

GOVERNMENT OF INDIA  
MINISTRY OF HEAVY INDUSTRIES  
**RAJYA SABHA**  
**UNSTARRED QUESTION NO. 1514**  
ANSWERED ON 01.08.2025

**STANDARDIZATION OF EV MANUFACTURING AND CHARGING**

**1514. SMT. SUMITRA BALMIK:**

Will the Minister of HEAVY INDUSTRIES be pleased to state:

- (a) whether Government has taken any steps towards standardization of specifications relating to Power Train and Drive Train in electric vehicles, if so, the details thereof;
- (b) whether Government has issued any guidelines for standardization of EV charging protocols and infrastructure across the country, if so, the details thereof; and
- (c) the steps being taken by the Ministry towards promotion of domestic manufacturing ecosystem for electric vehicles, including motors, batteries, BMS, EMS, chargers, etc?

**ANSWER**

**THE MINISTER OF STATE FOR HEAVY INDUSTRIES**  
**(SHRI BHUPATHIRAJU SRINIVASA VARMA)**

**(a) & (b):** Bureau of Indian Standards (BIS) has formulated various Indian Standards for E-Mobility. The list of Indian Standard is attached at **Annexure I**. Further, as per inputs received from Ministry of Road Transport and Highways (MoRTH), following automotive Industry Standards related to electric power train of vehicle have been notified by MoRTH: -

- i. Construction and Functional Safety Requirements. (AIS 038)
- ii. Measurement of Electrical Energy Consumption (AIS 039)
- iii. Specific Requirements for measuring the range of Electric Power Train of Vehicles, (AIS 040)
- iv. Method of Measuring the Range and measurement of Net Power and the Maximum 30 Minute Power and speed. (AIS 41).
- v. Specific Requirements for L Category Electric Power Train Vehicles -AIS 156

BIS has published Indian Standards related to EV Charging Infrastructure. These standards specify the safety and quality parameters for connectors, communication protocols, Electric Vehicle Supply Equipment (EVSE), Battery Swapping Systems, etc. The list of Indian standards published by BIS is enclosed at **Annexure II**. Further, Ministry of Power has issued "Guidelines for Installation and Operation of Electric Vehicle Charging Infrastructure-2024", in September 2024, which outline standards and protocols to create connected and interoperable EV charging infrastructure network.

MoRTH has amended the AIS standards to prescribe the technical requirements pertaining to vehicle inlet connectors and to ensure interoperability for conductive charging systems in all M (Passenger) and N (Goods) categories except N1 [ goods vehicle not exceeding 3.5 tonnes Gross vehicle Weight (GVW)].

**(c):** To boost domestic manufacturing of EVs and their components, MHI has launched schemes such as PLI-Auto, PLI-ACC and SPMEPCI.

- i. PLI-Auto scheme incentivises domestic manufacturing of EVs and specified EV components subject to domestic value addition (DVA) of minimum 50%.
- ii. PLI-ACC promotes domestic manufacturing of advanced chemistry cell, which is inter alia required for traction battery for EV.
- iii. SPMEPCI promotes domestic manufacturing of electric passenger cars with specified DVA conditions.

\*\*\*\*\*

**Annexure I**

<b>Sl No</b>	<b>IS No</b>	<b>Title</b>
(1)	IS 17191 (Part 1) : 2019	Electric Power Train Vehicles Part 1 Measurement of Electrical Energy Consumption
(2)	IS 17191 (Part 3) : 2019	Electric Power Train Vehicles Part 3 Measurement of Net Power and the Maximum 30 Minute Power
(3)	IS 17191 (Part 2) : 2019	Electric Power Train Vehicles Part 2 Method of Measuring the Range
(4)	IS 18606 : 2024	Electric Power Train of M and N Category Vehicles— Specific Requirements
(5)	IS 18590 : 2024	Electric Power Train of L Category Vehicles— Specific Requirements
(6)	IS 18294 : 2023	Electric Rickshaw E-Kart Construction and Functional Safety Requirements Specification
(7)	IS 18073 : 2023	Electric Traction Motor - Performance and Functional Requirements
(8)	IS 17855 : 2022	Electrically propelled road vehicles - Test specification for lithium-ion traction battery packs and systems - Part 4: Performance testing

**ETD 51: Electrotechnology in Mobility**

<b>Sl. No.</b>	<b>IS No.</b>	<b>Title</b>	<b>Remarks</b>
1.	IS/ISO 15118-1 : 2013 ISO 15118-1 : 2013	Road vehicles - Vehicle to grid communication interface: Part 1 general information and use - Case definition	Communication Protocols
2.	IS/ISO 15118-2 : 2014 ISO 15118-2 : 2014	Road vehicles - Vehicle - To - Grid communication interface: Part 2 network and application protocol requirements	
3.	IS/ISO 15118-3 : 2015 ISO 15118-3 : 2015	Road vehicles - Vehicle to grid communication interface: Part 3 physical and data link layer requirements	
4.	IS/ISO 15118-4 : 2018 ISO 15118-4 : 2018	Road vehicles - Vehicle to grid communication interface: Part 4 network and application protocol conformance test	
5.	IS/ISO 15118-5 : 2018 ISO 15118-5 : 2018	Road vehicles - Vehicle to grid communication interface: Part 5 physical layer and data link layer conformance test	
6.	IS/ISO 15118-8 : 2020 ISO 15118-8:2020	Road Vehicles - Vehicle to Grid Communication Interface Part 8: Physical Layer and Data Link Layer Requirements for Wireless Communication (First Revision)	
7.	IS 17017 (Part 1) : 2018	Electric Vehicle Conductive Charging System Part 1 General Requirements	EVSE, Plugs, Socket-Outlets, Vehicle Connectors, and Vehicle Inlets
8.	IS 17017 (Part 2/Sec 1) : 2020	Electric Vehicle Conductive Charging System Part 2 Plugs, Socket-Outlets, Vehicle Connectors, and Vehicle Inlets Section 1 General requirements	Plugs, Socket-Outlets, Vehicle Connectors, and Vehicle Inlets
9.	IS 17017 (Part 2/Sec 2) : 2020	Electric Vehicle Conductive Charging System Part 2 Plugs, Socket - Outlets, Vehicle Connectors and Vehicle Inlets Section 2 Dimensional compatibility and interchangeability requirements for a.c. pin and contact-tube accessories	
10.	IS 17017 (Part 2/Sec 3) : 2020	Electric Vehicle Conductive Charging System Part 2 Plugs, Socket - Outlets, Vehicle Connectors and Vehicle Inlets Section 3 Dimensional compatibility and interchangeability requirements for d.c. and a.c./d.c. pin and contact-tube vehicle couplers	
11.	IS 17017 (Part 2/Sec 6) : 2021	Electric Vehicle Conductive Charging System Part 2 Plugs, Socket-Outlets, Vehicle Connectors and Vehicle Inlets Section 6 Dimensional compatibility requirements for DC pin and contact-tube vehicle couplers intended to be used for DC EV supply equipment where protection relies on electrical separation	
12.	IS 17017 (Part 2/Sec 7) : 2023	Electric Vehicle Conductive Charging System Part 2 Plugs, Socket-Outlets, Vehicle Connectors and Vehicle Inlets Section 7 Dimensional Compatibility and Interchange Ability	

SI. No.	IS No.	Title	Remarks
		Requirements for a.c., d.c. and a.c./d.c. Pin and Contact-Tube Vehicle Couplers Intended to be used for a.c./d.c. EV Supply Equipment where Protection Relies on Electrical Separation	
13.	IS 17017 (Part 21/Sec 1) : 2019 IEC 61851-21-1 : 2017	Electric Vehicle Conductive Charging System Part 21 Electromagnetic Compatibility ( EMC ) Requirements Section 1 On-board chargers	Electromagnetic Compatibility ( EMC )
14.	IS 17017 (Part 21/Sec 2) : 2019 IEC 61851-21-2 : 2018	Electric Vehicle Conductive Charging System Part 21 Electromagnetic Compatibility ( EMC ) Requirements Section 2 Off-board chargers	
15.	IS 17017 (Part 22/Sec 1) : 2021	Electric Vehicle Conductive Charging Systems Part 22 AC Charging Configurations Section 1 - AC Charge Point for Light Electric Vehicle	For Mode 1 operation
16.	IS 17017 (Part 23) : 2021	Electric Vehicle Conductive Charging Systems Part 23 dc Electric Vehicle Supply Equipment	DC EVSE
17.	IS 17017 (Part 24) : 2021	Electric Vehicle Conductive Charging System Part 24 : Digital Communication between a DC Electric Vehicle Supply Equipment and an Electric Vehicle for control of DC Charging	Communication of DC EVSE
18.	IS 17017 (Part 25) : 2021	Electric Vehicle Conductive Charging System Part 25: DC EV supply equipment where protection relies on electrical separation	LEV DC EVSE
19.	IS 17017 (Part 30): 2025	Electric Vehicle Conductive Charging Systems - Part 30 Dual Gun d.c. Electric Vehicle Supply Equipment	Dual Gun EVSE
20.	IS 17017 (Part 31) : 2024	Electric Vehicle Conductive Charging System Part 31: ac or dc EV supply equipment for where protection relies on electrical separation	LECCS EVSE
21.	IS 17896 (Part 1) : 2022 IEC TS 62840-1:2016	Electric vehicle battery swap system - Part 1: General and Guidance	Battery Swap System
22.	IS 17896 (Part 2) : 2022 IEC 62840-2:2016	Electric vehicle battery swap system - Part 2: Safety requirements	