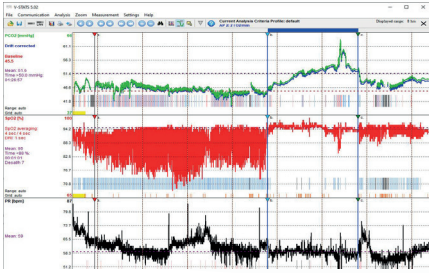
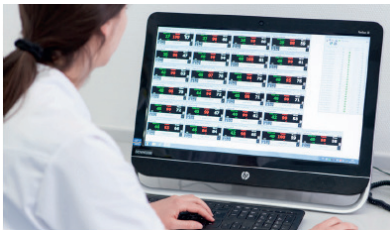


V-STATS by Sentec



- DOWNLOADING TREND DATA (tcPCO₂, tcPO₂, SPO₂, PR, PI, HP)
- USER PROFILES
- REMOTE MONITORING | ALARM SURVEILLANCE

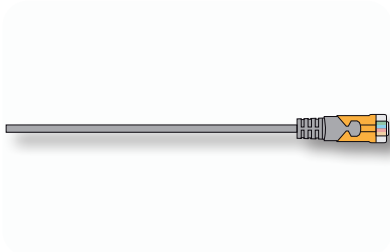
V-STATS



V-STATS is a PC-based software that offers the following main features:

- **Downloading trend data** (tcPCO₂, tcPO₂, SpO₂, PR, PI, HP) from the internal memory of the Sentec Digital Monitor (SDM) for subsequent display, analysis and reporting
- **Configuring parameters settings** (user profiles) and special (safety relevant) settings of the SDM via its serial interface within a password-protected area of V-STATS
- **Remote monitoring and alarm surveillance** of multiple SDMs connected to the same network as the PC with V-STATS/V-CareNet

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 SDMs serial interface or – after activation of the V-CareNet Package – via its LAN interface.



Data Download

- Serial cable
- Ethernet network

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 is 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 tcPCO₂ channel, V-STATS also displays the tcPCO₂ baseline and tcPCO₂ data corrected for residual drift along with the original, uncorrected tcPCO₂ data.

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

The V-CareNet Package is an optional add-on to V-STATS, which enables remote monitoring and secondary alarm surveillance of multiple SDMs connected to the same network as the PC with V-STATS.

FEATURES OF V-STATS 5.02

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 «PCO₂ baseline» and residual drift corrected data (if enabled) are additionally displayed in the PCO₂ channel as well as the «PO₂ baseline» in the PO₂ channel
- The patient/file names are indicated along with the displayed time range (if access is enabled)
- 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.

Note: Patient information can only be entered if the responsible organization enables the access. Ensure compliance with local data protection regulations before entering personal data. Non-authorized persons must not have access to patient information.

PCO₂- and PO₂-Baselines

Automatic determination of the PCO₂- and PO₂-Baseline (i.e. the PCO₂/PO₂ reading at the end of the PCO₂ (PO₂) stabilization) when downloading or importing data. The PCO₂ (PO₂) baseline is shown in the PCO₂ (PO₂) channel as a red horizontal line. Optionally the PCO₂ (PO₂) baseline can be set manually.

Correction of Residual PCO₂ Drift

The PCO₂ drift correction recognizes the residual technical PCO₂ drift of the TC Sensors. If the data of the PCO₂ calibrations just before and just after the measurement are available, the drift corrected PCO₂ data is displayed as a blue curve, in addition to the green curve of the original PCO₂ data. The PCO₂ baseline determination as well as the data analysis are performed using the drift corrected PCO₂ data. Optionally the PCO₂ 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. User-defined event markers – set during measurement as many times as desired – are displayed as triangles above the graph window of the corresponding measurement curve.

The following event types can be distinguished:

- **PCO₂-related events:** upper/lower thresholds, fall/rise, Baseline ranging
- **SpO₂-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», «SpO₂ low signal», etc.)
- **Artifacts** (e.g. SpO₂ 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 SpO₂ values smaller than a selectable level (default 88%) that last longer than a selectable duration (default 5 min)
- Number of events with PCO₂ values above a selectable level (default 50 mmHg) that last longer than a selectable duration (default 5 min)

The report provides for each of the twelve physio-logical events (PCO₂, SpO₂, 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 (PCO₂ units, channel labels, channel colors, etc.)

File Manager

The patient data manager conveniently allows to archive, copy, move, delete, rename or open measurement data.

- The data can be exported in different formats (e.g. text, Excel-compatible, European Data Format [EDF]) or sent via internet
- A systematic search for data is possible (patient name)
- Raw data files can be imported

Configuring the SDM

By using V-STATS within a password-protected area in conjunction with SDMs with firmware version SMB-SW V08.00 or higher, the institution

- 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 up to four different parameter settings, one at the time can be defined as «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 (e.g. ICU, Sleep Lab, NICU) are available in V-STATS.

Remote Monitoring with V-CareNet

Once activated, V-CareNet Package – incorporated within V-STATS – enables simultaneous remote monitoring and secondary alarm surveillance for up to 40 SDMs 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
- Spanish
- Italian
- Portuguese
- Polish

Support/Help

Context-sensitive online help, Hotline, and for troubleshooting (or teaching) screenshots of the SDM screen can be downloaded with V-STATS.

SYSTEM REQUIREMENTS

- SDM with SMB V08.00 or higher
- Multi core at 2 GHz and higher
- Windows® 7, 8, 8.1, 10, 11
- 4 GB memory
- 1 GB free space on hard disk
- Communication port (serial or serial via USB2 Serial Converter)
- 10 Base-T network connection
- 2560x1440 screen resolution for 40 beds (smaller resolution will support fewer beds)
- Integrated speaker system required for auditory alarm signals

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