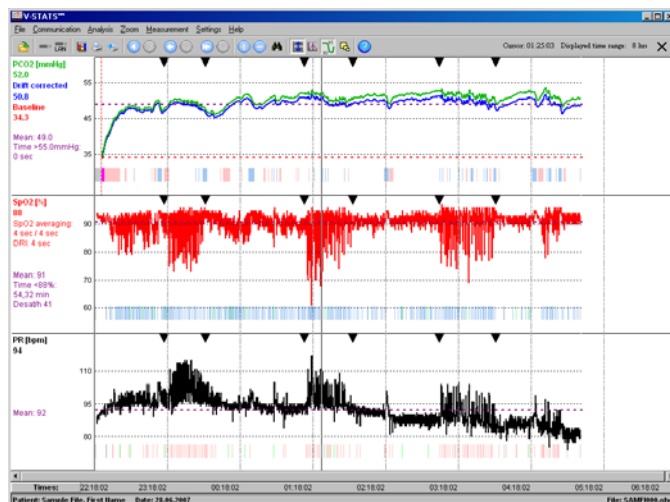
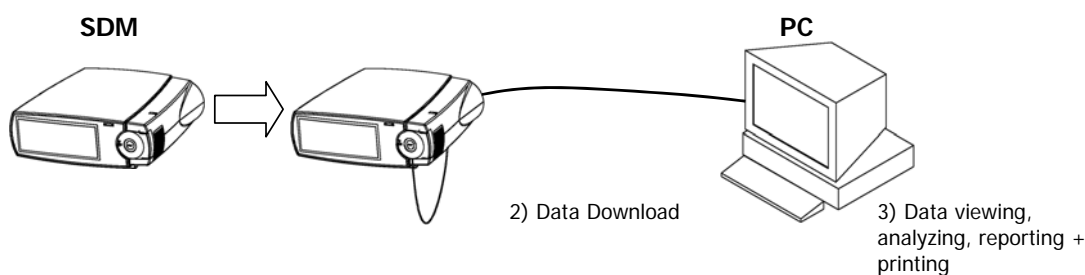


# SenTec V-STATS™

V-STATS™ is a PC-based software that offers the following main features: 1.) downloading trend data (PCO<sub>2</sub>, SpO<sub>2</sub>, PR) from the internal memory of the SenTec Digital Monitor (SDM) for subsequent display, analyzes and reporting, 2.) configuring special (safety relevant) settings of the SDM via its serial interface within a password protected area of V-STATS™, and 3.) remote monitoring and alarm surveillance of multiple SDM's being connected to the same network as the PC with V-STATS™.



To download trend data simply connect the SDM to the PC, run V-STATS™ and activate trend data download. Trend data download is possible via the SDM's serial interface or – after activation of the V-CareNeT™ Package - via its LAN interface.



Before activating data download, the desired measurement period(s) can easily be assigned to the respective patient within a dialog displaying a table with the start and end times of all measurements currently stored in the internal memory of the SDM. During download the trend data are automatically analyzed using predefined analysis criteria and subsequently displayed along with various event markers. Data analysis includes automatic detection of events, artifacts and invalid measurement periods. Various data analysis criteria are user adjustable and the time range to be evaluated is selectable. In the PCO<sub>2</sub> channel V-STATS™ also displays the PCO<sub>2</sub> baseline and PCO<sub>2</sub> data corrected for residual drift along with the original, uncorrected PCO<sub>2</sub> data.

By using V-STATS™ within a password protected area it is furthermore possible to configure special (safety-relevant) settings of the SDM depending on the individual needs of the particular clinical settings.

The V-CareNeT™ Package being an optional add-on to V-STATS™ enables remote monitoring and secondary alarm surveillance of multiple SDM's being connected to the same network as the PC with V-STATS™.

# Features of V-STATS™ 3.00

## Graphic window (main window)

For all parameters/channels trend data curves and event markers along with the most important statistical results are shown in the graphic window. The 'PCO<sub>2</sub> baseline' and residual drift corrected data (if enabled) are additionally displayed in the PCO<sub>2</sub> channel. The patient/file names are indicated along with the displayed time range. The values and date/time at the cursor position (if set) are indicated. Scrolling and zooming in/out functions permit to adjust the displayed time range.

## Patient assignment

Prior to downloading/importing data from the SDM or from a raw data file stored on the PC, the desired measurement(s) can be assigned to the respective patient(s) by means of a table displaying the start- and end-times of all available measurements.

## PCO<sub>2</sub> baseline

Automatic determination of the PCO<sub>2</sub>-Baseline (i.e. the PCO<sub>2</sub> reading at the end of the PCO<sub>2</sub> stabilization) when downloading or importing data. The PCO<sub>2</sub> baseline is shown in the PCO<sub>2</sub> channel as a red horizontal line. Optionally the PCO<sub>2</sub> baseline can be set manually.

## Correction of residual PCO<sub>2</sub> drift

The PCO<sub>2</sub> drift correction recognizes the residual technical PCO<sub>2</sub> drift of the V-Sign™ Sensor. If the data of the PCO<sub>2</sub> calibrations just before and just after the measurement are available, the drift corrected PCO<sub>2</sub> data is displayed as a blue curve, in addition to the green curve of the original PCO<sub>2</sub> data. The PCO<sub>2</sub> baseline determination as well as the data analysis are performed using the drift corrected PCO<sub>2</sub> data. Optionally the PCO<sub>2</sub> drift correction can be deactivated.

## Event markers

After downloading/importing measurement data V-STATS™ automatically analyzes the data, using the analysis criteria that are currently active. Colored markers highlight the detected events on the graphs.

The following event types can be distinguished:

- PCO<sub>2</sub>-related events: upper/lower thresholds, fall/rise, Baseline ranging
- SpO<sub>2</sub>-related events: desaturation, upper/lower threshold
- PR-related events: upper/lower thresholds, rise
- Invalid measurement periods (e.g. 'Sensor off patient')
- SDM (monitor) events (e.g. 'Calibrate sensor', 'SpO<sub>2</sub> low signal', etc.)
- Artifacts (e.g. SpO<sub>2</sub> below a predefined level)
- Operator marked (pushing ENTER on SDM)

## Data analysis/evaluation period

Data analysis includes statistical data analysis, detection of physiological events, artifacts and invalid measurement periods. Data analysis criteria and the evaluation period are user adjustable. Artifacts

additionally can be determined manually (with the mouse or in the menu). Periods with artifacts are excluded from data analysis. Optionally periods with SDM events can be excluded from data analysis.

## Report

A report is assembled after data analysis. The report can be viewed on screen. Comments and diagnoses may be entered for printing.

The report provides the following statistical results:

- Distribution curve and table, minimum, maximum, mean, median for all channels, standard deviation for PR
- Number of events with SpO<sub>2</sub> values smaller than a selectable level (default 88%) that last longer than 5 minutes.
- Number of events with PCO<sub>2</sub> values above a selectable level (default 55 mmHg) that last longer than 5 minutes.

The report provides for each of the twelve physiological events (PCO<sub>2</sub>, SpO<sub>2</sub>, PR) the following information:

- Statistical results (number of events, duration of the longest event, average duration of an event, time in events, time in events/hour, index (number of events per hour))
- Event distribution (number of events within a selectable time interval)
- Event list (chronological list of all events and the time they occurred)

## Printing the report and graphs

The elements of the report to be printed are selectable. The time resolution per printed page can be selected for the printout of the trend curves.

Printing is possible with Windows compatible printers, including PDF-printer.

## Setting up the channels

Various possibilities to configure the channels for easier handling (PCO<sub>2</sub> units, channel labels, channel colors, etc.)

## File manager

Measurement data can be archived, administered, copied, moved, deleted, sent via internet, renamed or opened.

The data can be exported in different formats (text, Excel-compatible, European Data Format (EDF)).

A systematic search for data is possible (patient name).

Raw data files can be imported.

## Configuring the SDM

For SDMs with firmware version SMB-SW V07.00 or higher the institution by using V-STATS™ within a password protected area:

- can pre-configure certain (safety relevant) parameters (e.g. alarm or sensor temperature related settings)
- can select between 'Basic Mode' and 'Institutional Mode' to handle parameters settings. In 'Institutional Mode' the institution can define a 'Standard Parameters Setting' which is used as power-up setting or which can be restored by the operator via SDM menu.

- has the possibility to manage 'SDM Parameters Settings'. Examples of available functions include 'Restoring Factory Parameters Setting', 'Copying a SDM Parameters Setting' from the SDM to V-STATS™ etc. Various preconfigured 'SDM Parameters Settings' tailored to the specific needs of different clinical settings (ICU, Sleep Lab, NICU) are available in V-STATS™.

## Remote monitoring with V-CareNeT™

Once activated, V-CareNeT™ Package - being incorporated within V-STATS™ - enables simultaneous remote monitoring and secondary alarm surveillance for up to 20 SDMs being connected to the same network as the PC with V-STATS™, i.e. the PC with V-STATS™ is used as a central station for patient monitoring. For all admitted patients the central station displays all relevant SDM data and alarms.

With the V-CareNeT™ system it is furthermore possible to download trend data stored in the internal memory of the SDM via the network.

## Supported languages

English, German, French

## Support/help

Context-sensitive online help, Hotline

### System requirements

- SDM with SMB V06.10 or higher
- Multi core at 2 GHz and higher
- Windows® XP, Vista
- 1 GB memory
- 100 MB free space on hard disk
- CD ROM
- Communication port (serial or serial via USB2Serial Converter)
- 100/1000 Base-T network connection
- 1680 x 1050 screen resolution for 20 beds (smaller resolution will support fewer beds)
- Integrated speaker system required for auditory alarm signals

Your local distributor



# sentec

SenTec AG Phone +41 61 726 97 60  
Ringstrasse 39 Fax +41 61 726 97 61  
CH-4106 Therwil [info@sentec.ch](mailto:info@sentec.ch)  
Switzerland [www.sentec.ch](http://www.sentec.ch)