

# REQUEST FOR QUOTATION

	<b>BHARAT HEAVY ELECTRICALS LIMITED</b> Electronics Division PB No. 2606, Mysore Road Bangalore - 560026 INDIA	RFQ NUMBER: <b>AKSPROP021</b>	Due Date/Day: 22.08.2022 MON Time : 13:00 HRS [REDACTED]
MMI:PU:RF:003		RFQ DATE : 08.08.2022	[REDACTED]
(address for communication) :		(for all correspondence) Purchase Executive : ABHISHEK Phone : 26998102 Fax : 00918026989215 E-mail: singh.abhishek@bhel.in	

1) 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.

2) Reverse Auction Clause: BHEL shall be resorting to Reverse Auction (RA) (Guidelines as available on [www.bhel.com](http://www.bhel.com)) for this tender. RA shall be conducted among all the techno-commercially qualified bidders. Price bids of all techno-commercially qualified bidders shall be opened and same shall be considered as initial bids of bidders in RA. In case any bidder(s) do(es) not participate in online Reverse Auction, their sealed envelope price bid along with applicable loading, if any, shall be considered for ranking.

SI No.	Description	Qty	Unit	Delivery qty	Delivery Date
1	TI0668104201 CONTACTOR 3P 150A 415VAC 80KW * HSN/SAC : 3921  CONTACTOR 3P 150A 415VAC 80KW As per PSPEC PS/445/2716  As per Specification PS4452716 Rev No 00	500	NO	500	25.11.2022
2	TI0668104210 CONTACTOR 3P 225A 415VAC 110KW * HSN/SAC : 9032  CONTACTOR 3P 225A 415VAC 110KW As per PSPEC PS/445/2716 As per Specification PS4452716 Rev No 00	250	NO	250	25.11.2022

Total Number of Items - 2

- 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



**PREQUALIFICATION CRITERIA (PQC)  
FOR POWER CONTACTORS  
GROUP: TRACTION ENGINEERING**

Ref: 445/PQC\_PC/22

Rev. No.: 01

Page 1 of 1

**1.0 PRE QUALIFICATION CRITERIA (PQC)**

1. The Bidder should be Supplier of Power Contactors for Traction equipment for 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.

**2.0 DOCUMENTS SUBMISSION**

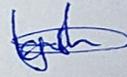
1. Bidder to submit clause by clause compliance to complete technical specification (Technical specification no. PS4452716 Rev. No.00, dated 29.01.2021) along with copy of type test report.
2. Should possess a valid type test report, not older than five years, conducted as per relevant standards mentioned in the specification with respect to time during the bid submission.
3. Proof of supply of Power contactors or similar contactors 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 above points (point no. 2 & 3) are not applicable.

**3.0 REFERENCE DOCUMENTS**

- a) Purchase Specification No PS4452716, Rev. No. 00 for Power contactors.

REVISION 01

APPROVED

  
AGOSH CHANDRAN R S

PREPARED

L SUNITHA 

ISSUED

TRACTION ENGG

DATE

04.08.2022

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A4 - 12

**PURCHASE SPECIFICATION**  
**GROUP: TRACTION ENGINEERING**

P.S NO. : PS/445/2716

REV. NO: 00

PAGE 00 OF 05

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**REVISION HISTORY SHEET**

REV. NO.	DATE	NATURE OF CHANGE	REASONS	PREPARED BY	APPROVED BY
00	29.01.21	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: 29.01.2021

APPROVED BY: 

PREPARED BY:

ISSUED BY

DATE

Sadat U K



TE

29.01.2021



A4 – 10

**PURCHASE SPECIFICATION**  
**GROUP: TRACTION ENGINEERING**

P.S NO. : PS/445/2716

REV. NO: 00

PAGE 01 OF 05

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**SPECIFICATION FOR**  
**POWER CONTACTORS**



A4 – 11

**PURCHASE SPECIFICATION**  
**GROUP: TRACTION ENGINEERING**

P.S NO. : PS/445/2716

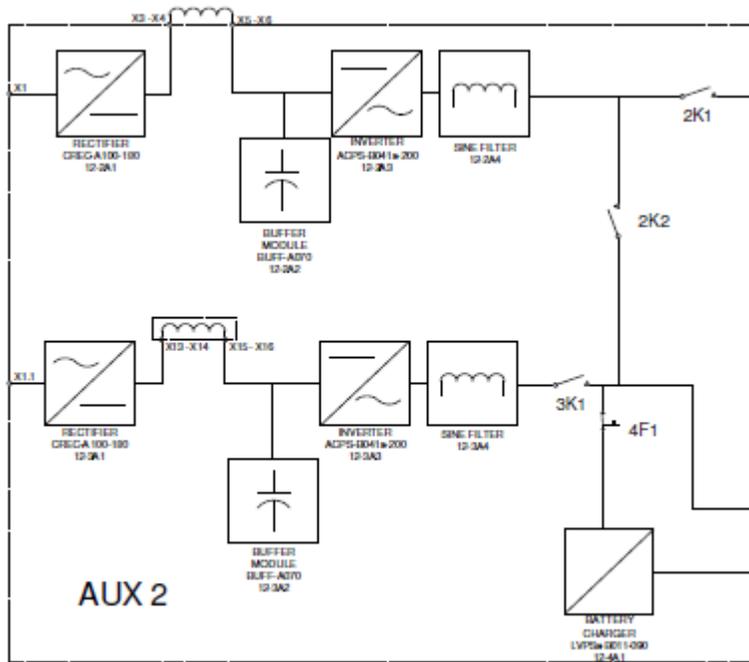
REV. NO: 00

PAGE 02 OF 05

**1.0 INTRODUCTION:**

The Auxiliary converter employs Power Contactors for Load rearrangement in the event of a converter isolation. Three power contactors are housed in the Auxiliary Converter-2 panel- One rated for 225A and the other two rated for 150A.

**2.0 FUNCTION:**



Load changeover in case of isolation of any one of the converter is done automatically by the auxiliary converter electronics with the aid of contactors.

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A4 – 11

**PURCHASE SPECIFICATION**  
**GROUP: TRACTION ENGINEERING**

P.S NO. : PS/445/2716

REV. NO: 00

PAGE 03 OF 05

**3.0 COMPONENTS**

Normally the contactor unit consists of replaceable units like the operating coil, Auxiliary contacts and Protection for operating coil. It is preferred to have replaceable units for attending field failures.

**4.0 CHARACTERISTICS- Contactor 150A**

SI No	Characteristic	Value	Unit / Remark
1	No of Poles	3	
2	Rated Operational Voltage	1000	Vac
3	Rated operational Current	150	A
4	Power in KW	80	KW
5	Rated Impulse Withstand Voltage	8	KV
6	Rated Short Time Withstand current Icw for 10s	1200	A
7	Power Dissipation Per Pole	8	W
8	Ambient Temperature for operation	-5 to 55	°C
9	Auxiliary Contacts	3 NO + 5 NC	
10	Coil Operating Range	77 to 137.5	Vdc
11	Coil Protection	Varistor	
12	Operating Time		
	Opeing	30 to 50	mS
	Closing	30 to 40	mS
13	Mechanical Durability	10	Mcycles
14	Operating rate	60	Cycles/Hr
15	Utilization Category	AC-3	Motor Loads

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A4 – 11

**PURCHASE SPECIFICATION**  
**GROUP: TRACTION ENGINEERING**

P.S NO. : PS/445/2716

REV. NO: 00

PAGE 04 OF 05

**5.0 CHARACTERISTICS – Contactor 225A**

SI No	Characteristic	Value	Unit / Remark
1	No of Poles	3	
2	Rated Operational Voltage	1000	Vac
3	Rated operational Current	225	A
4	Power in KW	110	KW
5	Rated Impulse Withstand Voltage	8	KV
6	Rated Short Time Withstand current Icw for 10s	1800	A
7	Power Dissipation Per Pole	16	W
8	Ambient Temperature for operation	-5 to 55	°C
9	Auxiliary Contacts	3 NO + 5 NC	
10	Coil Operating Range	77 to 137.5	Vdc
11	Coil Protection	Varistor	
12	Operating Time		
	Opeing	30 to 50	mS
	Closing	30 to 40	mS
13	Mechanical Durability	10	Mcycles
14	Operating rate	60	Cycles/Hr
15	Utilization Category	AC-3	Motor Loads

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A4 – 11

**PURCHASE SPECIFICATION**

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P.S NO. : PS/445/2716

REV. NO: 00

PAGE 05 OF 05

**6.0 MECHANICAL DIMENSION**

To be specified by the supplier

**7.0 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.

**8.0 APPLICABLE NORMATIVE STANDARD**

The offered system shall generally conform to the following normative standards

IEC 60529 for IP68 protection

EN 50121-2 EMC: Emissions to external environments

IEC60077 Rules for equipment for onboard rail vehicles

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

IEC 60947 Low Voltage Switchgear and Control gear

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