Summary

The $SvO_2/ScvO_2$ module measures venous oxygen saturation (SvO_2) and central venous oxygen saturation ($ScvO_2$) providing a status indicator of the oxygen transport system in critically ill patients. Continuous $SvO_2/ScvO_2$ monitoring can reduce the frequency of additional invasive measurements and enhance the timeliness of intervention in critically ill patients.

Features

Technology	Provides continuous real-time monitoring using ICU Medical 3-wavelength Oximetry technology
Calibration	In-vitro using patented optical reference or in-vivo using blood gas analysis
Sample Rate	244 Hz
Measurement Range	Saturation 10% to 100%
Measurement Accuracy	±2% of oxygen saturation ±1 standard deviation for saturation values of 40% to 100%
Measurement Drift	<2% oxygen saturation over 24 hours
Note	Module use is restricted to one patient at a time.
Response Time	90% response to oxygen saturation step change in five seconds; $SvO_2/ScvO_2$ value computes every second from a five-second running average of light intensity measurements; display updates every three seconds
Information Displayed	$SvO_2/ScvO_2$ saturation; graphic and tabular trending of $SvO_2/ScvO_2$ saturation and light intensity for up to 24 hours
Numeric Update Rate	Every three seconds
Module Configuration Manager	Provides the ability to define all of the module's user-configurable settings. Once a module has been configured, these settings control its operation whenever the module is first powered ON.
Light Intensity Update Rate	Light bar updates every 6 seconds (stores at 5-minute intervals)
$SvO_2/ScvO_2$ Trend Update Rate	Every minute
$SvO_2/ScvO_2$ Trend Time Scales	1-, 2-, 4-, 8-, and 16-hour on-screen trends; 24 hours of trend data can be displayed in 2-, 6-, 12-, or 24-hour segments; data is stored at 1 minute intervals
Light Intensity	Signal optionally trended across the selected time scale
Numeric Accuracy and Numeric Resolution	±1% of reading
Out of Range	Displays "SVO$_2$ OUT OF RANGE" or "SCVO$_2$ OUT OF RANGE" message for saturations >100% or <0%

Alarms	High and low mixed venous oxygen saturation values or central venous oxygen saturation values and abnormal light intensities
Default limits	Hi 80% Lo 60%
Limit ranges	Hi 1% to 100% Lo 0% to 99%
Oxygenation Calculations	Performs and stores oxygenation calculations, including avDO$_2$, CaO$_2$, CvO$_2$, O$_2$AV, VO$_2$
Input Values for Calculations and their Ranges	
PaO$_2$	0 to 500 mmHg (0 to 70.0 kPa)
PvO$_2$	0 to 99 mmHg (0 to 15.0 kPa)
CO	0 to 15.0
SaO$_2$	(primary source)
-OR-	
SpO$_2$	0 to 100%
Hgb	0 to 99.9 g/dl

Product Specifications

Classification	
EN 60601-1	Type CF Applied Part Not suitable for use with flammable gases Designed for continuous operation
Dimensions	
Height	11.2 cm (4.4 inches)
Width	5.6 cm (2.2 inches)
Depth	17.8 cm (7.0 inches)
Weight	0.7 kg (1.5 pounds)

Electrical Specifications

Operating Voltages	+5, +12, -12 VDC
Battery Backup	Provided by the monitor

Environmental Requirements

Storage		
Temperature	-40° to 158° F (-40° to 70° C)	
Humidity	95% (non-condensing)	
Altitude	0 to 12,192 meters (0 to 40,000 feet)	
Operating		
Temperature	50° to 104° F (10° to 40° C)	
Humidity	95% (non-condensing)	
Altitude	0 to 3,000 meters (0 to 9,843 feet)	
Electromagnetic Compatibility		
EN 60601-1-2: 2001	Emissions	
IEC 61000-4-2	ESD 6 kV, 8 kV contact	
IEC 61000-4-3	RF immunity, 80 MHz to 2.5 GHz, 3 V/m	

Accessories

The Spacelabs Healthcare SvO$_2$/ScvO$_2$ module requires the use of an ICU Medical (formerly Hospira) optical module (OPMOD versions 50131-05/-07/-09) and venous oximetry catheter or probe.

OPMOD, SVO$_2$/SCVO$_2$ OPTICAL MODULE, 91424 (P/N 690-0263-02)

Within North America, OPMOD and accessories must be acquired directly from ICU Medical. Contact ICU Medical (www.icumed.com) for more information.

Documentation

CD-ROM Part Numbers	*Bedside, Central, and Telemetry Systems Operations Documents CD-ROM* (P/N 084-1101-xx)
	Spacelabs Healthcare Service Documents CD-ROM (P/N 084-0700-xx)
Supplies and Accessories	*Spacelabs Healthcare Supplies and Accessories Catalog* (sa.spacelabshealthcare.com)

Regulatory Approvals

C CSA® US	Certified by CSA. CSA certified. Meets IEC 60601-1, CSA C22.2 No. 601.1, and UL 60601-1.
RoHS2 2011/65/EU	Does not contain hazardous substances - Europe
(e)	Does not contain hazardous substances - China

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