



Class 1



Product Specification
Vehicle Charge Inlet
Type GB

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1. SCOPE

1.1. Introduction

The TE Type GB charging inlet was designed to power electric and hybrid vehicles that comply with IEC-standard 62196. The maximum rated current is 32A at the maximum voltage of 250V.

The content of this specification covers the technical characteristics, performance and test requirements for the EV CHARGE INLET Type GB.

When tests are performed the following specifications and standards shall be used. All inspections shall be performed using the applicable inspection plan and customer drawing.

2. APPLICABLE DOCUMENTS

The following mentioned documents are part of this specification. Unless otherwise specified, the latest edition of the documents applies. In the event of conflict between the requirements of this specification and the information contained in the referenced documents, this specification shall take precedence.

2.1. TE Connectivity Documents

General Requirements

Requirement	Description
109-1 Rev. J	General Requirements for Testing

Drawings

Drawing	Description
CD-2368478	CHARGE INLET, ASSY, Type GB

Specifications

Specification	Description
114-94654	Application Spec. Vehicle Charge Inlet GB
114-13000	Micro MATE-N-LOK Connectors
108-94519	Actuator-Specification

2.2. Other Documents

Specification	Description
GB/T 20234.1-2015	Connection set of conductive charging for electric vehicles Part 1: General requirements
GB/T 20234.2-2015	Connection set for conductive charging of electric vehicles Part 2: AC charging coupler
GB/T 27930-2015	Communication protocols between off-board conductive charger and battery management system for electric vehicle

3. REQUIREMENTS

3.1. Design and Construction

The product has been designed to withstand its environment and the effects it has on it.

3.2. Material

The Material data is available in the IMDS (International Material Data System of the Automotive Industry).

3.3. Product Ratings

Dimensions

Mating-Face Geometry
Screw Points

compatible with GB/T 20234-2
see Drawing

Environmental conditions

Ambient temperature (active, during charging)
Ambient temperature (passive, no charging)
Max. altitude
Protection degree

-30 °C +50 °C
-40 °C +85 °C
5000m above sea-level
IP 55 (vehicle inlet mated and inlet installed
within max. installation angle)
IP 67 (Rear Cover)

Electrical Properties

Max. charging performance
Type of charging current
Number of AC-phases
Number of Terminals
Rated current
Rated voltage
Signal pin rated current
Signal pin rated voltage
Type of signal transmission
Insulation resistance of adjacent contacts
Resistor coding

8 kW
AC
1
5 (PE, L1, L2/N, CP, PP)
32A
250V AC
2A
30V
Analog
200MΩ
acc. GB/T 27930

Mechanical Properties

Mating / un-mating endurance
Insertion force
Retention force
Mechanical Stability of charging socket

Vibration Level

10000 cycles
typical <100N (depending on connector)
typical <100N (depending on connector)
400N in all directions
(Lever-Length 100mm)
LV214 PG17 Severity 2 (Body mount)

Temperature Sensoring

Temperature Sensor Type
Recommended measuring current
Proposed Shut down

NTC
nominal 0.1mA / max. 1mA (1V at 0°C)
78°C measured temperature at Sensor
(Equivalent to max. contact temperature 90°C)

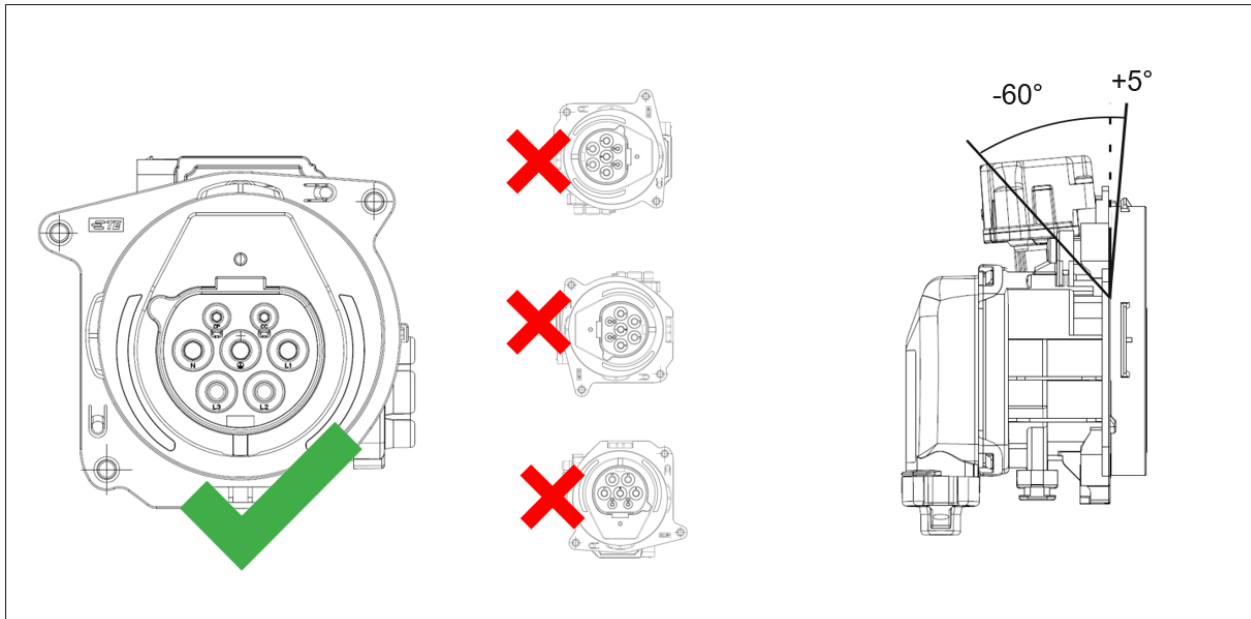
Actuator

see TE Actuator-Specification TE-108-94519

Installation

Orientation
Max. Angle

see picture below
180° -60°/+5°



3.4. Performance and Test Description

Specification	Description
ISO20653	IP67 – Fixed cable side (Rear Cover) IP55 – Water and Dust Protection (vehicle inlet mated)
IEC 62196-1:2014	Plugs, socket-outlets, vehicle connectors and vehicle inlets – Conductive charging of electric vehicles – Part 1: General requirements
IEC 62196-2:2016	Plugs, socket-outlets, vehicle connectors and vehicle inlets – Conductive charging of electric vehicles – Part 2: Dimensional compatibility and interchangeability requirements for a.c. pin and contact-tube accessories
Additional: selected tests of automotive standards LV124, LV214, LV215-2	

LTR	REVISION RECORD	DWN	APP	DATE
A	INITIAL DOCUMENT	M. MAENCHE	S. KUMAR	09 June 2020
A1	FORMAL CORRECTION	M. MAENCHE	S. KUMAR	11 June 2020
A2	PRODUCT RATINGS UPDATED	M. MAENCHE	S. KUMAR	11 Nov 2020
A3	PRODUCT RATINGS UPDATED	M. MAENCHE	S. KUMAR	29 Mar 2021
A4	INSTALLATION ANGLE UPDATED	M. MAENCHE	S. KUMAR	07 June 2021
A5	AMBIENT TEMPERATURE SPECIFIED	M. MAENCHE	S. KUMAR	14 SEPT 2021
A6	TEMPERATURE SENSING IS UPDATED IN PAGE 6	PRADEEP KUMA K	PHILIPP KOWARSCH	09 MAY 2023
A7	TEMPERATURE SENSING AND MECHANICAL PROPERTIES UPDATED IN PAGE 4	PRADEEP KUMAR K	FRANK WITTROCK	19 SEP 2023

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