

## SPECIFICATIONS OF HIGH-END MULTIPARA MODULAR MONITOR SYSTEM

### SPECIFICATION

1. Multipara monitor having screen size of at least 19" TFT color display or above with full touch screen facility with resolution of 1920 X 1080 dots. All the monitors should come with integrated transport module to avoid data loss with inbuilt 6 inch or more display on module itself. It should have ECG, SPO2, NIBP, Dual Temp., Respiration & Dual IBP, so that there is no loss in data in case the patient needs to be shifted from one bed to another. Monitoring system should have HL7 connectivity for upgradation to directly connecting PACS & HIS to access images and data on monitor display itself.
2. Monitors will be installed at bedside (Wall mount) as well as the central nursing station with capability of storage of all patient data.
3. The monitors should have monitor to monitor overview facility and data transfer over the network.
4. Must be future upgradable to have same make Integrated Charting system & data integration hub to get data & information to and from various ICU equipment such as Syringe pumps, ventilators and to and from hospital information system, laboratory information etc. for integration of various information
5. Monitor must be capable of simultaneously monitoring the following parameters which should be present as standard in all monitors: ECG, NIBP, SpO2, respiration, dual temperature, HR and 2 IBP.  
*Following interchangeable parameter modules price should be quoted separately:*
  - a. Minimal invasive Cardiac output through interchangeable modules.
  - b. EEG monitoring capability through interchangeable modules.
  - c. Non-invasive Hemoglobin monitoring facility through interchangeable modules.
  - d. Mainstream ETCO2 monitoring capability through interchangeable modules
  - e. Plath Variability Index (PVI) monitoring capability.
  - f. Cerebral Pulse-oximetry module (NIRS)
  - g. Gas monitoring module
  - h. BIS module
6. Monitor must be upgradable to mainstream ETCO2 with both inspired and expired values (Price to be quoted separately).
7. Monitor should be ready to monitor 2 Invasive blood pressure simultaneously.

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8. Drug calculation lung function, hemodynamic data and Oxy CRG screen should be available as standard.
9. Monitor should have facility to display at least 8 waveforms
10. Patient modes adult, pediatric & Neonate
11. Monitor should have facility to monitor 12 leads ECG through 5/6 lead ECG cable along with 12 lead ECG ST segment mapping & analysis.
12. All 23 automatic arrhythmia detection & ST analysis should be available.
13. Monitor or central station should have facility for full disclosure of ECG and 4 other parameters of last 24 hours.
14. Monitor should have facility of ST recall
15. Monitor should have facility of inter bed display up to 20 beds.
16. Heart rate range adult 30-200 bpm, child and neonate -30 to 250 beats/min.
17. PR source : auto/ SpO2/NIBP
18. Respiration range : 0-150 breaths /min
19. Temperature- measurement range : 1 C-45 degree C, Unit: C or F, user selectable
20. SPO2: measurement technology: Masimo Rainbow SET Measurement method: 0-100% accuracy adults: 40-100% +/- 2-digit accuracy
21. Monitor should display perfusion index (PI%) from SPO2 as an indication of pulse strength
22. NIBP Method: oscillometric, Display: systolic, Diastolic and mean, Modes: manual, auto, stat & Venous puncture mode. Auto intervals: 2,4,5,10,30,60,90,120,240, and 360 mins. Unit : mmHg or kPa, Range 0-300 mmHg, accuracy : +/- 3 mmHg
23. Alarms: equipment alarms: Audio (Alarm beep) Visual (Flashing Blue LED), patient alarms: audio (Alarm Beep), Red LED (High Priority) Yellow LED (Medium Priority)
24. Alarms suspend: continuous RED LED with display of alarm crossed bell.
25. Invasive blood pressure (IBP) – calculation = CPP, PPV, CVP-ET Auto zero balancing range +/- 200 mmHg auto Zero balancing accuracy: +/- 1mmHg
26. ETCO2- main stream-CO2 measuring range – 0 to 100 mmHg
27. CO2 value display update cycle every 4 sec or when alarm is generated.
28. Trends-Data storage: 24 Hrs up to 6 parameters can be user selectable for 3 separate graphical windows.

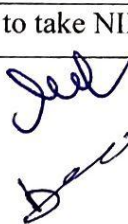



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29. Graphical trends:	
30. Tabular trend : 30 sec 1 min, 2 min, 4min, 8min, 15min, 30min, & 60min	
31. Alarm trend (Recall)	
32. Battery backup- minimum 1 hours in-built/ through online UPS	
33. Include laser printer with central station	
34. Web browsing facility to review each networked monitors data through hospital LAN via office PC on hospital LAN network and/ or through dial up facility from remote location when connected to central station. It should also be upgradable to have data access on android and IOS mobiles.	
35. Following accessories need to be supplied with each monitor	
1	5 lead ECG cable x 1
2	Adult SpO2 sensor- 04 no.
3	Pediatric SpO2 sensor- 02 no.
4	NIBP tubing- 01 no.; Adult NIBP Cuff- 02 nos. Pediatric NIBP Cuff – 01 no. (All reusable)
5	IBP Interface cables x 2 nos.; Disposable IBP transducteurs x 10 nos.
6	Skin temperature probe x 01
7	Rectal temperature probe x 01
8	Mainstream ETCO2 sensor with Adult Pediatric adapter – 01 no. with each module
9. All necessary initial accessories kit to run the parameters (basic & advanced) should be supplied with respective modules.	
<b>CENTRAL STATION SPECIFICATIONS (To be quoted separately)</b>	
1. System should have minimum 16 beds capability and upgradeable to 48 beds	
2. Central station should have 24" or more color display	
3. Must be supplied with network printer & printing of review/trend data from central station should be possible.	
4. It should have facility to view last 168 hours stored information such as vital signs, alarm status arrhythmia analysis trended parameters patient data etc. for any selected bed from the central station. 6-7 days post discharge data of patient should also be reviewable.	
5. Should have facility to take NIBP measurement from central station.	





  
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6. Should have default alarm limits and customizable parameter settings.
7. Central station should have full bed review capability.
8. Should have two-way communication with bedside monitor alarm setting should be possible from central station.
9. All monitors including central station should have similar user interface for easy usage among all clinicians.
10. Should have capability for HL7 interface. Should be upgradable to connect with LIS to have patient labs data directly on central station
11. Should be supplied with an On-Line suitable UPS with minimum 30 minutes backup.
12. The system should have Web Browsing facility and access of patient data on android & ios mobile phone

**Conditions for tender:**

1. All accessories should be from the same Original Equipment Manufacturer for the main unit.
2. Instruments must be ISO certified and a copy should be enclosed. (The ISO Certificate must be issued by any organization accredited by the Bureau of Indian Standard or accredited by the international accrediting forum "IAF" (Certificate to be attached).
3. Should be USA FDA and/ or European CE be approved by 4 digits notified body.
4. Other necessary certifications if any required will be provided by the bidder for the smooth functioning of the machine.
5. Installation process should be performed by O.E.M trained service engineers/ service representatives on OEM letterhead or Service Report within 15 days of supply, with the mandatory provision of providing preventive services visit of OEM trained Service Engineer/ Service Representative quarterly per year till the completion of warranty period (i.e., 20 visits for the first 05 years) & further quarterly visits (04 visits/year) year till the completion of CMC period.
6. The supplied equipment to be covered under a 5years comprehensive warranty and post-completion 5 years paid CAMC, in which all accidental damages/ breakage, leakage/ punctures, manufacturing defects and wear and tear of all sorts will be covered.

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current financial year and last financial year supplied to any government Institute/ Organization/ reputed Private Organization. OEM also has to submit that the price quoted by the bidder in the bid is on its behalf and the lowest in the current and last financial year in the country. Therefore, if at any stage it has been found that the supplier and its OEM have quoted lower rates than those quoted in this bid; the Institute (the purchaser) would be given the benefit of lower rates by the Supplier and any excess payment if any, will become immediately payable to the Institute (the purchaser). If such an affidavit is not submitted, the bid will be outrightly rejected. (Part of technical bid).

20. Guarantee / Warranty Period: Separate offers of Comprehensive Maintenance Contract (CMC on main equipment) and Annual Maintenance Contract (AMC on main equipment) for further 5 years after expiry of 5 years of warranty (i.e., 6<sup>th</sup>, 7<sup>th</sup>, 8<sup>th</sup>, 9<sup>th</sup> and 10<sup>th</sup> years) in rupees only (and on basis of percentage of price) should be included in a financial bid in the absence of which the offer is liable to be rejected. Payment for CMC/AMC shall be made only after the expiry of the warranty of 5 years, in case the Institute (the purchaser) decides for availing of CMC/AMC services. Contract for CMC/AMC shall be decided on expiry of warranty but rates (not more than 5% inclusive of all taxes for 6<sup>th</sup> to 10<sup>th</sup> year) will be frozen at the price of an issued purchase order before the release of payment by the Institute (the purchaser). However, the Institute (the purchaser) may decide not to enter into any CMC/AMC contract without assigning any reason for the same, which shall be binding upon the bid.

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