



Smart Central Mobile User Manual

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1. Using the manual



This User Manual shall be used in combination with the Product User Manual and other module-specific manuals listed in Section 1

1.1 Aims

The effort which has gone into creating this manual aims to offer all the necessary information to guarantee a safe and correct use of the Smart Central Mobile Application (hereafter “Product”). Furthermore, this document aims to describe every part of the Product, it also intends to offer a reference guide to the user who wants to know how to perform a specific operation and a guide for the correct use of the Product so that improper and potentially hazardous uses can be avoided.

1.2 Characters used and terminology

The use of Product requires a basic knowledge of the most common IT terms and concepts. In the same way, understanding of this manual is subject to such knowledge.

Remember that the use of Product must only be granted to professionally qualified and properly trained personnel.

When consulting the online version as opposed to the paper version, cross-references in the document work like hypertext links. This means that every time you come across the reference to a picture (e.g. “Fig 1.12”) or to a paragraph / section (e.g. “paragraph 4.2.3”), you can click the reference to directly go to that particular figure or that particular paragraph / section.

Every time a reference is made to a button, this is written “**Bold**” and if possible a small picture of the button is reported. For example, in expressions like:

- Click the “**Update**” button,

“**Update**” is a button featured on the screen being described. Where possible, it is clearly indicated in a figure (with cross references as “See Fig 2.31 **A**”).

The character ➤ is used to indicate an action which the user must perform to be able to carry out a specific operation.

The character ● is used to indicate the different items of a list.

1.3 Symbols

The following symbols are used in this manual.

Useful information



This symbol appears alongside additional information concerning the characteristics and use of Product. This may be explanatory examples, alternative procedures or any “extra” information considered useful to a better understanding of the product.

Caution!



The symbol is used to highlight information aimed at preventing improper use of the software or to draw attention to critical procedures which might cause risks. Consequently, it is necessary to pay extreme attention every time the symbol appears.

The following symbols are used in the Product information box:



The manufacturer's name and address



Attention, consult accompanying documents

2. Smart Central Mobile

2.1 Introduction

Smart Central Mobile supports alarm management by providing contextual information from multiple sources and presenting it to the staff in a clear and concise way.



The purpose of the Product is to help with alarm management and shall not be used as a remote alarm system or as an alarm replicator.



Smart Central Mobile must not be used to replace the monitoring of the device alarms.



Check that the medical devices are correctly connected to the Product by verifying that their data are displayed on the Smart Central Mobile.



On the connected medical device where it is possible, generate an artificial alarm condition to verify that the corresponding alarm notification is correctly displayed on the Smart Central Mobile (it is suggested to perform this check at least once per shift).



The Product acquires the information generated by the primary medical devices and display them. Therefore, the Product always reports what the primary medical devices communicate. The assignment of alarm priorities is decided according on the primary medical device. On Smart Central Mobile it is possible to decide the order of the medical devices, for every bed, in accordance to the customer preference: per device type, model / manufacturer. The ordering of alarms is setup in Smart Central during deployment of the product according to the user request/preference. The color of every bed card is always the color of the highest priority alarm between all alarms occurring on that bed.

2.2 Application start-up

To start the **Smart Central Mobile** application

- Touch the corresponding row on the handheld device screen.

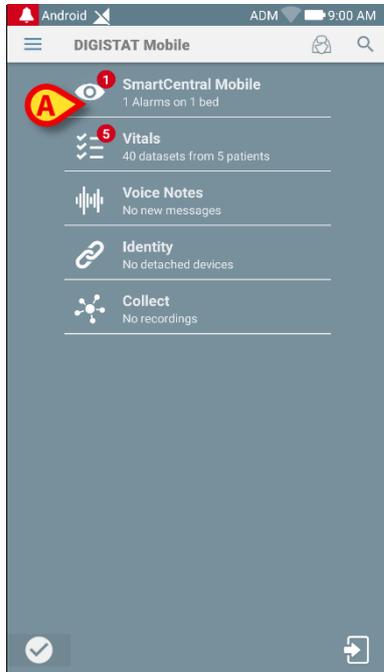


Fig 1

The Smart Central screen, shown in Fig 2 or Fig 3, opens. If the row of the application is touched while an alarm condition is raised (it is present a red number on the right top of the application symbol), then the Smart Central screen will present the list of alarmed patients.

2.3 “Central” screen

The “Central” screen displays a schematic summary of the status of the medical devices connected to each bed configured in the specific handheld device.

If all the patients of the domain are assigned to the user, then the Central screen represents the patients as a set of squares (Fig 2).

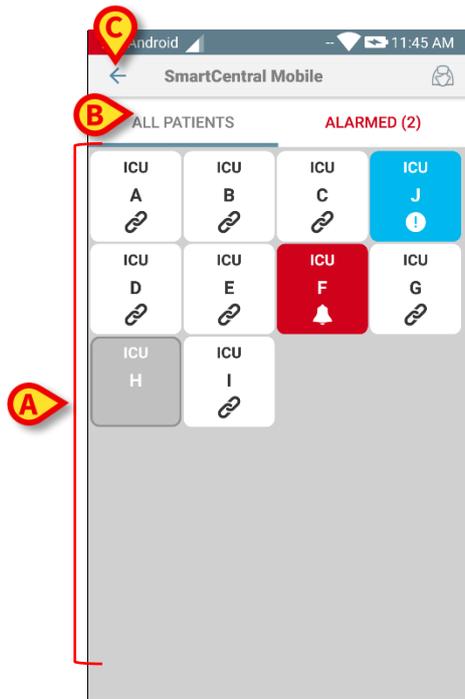


Fig 2

If NOT all the patients of the domain are assigned to the user, then the Central screen represents the patients as a set of tiles (Fig 3).

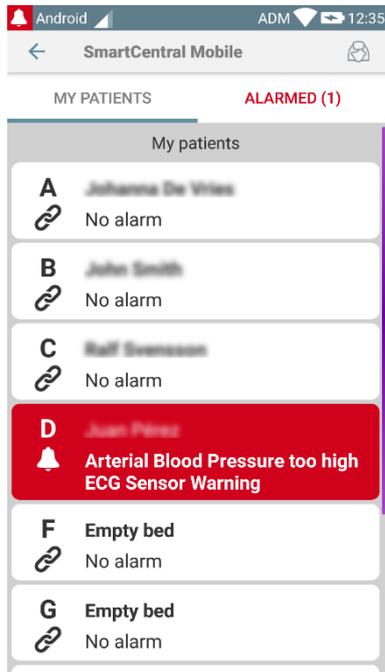


Fig 3

The squares or tiles displayed on screen represent the beds configured in the handheld device (Fig 2 **A**). The squares/tiles visible on a single screen form the “domain” of beds covered by the handheld device. The “domain” is defined by configuration.

The number or letter displayed inside the square/tile indicates the bed number or letter. On each square or tile, the status of the connected medical devices is indicated in graphic form by the background color and the related icon:

	All the medical devices connected to the bed are on hold.
	There is at least one connected medical device running.
	At least one of the connected medical devices is sending a low priority alarm.
	At least one of the connected medical devices is sending a medium priority alarm.
	At least one of the connected medical devices is sending a high priority alarm.

The first case of the above reported scheme is the one in which no devices are sending data from the bed. In this situation, if the user touches the considered tile then the Smart Central application will display the following screen:

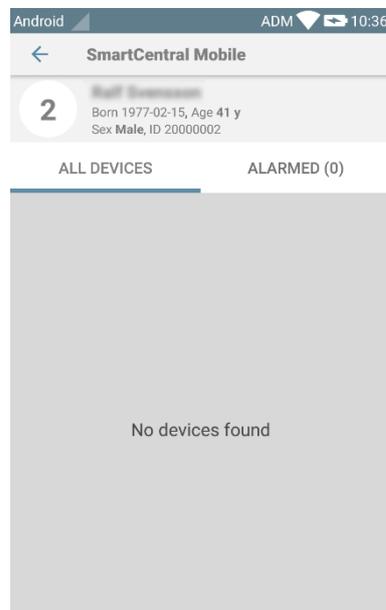


Fig 4

You can use the filters indicated in Fig 2 **B** to display either all the configured beds or only the beds sending an alarm.

It is possible to configure the Smart Central application to wake the screen if an alarm is raised to the user and the mobile device is on a flat support (a desktop, a table, etc.).

Exit

Touch the **Exit** button (Fig 2 **C**) to quit the application.

2.4 Medical devices list

Touch one of the squares on the “Central” screen to display the list of medical devices connected to the bed (Fig 5).

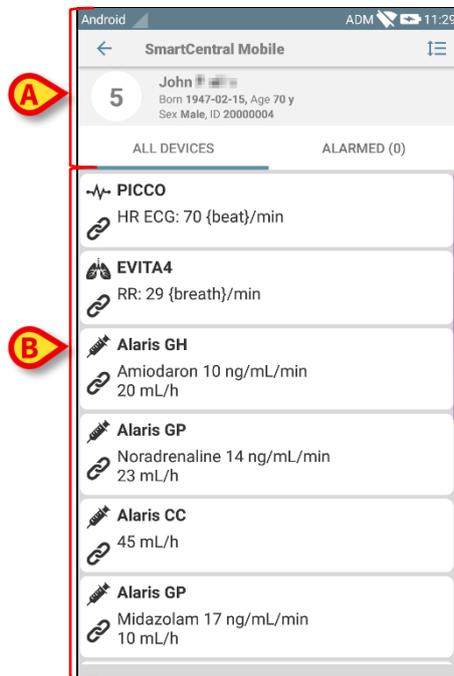


Fig 5

This screen is formed of two areas: a heading area (Fig 5 **A**) and the medical devices list (Fig 5 **B**). If an alarm conditions is present, the “Alarmed” label is colored in red.

2.4.1 Heading

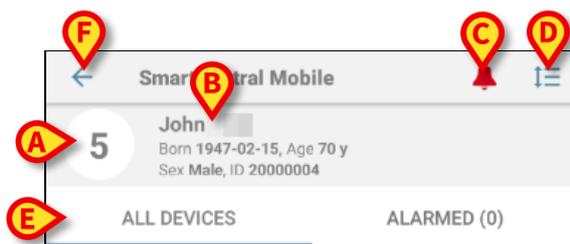


Fig 6

In the heading area (Fig 6) the following information and tools are available:

- Bed number (Fig 6 **A**).
- Patient data (Fig 6 **B**).
- The red bell icon (Fig 6 **C**) indicates that there is at least one medical device alarmed on one of the other beds (those not currently displayed). If the red bell icon is touched, then the Smart Central screen will present the list of alarmed patients.
- Use the icon indicated in Fig 6 **D** to enlarge the device-areas and display more information for each connected medical device (Fig 7). The type of information displayed depends on the configuration and the specific device.

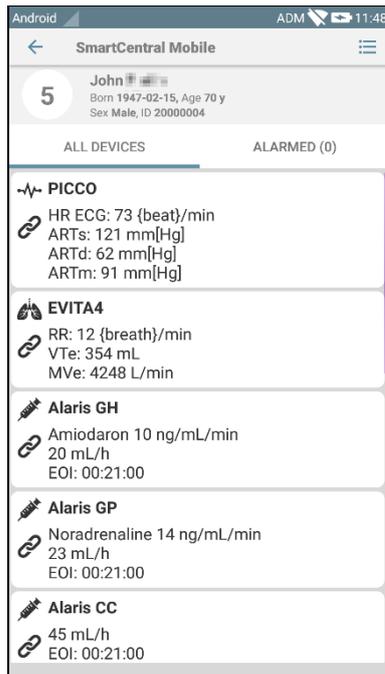


Fig 7

- Touch the icon (Fig 6 D) again to go back to compact display mode.
- Use the filters indicated in Fig 6 E to display either all the connected medical devices or only the ones providing notifications.
- Use the back-arrow button (Fig 6 F) to go back to the “Central” screen.

2.4.2 Devices list

On the lower part of the “Bed” screen the individual medical devices are represented as shown in Fig 8:

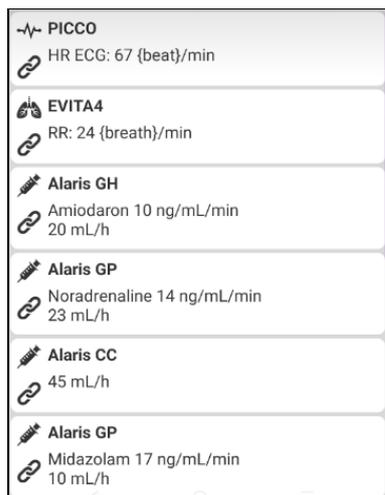


Fig 8

Each medical device is represented within a “card”. Each “card” displays the following information:

- An icon indicating the medical device type. The list of possible icons changes according to the healthcare organization needs. Here are some common examples:



Infusion Pump



Respirator



Cardiac Output Measurement Machine

- An icon indicating the medical device status. These are:



On hold



Running



Sending a low priority alarm notification



Sending a medium priority alarm notification



Sending a high priority alarm notification

The background color of the “card” also indicates the medical device status: grey (on hold); white (running); cyan (low priority alarm); yellow (medium priority alarm); red (high priority alarm).

For each medical device, some basic information is displayed inside the “card”. The type of information depends on configuration.

In case of alarm the “card” displays the alarm message.

2.5 Alarms history

Each “card” can be touched to access the list of all the alarms provided by the medical device (Fig 9).

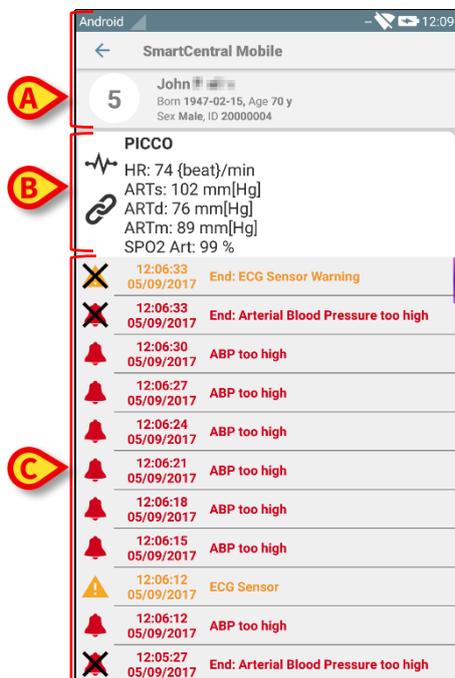


Fig 9

This screen is formed of three areas.

Patient data (Fig 9 A).

Medical device current data. The data displayed on this “card”, again depend on the device type and configuration (Fig 9 B).

Notification history. Displaying, in chronological order, all the alarms occurred on the device. For each alarm, a short description and the time of occurrence are provided (Fig 9 C). For each alarm are displayed the beginning time and end time (black cross on the icon ✕).

2.6 Smart Central Video



Beware each video source supports a maximum number of simultaneously connected clients. It is responsibility of the healthcare organization to determine this maximum number and to inform the users.



Smart Central Video on mobile devices only supports RTSP video streams with the following authentication types:

- No authentication;
- Basic authentication;
- Digest authentication.



Smart Central Video on mobile devices only supports H263, H264 and H265 video codecs.

The Smart Central application can be configured to support the video stream of a webcam. This feature enables the visual monitoring of the patient area.

If the Smart Central Video feature is enabled and properly configured for a selected patient, the Medical Devices list screen of a selected patient is like the one reported below (Fig 10).



Fig 10

An additional button is present in the heading of Medical Devices list.

- Touch the button  to view the webcam video stream (Fig 11).

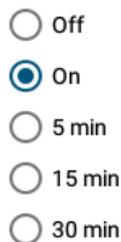


Fig 11

- Touch the Back system button for returning to previous screen.

The “Privacy Blind” feature allows the user to turn off the webcam of the considered patient: this can be done either permanently or for a certain time interval. During the Privacy Blind mode no video stream can be viewed. The Privacy Blind mode is disabled by default.

The Privacy Blind button bar (Fig 11 **A**) is represented below:



- Touch the **On** button to enable the Privacy Blind mode.

When selected, the **On** button is highlighted.

In Privacy Blind mode the screen of webcam video stream is like the one shown below (Fig 12):

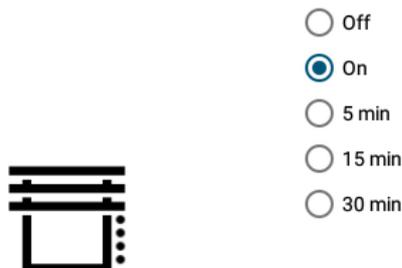


Fig 12

- Touch the **Off** button to disable the Privacy Blind mode.

To activate the Privacy Mode only for certain time interval:

- Touch the **5 mins** or **15 mins** or **30 mins** buttons to enable the Privacy Mode for 5 or 15 or 30 minutes.

The selected button in the button bar is highlighted.

After the selected time interval, the Privacy Mode automatically turns off.

If webcam supports audio stream, it is moreover possible to activate it touching the  button (Fig 11 **B**).

2.7 Widgets

The Product implements a set of widgets i.e. graphic controls intended to facilitate some specific actions from the user.

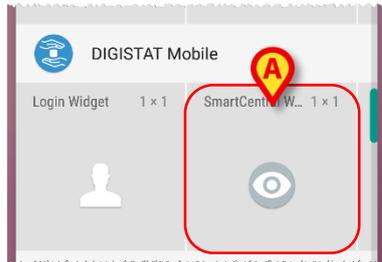


Fig 13

In the present paragraph will be showed the widget related to the [Smart Central Mobile](#) application.

2.7.1 SmartCentral Widget

The SmartCentral Widget allows the user to access the [Smart Central Mobile](#) application. To use such a feature the user has to do the following actions:

- Push the icon shown in Fig 13 **A** and release it on the device screen.

The SmartCentral Widget as default will be placed on the device screen with size 1 x 1 (Fig 14)



Fig 14

- Push the icon in Fig 14 **A** to access the [Smart Central Mobile](#) screen (Fig 15).



Fig 15

In the size 1 x 1, the number of alarmed beds displayed in the SmartCentral widget is represented as red number in widget itself (Fig 16):



Fig 16



- In these conditions touch the SmartCentral widget to access the screen of alarmed beds, if more than one bed is alarmed (Fig 17), or the single alarmed bed, if only one bed is alarmed (Fig 18):

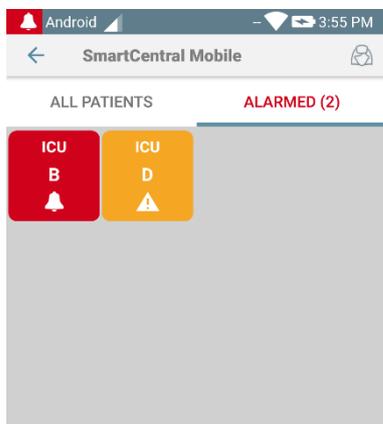


Fig 17



Fig 18

- Long press the icon in Fig 14 and then release to show grab points for widget resize (Fig 19 – left if no beds are alarmed, right if some beds are alarmed):



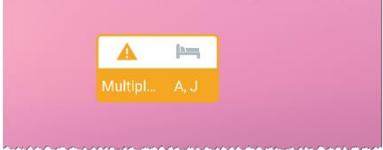
Fig 19

- Touch and move one of the two grab points and then push the desktop background to resize the widget to the size 2 x 1.

In this case the SmartCentral Widget can show a brief description of the alarm cause, detailed as listed below:



Fig 20

<p>One alarmed beds</p>	 <p>Fig 21</p>
<p>More than one alarmed beds</p>	 <p>Fig 22</p>

Please note that in the Widget's size 2 x 1 some descriptions could result too long to be correctly displayed. In this case, it is suggested to extend again the size of the Widget. The SmartCentral Widget can be indeed resized to 3 x 1, 4 x 1 and 5 x 1 sizes:



Fig 23