Overall System Performance

Transcutaneous Carbon Dioxide Partial Pressure (tcPCO₂)

- Measurement range: 0 – 200 mmHg (0 – 26.7 kPa)
- Resolution: 0.1 mmHg (0.01 kPa)
- Accuracy: ±2.25% (A⁰ over 70% to 100%)¹
- Linearity: Typically ± 0.5% per hour
- Response time (T90): Typically ≤ 80 sec
- Stability: After sensor application or occurrence of a tcPCO₂ artifact, tcPCO₂ is displayed in grey until it (re)stabilizes.
- Interferences by anesthetic gases: Negligible

Oxygen Saturation (SpO₂)

- Measurement range: 0 – 100%
- Resolution: 1%
- Accuracy: ±2.5% (A over 70% to 100%)
- Linearity: Typically ± 0.1% per hour
- Averaging mode: 2, 4, 6, 8, 12, 16, and 32 sec
- Response time: Typically ≤ 3 sec
- Memory retention: ±2.25% (A over 100%)
- Stability: After sensor application or occurrence of a tcPCO₂ artifact, tcPO₂ is displayed in grey until it (re)stabilizes.

Sensor Temperature

- Measurement range: 0.0 – 70.0 °C
- Resolution: ± 0.1 °C
- Accuracy: ±0.2 °C (over 37.0 to 45.0 °C)

Pulse Rate (PR)

- Measurement range: 20 – 250 bpm
- Resolution: 1 bpm
- Accuracy: ± 3 bpm
- Pulsation Index (PI)
- Measurement range: 0.1 – 1.0
- Resolution: 0.1%

Sensor Heating Power (HP)

- Measurement range: Relative Heating Power (RHP): 0 – 999 mW
- Resolution: 1 mW
- Maximum power: 5 W

Sensor Dimensions/Sensor Cable

- Diameter x height of sensor head: Approx. 80 cm (31"") [plus Digital Sensor Adapter Cable of 150 cm (59''), 250 cm (98''), or 750 cm (295'') length]
- Sensor cable: Highly flexible, shielded cable with coating withstands cleaning agents and radiation commonly used in hospital environments.

Transport/Storage of Sensor

- Transport temperature: 0 – 50 °C (32 – 122 °F)
- Long term storage temperature: 15 – 26 °C (59 – 78 °F)
- Transport: sensor with membrane and protected from light/ irradiation.

OxiVent™ Sensor (OV-A/P/N)

Suitable for neonatal, pediatric, and adult patients

Suitable for Bispectral Index monitoring

Severinghaus-type PCO₂ sensor combined with reflectance 2-wavelength pulse oximetry and an optical fluorescence quenching PO₂ sensor.

Highly integrated opto-electronic sensor head comprising micro pH-electrode, optical oximetry unit, temperature sensors, heating unit, optical fluorescence excitation/sensing unit all combined in a fully digital design. High definition digitizer and pre-processing in the sensor head provides robust and low noise signals that are digitally transmitted to the Sentec Digital Monitor (SDM).

Sensor-specific data are stored in the sensor’s memory after manufacturing (serial number, factory PCO₂ sensitivity, calibration, factory PO₂ sensitivity, calibration etc.) and during operation (sensor calibration, membrane change, etc.).

Up to 31 days (default 28 days). Patented '4 Press-and-Turn steps' membrane tool for simple and highly reproducible membrane change.

Transcutaneous Oxygen Partial Pressure (tcPO₂)

- Measurement range: 0 – 800 mmHg (0 – 106.7 kPa)
- Resolution: 1 mmHg (0.1 kPa)
- Linearity: Typically ≤ 0.5% per hour
- Response time (T90): Typically ≤ 150 sec
- Stability: After sensor application or occurrence of a tcPO₂ artifact, tcPO₂ is displayed in grey until it (re)stabilizes.

tcPCO₂ | tcPO₂ | SpO₂ | PR | HP
Continuous or V-Check™ Mode
Neonates, Pediatrics & Adults
Noninvasive & Easy to Use
Accurate & Fast
Gentle & Safe

Gentle & Safe
Sentec Digital Monitor (SDM) (Software version 3MB SW-V08.00 and higher, with activated PO2 measurement)

Physical Characteristics
- **Weight**: 2.33 kg (5.1 lbs) – including cylinder
- **Size**: 10.2 cm x 27.0 cm x 23.0 cm (0.00’ x 10.63’ x 9.06”)
- **Flip feet**: Flip feet serving as carrying handle or to adjust angle for improved tabletop viewing.
- **Mountable**: Mountable on roll/infusion stands, wall mounts/railings, transport incubators, etc.

Sensor Calibration
Built-in sensor calibration chamber for 1-point calibration. Automatic calibration ensures that system is ‘Ready for use’ if sensor is stored in calibration chamber. Comprehensive controls guarantee reliable calibrations.

Sensor Temperature
- **Selective sensor temperature range**: Configurable by institution between 37.0 and 44.5 °C (in steps of 0.5 °C; default range=40.0–44.0 °C). Safety controls of the SDM may restrict the selectable range depending on the type of the connected sensor, the selected patient mode, or the enabled parameters.
- **Selectable range**: 37.0–44.5 °C with Oxivent™ Sensor and 37.0–43.5 °C with V-Sign™ Sensor 2 (or as restricted by institution and/or safety controls of the SDM). In steps of 0.5 °C PO2 is only available with 41 °C or higher.
- **Default sensor temperature**: If Spo2 is enabled, 43.0 °C in Neonatal Mode and 44.0 °C in Adult Mode. Otherwise, 41.0 °C in Neonatal Mode and 42.0 °C in Adult Mode (or closest setting of selectable range if default Sensor Temperature is outside selectable range).

Initial Heating
Temporarily increases sensor temperature after sensor application for faster perfusion and results (in Adult Mode only; +2 °C max; 44.5 °C can only be switched on if enabled by institution).

Redundant Sensor Temperature Control on SDM
To guarantee safe operation should the sensor’s temperature control fail, the SDM firmware redundantly controls the temperature of the connected sensor. Restart or switch off sensor in case of errors.

Site Time
- **Maximal selectable Site Time**: Configurable by institution between 0.5 and 12.0 hours (in steps of 0.5 hours; max. 4 hours in Neonatal Mode or 4 hours in Adult Mode at 44.0 °C). Depending on the selected patient mode and with increasing sensor temperature safety controls of the SDM may enforce a safer setting.
- **Selectable range**: 0.5–12.0 hours (or as restricted by institution and/or safety controls of the SDM). In steps of 0.5 hours.
- **Default Site Time**: 2.0 hours in Neonatal Mode at 43.0 °C or in Adult Mode at 44.0 °C (or as restricted by institution and/or safety controls of the SDM).

Site Timer
Timer indicating remaining ‘Site Time’ during monitoring. Triggers an alarm once ‘Site Time’ has elapsed.

Site Protection
Safety feature which reduces sensor temperature (to 39 °C if Spo2 disabled and to 41 °C if Spo2 enabled) once ‘Site Time’ has elapsed (can be switched off if enabled by institution).

Alarm System
- **Alarm signals**: Visual/auditory alarm signals for high/low tcPCO2, tcPO2, Spo2, PR, technical alarms.
- **Alarm Melodies**: Auditory alarm signals can be PAUSED (1 or 2 minutes) or switched off permanently (if enabled by institution).
- **Alarm system status indicators**: Alarm Status Icon, Audio Status Icon, Audio PAUSED/ OFF Indicator, LED indicator, Audio OFF Reminder (can only be switched off if enabled by institution).

Display/Indicators
- **LED indicators**: ON/OFF, AUDIO PAUSED/OFF, AC Power/Battery, Battery Charging.
- **Display size**: 16 cm (6.3’’) diagonal TFT Color Display (LED backlight).
- **Data update rate**: 1 sec for tcPCO2, tcPO2, Spo2, PR, RHP, between 1.5 and 30 mm/sec for Pleth Wave.
- **Data validity**: Clear representation of data validity/quality for tcPCO2, tcPO2, Spo2, PR, PI, RHP (valid, questionable, unobtainable, invalid).
- **Measurement screens**: Various preconfigured, user-selectable measurement screens displaying values/online trends for tcPCO2, tcPO2, Spo2, PR, RHP, alarm limits for tcPCO2, tcPO2, Spo2, PR, Baseline, Baseline values and Delta-X values for tcPCO2, tcPO2, Spo2, PR at 4-seconds resolution) for subsequent display, analysis, and reporting within V-STATS™. For Remote Monitoring with V-CareNet™ Analogue output (0–1V): tcPCO2, Spo2, PR, pleth wave (selectable ranges).

Electrical
- **Instrument**: AC Power: 100 – 240 V (50/60 Hz), max. 900 mA/ Electrical Safety (IEC 60601-1; Class I, Type BF, Applied Part – Defibrillation Proof, IPX1).
- **Internal battery**: Type: rechargeable, sealed Lith Battery/Capacity (new fully charged battery): up to 10 hours (if Sleep Mode=OFF, AUTO) and up to 12 hours (if Sleep Mode=ON)/Charging time: approx. 7 hours.

Environmental
- **Transport/storage temperature**: 0 – 50 °C (32 – 122 °F).
- **Transport/storage humidity**: 10 – 95% non-condensing.
- **Operating temperature**: 10 – 40 °C (50 – 104 °F).
- **Operating humidity**: 15 – 95% non-condensing.
- **Operating altitude**: 350 – 820 mmHg (47 – 109 kPa)/ Accuracy: ±3 mmHg (0.4 kPa).

Compliance

Your local Sentec representative: