Nanjing JNTIMUYA New Energy Technology Co., Ltd.

CE LVD REPORT

Prepared For :	Nanjing JNTIMUYA New Energy Technology Co., Ltd. Rm 107, Build 1, Apple City Build, No. 228, Tianyuan East Rd, Jiangning Dist, Nanjing, Jiangsu, China
Product Name:	EV CHARGER
Model :	TAP-32, SEE ANNEX
Prepared By :	BST Technology (Shenzhen) Co.,Ltd.. No.7, New Era Industrial Zone, Guantian, Bao'an District, Shenzhen, Guangdong, China
Test Date:	Dec. 11, 2023-Dec. 15, 2023
Date of Report :	Dec. 15, 2023
Report No.:	XDD07234073121502FAR

LVD REPORT

EN 62752:2016/A1:2020

In-cable control and protection device for mode 2 charging of electric road vehicles (IC-CPD)

Testing Laboratory	
Name..... :	BST Technology (Shenzhen) Co.,Ltd.
Address..... :	No.7, New Era Industrial Zone, Guantian, Bao'an District, Shenzhen, Guangdong, China
Testing location..... :	BST Technology (Shenzhen) Co.,Ltd.
Applicant..... :	Nanjing JNTIMUYA New Energy Technology Co., Ltd.
Address..... :	Rm 107, Build 1, Apple City Build, No. 228, Tianyuan East Rd, Jiangning Dist, Nanjing, Jiangsu, China
Test specification:	
Standard..... :	EN 62752:2016/A1:2020
Test procedure..... :	Comply with the Standard EN 62752:2016/A1:2020
Non-standard test method…….. :	N/A
Test item	
Description..... :	EV CHARGER
Model and/or type reference..... :	See page 1
Manufacturer ..... :	Nanjing JNTIMUYA New Energy Technology Co., Ltd.
Address …… :	Rm 107, Build 1, Apple City Build, No. 228, Tianyuan East Rd, Jiangning Dist, Nanjing, Jiangsu, China
Test item particulars	
Classification of installation and use :	Class I Appliance
Supply Connection..... :	Type Y
Rating:	AC230V~, 7360kW, 50/60Hz

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)

Name and address of the testing laboratory : **BST Technology (Shenzhen) Co.,Ltd..**
No.7, New Era Industrial Zone, Guantian, Bao'an District, Shenzhen, Guangdong, China

Apple Li

Dec. 15, 2023

Test by : _____ _____
Signature Date

Technician
Title

Dec. 15, 2023

Review by : _____ _____
Signature Date

Project Engineer
Title

BST TESTING(SHENZHEN) CO.,LTD. APPROVED

Dec. 15, 2023

Approved by : _____ _____
Signature Date

Andy Yan/ Manager
Name and Title

General remarks This test report shall not be reproduced except in full without the written approval of the testing laboratory. The test results presented in this report relate only to the item tested. "(see remark #)" refers to a remark appended to the report. "(see appended table)" refers to a table appended to the report.	Attached with: A. photo documentation

Copy of marking plate(s):

EV CHARGER
Model:TAP-32
Input: AC230V~, 7360kW, 50/60Hz

Nanjing JNTIMUYA New Energy Technology Co., Ltd.

Summary of testing:

The sample(s) tested comply with the requirement of
EN 62752:2016/A1:2020

EN 62752:2016/A1:2020			
Clause	RequirementTest	Result - Remark	Verdict
5	Characteristics of IC-CPDs		P
5.1	Summary of characteristics		P
5.2	Rated quantities and other characteristics		P
5.2.1	Rated voltages.		P
5.2.2	Rated current(I_n)		P
5.2.3	Rated residual operating current ($L_{\triangle n}$) .		P
5.2.4	Rated residual non-operating current($_{\triangle no}$)		P
5.2.5	Rated frequency.		P
5.2.6	Rated making and breaking capacity (I_m)		P
5.2.7	Rated residual making and breaking capacity ($I_{\triangle m}$).		P
5.2.8	Operating characteristics in case of residual currents comprising a d.c.component		P
5.2.9	Insulation coordination including creepage distances and clearances		P
5.2.10	Coordination with short-circuit protection devices (sCPDs)		P
5.3	Standard and preferred values		P
5.3.1	Preferred values of rated operational voltage (u_e) .		P
5.3.2	Preferred values of rated current (I_n)		P
	The preferred values of the rated current are indicated in Table 1.		--

Table 1 – Preferred values of rated current and corresponding preferred values of rated voltages

Type	Rated voltage V	Rated current A
Three-phase systems	480[a]	6, 8, 10, 13, 15, 16, 20, 24, 30, 32
	400	6, 8, 10, 13, 15, 16, 20, 25, 32
	240	15, 20, 30
Single- and two-phase systems	230	6, 8, 10, 13, 15, 16, 20, 25, 30, 32
	120	6, 8, 10, 12, 15, 16, 20, 30, 32.

[a] Only for mid-point or star-point earthed systems with voltage to earth 240 V or 277 V, as applicable.

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5.3.3	Standard values of rated residual operating current ($I_{\triangle}n$)		P
5.3.4	Standard value of rated residual non-operating current ($_{\triangle}$no)		P
5.3.5	Standard minimum value of the non-operating overcurrent through theIC-CPD		P
5.3.6	Preferted values of rated frequency		P
5.3.7	Minimum value of the rated making and breaking capacity (I_m)		P
5.3.8	Minimum value of the rated residual making and breaking capacity($I_{\triangle m}$)		P
5.3.9	Standard value of the rated conditional short-circuit current(I_{nc}).....		P
5.3.10	Standard value of the rated conditional residual short-circuit current($L_{\triangle}c$)		P
5.3.11	Limit values of break time		P
	The limit values of break time are given in Table 2 for a.c. residual currents，in Table 3 forsmooth d.c. residual currents and in Table 4 for residual pulsating direct currents which mayresult from rectifying circuits supplied from two or three phases.		--

Table 2 – Limit values of break time for a.c. residual currents at rated frequency

Limit values of break time at a residual current (I_{Δ}) equal to s			
$I_{\Delta n}$	2 $I_{\Delta n}$	5 $I_{\Delta n}$	5 A, 10 A, 20 A, 50 A, 100 A [a]
0,3	0,15	0,04	0,04

The maximum value of the test current should not exceed I_m.

NOTE For operation with residual currents having a d.c. component, see 9.7.4.

[a] The tests at 5 A, 10 A, 20 A, 50 A and 100 A are only made during the verification of the correct operation as mentioned in 9.7.3.5.

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Table 3 – Limit values of break time for smooth d.c. residual currents

Limit values of break time at a d.c residual current equal to s		
6 mA	**60 mA**	**300 mA**
10,0	0,3	0,04

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Table 4 – Limit values of break time for residual pulsating direct currents which may result from rectifying circuits supplied from two or three phases

Limit values of break time at a residual pulsating direct current (I_{Δ}) equal to s			
2 $I_{\Delta n}$	4 $I_{\Delta n}$	10 $I_{\Delta n}$	5 A, 10 A, 20 A, 50 A
0,3	0,15	0,04	0,04

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6	Marking and other product information		P
6.1	Data to be marked on the IC-CPD		P
6.2	Information to be provided to the end-user		P
7	Standard conditions for operation in service and for installation		P
7.1	Standard conditions		P
7.2	Conditions for installations		P
8	Requirements for construction and operation.		P
8.1	Mechanical design		P
8.2	Pluggable electrical connections of pluggable IC-CPDs according to 4.3.4		P
8.2.1	General		P
8.2.2	Degree of protection of pluggable electrical connection against solidforeign objects and water for pluggable IC-CPD		P
8.2.3	Breaking capacity of pluggable electrical connection for pluggable IC-CPD		P
8.2.4	Additional requirements		P
8.3	Construction		P
8.3.1	General		P
8.3.2	Terminations of IC-CPDs		P
8.3.3	Enclosure of IC-CPDs according to 4.3.3		P
8.3.4	Terminal screws or nuts of IC-CPDs according to 4.3.3		P
8.3.5	Strain on the conductors of IC-CPDs according to 4.3.3.		P
8.3.6	Additional requirements for IC-CPDs according to 4.3.3 .		P
8.3.7	Insulating parts which keep the live parts in position		P
8.3.8	Screws for IC-CPD according to 4.3.3		P
8.3.9	Means for suspension from a wall or other mounting surfaces		P
8.3.10	Plug as an integral part of plug-in equipment		P
8.3.11	Flexible cables and cords and their connection		P
	IC-CPDs shall be provided with a flexible copper cable complying with IEC 60227 orIEC 60245.	6mm 10AWG	P

Table 6 – Minimum cross-sectional area of flexible cable or cord

Current limit given by control pilot signal	Minimum cross-section mm²	AWG 1Ø
≤ 13 A	1,5	16
13 A < *I* ≤ 15 A	2,5	14
15 A < *I* ≤ 20 A	2,5	14
20 A < *I* ≤ 30 A	6	10
30 A < *I* ≤ 32 A	6	10

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8.4	Electrical performance		P
8.4.1	Protective conductor path		P
8.4.2	Contact mechanism		P
8.4.3	Clearances and creepage distances (see Annex C)		P
8.5	Protection against electric shock		P
8.5.1	General		P
8.5.2	Requirements relating to plugs, whether incorporated or not in integral items		P
8.5.3	Degree of protection of the function box		P
8.5.4	Requirements relating to vehicle connectors		P
8.6	Dielectric properties		P
8.7	Temperature rise		P
	The temperature-rises of the parts of an IC-CPD specified in Table 8，measured under the conditions specified in 9.6,shall not exceed the limiting values stated in this table.	Terminal 35K Enclosure 25K	P
	The IC-CPD shall not suffer damage impairing its functions and its safe use.		P

Table 8 – Temperature-rise values

Parts [a, b, c]	Temperature rise [d] K
Contacts or terminals for external connections	50
Parts likely to be touched made of	
metallic	30
non-metallic	50

8.8	Operating characteristics		P
8.8.1	General		P

8.8.2	Safe connection operating characteristics		P
8.8.3.	Operating characteristics with a.c. residual currents and residual currents having a d.c. component		P
8.8.4	Operating characteristics with smooth d.c. residual current		P
8.8.5	Behaviour of the IC-CPD after a residual current operation		P
8.8.6	Residual pulsating direct currents which may result from rectifying circuits supplied from two phases		P
8.8.7	Residual pulsating direct currents which may result from rectifying circuits supplied from three phases		P
8.9	Mechanical and electrical endurance		P
8.10	Performance at short-circuit currents		P
8.11	Resistance to mechanical shock and impact		P
8.12	Resistance to heat		P
8.13	Resistance to abnormal heat and to fire		P
8.14	Performance of the test function		P
8.15	Behaviour in case of loss of the supply voltage		P
8.16	Resistance of IC-CPDs against unwanted tripping due to surge currents to earth resulting from impulse voltages		P
8.17	Control pilot function controller		P
8.18	Reliability		P
8.19	Resistance to tracking		P
8.20	Electromagnetic compatibility (EMC)		P
8.21	Behaviour of the IC-CPD at low ambient air temperature		P
8.22	Operation with supply failure and hazardous live protective conductor conditions		P
8.23	Verification of a standing current in the protective conductor in normal service		P
8.24	Behaviour at specific environmental conditions		P
8.25	Resistance to vibration and shock		P
9	Tests		P
9.1	General		P
9.2	Test conditions		P
9.3	Test of indelibility of marking		P

9.4	Verification of protection against electric		P
9.5	Test of dielectric properties		P
9.6	Temperature-rise test		P
9.7	Verification of the operating characteristic		P
9.8	Verification of mechanical and electrical endurance		P
9.9	Verification of the behaviour of the IC-CPD under overcurrent conditions		P
9.10	Verification of resistance to mechanical shock and impact.		P
9.11	Test of resistance to heat		P
9.12	Resistance of insulating material to abnormal heat and to fire		P
9.13	Verification of the self test		P
9.14	Verification of the behaviour of IC-CPDs in case of loss of the supply voltage		P
9.15	Verification of the limiting values of the non-operating current under overcurrent conditions		P
9.16	Verification of resistance against unwanted tripping due to surge currents to earth resulting from impulse voltages		P
9.17	Verification of reliability		P
9.18	Resistance to ageing		P
9.19	Resistance to tracking		P
9.20	Test on pins provided with insulating sleeves		P
9.21	Test of mechanical strength of non-solid pins of plugs.		P
9.22	Verification of the effects of strain on the conductor		P
9.23	Checking of the torque exerted by IC-CPDs on fixed socket-outlets.		P
9.24	Tests of the cord anchorage		P
9.25	Flexing test of non-rewirable IC-CPDs		P
9.26	Verification of the electromagnetic compatibility (EMC)		P
9.27	Tests replacing verifications of creepage distances and clearances.		P
9.28	Verifications for single electronic components used in IC-CPDs		P
9.29	Chemical loads		P
9.30	Heat test under solar radiation		P
9.31	Resistance to ultra-violet (uv) radiation		P

9.32	Damp and salt mist test for marine and coastal environments.		P
9.33	Hot damp test for tropical environments		P
9.34	Vehicle drive-over		P
9.35	Low storage temperature test		P
9.36	Vibration and shock test		P

ANNEX

Additional Model:

TAP-16, TAP-16-EU, TAP-16-US, TAP-16-TS, TAP-32-EU, TAP-32-US, TAP-32-TS, TAP-40, TAP-48, TAP-80, TAP-11, TAP-21, TAP-22, TAP-11KW, TAP-21KW, TAP-22KW, TAP-PRO, TAP-PLUS, TAP-16-PRO, TAP-16-PLUS, TAP-32-PRO, TAP-32-PLUS, TAP-40-PRO, TAP-40-PLUS, TAP-48-PRO, TAP-48-PLUS, TAP-80-PRO, TAP-80-PLUS, TDC-01, TDC-02, TDC-03, TDC-04, TDC-05, TDC-06, TDC-07, TDC-08, TDC-09, TDC-10, TDC-16, TDC-18, TDC-19, TDC-20, TDC-30, TDC-40, TDC-50, TDC-60, TDC-70, TDC-80, TDC-90, TDC-79 TDC-97, TDC-99, TDC-Pro, TDC-PLUS, TDC-18-Pro, TDC-18-PLUS, TDC-19-Pro, TDC-19-PLUS, TDC-79-Pro, TDC-79-PLUS, TDC-2008-Pro, TDC-2008-PLUS, TDC-99-Pro, TDC-99-PLUS, TDC-120, TDC-120-PRO, TDC-120-PLUS, TDC-200, TDC-600, TDC-800, TDC-1000, TAW, TAW-7, TAW-11, TAW-21, TAW-22, TAW-14, TAW-01, TAW-09, TAW-10, TAE-20, TAW-30, TAW-60, TAW-70, TAW-80, TAW-90, TAW-99, TAW-88, TAW-79, TAW-97, TAW-50, TAW-16, TAW-32, TAW-PRO, TAW-7-PRO, TAW-11-PRO, TAW-21-PRO, TAW-22-PRO, TAW-14-PRO, TAW-01-PRO, TAW-09-PRO, TAW-10-PRO, TAE-20-PRO, TAW-30-PRO, TAW-60-PRO, TAW-70-PRO, TAW-80-PRO, TAW-90-PRO, TAW-99-PRO, TAW-88-PRO, TAW-79-PRO, TAW-97-PRO, TAW-5-PRO, TAW-16-PRO, TAW-32-PRO, T2168-16, T2168-32, T2168-40, T2168-50, T2168-16-Pro, T2168-32-Pro, T2168-40-Pro, T2168-50-Pro, T2168-16-Plus, T2168-32-Plus, T2168-40-Plus, T2168-50-Plus, TAW-PLUS, TAW-7-PLUS, TAW-11-PLUS, TAW-21-PLUS, TAW-22-PLUS, TAW-14-PLUS, TAW-01-PLUS, TAW-09-PLUS, TAW-10-PLUS, TAE-20-PLUS, TAW-30-PLUS, TAW-60-PLUS, TAW-70-PLUS, TAW-80-PLUS, TAW-90-PLUS, TAW-99-PLUS, TAW-88-PLUS, TAW-79-PLUS, TAW-97-PLUS, TAW-50-PLUS, TAW-16-PLUS, TAW-32-PLUS, TAP-16-UK, TAP-32-UK, TAP-22-UK, TAP-11-UK, TAC-16, TAC-32, TAC-40, TAC-11, TAC-22, TAC-21, TAC-16-PRO, TAC-32-PRO, TAC-40-PRO, TAC-11-PRO, TAC-22-PRO, TAC-21-PRO, TAC-PRO, TAC-PLUS, TE-V8, TE-V8-PRO, TE-V8-PLUS, TE-V9, TE-V9-PRO, TE-V9-PLUS, TE-V6, TE-V6-PRO, TE-V6-PLUS, TE-V7, TE-V7-PRO, TE-V7-PLUS, TE-V5, TE-V5-PRO, TE-V5-PLUS, TE-V3, TE-V3-PRO, TE-V3-PLUS, TE-V1, TE-V1-PRO, TE-V1-PLUS, TE-V2, TE-V2-PRO, TE-V2-PLUS, JT1, JT2, JT3, JT4, JT5, JT6, JT7, JT8, JT9, JT10, JT20, JT80, JT79, JT99, JT90, JT91, JT92, JT95, JT96, J97

Appendix

Figure documentation

EUT PHOTO:

Photo 1

Photo 2

Photo 3