Technical Construction File
EN IEC 61800-5-1:2023
Adjustable speed electrical power drive systems – Part 5-1: Safety requirements - Electrical, thermal and energy

Report reference No.....:	TLZJ26072091537
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Date of issue.....:	July 27,2026
Reviewing laboratory.....:	Shanghai Global Testing Services Co., Ltd.
Reviewing location.....:	Floor 2nd, Building D-1, No. 128, Shenfu Road, Minhang District, Shanghai, China.
Applicant.....:	Jingdezhen Zhengkong Electric Co., Ltd.
Address.....:	Smart Electrical Home Industrial Park, Fuliang Industrial Park, Fuliang County, Jingdezhen City, Jiangxi Province, China
Manufacturer.....:	Jingdezhen Zhengkong Electric Co., Ltd.
Address.....:	Smart Electrical Home Industrial Park, Fuliang Industrial Park, Fuliang County, Jingdezhen City, Jiangxi Province, China
Factory.....:	The same as manufacturer
Address.....:	The same as manufacturer
Standard.....:	EN IEC 61800-5-1:2023
Review Report Form No.....:	61800
TRF originator.....:	GTS
Master TRF.....:	Reference No. IEC 61800-5-1
Review procedure .....:	GTS
Type of Review object.....:	Frequency Inverter
Trademark.....:	/
Model/type reference.....:	See the annex
Main model.....:	300N-2.2GB-T4
Rating.....:	/

Possible review case verdicts: - review case does not apply to the test object..... : N(.A.) - review object does meet the requirement..... : P(ass) - review object does not meet the requirement.....: F(ail)
General remarks:
”(see remark #)” refers to a remark appended to the report. ”(see appended table)” refers to a table appended to the report. Throughout this report a comma is used as the decimal separator. The review results presented in this report relate only to the object reviewed. This report shall not be reproduced except in full without the written approval of the third party.

Testing:	
Date of receipt of review item:	July 17,2026
Date(s) of performance of review:	July 17,2026 to July 27,2026

General product information: Frequency Inverter
Summary of reviewing: The report includes: 1 pages of photo documentation
Copy of marking plate

Frequency Inverter, Model 300N-2.2GB-T4 Jingdezhen Zhengkong Electric Co., Ltd.	Marking CE

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4.2.1.1	Use of decisive voltage class		P
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			P
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	Name of manufacturer, supplier or importer		P
	Catalogue number or type		P
	Voltage, current and power rating		P
	Short circuit rating		P
	Short circuit designation		P
	Operating and storage environment		P
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5.2.2.1	General selection and information of supply earthing systems for clearance distances (24V aux power board and excitation board)	N/A

Power systems	TN-S, TN-C, TN-CS, TT (not corner earthed)		TN-S, TT (corner earthed)		TN-C (middle point earthed		IT (not corner earthed)		IT (corner earthed)	
Rated voltage (V)	220V~		Not evaluated		Not evaluated		Not evaluated		Not evaluated	
Max. altitude (m)	2000		-		-		-		-	
System voltage	220V~		-		-		-		-	
	B/S	D/R	B/S	D/R	B/S	D/R	B/S	D/R	B/S	D/R
Rated Impulse voltage (kV)	2.5	4.0	-	-	-	-	-	-	-	-
Temporary overvoltage (V)	1500/ 2120	3000/ 4240	-	-	-	-	-	-	-	-
Clearance (mm)	1.5	3.0	-	-	-	-	-	-	-	
Test impulse voltage for clearance (kV)	2.5	4.0	-	-	-	-	-	-	-	-
IT corner earthed, simulated impedance (MΩ).....:	Not evaluated									
Supplementary information: Pollution degree: II; Overvoltage category II										

5.2.2.1	TABLE: Working voltage measurements for clearance and creepage distances	N/A

Condition #	Between	TN-S, TN-C, TN-CS, TT (not corner earthed)		TN-S, TT (corner earthed)		TN-C (middle point earthed		IT (not corner earthed)		IT (corner earthed)	
		peak	rms	peak	rms	peak	rms	peak	rms	peak	rms
1	R/S/T	N/A	N/A	N/A	N/A	N/A	N/A	Not evaluated	Not evaluated	Not evaluated	Not evaluated
2	U/V/W	N/A	N/A	N/A	N/A	N/A	N/A	Not evaluated	Not evaluated	Not evaluated	Not evaluated
3	(P+) and (P-)	N/A	N/A	N/A	N/A	N/A	N/A	Not evaluated	Not evaluated	Not evaluated	Not evaluated
4	U/V/W and PE	N/A	N/A	N/A	N/A	N/A	N/A	Not evaluated	Not evaluated	Not evaluated	Not evaluated
5	R/S/T and PE	N/A	N/A	N/A	N/A	N/A	N/A	Not evaluated	Not evaluated	Not evaluated	Not evaluated

6	(P+) and (P-) and PE	N/A	N/A	N/A	N/A	N/A	N/A	Not evaluated	Not evaluated	Not evaluated	Not evaluated
7	DC bulk capacitor and earthing enclosure	N/A	N/A	N/A	N/A	N/A	N/A	Not evaluated	Not evaluated	Not evaluated	Not evaluated
	On POWER board	--	--	--	--	--	--	--	--	--	--

	TABLE:	Clearance and creepage distance measurements					P
Clearance (cl) and creepage distance (cr) at/of/between:	Upeak (V)	Urms (V)	Req. cl. (mm)	Meas. Cl. (mm)	Req. cr. (mm)	Meas. Cr. (mm)	
Functional:							
(P+) and (P-)	560	570	1.5	>8	1.5	>8	
Basic/supplementary:							
(P+) and (P-) and PE	180	100	1.5	>8	1.5	>8	
Reinforce insulation							
On POWER board	--	--	--	--	--	--	
U10 Pri. to Sec.	325	134	3.0	>4	3.0	>4	
Supplementary information:							

4.3.6.8 5.2.3.1 5.2.3.2 5.2.3.3	TABLE: Solid insulation, Impulse voltage test, A.C. or d.c. voltage test, Partial discharge test				N/A
Test voltage applied betweet:	DTI (mm)	Impulse test (V, circuit)	Electric strength test (V d.c.)	Partial discharge test (V)	Result
Basic/supplementary:					
On POWER board	--	--	--	--	--
Reinforced:					
Insulation sheet	Min 0.25mm	4000	3000/4240	--	P
Heat shrinkable tube	Min 0.25mm	4000	3000/4240	--	P
Supplementary information:					

5.2.3.5	TABLE:	Touch current measurement						N/A
Single phase equipment								
L – N TN-S, TN-C, TN-CS, TT (not corner earthed) Figure 6	L – L TN-C, TT (middle point earthed) Figure 7	L – L TN, TT (not corner earthed) Figure 8	L – N IT (not corner earthed) Figure 9	L – N IT (corner earthed) Figure 9	L – L IT (not corner earthed) Figure 10	L – L IT (corner earthed) Figure 10	Measu-rement limit for 50 Hz (mA)	Measu-rement limit for 60 Hz (mA)
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Three-phase equipment								
TN-S, TN-C, TN-CS, TT (not corner earthed) Figure 11	IT (star point earthed) Figure 12	IT (corner earthed) Figure 12	TN, TT (corner earthed) Figure 13	TN, TT (centre earthed) Figure 14			Measu-rement limit for 50 Hz (mA)	Measu-rement limit for 60 Hz (mA)
3.0mA	--	--	--	--			--	3.5mA
Supplementary information: Measurements have been carried out according to figures 11 of IEC 60990.								

5.2.3.8	TABLE: Temperature rise test				P
	Supply voltage (V) .....:	220V/50Hz	220V/60Hz	—	—
	Derating (%).....:	-15%	+15%	—	—
	Rated maximum ambient temperature (°C) .....:	45.0	45.0	—	—
	Cooling system (water temp) (°C)....:	—	—	—	—
	Ambient Tmin (°C) .....:	45.0	45.0	—	—
	Ambient Tmax (°C) .....:	45.0	45.0	—	—
Maximum measured temperature T of part/at::		T (°C)	T (°C))	—	Allowed Tmax (°C)
1. Input terminal		52.6	54.2	—	140
2. Current transformer (CT1)		54.7	58.5	—	110
3. Fan		63.2	70.3	—	80
4. Enclosure inside		59.4	65.3	—	Ref.
5. Enclosure outside		55.7	58.4	—	Ref.
6. Internal wire		55.2	57.4	—	105
Test time		3.5h ours	3.5h ours	—	–

Supplementary information:
1. The maximum ambient temperature permitted by the manufacturer's specification is 45°C.
2. The temperatures were measured under worst normal mode.
3. Warning: Hot surface. Do not touch when the Frequency Inverter is operating

Temperature T of winding:	t1 (°C)	R1 (Ω)	t2 (°C)	R2 (Ω)	T (°C)	Allowed Tmax (°C)	Insulation class
—	—	—	—	—	—	—	—
Supplementary information:							

5.2.3.9	TABLE: Protective bonding				N/A
	Test current (A) ..... :	16A			—
Points of application		Resistance (mΩ)	Voltage (V)	Test time (s)	Result
Metal enlcosure		15.3	0.2	60	Pass
Supplementary information: limit is 20 mΩ					

5.2.5	TABLE: Material tests				N/A
Part	Manufacturer of material/part	Type of material/part	Thickness (mm)	Test	Result
—	—	—	—	—	—
Supplementary information: UL Recognized materal used					

5.2.3.9	TABLE: Protective bonding test				N/A
	Test current (A) ..... :	16A			—
Points of application		Resistance (mΩ)	Voltage (V)	Test time (s)	Result
From the main protective conductor (terminal) to the different exposed conductive parts in turn		15.3	-	60	
Supplementary information: limit is 20 mΩ					

Annex:

300N-0.75G-H2, 300N-1.5G-H2, 300N-2.2G-H2, 300N-003G-H2, 300N-0.75GB-S2, 300N-1.5GB-S2, 300N-2.2GB-S2, 300N-003GB-S2, 300N-0.75PB-S3, 300N-1.5PB-S3, 300N-2.2PB-S3, 300N-003PB-S3, 300N-004PB-S3, 300N-5.5PB-S3, 300N-7.5PB-S3, 300N-011PB-S3, 300N-015PB-S3, 300N-18.5PB-S3, 300N-0.75GB-T2, 300N-1.5GB-T2, 300N-2.2GB-T2, 300N-003GB-T2, 300N-004GB-T2, 300N-5.5GB-T2, 300N-7.5GB-T2, 300N-011GB-T2, 300N-015G-T2, 300N-18.5G-T2, 300N-022G-T2, 300N-030G-T2, 300N-037G-T2, 300N-045G-T2, 300N-055G-T2, 300N-075G-T2, 300N-0.75GB-T4, 300N-1.5GB-T4, 300N-2.2GB-T4, 300N-003GB-T4, 300N-004GB-T4, 300N-5.5GB-T4, 300N-7.5GB-T4, 300N-011GB-T4, 300N-015GB-T4, 300N-18.5GB-T4, 300N-022GB-T4, 300N-030G-T4, 300N-037G-T4, 300N-045G-T4, 300N-055G-T4, 300N-075G-T4, 300N-090G-T4, 300N-110G-T4, 300N-132G-T4, 300N-160G-T4, 300N-185G-T4, 300N-200G-T4,
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300N-500G-T4, 300N-560G-T4, 300N-630G-T4, 300N-720G-T4, 300N-800G-T4, 300N-0.75PV-T2, 300N-1.5PV-T2, 300N-2.2PV-T2, 300N-003PV-T2, 300N-004PV-T2, 300N-5.5PV-T2, 300N-7.5PV-T2, 300N-011PV-T2, 300N-01PV-T2, 300N-18.5PV-T2, 300N-022PV-T2, 300N-030PV-T2, 300N-037PV-T2, 300N-045PV-T2, 300N-055PV-T2,
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Photo documentation:

Type of equipment:	Frequency Inverter

Details of:	
View: [X] general [ ] front [ ] rear [ ] right [ ] left [ ] top [ ] bottom	

- End of Report -