*air*IDEAL® 3P™ Traceability solution

User manual
for RUID remote control

EN

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AIR IDEAL 3P™ Traceability

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Warning

The content of this manual is based on the Software release version 4.1.

This manual is periodically updated. The updates shall be included in the new releases of the Software.

Information supplied in this manual may be subject to modifications before the products described become available.

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IMPORTANT! ***Use of the instrument and manual implies acceptance of the clauses below and the clauses set out in the regulatory booklet. Users are invited to refer to these clauses.***

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Revisions

The list of revisions below summarizes replacements or additional pages in your User Manual.

Version	Date of printing	Modifications	Page (s) modified
A	2010/11	Creation	All
B	2011/01	Addition of regulatory information in conformity with Industry Canada	2-8

Table of contents

List of figures

Note: Screenshots, figures, and messages are given for information purposes only.

1 How to use this manual

IMPORTANT! ***Before using the RUID for the first time, please read the "General safety and regulatory and information" booklet that is provided with the ABC.***

Finding topics and procedures

This manual has 7 chapters.

Contents

The main table of contents for this manual is on page I-1.

It provides a list of the various chapters and paragraphs contained in this manual.

List of figures

This list is on page II-1.

Warning and safety messages

Different types of warnings are used throughout the manual:
- for safety reasons (***DANGER!***)
- to ensure that the instrument is maintained in good working condition (***CAUTION!***),
- for regulatory reasons (***WARNING!***) or
- for optimum performance of operations , procedures, etc. (***IMPORTANT!***).

Page headers and footers

Apart from the first page of every chapter, each page of this manual includes a page header and a footer.

Each page header includes the chapter title and the title of a procedure or its corresponding description.

These titles are on the outer edge of the page in order to enable chapters and paragraphs to be identified rapidly while scanning through the pages.

The footers contain the name of the product, the title of the manual, and a page number.

Glossary

The glossary is located in chapter 7. It gives the definition of the main technical terms used in the manual.

Typographical conventions

The following conventions are used in the chapters of the manual.

• Press...	A bullet point followed by an imperative verb appears if the user needs to perform an action.
ABC 123	This typography is used for a message that appears on the screen.
[Settings]	This typography is used to indicate the name of a menu.
< >	This typography is used to indicate a key on the keyboard.
"O" and "I"	These are letters.
"Ø" and "1"	These are the numbers zero and one.

2 Description of functions

Introduction

RUID is a remote control that communicates with the ***air*IDEAL® 3P™ Traceability software** and the ***air*IDEAL® 3P™ Traceability** instrument when performing sampling campaigns (please refer to the user manuals).

A sampling campaign consists of the following steps:

- Data required for the sampling campaign are prepared using the ***air*IDEAL® 3P™ Traceability software**.
- Data are sent from the software to the remote control (via a USB link) and additional data are entered (using a keyboard and a barcode reader).
- Data concerning sample collection and the order in which sampling proceeds are sent from the remote control to the ***air*IDEAL® 3P™ Traceability** instrument (via a Bluetooth link) (the instrument is in "slave" mode) and sampling reports are sent to the remote control at the end of the sampling process.
- Traceability data concerning the sample collection is sent from the remote control to the ***air*IDEAL® 3P™ Traceability software** for archiving and printing (via a USB link).

How the airIDEAL® 3P™ Traceability solution works

Figure 2-1: Overview

Components of the ***air*IDEAL® 3P™ Traceability solution**:

1. Remote control (RUID)
2. AeroBioCollector (ABC)
3. ***air*IDEAL® 3P™ Traceability software** (to be installed on a PC provided by the customer)
4. Printer (optional)

Data exchange between components of the ***air*IDEAL® 3P™ Traceability solution**:

5. USB link: data transfer between software ⇔ remote control
6. Datamatrix 2D compatible barcode reader: to read barcodes on labels (or Petri dishes)
7. Bluetooth link: communication between remote control and instrument
8. PC-printer link: to a printer for printing labels and a printer for printing reports

Description

The RUID is delivered in a box (see Unpacking, page 3-1).

Front

1. Screen
2. Function keys
3. Navigation keys and barcode reader activation
4. Alphanumeric keypad

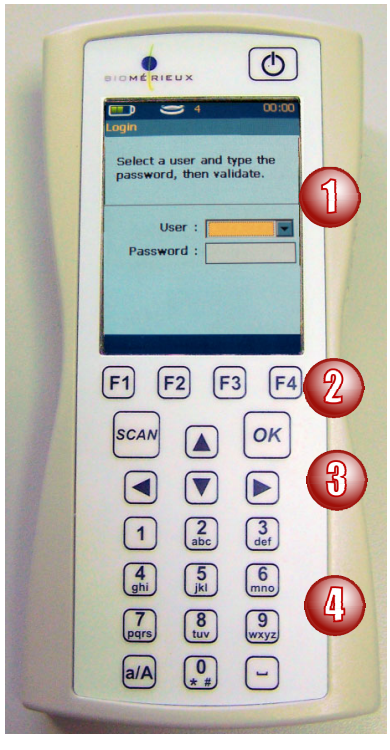


Figure 2-2: Front view

Front end

5. DATAMATRIX reader

Figure 2-3: Barcode reader

Connections

6. Remove the protective cover to access the connection ports
7. Charger connection
8. USB connection (USB B mini) for data transfer to PC (length < 3 m)

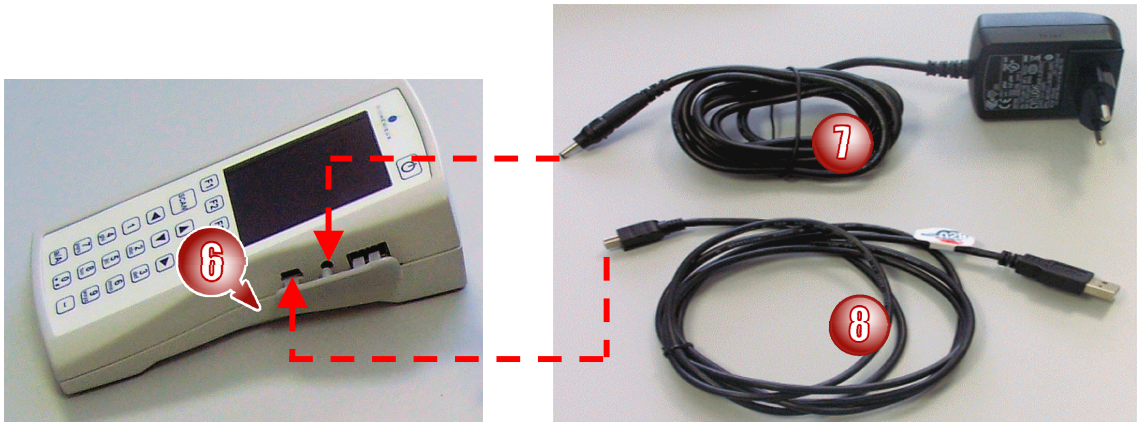


Figure 2-4: Connections

Underside – device identification

9. Identification label on underside of remote control

Figure 2-5: Device identification

General features

Technical features and specifications

PARAMETERS		VALUES	
Dimensions		Instrument alone	Instrument in case
	Width	80 mm	100 mm
	Depth	45 mm	210 mm
	Height	155 mm	250 mm
Weight		262 g	715 g
Ambient temperature			
	for operation	4°C to 45°C	
	for storage	-20°C to 50°C	
	for battery charging	4°C to 35 C	
Relative humidity		(without condensation)	
	for operation	20-90% non condensing	
	for storage	45-85% non condensing	
Altitude		2000m maximum	
Installation category		II	
Pollution degree		2	
Materials and properties of materials		Keypad is made from antimicrobial polyester and is solvent-resistant. Remote control is made from acrylonitrile-butadiene-styrene (ABS).	

Electrical specifications

Remote control

The remote control is powered by a DC-DC converter.

PARAMETERS	VALUES
Type of power supply	Desktop
Power rating	6W
External voltage range	100V to 240V
Voltage output	5V
Current limitation	Yes
Tolerance	3%
Maximum output current	1.2A
Storage capacity	Approx. 100 sample collections.

Charger

The remote control contains a battery* which provides **8 hours of battery life** in the following modes:

MODE	CONSUMPTION
AMOLED illuminated 100% of the time	420mAh
Microprocessor operational 100% of the time	200mAh
Data Matrix 10 readings of 10 seconds each per hour	83mAh
Bluetooth use for 1 hour in 8	2.75mAh
Maximum battery capacity: 2500mAh	2500 mAh

* *National deviation for Switzerland: Annex 2.15 of SR 814.81 (Classified Compilation of Federal Legislation) applies for batteries.*

WARNING! ***The user's manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.***

In cases where the manual is provided only in a form other than paper, such as on a computer disk or over the Internet, the information required by this section may be included in the manual in that alternative form, provided the user can reasonably be expected to have the capability to access information in that form.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the 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 and, if not installed and used in accordance with the instruction, 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 turning the equipment off and on, the user is encouraged to try to correct interference by one or more of the following measures:

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

WARNING! ***Industry Canada requirements:***
CNR-Gen - General Requirements and Information for the Certification of Radio Apparatus, Clause 7.1.2 statement:
Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

CNR-Gen - General Requirements and Information for the Certification of Radio Apparatus, Clause 7.1.3 statement:
This device complies with Industry Canada licence-exempt RSS standard(s). 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 device complies with FCC and Industry Canada RF radiation exposure limits set forth for general population (uncontrolled exposure). This device must not be collocated or operating in conjunction with any other antenna or transmitter.

3 Installation

CAUTION! ***Make sure that the box and equipment have not been damaged during transit. If damage has occurred, contact your bioMérieux representative.***

Unpacking

- Open the package and remove the box.
- Open the box.
- Check that the contents of the box match the packing list.
- Keep the packaging so that the instrument can be returned to bioMérieux if necessary.

CAUTION! ***Any damage caused directly or indirectly by transporting the device in inadequate packaging is not covered by the guarantee or the maintenance contract.***

Figure 3-1: RUID in box

Installation

CAUTION! ***Avoid exposing the device to direct sunlight, excessive heat, humidity or dust.***

Avoid using the device near sources of powerful electromagnetic interference.

Initial battery charge

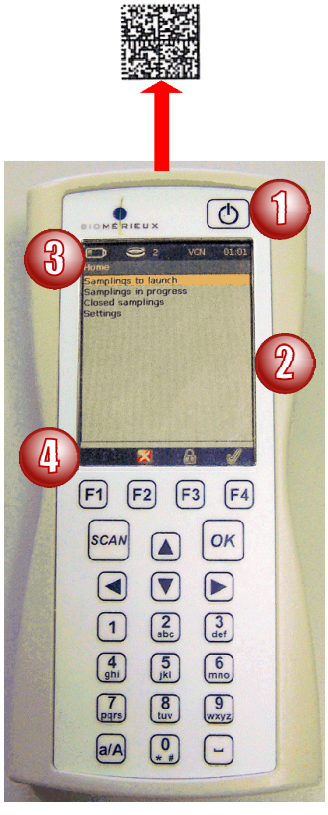
See Initial charging/recharging of battery, page 5-3.

Mains power

The RUID can be operated using mains power (see step 3 in the section Initial battery charge/recharging, page 5-4).

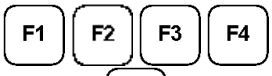
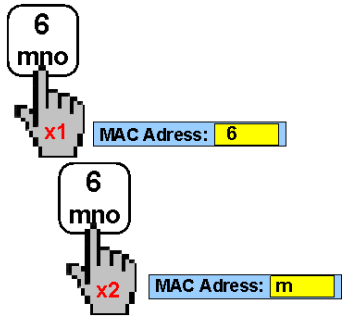
4 Use

Ergonomics



1. On/Off
2. Screen
   - Resolution: 240 x 320 pixels - 64000 colors
   - Actual display size: 42.2 mm x 57.6 mm
   - Display in English only
3. Status bar
4. Action bar
5. Keypad
6. Barcode reader on front of remote control:
   - Datamatrix 2D compatible
   - To read:
     - labels on sampling locations,
     - labels on Petri dishes,
     - barcode printed on the Petri dish.

Keys and symbols

Key	Function
	On/Off
"Navigation" mode Navigation within a drop-down menu or list:	"**Navigation**" mode means that, on a particular screen, the cursor can be moved between fields, lines or menus using the following keys.
	Previous line
	Next line or display drop-down menu
Navigation between fields:	
	Previous field
	Next field
"Action" mode	"**Action**" mode means that functions are activated, and that the following keys can be used to perform actions, select and confirm. *Note: To activate "Action" mode, press a key on the alphanumeric keypad.*
	Keys used to activate actions displayed on the action bar (see Action bar, pages 4-1 and 4-12).
	Reading a barcode
	Start an action, confirm an action
Alphanumeric keypad Example of use: 	
	Activate upper/lower case mode
	Space

Powering on

IMPORTANT! ***When using the device for the first time, charge the RUID battery; (see Initial charging/recharging of battery, page 5-3).***

1. Press  .

– The software starts up.

– The charging screen is displayed.

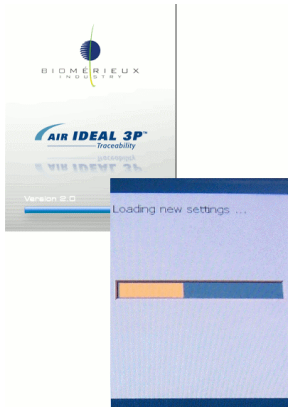


Figure 4-1: Splash screen

2. The home screen appears.

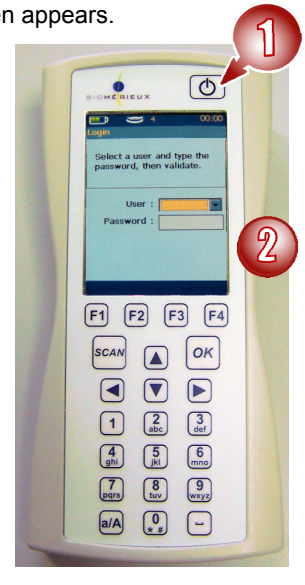


Figure 4-2: Home screen

4

Transferring data from the software to the remote control

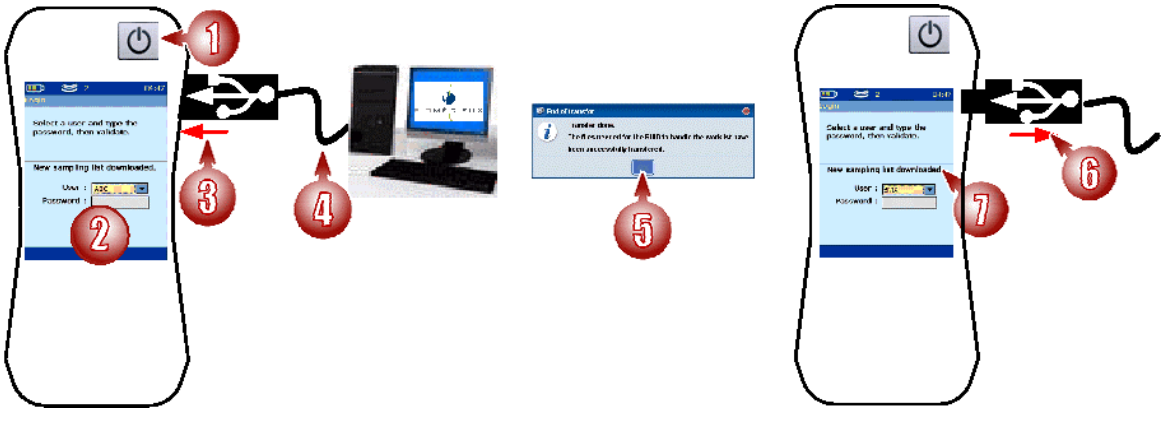
Data transfer is done using the ***air*IDEAL® 3P™ Traceability software**.

Data transfer

Note: When the remote control is first connected to the workstation (PC), the operator must set identification codes (login and password). Refer to the user manual for ***air*IDEAL® 3P™ Traceability software**.

1. Power on the remote control.
2. The remote control displays the home screen.
3. Connect the remote control to the PC using the USB cable.
4. For more detailed information about data transfer, refer to the software user manual.
5. The home screen displays the message: "Transfer completed. You can disconnect cable."
6. Disconnect the USB cable.
7. The home screen displays the message "New sampling list downloaded".

Note: Connecting the RUID to the PC automatically closes the current session.



Opening a session

The "Login" screen contains a drop-down menu containing a predetermined list of users ("User"). Each user is identified with a trigram.

1. Press ▼ to display a list of user trigrams.
2. The list is displayed.
3. Press ▲ ▼ to select the relevant trigram.
4. Press ▶ to confirm and proceed to "Password" field.
5. Enter the password using the keypad.
6. Press *OK* to confirm.

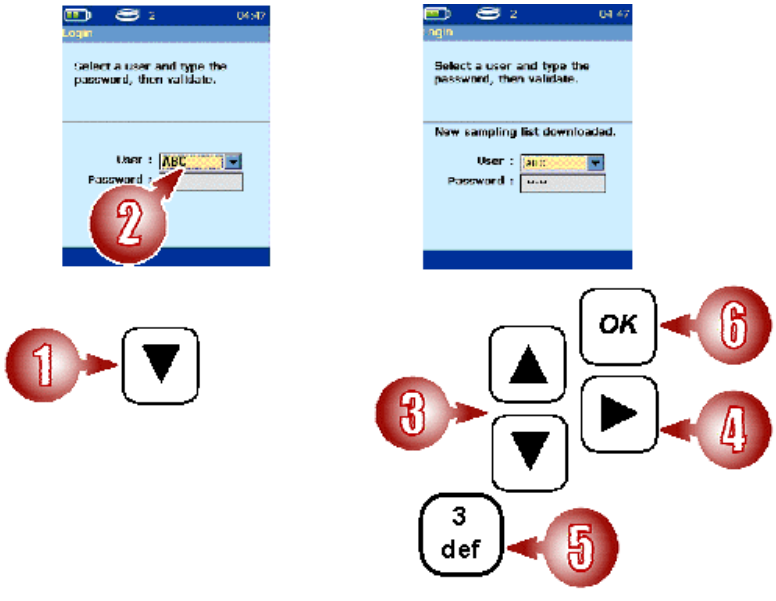


Figure 4-3: Opening a session

7. The main screen appears (see page 4-7).

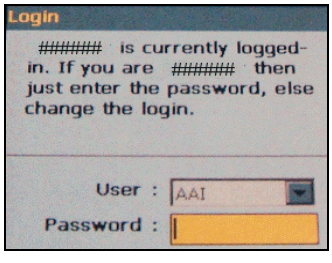
Session management

Changing a user during a session

- Select  to lock the current session.
- The "Login" screen states that user "######" is currently logged in.

8. **To open the current session** (same user):

- Enter the password using the keypad.
- Press **OK**.



9. **To open a new session**, press **F3** to display the user list and follow the instructions in the section Opening a session, page 4-5.

Standby mode / Automatic locking of current session

By default, after 15 minutes of inactivity, the RUID goes into standby mode and locks the current session. This period can be redefined using the ***air*IDEAL® 3P™ Traceability software**.

- Open a session to reactivate the session (see **step 8 - To open the current session**, page 4-6).

Changing password

It is possible to change password using the ***air*IDEAL® 3P™ Traceability software** alone (see the software User manual).

Closing a session

- Select  .

Shutting down the RUID

- Press  .

User interface

Main screen

1. Status bar
2. Screen title
3. Menus
4. Action bar

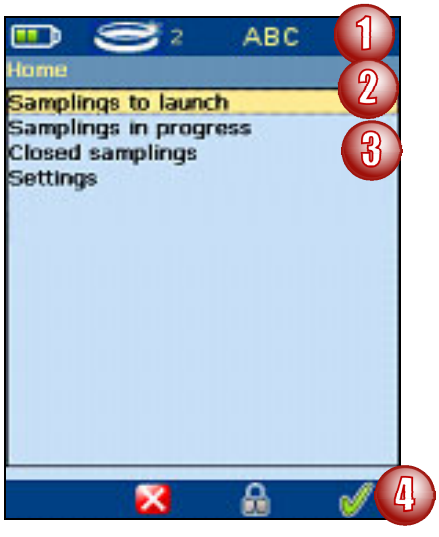


Figure 4-4: Main screen

The status bar is common to all screens.

1. Battery charge level
2. Number of active sample collections (included in the list of “Samplings in progress”)
3. Display user login for current session
4. Time

Screen details

Menu screen

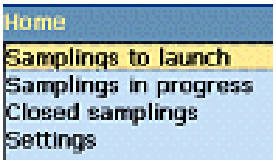


Figure 4-5: Example of main menu

- Press ▲ ▼ to move between menus. The selected menu is highlighted in yellow.
- Press F4 to confirm the selection.

Instruction screen

1. Status bar
2. Screen title
3. Instruction display area
4. Information display area
5. Action bar (see page 4-12)

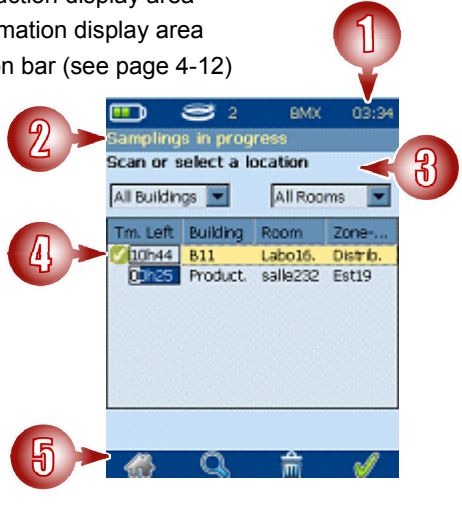


Figure 4-6: Example of "Samplings in progress" instruction screen

Example screen detail display

It is possible to display details about a piece of information if the action bar suggests this display option.

1. Select a piece of information.
2. Press the key that corresponds to the  option.
3. The detail screen is displayed.

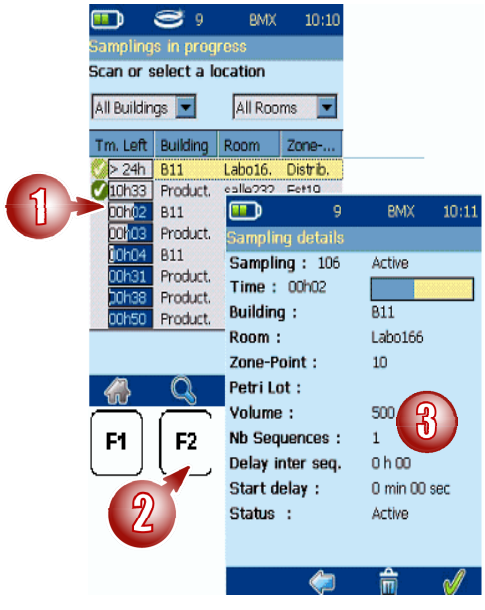


Figure 4-7: Example screen detail display

Dialog box screen

1. Status bar
2. Symbol and heading of dialog box:
   - Information dialog box: 
   - Warning dialog box: 
   - Error dialog box: 
3. Information about and/or description of possible action to take
4. Action bar (see page 4-12)

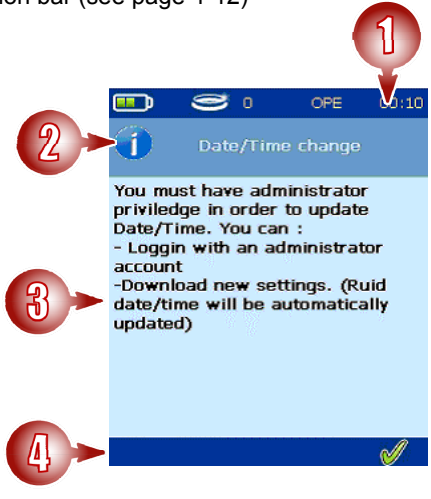


Figure 4-8: Example of information dialog box

Wizard

1. Status bar
2. Title of wizard followed by the number of current step and total number of steps in this wizard (step 2/5 in the following example).
3. Display/data entry zone
4. Action bar (see page 4-12)
5. Display of instructions

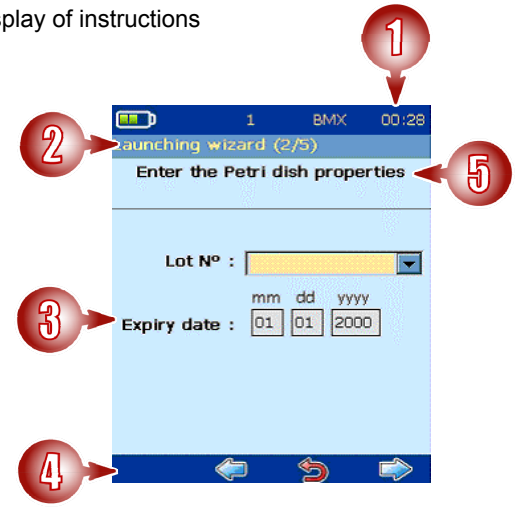


Figure 4-9: Wizard example: "Launching wizard"

Action bar

The action bar displayed depends on the selected submenu.

1. Possible actions (see table below)
2. Key for selecting an action

Depending on which mode is activated ("navigation" or "action"), the same key will carry out different actions.

Details are provided in the following table.

Key	Action	Description
Possible actions in "action" mode for text and numerical fields		
F1		Deletes characters in the text field
F2		Deletes the character before the cursor
F3		Ends action and cancels any changes (keeps the previous value)
F4 or OK		Ends action and confirms changes
Possible actions in "action" mode for a numerical field		
F1		Reduces value by one increment
F2		Increases value by one increment
F3		Ends action and cancels any changes (keeps the previous value)
F4 or OK		Ends action and confirms changes
Possible actions in navigation mode		
F2		Closes a session
F3		Locks a session
F4 or OK		Starts an action, if an item is selected
F1		Return to main screen

Key	Action	Description
F2		Sampling detail
F3		Cancels or deletes a sample collection
Possible actions in navigation mode with wizard activated		
F2		Select previous wizard screen
F3		Cancel wizard
F4		Select next wizard screen

Sampling campaign flow chart

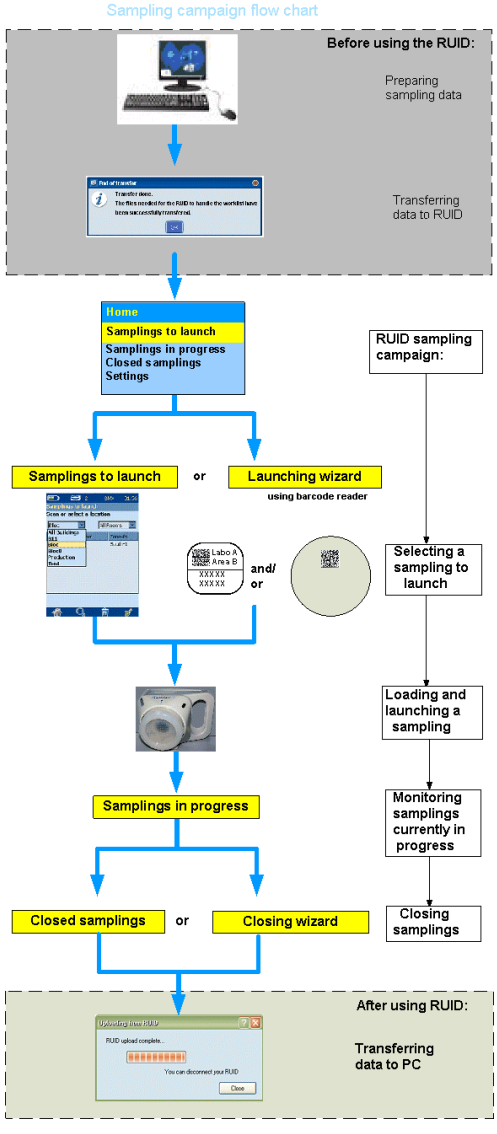


Figure 4-10: Sampling campaign flow chart

Note: The operator can use menus or digital reading of labels, or can combine both methods, when carrying out a sampling campaign (software configuration).

Starting a sampling campaign

Before starting

- The list of sample collections to be done is planned in advance using the ***air*IDEAL® 3P™ Traceability software** and is then transferred to the remote control.
- The remote control battery has sufficient autonomy for this.
- The ***air*IDEAL® 3P™ Traceability solution** instrument is prepared in line with instructions (see the AeroBioCollector user manual).
- It is only possible to launch a sample collection if the instrument is not in slave mode (use of the AeroBioCollector [ABC] with the RUID) to another RUID and if there is no current sampling session.

Management of sample collections to launch

Management of sample collections to launch is dependent on label printing preferences, as defined in the ***air*IDEAL® 3P™ Traceability software**.

There are three possible management modes:

- **Labels for Petri dishes and sampling location:** management by reading barcodes on the **Petri** dish labels and labels in the sampling location.
- **Petri dish labels only**: management by reading barcodes on the Petri dish labels and manual management in the sampling location.
- **No labels**: sampling management without label reading (manual selection and entry of information).

The steps and instructions to follow in each mode (with or without labels) are described on the remote control screen.

Launching a sample collection in "Label for Petri dishes and sampling location" mode ("Launching wizard")

Note: To activate "Action" mode, press a key on the alphanumeric keypad.

You cannot save data during the sampling preparation step.

In the Home menu:

1. Select Samplings to launch.
2. Press F4 to continue.
3. Place the barcode reader next to the barcode on the label in the sampling location.
4. Press SCAN.
5. The line corresponding to the sample collection will be displayed.
6. Press F4 to continue.
7. The screen "Scan the sampling support label" is displayed. Place the barcode reader next to the barcode on the **Petri dish label**.
8. Press SCAN.
9. If environment variables need to be entered (temperature, pressure and humidity), the screen "Enter the environment properties" is displayed. Enter the properties and press F4 to continue.

IMPORTANT! When entering a value, check the units.

10. The screen "Enter the Petri dish properties" is displayed. Place the barcode reader next to the barcode **printed on the Petri dish**.
11. Press SCAN and press F4 to continue.

Note: It is possible to enter the lot number and expiry date manually using the keypad (see Keys and symbols, page 4-2).

12. Place the Petri dish in the ABC (see User Manual for the AeroBioCollector). Turn the ABC on.
13. Place the barcode reader next to the ABC barcode.
14. Press SCAN to scan the ABC MAC address.
15. The MAC address is verified.
16. Launch sampling: the remote control displays a countdown prior to launch. On launch, the sample is transferred to the "Sampling in Progress" list. See section on Samples in progress, page 4-25.

17. After sampling is launched, the LED on the ABC should turn green and flash (if it does not, please refer to the AeroBioCollector manual). Press F1 to exit the menu.

IMPORTANT! ***Sample collection launched on a target ABC can only start after the previous sample collection on that ABC has closed.***

Note: *To display the details of a sample collection, please refer to Example screen detail display, page 4-9*

Manual launching in case of a connection problem

If there is a problem with the connection between the RUID and the AeroBioCollector (ABC), it is possible to launch the sample collection manually (see the AeroBioCollector user manual) and to monitor its progress from the RUID. To do this,

- Press F4.
- Enter the data displayed on the RUID into the ABC. Press F4.

The event is recorded, but the end of sampling report is not sent from the ABC to the RUID.

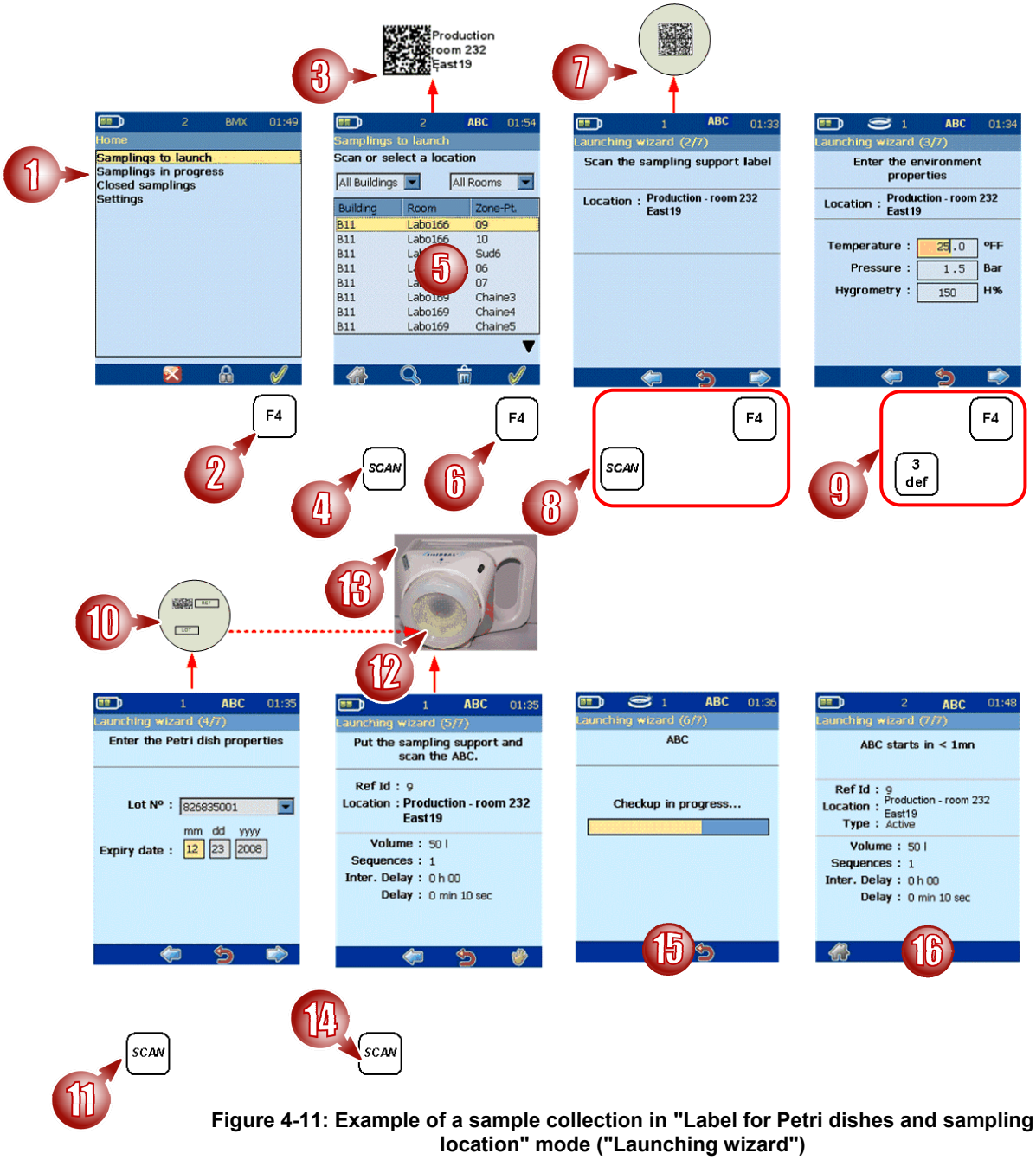


Figure 4-11: Example of a sample collection in "Label for Petri dishes and sampling location" mode ("Launching wizard")