

eNotice Inviting Tender (NIT)

NIT No.: ICAT-T-QCL-DAQ Scanner-24-25-230
Manesar, 25 February, 2025

The Director, International Centre for Automotive Technology (ICAT), a division of National Automotive Board (NAB), Govt. of India, hereby invites tenders through CPPP (online) in two bid system from the bidders in the prescribed proforma for “Supply & Installation of Temperature Indicator (DAQ Scanner)-20 Channel” at ICAT, Centre-I as per following details:

Tender Activity Schedule

Job Description	Supply and Installation of Temperature Indicator DAQ Scanner 20 Channel
Scope of Supply/Services	As Per Annexure “B”
Eligibility Criteria for consideration of bids.	<p>The bidder whose bid meets the following eligibility criteria would only be considered for bid evaluation:</p> <ol style="list-style-type: none"> 1. Legal Valid Entity: The Bidder shall necessarily be a legal valid entity either in the form of Proprietary Firm, Partnership Firm, Private Limited Company/ One Person Company (enclose a copy of registration / incorporation certificate along with technical bid). 2. Bidder must have PAN & GST (enclose a copy of PAN & GST along with technical bid) 3. The Bidder should have a minimum experience in Supply of similar nature item/items in last 3 Financial years & till date (enclose supporting documents such as previous POs, Work Orders, Work Completion Certificates, etc along with technical bid). 4. Bidder should provide & complying with the complete technical requirements given in Annexure-1. <p>*Note: If the bidder fails to submit the authenticated documents in support of his/their credentials as specified in tender documents, his/their tender will be liable to be rejected summarily.</p> <ol style="list-style-type: none"> 5. Warranty Period: 24 Months from the date of Asset (or item) Installation at ICAT Site. 6. Bidder must submit stamped and signed copy (each page) of this document (NIT) for acceptance of terms and conditions along with the technical bid.

Evaluation Criteria	<p>It is mandatory for the bidder to comply with the complete technical requirement given in the bid document. In the event, if the bidder does not comply with the technical requirement, the bid shall be disqualified and any deviation proposed on technical requirement from the bidder end will not be considered at all. Disqualified bidder(s) will not be eligible to make any claim. Those bidder(s) who meet our technical requirements will qualify further for financial evaluation. The order would be awarded to the L1 bidder among the technically qualified bidder(s).</p>
Payment Terms	<p>Payment will be done in parts of Contract/P.O. value against Invoice submission (within 15 working days & Subject to Verification and Approval by ICAT), as per below terms:</p> <ul style="list-style-type: none"> - 60% Payment after the Delivery of Item & its Auxilliary parts alongwith submission of Calibration Certificate at ICAT Site. - 40% Payment after the Asset (or item) Installation & final acceptance, alongwith training certificates, by ICAT.
Delivery/Completion Period	<p>Within 90 days on receipt of Letter of Acceptance against Purchase Order (PO) from ICAT.</p>
Liquidity Damages	<p>The work/service should be completed strictly as per time limits specified in the work contract/agreement, failure to complete the work/service within the stipulated time will make the bidder liable to an unconditional penalty of ½% (Half Percent) of the value of work/service per week subject to a maximum of 10% (Ten Percent) of the work/service contract.</p>
Price/Bid Validity	<p>12 Months from the last date of submission of Bids</p>
Delivery Terms	<p>Up to ICAT Centre - 1</p>
Warranty Period	<p>24 Months from the date of Asset (or item) Installation at ICAT Site.</p>
Delivery/Service Site	<p>International Centre For Automotive Technology (Centre - 1), Plot No. 26, Sector - 3, Near HSIIDC, IMT Manesar, Gurgaon 122050 GST No. 06AABAN9435G2ZI</p>
Billing Address	<p>International Centre For Automotive Technology (Centre - 1), Plot No. 26, Sector - 3, Near HSIIDC, IMT Manesar, Gurgaon 122050 GST No. 06AABAN9435G2ZI</p>

Last Date of submission of online bid on e-procurement portal	19-3-2025 (1700 Hrs)
<p>Bidder must comply to the provisions of:</p> <p>a. Rule 144 (x) of GFR 2024 regarding restrictions on procurement from a bidder of a country which shares land border with India will be liable to rejection: https://doe.gov.in/files/circulars_document/FInal_GFR_upto_31_07_2024.pdf</p> <p>b. Department of Industrial Policy and Promotion (DIPP) vide No. P-45021/2/2017-PP (BE-II) dated 04.06.2020 and as revised from time to time. https://dpiit.gov.in/sites/default/files/PPP%20MII%20Order%20dated%204th%20June%202020.pdf.</p>	
<p><i>Note: ICAT reserves the right to reject/modify/cancel the tender without assigning any reason at any stage thereof.</i></p>	

Annexure A

Proposal Invited for “Procurement of Temperature Indicator (DAQ Scanner)-20 Channel” at ICAT, Centre-I, Manesar (HR).

Minimum Eligibility Criteria:

The bidder whose bid meets the following eligibility criteria would only be considered for bid evaluation:

1. **Legal Valid Entity:** The Bidder shall necessarily be a legal valid entity either in the form of Proprietary Firm, Partnership Firm, Private Limited Company/ One Person Company (**enclose a copy of registration / incorporation certificate along with technical bid**).
 2. Bidder must have PAN & GST (**enclose a copy of PAN & GST along with technical bid**)
 3. The Bidder should have a minimum experience in Supply of similar nature item/items in last 3 Financial years & till date (**enclose supporting documents such as previous POs, Work Orders, Work Completion Certificates, etc along with technical bid**).
 4. **Bidder should provide & complying with the complete technical requirements given in Annexure-1.**
 *Note: If the bidder fails to submit the authenticated documents in support of his/their credentials as specified in tender documents, his/their tender will be liable to be rejected summarily.
 5. **Warranty Period:** 24 Months from the date of Asset (or item) Installation at ICAT Site.
 6. Bidder must submit stamped and signed copy (each page) of this document (NIT) for acceptance of terms and conditions along with the technical bid.
- Bidder must comply to the provisions of:
 - a) Rule 144 (x) of GFR 2024 regarding restrictions on procurement from a bidder of a country which shares land border with India will be liable to rejection:
https://doe.gov.in/files/circulars_document/FInal_GFR_upto_31_07_2024.pdf

- b) Department of Industrial Policy and Promotion (DIPP) vide No. P-45021/2/2017-PP (BE-II) dated 04.06.2020 and as revised from time to time (**enclose declaration to this effect with the technical bid as per format given in Declaration 4 under Annexure VIII**)
(<https://dpiit.gov.in/sites/default/files/PPP%20MII%20Order%20dated%204th%20June%202020.pdf>)

Evaluation Criteria:

- It is mandatory for the bidder to comply with the complete technical requirement given in the bid document. In the event, if the bidder does not comply with the technical requirement, the bid shall be disqualified and any deviation proposed on technical requirement from the bidder end will not be considered at all. Disqualified bidder(s) will not be eligible to make any claim. Those bidder(s) who meet our technical requirements will qualify further for financial evaluation. The order would be awarded to the L1 bidder among the technically qualified bidder(s).
- ICAT reserve the right to reject any or all the tenders in part of full without assigning any reason thereof.
- The job order shall be placed on single bidder for procurement & installation activity of item mentioned in Annexure “B” on the basis of lowest consolidated values.
- The comparison of the bids shall be on the basis of total price (Inclusive of all taxes, charges etc) quoted by the bidder. No comparison of individual prices will be made.

1. ICAT Terms & Conditions:

- ICAT reserves the right to reject any or all the tenders in part of full without assigning any reason thereof.
- The bidder is required to sign each page of this tender document (NIT) for acceptance of terms and conditions and submit along with the bid..
- **Delivery/Completion Period:** Within 90 days on receipt of Letter of Acceptance against P.O. from ICAT.
- **Payment Terms: Payment will be done in parts of Contract/P.O. value** against Invoice submission (within 15 working days & Subject to Verification and Approval by ICAT), as per below terms:
 - **60% Payment after the Delivery of Item & its Auxilliary parts alongwith submission of Calibration Certificate** at ICAT Site.
 - **40% Payment after the Asset (or item) Installation & Final Acceptance, alongwith Training certificates**, by ICAT.
- **Work/Supply/Installation Location:**
 - International Centre For Automotive Technology (ICAT)
 - Plot No. 26, Sector – 3, Near HSIIDC, IMT Manesar, Gurgaon 122050
 - GST No. **06AABAN9435G2ZI**
- **Liquidity Damages:** The work/service should be completed strictly as per time limits specified in the work contract/agreement, failure to complete the work/service within the stipulated time will make you liable to an unconditional penalty of ½% (Half Percent) of the value of work per week subjected to a maximum of 10% (Ten Percent) of the work contract.
- **Scope of Supply/Service: As per Attached Annexure-B.**
- Delivery/Service of the item shall be on official working days during 09:00AM to 04:00PM. The successful bidder shall schedule delivery dates after confirmation from the user department i.e. Calibration Department of ICAT.
- In the event of any dispute on this account, the decision of ICAT shall be final and binding on the Contractor/supplier/bidder.
- All the other statutory deductions as applicable like TDS, Labour Cess Under GST, shall be effected from the Bills.
- Tender form is not transferable

- **Qualification Criteria:** The bidder whose bid meets the technical specification given above would only be considered (As per conditions mentioned in Evaluation Criteria).
- **Price:** The prices are to be quoted in INR in figures only. The comparison of the bids shall be on the basis of total price (Inclusive of all taxes, charges etc) quoted by the bidder. No comparison of individual prices will be made.
- The bidders are expected to carefully examine all the contents of the Tender Document including instructions, conditions, terms, specifications and take them fully into account before submitting their Bid. Failure to comply with the requirements as detailed in these documents shall be at the Bidder's own risk. Bids which are not responsive to the requirements of the Tender Document will be rejected.
- All Transportation accommodation and fooding Expenses shall be borne by the bidder.
- The Purchase Order shall be placed on single bidder for complete BOQ of Annexure "B" on the basis of overall L-1 bidder.
- Interested bidders must quote compulsorily for the supply/installation work as per Annexure B, else their bid will not be considered for further processing and shall be liable for disqualification without further notice
- The comparison of the bids shall be on the basis of total price (Inclusive of all taxes, charges etc) quoted by the bidder. No comparison of individual prices will be made.
- **Proposal Validity Period:** Bids validity should be of at least 12 months from the last date of submission of Bids. Any Bid having validity lower than that specified above shall be rejected by ICAT as being nonresponsive. However, ICAT may request the Bidders to extend the Bid unconditionally beyond the Bid validity period up to an additional period of thirty (30) days without any modification and without giving any reason thereof. Conditional extension of bid validity shall not be accepted and ICAT reserves right to reject such bid/s and proceed with the bidding process with the remaining bidders.
- **Billing Address:**
 - International Centre For Automotive Technology (ICAT)
 - Plot No. 26, Sector – 3, Near HSIIDC, IMT Manesar, Gurgaon 122050
 - GST No. **06AABAN9435G2ZI**
- **Billing:** All bills and accompanying documents should be raised and submitted in original as per the payment terms and should be accompanied by original copies of duly receipted/certified delivery challan/work progress or completion certificate, as applicable. No payment shall be released against any duplicate bills, work progress report or completion certificate or delivery challan. All applicable taxes such as GST, service tax, and works contract tax shall be mentioned separately in the invoice.

Annexure-B

Technical Requirements for Supply & Installation of Temperature Indicator (DAQ Scanner)-20 Channel at ICAT, Centre-I, Manesar, Haryana			
Part A: Technical Specifications required for 20 Channel Temperature Indicator (DAQ Scanner)			
Sr. No.	Description of Item(s)	Unit	Quantity
1	Temperature Indicator (DAQ Scanner)- 20 Channels - Should comply with each Range, Least Count & Accuracy of each Parameter as mentioned in Annexure-1. - Should be with all complete auxiliary items like Carrying case, cables, connectors, etc and Manuals. - Should be with the purchased/licensed version of latest softwares (if any)	Nos.	1
Part B: Other Mandatory requirements alongwith the Item/Instrument			
Sr. No.	Requirements		
1.	Item/ Instrument should be Calibrated from ISO 17025:2017 Accerdedited Laboratory for all channels and for all parameters in full Range. - Calibration Certificate should be provided alongwith the item.		
2.	Operational Training should be under the scope of bidder, and to be provided to the ICAT lab personnels after installation at ICAT site. - Training Certificates should be provided after training completion.		
3.	Warranty period shall be 24 Months from the date of Asset (or item) Installation at ICAT Site. And no charges will be applicable in this period for any kind of repairs. - Warranty Certificate or declaration to be provided by the bidder.		
4.	Delivery/Completion Period should be within 90 days on receipt of Letter of Acceptance by bidder, against Purchase Order (P.O.) from ICAT.		
5.	Payment will be done in parts of Contract/P.O. value against Invoice submission (within 15 working days & Subject to Verification and Approval by ICAT), as per below terms: - 60% Payment after the Delivery of Item & its Auxilliary parts alongwith submission of Calibration Certificate at ICAT Site. - 40% Payment after the Asset (or item) Installation & Final Acceptance, alongwith Training certificates, by ICAT.		

For or any Technical Queries please feel free to Contact:

Mr. Rajat Kumar Singh - Calibration Lab, ICAT
 M. No.: +91-9068621773
 Mail ID: rajat.16126@icat.in

International Centre for Automotive Technology (ICAT)
 Plot No. - 26, Sector-3, HSIIDC, IMT Manesar, Gurgaon-122050, Haryana, India

Annexure-1

Technical Specifications required for 20 Channel Temperature Indicator (DAQ Scanner)

General		
Maximum input	50 V	
Offset voltage	<2 μ V	
3-wire internal resistance mismatch	<50 m Ω	
Basic CJC accuracy	0.25 $^{\circ}$ C	
Mains Voltage		
	100 V Setting	90 V to 110 V
	120 V Setting	108 V to 132 V
	220 V Setting	198 V to 242 V
	240 V Setting	216 V to 264 V
Frequency	47 Hz to 440 Hz	
Power Consumption	36 VA peak (24 W average)	
Environment Temperature		
	Operating	0 $^{\circ}$ C to 50 $^{\circ}$ C
	Full accuracy	18 $^{\circ}$ C to 28 $^{\circ}$ C
	Storage	-20 $^{\circ}$ C to 70 $^{\circ}$ C
Warm-up	1 hour to full accuracy specifications	
Relative Humidity (non-condensing)		
	Operating	0 $^{\circ}$ C to 30 $^{\circ}$ C <80 % 30 $^{\circ}$ C to 50 $^{\circ}$ C <50 %
	Storage	-20 $^{\circ}$ C to 70 $^{\circ}$ C <95 %
Altitude		
	Operating	2,000 m
	Storage	12,000 m
Vibration and Shock	Complies with MIL-PRF-28800F Class 3	
Channel Capacity		
	Total analog channels	45
	Voltage/resistance channels	41
	Current channels	5
	Digital I/O	8 bits
	Totalizer	1
	Alarm outputs	6
	Trigger input	1
Input Protection	50 V all functions, terminals and ranges	
Math Channels		
	Number of channels	20
	Operations	sum, difference, multiply, divide, polynomial, power, square root, reciprocal, exponential, logarithm, absolute value, average, maximum, minimum
Triggers	Interval, external (trigger input), alarm, remote (bus), manual, automated test	
Memory		
	Scan data RAM	75,000 readings with timestamp
	Data/Setup flash memory	20 MB
USB Host Port		
	Connector type	Type A
	Function	Memory
	File system	FAT32
	Memory capacity	32 GB
USB Device Port		
	Connector type	Type B
	Class	Instrument
	Function	Control and data transfer

LAN	Function	Control and data transfer
	Network protocols	Ethernet 10/100, TCP/IP
	Command protocol	SCPI
RS-232	Connector	D-sub 9 pin (DE-9)
	Baud rates	1200, 2400, 4800, 9600, 19200, 38400
	Function	Temperature source control output
Dimensions	Height	150 mm
	Width	245 mm
	Depth	385 mm
	Weight	6 kg (typical configuration)
	Shipping weight	9.5 kg (typical configuration)
Conformity	CE, CSA, IEC 61010 3rd edition	

Measurement specifications

Scan rate	Fast	10 channels per second max (0.1 seconds per channel)
	Medium	1 channel per second (1 second per channel)
	Slow	4 seconds per channel
Display resolution	4 ½ to 6 ½ digits, depending on function and Sample Rate (see Measurement Characteristics tables below to find the display resolution of temperature readings)	
PRT/RTD		
Temperature range	-200 °C to 1200 °C (depending on the sensor)	
Resistance range	0 Ω to 4 kΩ	
Offset compensation	0 Ω to 400 Ω, 4-wire	automatic current reversal
	400 Ω to 4000 Ω or 3-wire	none
Source current reversal interval(0 Ω to 400 Ω range)	Fast sample rate	2 ms
	Medium sample rate	250 ms
	Slow sample rate	250 ms
Maximum lead resistance (4-wire Ω)	2.5% of range per lead for 400 Ω and 4 kΩ ranges.	

PRT/RTD resistance accuracy

Range	Sample Rate	With scanner Module	T.C./ °C Outside 18 °C to 28 °C
0 Ω to 400 Ω	Slow	0.003 % or 0.003 Ω	0.0001 % or 0.0008 Ω
	Medium	0.003 % or 0.003 Ω	0.0001 % or 0.0008 Ω
	Fast	0.003 % or 0.006 Ω	0.0001 % or 0.0008 Ω
400 Ω to 4 kΩ	Slow	0.006 % or 0.06 Ω	0.0001 % or 0.008 Ω
	Medium	0.006 % or 0.1 Ω	0.0001 % or 0.008 Ω
	Fast	0.006 % or 0.18 Ω	0.0001 % or 0.008 Ω

PRT/RTD temperature accuracy

Sample Rate	Temperature	With scanner Module	T.C./ °C Outside 18 °C to 28 °C
Slow	-200 °C	0.008 °C	0.02 °C
	0 °C	0.008 °C	0.03 °C
	300 °C	0.018 °C	0.006 °C
	600 °C	0.03 °C	0.01 °C
Medium	-200 °C	0.008 °C	0.02 °C
	0 °C	0.008 °C	0.03 °C
	300 °C	0.018 °C	0.006 °C
	600 °C	0.03 °C	0.01 °C
Fast	-200 °C	0.015 °C	0.02 °C
	0 °C	0.015 °C	0.03 °C
	300 °C	0.018 °C	0.006 °C
	600 °C	0.03 °C	0.01 °C

PRT/RTD measurement characteristics

Range	Temperature Display Resolution		Source Current
	Slow / Medium Sample Rate	Fast Sample Rate	
0 Ω to 400 Ω	0.001 $^{\circ}\text{C}$	0.01 $^{\circ}\text{C}$	± 1 mA
400 Ω to 4 k Ω	0.001 $^{\circ}\text{C}$	0.01 $^{\circ}\text{C}$	0.1 mA

Thermistor	
Temperature range	-200 $^{\circ}\text{C}$ to 400 $^{\circ}\text{C}$ (depending on the sensor)
Resistance range	0 Ω to 1 M Ω

Thermistor resistance accuracy

Range	Slow Sample Rate	Medium Sample Rate	Fast Sample Rate	T.C./ $^{\circ}\text{C}$ Outside 18 $^{\circ}\text{C}$ to 28 $^{\circ}\text{C}$
0 Ω to 2.2 k Ω	0.004 % + 0.2 Ω	add 0.3 Ω	add 1 Ω	0.0005 % + 0.05 Ω
2.1 k Ω to 98 k Ω	0.004 % + 0.5 Ω	add 0.5 Ω	add 1.3 Ω	0.0005 % + 0.1 Ω
95 k Ω to 1 M Ω	0.015 % + 5 Ω	add 5 Ω	add 13 Ω	0.001 % + 2 Ω

Thermistor temperature accuracy

Range	Accuracy 2.2 k Ω Thermistor			
	Slow Sample Rate	Medium Sample Rate	Fast Sample Rate	2-wire
-40 $^{\circ}\text{C}$	0.001 $^{\circ}\text{C}$	0.001 $^{\circ}\text{C}$	0.01 $^{\circ}\text{C}$	add 0.001 $^{\circ}\text{C}$
0 $^{\circ}\text{C}$	0.003 $^{\circ}\text{C}$	0.004 $^{\circ}\text{C}$	0.01 $^{\circ}\text{C}$	add 0.004 $^{\circ}\text{C}$
25 $^{\circ}\text{C}$	0.006 $^{\circ}\text{C}$	0.011 $^{\circ}\text{C}$	0.02 $^{\circ}\text{C}$	add 0.016 $^{\circ}\text{C}$
50 $^{\circ}\text{C}$	0.008 $^{\circ}\text{C}$	0.018 $^{\circ}\text{C}$	0.04 $^{\circ}\text{C}$	add 0.05 $^{\circ}\text{C}$
100 $^{\circ}\text{C}$	0.047 $^{\circ}\text{C}$	0.114 $^{\circ}\text{C}$	0.28 $^{\circ}\text{C}$	add 0.34 $^{\circ}\text{C}$
150 $^{\circ}\text{C}$	0.23 $^{\circ}\text{C}$	0.56 $^{\circ}\text{C}$	1.34 $^{\circ}\text{C}$	add 1.7 $^{\circ}\text{C}$

Range	Accuracy 5 k Ω Thermistor			
	Slow Sample Rate	Medium Sample Rate	Fast Sample Rate	2-wire
-40 $^{\circ}\text{C}$	0.003 $^{\circ}\text{C}$	0.004 $^{\circ}\text{C}$	0.01 $^{\circ}\text{C}$	add 0.001 $^{\circ}\text{C}$
0 $^{\circ}\text{C}$	0.002 $^{\circ}\text{C}$	0.002 $^{\circ}\text{C}$	0.01 $^{\circ}\text{C}$	add 0.002 $^{\circ}\text{C}$
25 $^{\circ}\text{C}$	0.004 $^{\circ}\text{C}$	0.006 $^{\circ}\text{C}$	0.01 $^{\circ}\text{C}$	add 0.007 $^{\circ}\text{C}$
50 $^{\circ}\text{C}$	0.005 $^{\circ}\text{C}$	0.009 $^{\circ}\text{C}$	0.02 $^{\circ}\text{C}$	add 0.022 $^{\circ}\text{C}$
100 $^{\circ}\text{C}$	0.022 $^{\circ}\text{C}$	0.052 $^{\circ}\text{C}$	0.13 $^{\circ}\text{C}$	add 0.16 $^{\circ}\text{C}$
150 $^{\circ}\text{C}$	0.096 $^{\circ}\text{C}$	0.24 $^{\circ}\text{C}$	0.57 $^{\circ}\text{C}$	add 0.7 $^{\circ}\text{C}$

Range	Accuracy 10 k Ω Thermistor			
	Slow Sample Rate	Medium Sample Rate	Fast Sample Rate	2-wire
-40 $^{\circ}\text{C}$	0.003 $^{\circ}\text{C}$	0.004 $^{\circ}\text{C}$	0.01 $^{\circ}\text{C}$	add 0.001 $^{\circ}\text{C}$
0 $^{\circ}\text{C}$	0.002 $^{\circ}\text{C}$	0.002 $^{\circ}\text{C}$	0.01 $^{\circ}\text{C}$	add 0.002 $^{\circ}\text{C}$
25 $^{\circ}\text{C}$	0.003 $^{\circ}\text{C}$	0.004 $^{\circ}\text{C}$	0.01 $^{\circ}\text{C}$	add 0.004 $^{\circ}\text{C}$
50 $^{\circ}\text{C}$	0.005 $^{\circ}\text{C}$	0.009 $^{\circ}\text{C}$	0.02 $^{\circ}\text{C}$	add 0.011 $^{\circ}\text{C}$
100 $^{\circ}\text{C}$	0.011 $^{\circ}\text{C}$	0.024 $^{\circ}\text{C}$	0.06 $^{\circ}\text{C}$	add 0.067 $^{\circ}\text{C}$
150 $^{\circ}\text{C}$	0.04 $^{\circ}\text{C}$	0.098 $^{\circ}\text{C}$	0.24 $^{\circ}\text{C}$	add 0.29 $^{\circ}\text{C}$

Thermistor measurement characteristics

Range	Temperature Display Resolution		Source Current
	Slow / Medium Sample Rate	Fast Sample Rate	
0 Ω to 2.2 k Ω	0.0001 $^{\circ}\text{C}$	0.001 $^{\circ}\text{C}$	10 μA
2.1 k Ω to 98 k Ω	0.0001 $^{\circ}\text{C}$	0.001 $^{\circ}\text{C}$	10 μA
95 k Ω to 1 M Ω	0.0001 $^{\circ}\text{C}$	0.001 $^{\circ}\text{C}$	1 μA

Thermocouple	
Temperature range	-200 $^{\circ}\text{C}$ to 2315 $^{\circ}\text{C}$ (depending on the sensor)
Voltage range	-15 mV to 100 mV

Thermocouple voltage accuracy

Range	Accuracy Channel 1	Ch. x01 – x20	Fast Sample Rate	T.C./ $^{\circ}\text{C}$ Outside 18 $^{\circ}\text{C}$ to 28 $^{\circ}\text{C}$
-15 mV to 100 mV	0.004 % + 4 μV	add 2 μV	add 1 μV	0.0005 % + 0.0005 mV

Thermocouple reference junction accuracy

Module	CJC Accuracy	T.C./ $^{\circ}\text{C}$ Outside 18 $^{\circ}\text{C}$ to 28 $^{\circ}\text{C}$
High-Capacity Module	0.6 $^{\circ}\text{C}$	0.05 $^{\circ}\text{C}$

Thermocouple temperature accuracy

Type (Range)	Temperature	Accuracy			
		Fixed / External CJC		Internal CJC	
		Channel 1	Ch. x01 – x20	DAQ-STAQ Multiplexer	High-Capacity Module
K –270 °C to 1372 °C	–200 °C	0.28 °C	0.41 °C	0.76 °C	1.60 °C
	0 °C	0.10 °C	0.15 °C	0.29 °C	0.62 °C
	1000 °C	0.14 °C	0.20 °C	0.32 °C	0.64 °C
T –270 °C to 400 °C	–200 °C	0.27 °C	0.40 °C	0.76 °C	1.60 °C
	0 °C	0.10 °C	0.15 °C	0.30 °C	0.65 °C
	200 °C	0.08 °C	0.12 °C	0.23 °C	0.47 °C
	400 °C	0.08 °C	0.11 °C	0.20 °C	0.41 °C
R –50 °C to 1768 °C	0 °C	0.76 °C	1.13 °C	1.16 °C	1.28 °C
	300 °C	0.42 °C	0.63 °C	0.64 °C	0.71 °C
	1200 °C	0.33 °C	0.47 °C	0.48 °C	0.52 °C
	1600 °C	0.34 °C	0.49 °C	0.50 °C	0.54 °C
S –50 °C to 1768 °C	0 °C	0.74 °C	1.11 °C	1.14 °C	1.26 °C
	300 °C	0.45 °C	0.67 °C	0.68 °C	0.76 °C
	1200 °C	0.37 °C	0.54 °C	0.55 °C	0.60 °C
	1600 °C	0.39 °C	0.56 °C	0.57 °C	0.63 °C
J –210 °C to 1200 °C	–200 °C	0.20 °C	0.29 °C	0.65 °C	1.41 °C
	0 °C	0.08 °C	0.12 °C	0.28 °C	0.61 °C
	1000 °C	0.11 °C	0.14 °C	0.25 °C	0.53 °C
N –270 °C to 1300 °C	–200 °C	0.42 °C	0.62 °C	0.90 °C	1.69 °C
	0 °C	0.15 °C	0.23 °C	0.34 °C	0.64 °C
	500 °C	0.12 °C	0.17 °C	0.24 °C	0.44 °C
	1000 °C	0.14 °C	0.19 °C	0.26 °C	0.45 °C
E –270 °C to 1000 °C	–200 °C	0.17 °C	0.25 °C	0.64 °C	1.42 °C
	0 °C	0.07 °C	0.10 °C	0.27 °C	0.61 °C
	300 °C	0.06 °C	0.09 °C	0.21 °C	0.46 °C
	700 °C	0.08 °C	0.10 °C	0.21 °C	0.45 °C
B 100 °C to 1820 °C	300 °C	1.32 °C	1.97 °C	1.97 °C	1.97 °C
	600 °C	0.68 °C	1.02 °C	1.02 °C	1.02 °C
	1200 °C	0.41 °C	0.60 °C	0.60 °C	0.60 °C
	1600 °C	0.38 °C	0.55 °C	0.55 °C	0.55 °C
C 0 °C to 2315 °C	600 °C	0.23 °C	0.33 °C	0.37 °C	0.54 °C
	1200 °C	0.28 °C	0.40 °C	0.45 °C	0.63 °C
	2000 °C	0.44 °C	0.60 °C	0.66 °C	0.91 °C
D 0 °C to 2315 °C	600 °C	0.22 °C	0.32 °C	0.34 °C	0.44 °C
	1200 °C	0.26 °C	0.36 °C	0.39 °C	0.49 °C
	2000 °C	0.39 °C	0.53 °C	0.56 °C	0.69 °C
G 0 °C to 2315 °C	600 °C	0.24 °C	0.36 °C	0.36 °C	0.36 °C
	1200 °C	0.22 °C	0.32 °C	0.32 °C	0.33 °C
	2000 °C	0.33 °C	0.46 °C	0.46 °C	0.46 °C
L –200 °C to 900 °C	–200 °C	0.13 °C	0.19 °C	0.45 °C	0.99 °C
	0 °C	0.08 °C	0.12 °C	0.28 °C	0.62 °C
	800 °C	0.09 °C	0.12 °C	0.23 °C	0.48 °C
M –50 °C to 1410 °C	0 °C	0.11 °C	0.16 °C	0.30 °C	0.64 °C
	500 °C	0.10 °C	0.15 °C	0.25 °C	0.51 °C
	1000 °C	0.10 °C	0.14 °C	0.21 °C	0.41 °C
U –200 °C to 600 °C	–200 °C	0.25 °C	0.37 °C	0.71 °C	1.48 °C
	0 °C	0.10 °C	0.15 °C	0.30 °C	0.63 °C
	400 °C	0.08 °C	0.11 °C	0.20 °C	0.40 °C
W 0 °C to 2315 °C	600 °C	0.24 °C	0.36 °C	0.36 °C	0.36 °C
	1200 °C	0.22 °C	0.32 °C	0.32 °C	0.33 °C
	2000 °C	0.33 °C	0.46 °C	0.46 °C	0.46 °C

Range	Temperature Display Resolution	
	Slow / Medium Sample Rate	Fast Sample Rate
–270 °C to 2315 °C	0.01 °C	0.1 °C

DC voltage	
Maximum input	50 V on any range
Common mode rejection	140 dB at 50 Hz or 60 Hz (1 k Ω unbalance in LOW lead) \pm 50 V peak maximum
Normal mode rejection	55 dB for power line frequency \pm 0.1%, \pm 120% of range peak maximum
A/D linearity	2 ppm of measurement + 1 ppm of range
Input bias current	30 pA at 25 °C

DC voltage accuracy

Range	Accuracy Channel 1	Ch. x01 – x20	Fast Sample Rate	T.C./ °C Outside 18 °C to 28 °C
\pm 100 mV	0.0037 % + 0.0035 %	add 2 μ V	add 0.0008 % of range	0.0005 % + 0.0005 %
\pm 1 V	0.0025 % + 0.0007 %	add 2 μ V	add 0.0008 % of range	0.0005 % + 0.0001 %
\pm 10 V	0.0024 % + 0.0005 %	–	add 0.0008 % of range	0.0005 % + 0.0001 %
\pm 50 V	0.0038 % + 0.0012 %	–	add 0.0008 % of range	0.0005 % + 0.0001 %

DC voltage input characteristics

Range	Resolution		Input Impedance
	Slow / Medium	Fast	
\pm 100 mV	0.1 μ V	1 μ V	10 G Ω ¹
\pm 1 V	1 μ V	10 μ V	10 G Ω ¹
\pm 10 V	10 μ V	100 μ V	10 G Ω ¹
\pm 50 V	100 μ V	1 mV	10 M Ω \pm 1 %

¹Input beyond \pm 12 V is clamped. The clamp current is up to 3 mA.

DC current	
Input protection	0.15 A resettable PTC

DC current accuracy

Range	Accuracy	Fast Sample Rate	T.C./ °C Outside 18 °C to 28 °C
\pm 100 μ A	0.015 % + 0.0035 %	add 0.0008 % of range	0.002 % + 0.001 %
\pm 1 mA	0.015 % + 0.0011 %	add 0.0008 % of range	0.002 % + 0.001 %
\pm 10 mA	0.015 % + 0.0035 %	add 0.0008 % of range	0.002 % + 0.001 %
\pm 100 mA	0.015 % + 0.0035 %	add 0.0008 % of range	0.002 % + 0.001 %

DC current input characteristics

Range	Resolution		Burden Voltage
	Slow / Medium	Fast	
\pm 100 μ A	0.1 nA	1 nA	<1 mV
\pm 1 mA	1 nA	10 nA	<1 mV
\pm 10 mA	10 nA	100 nA	<1 mV
\pm 100 mA	100 nA	1 μ A	<1 mV

Resistance	
Max. lead resistance (4-wire ohms)	10 Ω per lead for 100 Ω and 1 k Ω ranges. 1 k Ω per lead on all other ranges

Resistance accuracy

Range	Accuracy	Fast Sample Rate	T.C./ °C Outside 18 °C to 28 °C
100 Ω	0.004 % + 0.0035 %	add 0.001 % of range	0.0001 % + 0.0005 %
1 k Ω	0.003 % + 0.001 %	add 0.001 % of range	0.0001 % + 0.0001 %
10 k Ω	0.004 % + 0.001 %	add 0.001 % of range	0.0001 % + 0.0001 %
100 k Ω	0.004 % + 0.001 %	add 0.001 % of range	0.0001 % + 0.0001 %
1 M Ω	0.006 % + 0.001 %	add 0.002 % of reading plus 0.0008 % of range	0.0005 % + 0.0002 %
10 M Ω	0.015 % + 0.001 %	add 0.002 % of reading plus 0.0008 % of range	0.001 % + 0.0004 %
100 M Ω	0.8 % + 0.01 %	add 0.001 % of range	0.05 % + 0.002 %

Resistance input characteristics

Range	Resolution		Source Current (open-circuit voltage)
	Slow / Medium	Fast	
100 Ω	0.1 m Ω	1 m Ω	1 mA (4 V)
1 k Ω	1 m Ω	10 m Ω	1 mA (4 V)
10 k Ω	10 m Ω	100 m Ω	100 μ A (6 V)
100 k Ω	100 m Ω	1 Ω	100 μ A (12 V)
1 M Ω	1 Ω	10 Ω	10 μ A (12 V)
10 M Ω	10 Ω	100 Ω	1 μ A (12 V)
100 M Ω	100 Ω	1 k Ω	0.1 μ A (12 V)

{Format for **each** of the Declarations to be typed on bidder's letter head separately and to be submitted in the tender document}

DECLARATION -1

(Declaration regarding Make in India)

In line with Government Public Procurement Order No. P-45021/2/2017-BE-II dt. 15.06.2017 & P-45021/2/2017-PP (BE-II) dated 28.05.2018, we hereby certify that we M/s _____(supplier name) are local supplier meeting the requirement of minimum local content (____%) as defined in above orders against Tender/Enquiry No. _____

Details of location at which local value addition will be made is as follows:

(Signature of the bidder with seal/ rubber stamp)

DECLARATION-2

(Declaration regarding compliance of Rule 144 (x) of GFR 2024)

“I/We have read the clause regarding restrictions on procurement/sub-contracting from an entity/natural person/agent/consortium/Joint venture having beneficial ownership in countries which share land border with India. I/We certify that neither we are not from such a country nor having any beneficial ownership from such a country. If I/We from such a country or having beneficial ownership, are registered with the competent authority. I/We hereby certify that we fulfill all requirements in this regard and are eligible to be considered. [Where applicable, evidence of valid registration by the Competent Authority shall be attached.]”

Authorized Signatory

* We also understand, false declarations will be in breach of the Code of Integrity under Rule 175(1)(i)(h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Financial Rules and would be a ground for immediate termination and further legal action in accordance with law.

{Format for **each** of the Declarations & Undertaking to be typed on bidder agency's letter head separately and to be submitted in Part -I (TECHNICAL BID) of the tender document}

DECLARATION -3

This is to certify that neither we/any of us/ are/is in any way related to any employee in the International Centre for Automotive Technology (ICAT).

Dated :

Place :

(Signature of the bidder with agency seal/ rubber stamp)

DECLARATION -4

We hereby declare that we have not stipulated any extra conditions along with the Commercial Bid of the tender and the terms and conditions in the tender shall prevail under all circumstances.

Dated :

Place :

(Signature of the bidder with agency seal/ rubber stamp)

DECLARATION-5

I/We having our office as mentioned below and declare that I/we have never been blacklisted by any State Government/ Central Government or any State/ Central PSU or EPF/ ESI/ GST/ Labour Department/ Company/ Institute/Entity/ Agency etc.

Signature :

Name :

Designation :

Name of the Agency:

Address of the bidder :

Date :

Place :

VENDOR/BIDDER INFORMATION FORM (VIF)

Bidders are requested to fill up this VIF & submit along with their bids.

Name of the Firm	
Nature of Business (Product/Services)	
Company Category (Micro Unit/Small Unit/Medium Unit/Ancillary Unit/SSI) (Please enclose relevant self-attested photocopy of Certificates)	
Company's Legal Status (Proprietor/Limited Company/Undertaking/Joint Venture/Partnership/Others)	
Bidder Type (Indian/Foreign)	
Full Address of Registered Office with Postal Code	
Telephone Numbers(Mobile & Landline)	
Fax Numbers	
Email Address	
Contact Person	
Name of the Proprietor/Partners, Address, Mobile No.	
D.O.B.	
Registration No. for registration under Companies Act 2013. (Please enclose self-attested photocopy of Certificates)	
Company Establishment Year	
PAN	
GST	
Bidder Bank A/C No.(Attach Bankers certificate of account maintenance for last two years)	
Name of the Bank	
Bank Address	
Branch Code	
IFSC Code	