

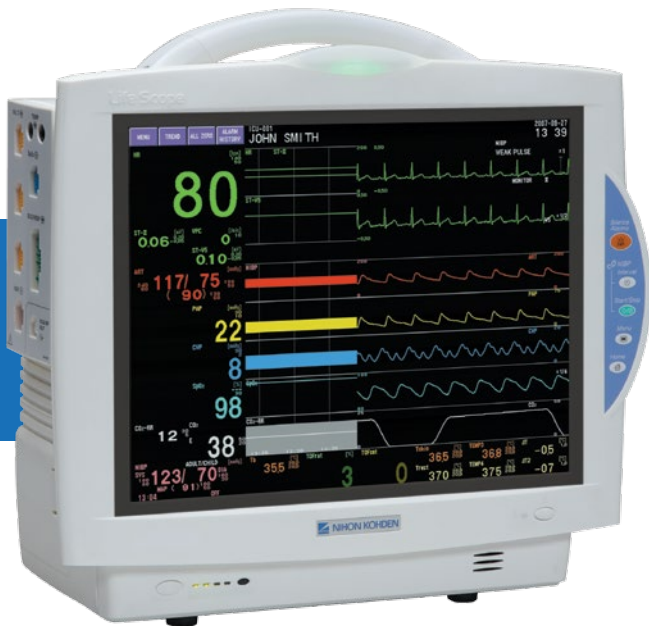


Life Scope **TR**

Innovation to integrate

Seamless monitoring of patients is vital, even in the course of transport to another care setting. It is imperative to save and disseminate patient information for effective care.

The Life Scope TR series, a novel range of bedside monitors designed to include new unique modular technology, facilitates competent functioning by enhancing clinical workflow. It is a high-acuity range of bedside monitors suitable for all types of care settings, including ICU, OR, and transport.



Life Scope **TR**

Distinct dimensions for divergent demands

Life Scope TR Series comes in different sizes (10.4", 12.1", and 15") of high resolution touchscreen displays.

- Same features
- Similar selection of input and expansion units for adaptive monitoring in different care settings
- Up to 15 waveforms display with 15-inch display

Futuristic features that enhance efficiency

- **Rational review of data** – Life Scope TR offers advanced storage and review capabilities
 - With full disclosure waveforms, tabular and graphical trends, and many special attributes
 - Arrhythmia recall with multi-lead arrhythmia analysis
 - Diagnostic 12-lead ECG analysis and multi-lead ST segment
- **Inter-bed monitoring** for ICUs, even without central monitor. Numerical data for 16 patients or numerical data and two waveforms for one patient can be displayed on the inter-bed screen
- **Smart data review** provides storage and review capabilities within the bedside monitor that are typically found in a central station
- **Direct HL7 communication**, which allows the exchange of data between the Life Scope TR and HIS without any additional software

Alarm advantage

- **ec1 arrhythmia analysis** provides superior elimination of false alarms
- **PWTT-triggered NIBP measurement** to detect changes in BP (Nihon Kohden patented)

Thoughtful technology

Life Scope TR has many advanced features that offer progressive monitoring, with the provision for future innovations since new parameters can be incorporated as and when developed.

- **aEEG (amplitude-integrated EEG)** which makes it easier to detect seizure (not available in Life Scope TR BSM-6301)
- **capONE EtCO₂ sensor** is world's smallest, lightest, fastest, and most durable mainstream CO₂ sensor for oral and nasal breathers. Designed for intubated and non-intubated patients
- **Fluid optimization:** Nihon Kohden supports best fluid volume management in the preoperative period for better outcome
- **PWTT (pulse wave transit time) and esCCO™ (estimated continuous cardiac output)**
- **Pulmonary calculation**
- **Smart Cable™ System**
- **iNIBP and BluPro SpO₂ technology** for enhanced patient comfort and clinical accuracy

Meticulous Monitoring Network (optional)

Efficient monitoring of patients in multi-patient settings such as OR, ICU, CCU, NICU, or general ward.

- **ViTrac™:** unified gateway
- **HL7 Gateway** connecting LS-NET monitor network to the hospital or clinical information system (HIS, CIS)
- **NetKconnect** and transmitter permit review of real-time patient data and history anytime, anywhere from your PC

Specifications

BSM-6301 / BSM-6501 / BSM-6701

Display

Display size	High-resolution touchscreen display 10.4" (BSM-6301) 12.1" (BSM-6501) 15" (BSM-6701)
Maximum number of waveform traces	15 traces
Display waveforms	ECG (up to 12 leads), respiration, IBP, SpO ₂ pulse wave, CO ₂ , CO thermodilution curve, EEG, N ₂ O, O ₂ , anesthetic agent (Halothane, Isoflurane, Enflurane, Sevoflurane, Desflurane), Flow, Paw, Volume
Numerical data display	Heart rate, VPC rate, ST level, respiration rate, IBP (systolic, diastolic, mean), NIBP (systolic, diastolic, MAP), SpO ₂ , pulse rate, temperature, CO, cardiac index, injectate temperature, blood temperature, O ₂ concentration, FICO ₂ , EtCO ₂ , BIS, BIS SEF95, BIS suppression ratio, BIS EMG, SQI, CSA, DSA, inspired/expired tidal volume, expiratory minute volume, Ppeak, Pmean, PEEP, inspiration/expiration ratio, inspired/expired N ₂ O concentration, inspired/expired anesthetic agent concentration (halothane, isoflurane, enflurane, sevoflurane, desflurane)

Alarms

Alarm items	Upper/lower limits alarm, apnea alarm, arrhythmia alarm, connector disconnection alarm, noise alarm, electrode, off alarm, waveform detecting alarm, probe off alarm, cuff/hose check alarm, sensor check alarm, low battery alarm, operating environment alarm
Alarm levels	Crisis (red blinking), Warning (yellow blinking), Advisory (yellow or blue light)
Alarm indication	Alarm indicator, highlighted message, and alarm sound Alarm suspend: 1, 2, or 3 min
Alarm suspend	1, 2, or 3 min

Parameters

ECG	Frequency response: <i>Diagnosis mode:</i> 0.05 to 150 Hz <i>Monitor mode:</i> 0.3 to 40 Hz <i>Maximum filter mode:</i> 1 to 18 Hz Heart rate counting range: 0, 15 to 300 beats/min Arrhythmia analysis method: Multi-template software algorithm VPC counting rate: 0 to 99 VPCs/min Arrhythmia alarms: Asystole, VF, VT, V brady, EXT tachy, EXT brady, SV tachy, VPC run, tachycardia, bradycardia, couplet, early VPC, multiform, V rhythm, pause, bigeminy, trigeminy, VPC, irregular RR, pacer non-capture, prolonged RR, no pacer pulse
ST level measurement	Number of measurement channels: up to 12 Measuring range: ± 2.5 mV
Respiration (impedance or thermistor method)	Measuring range: 0 to 150 breaths/min. Measuring method: Transthoracic impedance pneumography
SpO₂	Measuring technology: Nihon Kohden, Masimo or Nellcor Measuring display range: 0 to 100% (70 to 100% at specified accuracy) Pulse rate from SpO ₂ range: 0, 30 to 300 beats/min (varies by SpO ₂ technology)
Non-invasive blood pressure (NIBP)	Measuring method: oscillometric cuff Pressure display range: 0 to 300 mmHg
Invasive blood pressure (IBP)	Measuring range: -50 to 300 mmHg Pulse rate from IBP range: 0, 12 to 300 beats/min
Temperature	Measuring range: 0 to 45°C Number of channels: maximum 4
Cardiac output	Measuring method: Thermodilution method Measuring range: <i>Injectate temperature (Ti):</i> 0°C to 27°C <i>Blood temperature (Tb):</i> 15°C to 45°C <i>Thermodilution curve (delta Tb):</i> 0°C to 2.5°C Cardiac output (CO): 0.5 to 20 L/min

Parameters (continued)

Inspired oxygen fractional concentration	Measuring range: 0 to 100%
BIS	Input channels: 1 or 2 (depends on the BIS sensor type) Measuring parameters: Bispectral Index (BIS), 95% Spectral Edge Frequency (SEF95), Suppression Ratio (SR), EMG, Signal Quality Index (SQI)
CO ₂	CO ₂ measuring range: 0 to 100 mmHg Respiration rate counting range: 3 to 150 breaths/min EEG (with AE-918P neuro unit)
Number of channels	8

Stored patient data

Trend graph	Trend parameters: all monitored parameters Trend display time: 1, 2, 48, and 72 hours
Vital signs list	Trend parameters: all monitored parameters Data storage: Periodic: 4320 (1 per minute for 72 hours)
NIBP	1,024 files
Full disclosure	Storage time: 72 hours Number of waveforms stored: maximum 5
Alarm history	Number of entries: 16,384 files
Hemodynamics trend table	Number of entries: 1,024 files
Arrhythmia recall	Number of entries: 16,384 files
ST recall	Number of entries: 4,320 files (1 per minute for 72 hours) for all monitoring leads
12-lead interpretive recall	Number of entries: 18 files

Recorder (optional)

Recording method	Thermal array recording
Number of channels	3 traces (maximum)

Power requirement

AC	100 to 240 V \pm 10%
DC (SB-671P)	8.5 to 12.6 V
Line frequency	50 or 60 Hz
Battery	SB-671 battery pack
Type of battery	Nickel-metal hydride
Number of batteries	2
Battery lifetime	1 year or 200 cycles of full discharging/ charging
Battery operation time	90 minutes (BSM-6301/BSM-6501) and 60 minutes (BSM-6701)
Power input	AC 140 VA (BSM-6301), AC 90 VA (BSM-6501), and AC 100 VA (BSM-6701)

Dimensions and weight

Dimensions	316 w x 325 h x 188 d mm (BSM-6301) 342 w x 353 h x 183 d mm (BSM-6501) 415 w x 392 h x 191 d mm (BSM-6701)
Weight	6.3 kg (BSM-6301) 8.0 kg (BSM-6501) 10.0 kg (BSM-6701)



NIHON KOHDEN EUROPE GmbH
Raiffeisenstr. 10, 61191 Rosbach, Germany
Phone: +49 (0) 6003 827-0, Fax: +49 (0) 6003 827-599
Internet: www.nihonkohden.com, E-mail: info@nke.de



NIHON KOHDEN CORPORATION
1-31-4 Nishiochiai, Shinjuku-ku, Tokyo 161-8560, Japan
Phone: +81 (3) 59 96-80 36, Fax: +81 (3) 59 96-81 00
Internet: www.nihonkohden.com