



राष्ट्रीय प्रौद्योगिकी संस्थान हमीरपुर हमीरपुर 177005-(हि .प्र.)

NATIONAL INSTITUTE OF TECHNOLOGY HAMIRPUR (H.P.)-177005

[An Institute of National Importance under Ministry of Education (शिक्षा मंत्रालय)]

E-TENDER NOTICE

Sealed online e-Tender in two bid system are hereby invited by the undersigned for the supply of following items on behalf of the Director, NIT, Hamirpur from the Eligible/ Experienced/ Resourceful, manufacturer's dealer/authorized distributor etc. having experience in appropriate field and who have successfully completed works of similar type, so as to reach in the office of the undersigned as per date & time mentioned below.

Sr. No.	Name of works/item	Qty/ No.	Earnest Money In Rs.	Time Limit
1	Supply and installation of DSP controller for the Grid connected Sic/GaN based inverter with solutions For detailed specifications etc please refer to SBD	1	30600	60 days

1. Availability of bid document and mode of submission:-The bid document is available online and bid should be submitted in online mode on website <http://www.eprocure.gov.in/> and <http://www.nith.ac.in/>. Bidder would be required to register in the web-site which is free of cost. For submission of bids, the bidder is required to have Digital Signature Certificate (DSC) from one of the authorized certifying authorities (CA).

2. Key dates: (1)

1	Date of online publication	08.11.2025 at 6.00 PM
2	Document download start and end date	08.11.2025 to 27.11.2025 10.30 AM
3	Bid submission start and end date	08.11.2025 to 27.11.2025 10.30 AM
4	Physical submission of EMD, technical documents and cost of tender document etc.	On or before 05.30 PM on 27.11.2025
5	Date of opening of technical bid	28.11.2025 at 11.30 AM

- (II) Objections/representation if any against the bidders will be entertained only within three days after publication/uploading of technical bid opening summary on net and thereafter that the date of opening of financial bid of technically qualified bidders will be published /uploaded on net.

3. Tender Details:-The tender Documents shall be uploaded in 2 cover:-

Cover 1:-Shall contain scanned copies of all "Technical Documents/Eligibility information".

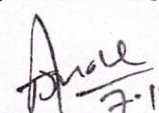
Cover 2:- Shall contain "BOQ/Financial Bid", where supplier will quote his offer for each item.

- (a) Submission of Original Documents: The bidders are required to submit (a) original demand draft towards the cost of bid document if any and (b) original bid security/Earnest Money deposit (EMD) and other technical documents in the Store &

Purchase section, NIT Hamirpur-177005 (HP) as specified in the key dates of Sr. no.2 on tender opening dates & schedule, failing which the bids will be declared non-responsive. EMD in the form of DD/FDR must be attached with in favour of Director, NIT, Hamirpur (H.P) -177 005. The EMD should remain valid for a period of 90 days beyond the final bid validity period. EMD of unsuccessful bidders shall be returned after the expiry of the final bid validity or before the 30th day of the award of contract. The EMD of the successful bidder shall be released after successful execution of supply order.

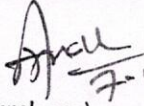
4. **BID OPENING DETAIL:** - The bids shall be opened as per schedule specified in the key dates of Sr. no.2. in the store & Purchase section, NIT, Hamirpur by the authorized officer. In their interest the tenderer are advised to be present along with original documents at the time of opening of tenders. If the office happens to be closed on the date of opening of the bids as specified, the bids will be opened on the next working day at the same time & venue.
5. The bids shall remain valid for acceptance for a period of not less than 120 days after the deadline date for bid submission. Other details can be seen in the bidding documents. The officer inviting tender shall not be held liable for any delays due to system failure beyond its control. Even though the system will attempt notify the bidder of any bid updates. The Employer shall not be liable for any information not received by the bidder. It is the bidders responsibility to verify the website for the latest information related to the tender.
6. The copy of enlistment order & renewals, Copy of PAN issued by Income tax Department and copy of GST Certificate must accompany in the cover-1
7. The bidder preferably must have successfully supplied similar items in recent years. The bidders shall have to produce supporting documents giving date of award, date of commencement and completion from the concerned competent authority and should be included in cover-1
8. Destination: F.O.R. destination i.e. NIT, Hamirpur (HP) and the rates must include the charges for Packing, Forwarding, Freight, etc., if any.
9. Price/Rate: The price of items may be quoted in Indian rupees.
10. GST:- All the firms may invariably mention their GST/PAN numbers on tender failing which quotations may not be considered valid. Further, this Institution does not issue any Concessional form, so the GST applicable as per actual rates must be mentioned in the offer. In case GST is not mentioned, the rates shall be treated as inclusive of all taxes.
11. The bidders/firms have to supply the complete catalogue/brochure of the products to be supplied along with the Technical bid.
12. The technical bids will be evaluated on the basis of terms & conditions of the tender and details of the product to be supplied as per condition 11 of the tender notice. The committee reserves the right to reject any technical bid on the basis of technical specifications/catalogue/brochure submitted.
13. Conditional/ telegraphic tenders shall summarily be rejected.
14. For any clarifications bidders are requested to contact FI (Purchase), NIT Hamirpur at his E-mail ID i.e. fip@nith.ac.in.
15. The tender/bid shall be kept in a sealed envelope superscribed as "Tender for (Name of work and date of opening _____".
16. The jurisdiction of the law of court shall be at Hamirpur (HP).

No: NIT/HMR/DoEE/S&PS/ 2025/694-96


FI (Purchase)
Dated: 07-11-2025

Copy forwarded to the following for information please:-

1. The HOD, DoEE, NIT, Hamirpur
2. Dr. Jiwanjot Singh, Assistant professor, DoEE, for information please.
3. The FI (CC), for getting the advertisement displayed in the Institute website for wider publicity under head: - **Supply and installation of DSP controller for the Grid connected Sic/GaN based inverter with solutions For Electrical Engineering Department of NIT Hamirpur.**


7-11-25
FI (Purchase)



Subject: - Supply and installation of DSP controller for the Grid connected Sic/GaN based inverter with solutions For Electrical Engineering Department of NIT Hamirpur

Sealed online E-Tender in two bid system are hereby invited by the undersigned for the supply of following items on behalf of the Director, NIT, Hamirpur from the Eligible/ Experienced/ Resourceful, manufacturer's dealer/authorized distributor etc. having experience in appropriate field and who have successfully completed works of similar type, so as to reach in the office of the undersigned as per date & time mentioned in the tender notice.

Sr. No.	Name of works/item	Qty/ No.	Earnest Money In Rs.	Time Limit
1	Supply and installation of DSP controller for the Grid connected Sic/GaN based inverter with solutions For detailed specifications etc please see below:-	1	30600	60 days

Detailed Technical Specification for Supply and installation of DSP controller for the Grid connected Sic/GaN based inverter with solutions

S. No	Name	Quantity
1	DSP Controller for the grid integrated SiC based inverter with power quality analyzer a) DSP experimental kits- 2 quantity An evaluation and development kit compatible with various plug-on Packs. Supports the connection of two Packs. The development kit provides a standardized and easy to use platform to use while developing power electronics/ inverter closed loop application. Features • Hardware features • USB connected isolated JTAG debug probe for real-time debug and flash programming • 4x 20-pin headers/connectors or more • Programmable buttons and LEDs • 200 MHz dual CPUs and dual CLA or mores, 1 MB Flash or more, 16-bit or 12-bit ADCs or more, comparators, 12-bit DACs or more, delta-sigma filters, HRPWMs, eCAPs, eQEPs, CANs and more options should be there • capable of interfacing to absolute encoders as well as resolvers and SINCOS transducers • Supports Plug-in Modules • Two encoder interface connectors • Isolated CAN transceiver connector	01

- The DSP kits should be compatible to the MATLAB/SIMULINK or PSIM. The Vendor must show the testing of algorithms in DSP kits with the integration to the 10 to 20 kva closed loop control of grid connected SiC based multilevel inverter (7-level approx.) and to show the demo at the time of supply or during the tender as or when required.

b) High voltage and current sensors kits with signal conditioning unit

Voltage sensor kit specification

3 onboard voltage sensors or more

Maximum voltage sensing up to 0 to 600 V or more

Bi-polar output between -5 to 5 volts approx

Uni-polar output between 0 to 3 volts approx.

On board isolated power supplies

Should provide the isolation feature

compatible to DSP kits as given in a)

Should have Closed loop (compensated) voltage transducer

Ambient operating temperature: 0 to 70 °C

using the Hall-effect Offset current @zero input, $T_A = 25\text{ °C} < \pm 0.15\text{ mA}$

RMS voltage for AC insulation test, 50 Hz, 1 min – 4.2 kV Impulse withstand voltage 1.2/50 μs – 16 kV

Power supply to board on transformer input side: 1 phase, 230V

voltage sensors board should be used for any application whether AC or DC voltage sensing and have frequency bandwidth of 200kHz or more

The voltage sensor should be isolated used for the DSP kit interfacing during closed loop control of SiC based inverter. The vendor has to show compatibility and testing with the setup.

Current sensor kits specifications:

Power supply to board on transformer input side: 1 phase, 230V

Max. 3 or more onboard current sensors Maximum current sensing up to 50 Amps

Should provide the isolation feature

Bi-polar output between -5 to 5 volts

Uni-polar output between 0 to 3 volts compatible to DSP kits

Closed loop (compensated) current transducer using the Hall Effect Linearity error < 0.2% Offset current @ $I_P = 0$, $T_A = 25\text{ °C} - \pm 0.2\text{ mA Max.}$

RMS voltage for AC insulation test, 50 Hz, 1 min – 2.5 kV Impulse withstand voltage 1.2/50 μs – 5.7 kV Bandwidth – 200 kHz

The current sensor should be isolated used for the DSP kit interfacing during closed loop control of SiC based inverter. The vendor has to show compatibility and testing with the setup.

c) PC with printer- 1 quantity

Computer:

Processor: Intel Core i5/i7 14th Gen or latest

RAM: 1 x 16 GB DDR5 5600 MHz, expandable upto 64 GB

SSD: 1 TB SSD NVMe or more

Others: Inbuilt Wifi & Bluetooth and cembra

Ports: 1 x HDMI, 1 x DP Port, 1x Serial port

OS: Microsoft Windows Professional 11 or latest

Microsoft Office Suite 2021 or latest

PC should be compatible with DSP kit software, power supply software, Matlab/Simulink PSIM software MSO software. The vendor must install all the software compatible in the workstation on site.

d) Electrical and electronic components and tool kits

- Drilling tool kits-1
- Blower tool kit-1
- Electrical safety tool kit-1

- Temperature measurement kit from the SiC based inverters-1
- Cutter kit -1
- Voltage converter 3.3 volt to 5 volt 10 volt, 10 volt to 3.3 and 5 vol-2t
- DIY kits-2

e) Isolated transformers- quantity 1

Isolation Transformer

(Air Cooled – Three Phase)

Capacity: 10 KVA (3 Phase) 01 Nos.

Input : 440 V AC approx, Star

Output : 440 volt approx, Star

Connection : Star / Star

Winding - Copper

Insulation - Class F

Ambient Temperature - 50 Degrees

DI Electric Strength : 2.5 KV for 60 Sec.

Insulation Resistance : more than 1000 mega Ohms

Enclosure : MS Enclosure on wheels with powder Coated Paint.

Auto transformer - quantity 1

VARIABLE AUTO TRANSFORMER

(Air Cooled – Three Phase)

Capacity - 10 KVA or more

Input - 415 V AC approx

Output - 0 – 470 VAC approx

Above units are with:

MS Enclosure on Wheels.

Suitable Input and Output Connections

Terminals

Manually Operated with Dial Plate & Knob

Voltmeter to read output Voltage with Selector

f) High accuracy multimeter- quantity 1

Display : Digital LCD display upto 7 segment

Polarity Indicator “-”, Overrange indicator : “ OL” , Low battery indicator.

Measuring Rate: 6 times / sec., Bar graph display: 15 times / sec.

Operating Temp. & Humidity: -20 to 55° C; 80% RH

Power Supply: Four AA(R6) dry cells ,Battery Life: Approx. 120 hours

Withstanding Voltage: 6.88 Kv for 5 sec.

Weight: Not more than 600gm

Compliance with Standards: Safety EN61010-1, EN61010- 031, 1000VCATIII, 600V CATIV, Pollution level 2

EMC: EN61326-1 Class B, EN55011 Class B Group 1

Standard Accessories : AA(R6) dry cells : 4, Test lead set: 1, Instruction Manual.

DC Voltage: 50mV to 1000V or more, accuracy: 0.02% or more with Resolution 0.001mV

AC Voltage: 50mV / 1000V or more ,accuracy: 0.4% or more with Resolution 0.001mV

DC Current: 500µA / 10A, accuracy: 0.2% with Resolution 0.01µA

AC Current: 500µA / 10A or more ,accuracy: 0.75% with Resolution 0.01µA

Resistance: 500Ω to 50Mohm, Accuracy: 0.05% with Resolution 0.01Ω

Low Power Resistance: 5kΩ to 5Mohm, Accuracy: 0.5% with Resolution 0.001KΩ

Frequency measurement: 2Hz-99.99kHz, Accuracy: 0.02% with Resolution 0.001Hz

Diode test-Range 2.4V, continuity test-Range 500Ω, Capacitance: 5nF to

50mF, Accuracy: 1% with Resolution 0.001nF

Temperature measurement: -200 to 1372 °C, Accuracy: 1% and Resolution 0.1 C

simultaneous measurement and display of DC and AC

should be included the current clamp meter

g) Desoldering and soldering advanced kit- quantity 1

specifications and features:

Soldering and desoldering SMD rework station including Temperature controlled with all accessories

Rated voltage: AC 220V $\pm$ 10% 50Hz

Power Rating: 1200W

Working environment: 0 $\sim$ 40 $^{\circ}$ C with relative humidity < 80%

Storage environment: -20 $\sim$ 80 $^{\circ}$ C with relative humidity < 80%

Hot Air Gun Parameters:

Output power: 650W approx

Temperature range 100 $^{\circ}$ C $\sim$ 480 $^{\circ}$ C or more

Airflow type: Brushless Motor with smooth air delivery

Temperature Stability: $\pm$ 1 $^{\circ}$ C (static)

Display Type: LED

Temperature correction type digital program

Temperature correction cycle: 20ms

Heating elements: Ceramic skeleton heater

Soldering Iron Parameters:

Output power: 75W approx

Temperature range 200 $^{\circ}$ C $\sim$ 480 $^{\circ}$ C or more

Temperature Stability: $\pm$ 1 $^{\circ}$ C (static)

Display Type: LED

Temperature correction type: digital program

Temperature correction cycle: 100ms

Heating elements: Imported Heater

Tip Ground Impedance: <2 Ω

Pre-heater platform

Output power: 600W

Pre-heating platform material: Ceramic heating material

Temperature sensor Type: K thermocouple

Temperature range: 50 $^{\circ}$ C - 400 $^{\circ}$ C

- The front interface features an aluminum panel designed with an elegant appearance.
- Built with a 3-segment parameter memory design, the machine can save function modes in different parameters for easier configuration when switching jobs and components.
- pre-heating time and air gun operation time to realize automatic de-soldering.
- The rework station is equipped with a pre-heating platform in addition to a hot air gun and soldering iron.
- The pre-heating platform heats up the processed IC components before de-soldering and soldering processes, resulting in higher efficiency and space saving performance.
- It should include all the consumables

d)Power Quality analyzer- quantity 1

Specifications and features

Basic Accuracy: 0.1%, Direct Input: 15V or less to 1000V or more, current 0.5A to 40A rms or more

Frequency Bandwidth DC, 0.5 Hz to 100 KHz, Power Input; 230 $\pm$ 10% 50 Hz

Display: LCD with high resolution ,

	Measurement of 3 phase V, A, W, VA, VAR, WATT, FREQ, PF, DEG Hold Facility of all data, Accurate reading at even low power factor Harmonic Analysis: Upto 50th harmonic, Data Length for FFT: 32 bit Input wiring 1/3 phases 2, 3 or 4 wire. Input Voltage & Current selectable from different ranges. Measurement possible for AC rms, mean and DC inputs. Measurement of all possible electrical parameters. Hold facility and there after readout of all parameters for same time. Accuracy is same even for low power factor measurement. Energy measurement facility upto 1000Hrs. (Power Integration) or more All the Data save in Internal memory and USB media USB communication for PC interface with USB peripherals. Harmonic Analysis upto 50th Harmonic with 10Hz –1.2 KHz or more higher range fundamental. Vector display, Bar graph display, Trend display. Compact and lightweight. Scaling facility available when inputting output from external current sensors, VT and CT Line and frequency filter settings can be entered, Data update rate: 100ms Integration: Equipment complied with IEC & VDE Standard. All input terminals from rear. Instruction Manual and Calibration Certificate supplied along with Inst. Software for online downloading of data from Instrument for storing and Analysis. General Specifications: Rated supply voltage: 100-240V AC Rated supply frequency: 50/60 Hz. 100 A AC/DC Current Clamp-3 Nos. Voltage probes compatibility required	
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Other Terms & Conditions

- Vendor participating must be responsible for integration of all hardware items with software items.
- Vendor participating can be called for onsite demonstration with sample product for quality and feature analysis during the technical evaluation.
- Technical committee / PI can accept or reject any bid based upon the product quality & unsatisfactory operation of the equipment.
- Bids will be rejected in case of any technical deviation in compliance.
- Bidders must have similar experience in providing the similar products in other IITs / NITs or any central / state universities.
- Vendor must give 2-year warranty or more of all the supplied items
- Vendor has to give demonstration and training for the supplied equipment at NIT Hamirpur in Electrical engg. Department.
- No extra cost will be provided for delivery and installation of the equipment.

TERMS AND CONDITIONS:-

1. **Validity:** Minimum validity of the quotation will be 03 months from the date of opening of the quotation/tenders.
2. **Time Limit:** - The firm/supplier has to supply and install the equipments within 60 days from the date of the award letter.

3. **Guarantee/warranty:** - The supplier has to provide equipment guarantee/warranty supplied for 02 years from the date of successful installation of the equipment supplied. (Certificate of the same to be given by the supplier)
4. **Demonstration & Training:-** The supplier will have to demonstrate and impart training to concerned users at NIT, Hamirpur after successful supply & installation. (Certificate of the same to be given by the concerned user/indenter).
5. **EMD: EMD in the form of DD/FDR /Bank Guarantee must be attached in favour of Director, NIT, Hamirpur (H.P) -177 005.** The EMD should be remained valid for a period of 120 days beyond the final bid validity period. EMD of unsuccessful bidders shall be returned after the expiry of the final bid validity or before the 30th day of the award of contract. The EMD of the successful bidder shall be released only after submission of 3 % **Performance bank Guarantee** which should be valid till expiry of warranty period. EMD/PBG exemption is permissible as per Govt. rules.
6. **Make in India preference:-** NIT Hamirpur shall compare all substantially responsive bids to determine the lowest evaluated bid. The Institute is following and abide with the revised Public Procurement (Preference to Make in India), Order No. P- 45021/2/2017 – PP (BE-II) dated 16.09.20 issued by DPIIT, Ministry of Commerce and Industry, Govt. of India & subsequent instructions of Ministry. Accordingly, preference will be given the make in India products while evaluating the bids. However, it is sole responsibility of the bidder(s) to specify the product quoted by them is of Make in India along with respective documentary evidence in the technical bid itself.
7. **Technical Evaluation:-** Technical evaluation of the participating firms will be done strictly on the basis of catalogues/brochures/literature/technical details of the product to be supplied along with relevant experience & fully complying all the terms & conditions of the SBD & tender notice. **It is mandatorily to physically submit the technical literature/catalogue of the product to be supplied along with make & model no. failing which the technical bid of the participating bidder will be straightforward rejected.** NIT Hamirpur also reserves the right to seek clarification from any of the participating firm during technical evaluation. The participating bidder has to submit undertaking that they fully complies to our above-mentioned technical specifications.
8. **Destination:** F.O.R. destination i.e. NIT, Hamirpur (HP) and the rates must be quoted inclusive of all taxes and charges.
9. **Penalty:** In case the firm/vendor fails to supply the equipments within the stipulated period penalty without assigning any reasons @ 1/2% (half percent) of the total value of the item covered in order as penalty per day subject to a maximum of 5% (five percent) will be imposed unless extension is obtained in writing from the office on valid ground before expiry of delivery period
10. **Price/Rate:** The price of equipment/items may be quoted as per BOQ clearly mentioning the Basic rate & GST in the specified columns of BOQ in Indian rupees. **Tender will be awarded to the participating bidder who will be lowest in terms of total of all items**
11. **GST:** - All the firms may invariably mention their GST/PAN numbers on quotation/tender failing which quotations may not be considered valid. Further, this Institution does not issue any C/D Concessional form, so the GST applicable as per actual rates must be mentioned in the offer. In case GST is not mentioned, the rates shall be treated as inclusive of all taxes.
12. **NIT/NIQ Opening:** Representative of the firm may be present at the time of opening of the Quotations, if it wishes.

13. **Payment:** 100% payment shall be made immediately after receipt of material in good condition and successful installation of the same. (Certificate of the same to be given by the indenter/inspection committee NIT, Hamirpur)
14. **Right of Acceptance/Rejection:** Right of acceptance and rejection of any tender/quotation in part or full without assigning any reason are reserved with the institution authorities. The number of items to be purchased could be increased or decreased depending on the requirement of end user.
15. In case of any dispute the jurisdiction of Hamirpur (HP) Courts shall apply. For any clarifications please contact:- Dr. Jiwanjot Singh (Mobile 9872581018)

FI (Purchase)

Annexure I - Bidder's Information

(Bidder should duly fill and send with technical documents via post/courier)

1	Name of the Bidder	
2	Address of the Bidder	
3	PAN No.	
4	GSTIN No.	
5	E-mail ID	
6	Contact Person's Name & Designation	
7	Mobile No.	
8	Email ID	

Annexure II -Questionnaire

(Bidder should duly fill and send with technical documents via post/courier)

Sr.No.	Questions	Response
1	Whether all the terms and conditions of the NIT document have been complied. Compliance (Yes/No)	
2	Whether all the items specified in the technical specification has been compiled and have been quoted in the bidding engine. Compliance (Yes/No)	
3	Confirm that you have read all the instructions carefully and have complied with the instructions accordingly. Compliance (Yes/No)	
4	In case bidder does not manufacture goods offers to supply have submitted Manufacturer's Authorisation letter. Compliance(Yes/No)	
5	Mention Delivery period	
6	Mention Warranty of the material	
7	Mention HSN/SAC code of the material	
8	In case of import supplies whether you have mentioned nearest international port of shipment in the technical bid (if not applicable please mention 'NIL').	

Signature and Seal of the Manufacturer / Bidder

Place: _____

Date: _____

