



User Guide
Version 3.6



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Welcome

This guide contains all the information you need to operate Visensia®. It is intended for use by trained medical personnel and assumes prior knowledge of the operation of multi-parameter patient monitors.

Configuration and Connectivity of Visensia is detailed in the Installation and Configuration Guide (Part No. 011-0130-LMAN).

Visensia Overview

Visensia software is a computerised analysis software program designed as an accessory to standard patient monitors or medical information systems. It operates by forming an aggregate score of patient status based on five vital signs; heart rate, respiratory rate, temperature, blood pressure and arterial oxygen saturation. The aggregate score, the Visensia Index, is displayed on a scale of 0.0-5.0, with 0.0 representing the normal end of the scale and 5.0 representing extreme physiological deterioration. An audible and visual alert is provided when the Visensia index exceeds a threshold value for a period of time.

The Visensia Index is calculated whenever new data is received.

Visensia is an advanced physiological monitoring system that monitors critical vital signs to provide early warning of patient deterioration.

Visensia Index

The Visensia software calculates the Visensia Index based on a non-linear combination of up to five vital sign parameters: heart rate, arterial oxygen saturation, respiration rate, temperature and blood pressure. The Visensia Index works by comparing the patient's vital signs against a model of normality for a population of patients from a similar environment. The Visensia Index represents a single measure of the patient's condition

Intended Use

Visensia® with alert is an accessory to multi-parameter patient monitors (bedside, ambulatory, or centralized location) or clinical information systems and is indicated for use by health care professionals with those non-paediatric high dependency care patients for whom multi-parameter patient monitoring has been routine.

Visensia® provides the clinician with a patient status index (Visensia® Index) based on a weighted average of five or (four) vital signs namely heart rate, respiration rate, temperature, oxygen saturation and blood pressure. The Visensia® Index is a single measure of a patient's condition and represents how different the patient's vital signs are with respect to normality enabling recognition of patient deterioration. When a Visensia® alert has activated, it means that the Visensia® Index has reached and/or surpassed the default threshold, highlighting the patient's condition to the clinician for an appropriate response.

Visensia® is an adjunct to and is not intended to replace vital sign monitoring.

Safety Information

Users should familiarize themselves with all warnings and cautions before using Visensia. In addition to the following, other warnings and cautions appear throughout this manual.

Visensia software must not be used outside of its intended use.

Visensia software is not for paediatric use.

The abnormal vital warning indicators are not intended to be used as a primary alert mechanism. It is not a replacement for any primary alerting systems or procedures already in place.

Data Protection/ Privacy

Clinicians and other users of the Visensia system should be aware that, in collecting and recording patient names and data, they are responsible for complying with all applicable data protection and/or privacy law and regulation.

Trademarks

Visensia® is a registered name of OBS Medical.

The Visensia Display

During normal operation the Visensia screen will display a Visensia Index for each patient and it will update every time new physiological data is received for that patient.

The Visensia display can be configured to show patient information in a variety of formats. This section describes the main elements that are found on each Visensia display.

Banner

The banner displays the company and product name and may, or may not, be displayed depending on how your system is configured.



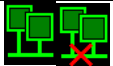
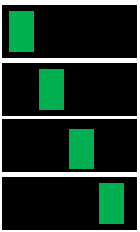
Status Bar

The status bar, at the bottom of the display, shows the local date and time to the left.

Icons to the right of the status bar indicate whether or not the system is operational and connected to the network.

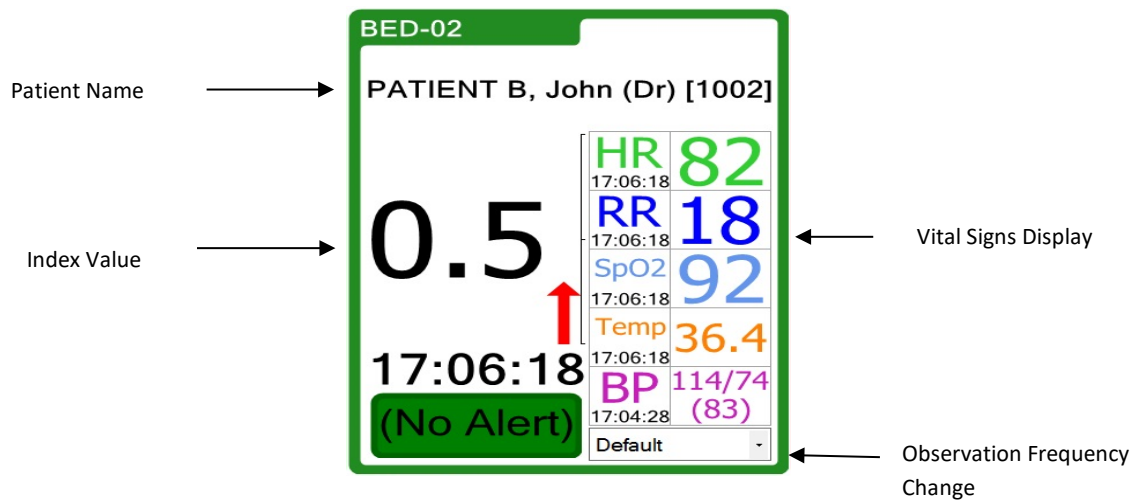
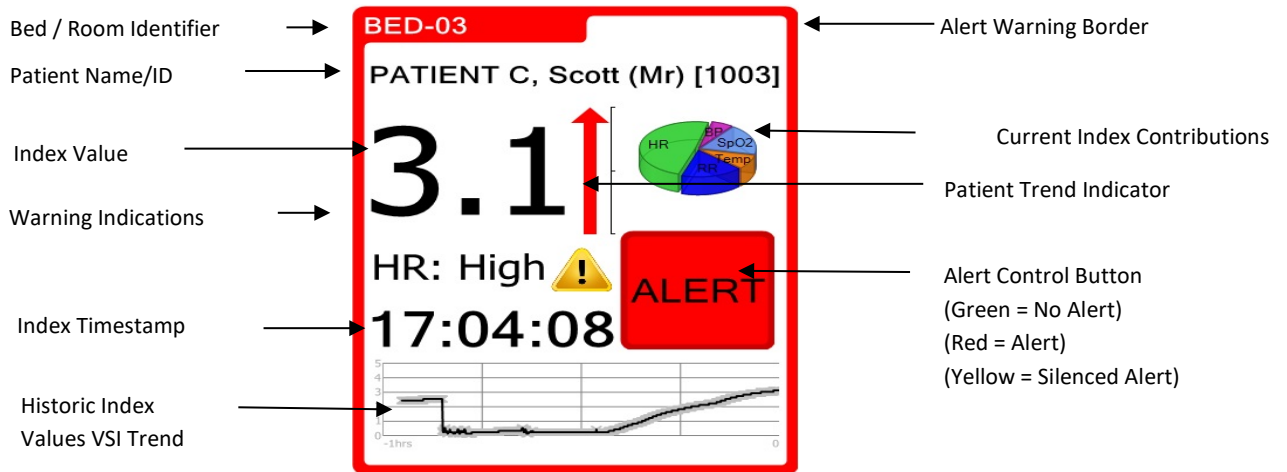
The status bar may, or may not be displayed, depending on how your system is configured.

The icons that display are as follows:

	<p>Network connection indicator Indicates whether Visensia client is connected/is not connected to the server.</p>
	<p>Activity indicator When this is flashing it indicates that Visensia is operational. Warning: If this indicator stops, then it indicates a system failure. Refer to a Clinical Engineer or IT Specialist immediately.</p>

Patient Information

Each Visensia display shows a grid of cells and each cell shows information for a single monitored patient.



Note: Visensia Client Displays should be dedicated displays to ensure any VSI alerts or status changes that might occur are not inadvertently missed by the user when using the said client display for other applications.


Bed/Room Identifier	The name of the bed / room that is being monitored.
Patient Name/ID	The name/ID of the patient being monitored. See Adding a Patient's Name and Removing a Patient's Name for further information. Note: Your IT specialist may have configured Visensia to not show this information
Index Value	<p>The latest value of the Visensia Index calculated from the vital signs received from the patient's monitor. The index value is updated when a new vital sign measurement is received for the patient that is being monitored.</p> <p>If this value displays grey question marks (??) this indicates that there is not enough valid data available, for example, if the data is only available for less than 3 vital signs, if the vital signs have been removed, or if the observation frequency has expired (see Changing the Observation Frequency for further information).</p>
Patient Trend Indicator	The latest Patient Trend Indicator display the trend of Visensia Index for a patient, over a period of time.
Index timestamp	<p>The time the latest value of the Visensia Index was calculated</p> <div style="border: 1px solid black; padding: 5px;"> <p>Note: The time stamps shown are in 24 hour clock format only (without a date), the time is limited to the last 24 hours from the point the display is observed.</p> </div>
Historic Index Values (trend display)	Shows a history of the index value for the patient, over a period of time, in graph or table form. The amount of history displayed and whether to use tables or graphs is system configurable.
Warning Indicators	<p>Indicators showing any active warnings for the bed/room being monitored. See the section on Warning Display Indicators.</p> <p>Note: Your IT specialist is able to configure which warnings Visensia® will display.</p>
Vital Signs Display	<p>A list of current vital signs for the patient, their values and the times at which the vital signs were recorded. Not all vital signs may be shown, depending on how Visensia has been configured.</p> <p>If this value displays grey question marks (??) this indicates that there is no valid data available, for example, if the vital signs have been entered, or if the observation frequency has expired (see Changing the Observation Frequency for further information).</p> <div style="border: 1px solid black; padding: 5px;"> <p>Note: The time stamps shown are in 24 hour clock format only (without a date), the time is limited to the last 24 hours from the point the display is observed.</p> </div>
Alert Warning Border	The surrounding cell colour indicates one of the following alert states for the patient. See section; Display Alert Warning Border .
Alert Display	If the Visensia Index satisfies the Visensia alerting criteria an Alert state is seen on the Alert control button. The alert may clear if the Index no longer meets the alerting criteria (unless Latched Alerts are configured). The alert may also be 'silenced' if required. See Maintaining Alerts for further information.
Current Index Contributions (pie chart)	Shows how much each current vital sign has contributed to the total amount of the Visensia Index; the larger the pie-slice the greater the contribution. Depending on the configuration setting, the pie chart also scales depending on the index value; a high value displays a larger pie chart.


<p>Observation Frequency Change</p>	<p>From here you can set the observation frequency rate for the patient. This is the length of time that you estimate a patient’s reading is valid for. Note that this value may automatically change depending on the index value if the system has been configured to do so. See Changing the Observation Frequency for further information.</p>
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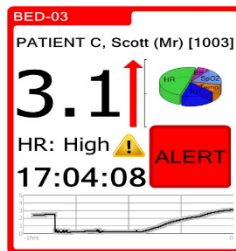
Display Warnings Indicators

Visensia can be configured to display warnings when vital signs fall outside of configured thresholds, or when a vital sign is missing from the patient’s feed or generating some kind of “status message”.

These warnings are indicated on the display by either a visual icon or text indicator or both as configured during set-up.

Warning Icon: 

Text: **HR: High** 



Note: Which warnings are shown is configurable by your IT specialist.

Note: The abnormal vital warning indicators are not intended to be used as a primary alert mechanism. It is not a replacement for any primary alerting systems or procedures already in place.

Warnings information will be displayed as long as the vital sign reading remains outside the set limits.

Warning text will specify which vital sign is outside the specified limit.

High	Vital sign reading is above the upper limit
Low	Vital sign reading is below the lower limit
SpO2	Pulse oximetry – Blood Oxygen Saturation
RR	Respiration rate
HR	Heart Rate
Temp	Body temperature
SysBP	Systolic Blood Pressure
DiaBP	Diastolic Blood Pressure
Σ	Sum of a vital sign readings over a defined time period has exceeded specified limits

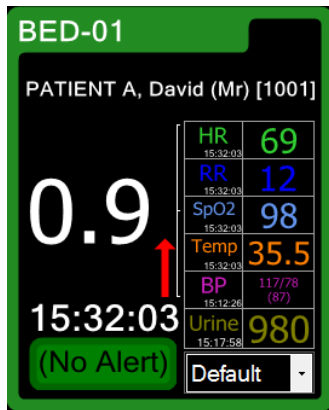
Display Alert Warning Borders

Visensia displays an alert for a patient when the index value for that patient meets, and/or, exceeds the criteria for alerting. If the vital signs for the patient change and the index value falls to below the alerting criteria, the patient automatically comes off alert (unless your system has been configured to display Latched Alerts).

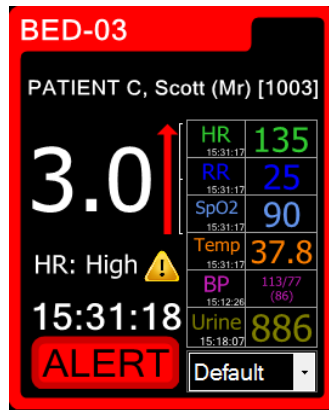
Note: A patient with an Alert requires immediate attention.

The border to the patient information cell displays in a colour that reflects an alert state, as follows:

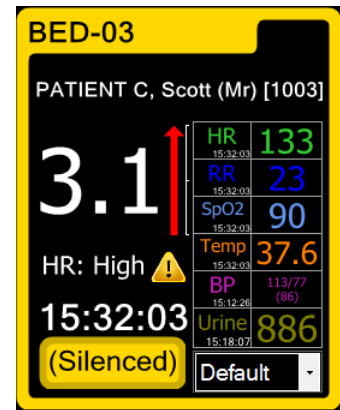
Normal



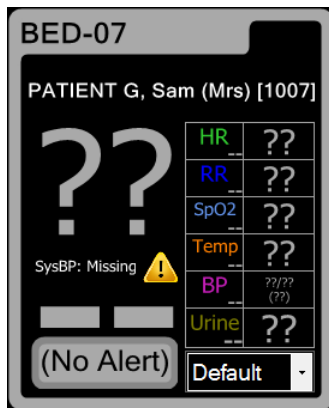
Alert



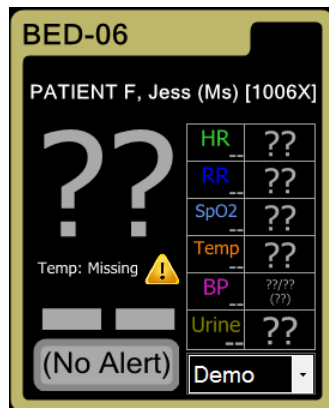
Silenced Alert



Warning – No data ever received



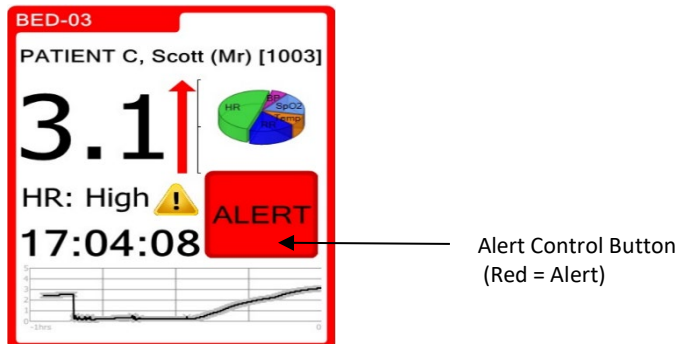
Warning – Data no longer being received



Silencing/Modifying an Alert

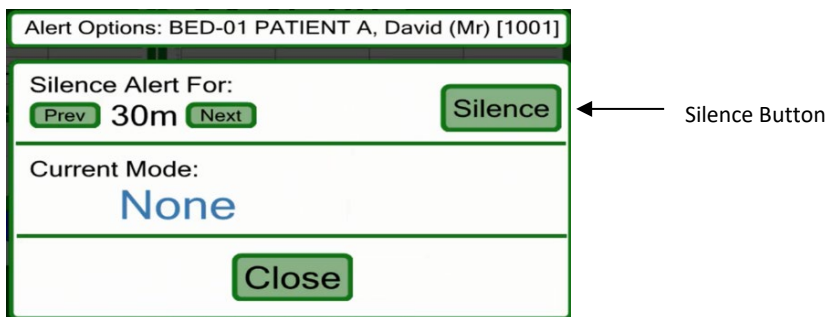
To silence an alert:

1. Click the **Alert** control button.

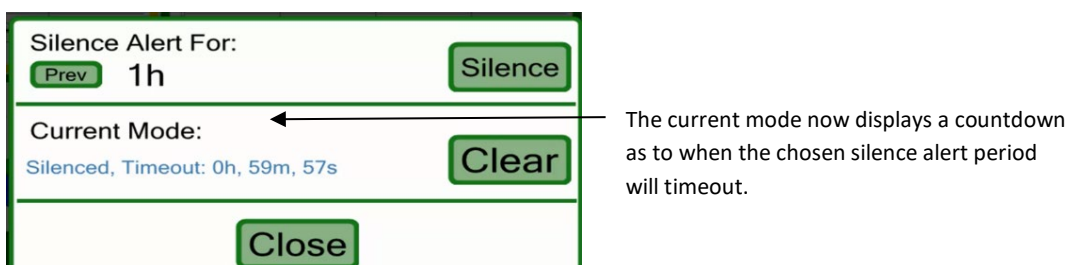


You can set the time interval for the Silence Alert, i.e. the time period after which the Alert will be re-instated, by clicking on either the **Prev** or the **Next** button until the time interval you require displays.

The **Prev** or **Next** buttons will not display if the minimum or maximum time intervals have been reached.



Click the Silence button when you have selected the required silence alerting criteria.



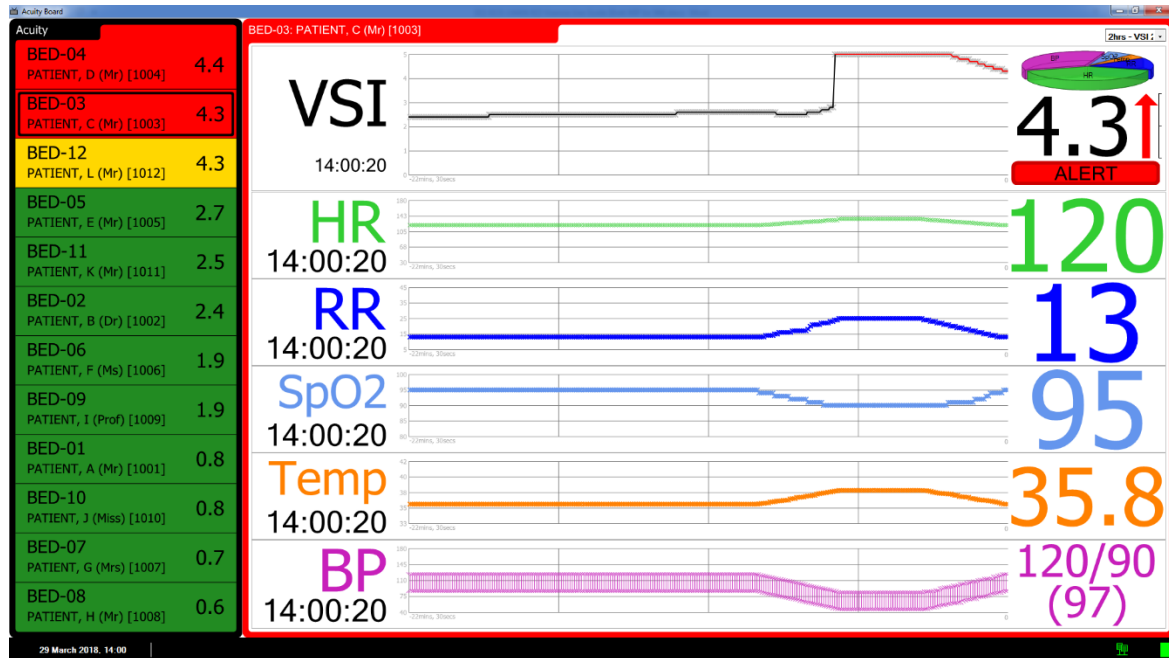
2. Click the **Close** button to return to main display

Note: The last alert state is maintained when the index goes to grey question marks (??). Only a patient reset or a new index can change this alert state.

Acuity List

The Acuity List shows the current list of patients being monitored. The list is ordered according to the alert state and then the index value.

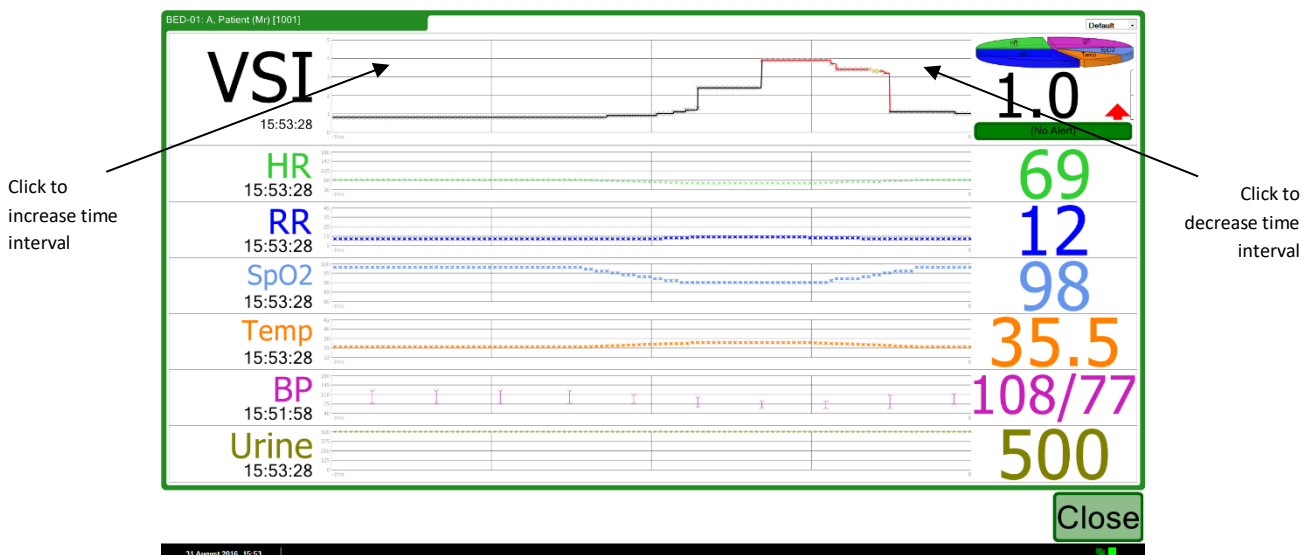
You can select a patient and display their details in the Trend Display by clicking on the patient details from the Acuity List.



Trend Display

The Trend Display shows the vital signs for the selected patient, including the values for each vital sign and the time on which the values were last recorded.

The display also shows, in graph form, a history of the patient's index value and a history of the values for each vital sign. The maximum time interval for the historic graphs is system configurable. To change the maximum time interval, please see your IT Specialist.

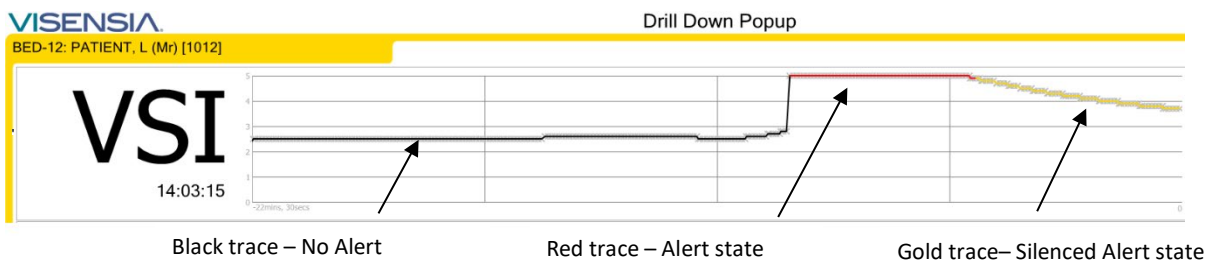


You can temporally change the time interval for the historic graphs by clicking the left and right hand sides of the graphs. Clicking to the right will decrease the time interval, clicking to the left will increase it. The time interval will automatically reset after 10 minutes of no interaction has elapsed. Clicking in the centre of the graph will reset the time interval to its default value.

Note: The time interval of all graphs will change, not just the graph you are clicking on

VSI Trend Colour

The VSI trace colour on the trace screen give a history of the alert state within the trace window as shown below.



Patient Trend Indicator

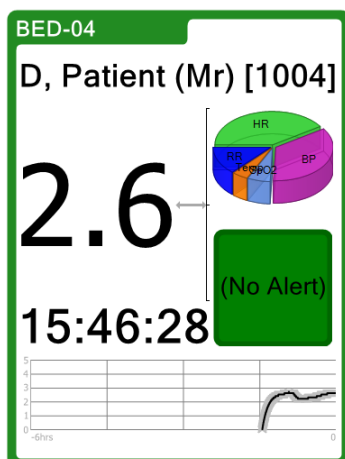
Patient Trend Indicator indicates improvement or deterioration in the Visensia Index trend for a Patient over a period of time.

The red arrow indicates deterioration, while green arrow means improvement. The height of the arrow indicates the amount of improvement or deterioration.

A horizontal grey arrow means no change. Following figures illustrates the three states mentioned above.

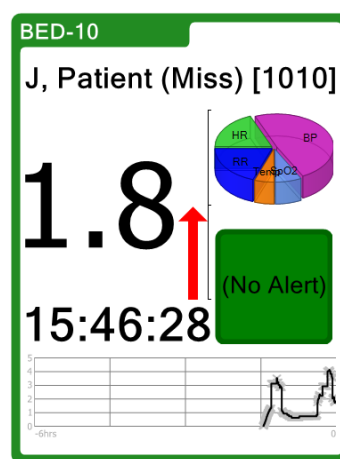
No Change:

Horizontal grey arrow.



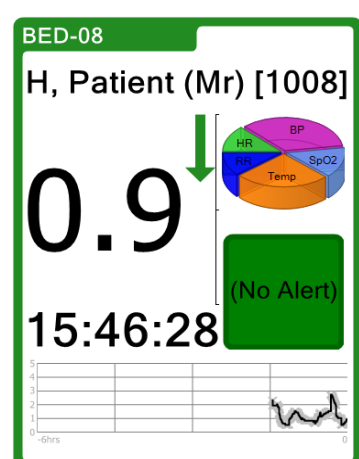
Deterioration:

Red arrow pointing upwards.



Improvement:

Green arrow pointing downwards.

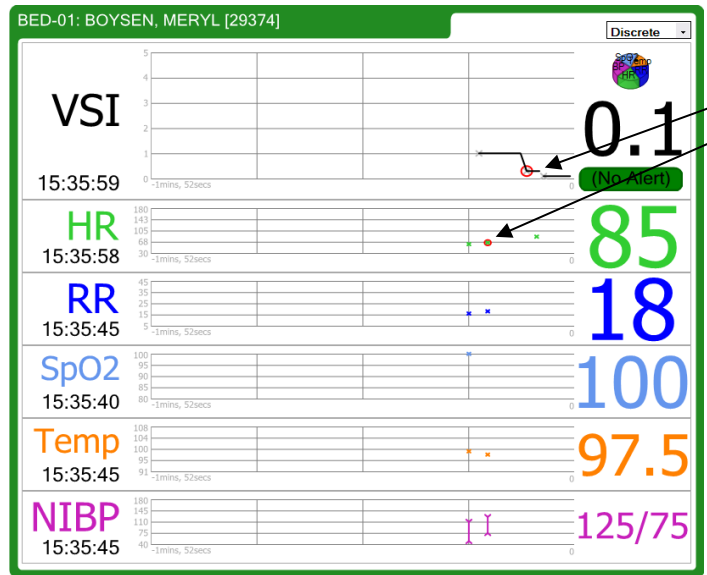


Corrections and Deletions

If configured, Visensia displays can show corrections and deletions that are made to the vital signs and the calculated VSI index.

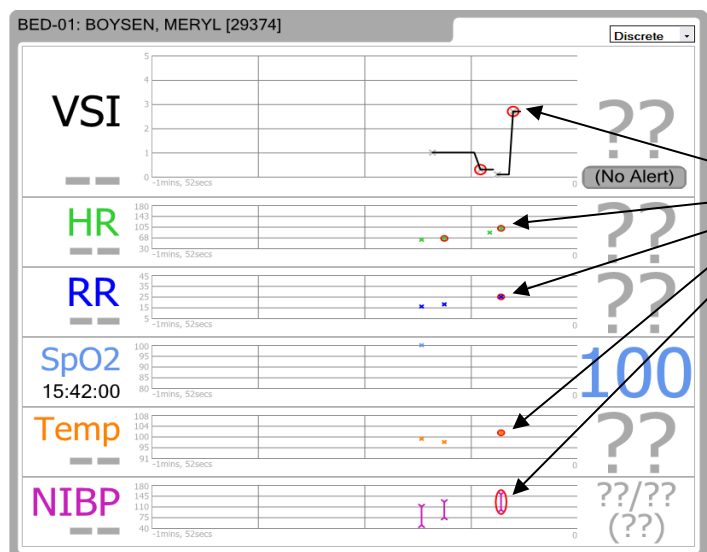
Both Corrections and Deletions result in deleting a previous value, the deletion is visible on those screens that show historical data such as the trend graphs and the history table.

Trend Graphs with Corrections:



Correction of HR causes a correction of the VSI. The corrected (old) values are shown with a red circled around them.

Trend Graphs with Deletions:



Deletion of HR, RR, Temp and BP results in no VSI being able to be calculated.

History Table with Corrections:

BED-01 BOYSEN, MERYL [29374]	
0.1	
(No Alert)	
07/09/2012 15:47:36	0.1
07/09/2012 15:47:31	0.3
07/09/2012 15:47:19	1.0

The correction to a vital sign caused a correction to the VSI Index.

This corrected (old) value is shown with a strike through

History Table with Deletion:

BED-01 BOYSEN, MERYL [29374]	
??	
(No Alert)	
07/09/2012 15:51:26	2.7
07/09/2012 15:51:22	0.1
07/09/2012 15:51:17	0.3

The deletion to a vital sign caused a deletion to the VSI Index.

The deleted value is shown with a strike through.

Manual Data Entry

You can interact with the main Visensia display by clicking on various areas of the patient information cells.

Note: The following data entry screens will timeout after 10 minutes and the main display will be shown so that any alerts can be seen.

Adding a Patient's Name

A patient's name can be added to identify the bed / room being monitored, if required.

Note: You will only be able to add a patient's name if your system has been configured to enable you to do so.

3. Click on the name of the bed / room for which you want to enter a patient's name.



4. Type in the patient's name or select from a Patient List (depending on Display Configuration).
5. Click the **OK** button.

Removing a Patient's Name

If a patient has been discharged, you can remove their name from the bed / room being monitored.

Note: You will only be able to remove a patient's name if your system has been configured to enable you to do so.

1. Click on the name of the bed / room for which you want to remove a patient's name.



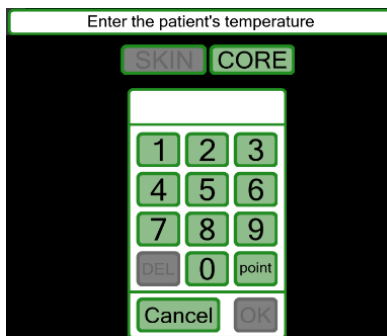
2. Click the **CLEAR** button or select "<Remove Current Patient>" from Patient List (depending on Display Configuration).
3. Click the **OK** button.

Entering Vital Signs Manually

Vital signs - heart rate, respiratory rate, temperature, blood pressure and blood oxygen – can be manually entered for a patient, if configured to do so. The manual reading entered will be overridden once a new automatic reading is received from the patient’s monitoring system.

Note: You will only be able to enter a patient’s vital signs manually if your system has been configured to enable you to do so.

1. Click on the vital sign for which you want to enter details manually.
2. For example, click the **HR** vital sign to manually enter the Heart/Pulse Rate details for a patient.
3. Type in the value for the vital sign.
4. Click the **OK** button.
5. For Temperature vital sign you will be given two types to choose from: Skin or Core, as below:



Changing the Observation Frequency

You can manually set the period for which the last set of recorded vital signs to remain valid (and displayed) in the system, if required.

Note: The frequency selections available will depend on how your system has been configured.

1. Click on the down arrow to the right of the Observation Frequency Change field.
2. Select the frequency option you require from the drop down list.

The system may also have been configured to automatically select the period depending on the patients index value (for example, to increase the frequency of observations as the patient deteriorates). If this is the case, the frequency selection will change automatically although you can still override this by selecting a value from the drop down.

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