



**TECHNICAL SPECIFICATIONS OF INTEGRATING - AVERAGING  
SOUND LEVEL METER**

**(COMPLIANCE SHEET)**

Sl. No.	Description	Remarks / Vendor to Specify
1	<b>General Purpose:</b> The Instrument should be fully automatic and suitable to use for assessment of Environmental Noise Levels, measurement of noise in workplace like Humming Noise level of power Transformers & Rectifier transformer at its rated voltage.	
2	<b>Standards:</b> The instrument should comply with all the latest Sound Level Meter Standard (IEC 61672-1:2002 class 1, IEC 60651 Type-1(1979), IEC 60804 Type 1(2000) & ANSI S1.4-1983 Type S1, ANSI S1.43-1997 Type1). Class-1 precision, Robust and easy to use.	
3	<b>Type:</b> Instrument should be of Integrating averaging Sound Level Meter. Simple in use-just point and measure. It should measures the equivalent, or average, sound pressure level $L_{eq}$ and also capable to measure the instantaneous, maximum and peak sound pressure levels at the same time.	
4	<b>User Interface:</b> Start/stop key: for starting & stopping the measurements Parameter Keys: for selecting required parameters to display Range Key- for selecting the measurement range.	
5	<b>Parameters:</b> Should measured four parameters simultaneously: $L_{AF}$ : Instantaneous sound pressure level, frequency weighting 'A' and time weighting 'F'. $L_{AFmax}$ : Maximum sound pressure level, frequency weighting 'A' and time weighting 'F'. $L_{Aeq}$ : Equivalent continuous sound pressure level, frequency weighting 'A'. $L_{Cpeak}$ : Maximum peak sound pressure level, frequency weighting 'C'.	
6	<b>Resolution:</b> 0.1 db for all four parameters	
7	<b>Measuring Ranges:</b> RMS: Total range 30- 130 db, Peak: 60 – 143 db Noise Floor below measurement range <25 db. Linear Operating range : 80 db <b>Accuracy Class:</b> 1 tolerances of the latest sound level meter standard. : ±1.5 db	
8	<b>Detectors:</b> Simultaneous RMS & Peak with independent frequency weightings.	
9	<b>Frequency Range:</b> 20 Hz to 16 kHz	
10	<b>Frequency Weightings:</b> A- Weighting (RMS) C- Weighting (Peak)  <b>Time Weighting:</b> F- (Fast)	
11	<b>Microphone:</b> Prepolarized Free field 1/2" Condenser Microphone. <b>Sensitivity :</b> - 30 db re 1V/Pa ±2db (Corresponding to 31.6 mV/Pa) <b>Frequency Range:</b> 8 Hz to 16 kHz ± 2db	

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12	<b>Display:</b> Large LCD Display should showing following... <ul style="list-style-type: none"> <li>• Input signal level-indicating with a quasi analogue bar</li> <li>• Selected parameters with level</li> <li>• Warning for low battery, measurement in progress, overload and under range. Over load and under range indicators.</li> <li>• Measuring range</li> <li>• Frequency and time weighting</li> <li>• Elapsed measurement time (from 00 min 00 s up to 60min 00 s)</li> </ul>	
13	<b>Update Cycle:</b> 1 Second (numeric), 0.1 Second (bar graph)	
14	<b>Settling Time:</b> Less than 05 Second.	
15	<b>Environmental Conditions:</b> Operating Temperature: 0 °C to 50 °C, Storage Temperature: 0 °C to 50 °C,	
16	<b>Batteries:</b> 1.5 V Cells LR 6/AA-size alkaline batteries ( <b>non-rechargeable type</b> ) Power consumption during normal operation: Should be less than 300 mW. Life time (at room temperature) : Should be approx 16 Hrs.	
17	<b>Physical characteristics:</b> Dimensions:250 x 80 x 40 mm (max) including microphone Weight: should not be more than 250 grams including batteries	
<b>The Test equipment shall be offered complete with the items as mentioned below...</b>		
18	<ul style="list-style-type: none"> <li>• Main Equipment with different type of accessories needed including Prepolarized Free field 1/2" Condenser Microphone, Random incidence corrector, Pouch, Protective cover, Screwdriver, batteries etc.</li> <li>• Two sets of operating and maintenance manuals in English language.</li> <li>• Original technical catalog to be included along with technical bid.</li> <li>• Three sets of calibration reports with following data i.e. Calibration date, periodicity, calibration validity duration &amp; next calibration due date. Traceability details of standard used for calibration. All documents should be endorsed by authorized signature.</li> </ul>	
19	Price of one set of spare - Prepolarized Free field 1/2" Condenser Microphone suitable to offered model to be quoted separately	
20	<b>Performance &amp; Warranty Certificate:</b> The Supplier shall guarantee the product performance for 24 months from the date of successfully commissioning at our works and shall provide spares and services during guarantee period to maintain the Sound Level meter in working condition.	
21	<b>Installation/Commissioning/Acceptance:</b> Installation/Commissioning of the instrument to be done at BHEL Jhansi works by supplier's representative free of charge. Demonstration of all features of Sound Level Meter & all accessories to satisfaction of BHEL for their efficient and effective use. Instrument shall be accepted only after successful calibration at our end.	
22	<b>Live Demonstration:</b> Live demonstration of offered meter shall be called during technical evaluation if required.	
<b>Note: Supplier should submit his technical compliance/comments against each of the above points in above format. Technical bid without complete technical compliance sheet will not be considered for technical evaluation.</b>		

Checked & Approved By

Prepared by