SINOHERO®

深圳市中豪生物电子有限公司
Sino-Hero(Shenzhen) Bio-Medical Electronics Co., LTD.

iS10 Express&iS10
Multi-parameter Patient Monitor

- 10. 4" or 12. 1" LCD Full Touch Screen selectable
- High-end parameter modules of M series seamlessly compatible with iS series
- With flexibility and freedom to re-configure major monitoring parameters
- High-end Parameters: SunTech NIBP, CO, EtCO2, AG
- Exceptional connectivity by high-speed Wire or Wireless Networking
- Powerful 168 Hours of Trend Review with 24 Hours of Full Disclosure

www.sinoheromed.com

TECHNICAL SPECIFICATION: ———— iS10 Express&iS10

Size and Weight
-Size: 318mm×264mm×152mm
-Weight: ≧Q4.5kg
-Standard module slot: 2

Power supply
-Power Voltage: AC 100-240V 50/60Hz
-Input Current: 1.1～0.5V
-Safety class: Category I

Display
-iS10 Express: 12.1"/ iS10: 10.4"Color TFT-LCD
-Resolution: 800×600 pixels

Battery
-Type: Rechargeable Lithium battery,11.1V/4.0AH
-Operating time under the normal use and full charge: ≧R210minutes

Recorder (Option)
-Method: Thermal dot array
-Paper width: 50mm(1.97 in)
-Paper length: 15m
-Paper Speed: 12.5/25/50(mm/sec)
-Traces: Maximum 3 tracks
-Recording way: Real-time recording, Periodic recording, Alarm recording

Alarm
-Level: Low, medium and high
-Indication: Auditory and visual
-Patient Physiological Alarm Light color: Yellow & Red
-Equipment Technical Alarm Light color: Blue
-Supports Pitch Tone and multi-level volume
-Supports custom arrhythmia tone

Input device
-Touch screen: Standard config
-knob: Standard config
-Mouse input: Support
-Keyboard input: Support

System Output & Extensible Interfaces
-Ethernet Network: 1 Standard RJ45 socket
-Defibrillation Output: 1 BNC connector
-Nurse Call: 1 RJ11 connector
-Video Output: 1VGA port
-USB1.1 port: 2
-SD memory card: 4Gb (Option)
-Analog Output(ECG or IBP): Option

Trend & Reviewing
-Trend: Long trend: 168h, minimum resolution is 1min
  (Store when power goes off)
  High resolution trend: 2h, minimum resolution is 5s
-NIBP measurement reviewing: 1000 groups
-ARR event: 128 groups of ARR event and the associated waveform
-Alarm events: 128 groups of parameter alarm events and associated parameter waveform at the alarm moment
-Full Disclosure waveform: 24 hours for 3 waveforms(with 4Gb SD card)

Environment
-Operating temperature: 0℃~+40℃
-Storage temperature: -20℃~+50℃
-Operating humisity: 15% to 85% non condensing
-Storage humidity: 10% to 93% non condensing
-Operating atmospheric pressure: 860hPa to 1060hPa
-Storage atmospheric pressure: 500hPa to 1060hPa

Safety:
-IEC60601-1 Approved, CE marking according to MDD93/42/EEC

ECG
-Lead Mode: 3-leads ECG input
  5-leads ECG input
  12-leads ECG input
-Lead selection: Ⅰ, Ⅱ, Ⅲ
  Ⅰ, Ⅱ, Ⅲ,aVR,aVL,aVF,V-
  Ⅰ, Ⅱ, Ⅲ, aVR,aVL,aVF,V1～V6(option)
-Gain: 2.5mm/mV(×0.25), 5mm/mV(×0.5), 10mm/mV(×1),
  20mm/mV(×2), 40mm/mV(×4),Auto
-CMRR: Monitor mode ≧105dB
  Surgery mode ≧105dB
  Diagnostic mode ≧90dB
-Frequency response(-3d B):
  Monitor mode   0.5～40Hz
  Surgery mode   1～25Hz
  Diagnostic mode 0.05～150Hz
-Input impedance: ≧5.0Mohm
-ECG signal range: ±10.0mV
-Electrode offset potential: ±500mV
-Patient Leakage Current: <10uA
-Standardizing signal: 1mV±5%
-Baseline recovery: <5s after Defibrillation. (Mon or Surg mode)
-Indication of electrode separation: Every electrode(exclusive of RL)
-Protection: Breakdown Voltage 4000VAC 50/60Hz; defibrillator proof
-Sweep speed: 12.5mm/s, 25mm/s, 50mm/s

HR
-Range: Adult 10～300bpm
  Pediatric & Neonate: 10～350bpm
-Refreshing time: ≧50 bpm Per2 pulses
  50～120bpm per 4 pulses
  ≧120bpm per 6 pulses
-Resolution: 1bpm
-Accuracy: ±1% or ±1bpm,whichever is greater

ST segment
-Measurement range: -2.0mV～2.0mV
-Accuracy: -0.8mV~0.8mV: ±0.02mV or ±10% whichever is greater
  Over ±0.8mV: unspecified
-Resolution: 0.01mV

RESP
-Method: Thoracic impedance
-Lead Selected from: Ⅰ (RA-LA) orⅡ (RA-LL); Default: Ⅰ
-Gain: ×0.25, ×1, ×2, ×4
-Bandwidth: 0.25Hz to 2.0Hz (-3dB)
-Sweep Speed: 6.25mm/s,12.5mm/s,25mm/s
-Measurement Range: 0～150 rpm
-Resolution: 1rpm
-Accuracy: ±2rpm or 2% whichever is greater
-Delay of Apnea Alarm: 10s,15s,25s,30s,35s,40s,45s,
  50s,55s,60s

NIBP
-Way of measurement: Automatic Oscillometry
-Range of measurement:
  Adult: SYS 30～270mmHg
  DIA 10～220mmHg
  MAP 20～235mmHg
  Child: SYS 30～235mmHg
  DIA 10～220mmHg
  MAP 20～225mmHg
  Neonate: SYS 30～135mmHg
  DIA 10～100mmHg
  MAP 20～125mmHg
-Cuff pressure range: 0～300mmHg
-Resolution: 1mmHg
-Pressure Accuracy: Static: ±2% or ±3mmHg,whichever
  is greater
  Clinical: ±5mmHg average error
  Standard deviation: ≦8mmHg
-Unit: mmHg, kPa
-Measurement mode: Manual, Auto, STAT
-Intervals for AUTO measurement time: 1,2,3,4,5,10,15,30,
  60,90 minutes;2, 4, 8, 12 hours
-STAT mode cycle time: Keep 5 minutes, at 5 seconds interval.
-Overpressure Protection: Hardware and software double protections
-Pulse rate range: 40～240bpm

Standard SpO2 （Digital）
-Measurement Range: 0～100%
-Resolution: 1%
-Accuracy: At70～100%,±2%
  At0～69%, unspecified

PR
-Measurement Range: 25～255bpm
-Resolution: 1bpm
-Accuracy: ±1% or ±1bpm,whichever is greater

Nellcor-SpO2 (Option)
-Measurement Range: 0～100%
-Resolution: 1%
-Accuracy: At70～100%:±2%(Adult)
  At70～100%:±3%(Neonate)
  At70～100%: ±2%(Low Perfusion)
  At0～69%, unspecified

PR
-Measurement Range: 20～300bpm
-Resolution: 1bpm
-Accuracy: 20bpm to 250bpm: ±3bpm
  251bpm to 300bpm: unspecified

Masimo-SpO2 (Option)
-Measurement Range: 0% to 100%
-Resolution: 1%
-Accuracy: 70% to 100%: ±2%(adult/pediatric,non-motion
  conditions)
  70% to 100%: ±3%(neonate,non-motion
  conditions)
  70% to 100%: ±3%(motion conditions)
  0% to 69%, unspecified
-Average time: 2-4s,4-6s,8s,10s,12s,14s,16s

PR
-Measurement Range: 25bpm to 240bpm
-Accuracy: ±3bpm(non-motion conditions)
  ±5bpm(motion conditions)
-Resolution: 1bpm

TEMP
-Max Channel: 6
-Measurement way: Thermal resistance way
-Measurement Range: 0.0℃～50.0℃ (32℉～122℉)
-Accuracy: ±0.1℃ or ±1℉ (exclusive of probe)
-Resolution: 0.1℃ or 1℉
-Unit: Celsius(℃),Fahrenheit(℉)

IBP
-Max Channel: 6
-Measurement way: Directly invasive pressure measurement
-Sensitivity of transducer: 5uV/V/mmHg, ±2%
-Impedance of transducer: 300 to 3000Ω
-Measurement Range: -50～+350mmHg
-Resolution: 1mmHg
-Unit: mmHg, kpa, cmH2O

-Accuracy:
Static: ±1mmHg or ±2%, whichever is grater
  (exclusive of transducer)
  ±4mmHg or ±4%, whichever is grater
  (inclusion of transducer)
Dynamic: ±4mmHg or 4%, whichever is grater
-Transducer sites: Arterial Pressure   (ART)
  Pulmonary Artery Pressure (PA)
  Left Atrium Pressure   (LAP)
  Right Atrium Pressure   (RAP)
  Central Venous Pressure   (CVP)
  Intracranial Pressure   (ICP)
  P1/P2
-Selection of measurement range:
  ART:0～+350mmHg
  PA:-10～+120mmHg
  CVP/RAP/LAP/ICP:-10～+40mmHg
  P1/P2:-50～+350mmHg

EtCO2 (Sidestream)
-Measure method: Infrared spectrum
-Measure Range: 0.0～13.1%(0～99.6mmHg)
-Resolution: 1mmHg
-Unit: %,mmHg,kpa
-Accuracy: 0% to 4.9%,±0.3%(±2.0mmHg)
  5.0% to 13.1%, <±10% of reading
-Measurement range of awRR: 3～150rpm
-Calibration: Offset calibration: auto, manual,
  Gain calibration

EtCO2 (Mainstream)
-Measure method: Infrared spectrum
-Warm up time: Capnogram displayed in less than
  15 seconds,At an ambient
  Temperature of 25℃,full specifications within
  2 minutes.
-Measure Range: 0.0～19.7%(0～150mmHg)
-Resolution: 1mmHg
-Rise time(10l/min): ≦60ms
-Unit: %,mmHg,kPa
-CO2 Accuracy: 0-40mmHg, ±2mmHg
  41-70mmHg, ±5% of reading
  71-100mmHg, ±8% of reading
  101-150mmHg, ±10% of reading
  (at 760 mmHg,ambient temperature of 35℃)
-awRR measurement range:0～150rpm
-awRR measurement Accuracy: ±1rpm

EtCO2 (Microstream)
-Measure method: Infrared spectrum
-Warm up time: Capnogram displayed in less than 20 seconds,
  At an ambient
  Temperature of 25℃,full specifications within
  2 minutes.
-Measure Range: 0.0-19.7%(0-150mmHg)
-Resolution: 1mmHg
-Unit: %, mmHg, kPa
-CO2 Accuracy: 0-40mmHg, ±2mmHg
  41-70mmHg, ±5% of reading
  71-100mmHg, ±8% of reading
  101-150mmHg, ±10% of reading
  (At 760 mmHg,ambient temperature of 25℃)
  (When RR>80 rpm, all the range is ±12% or reading)
-CO2 response time: <3S
-awRR measurement range: 2～150rpm
-awRR measurement Accuracy: ±1rpm
-Sample Flow Rate: 50ml/min ±10ml/min

Anesthetic Gas
-Measure method: Infrared spectrum
-Measure mode: Mainstream or Sidestream
-Fi and ET values: CO2 ,N2O ,O2 ,AG(HAL,ISO,ENF,SEV,DES)
-Resolution: 1%
-Unit: %
-Calibration: Room air calibration performed automatically
  when changing airway adapter (<5 sec)
-Warm-up time: <10S, full accuracy within 1min
-Measurement and alarm range of AG

Gas	Range	Accuracy
CO2	0-15%	±(0.3% ABS+4%REL)
N2O	0-100%	±(2% ABS+8%REL)
O2	10-100%	±(2% ABS+2%REL)
HAL,ISO,ENF	0-5%	±(0.15% ABS+10%REL)
SEV	0-8%	±(0.15% ABS+10%REL)
DES	0-18%	±(0.15% ABS+10%REL)

-awRR measurement range: 0～150rpm
-awRR measurement Accuracy: ±1rpm
-Rise time(flowing speed 10l/min)CO2≧90ms
  O2≧300ms
  N2O≧300ms
  Hal,Iso,Enf,Sev,Des≧300ms
-Total system response time: <1seconds

C.O.
-Measurement Mode: Thermal dilution method
-Measurement Wave: Thermal dilution curve
-Measurement parameters: C.O., TB, TI, C.I.
-Measurement Range: C.O.: 0.1 L/min ~ 20 L/min
  TB: 23.0 ~ 43.0℃
  TI: -1.0 ~ 27.0℃
-Resolution: C.O.: 0.1 L/min
  TB: 0.1℃
  TI: 0.1
-Accuracy: C.O.: 2% SD
-TB Alarm range: 23.0~43.0℃, high/low limit can be
  adjusted continuously

Stand configuration of iS Express10 & iS10

3/5 Lead ECG, HR, RESP, NIBP, SpO2, PR, 2-TEMP
Main unit: iS10 Express: 12.1" / iS10: 10.4" TFT-LCD Display,
2 Standard Module Slot, Touch Screen, 1 RJ45 Ethernet Socket,
1 Defibrillation Output,1 Nurse Call Socket, 1VGA Port, 2 USB1.
1 Port,1Lithium Rechargeable Battery

Optional parameter & configuration of iS Express10 & iS10

Option Module: SideSteam EtCO2 Module, MicroStream EtCO2 Module,
MainStream EtCO2 Module, AG Module, C.O. Module, IBP Module, Temp Module,
Nellcor SpO2 Module, Masimo SpO2 Module,SunTech-NIBP Module
Navigating: USB Compatible Mouse and Keyboard
Printing: 3 Channel Thermal Recorder
Mounting: Rolling Stand, Wall Mount
Battery: 11.1V/4.0AH Rechargeable Lithium Battery
Other options: External Display, Wireless Lan, Extensive Memory card, Analog Output (ECG or IBP)

Specification subject to be changed without prior notice.