

REQUEST FOR QUOTATION



BHARAT HEAVY ELECTRICALS LIMITED
 Electronics Division
 PB No. 2606, Mysore Road Bangalore - 560026
 INDIA

RFQ NUMBER:
AKSPROP150



MMI:PU:RF:003

(address for communication) :

(for all correspondence)

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This RFQ is for entering into Rate contract (RC) with BHEL for the tendered item. Validity of the RC will be 1 year from the award of rate contract. Firm orders will be placed during the tenure of rate contract. Prices will remain firm till the validity of RC or till the completion of supplies against the Purchase Orders placed against this rate contract whichever is later. Please note that these quantities are projections based on the current business scenario and expected orders from customers. In the eventuality of business not coming through, BHEL is not obligated to exhaust the ordering of RC quantities.

Sl No.	Description	Qty	Unit	Delivery qty	Delivery Date
1	TI0668104481 SEPARATOR 2 Pole-NO with HV IND * HSN/SAC : 3921  SEPARATOR(Earth Switch) 2 Pole-NO With HV Indicator and one Green key And one Black key As per PSPEC PS4452725 Rev No 00	420	NO	420	20.06.2026

Total Number of Items - 1

- 1.
- 2.

NOTES:

1. This RFQ is governed by:
 - a) INSTRUCTIONS TO BIDDERS/SELLERS and GENERAL CONDITIONS OF CONTRACT FOR PURCHASE available at <http://edn.bhel.com> (**RFQ-PO Terms & Conditions**)
 - b) Any other specific Terms and Conditions mentioned.



* The HSN/SAC no mentioned against the line items in the RFQ are indicative only.

For and On behalf of BHEL.

ABHISHEK
 Control Equipment

1. SCOPE

The Pre-Qualification Requirement document specifies the requirements to be met by the vendors (hereafter called Bidder) who wish to participate in the tender for supply of **Earth Switch for rolling stock applications**.

This PQR should be read in conjunction with the Purchase Technical Specification **PS4452725 R00 dtd 20.02.2021**.

2. CREDENTIAL

- a) The Bidder should be Manufacturer or authorized dealer / supplier of – **Earth Switch** used in Rolling Stock applications. Documentary proof like relevant POs / invoice copies, valid authorization certificate etc shall be provided along with the offer.
- b) The Rolling Stock Applications under consideration shall include Locomotive, EMU, MEMU, Metro Trains, High Speed Trains, Train sets, Inspection Cars and Special Track Machines.
- c) For the vendors outside India, documentary proof for usage of the product in rolling stock applications shall be submitted. Acceptance of such certification shall be at BHEL's discretion.
- d) The Bidder should not be under the category of "hold" or "blacklisted" by any of the BHEL units/ any Govt of India PSU/ Govt of India/ statutory bodies of any state Govt as on date of bid submission. A declaration to this effect shall be submitted along with the offer.

3. QUALITY SYSTEM

- a) The manufacturer should have valid ISO 9001:2015 or latest certification covering the manufacturing and testing of the subject item
- b) The manufacturer should possess a clearly laid down quality Assurance Plan for the product covering the following aspects
Organization Chart, clearly indication the quality control set up
Qualification of key personnel and officials deployed in the quality control cell.
- c) Process Flow Chart indicating process of manufacture for an individual product or for a family of products, if the process is same.
- d) Quality Assurance System – Inspection and Testing plan to cover
 - Incoming material
 - Process control
 - Product control
 - System control
 - Testing facility
- e) Stage inspection details shall include the inspection procedure, inspection parameters, method of testing/ test procedure, sample sizes for destructive & non-destructive testing etc.
- f) Calibration scheme and status of calibration of test equipment
The process, testing and measuring equipment shall be duly calibrated by approved agency and the validity of calibration should be current.

4. GENERAL REQUIREMENTS

- a) It is preferred that the bidder is the manufacturer of this item. If the bidder is importing some portion of the components, then minimum value addition in India shall be 20%. Bidder to confirm this in the offer. Value addition less than 20% is not acceptable. A declaration to this effect shall be submitted along with the offer.
- b) The technical bid of bidders, which qualify technically but are not approved for the subject item by the Customer Approving Authority, shall be referred by BHEL to the customer Approving Authority for approval with intimation to the bidder. Consequent to the decision of Customer Approving Authority, the bidder shall be added to the vendor list of the subject item for future tenders. Concurrently BHEL shall consider placing developmental order on the bidder after accessing the capability of the bidder to manufacture / develop the subject item. However, BHEL shall treat the offer as “Not meeting” Pre-Qualification Criteria for the subject tender.
- c) The Customer Approving Authority shall be RDSO/CLW/BLW/PLW/ICF/RCF/MCF or any other agency as designated by the Customer.
- d) The bidder should possess a valid type test report, not older than five years, as per relevant standards mentioned in the specification with respect to time during the bid submission in case of catalog items. In case of custom made items, a bidder can submit the type test report of an item of similar or higher rating with a declaration for conducting the type test in case of award of order or developmental order. The bidder can also submit the test reports conducted in their own facility with the document of their lab accreditation. However, BHEL reserve it's right to insist on conducting the Type test again in a laboratory of it's choice.
- e) For the bid of vendors already qualified and appearing in BHEL's source list, the requirement of type test report and proof of supply shall not be applicable.

5. DOCUMENTATION TO BE SUBMITTED ALONG WITH OFFER

- a) Documentary proof for experience as per clause 2.a
- b) Clause by Clause compliance to the technical specification
- c) Declaration regarding status as per clause 2.d
- d) Declaration on MII (Make in India) as per clause 3.a
- e) Declaration for conducting Type Test as per clause 3.d



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PURCHASE SPECIFICATION
GROUP: TRACTION ENGINEERING

P.S NO. : PS/445/2725

REV. NO: 00

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REVISION HISTORY SHEET

REV. NO.	DATE	NATURE OF CHANGE	REASONS	PREPARED BY	APPROVED BY
00	20.02.21	FIRST ISSUE	--	--	--

THIS DOCUMENT IS A SPECIFICATION CUM DATA SHEET. VENDOR TO FILL UP ALL CONFIRMATIONS AND DATA AS REQUIRED AND SUBMIT THE SAME TO BHEL / EDN, BANGALORE. ANY DEVIATIONS TO THIS DOCUMENT TO BE BROUGHT OUT CLEARLY BY VENDOR.

REVISIONS 00 DT: 20.02.2021

APPROVED BY:

PREPARED BY:	AGOSH CHANDRAN R S	ISSUED BY	DATE
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Sadat U K

TE

20.02.2021



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PURCHASE SPECIFICATION
GROUP: TRACTION ENGINEERING

P.S NO. : PS/445/2725

REV. NO: 00

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SPECIFICATION FOR
EARTH SWITCH



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PURCHASE SPECIFICATION
GROUP: TRACTION ENGINEERING

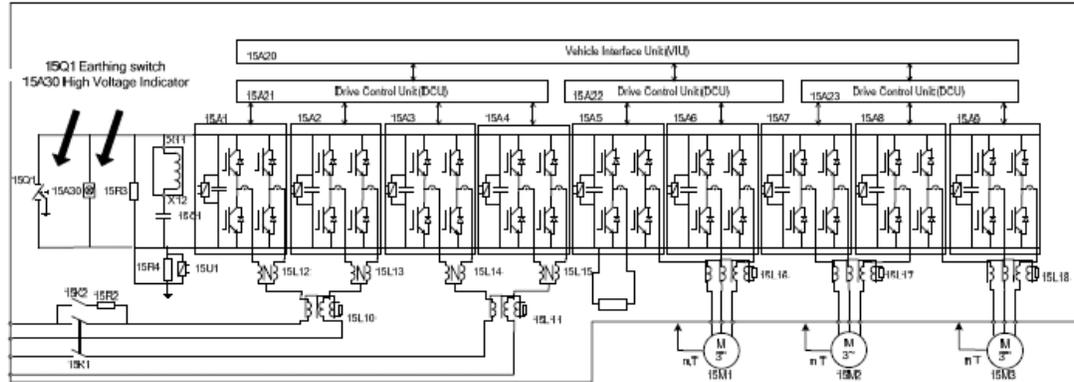
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1.0 INTRODUCTION:

This specification covers the requirement of Earth Switch used in the Traction Converters for 6000HP Electric Loco. The items covered in this specification are meant for use in Rolling stock



The Earth Switch is manually operated having two poles and with an integrated High Voltage Indicator.

2.0 TECHNICAL REQUIREMENTS OF EARTH SWITCH:

SI No	Characteristic	Value	Unit
1	Operating Temperature	-25 to 60	°C
2	Maximum Temperature	+75	°C
3	Nominal Voltage	2800	V
4	Maximum Voltage	3300	V
5	Test Voltage	6900	Vac/10s
6	Minimum Rated Current	250	A
7	Minimum Creepage Distance	58	mm
8	Minimum Clearance in Air	32	mm
9	Cooling	Natural	

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PURCHASE SPECIFICATION GROUP: TRACTION ENGINEERING

P.S NO. : PS/445/2725

REV. NO: 00

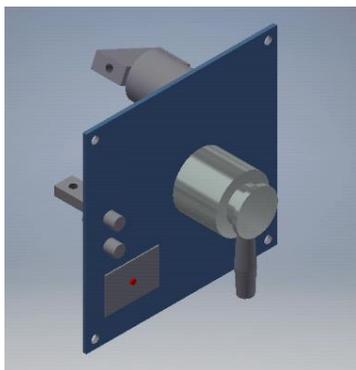
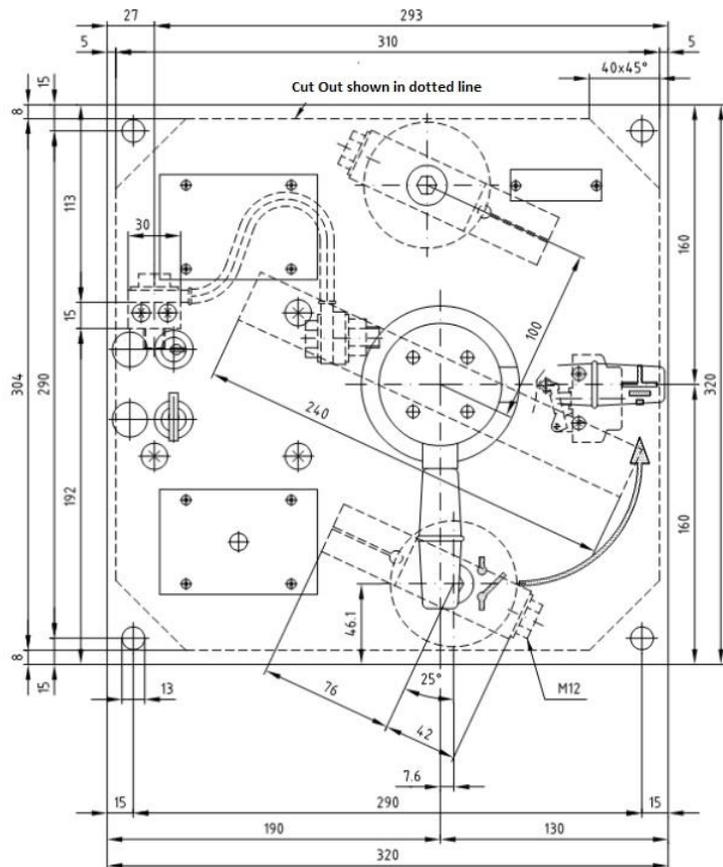
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3.0 TECHNICAL REQUIREMENTS OF HV INDICATOR:

SI No	Characteristic	Value	Unit
1	Operating Temperature	-25 to 60	°C
2	Maximum Temperature	+75	°C
3	Nominal Voltage	2800	V
4	Maximum Voltage	3300	V
5	Test Voltage	6900	Vac/10s
6	Minimum Working Voltage	50	V
7	Flashing Frequency at 4KV	2 +/- 10%	Hz
8	Input Current	<5	mA
9	Cooling	Natural	

4.0 MECHANICAL DIMENSION:

The limiting dimensions of Earth Switch is 320mm X 320mm X 228mm.



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5.0 INSPECTION

The type test reports from a NABL accredited laboratory to be provided along with the technical offer. For series supplies, Routine test reports are to be provided.

6.0 APPLICABLE NORMATIVE STANDARD

The offered system shall generally conform to the following normative standards

IEC60077 Rules for equipment for onboard rail vehicles

IEC-61373 Electric Railway Equipment-Rolling Stock-Shock & Vibrations Requirements

7.0 PRE QUALIFICATION CRITERIA (PQC)

1. The Bidder should be Supplier of Earth Switch used in Rolling stock applications.
2. BHEL shall approach and submit credentials/details furnished by vendor with their offers to customer and await customer's decision for a maximum of one month from the date of tender opening. If approval is not received within the above period, BHEL shall treat the offer as "Not meeting" Pre-qualification criteria and offer shall be rejected.
3. It is preferred that the bidder is the manufacturer of this item. If the bidder is importing some portion of the components, then minimum value addition shall be 20%. Bidder to confirm this in the offer. Value addition less than 20% is not acceptable

8.0 DOCUMENTS SUBMISSION

1. Bidder to submit clause by clause compliance to complete technical specification along with copy of type test report.
2. Should possess a valid type test report conducted as per relevant standards mentioned in the specification with respect to time during the bid submission.
3. Proof of supply of Earth Switch used in traction applications directly or through any agency to Indian Railways during the last 5 years to be submitted.
4. For the vendors already qualified and added in the source list, the requirement of type test report and proof of supply are not applicable.

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