Bursts	Configurable from 0 to 15

Environmental Conditions

Operating temperature	–30 to +70 °C (–22 to +158 °F)
Shock	50 G, 3 times acc. DIN IEC 68-2-27 several times onto concrete floor from 1 m height
Vibration	3 G, 20 sine wave cycles, 5 to 150 Hz, DIN IEC 68-2-6 5 G, noise 5 to 1.000 Hz, 30 minutes DIN IEC 68-2-64

Mechanical Data

Dimensions	56 mm × 30 mm × 14 mm
Casing	Plastics
Mass	40 g
Protection class	IP 65

Certifications

EMC	CE (EN 300 220-1, -3; ETSI EN 301 489-1, -3), FCC Part 15 (US), Industry Canada