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PURCHASE SPECIFICATION
GROUP: TRACTION ENGINEERING

P.S NO. : PS/445/2728

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	--	--	--

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REVISIONS 00 DT: 20.02.2021

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20.02.2021



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SPECIFICATION FOR
SET OF CONNECTORS



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1.0 INTRODUCTION:

This specification covers the requirement of Circular and Sub-D connectors with accessories used in the Traction Converters and Auxiliary Converters for 6000HP Electric Loco. The items covered in this specification are meant for use in Rolling stock

2.0 REFERENCE SPECIFICATION

Specification for Set of Connectors as per the latest revision of CLW Spec CLW/ES/3/0124. The offered connector should conform to the technical requirements as laid down in the reference specification and should be able to mate with the connectors covered in the reference specification.

3.0 CONNECTOR TYPES:

The following connector types are detailed in this specification.

1. 35 Pole Control Connector
2. 13 Pole Circular Control Connector
3. 5 Pole Circular Control Connector
4. 4 Pole Circular Power Connector
5. D- Sub Receptacle set 9-pole

4.0 FUNCTIONAL REQUIREMENTS:

The circular connectors generally consists of the following parts

1. Receptacle
2. Cable Clamp
3. Gasket
4. Male Contact
5. Filler Plugs

The quantity of Contacts and Filler Plugs are as tabulated below

Item	Contacts	Filler Plug
35P- Control	30	14
13P- Control	13	4
5P-Control	5	2
4P- Power	3	1



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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

- IEC 60529 for IP 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
- EN 60068 Environmental Testing
- EN 61984 Connectors- safety requirements and tests
- IEC 60664 Insulation Coordination

7.0 PRE QUALIFICATION CRITERIA (PQC)

1. The Bidder should be Supplier of Heavy duty connectors used in Rolling stock applications.
2. The bidder should be an approved source of this item as per the CLW vendor directory applicable at the time of bid opening.
3. In case of bid from sources not listed in CLW vendor directory 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.
4. 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 Heavy duty connector 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.