



Bharat Heavy Electricals Limited

(A GOVERNMENT OF INDIA UNDERTAKING)

SOLAR BUSINESS DIVISION

Prof. C.N.R. Rao Circle, Science Institute Post,
Malleswaram, BANGALORE – 560012 INDIA

Website: www.bhel.com

To,
M/s. _____
Address: - _____

E-mail: - _____
Contact No: - _____

REQUEST FOR QUOTATION

Date: - 07.07.2026

CONTACT PERSON: ANKUR VERMA

PHONE :080-22182221/+91-9035204982

EMAIL ID: ankurverma@bhel.in

RFQ Number: 12304649 dtd. 07.07.2026

QUOTATION DEADLINE: 17.07.2026 by (14.00hrs)

OPENING OF TENDER: 17.07.2026 after (14.30hrs)

PLEASE SUBMIT WITHOUT ANY OBLIGATION YOUR LOWEST QUOTATION QUOTING THE RFQ NO. AND DATE BY MAIL FOR THE FOLLOWING ITEMS SUBJECT TO CONDITIONS NOTED BELOW, SO AS TO REACH US ON AND BEFORE DUE DATE.

Name of the Item: As given below:

S. NO	Item Code	Item Description	Qty	Unit	UNIT RATE In Figures To be entered by the Bidder incl. of packing & forwarding & Freight & Insurance on FOR, BHEL SBD basis & without GST.	TOTAL AMOUNT In Figures To be entered by the Bidder incl. of packing & forwarding & Freight & Insurance on FOR, BHEL SBD basis & without GST.	GST%	GST AMOUNT	TOTAL AMOUNT In Figures To be entered by the Bidder incl. of packing & forwarding & Freight & Insurance on FOR, BHEL SBD basis and with GST.
A	B	C	D	E	F	G=FXD	H	I=GXH	J=G+I
1	EL7470302760	Pressure Transducer ,0-16 kg/cm ²	11	EA					
2	EL7470302778	Pressure Transducer, 0-10 Kg/cm ²	30	EA					
Total without GST							Total With GST		

Pressure reference: Sealed gauge, Output signal: Voltage, Electrical connection: M12 x 1, Pressure connection type: G, Pressure connection size: 1/4, With M12 connector with cable.

(BIDDER SIGN & SEAL WITH DATE)



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BHEL Terms and conditions applicable:

- Offer to be submitted by bidder (in SINGLE PART BID) by email to **Email id: pricebid-epd@bhel.in** along with a sealed and signed as a token of acceptance of RFQ terms.
- PRICE: FIRM.
- Scope is applicable as per RFQ.
- Warranty shall be as per specification
- Delivery Period: Delivery shall be within 12 weeks from the date of PO
- TERMS OF PAYMENT: (a) 100 % of basic price of material supplied, as per PO, along with 100% taxes & duties (as applicable) & freight charges, shall be paid on pro-rata basis within:
 - 45 days for (MSEs)
 - 60 days for Medium Enterprise
 - 90 days for Non-MSME from the date of receipt of goods & receipt of complete documents as per order/contract subject to acceptance of materials.
 (b) 2% of basic value shall be deducted from payment as TDS & TDS Certificate shall be issued by BHEL, as per amendment in GST Law. GOI has amended GST Law - Section 51 of the CGST Act 2017 wherein Government Agencies (PSU) has to deduct 2% GST TDS w.e.f. 01.10.2018. Kindly go through the latest amendment in GST Law.
GST: Applicable GST rate shall be quoted with HSN code. BHEL GSTIN No. shall be printed during invoice generation.
- Consignee address: MM Store, BHEL- SBD, Malleswaram, Bangalore.
- Liquidated Damages / Penalty Clause: Purchaser reserves the right to recover from the Seller/Contractor, as agreed, liquidated damages and not by way of penalty, a sum equivalent to half (½) percent of undelivered portion per week or part thereof, subject to a maximum of ten (10) percent of the total contract price excluding elements of taxes, duties and freight, if the Seller/ Contractor fails to deliver any part of the ordered stores within the period stipulated in the Order/Contract.
Note: LR / RR date will be considered for calculation of LD.
- Breach of contract, Remedies and Termination: In case of breach of contract, wherever the value of security instruments like performance bank guarantee available with BHEL against the said contract is at least 10% of the contract value, the same will be encashed. In case the value of the security instruments available is less than 10% of the contract value, the balance amount shall be recovered from other financial remedies (i.e. available bills of the contractor, retention amount, any other amount payable to vendor from any units of BHEL, etc. with BHEL) or legal remedies shall be pursued. The balance scope shall be got done independently without Risk & Cost of the failed supplier/ contractor. Further, levy of liquidated damages, debarment, termination, descoping, short-closure, etc., shall be applied as per provisions of the contract. In any case of Breach of contract amount equivalent to 10% of the contract value in shall be recovered from the contractor.
- Acceptance of tender will rest with Purchaser and does not bind him to accept the lowest or any tender and reserves to itself full rights for the reject/cancel any or all the tenders without assigning any reasons whatsoever at any stage.
- VALIDITY OF OFFER: 60 days from due date of this enquiry.

11. VALIDITY OF OFFER: 60 days from due date of this enquiry.																
12	Provisions for MSE vendors-Category	Any Bidder falling under MSE category shall furnish the following details & submit documentary evidence/ Govt. Certificate etc. in support of the same along with their techno-commercial offer. <table><tr><td>Udyam no if available-</td><td></td></tr><tr><td>Type under MSE</td><td>Please specify Yes or No (If applicable)</td></tr><tr><td>SC/ST Owned</td><td></td></tr><tr><td>Women Owned</td><td></td></tr><tr><td>Others (excluding SC/ST & Women Owned)</td><td></td></tr><tr><td>Micro</td><td></td></tr><tr><td>Small</td><td></td></tr></table> Note: If the bidder does not furnish the above in the tender, offer shall be processed construing that the bidder is not falling under MSE category.	Udyam no if available-		Type under MSE	Please specify Yes or No (If applicable)	SC/ST Owned		Women Owned		Others (excluding SC/ST & Women Owned)		Micro		Small	
Udyam no if available-																
Type under MSE	Please specify Yes or No (If applicable)															
SC/ST Owned																
Women Owned																
Others (excluding SC/ST & Women Owned)																
Micro																
Small																
13	No Interest Payable to Contractor	Notwithstanding anything to the contrary contained in any other document comprising in the Contract, no interest shall be payable by BHEL to Contractor on any moneys or balances including but not limited to the Security Deposit, Performance Security, EMD, Retention Money or the Final Bill, or any amount withheld and/or appropriated by BHEL etc., which becomes or as the case may be, is adjudged to be due from BHEL to Contractor whether under the Contract or otherwise.														
14	Closing of Contracts	The Contract shall be considered completed and closed upon completion of contractual obligations and settlement of Final Bill or completion of Guarantee period whichever is later. Upon closing of Contract, BHEL shall issue a performance/ experience certificate as per standard format, based on specific request of Contractor as per extant BHEL guidelines through the online portal available at https://siddhi.bhel.in only.														

(BIDDER SIGN & SEAL WITH DATE)



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(Conflict of Interest)

15. The bidder notes that a conflict of interest would said to have occurred in the tender process and execution of the resultant contract, in case of any of the following situations:
i) If its personnel have a close personal, financial, or business relationship with any personnel of BHEL who are directly or indirectly related to the procurement or execution process of the contract, which can affect the decision of BHEL directly or indirectly;
ii) The bidder (or his allied firm) provided services for the need assessment/ procurement planning of the Tender process in which it is participating;
iii) Procurement of goods directly from the manufacturers/ suppliers shall be preferred. However, if the OEM/ Principal insists on engaging the services of an agent, such agent shall not be allowed to represent more than one manufacturer/ supplier in the same tender. Moreover, either the agent could bid on behalf of the manufacturer/ supplier or the manufacturer/ supplier could bid directly but not both. In case bids are received from both the manufacturer/ supplier and the agent, bid received from the agent shall be ignored. However, this shall not debar more than one Authorized distributor (with/ or without the OEM). from quoting equipment manufactured by an Original Equipment Manufacturer (OEM) in procurements under a Proprietary Article Certificate.
iv) A bidder participates in more than one bid in this tender process. Participation in any capacity by a Bidder (including the participation of a Bidder as a partner/ JV member or sub-contractor in another bid or vice-versa) in more than one bid shall result in the disqualification of all bids in which he is a party. However, this does not limit the participation of an entity as a sub-contractor in more than one bid if he is not bidding independently in his own name or as a member of a JV.
16. The Bidder declares that they have read and understood the above aspects, and the bidder confirms that such conflict of interest does not exist and undertakes that they will not enter into any illegal or undisclosed agreement or understanding, whether formal or informal with other Bidder(s), in this regard. This applies in particular to prices, specifications, certifications, Subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process. In case, the Bidder is found having indulged in above activities, the same will be considered as a violation of the tender conditions, and suitable action shall be taken by BHEL as per extant policies/ guidelines
17. RA is not applicable as it is a low value tender.
18. Buyer reserves complete right, he/she may cancel this tender at any stage without any communication.
19 Provisions for MSE vendors: Applicable. Maximum Percentage of Bid quantity for MSE Purchase preference as 100%
20. Preference to Make in India: Applicable. Maximum Percentage of Bid quantity for MII Purchase preference as 100%
21. Suvidha Portal: The facility for Online Invoice Registration and Document Upload has been enabled in the SUVIDHA Portal https://suvidha.bhel.in/suvidha/ for all BHEL Suppliers and Contractors. With effect from 01-October-2025, it will be mandatory for all Suppliers/Contractors to register their invoices exclusively through the SUVIDHA Portal along with the required documents. For net invoice amount exceeding 5 lakhs inclusive of taxes, uploading of a Class 3 digitally signed tax invoice is mandatory. For invoices up to ₹5 lakhs inclusive of taxes, a scanned copy may be uploaded however, submission of the hard copy is mandatory if a Class 3 digitally signed tax invoice is not uploaded. All Suppliers/Contractors are therefore requested to register on the SUVIDHA Portal and ensure compliance from 01-October-2025 onwards.

(BIDDER SIGN & SEAL WITH DATE)



KAVACH PROJECT
(The Indian Railway Automatic Train Protection System)

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DOCUMENT DESCRIPTION:

Specification of Pressure Transducer for Onboard KAVACH Application of Indian Railways

APPLICATION : BHEL KAVACH Systems

OEM/VENDOR  : Bharat Heavy Electricals Limited

END CLIENT  : Indian Railways

		GC / Indian Railway APPROVAL	
		☐	C. Notice of No Objection
		☐	B. No Objection with comments
		☐	A. Objection. A complete resubmission is required
Revision:	Rev 00		
Date of Issue:	21.10.2025		
Status:	For Approval		
Author(s):	Rohit Kumar		
Reviewer(s):	VER 1 (Verifier): Madhushree P VER 2 (Verifier): G V Raghavendra Babu	Name of Validator /Safety Manager (VAL/SM):	G Sobha Rani
Project Manager (PM):	Ritesh R, DGM	Project Assessor (ASR)	
Additional Info			



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Approval

Approved by	Name	Date	Signature
Reviewer 1 [VER]	Madhushree P		
Reviewer 2 [VER]	G V Raghavendra Babu		
Quality Manager [QM]	Rajnish Chaudhury		
Validator [VAL]	G Sobha Rani		
Project Manager [PM]	Ritesh R, DGM, TCAS		

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History

Revision	Date	Description/Modification	Author/Authors
00	21-10-2025	Specification of Pressure Transducers for Onboard KAVACH Application of Indian Railways	Rohit Kumar

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1.0 INTRODUCTION

KAVACH is an indigenously developed Automatic Train Protection (ATP) system meant to provide protection to the trains against Signal Passing at Danger (SPAD), excessive speed and collisions. KAVACH provides protection to the trains against Signal Passing at Danger (SPAD), excessive speed and collisions. KAVACH provides continuous update of Movement Authority (distance up to which the train is permitted to travel without danger). Hence during unsafe situations when brake application is necessitated, and the crew has either failed to do so, or is not in position to do so, automatic brake application shall take place. KAVACH has additional features to display information like speed, location, distance to signal ahead, Signal aspects etc. in Locomotive cab and generation of Auto and Manual SOS messages (Distress messages) from Locomotive as well as from the Station unit in case of emergency situation. The Communication between Stationary KAVACH and Loco KAVACH units shall be Safety Integrity Level-4(SIL4) certified as per the CENELEC standards for railways.

1.1 PURPOSE OF THIS DOCUMENT

This specification covers the technical requirements to supply Pressure Transducers required to transmit various braking pressure signals to Onboard Kavach vital computer. The pressure transducer will help in getting the real time pressure related braking parameters in line with RDSO specifications.

1.2 GENERAL INSTRUCTIONS:

The supplier shall submit the offer / bids in two parts:

Part 1: Techno-commercial bid (without pricing). Unpriced price bid to be enclosed in the technical bid.

Part 2: Price bid

1.3 SCOPE OF THE PROJECT

This Specification covers the manufacturing, testing and supply of Pressure Transducer.

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Norms and Standards

Table 1: Norms and Standards

Reference	Title	Edition
IEC: 60497	Electrical signalling and interlocking equipment	
RDSO/SPN/144	Safety and reliability requirement of electronic signalling equipment	
IS: 9000	Basic environmental testing procedures for electronic and electrical items	
EN 45545-2	Railway applications – Fire protection on railway vehicles	
EN 50155 standard	Specifies requirements for the design, the manufacturing, the documentation and testing of any electronic equipment installed on-board of rolling stock.	–
EN 61010-1 2010 standard	specifies general safety requirements for the following types of electrical equipment and their accessories, wherever they are intended to be used	–
RDSO-Specifications for KAVACH	RDSO/SPN/196/2020 Version 4.0 d3 or its latest along with annexures.	
ELRS/SPEC/S1/0015	Reliability of electronics used in rolling stock application	
EN 50121-4	Railway Applications -Electromagnetic Compatibility (EMC)	
IEC-60571:2012	General requirements and tests for electronic equipment used on Rail Vehicles	
IEC 60812	Failure Mode Effects and Criticality Analysis (FMECA)	
IEC 61373	Railway applications: Rolling Stock Equipment - Shock and Vibration tests.	

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1.3.1 INPUT DOCUMENTS

Table 2: Input Documents

Title
SRS: System Requirement Specification of KAVACH (The Indian Railway Automatic Train Protection System) - RDSO/SPN/196/2020 Version 4.0 d3 or its latest along with its associated annexures
Specification of Locomotive Brake Interface Unit (BIU) for KAVACH (The Indian Railway ATP) and Distributed Power Control System for Diesel Locomotive and Distributed power Wireless control system (DPWCS) for Electric Locomotive fitted with IRAB class of brake system (MP.0.01.00.31), Rev 05
IEC 60571:2012
IEC 61373

1.3.2 REFERENCED DOCUMENTS

Table 3: Referenced Documents

Title	Version
System Requirement Specification of KAVACH (The Indian Railway Automatic Train Protection System) - RDSO/SPN/196/2020 Version 4.0 d3 or its latest along with its associated annexures	4.0 Amdt -3
Specification of Locomotive Brake Interface Unit (BIU) for KAVACH (The Indian Railway ATP) and Distributed Power Control System for Diesel Locomotive and Distributed power Wireless control system (DPWCS) for Electric Locomotive fitted with IRAB class of brake system (MP.0.01.00.31)	(Rev.05)

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1.4 ABBREVIATIONS AND ACRONYMS

Table 4: Abbreviations and Acronyms

Abbreviation/ Acronym	Definition/Description
IEC	International Electrotechnical Commission
RDSO	Research Designs & Standards Organization
TSS	Train Safety System
KAVACH	KAVACH (The Indian Railway ATP)
DPCS	Distributed Power Control System
DPWCS	Distributed Power Wireless Control System
BIU	Brake Interface Unit
AC	Alternate Current
DC	Direct Current
USB	Universal Service Bus
EN	European standard
IP	Ingress Protection
MTBF	Mean Time Between Failure
BP	Brake Pipe
BC	Brake Cylinder
ISO	International Organization for Standardization
SPAD	Signal Passed at Danger
OEM	Original Equipment Manufacturer
SIL	Safety integrity level
PT	Pressure Transducer

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1.5 TERMS AND DEFINITIONS

The following table describes or defines terms which are used within this document to get a better understanding or if the term is used in a specific way to avoid misunderstandings.

Table 5: Terms and Definitions

Term	Definition/Description
PM	Project manager
RQM	Requirements manager
DES	Designer
VER	Verifier
VAL	Validator
TST	Tester
INT	Integrator
IMP	Implementor

1.6 IMPERATIVE TERMS

Use of the words '**shall**', '**should**', '**may**' and '**will**' within this document observe the following rules: The word '**shall**' in a text expresses a mandatory definition. The words '**should**' and '**may**' in a text express a non-mandatory definition. 'Should' is used, when a non-mandatory provision is recommended, otherwise 'may' is used. The word '**will**' in a text expresses a definition in cases a simple futurity is required. 'Will' is also used to express a task (done by an individual or an organization), which is not controlled by this document.

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2.0 DETAILED TECHNICAL FEATURES

PRESSURE TRANSDUCER with M12 locking connector		
1	Range	0.0 Kg/cm ² to 10/16.0 Kg/cm ²
2	Type	Compact Smart Transmitter
3	Pressure measurement type	Relative (Gauge Pressure)
4	Display	No
5	Minimum and Maximum Working Temperatures	(-) 25 Deg C, 70 Deg C
6	Humidity	0 - 100% RH
7	Accuracy	± 0.10 % FSR
8	Response Time	<3 ms
9	Stability	±0.15 % for 2 year
10	Process Connection	1/2"
11	Electrical Connection	M12, 4-Pin Locking type Connector
12	Rated Voltage Supply	24V DC according EN 50155, Class S1
13	Voltage Range	60% to 140% of rated voltage (As per IEC 60571, Clause no 5.2 & Clause no 5.1.1.2)
14	Over Range Protection	> 130% of pressure range
15	Ingress Protection	Not less than IP 65 (EN60529)
16	Output	0-10 V DC
17	Diagnostic Features	Required
18	Body	SS304/SS316
19	Element	SS304/SS316
20	Sealing	Viton/EPDM/NBR
21	Power up time	< 50 ms
22	Short Circuit protection	Yes
23	Reverse current protection	Yes
24	Insulation Resistance	> 100 MΩ, 500 V DC
25	Insulation Voltage	>±1kV
26	MTBF	Equivalent to SIL-2
27	Compliances & Approvals	Fire Protection (EN 45545 HL-2/3) Shock & Vibration as per EN 61373 Class-B (Annexure-A)

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		EMC/EMI compliance as per EN 50121-4 (Annexure-A) Railway Applications: EN50155
28	Qty (Set)	Brake Cylinder Pressure Transmitter: 0-10 Kg/cm ² (Qty-02) Main Reservoir Pressure Transmitter: 0-16 Kg/cm ² (Qty-01) Brake Pipe Pressure Transmitter: 0-10 Kg/cm ² (Qty-01)
29	Product approval	The OEM shall be RDSO approved.
30	Configuration	The Pressure Transducer shall be pre-configured at OEM works only. The Transducer shall have following 3 wire (Supply, Analog Output & Reference potential).
31	Application	The product shall be suitable for use inside Electric/Diesel locomotives, EMU and T-18 Vande Bharat for Onboard Kavach applications.

Note: 1 Set refers to [BC Pressure Transmitter (2 No) + MR Pressure Transmitter (1 No) + BP Pressure Transmitter (1 No) along with accessories like M12 connector, mounting gaskets]

3.0 Quality, Inspection and Acceptance

- Phase 1: Supplier shall submit 2D Drawing, 3D Model (Step File), BOM, Quality plan, Wiring & Pin details, Fixing guidelines, Type test reports and certificates along with additional supporting drawings for approval by BHEL.
- Phase 2: BHEL will give mail approval for manufacturing and supply as per the approved Documents and procedure mentioned in Phase 1.
- Phase 3: BHEL reserves the right to inspect the material through RITES/RDSO/BHEL and accordingly BHEL will give the dispatch clearance.
- Phase 4: Test protocol signed by BHEL and OEM shall be submitted to MM department for dispatch clearance.

3.1. Specification Compliance

- Bidder shall submit clause wise specification compliance along with the bid documents.
- Bidder shall submit all the compliances and approved type test certificates (Annexure-A) along with bid documents.

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- Bidder shall submit the documents as mentioned in PQC along with the bid documents.

3.2. Documentation Required before Dispatch

- Bill of Materials (BOM), Wiring Schematic, Test Certificates and Reports, Compliance Certificates, Warranty Certificate, Minutes of Meeting, Quality Plan, Test Protocol, Packing List, Dispatch Clearance documentation should be provided both in Hard copy (2 Sets) and Soft Copy.
- Detailed dimensional drawings indicating mounting arrangements of Pressure Transducers.
- Commissioning instructions of Pressure Transducers.
- Periodic maintenance instructions and troubleshooting instructions.
- Operation and Maintenance Manual covering description, operation of sensors, disassembly and assembly, trouble shooting, test specification and spare parts catalogue.
- Warranty Certificate from the OEM shall also be submitted.

4.0 DELIVERABLES

The Bidder to submit complete BOM for the Pressure Transducer up as per specification.

Please refer the Deliverable Reference Table.

Sr. No	Description	Price in INR/Set
1	Supply of Pressure Transducer (0-16 Kg/cm ²) along with accessories as per specification	Bidder to quote
2	Supply of Pressure Transducer (0-10 Kg/cm ²) along with accessories as per specification	Bidder to quote
3	Packing, Forwarding & Freight	Bidder to quote
4	GST @ Actuals	Bidder to quote
5	Total cost excluding taxes	Bidder to quote
6	Total cost including taxes	Bidder to quote

5.0 WARRANTY

- The supplier shall be responsible for any failure or damage to equipment provided in the locomotive due to defective design, materials, and workmanship up to a period of **24 months** from the date of supply. The supplier shall replace within reasonable time, such equipment during the warranty period at his cost. The period of warranty shall be extendable in case of

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recurring problems attributable to defective design, material or manufacturing. The supplier's liability in this respect of any complaints, defects and / or claim shall be limited to the furnishing and installation of replacement parts free of any charge.

Note: Any discrepancy of data in this specification with reference to IEC/EN/IS and other International /National standards, later shall prevail against this specification.

6.0 PRE-QUALIFICATION CRITERIA (PQC)

Table 6: Pre-qualification Criteria

SL	BHEL Qualification requirement	Documents to be submitted for evaluation
1	The Bidder shall be RDSO approved.	1) Purchase Order copy of proposed Pressure Transducer
	(AND)	
2	The Bidder shall have supplied Pressure Transducer to BHEL for Railway Rolling stock Applications.	2) Proof of delivery of proposed pressure transducer – <i>Tax Invoice along with</i>
	(OR)	
3	The Bidder shall have supplied Pressure Transducer to Railways and Metro signalling and telecommunications OEMs for Railway Rolling stock Applications for ATPS(KAVACH) /ETCS/ CBTC in India.	<i>1. Receipted LR copy (or)</i> <i>2. Material Dispatch Clearance Certificate (MDCC) from customer (or)</i> <i>3. Material Receipt Certificate from the customer (or)</i> <i>4. Completion certificate from Customer</i>
	(OR)	
4	The shall have supplied Pressure Transducer to KAVACH (TCAS) Approved OEM used in Onboard KAVACH applications.	3) Contact Details – (Name, Phone number, email) – of the customer associated with Purchase Order and Proof of delivery (Proof of delivery shall be dated within 10 years before the date of opening of bid)
	(OR)	
5	The Bidder shall have supplied Pressure Transducer to TCMS (Train Control and Management System) OEM.	Note: ❖ Railway OEM means vendors/Agencies/Manufacturers supplying Onboard Signaling, TCMS, Railway Onboard Applications for ATPS(KAVACH) /ETCS/ CBTC / TCMS systems.

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Annexure-A

The Environmental tests for the Pressure Transducer shall be governed by Indian Railways Motive Power directorate specification MP.0.01.00.31, Rev 05 or latest.

The Pressure Transducer shall have following type tests and compliances with respect to latest EN/IEC standard.

Sr. No	Environmental Test	Applicable Standards
1	Cold Test	As per IEC 60571 or Equivalent Indian Standards
2	Dry heat test	As per IEC 60571 or Equivalent Indian Standards
3	Damp heat test	As per IEC 60571 or Equivalent Indian Standards
4	Over voltage tests	As per IEC 60571 or Equivalent Indian Standards
5	Surge	As per IEC 60571 or Equivalent Indian Standards
6	Insulation resistance and voltage withstand test	As per IEC 60571 or Equivalent Indian Standards
7	Salt Mist test	As per IEC 60571 or Equivalent Indian Standards
8	Vibration and shock test	As per IEC 60571 or Equivalent Indian Standards
9	Immunity to Voltage dips, Short Interrupts and Voltage Variations on D.C input power port	As per IEC 60571 or Equivalent Indian Standards
10	Electrical fast transient/burst immunity	As per IEC 60571 or Equivalent Indian Standards
11	Conducted Emissions	As per IEC 60571 or Equivalent Indian Standards
12	Immunity to conducted disturbances, Induced by RF fields	As per IEC 60571 or Equivalent Indian Standards
13	Immunity to electrostatic Discharge	As per IEC 60571 or Equivalent Indian Standards
14	Radiated Susceptibility	As per IEC 60571 or Equivalent Indian Standards
15	Radiated emissions	As per IEC 60571 or Equivalent Indian Standards

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