

REQUEST FOR QUOTATION

 MMI:PU:RF:003	BHARAT HEAVY ELECTRICALS LIMITED Electronics Division PB No. 2606, Mysore Road Bangalore - 560026 INDIA	RFQ NUMBER: AKSPROP091 RFQ DATE : 06.08.2024	Due Date/Day: 19.08.2024 MON Time : 13:00 HRS
	(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) 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.

Sl No.	Description	Qty	Unit	Delivery qty	Delivery Date
1	TI0668104236 CONTACTOR 2P 250A 110VDC * HSN/SAC : 3921 CONTACTOR 2P 250A 110VDC, As per Specification PS-4452703 Rev 00	500	NO	500	

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-P0 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 OF 1

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 **pre-charge contactor 2P 250A for rolling stock applications.**

This PQR should be read in conjunction with the Purchase Technical Specification **PS/445/2703 R00 dtd 05.01.2021.**

2. CREDENTIAL

- a) The Bidder should be Manufacturer or authorized dealer / supplier of – **pre-charge contactor 2P 250A** 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 assessing 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



A4 - 12

PURCHASE SPECIFICATION
GROUP: TRACTION ENGINEERING

P.S NO. : PS/445/2703

REV. NO: 00

PAGE 00 OF 04

REVISION HISTORY SHEET

REV. NO	DATE	NATURE OF CHANGE	REASONS	PREPARED BY	APPROVED BY
00	05.01.2021	FIRST ISSUE	--	L Sunitha	R S Agosh Chandran

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: 05.01.2021

APPROVED BY:

Agosh Chandran R S, Manager/TE

PREPARED BY:

L Sunitha
Dy Manager/TE

ISSUED BY

TE

DATE

05.01.2021



A4 – 10

PURCHASE SPECIFICATION
GROUP: TRACTION ENGINEERING

P.S NO. : PS/445/2703

REV. NO: 00

PAGE 01 OF 04

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SPECIFICATION FOR
PRECHARGE CONTACTOR



A4 – 11

PURCHASE SPECIFICATION
GROUP: TRACTION ENGINEERING

P.S NO. : PS/445/2703

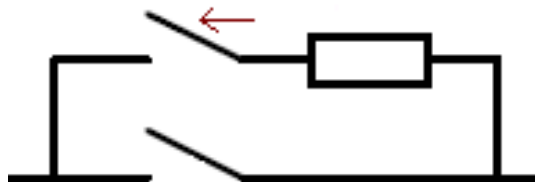
REV. NO: 00

PAGE 02 OF 04

1.0 INTRODUCTION:

A charge circuit is used to pre-charge the HV-capacitors before the main contactor is closed to avoid high inrush peak-currents. Normally the magnetically operated charge switch will only make current, only in abnormal situations (short circuit in the traction converter) the switch has to break current.

2.0 FUNCTION:



The maximum current to be switched off during abnormal situations at 3000V is 60A, the current is limited by the 50 Ohm resistor. For voltage sharing, the two contacts of the charge switch shall be put in series. The charge switch shall be operated electromagnetically.



A4 – 11

PURCHASE SPECIFICATION
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P.S NO. : PS/445/2703

REV. NO: 00

PAGE 03 OF 04

3.0 CHARACTERISTICS

Electrical Characteristics	
Rated Operational Voltage [Vac/Vdc]	1500
Max Operational Voltage [Vac/Vdc]	2000
Rated Insulation Voltage [V]	2000
Maximum current (rated thermal current) A	100
Breaking capacity A	100
Number of poles	2
Blow Out Circuit Type	Permanent Magnet
Mechanical Characteristics	
Mechanical Endurance (cycles)	2x10 ⁶
Shock and Vibrations (IEC61373)	Cat.1 - Class B
Weight [kg]	approx 3 - 3.5
Environmental Conditions	
Stock Temperature Range	50°C ÷ +85°C
Operational Temperature Range	-40°C ÷ +75°C
Pollution Degree - Overvoltage Category (EN 50124-1)	PD3 / OV3
Max Altitude without Performance Derating [m]	1500

4.0 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.

5.0 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 61287 Power Converters on board rolling stock
- IEC-61373 Electric Railway Equipment-Rolling Stock-Shock & Vibrations Requirements



A4 – 11

PURCHASE SPECIFICATION
GROUP: TRACTION ENGINEERING

P.S NO. : PS/445/2703

REV. NO: 00

PAGE 04 OF 04

6.0 DIMENSIONS

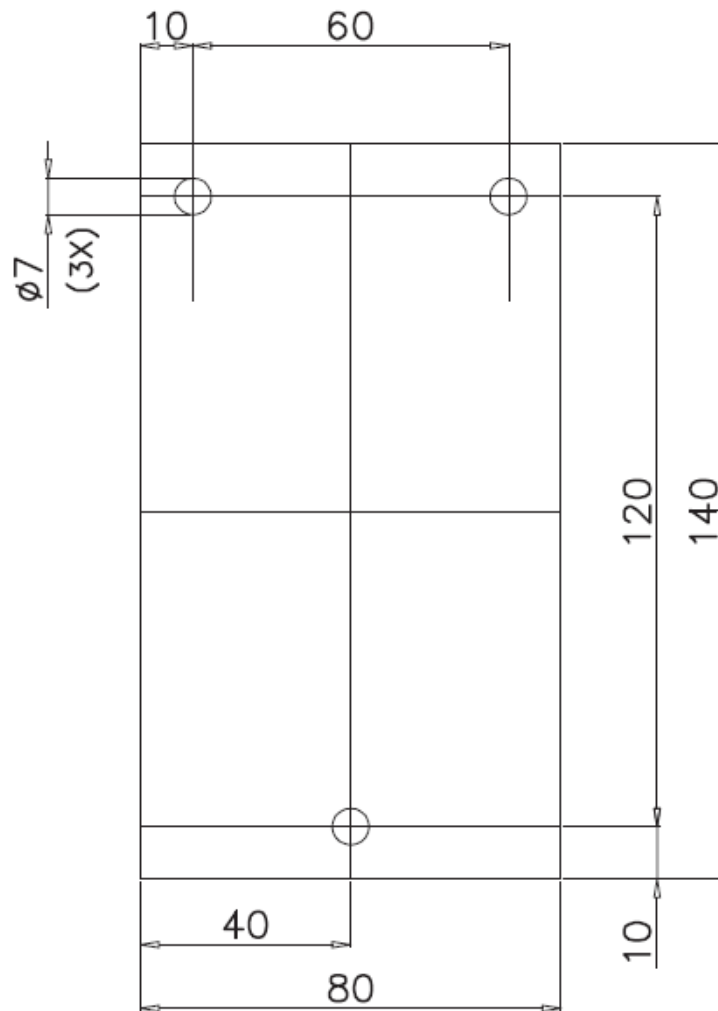


Fig.1- Dimensional details

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