TECHNICAL BID PROFORMA

Item Name: "Charging and Discharging unit for Battery Module "

Bidder Eligibility Criteria:

1.0	**Bidder Eligibility Criteria-I** **(Public Procurement – Preference to Make in India)**	**Class I /** **Class II**	**Local** **Content** **value**	**Reference,** **Page No.**
I	Only 'Class-I local suppliers' and 'Class-II local suppliers', as defined under DIPP, MoCI Order No. P-45021/2/2017-PP (BE II) dated 16th September 2020 and other subsequent orders issued therein.			
2.0	**Bidder Eligibility Criteria-II**	**Compliance** **(Yes/No)**	**Reference** **Page No.**	**Remarks, If** **any**
1	The bidder/OEM should have supplied at least 5 similar items to IITS, NITS IISERS, CSIR Labs or other Govt. R&D organizations in the last 10 years. Purchase order copies or installation certificates with contact details of end user need to be submitted as the proof of supply. IIT Madras reserves its right to verify the claims submitted by the bidder and the feedback from the previous customers will be part of technical evaluation.reserves its right to verify the claims.			

3.0 Technical Compliance:

Channels Information			Complied/Not Complied	Reference Page No
Channels Quantity	Quantity per Unit	4		
Main Channel	Channel Feature	Constant current source and constant voltage source dual closed loop control		
	Channel Control	Independent control		
	Parallel Connection	Support max 4 channels in parallel mode		

AC Input Power Functions and Performances		Complied/Not Complied	Reference Page No
Input Power	AC380V±15% 50/60±5Hz		
Power Factor	≥99%(Full load)		

			Complied/Not Complied	Reference Page No
THDi	≤5%(Full load)			
Input Resistance	≥1MΩ			
Input Power	28.2KW			
Input Current	42.9A/single			
Overall System Efficiency	Max	90%		
Voltage & Current Sampling	Four-wire connection (Same port for charging and discharging)			
Noise	≤65dB			
Power Control Module Type	MOSFET			
AC Power Connection	Three-phase five-wire (3W+N+PE)			
Power Input Protection	Anti-surge, anti-silos, anti over or under frequency, anti over or under voltage, anti phase absence, etc.			

DC Input Power Functions and Performances			Complied/Not Complied	Reference Page No
Voltage	Output Range	Charge: 0V~60V Discharge: 3V~60V		
	Min Discharge Voltage	3V		
	Accuracy	±0.02% of FS		
	Resolution	24 bit		
Current	Measurement Range	0.25A ~ 50A		
	Accuracy (Independent Range)	±0.05% of FS		
	CV Cut-off Current	50mA		
	Resolution	24bit		
Power	Single Channel Output	3KW		
	Entire Machine Output	24KW		
	Current Response Time	≤3ms		

			Complied/Not Complied	Reference Page No
Respon se Time	Current Switch Time (From -300A to 300A)	≤6ms		
	Min. Step Time	0.1s		
Charge/ Dischar ge Modes	Charge Modes	CCC, CVC, CC-CVC, CPC		
	Discharge Mode	CCD, CVD, CPD, CRD		
	Cut-off Condition	Voltage, Current, ΔTime, Capacity, -ΔV		
Simulati on	Charge Mode	Current, Power		
	Discharge Mode	Current, Power		
	Switch	Support continuous switching between charge and discharge		
	Cut-off Condition	Time, step line		
	Max File Step Lines	1,000,000		
Pulse Mode	Charge	Current ,power		
	Discharge	Current, Power		
	Min pulse	100ms		
	Pulse counts	Up to 32		
	Swithing Between Charge and Discharge	Supported		
	Cut-off Condition	Voltage, ΔTime		

Data Management and Analysis			Complied/Not Complied	Reference Page No
Step Setting Method		Form editing		
Data Report	Recording Conditions	Minimum time interval: 10ms (connected with AUX channel: 100ms）		
		Minimum voltage interval: 0.12V		
		Minimum current interval: 0.1A		
	Recording Frequency	100Hz (connected with AUX channel: 10Hz)		
Database		MySQL database		
Data Output		Excel, Txt		

Curve Type	Templates available, Customizable plot		
Bar Code Scanning	Function supported		
	Management and traceability of historical data		
Communication		**Complied/Not Complied**	**Reference Page No**
Host Computer Communication	TCP/IP protocol		
Communication Port	Ethernet		
Communication Baud Rate of the Testers	1M broadband		
Host Computer Communication Baud Rate	10M~100M adaptive		
Communication Setup	Set up a LAN (local area network) through switches and routers		

S.NO	Other Requirements	Complied/Not Complied	Reference Page No
1	Quotations with the complete solution for the above requirement will only be accepted.		
2	I.I.T. Madras has the right to accept the whole or any part of the tender or portion of the quantity offered or reject it in full without assigning any reason.		
3	The offer/bids should be sent only for a machine that is available in the market and supplied to a number of customers. Quotations for a prototype machine will not be accepted.		
4	Test certificates for all the stages confirming the specifications from OEM are required with shipping/freight documents.		
5	Suppliers to provide training for programming, operation and maintenance at IIT Madras at free of cost.		
6	All necessary safety regulations such as CE compliance, low voltage directive, EMC regulations compliance details, Alarms and emergency switch off in case of any malfunctioning must be provided. The system must be equipped with all the necessary safety interlocks. Provisions for safety wear are essential.		
7	The complete system and its associated hardware should have a standard warranty of 1 year or more from the date of installation, commissioning and acceptance of the system at IIT madras. Suppler modification (s)/software upgrades shall be intimated and the same will be made available free of cost during the warranty period.		
8	All technical literature/catalogues and drawings of various systems should accompany the quotation. All the documents should be in English.		
9	Installation and commissioning should be provided by the supplier or its Indian agent. The Indian agent should have well proven service capability on similar systems with factory trained service engineers available in India. Details of their engineers expertise should be enclosed along with the offer and will be a key factor in the decision making.		
10	The system should have compatibility with Indian environment conditions (for better power/energy stability)		

(Note: It is mandatory for the bidders to provide the compliance statement in tabular column format along with catalogue page number (comply/not comply) for the above points with document proof as required. Failing which bidders will be technically disqualified)

SIGNATURE OF BIDDER ALONG WITH
SEAL OF THE COMPANY WITH DATE

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