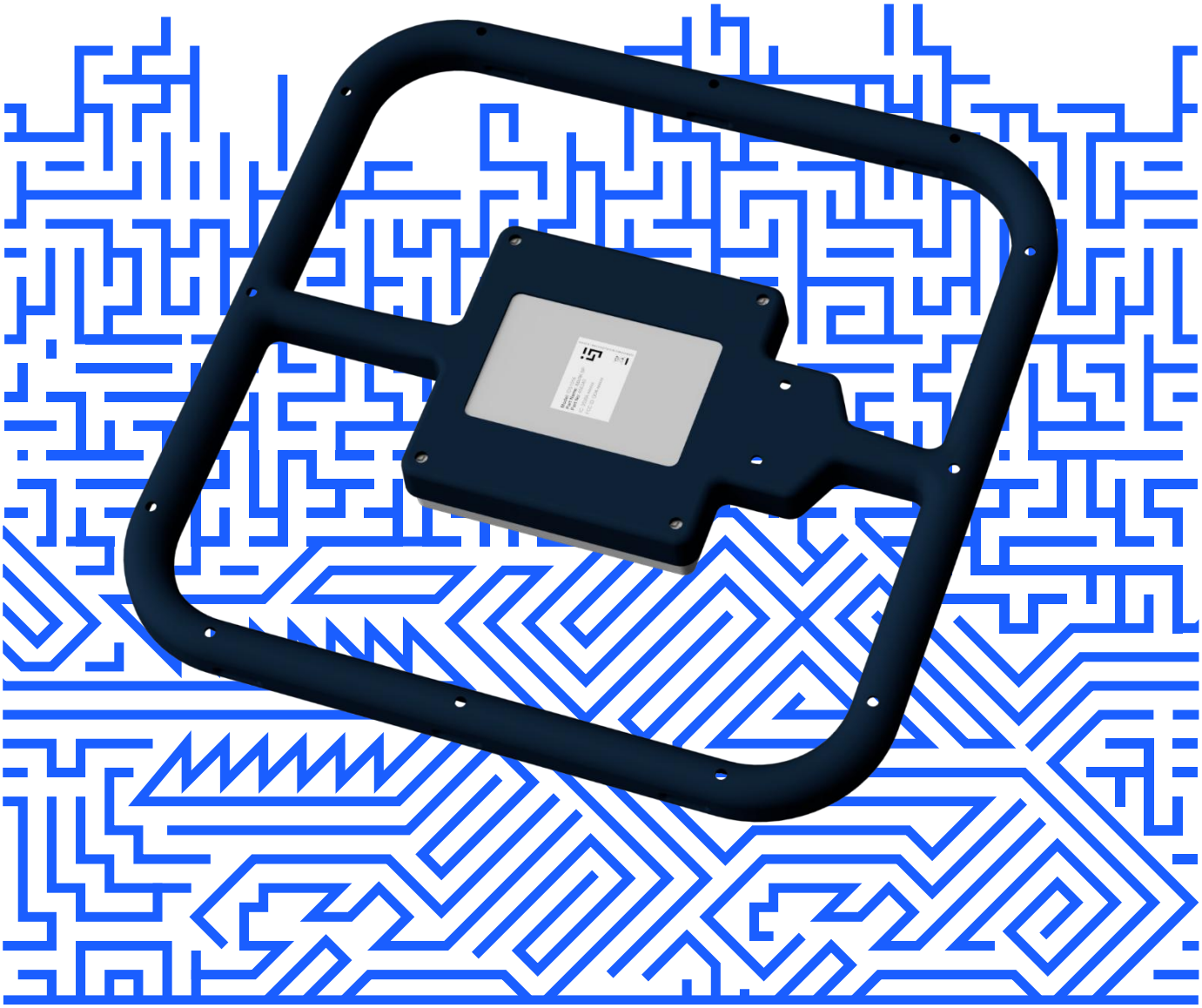
IDENTEC SOLUTIONS

identecsolutions.com

iMARK BP (IDS1016)

Hardware User Manual



CONTENTS

DOCUMENT HISTORY

Num	Filename	Version	Author	Date
1	M_EN_iMARK_EC_V10	1.0	FEK	28.07.2025
2				

PROPRIETARY NOTICE

THIS DOCUMENT CONTAINS CONFIDENTIAL INFORMATION PROPRIETARY TO IDENTEC SOLUTIONS1 AND MAY NOT BE USED OR DISCLOSED TO OTHER PARTIES IN WHOLE OR IN PART WITHOUT THE PRIOR WRITTEN AUTHORIZATION FROM IDENTEC SOLUTIONS.

DISCLAIMER AND LIMITATION OF LIABILITY

IDENTEC SOLUTIONS AG AND ITS AFFILIATES, SUBSIDIARIES, OFFICERS, DIRECTORS, EMPLOYEES, AND AGENTS DO NOT MAKE ANY EXPRESS OR IMPLIED WARRANTIES OR REPRESENTATIONS WITH RESPECT TO SUCH INFORMATION INCLUDING, WITHOUT LIMITATION, WARRANTIES AS TO NON-INFRINGEMENT, RELIABILITY, SUITABILITY FOR A PARTICULAR PURPOSE AND ACCURACY. IDENTEC SOLUTIONS SHALL NOT UNDER ANY CIRCUMSTANCES BE LIABLE TO ANY PERSON FOR ANY SPECIAL, INCIDENTAL, INDIRECT OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION, DAMAGES RESULTING FROM USE OF OR RELIANCE ON INFORMATION PRESENTED HEREIN, OR LOSS OF PROFITS OR REVENUES OR COSTS OF REPLACEMENT GOODS, EVEN IF INFORMED IN ADVANCE OF THE POSSIBILITY OF SUCH DAMAGES.

OF THIS DOCUMENT SHALL BE SOLELY RESPONSIBLE FOR PROPER SELECTION, APPLICATION, AND USE OF THE PRODUCT DESCRIBED HEREIN, AS WELL AS THE INCORPORATION/INTEGRATION OF SUCH PRODUCT INTO OTHER EQUIPMENT OR SYSTEMS. THE USER SHALL INDEMNIFY AND HOLD IDENTEC SOLUTIONS HARMLESS FROM AND AGAINST ANY AND ALL DAMAGES, LIABILITIES, CLAIMS, OR EXPENSES (INCLUDING REASONABLE ATTORNEYS' FEES) ARISING OUT OF OR RELATING TO (I) IMPROPER SELECTION, APPLICATION, INSTALLATION, USE OR INCORPORATION/INTEGRATION OF THE PRODUCT; OR (II) INFRINGEMENT OF ANY PATENT, TRADEMARK, COPYRIGHT OR OTHER THIRD PARTY INTEREST ARISING OUT OF IDENTEC SOLUTIONS' COMPLIANCE WITH ANY OF THE USER'S DESIGNS, SPECIFICATIONS, OR INSTRUCTIONS RELATED TO THE PRODUCT.

TRADEMARKS

"IDENTEC SOLUTIONS", THE STYLIZED "i", "iPORT", "iPOINT", "iMARK" AND "BECAUSE IT WORKS" ARE TRADEMARKS OF IDENTEC SOLUTIONS.

COPYRIGHT NOTICE

[1] IDENTEC SOLUTIONS means IDENTEC SOLUTIONS AG, currently including the following subsidiaries: a) IDENTEC SOLUTIONS Deutschland GmbH; b) IDENTEC SOLUTIONS Norway AS; c) IDENTEC SOLUTIONS Inc; d) IDENTEC SOLUTIONS Australia and New Zealand PTY LTD. IDENTEC SOLUTIONS AG reserves the right to establish additional subsidiaries at its sole discretion at any time without prior notice.

Radio Frequency Compliance Statement

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

MODEL:		IDS1016 iMARK BP
Region/Country	Organization	Marking
EUROPE:	EU	-
USA:	FCC	OO4-IDS1016
CANADA:	ISED	-

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 unauthorized changes to approved products, may void the compliance of these products, and result in the loss of the user(s) authority to operate the equipment.

USA Certification

FCC Part 15 compliance statement
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.

Radio Frequency (RF) Exposure Compliance of Radiocommunication apparatus

To satisfy FCC RF Exposure requirements for mobile devices, a separation distance of 20 cm or more should be maintained between the antenna of this device and persons during operation. To ensure compliance, operation at closer than this distance is not recommended. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

WARNING - This product should be installed by personnel trained in installation of equipment in Hazardous Locations and meet the representative country's National Electrical Code.

WARNING - 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.

Minimum safety precautions against electrostatic discharge:

Establish earth contact before you touch the unit. (For example, touch the earthing screw on the unit.) Best practice is to use an antistatic ribbon and earth yourself permanently for the time you handle the unit.

Never open the unit – nothing inside for user interaction or maintenance.

Use antistatic tools for the setting of the unit. (Warning: Do not touch life-threatening voltages with these tools).

Do not store units and components without protective packaging.

Remove unit and components from the packaging only prior to installation.

These notes are not sufficient to guarantee complete protection from electrostatic discharges! We recommend the use of suitable protective equipment.

IDENTEC SOLUTIONS does not accept the return of products where the regulations concerning the ESD precautions and protective packaging materials were not followed.

Safety Instructions

The equipment can be installed in restricted areas.

The system described in this manual is for exclusive operation of trained employees. Only qualified personnel that have knowledge of 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 operations cannot be guaranteed, the system must be switched off, secured against accidental use and the service unit responsible immediately informed.

Condensate / Change of Temperature

To avoid condensation in the system, the unit must be allowed to slowly adjust itself to warmer temperatures after removal from cold and cool environments.

Do not open the housing

There is no need to open the housing. The unit does not have any internal setting elements or displays.

Spare Parts

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

1.0 PREFACE

This installation manual must be read carefully prior to starting the installation. The described installation works assuming that installation materials like cables, antennas and any mechanical parts are available.

This document is the hardware description of iMARK BP. This document is intended only for mechanical and electrical installation of these units.

IDENTEC SOLUTIONS reserves the right to make changes and updates to the content contained herein. It is the user's responsibility to contact the service department for any possible changes or updates to operating and maintenance procedures.

Updates will be provided upon request. The information in this document may be subjected to changes without prior notice.

Check whether delivery 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.

Product Contents (deliverables):

- iMARK BP
- Hardware User Manual

2.0 INTRODUCTION

2.1. iMARK BP

IDENTEC SOLUTIONS' iMARK BP is a robust battery powered Zone-Location Marker device designed for medium external loop fields in static environments only.

The Housing contains:

- Primary Batteries for power supply
- Cable glands for connection of an external LF loop
- An external wire loop inside the carrier housing
- A magnetic switch for activation and installation

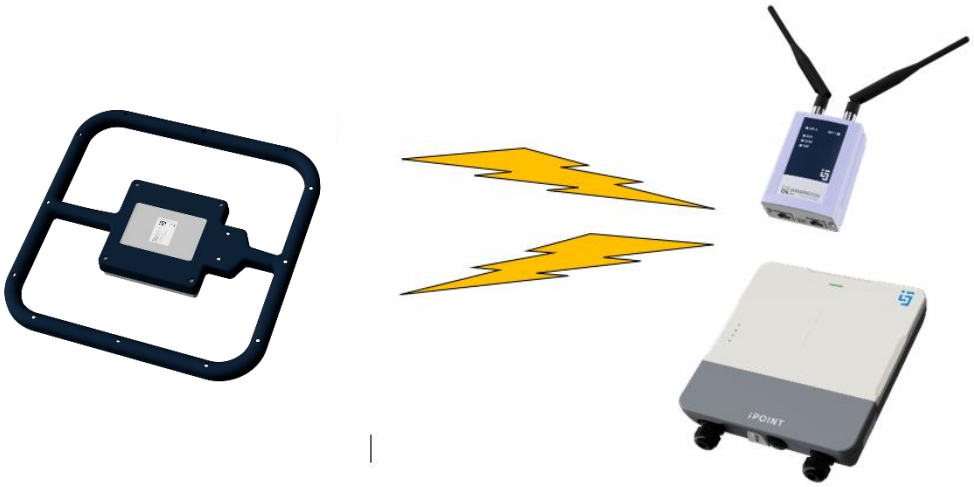
The iMARK BP is used as a standalone device and can be configured over Identec' s UHF ILR system.

Following is a description of the wireless technologies that are available within the iMARK BP Device.

2.1.1. UHF INTERFACE

The UHF interface is a wireless communication interface using the UHF ISM frequency band and IDENTEC's protocols.

The iMARK BP has an internal UHF antenna, it acts like a tag and can communicate up to a range of 100 meters with IDENTEC's readers.



2.1.2. LF INTERFACE

The LF Interface uses IDENTEC's Location Marker technology. Zone location of IDENTEC's tags at Low Frequency can be achieved with a configurable field range, depending on the external loop and the internal settings.

All technical data which is provided in this manual is based on the iMARK's normal operation mode which is Manchester coded LF modulation.

2.2. SYSTEM COMPONENTS - TAGS

Identec offers a wide range of tags that can be used with the iMARK EC. The tags can be used in Zone location applications using IDENTEC's LFboost technology and provides long range communication with readers up to 500 m (1640 ft), using advanced UHF radio frequency technology.

iQ355 Tags

Using advanced UHF radio frequency technology, iQ355 tags transmit and receive data at distances of up to 250 m (820 feet). In addition, they can be configured to beacon data at a configurable ping rate to a range of up to 500 m (1640 ft).

These active RFID tags are particularly suited for:

- Access Control
- Identification
- Tracking and Tracing
- Zone localization

i-Q350 Tags

Using advanced UHF radio frequency technology, i-Q350 tags transmit and receive data at distances of up to 250 m (820 feet). In addition, they can be configured to beacon data at a configurable ping rate to a range of up to 500 m (1640 ft).

These active RFID tags are particularly suited for:

- Identification
- Tracking and Tracing
- Localization
- Environmental Data Sensing

i-B350 Tags

IDENTEC SOLUTIONS' i-B350 tags are designed to be cost effective and easy to implement, while offering maximum flexibility. The beacon ILR® Tags continually send out their ID at pre-programmed intervals. They do not need to be interrogated for them to send their information—they do it automatically.

These active RFID tags are particularly suited for:

- Access control
- Tracking of Vehicles and Containers
- Online inventory
- Localization of assets at specific areas

All Tag types are available with the following options:

- *Marker technology* for locating goods, vehicles, etc. The Marker technology allows selective locating of a transponder, for example in adjacent car tracks or gate applications. Here the inductive Marker field informs the ILR® Tag about its current location.
- *LED* for visual recognition, such as, for example, for "pick by light" applications. The light is visible from almost every direction.

CONFIGURATION

The configuration of the iMARK EC is managed via the host software.

Available Identec Solutions Software

- Setup Scout
- i-Share

Please refer to the relevant software User Manuals for details on specific software usage.

The settings below can be different, depending on the type and size of the external loop

The following settings can be seen/changed in the host software:

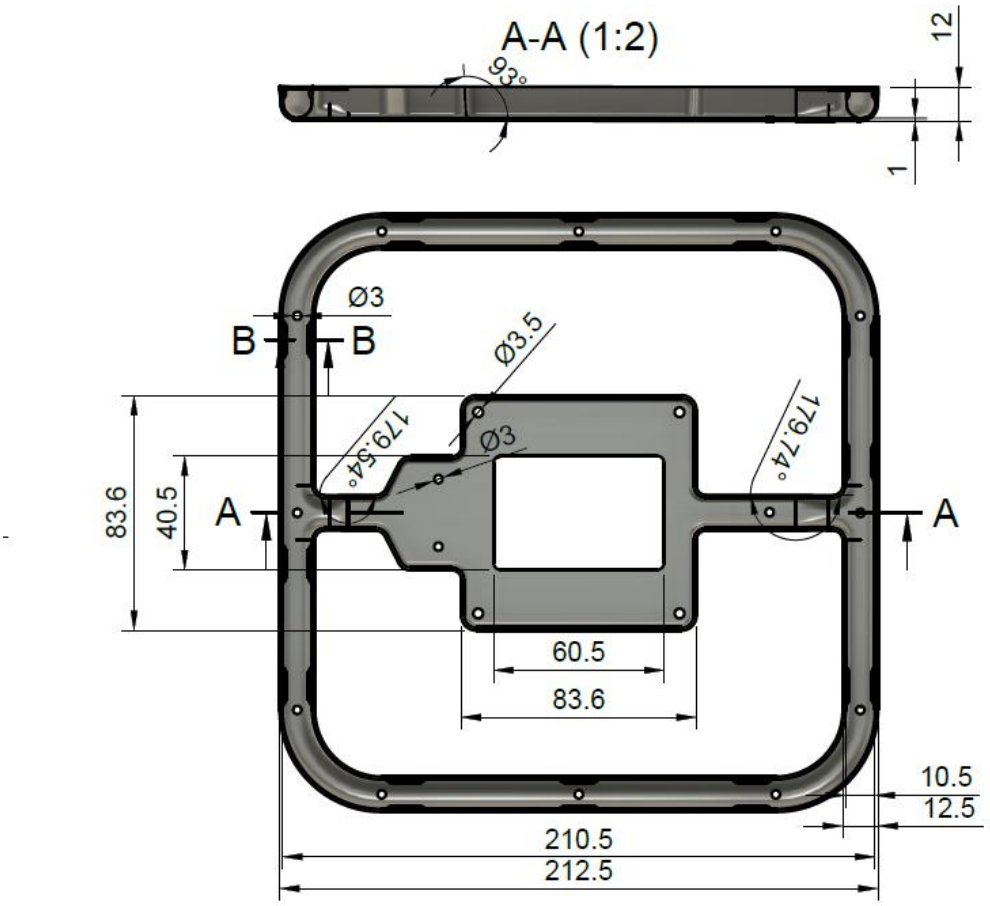
I. Tag Information
- Here you can see:
  - ***Tag Type***
  - ***serial number***
  - ***Firmware***
  - ***Supply Voltage***
  - ***Signal Strength***

II. Broadcast
- ***Active****:* Activate UHF broadcast mode [set to NO by default, for shipping purposes]
- ***Broadcast Interval****:* Set UHF broadcast interval of choice (e.g. 15 minutes)

III. LF
- ***Loop ID*****:** This can be set by the user to identify the Marker in a system. Do not use the same ID twice!
- ***LF Output Power*****:** Set the LF output power percentage, ultimately sets the range of the Marker*

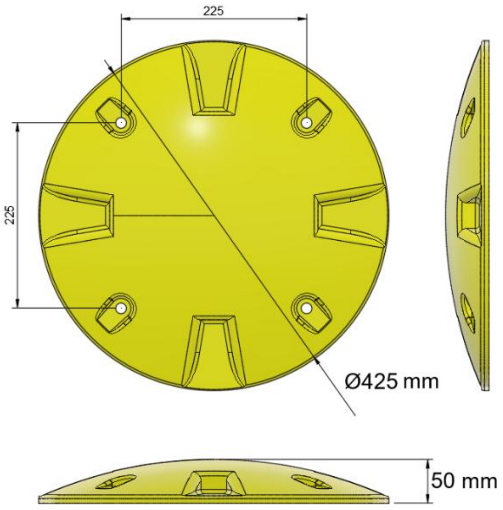
* The absolute range strongly depends on the environmental conditions (especially metal surfaces) and also the tag orientation. This information should be used as a guide only and range should be customized for specific customer site.

3.0 MECHANICAL INFORMATION AND INSTALLATION



Housing Dimensions

For ground or wall mounting in harsh environments a special protection pad is available from Identec. Please refer to user manual document “iMARK_BP_InstallationGuide_V10_prelim” and data sheet “iMARK_BP_InstallationGuide_V10_prelim”.



4.0 TROUBLESHOOTING AND MAINTAINANCE

This chapter covers how faults can be recognized and rectified.

When planning the total system, do not overlook the problem sources and “Fault finding procedures on system level” should be included in the host system. How this could look in detail depends on the relevant system concept and very likely varies from one system to another.

A Brief Checklist

- Are all housing intact?
- Are the cables damaged in any way?
- Are all screws still tight?
- Is there a sudden malfunction at a specific unit?

4.1. MAINTENANCE

When installed correctly the iMARK EC will operate virtually maintenance free for many years. However, in the event maintenance is required, only trained and authorized personnel are permitted to perform the updates, changes and necessary maintenance.

Regular Cleaning of the Surface

If the device needs cleaning, use a soft cloth moistened with a mild rinsing agent. Do not use cleaning products containing chemical additives.

Precautionary Maintenance

A regular check of the system is recommended. Unstable connections could lead to damage and malfunctions of the system and should therefore be repaired as soon as possible.

4.2. SPARE PARTS

Recommended spare parts stock

To minimize the downtime in the event of a malfunction, it is recommended to have certain spare parts on stock. For larger systems, doubling of the recommended stock quantity is recommended.

It is advised to have several spare iMARK BP in stock, corresponding to approx. 0.5 – 1 % of the total number of sensors.

Examination and repair of exchanged parts

The iMARK BP and other devices are complex electronic power units on which the customer can carry out only very limited repairs. Normally the repairs are carried out at IDENTEC SOLUTIONS or possibly at a distributor. Before a part is sent in for repair a short examination should be conducted.

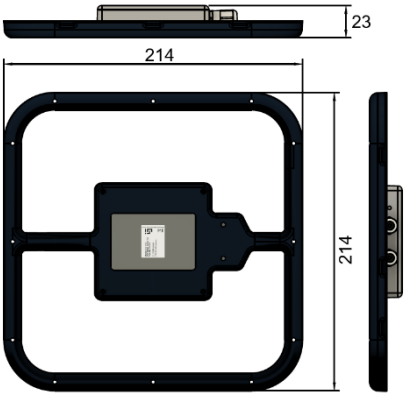
4.3. RETURNS

Parts or main components returned for repair or exchange must be handled with great care. All returns should include an error description and a short application overview and be sent to the local distributor or to:

IDENTEC SOLUTIONS AG
Millennium Park 2
6890 Lustenau
AUSTRIA

5.0 TECHNICAL SPECIFICATIONS

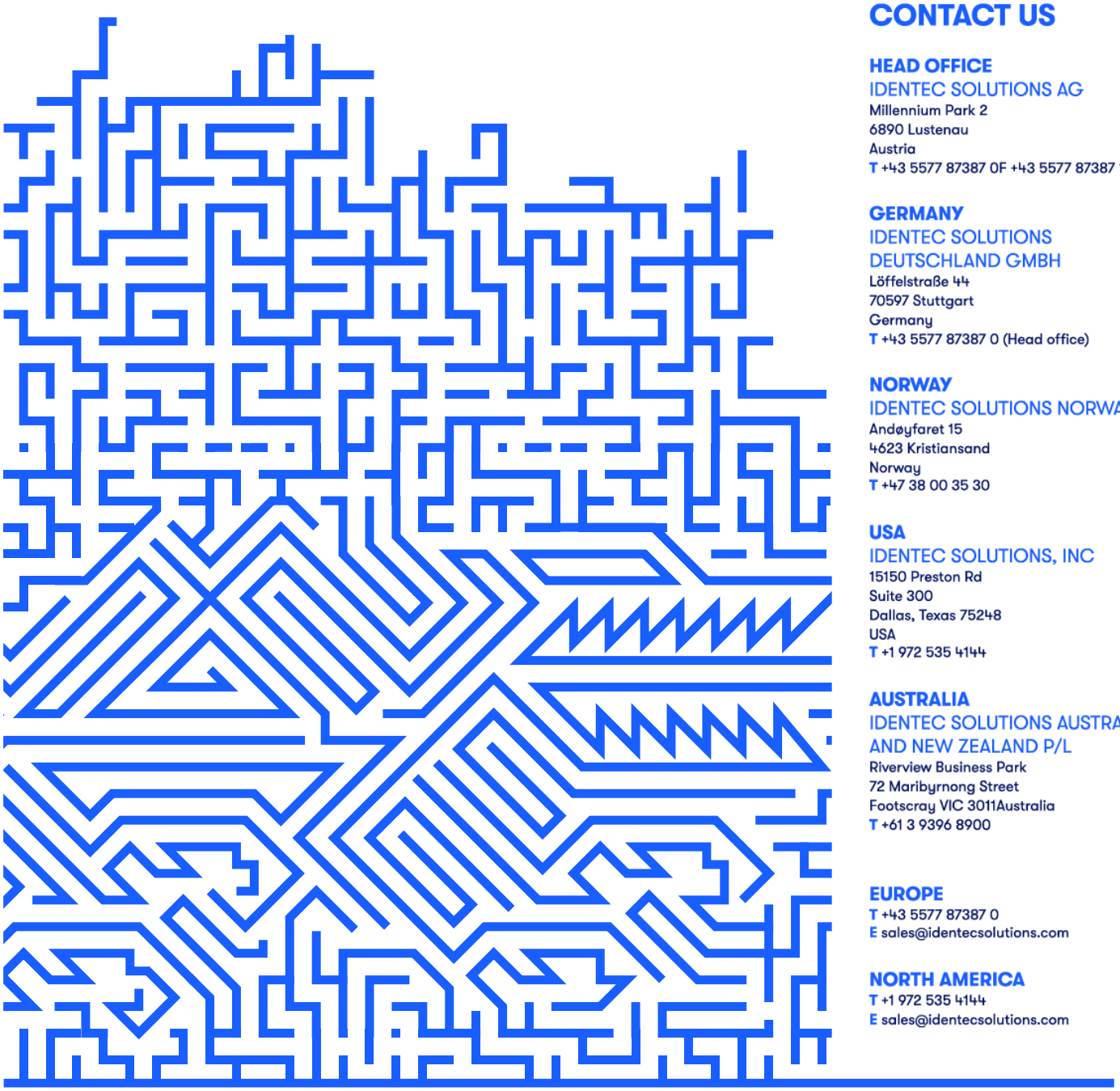
Communication Broadcast & Response UHF	
Operation Mode	Bidirectional communication of user data via UHF
Read Range	Up to 100m (300ft) [1]
Compatibility	i-PORT, iPOINT
Operating Frequency	919MHz Broadcast, 920MHz Communication [2]
Transmit Power	< 94 dBuV/m @3m
Communication LF Marker	
Operation Mode	Sends Marker ID at a predefined interval
Exciter Range	Up to 2m
Compatibility	LF enabled tags
Operating Frequency	125 kHz
Performance	
Marker ID	16 bit programmable
Diagnostics	Remote surveillance via UHF interface
Electrical	
Power Supply	2x Li-SOCI2 AA cells (up to 10 years battery lifetime @1min marker message interval)
Environmental Conditions	
Operating temperature	-25°C to + 70°C (-13°F to + 158 °F)
Storage Temperature	-40°C to + 85°C (-40°F to + 185 °F) Ideal storage for batteries: 10°C to 30°C (50°F to + 86 °F)
Humidity	90%, non-condensing
Standards / Certifications	
North America	**FCC** Part 15 (US) - Pending
Mechanical Data	
Dimensions (H x W x D)	23 x 214 x 214 mm (0.91 x 8.43 x 8.43 inches)
Mounting	Insert into protection pad
Enclosure Material	PC & ABS
Enclosure Rating	IP67
Weight	210g (7.4 Oz)
Ordering Information	
iMARK BP (IDS1016)	456340
Accessory: iMARK BP Protection Pad	456341
iMARK BP Mounting Kit	456342



[1] The communication range depends on environmental conditions and national regulation limits
[2] Other country frequencies are available, please contact IDENTEC SOLUTIONS

IDENTEC SOLUTIONS

identecsolutions.com



CONTACT US

HEAD OFFICE
IDENTEC SOLUTIONS AG
Millennium Park 2
6890 Lustenau
Austria
T +43 5577 87387 0F +43 5577 87387 15

GERMANY
IDENTEC SOLUTIONS
DEUTSCHLAND GMBH
Löffelstraße 44
70597 Stuttgart
Germany
T +43 5577 87387 0 (Head office)

NORWAY
IDENTEC SOLUTIONS NORWAY AS
Andøyfaret 15
4623 Kristiansand
Norway
T +47 38 00 35 30

USA
IDENTEC SOLUTIONS, INC
15150 Preston Rd
Suite 300
Dallas, Texas 75248
USA
T +1 972 535 4144

AUSTRALIA
IDENTEC SOLUTIONS AUSTRALIA
AND NEW ZEALAND P/L
Riverview Business Park
72 Maribyrnong Street
Footscray VIC 3011Australia
T +61 3 9396 8900

EUROPE
T +43 5577 87387 0
E sales@identecsolutions.com

NORTH AMERICA
T +1 972 535 4144
E sales@identecsolutions.com

IDENTEC SOLUTIONS BECAUSE IT WORKS