Allflex AFX-110 Reader

Reads 134.2 kHz, 128 kHz, and 125 kHz Microchips ISO compatible

USER MANUAL

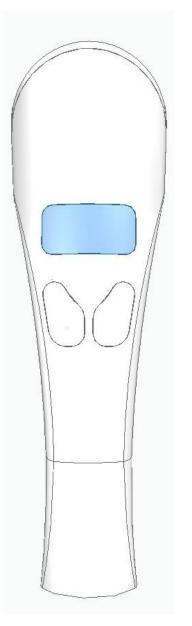




Table of Contents

| | 1 | Description3 |
|----------------------------------|-----|--|
| SETTING UP | 2 | Case and Components3 |
| | 3 | Operation and settings4 |
| | 3.1 | Getting Started4 |
| | 3.2 | Battery handling instructions4 |
| | 3.3 | Power on / off instructions5 |
| | 3.4 | Reading an implanted microchip5 |
| SET | 3.5 | Tones6 |
| | 3.6 | Vibrations6 |
| | 3.7 | Date/Time7 |
| | 4 | Installing Software |
| | 4.1 | System requirements |
| | 4.2 | Program installation |
| ∢ | 5 | Connecting to a PC9 |
| ZAT. | 5.1 | Using USB interface9 |
| IG E | 5.2 | Using wireless Bluetooth® connection10 |
| TRANSMITTING DATA TO COMPUTER | 6 | Memory13 |
| SMI | 6.1 | Memory management |
| SAN TO | 6.2 | Download Memory13 |
| T T | 6.3 | Temperature measurement |
| | 7 | Connecting the reader to an Application on smart phone or on Mobile Device14 |
| | 7.1 | Pairing with iPhone®/iPad® devices |
| | 7.2 | Pairing with Android™ devices14 |
| | 8 | Appendix15 |
| SNS | 8.1 | NET Framework 3.5 installation |
| ATIC | 9 | TROUBLESHOOTING |
| ER. | 10 | Specifications |
| P.O. | 11 | Limited Product Warranty18 |
| | 12 | Regulatory information |
| ADVANCED OPERATION | 12. | 1 USA-Federal Communications Commission (FCC) |
| | 12. | 2 Canada – Industry Canada (IC)19 |
| | 12. | 3 Miscellaneous information20 |
| | 12. | 4 Trademarks |
| | 12. | 5 Apple - Legal Notice20 |
| | 13 | Regulatory Compliance |

1 Description

AFX-110 is a universal portable reader for RFID microchips with the purpose of identifying animals.

The device can read a wide range of technologies: FDX-B ISO, HDX ISO, FDX-A (FECAVA), Trovan and Avid Encrypted. AFX-110 can also read and display the Microchip Temperature when reading microchips with temperature sensing implants from Allflex or Destron Fearing.

In addition to its microchip reading functions, the AFX-110 scanner can store up to 3000 IDs, each associated with a time/date stamp in its internal memory and transmit them to a personal computer via an USB cable or wirelessly using Bluetooth®.

2 Case and Components

Figure 1 - Packing

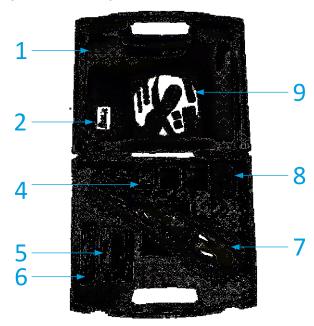


Table 1 – Packing list

| | - | 5 | | |
|------|---------------------------|--|--|--|
| Item | Features | Description | | |
| 1 | Plastic case | Use to transport the reader in a | | |
| | | robust case | | |
| 2 | Rechargeable NiMH battery | Supplies the reader. | | |
| 4 | US plug | Plug for wall adapter (5) | | |
| 5 | Wall adapter | Powers the reader and charges batteries. | | |
| 6 | USB Cable | Conveys data to and from reader. | | |
| 7 | Reader | - | | |
| 8 | Lanyard | - | | |
| 9 | Notice | Quick start guide | | |

Figure 2 - Reader features and user interface.

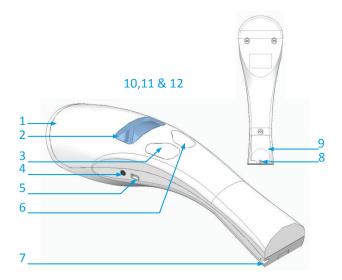


Table 2 – Reader features and description of use

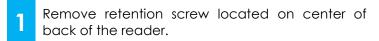
| Item | Feature | Description of use | | |
|------|----------------------------------|---|--|--|
| 1 | Antenna | Emits activation signal and receives RFID microchip signal. | | |
| 2 | Graphical readout with backlight | Displays information about current reader status. | | |
| 3 | "SCAN" button | Applies power and causes activation signal to be emitted for reading microchips | | |
| 4 | POWER connector | Electrical interface for charging. | | |
| 5 | USB connector | Electrical interface for USB cable. | | |
| 6 | "MENU" button | Applies power and access menu to change reader settings | | |
| 7 | Eyelet | Eyelet to place the lanyard | | |
| 8 | Battery door screw | Screw on batteries cover | | |
| 9 | Battery cover | Cover to access batteries | | |
| 10 | Bluetooth® (internal) | Wireless interface to communicate data to and from reader (not pictured) | | |
| 11 | Audible beeper | Beeper to identify the different reader functionalities | | |
| 12 | Vibration mode | Vibration systems to indicate readings. | | |

3 Operation and settings

3.1 Getting Started

AFX-110 comes supplied with six AAA **rechargeable NiMH battery pack** (7.2 V / 750mAh) which must be **fully charged prior to use**, as diagram below (step 1 through 5).







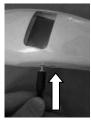


2 Connect the battery pack to the connector.





Replace lid and screw.





Attach the power cord in the reader.

Plug the adaptor into power outlet. The battery level icon will flash while

charging and stop flashing when fully charged. A full charge may take 3.5 hours.

3.2 Battery handling instructions

Please read and follow the handling instructions for the battery before use. Improper use of the battery may cause heat, fire, rupture, damage or capacity deterioration of the battery.



Caution

RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.



Warning

Use rechargeable batteries with the same capacity.

Do not use this reader near water when connected to the AC/DC adapter.

Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus that produce heat.

Do not charge the battery pack from AC main sources during electrical storms or when unused for long periods of time.

The batteries must be charged indoors only, at temperature between 0° and +35°C. For best battery performance, charge unit at least every three months, if reader is unused.



Use the adapter (AC Input: 100-240V, 50/60Hz, 0.4A; DC Output: 12.0V, 0.58A) provided with the reader to charge the batteries.

3.3 Power on / off instructions

To turn the AFX-110 on, press and release one button once. During this start up time the reader will display the screen below and beep once.





Note 1 - Once activated, the reader will stay on for 2 minutes by default.

3.4 Reading an implanted microchip

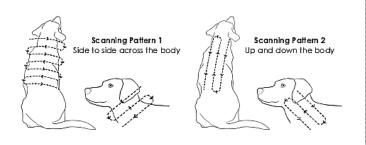
3.4.1 Scanning and locating an implanted microchip

When searching implantable microchips, place the reader so it touches the animal.

Use the following scanning patterns to locate the microchip. Perform pattern 1 and 2 on Left, Top and Right sides of animal's neck and shoulders, as microchip placement might vary per animal.

For Pets

Keep scanner touching animal and scan slowly following patterns below:



For other species

Keep scanner touching animal over standard location for particular species.



While pressing the SCANNING button, the reader will display the screen below, until a microchip is found or until a 20-second elapse after the button release.



If a microchip is not detected, the reader will display "ID not found". In that case, we recommend rescanning the test chip to ensure reader is operating properly. The animal, then should be re-scanned, moving slower and in varying angle according to the patterns described above.



The following pictures show the result of a successful reading session:



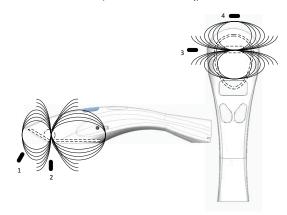


Note 2 – If a microchip was found and the reader is connected via its USB interface or its Bluetooth® interface to a host computer, it will send the microchip number to the host computer.

3.4.2 Read range performances

The figure below (Figure 3) illustrates the reading zone of the reader, within which microchips can be successfully read. Optimum read distance occurs depending upon the orientation of the microchip. Microchips are best detected when positioned as shown below.

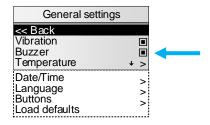
Figure 3 - Optimum Read Distance Microchip Orientation (position 1, 2, 3 and 4)



Typical read distances will vary when reading different types of microchips

3.5 Tones

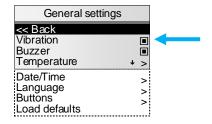
The scanner displays the icon \circlearrowleft when the beeper is enabled. To activate the option, enable it in the menu "general settings"



The scanner has distinct beep tones for different functions: after starting-up, when scan button is pushed, when scan button is released, when microchip is found, or during low battery condition.

3.6 Vibrations

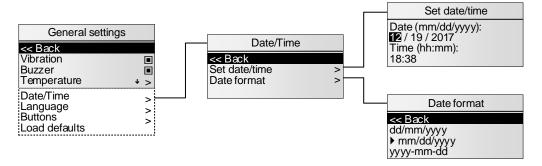
The scanner displays the icon when the vibration mode is enabled. To activate the option, enable it in the menu "general settings"



3.7 Date/Time

The scanner provides a Time Stamping Function that inserts the date and the time for each ID number into the list of ID numbers stored.

The user can configure the date/time format, the date and the time through the menu or through communication interface (USB or Bluetooth® port).



4 Installing Software

The AFX-110 is supplied with the AFX-100/AFX-110 Software. AFX-100/AFX-110 Software provides the following capabilities:

- Change reader settings.
- Configure a Bluetooth® connection with a remote device.
- Download reader memory and export animal ID's to Excel.
- Use your reader as a virtual keyboard.
- Update your reader firmware.

4.1 System requirements

- Microsoft® Windows® 2000 Service Pack 4, Windows XP, Windows Vista, Windows 7, Windows 8, Windows 8.1, and Windows 10 (This software is not compatible with Mac OS).
- Personal computer with:
 - 512 MB of RAM minimum.
 - 40 MB free hard disk space.
- AFX-100/AFX-110 Software requires .NET Framework 3.5 which is usually installed with Windows operating system. If it is not installed on your computer, the installation program will prompt you to install it (Refer to Appendix to see how to install .NET framework).

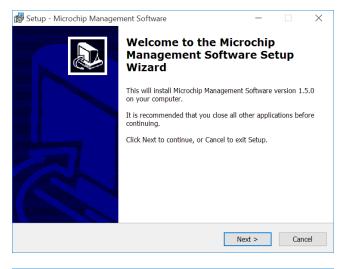
4.2 Program installation

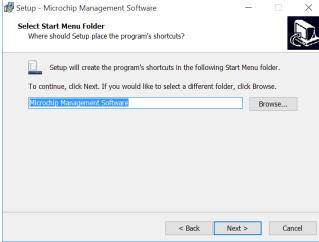
The AFX-100/AFX-110 Software (AFX-100/AFX-110 Software) is available for download at Follow the steps below to complete the installation process:

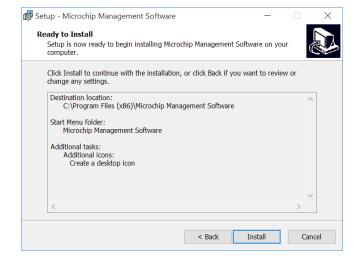
1. Double-click on the setup package to start the installation and choose the appropriate language.

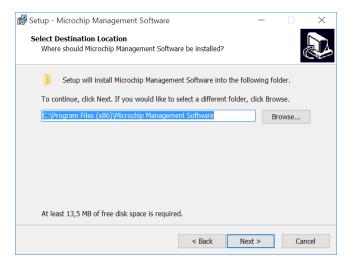


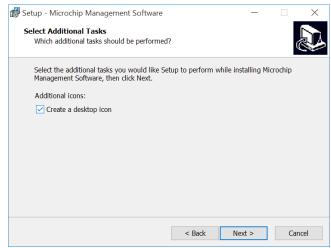
2. Then, follow the different steps:

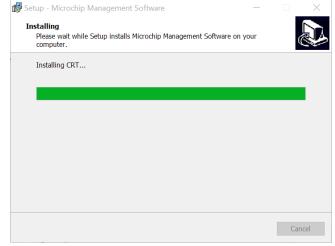




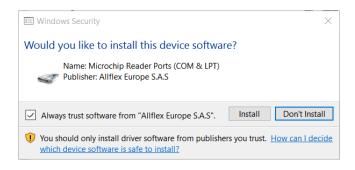








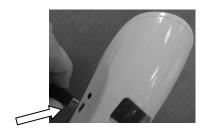
The USB drivers will then be installed. Then, check "Always trust software..." and click on Install button. Click on Finish at the end of the process to close the installation.





5 Connecting to a PC

5.1 Using USB interface



Open the AFX-100/AFX-110 Software and connect the reader to a PC with the USB

cable by removing the USB port cover and attaching the cable to the AFX-110 connector. Install the USB cable by attaching it to AFX-110.



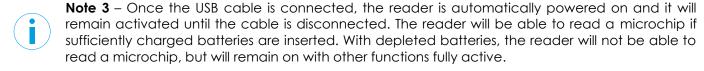
2

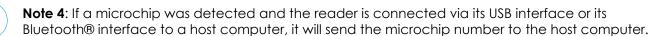
3

Plug the other extremity of the USB cable into a USB port on your computer. When reader is connected, Windows will automatically find the driver and install the reader properly.



The reader vibrates (if vibration mode enabled) and an USB icon is displayed on screen



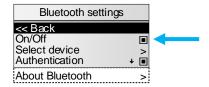


5.2 Using wireless Bluetooth® connection

5.2.1 BLUETOOTH® management

The AFX-110 is equipped with a Class 2¹ Bluetooth® module to communicate. This device is compliant with the Bluetooth® Serial Port Profile (SPP).

Enable the Bluetooth® feature by using the "AFX-100/AFX-110 Software" or by using the menu "Bluetooth settings".



Bluetooth® works on a premise that one end of the communication will be paired to the other one. A host initiates communications and looks for other devices to connect. Smart phones and computers usually establish the connection with readers which are connectable and discoverable.

Note 5 – Understanding the Bluetooth® icon:



| Disabled | Connectable mode | | Host mode | |
|----------|------------------|-----------|---------------|----------------|
| | Blinking | Fixed | Blinking | Fixed |
| No icon | * | * | ₩ | ≯ _M |
| | Not connected | Connected | Not connected | Connected |

Note 6 – A single beep is emitted with a visual message when the Bluetooth® connection is established. Three beeps are emitted with a visual message when the disconnection occurs.







Note 7 – If you are using a Smartphone, an application is required (not supplied).

5.2.2 Pairing from AFX-100/AFX-110 Software

AFX-100/AFX-110 Software is able to search for Bluetooth devices in the vicinity and pair to one of them. The target here is to find your reader and to connect it to your computer by Bluetooth.

NOTE:

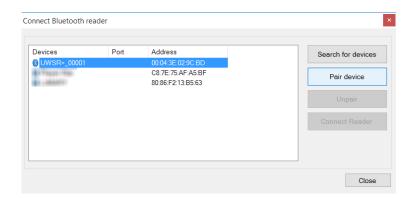
Before continuing, make sure the Bluetooth is enabled on your reader.

1. Click on "Connect" menu and select "Connect Bluetooth Reader..."



¹ Operating distance of communication is around 15 m (49 ft).

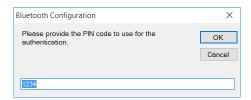
2. Power-on your reader and click on "Search for devices":



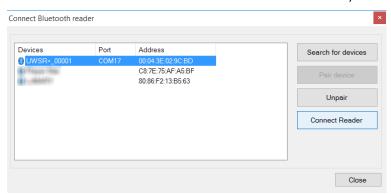
3. Your reader should appear in the list. Click on "Pair device" to start the pairing with the reader.

Make sure your reader is still on.

4. By default, the pairing code is 1234. Click OK to continue the pairing. At this moment, Windows will install the driver to create a virtual COM port.

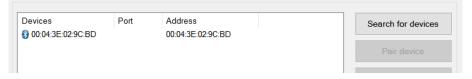


5. Once Windows installed the driver, the COM port number appears in the Port column. You can now click on "Connect Reader" button to connect your reader using Bluetooth.



NOTE:

If the reader name is not displayed, as shown in the following picture, devices can be searched again and should now display the name.



5.2.3 Using Bluetooth® interface to pair, from Windows

Alternately, you can pair the reader using Windows Control Panel.

Find below the instructions for pairing with Windows 7:

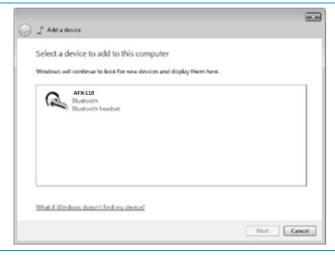
 Open Windows' Control Panel



In "Hardware and Sound" section, select "Add a device"



3 Switch-on the reader and wait until the reader appears in the device list as following:



Select the appropriate reader and click with right button **NOTE**: Your reader may appear as a Bluetooth headset.

5 Windows will now install the driver needed as following:

6



Your reader is now ready to connect.

"Bluetooth Peripheral Device" is a service dedicated to Apple's devices and is unknown from Windows' operating system that the reason why the PC mentions "no driver found".

5.2.4 Connect by Bluetooth® when the reader is already paired

When your reader has already been paired to your computer, go to "Connect menu", select "Bluetooth link" and click on the appropriate COM port:



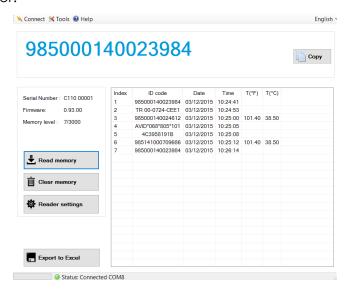
6 Memory

6.1 Memory management

The AFX-110 can store up to **3000 IDs**, each associated with a time/date stamp, in its internal memory and transmit them to a personal computer via an USB cable or wirelessly using Bluetooth[®].

6.2 Download Memory

- When memory feature is enabled, the animal identification codes can be downloaded from reader.
- 2. Click on "Read Memory" button to download the memory from the reader.
- 3. Export the ID code list to Excel by clicking on "Export to Excel" button.
- 4. Once finished, you can click on "Clear memory" to erase animal identification codes stored in the reader.



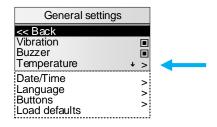
6.3 Temperature measurement

The AFX-110 can read and display the **Microchip Temperature** when reading microchips with temperature sensing² implants from Allflex or Destron Fearing.

The Microchip Temperature is displayed above the microchip number as shown in picture below.



To activate the option, enable it in the menu "general settings"

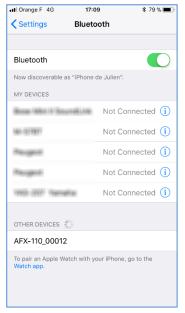


² Microchip Temperature[™] range is from 33°C (91.4°F) to 43°C (109.4°F). If the temperature is below or above this range, it will display "TEMP BELOW RANGE" OR "TEMP ABOVE RANGE".

7 Connecting the reader to an Application on smart phone or on Mobile Device

For advanced and technical application development, the AFX-110 was designed with the capability to connect to iPhone, iPad and Android through wireless Bluetooth® connection. The current AFX-110 package does not include software or application for this feature.

7.1 Pairing with iPhone®/iPad® devices

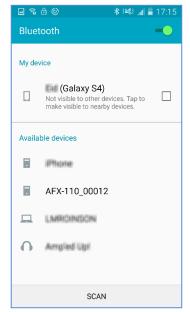


Make sure your reader is on and tap on AFX-110

■ Orange F 4G Settings Bluetooth Bluetooth Now discoverable as "iPhone de Julien". MY DEVICES AFX-110 00012 Connected (i) Not Connected (i) WHITE YER Not Connected (i) hegel Not Connected (i) Neighb MASS-2007 Valenday Not Connected (i) OTHER DEVICES NAME AND POST OF JAMESTINST NA To pair an Apple Watch with your iPhone, go to the

Paired³

7.2 Pairing with Android™ devices



Make sure your reader is on and tap on AFX-110



Paired

³ Once paired to the iPhone, your reader will automatically switch into master mode to be able the reconnect to the iPhone automatically the next time.

8 Appendix

8.1 NET Framework 3.5 installation

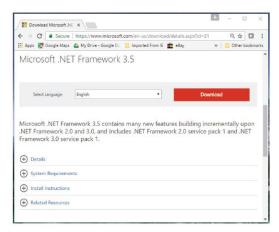
AFX-100/AFX-110 Software requires .NET Framework 3.5 to be installed on the machine.

If the following message is displayed while running the setup package, click "Yes" and follow the .NET Framework 3.5 installation instructions. This message may vary depending on your Operating System.

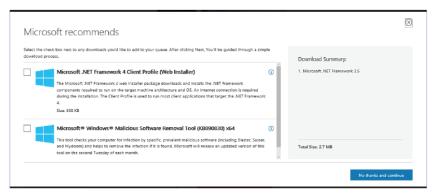


NOTE: The .NET Framework installation requires an internet connection.

1. After clicking on "Yes", your internet browser will be opened with the following page. Click on "Download" button to continue.



2. Uncheck unnecessary downloads (Download summary should only contain Microsoft .NET Framework 3.5) and click on "No thanks and continue":



Click Save on the bottom of the page to start .NET Framework installation.



4. Click Run on the bottom of the page to start .NET Framework installation.



Then, click on "Download and install this feature".

6. At this step, the .NET Framework 3.5 installation program will download the required files from internet and then install the framework. This message will appear. It is now safe to close browser.



Microsoft .NET Framework 3.5

If your download does not start after 30 seconds, Click here



9 TROUBLESHOOTING

MICROCHIP NOT DETECTED:

- Verify that AFX-110 is able to read microchip.
- Confirm that scanning is being performed away from metal objects and computer equipment, including metal collars and metal tags and away from stainless steel table.
- Scan animal following patterns on page 7, with slow movements and reader touching animal all the time. If the animal moves too quickly, the microchip may not be located in the reading zone long enough for the ID code information to be obtained.
- Replace batteries if power is weak, as it might not be sufficient to activate the field and reading distances can be reduced.
- Some animals might be implanted with two microchips too close to each other. In these cases, there is a risk that reader performance might be affected. Continue to scan as indicated on page 7, with slow movements, trying to identify one microchip at a time.

MICROCHIP IS FOUND BUT NOT STORED IN MEMORY.

Verify scanner reads microchip

MICROCHIP IS FOUND BUT DOES NOT DISPLAY TEMPERATURE4

- Verify Microchip is a temperature sensing implant from ALLFLEX or DESTRON FEARING
- Verify Temperature Scanning is enabled (see chapter 6.3).

READER DOES NOT START

Verify batteries have been installed correctly and have full charge.

LOW BATTERIES

▶ If reader displays "Low battery": Recharge the batteries

DEPLETED BATTERIES

▶ If reader displays "Battery depleted": Recharge the batteries

BLUETOOTH NOT VISIBLE:

Check Bluetooth icon appears on the reader. If not, enable Bluetooth using AFX-100/AFX-110 Software or menu "Bluetooth settings".

■ BLUETOOTH VISIBLE BUT NOT CONNECTABLE:

Make sure your reader is configured to be visible and connectable in AFX-100/AFX-110 Software (Refer to AFX-100/AFX-110 Software User Guide for more information)

■ INCORRECT DATE / TIME

Connect the reader to AFX-100/AFX-110 Software, this will synchronize automatically the date and time with the computer.

10Specifications

| General | | |
|--|---|--|
| Norms | ISO 11784 and ISO 11785 for HDX, FDX-B, FDX-A (FECAVA), Trovan and Avid Encrypted microchips and implants | |
| Special feature: | Temperature scanning with TS and BT implants between 33°C and 43°C (between 91.4°F and 109.4°F) | |
| User interface Graphical display: 122 x 32 dots - visual area: 56 x 12.7 mm 2 buttons 1 buzzer 1 vibration mode USB port and Bluetooth® module | | |
| USB interface | CDC class (Serial emulation) and HID class | |
| Bluetooth® interface Class 2(up to 15m) Serial Port Profile (SPP) | | |
| Memory 3000 IDs | | |
| Batteries 6 NiMH rechargeable battery pack (7.2 V / 750mAh) | | |
| Date/Time autonomy 2 months without reader usage @ 20°C | | |
| Battery charge duration Up to 3h30 in fast charge (external power supply) Up to 9h00 in slow charge (computer) | | |
| Reading distances Up to 10 cm (3.9 in) depending on microchip type and orientation. | | |

| Mechanical and physicals | |
|--------------------------|--------------------------------------|
| Dimensions | 280 x 83 x 55 mm (11 x 3.3 x 2.2 in) |
| Weight | 275 g (including batteries) (9.7 oz) |
| Operating Temperature | -10° to +40°C (+32° to +122°F) |
| Storage Temperature | -20° to +65°C (-4° to +149°F) |
| Humidity | 80% Non-Condensing |

| Default settings | |
|----------------------|-----------|
| ID code format: | 15 digits |
| Temperature scanning | Enabled |
| Timestamp | Enabled |
| Bluetooth® | Enabled |
| Bluetooth® pin code | 1234 |
| Beeper | Enabled |
| Vibrator | Enabled |

11 Limited Product Warranty

Manufacturer guarantees this product against all defects due to faulty materials or workmanship for a period of one year following the date of purchase. The warranty does not apply to any damage resulting from an accident, misuse, modification or an application other than that described in this manual and for which the device was designed.

If the product develops a malfunction during the warranty period, manufacturer will repair or replace it free of charge. The cost of shipment is at the customer's expense, whereas return shipment is paid by manufacturer.

Refer all servicing to qualified service personnel. Servicing is required when the reader has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

12 Regulatory information

12.1 USA-Federal Communications Commission (FCC)

This device complies with part 15 of FCC rules. Operation is subject to the following two conditions: (1) This device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy. If not installed and used in accordance with the instructions, it may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by tuning the equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the distance between the equipment and the receiver.
- Connect the equipment to outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This portable equipment with its antenna complies with FCC's radiation exposure limits set forth for an uncontrolled environment. To maintain compliance, follow the instructions below:

- (1) This transmitter must not be co-located or operating with any other antenna or transmitter;
- (2) Avoid direct contact to the antenna, or keep contact to a minimum while using this equipment.

Notice to consumers:

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

12.2 Canada – Industry Canada (IC)

This device complies with Industry Canada's license-exempt RSSs. Operation is subject to the following two conditions:

- (1) This device may not cause interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

- (1) L'appareil ne doit pas produire de brouillage;
- (2) L'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This portable equipment with its antenna complies with RSS102's radiation exposure limits set forth for an uncontrolled environment. To maintain compliance, follow the instructions below:

- (3) This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
- (4) Avoid direct contact to the antenna, or keep contact to a minimum while using this equipment.

Cet équipement portable avec ses antennes est conforme aux limites d'expositions de la CNR102 applicables pour un environnement non contrôlé. Pour maintenir la conformité suivez les instructions ci-dessous :

- (3) Cet émetteur ne doit pas être co-localisé ou opérer en conjonction avec toute autre antenne ou émetteur.
- (4) Évitez tout contact direct avec l'antenne ou gardez le contact au minimum pendant l'utilisation de cet équipement.

12.3 Miscellaneous information

Snapshots are according to the latest version at the moment this document was printed.

Changes may occur without notice.

12.4 Trademarks

Bluetooth® is a registered trademark of Bluetooth SIG, Inc.

Windows is a trademark or registered trademark of Microsoft Corporation in the United States and/or other countries.

All other trademarks are trademarks of their respective owners.

12.5 Apple - Legal Notice

iPhone, iPad are a trademark of Apple Inc., registered in the U.S. and other countries.

"Made for iPhone," and "Made for iPad" mean that an electronic accessory has been designed to connect specifically to iPhone, or iPad, respectively, and has been certified by the developer to meet Apple performance standards.

Apple is not responsible for the operation of this device or its compliance with safety and regulatory standards.

Please note that the use of this accessory with iPhone or iPad may affect wireless performance.



13 Regulatory Compliance

ISO 11784 & 11785

This device complies with the standards set forward by the International Standardization Organization. Specifically, with standards:

11784: Radio frequency identification of animals -- Code Structure

11785: Radio frequency identification of animals -- Technical Concept.

| FCC NQY-30018 | | |
|----------------|--|--|
| IC 4246A-30018 | | |
| CE Marking | | |