



Test Report issued under the responsibility of:



TEST REPORT
IEC 61851-1: 2017
Electric vehicle conductive charging system
Part 1: General requirements

Report Number : 2281930.50
Date of issue..... : 13-05-2024
Total number of pages : 127

Name of Testing Laboratory
preparing the Report : DEKRA Certification B.V.

Applicant's name..... : Evos Energy Pty. Ltd.
Address..... : 17 Gould Road, Herston, BRISBANE 4006, AUSTRALIA

Test specification:

Standard : IEC 61851-1:2017
Test procedure : CB Scheme
Non-standard test method : N/A

TRF template used : IECEE OD-2020-F1:2022, Ed.1.5
Test Report Form No..... : IEC61851_1D
Test Report Form(s) Originator.... : VDE Prüf- und Zertifizierungsinstitut GmbH
Master TRF..... : Dated 2023-06-02

Copyright © 2018 IEC System of Conformity Assessment Schemes for Electrotechnical Equipment and Components (IECEE System). All rights reserved.


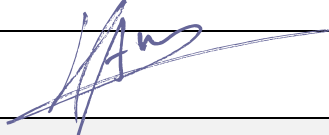
This publication may be reproduced in whole or in part for non-commercial purposes as long as the IECEE is acknowledged as copyright owner and source of the material. IECEE takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context.

If this Test Report Form is used by non-IECEE members, the IECEE/IEC logo and the reference to the CB Scheme procedure shall be removed.

This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.

General disclaimer:

The test results presented in this report relate only to the object tested.
This report shall not be reproduced, except in full, without the written approval of the Issuing CB Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.

Test item description :	Electric vehicle charging station	
Trade Mark :	EVOS	
Manufacturer :	Evos Energy Pty. Ltd.	
Model/Type reference :	FleetHome22 or SB7	
Ratings :	FleetHome22: 110-230 / 400 Vac, 50/60 Hz, 3P + N + PE, 32A, IK10, IP65, -25°C to +55°C SB7: 110-230 Vac, 50/60 Hz, 1P + N + PE, 32A, IK10, IP65, -25°C to +55°C	
Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):		
<input checked="" type="checkbox"/>	CB Testing Laboratory:	DEKRA Certification B.V.
Testing location/ address:		Meander 1051 6825 MJ Arnhem, Netherlands
Tested by (name, function, signature):		F. Güngör (ENG) 
Approved by (name, function, signature) ...:		H.A van Nielen (REW) 
<input type="checkbox"/>	Testing procedure: CTF Stage 1:	
Testing location/ address:		
Tested by (name, function, signature):		
Approved by (name, function, signature) ...:		
<input type="checkbox"/>	Testing procedure: CTF Stage 2:	
Testing location/ address:		
Tested by (name + signature)		
Witnessed by (name, function, signature) ..:		
Approved by (name, function, signature) ...:		
<input type="checkbox"/>	Testing procedure: CTF Stage 3:	
<input type="checkbox"/>	Testing procedure: CTF Stage 4:	
Testing location/ address:		
Tested by (name, function, signature):		
Witnessed by (name, function, signature) ..:		
Approved by (name, function, signature) ...:		
Supervised by (name, function, signature) :		

<p>List of Attachments (including a total number of pages in each attachment): Annex 1: IEC 62368-1 report (51 pages) Annex 2: National deviation (for the EU EN 62368-1) (21 pages) Annex 3: Mechanical Tests & IP65 Test results (4 pages) Annex 4: Pictures of product (10 pages)</p>	
<p>Summary of testing:</p>	
<p>Tests performed (name of test and test clause):</p> <p>Fully type tests were performed as per the mentioned standards in initial report.</p> <p>1st revision: 12.8 Temperature rise 10.2.701.2 Verification of resistance to mechanical impact according to IEC 61439-7.</p>	<p>Testing location:</p> <p>DEKRA Certification B.V. Meander 1051 6825 MJ Arnhem Netherlands</p>
<p>Summary of compliance with National Differences (List of countries addressed): EN 61851-1:2019: no technical deviations are reported by IECEE. EN 62368-1:2018 + A11:2020</p> <p><input checked="" type="checkbox"/> The product fulfils the requirements of IEC 61851-1:2017, EN 61851-1:2019, IEC 62368-1:2018, EN-IEC 62368-1:2020, EN-IEC 62368-1:2020/A11:2020.</p>	
<p>Use of uncertainty of measurement for decisions on conformity (decision rule) :</p> <p><input checked="" type="checkbox"/> No decision rule is specified by the IEC standard, when comparing the measurement result with the applicable limit according to the specification in that standard. The decisions on conformity are made without applying the measurement uncertainty ("simple acceptance" decision rule, previously known as "accuracy method").</p> <p><input type="checkbox"/> Other: ... (to be specified, for example when required by the standard or client, or if national accreditation requirements apply)</p> <p>Information on uncertainty of measurement: The uncertainties of measurement are calculated by the laboratory based on application of criteria given by OD-5014 for test equipment and application of test methods, decision sheets and operational procedures of IECEE. IEC Guide 115 provides guidance on the application of measurement uncertainty principles and applying the decision rule when reporting test results within IECEE scheme, noting that the reporting of the measurement uncertainty for measurements is not necessary unless required by the test standard or customer. Calculations leading to the reported values are on file with the NCB and testing laboratory that conducted the testing.</p>	

Copy of marking plate:

EVOS
<https://evos.energy>

2/231 Butterfield Street,
 Herston, QLD, 4006,
 Australia
 +61 7 3040 6668

Model : **FAC22-001**
 Model Name : **FleetHome22**
 Serial : **000423**
 Manufacture Date : **2022-08**
 Ingress Protection : **IP65**
 Impact Protection : **IK10**
 Operating range : **-25°C to 55°C**

Input: 32A 110-230V /400V \ 50/60Hz;
 1P/3P+N+PE
 Output: 32A 110-230V/400V \ 50/60Hz;
 1P/3P+N+PE, 22kW @ 40°C



002360  

Made in Australia

EVOS
<https://evos.energy>

2/231 Butterfield Street,
 Herston, QLD, 4006,
 Australia
 +61 7 3040 6668

Model : **FAC07 - 001**
 Model Name : **SB7**
 Serial : **001761**
 Manufacture Date : **11/2023**
 Ingress Protection : **IP65**
 Impact Protection : **IK08**
 Operating range : **- 25°C to 55°C**

Input: 32A 110 - 230V \ 50/60Hz,
 1P + N + PE
 Output: 32A 110 - 230V \ 50/60Hz,
 1P + N + PE, 7kW @ 40°C



002360  

Made in Australia

Test item particulars	
Equipment mobility.....	<input type="checkbox"/> movable <input type="checkbox"/> hand-held <input type="checkbox"/> transportable <input checked="" type="checkbox"/> stationary <input type="checkbox"/> for building-in <input type="checkbox"/> direct plug-in
Connection to the mains.....	<input type="checkbox"/> pluggable equipment <input type="checkbox"/> type A <input type="checkbox"/> type B <input checked="" type="checkbox"/> permanent connection <input type="checkbox"/> detachable power supply cord <input type="checkbox"/> non-detachable power supply cord <input type="checkbox"/> not directly connected to the mains
EV charging modes.....	<input type="checkbox"/> Mode 1 charging <input type="checkbox"/> Mode 2 charging <input checked="" type="checkbox"/> Mode 3 charging <input type="checkbox"/> Mode 4 charging
Type of EV connection	<input type="checkbox"/> Case A <input type="checkbox"/> Case B <input checked="" type="checkbox"/> Case C
Access location	<input checked="" type="checkbox"/> operator accessible <input type="checkbox"/> service access area <input type="checkbox"/> restricted access location
Over voltage category (OVC)	<input type="checkbox"/> OVC I <input type="checkbox"/> OVC II <input checked="" type="checkbox"/> OVC III <input type="checkbox"/> OVC IV <input type="checkbox"/> other:
Mains supply tolerance (%) or absolute mains supply values	±10%
Tested for IT power systems	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
IT testing, phase-phase voltage (V)	-
Class of equipment	<input checked="" type="checkbox"/> Class I <input type="checkbox"/> Class II <input type="checkbox"/> Class III <input type="checkbox"/> Not classified
Considered current rating (A)	40A circuit breaker
Pollution degree (PD)	<input type="checkbox"/> PD 1 <input type="checkbox"/> PD 2 <input checked="" type="checkbox"/> PD 3
IP protection class	IP65
Altitude during operation (m)	2000
Altitude of test laboratory (m)	20 m
Mass of equipment (kg)	2.9 kg (excluding cable)
Possible test case verdicts:	
- test case does not apply to the test object.....	N/A
- test object does meet the requirement.....	P (Pass)
- test object does not meet the requirement.....	F (Fail)
Testing	EV Charging station
Date of receipt of test item.....	January 2024
Date (s) of performance of tests	January 2024 – February 2024

General remarks:	
<p>"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report.</p> <p>Throughout this report a <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator.</p>	
Manufacturer's Declaration per sub-clause 4.2.5 of IEC60335-1:	
<p>The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided.....:</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> Not applicable</p>
When differences exist; they shall be identified in the General product information section.	
<p>Name and address of factory (ies).....: Evos Energy Pty. Ltd. 17 Gould Road, Herston, BRISBANE 4006, AUSTRALIA</p>	
General product information and other remarks:	
<p>FleetHome22 and SB7 charging stations are Mode 3 charging stations and part of the electric vehicle charging infrastructure as permanent connected equipment. Accordingly, they are equipped with a Case C connection.</p> <p>The distinction between FleetHome22 and SB7 lies in their power phases: FleetHome22 operates on three phases, whereas SB7 operates on a single phase. Despite this difference, both utilize the same critical components, as well as the same electrical schematic and layout.</p> <p>An LED indicator is placed on the front cover and is featured with multicolour capability. Additionally, it is integrated with Wi-Fi (2.4GHz IEEE 802.11.b/g/n), Bluetooth (4.1), and optionally LTE CAT-M1.</p> <p>The charging station is used in a pollution degree 3 environment with a temperature range of -25 °C to + 55 °C and is subjected to transient overvoltage of category III. The internal enclosure is considered to be a pollution degree 2 environment since the product provides IP65 degree. Reduction of the overvoltage category is provided by internal varistors which are placed in both common and differential mode. Beyond these varistors the overvoltage category is considered to be OVC II.</p> <p>Safety requirements for signaling circuits between the EV supply equipment and the EV are met by means of Safety Extra-Low Voltage (SELV).</p> <p>A "40A MCB and RCD Type A" shall be provided along with installation of the EV supply equipment. As specified in the manual a Type A RCD shall be used for detection of the AC leakage current. Built in 6mA dc leakage module is integrated within the product. See the product installation manual for further details.</p> <p>Product is specified as wall mounted and access condition is non-restricted access. Product is specified as IK10 and IP65.</p> <p>The altitude specification is up to 2000m.</p> <p>The charging station is classified as Class I product.</p>	

Conditions of acceptability:

- Equipment has been tested according to OVC III. OV CAT reduction has been applied by the varistors which are used as common modes (between different phases or neutral) and differential mode (Phases and neutral with respect to PE).
- Internal secondary circuitry is defined as SELV.
- Suitable MCB and RCD or RCBO, as specified in the manual, shall be provided along with installation of the EV supply equipment.
- Version control of software and hardware with regard to subjected samples for this report:
Software version: 2.6 and hardware version: 2.2

Abbreviations used in the report:

- normal conditions	N.C.	- single fault conditions	S.F.C
- functional insulation	OP	- basic insulation	BI
- double insulation	DI	- supplementary insulation	SI
- between parts of opposite polarity	BOP	- reinforced insulation	RI
- residual current device	RCD	- electrical vehicle	EV
- Safety extra low voltage	ELV	- residual current breaker and overcurrent protection	RCBO
		- charge circuit interrupting device (circuit used for 6 mA DC detection)	CCID

Indicate used abbreviations (if any)

Date	Report Number	Brief summary of changes
18-07-2022	2260174.50	Initial report
25-04-2024	2281930.50	1 st update report: <ul style="list-style-type: none"> - Increased the ambient temperature from 50°C to 55°C. - Addition of alternative charging cable and plug, plastic enclosure, alternative Mains Plugs/Connector and gasket. - Upgraded IP rating from IP55 to IP65.