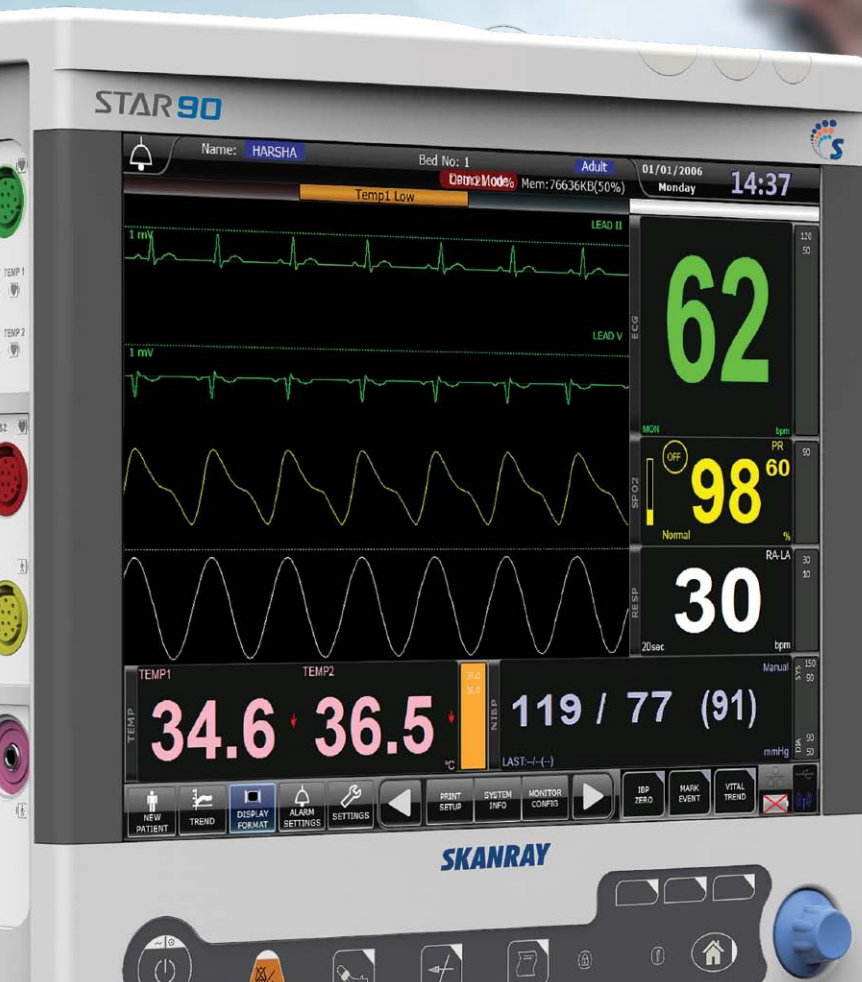


STAR 90



SKANRAY
NOTHING IS OPAQUE



**MODULAR MULTIPARAMETER
PATIENT MONITOR**



STAR90



Modularity – Light-weight plug & play modules with combination of swappable modules.

Salient Features

- ▶ 10 channel modular monitor with 15" high resolution LED touch display
- ▶ Adult, Pediatric & Neonatal applications
- ▶ High performance in Low perfusion, Hypothermia, Hypovolemic shock, Vasoconstriction, etc.
- ▶ Advanced features like SatSeconds™, LoSat™, IPI™, etc.
- ▶ *ST segment analysis & *Arrhythmia analysis, OxyCRG & drug dose calculation
- ▶ Advanced alarm management system
- ▶ Connectivity: USB, HDMI, IABP interface, Central Nursing Station Interface (wired/wireless)
- ▶ HL7 support for HIS interface
- ▶ Bed to bed connectivity

Standard Parameters

ECG, SpO₂, Respiration, NIBP, Dual Temperature & Dual IBP

Optional Parameters

Capnography (Microstream), *Cardiac Output, Additional Dual IBP, Anaesthesia Gas Monitoring, *NICCO & Thermal Printer

*Not available for the United States of America.

Features & Benefits

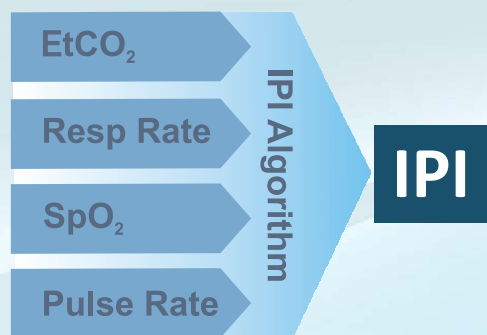


Nellcor™ SpO₂

- Adult to Neonatal application.
- LoSat™ feature ensures accuracy in low saturation conditions.

etCO₂ Microstream™

- Microstream™ technology, with Smart Capnography™ algorithms and a wide array of sampling line options, is designed for accuracy, ease-of-use and workflow efficiency.
- Provides an early indication of evolving respiratory compromise.
- Offers the clinicians the opportunity to determine the most suitable interventional methods, reducing risk and saving time.



IPI™

- Integrated Pulmonary Index (IPI™), a Smart Capnography™ algorithm from Oridion that incorporates four real-time respiratory measurements into a single number. Valuable in busy clinical environments, IPI™ provides early awareness of changes in patient's breathing.
- 4 vital parameters: etCO₂, FR, SpO₂ and PR are represented in the form of a single index.
- IPI™ ranges from 1-10, where 10 is healthy and 1 requires immediate intervention.
- It provides easy and quick assessment of patient's ventilatory status.

IPI	Patient Status
10	Normal
8-9	Within Normal Range
7	Close to Normal Range (Requires Attention)
5-6	Requires Attention (May Require Intervention)
3-4	Requires Intervention
1-2	Requires Immediate Intervention



Cardiac Applications

Cardiac Output*

- Thermodilution Method.
- Measurement of Wedge Pressure (PCWP).
- Inline Injectate temperature probe.

Advanced Haemodynamic Calculations

- Systemic Vascular Resistance (SVR), SVRI
- Pulmonary Vascular Resistance (PVR), PVRI
- Left Cardiac Work (LCW), LCWI
- Right Cardiac Work (RCW), RCWI
- Left Ventricular Stroke Work (LVSW), LVSWI
- Right Ventricular Stroke Work (RVSW), RVSWI and so on.

Non-Invasive Continuous Cardiac Output (NICCO)*

- Impedance plethysmography method.
- Easy to use and quick monitoring of cardiac output.
- Cost effective method of assessing the patient's haemodynamic status.

*Not available for the United States of America.

OT Applications

Advanced Anaesthesia Gas Monitoring

- Monitoring Et & Fi values of CO₂, O₂, N₂O & 5 Anaesthetic agents.
- Auto detection of Primary & Secondary Anaesthetic agent.
- Measurement of MAC.

Powerful Data Manager

- 240 hrs (10 days) of trend - Graphical & Tabular data on the same screen
- Alarm, ECG, *Arrhythmia, Apnea & Event recall* - The event recall reflects in the trend screen
- Waveform disclosure - 24 hours of complete disclosure of 4 user selected waveforms
- Patient Discharge Report - Eco-friendly PDF format



HDMI Output

- Enables large slave display.
- Distortion free monitoring.
- Application in Cardiac & Neuro OT.

Data Transfer

- USB data upload & download.
- Transfer patient data with ease.
- Easy software upgrade.



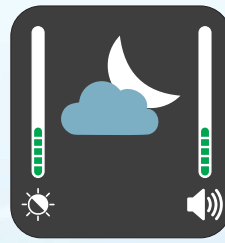
Go Wifi

- Easy wireless & wired communication with host of devices.
- Central Nursing Station
- Wi-Fi Printer & USB Printer
- Wireless viewing of other monitor information.

*Not available for the United States of America.

Night Mode

- Autoreduction of brightness & volume.
- Enhanced patient comfort.
- Power saver.



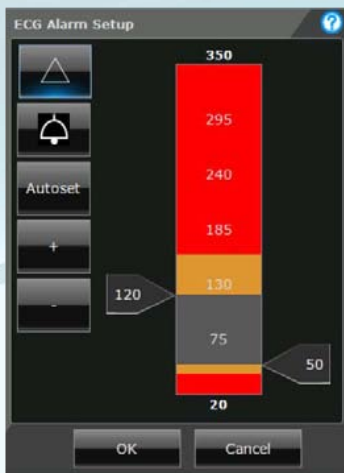
Stay Connected Bed to Bed View

- Bed to bed communication empowers the busy doctor to keep a bird's eye watch on his patients from a distant bed



Click Scan Admit

- Barcode Scanner Connectivity.
- Quick & Easy Patient Admit



Advanced Alarm Management

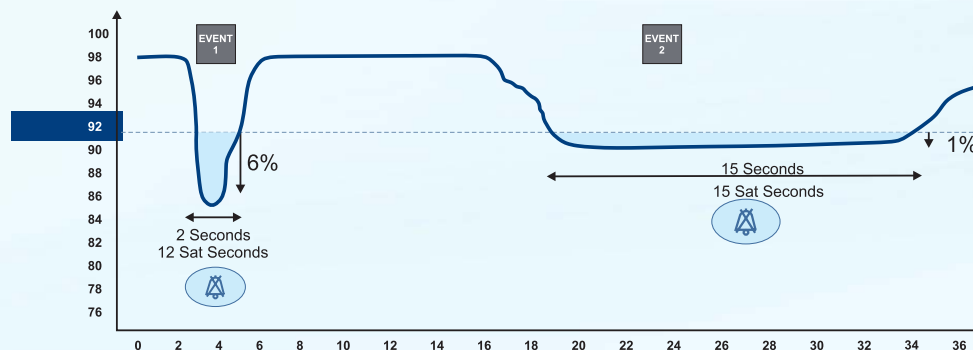
- Smart prioritization of patient alarms.
- Three level Audio Visual Alarm (Red, Yellow, Blue).
- Easy AUTOSET of alarm limits.
- Clock with Reminder alarm.

Alarm Management with Sat Seconds™

- Available with the advanced built-in Nellcor™ module.
- Reduction of nuisance alarms.
- Clinician controlled feature.



- Reduction of nuisance alarms
- Clinician controlled feature



Technical Specifications

DISPLAY

Size	: 15" TFT/LED display (1024X768)
Trace Speed	: 6.25/12.5/25/50 mm/sec
Waveform	: 10 channel, fixed and user-configurable display formats
Patient Modes	: Adult, Paediatric & Neonate

ECG 3/5L

Heart rate range	: 20-350 BPM
Accuracy	: 2 BPM or 2%, whichever is greater

RESPIRATION

Method	: Impedance Pneumography
Range	: 0 -150 breaths/min.

TEMPERATURE (DUAL CHANNEL)

Measurement Range	: 0°C-50°C
Unit	: °C or °F (user selectable)
Accuracy	: ± 0.2°C or ±0.4°F

SpO₂ (NELLCOR™)

SpO ₂ Measurement Range	: 1-100%
SpO ₂ Accuracy	: ± 2 digits
Pulse Rate Range	: 20 to 250 BPM
PR Accuracy	: ± 3 BPM

NIBP

Method	: Oscillometric
Display	: Systolic, Diastolic and Mean
Modes	: Manual, Auto and Stat Auto mode intervals of 2, 3, 4, 5, 10, 15, 30, 60, 90, 120, 240 & 360 min
Unit	: mmHg or kPa
Range	: 20-260 mmHg
Accuracy	: ± 5 mmHg Std Deviation

Invasive Blood Pressure (4 channel)

Measurement Range	: -30 to 300 mmHg
IBP Accuracy	: 2 mmHg or 2% whichever is greater
PR Range	: 30-250 BPM
Accuracy	: 3 BPM

CAPNOGRAPHY (MICROSTREAM™)

Measurement Range	
EtCO ₂	: 0-99 mmHg
FiCO ₂	: 0-20 mmHg
RR	: 0-150 BPM
Units	: mmHg or kPa
Scale	: 20, 40, 60, 80 & 100 mmHg
*IPI™ range	: 1-10

ANESTHESIA GAS MONITORING

Measurement Range	
EtCO ₂	: 0-80 mmHg or 0-10 kPa
FiCO ₂	: 0-20 mmHg or 0-2.6 kPa
N ₂ O	: 0-100%
O ₂	: 0-100%
RR	: 2-100 BPM
Agents	: Auto-detection of Isoflurane, Sevoflurane, Desflurane, Halothene, Enflurane

TRENDS

Data Storage	: 240 hrs at 30s resolution in Graphical & Tabular format
NIBP	: Last 240 readings in Graphical & Tabular format
Alarm Recall	: Tabular trend display of last 24 patient alarms
ECG & *Arrhythmia Recall	: 30 strips of 30s each
ST* Recall	: 4 hrs at 1 min resolution.

THERMAL PRINTER

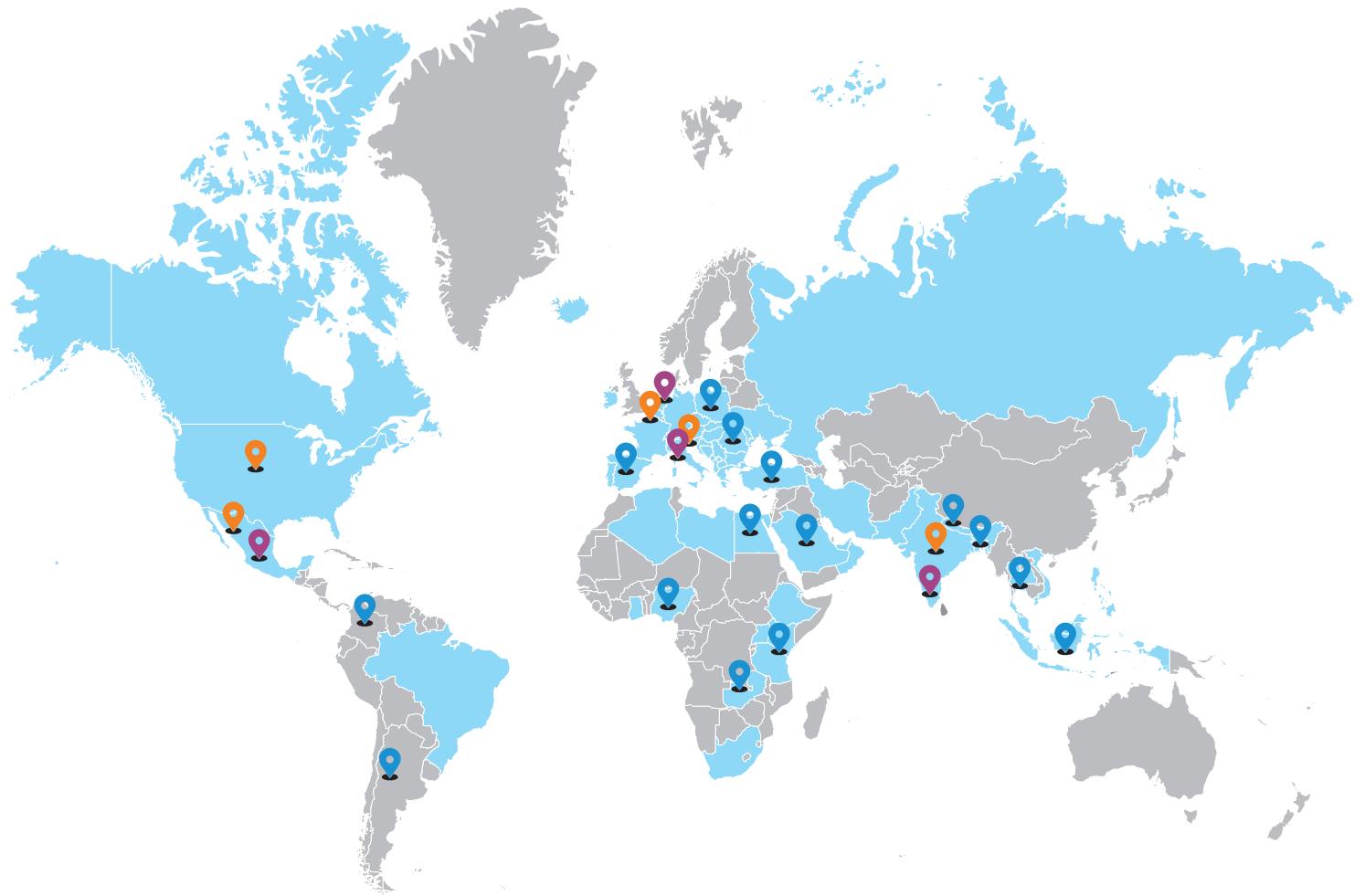
Recorder Type	: Two channel
Paper Width	: 2.2"
Printing Width	: 1.8"
Speed	: 25 mm/sec
Printing Modes	: Direct 8 sec, Delayed -6 to 2 sec, Continuous 30 sec, On alarm -6 to +2 sec

GENERAL

Dimensions (H*W*D)	: 13.9" * 13.5" * 2.9"
Weight	: 8.8 lbs approx
Mounting Option	: GCX option and Rail option
USB	: Optional WiFi communication with CNS; Software upload/upgrade, Trend download, Monitor setting download/upload
Central monitoring connectivity	: Wired/Wireless communication with SKANRAY Skyline 55
Slave Display	: HDMI output

UNIVERSAL POWER SUPPLY

Voltage	: 100-240V AC at ± 10% 50Hz/60Hz at 5% tolerance
Battery Type	: Lithium ion
Charging Time (min)	: 10 hrs
Backup Time	: 3 hrs (typical)



● Skanray's Reach
 ● Manufacturing Plants
 ● Sales/Service/Application Centres
 ● Distributors



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RADIOLOGY



MONITORING



CARDIOLOGY



ANAESTHESIA



VENTILATION



DENTAL



SURGERY



TELE SOLUTIONS



VETERINARY

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