

Department of Neurology KMCRI Hubballi

Specifications for Level 1 Polysomnography System with Titration & Bed Side Monitoring. General Specifications of level 1 Polysomnography (PSG) system.

1. Should have facility to record minimum 33 channels and should be upgradable to 55 channels or more later on.
2. System should be suitable for both adult and paediatric patients.
3. Should have inbuilt capability to record, abdominal and chest effort, Nasal/Oral Airflow (both Thermistor and Nasal Canula), PLM, Snoring (Microphone), Motor activity, body position, pulse rate, moment, ambient light, Cpap/Bipap pressure and event marker, ECG, limb movement-2 nos, 15 EEG/EOG reference channel with EMGs for complete sleep staging.
4. The unit should have facility to store data on Base station/PC. Data storage on high speed compact flash card with upto 1gb capacity or upto minimum of 50 hours of PSG recording time.
5. Should have continuous signal check on display or at the patient bed side
6. The system should have the ability to work on battery so that there is no electrical interference coming to EEG signals. Should have adjustable low and high pass filters to have clear view of EEG. Also should have facility of Brain mapping. The software should have ability to record and analyze raw data and generate the report according to recent AASM guidelines (at least 2017 guidelines).
7. The system should have inbuilt facility to be able to record beat to beat systolic and diastolic blood pressure or from 3rd party stand alone system through non inflating soft finger cups that can directly be interfaced with polysomnography machine.
8. Should have automatic analysis, detection of Apneas/Hypopneas, Bradycardia/Tachycardia's, Oxygen desaturations, Sleep Staging (Alpha, Beta & Delta freq analysis) calculation of Average Freq Analysis Body Position, Pulse Transition Time, Snoring and PLM analysis as per AASM Guidelines. The unit should have connecting facility with waveforms which can be seen on the screen itself.
9. Weight of head box/ junction box should not be more than 550gm. Manufacturer should have ISO certification for quality standards. Should be supplied as complete unit, other accessories and User Guide. System should be supplied, installed and test run before handing over. Adequate quantity of spares such as electrodes, leads, oxygen saturation probes, EEG jelly, and snoring cannula should be supplied with the system. Manufacturers/Supplier should have a local office with complete technical support and application backup.
10. Should have ability for re-referencing, re-montaging and re-filtering anytime or even after the study has been recorded.
11. Should have scoring comparison (quality control feature which will allow comparison between scoring by different users, including sleep stages, respiratory events and AHI, arousal's and limb movements ,with provision for calculation of percentage agreement between different users.
12. Should have capability to export and import the complete study in EDF Format , exeformat, and reports can be exported to Excel and PDF format.
13. Video Camera High Resolution Integrated Infra Red Illumination, Microphone, Line out for Speakers, Wall or ceiling mount, Power supply, Software for synchronized recording, editing and archiving. Compatible with high end processing with LAN. Camera should be controlled directly via Software.

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14. Bed side monitoring should display live wave forms & videos, and should be able to show CPAP Mask pressure during online view and allow for titration.
15. Review Station: Highest configuration Mac/Windows based all-in-one desktop computers with at least 9th Generation Intel Core™ i5 Processor, 8GB RAM or highest available, 2TB Hard Drive, 18-20 inch LED monitors, DVD R/W, Mouse, and Higher end Laser color Printer.
16. Software should have different Time base 1sec, 2sec, 5sec, 10sec, 15sec, 20sec, 30sec, 1min, 2min, 3min, 5min, 10min, 15min, 30min, 1hr 2hr and maximum
17. Should have integrated low flow side stream EtcO₂ with 100Nos, of cannula with dual connector and same cannular use for Nasal pressure sensor
18. Should have complete pediatric PSG Sensor kit with Pediatric pressure Nasal cannula with Louer lock.
19. Suitable rating inverter to be provided for uninterrupted recording for both RAW Data, Video and Computer.
20. The system quoted should be warranted for five years, all the above items should be covered by appropriate 5 years CAMC and downtime guarantee.
21. The system should be USFDA & CE, BIS and CDSCO certified.
22. Comprehensive training for lab staff and support services till familiarity with the system to be provided without any extra cost.
23. Suitable table for PSG Machine and computer with accessories.

A. Specification of Titration device:

1. Facility for split night reporting should be available.
2. Should be provided preferably with a composite integrated universal titration device having capability of titrating OSA, overlap syndrome (OSA+COPD), OHS (Obesity hypo-ventilation syndrome) and CSR (Cheyne-strokes respiration) patients.
3. Titration device should have nine modes like: CPAP, Auto CPAP, Bilevel PAP, S,T,S/T, Auto Bilevel PAP, Adaptive Servo ventilator and AVAPS-AE. It should have integrated Humidifier.
4. Interfaces (Nasal mask, Oro nasal mask, Nasal pillow) of all available sizes compatible with the system should be provided.
5. Titration equipment should be controlled remotely directly with the operating software of the system from the review station without entering patient cubical.
6. Titration device supplied should be completely compatible with the system.

Additional requirement

BIDDERS ARE REQUIRED TO SUBMIT PRICES OF FOLLOWING CONSUMABLES IN SEPARATE PDF FILE WITH PRICE BID.

S.No	Description	Qty per year	Unit Price	GST%	Total Price
01	Ten20 conductive paste	30			
02	Nasal cannula	200			
03	NuprepGel	20			

#Note :- Price of these consumables should be fixed for 10 years (5 years warranty and 5 years CAMC)

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