

TCM TOSCA Specifications

Hardware

Computer specifications

CPU: AMD ETX LX800, 500 MHz (Pentium Class)
RAM: 128 MB
Software platform: Windows CE 5.0
Startup time: max. 1 min

Operating conditions

Operating environment: 12-28 °C / 54-82 °F
Built-in barometer:
Range: 375-825 mmHg or 50-110 kPa
Accuracy: ±5 mmHg or 0.67 kPa
Altitude: 2290 m / 7513 ft above sea level
Power: 100-240 V, 50-60 Hz, 70 VA (max.)
Built-in battery: rechargeable Pb battery
Typical operating time: 1 hour per charge at 25 °C

Software

Measuring range

Transcutaneous carbon dioxide tension/ $t_{cp}CO_2$:
5-200 mmHg or 0.7-26.7 kPa
Oxygen saturation/ SpO_2 : 0-100% (70-100% with ±3 digits)
Pulse rate: 25-240 bpm
Sensor heating power: 0-1000mW ± 20%

Calibration

Automatic calibration
1-point, 7.5% CO_2 and 20.9% O_2 , balanced N_2
Integrated calibration chamber

Patient data storage

Up to 48 hours of measuring data in 2-sec data intervals
Reviewing trends on screen
Download of stored patient data to PC, printer or memory stick

Dimensions

TCM TOSCA monitor

Width	30.8 cm	12.1 in
Depth	23 cm	8.7 in
Height	16 cm	6.3 in
Weight	4 kg	8.8 lbs

Display

Screen: 6½" color touch TFT, full VGA (640 x 480)
Display options: normal view (numeric), trend table, trend curve
Display update period:
SpO₂ plethysmograph: 25 mm/sec
Numerical values and pCO_2 graph: 2 sec

Interface connections

Serial output: EIA232 (RS232)
Analog output: 0–1000 mV
Printer output: USB 2.0 (compliant with USB 1.1)
Printer protocol: HP PCL3
Data protocol: VueLink (Philips), Monlink (Spacelabs and Nihon Kohden)

Site timer

Indication of remaining measuring time
Measuring time elapsed: clock triggers an alarm and sensor temperature is off

Alarm level

Alarm sound: high 83 dBA, low 65 dBA
Alert tone: high 73 dBA, low 58 dBA

Languages

English, German, Danish, French, Spanish, Portuguese, Russian, Italian, Dutch, Swedish and Japanese

$t_{cp}CO_2/SpO_2$ module

Width	14.5 cm	5.7 in
Depth	14.8 cm	5.8 in
Height	10.7 cm	4.2 in
Weight	0.575 kg	1.3 lbs

tc Sensor 92

Sensor specifications

Measuring principle

Stow-Severinghaus-type $p\text{CO}_2$ sensor combined with Masimo SET® SpO_2 pulse oximetry

Sensor temperature

Selectable between 37.0-44.0 °C in steps of 0.5 °C
Reliable safe control by two independent circuits
Accuracy: ± 0.2 °C
Automatic temperature off when site time is elapsed

Sensor performance (in vitro)

Conditions: sensor temperature of 42.0 °C, calibration interval: 12 h
tcpCO₂:
Response time (10-90%): ≤ 60 sec
Drift: $\leq 0.5\%/h$
Linearity: at 1 and 10% CO₂: better than 1 mmHg or 0.13 kPa
at 33% CO₂: better than 3 mmHg or 0.67 kPa

Interference by anesthetic gases (in vitro)

tcpCO₂: negligible

Accessories

5601100 TOSCA preparation supplies
5601300 TOSCA sensor attachment clip
5601500 TOSCA fixation rings N32

Sensor remembraning requirements

Two weeks
Built-in alert when sensor needs remembraning
Protected membrane

Sensor memory

Sensor has a built-in memory for calibration values, remembraning date and other sensor data

SpO₂:

Accuracy: (70-100%): ± 3 bpm

Pulse rate:

Accuracy: (25-240 bpm) ± 3 bpm

SpO₂ and pulse rate: signal averaging 2, 4, 8, 10, 12, 14 and 16 sec

Sensor dimensions

Diameter: 15 mm or 0.3 in
Height: 8 mm or 0.6 in
Weight: 3 g or 0.1 oz
Sensor cable length: 3 m or 9.8 ft, shielded, flexible, polyurethane coated

Biocompatibility

All materials are latex-free

Compliance

Patient safety The instruments comply with IEC 60601-1:1993, IEC 60601-1-2:2001, IEC 60601-2-23:1999, IEC 60601-3-1:1996, IEC 60601-1-8:2006, ISO 9919:2005
The following test house has approved the instrument: CSA in Canada according to CAN/CSA-C22.2 No. 601.1-M90, 601.1S1-94, 601.1B-98, 601.2.23-98 and UL std. No. 60601-1.

Type BF equipment (body floating)

EMC Compliance with requirements EMC is ensured by fulfilling the requirements of the standards IEC 60601-1-2:2001, IEC 60601-2-23:1999.

Performance This product complies with the IEC 60601-2-23:1999, IEC 60601-3-1:1996.



This product complies with the requirements of the Medical Device Directive 93/42/EEC June 1993

Contact us

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