



**INDIAN INSTITUTE OF TECHNOLOGY BOMBAY**  
**MATERIALS MANAGEMENT DIVISION**

PR no. 1000044403

RFX No 6100002170

Item Description: **Technical Specification for “Parallel Multichannel Solar Cell Measurement Set-up” (SMU workstation for JV/MPPT Measurements)**

Sr. No	Item Description	Detailed Technical Specification	Technical Compliance (Yes / No)	Additional Information (if any)
1.	<b>64-Channel Potentiostatic Source Meter Units</b>	<p>1.1. Workstation, Power supplies and Channel boards in a rack mount form factor.</p> <p>1.2. Fully independent channels, not multiplexed.</p> <p>1.3. Channels divided in plug &amp; play boards (eurocard format or similar)</p> <p>1.4. 4-wire connection for each channel</p> <p>1.5. Channel with 4 quadrant operation +/-10V and +/- 250mA range with up to 30 nA of current resolution.</p> <p>1.6. Additional Digital I/O and Analog In-Out for general use</p> <p>1.7. Advanced JV analysis (hysteresis, pre-condition, parameter extraction)</p> <p>1.8. Advanced Tracking (MPPT with P&amp;O, Incremental Conductance, PID, Fixed Voltage-Current)</p> <p>1.9. Multi-User access in order to manage parallel experiments under different lighting conditions</p> <p>1.10. TXT and PDF reports with advanced data decimation to optimize saving for prolonged test.</p>		

		1.11.Complete Workstation for the system which should have-Windows 11 PRO, 1TB NVMe SSD, 16GB DDR4, 8 GB Graphics, Intel i7, 12th Generation, LCD 32"		
2.	<b>Sample chamber</b>	<p>1.1.Sample chambers with 10x10cm of illuminated area– 6 unit</p> <p>1.2. User-defined sample holders and pin configuration with double pin (4 wire per cell) — 6 units</p> <p>1.3. Custom-designed shadow masks for fixed area illuminations</p> <p>1.4. Software controlled thermal module (0 to 90 °C +/- 0.5 °C)</p> <p>1.5. Entire chamber body and substrate have to be stabilized at same temperature to homogenize internal air too.</p> <p>1.6. Humidity and temperature live monitoring</p> <p>1.7. Easy disconnection to load samples inside Glove box.</p> <p>1.8.The power connections and cabling should be compatible as per Indian Standard.</p>		

#### **Additional Terms & Conditions :**

1. 2- year warranty after successful installation of the system. It includes periodic servicing, software updates and training. Lifetime remote assistance without any extra charges for software upgrades and know-how.
2. Pre-dispatch inspection and buyer acceptance will be required. User and manual training will be required.
3. SOP has to be shared upon successful installation.
4. Equipment dimension, weight, and power consumption, must be mentioned in the technical description.
5. A brochure or a technical diagram has to be submitted with the tender documents.
6. The entire set-up and the software have to be delivered within 8–10 weeks upon successful contract generation.