TEST REPORT
IEC 61800-5-1
Adjustable speed electrical power drive systems – Part 5-1: Safety requirements – Electrical, thermal and energy

Report Reference No. ..... :	LCS201124072AS
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Address ..... :	Room 101, 201, Building A and Room 301, Building C, Juji Industrial Park, Yabianxueziwei, Shajing Street, Bao'an District, Shenzhen, Guangdong, China
Applicant's name ..... :	DELIXI HANGZHOU INVERTER CO., LTD.
Address ..... :	No.8, Economic Plot, Zhuantang Science and Technology Park, Zhuantang Street, Xihu District, Hangzhou, Zhejiang.
Test specification:	
Standard ..... :	IEC 61800-5-1:2007/AMD1:2016
Test procedure ..... :	Type test
Non-standard test method……..:	N/A
Test Report Form No. ..... :	IEC61800_5_1C
Test Report Form(s) Originator..... :	SGS FIMKO Ltd.
Master TRF ..... :	2016-05

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Test item description..... :	Adjustable speed electrical power drive systems
Trade Mark..... :	DELIXI
Manufacturer..... :	Same as applicant
Model/Type reference..... :	SPD Series b:G030、G037、G045、G055、G075、G090、G110、G132、G160、G185、G200、G220、G250、G280、G315、G355、G375、G400
Ratings..... :	See marking plate

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Testing Laboratory:	Shenzhen LCS Compliance Testing Laboratory Ltd.
Testing location/ address ..... :	Room 101, 201, Building A and Room 301, Building C, Juji Industrial Park, Yabianxueziwei, Shajing Street, Bao'an District, Shenzhen, Guangdong, China
Tested by (name + signature) ..... :	Uic wan/ Project engineer
Reviewed by (name + signature) ..... :	Albert Lai/ Project engineer
Approved by (name + signature) ..... :	Hart Qiu/ Technical manager

List of Attachments (including a total number of pages in each attachment):

Attachment No.1: Photo documentation (4 pages)

Summary of testing:

Tests performed (name of test and test clause):	**Testing location:**
The submitted samples were found to comply with the requirements of: ➢ Electrical safety IEC 61800-5-1:2007/AMD1:2016 EN 61800-5-1:2007/AMD1:2017	Shenzhen LCS Compliance Testing Laboratory Ltd. Room 101, 201, Building A and Room 301, Building C, Juji Industrial Park, Yabianxueziwei, Shajing Street, Bao'an District, Shenzhen, Guangdong, China

Summary of compliance with National Differences:

N/A

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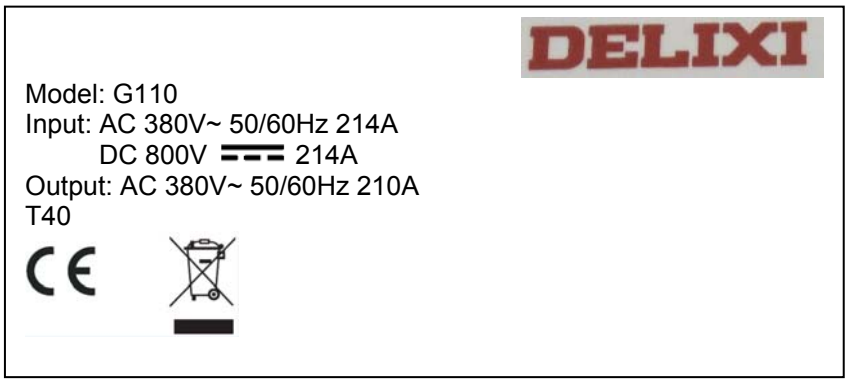
Copy of marking plate

The artwork below may be only a draft.



Remark:

1. Representative markings of model: G110, markings of all models are identical except for their appearance and ratings.
2. The height dimension of CE mark should not less than 5mm.

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Test item particulars:	
Equipment under test ..... :	☒ PDS ☐ CDM ☐ BDM
Intended equipment location ..... :	☐ stand alone ☒ for building-in (open-type)
Mains supply overvoltage category (OVC) ..... :	☐ OVC I ☒ OVC II ☐ OVC III ☐ OVC IV
Reduction of OVC for basic insulation used ..... :	☒ No ☐ Yes, by:
Supply earthing systems and system voltage (V) ..... :	Supply earthing system System voltage ☐ TN-S, TN-C, TN-CS, TT (not corner earthed) ☐ TN-C (middle point earthed) ☒ TN-S, TT (corner earthed) ☐ IT (not corner earthed) ☐ IT (corner earthed) ☐ other:
OVC for potential free terminals ..... :	☐ OVC I ☒ OVC II ☐ OVC III ☐ OVC IV
Other non-DVC A connections ..... :	
Class of equipment ..... :	☐ Class 0 ☒ Class I ☐ Class II ☐ Class III
Pollution degree (PD) ..... :	☐ PD 1: ☒ PD 2: ☐ PD 3: ☐ PD 4:
IP protection class(es) ..... :	Not applicable
Ambient temperature during operation (°C) with/without derating ..... :	40°C
Max. operation altitude (m) ..... :	≤ 2000
Altitude of test laboratory (m) ..... :	< 500
Other particulars ..... :	N/A
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:	
Date of receipt of test item ..... :	2020-11-24
Date(s) of performance of tests ..... :	From 2020-11-24 to 2020-12-09

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General remarks:

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 testing laboratory.
"(see Enclosure #)" refers to additional information appended to the report.
"(see appended table)" refers to a table appended to the report.

Throughout this report a ☐ comma / ☒ point is used as the decimal separator.

General product information:

1. All models have the same circuit diagram and construction except for the different model names.
2. All tests were conducted on model G110 to represent the other model.

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IEC/EN 61800-5-1			
Clause	Requirement + Test	Result - Remark	Verdict
4	**PROTECTION AGAINST ELECTRIC SHOCK, THERMAL, AND ENERGY HAZARDS**		
4.1	General		P
4.2	Fault conditions		P
4.3	Protection against electric shock		
4.3.1	Decisive voltage classification	DVC	P
4.3.1.1	Use of decisive voltage class (DVC) .....:	DVC	P
4.3.1.2	Limits of DVC		P
4.3.1.3	Requirements for protection		P
4.3.1.4	Circuit evaluation		P
4.3.1.4.1	General		P
4.3.1.4.2	A.C. working voltage		P
4.3.1.4.3	D.C. working voltage		N/A
4.3.1.4.4	Pulsating working voltage		P
4.3.2	Protective separation .....:		P
4.3.3	Protection against direct contact		P
4.3.3.1	General		P
4.3.3.2	Protection by means of insulation of live parts		P
4.3.3.3	Protection by means of enclosures and barriers		P
4.3.4	Protection in case of direct contact		P
4.3.4.1	General		P
4.3.4.2	Protection using DVC A .....:		N/A
4.3.4.3	Protection by means of protective impedance		N/A
4.3.4.4	Protection by means of using limited voltage		N/A
4.3.5	Protection against indirect contact		P
4.3.5.1	General .....:		P
4.3.5.2	Insulation between live parts and accessible conductive parts		P
4.3.5.3	Protective bonding circuit		P

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IEC/EN 61800-5-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.3.5.3.1	General		P
4.3.5.3.2	Rating of protective bonding .....:		P
4.3.5.3.3	Protective bonding impedance		P
4.3.5.4	Protective earthing conductor .....:		P
4.3.5.5	Means of connection for the protective earthing conductor		P
4.2.5.5.1	General		P
4.2.5.5.2	Touch current in case of failure of protective earthing conductor .....:		P
4.2.5.6	Special features in equipment for protection class II		N/A
4.3.6	Insulation		P
4.3.6.1	General		P
4.3.6.1.1	Influencing factors		P
4.3.6.1.2	Pollution degree .....:		P
4.3.6.1.3	Overvoltage Category .....:		P
4.3.6.1.4	Supply earthing systems .....:		P
4.3.6.1.5	Insulation voltages		P
4.3.6.2	Insulation to the surroundings		P
4.3.6.2.1	General		P
4.3.6.2.2	Circuits connected directly to the supply mains ...:	AC	P
4.3.6.2.3	Circuits not connected directly to the supply mains .....:		N/A
4.3.6.2.4	Insulation between circuits .....:		P
4.3.6.3	Functional insulation		P
4.3.6.4	Clearance distances	See appended table 3.4.6.4.	P
4.3.6.4.1	Determination		P
4.3.6.4.2	Electric field homogeneity		P
4.3.6.4.3	Clearance to conductive enclosures .....:		P
4.3.6.5	Creepage distance	See appended table 4.3.6.5.	P
4.3.6.5.1	General		P
4.3.6.5.2	Materials .....:		P
4.3.6.6	Coating		N/A
4.3.6.7	PWB spacings for functional insulation .....:		P
4.3.6.8	Solid insulation	See appended table 4.3.6.8.	P

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Clause	Requirement + Test	Result - Remark	Verdict
4.3.6.8.1	General		P
4.3.6.8.2	Requirements for electrical withstand capability		P
4.3.6.8.2.1	Basic or supplementary insulation		P
4.3.6.8.2.2	Double and reinforced insulation		P
4.3.6.8.2.3	Functional insulation		P
4.3.6.8.3	Thin sheet or tape material		P
4.3.6.8.3.1	General		P
4.3.6.8.3.2	Material thickness not less than 0.2 mm		P
4.3.6.8.3.3	Material thickness less than 0.2 mm		N/A
4.3.6.8.3.4	Compliance		P
4.3.6.8.4	Printed wiring boards		P
4.3.6.8.4.1	General		P
4.3.6.8.4.2	Use of coating materials		N/A
4.3.6.8.5	Wound components		N/A
4.3.6.8.6	Potting materials		N/A
4.3.6.9	Insulation requirements above 30 kHz		N/A
4.3.7	Enclosures		P
4.3.7.1	General .....:	See cl. 4.4.3, 5.2.2.5.3, 5.2.2.4.	P
4.3.7.2	Cast metal .....:		N/A
4.3.7.3	Sheet metal .....:		N/A
4.3.8	Wiring and connections		P
4.3.8.1	General		P
4.3.8.2	Routing		P
4.3.8.3	Colour coding		N/A
4.3.8.4	Splices and connections		P
4.3.8.5	Accessible connections		P
4.3.8.6	Interconnections between parts of the PDS		P
4.3.8.7	Supply connections		P
4.3.8.8	Terminals		P
4.3.8.8.1	Construction requirements		P
4.3.8.8.2	Connecting capacity		P

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Clause	Requirement + Test	Result - Remark	Verdict
4.3.8.8.3	Connection		P
4.3.8.8.4	Wire bending space for wires 10 mm² and greater ..... :		P
4.3.9	Output short circuit requirements .....:		P
4.3.10	Residual current-operated protective (RCD) or monitoring (RCM) device compatibility		N/A
4.3.11	Capacitor Discharge .....:		P
4.3.12	Access conditions for high-voltage PDS		P
4.4	Protection against thermal hazards		P
4.4.1	Minimizing the risk of ignition	See appended table 1.	P
4.4.2	Insulation Materials		P
4.4.2.1	General	See appended table 5.2.3.8.	P
4.4.2.2	Material requirements	See cl. 5.2.5.1, 5.2.5.2 and appended table 1.	P
4.4.3	Flammability of enclosure materials	See appended table 1.	P
4.4.4	Temperature limits		P
4.4.4.1	Internal parts		P
4.4.4.2	External parts of CDM		N/A
4.4.5	Specific requirements for liquid cooled PDS		N/A
4.4.5.1	Coolant		N/A
4.4.5.2	Design requirements		N/A
4.4.5.2.1	Corrosion resistance		N/A
4.4.5.2.2	Tubing, joints and seals		N/A
4.4.5.2.3	Provision for condensation		N/A
4.4.5.2.4	Leakage of coolant		N/A
4.4.5.2.5	Loss of coolant		N/A
4.4.5.2.6	Conductivity of coolant		N/A
4.4.5.2.7	Insulation requirements for coolant loss		N/A
4.5	Protection against energy hazards		P
4.5.1	Electrical energy hazards .....:		P
4.5.2	Mechanical energy hazards		P
4.5.2.1	General		P
4.5.2.2	Critical torsional speed		P

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Clause	Requirement + Test	Result - Remark	Verdict
4.5.2.3	Transient torque analysis		P
4.5.3	Acoustic noise emission		N/A
4.6	Protection against environmental stresses		N/A
5	**TEST REQUIREMENTS**		P
5.1	General		P
5.1.1	Test objectives and classification ..... :		P
5.1.2	Selection of test samples ..... :		P
5.1.3	Sequence of tests		P
5.1.4	Earthing Conditions ..... :	Neutral to earth; isolated (not earthed)	P
5.1.5	Compliance		P
5.1.6	Test Overview		P
5.2	Test specifications		P
5.2.1	Visual inspections (type test, sample test and routine test)		P
5.2.2	Mechanical tests		P
5.2.2.1	Clearance and creepage distances (type test)	See appended table 5.2.2.1.	P
5.2.2.2	PWB short-circuit test (type test)	See appended table 5.2.2.2.	P
5.2.2.3	Non-accessibility test (type test) ..... :		P
5.2.2.4	Enclosure integrity test (type test) ..... :		P
5.2.2.5	Deformation tests		P
5.2.2.5.1	General		P
5.2.2.5.2	Deflection test (type test) ..... :	250N for 5s, no damage	P
5.2.2.5.3	Impact test (type test), temperature (°C) ..... :	A solid smooth steel sphere of 500g, 50mm in diameter applied, no damage	P
5.2.3	Electrical tests		P
5.2.3.1	Impulse voltage test (type test and sample test)	See appended table 5.2.3.1.	N/A
5.2.3.2	A.C. or d.c. voltage test (type and routine test)	See appended table 5.2.3.2.	P
5.2.3.2.1	Purpose of test		P
5.2.3.2.2	Value and type of test voltage		P
5.2.3.2.3	Performing the voltage test		P

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Clause	Requirement + Test	Result - Remark	Verdict
5.2.3.2.4	Duration of the a.c. or d.c. voltage test		P
5.2.3.2.5	Verification of the a.c. or d.c. voltage test		P
5.2.3.3	Partial discharge test (type test, sample test)		N/A
5.2.3.4	Protective impedance (type test and routine test) :		P
5.2.3.5	Touch current measurement (type test)	See appended table 5.2.3.5.	P
5.2.3.6	Short-circuit test and Breakdown of components test (type tests)	See appended table 5.2.3.6.	P
5.2.3.6.1	General		P
5.2.3.6.2	Test configuration		P
5.2.3.6.2.1	Supply voltage and current		P
5.2.3.6.3	Short-circuit test		P
5.2.3.6.3.1	Load conditions		P
5.2.3.6.3.2	Location of short-circuit		P
5.2.3.6.4	Breakdown of component test		P
5.2.3.6.4.1	Load condition		P
5.2.3.6.4.2	Application of short-circuit or open-circuit		P
5.2.3.6.5	Test sequence		P
5.2.3.6.6	Pass criteria		P
5.2.3.7	Capacitor discharge (type test) ..... :	No such capacitor	N/A
5.2.3.8	Temperature rise test (type test)	See appended table 5.2.3.8.	P
5.2.3.9	Protective bonding (type test and routine test)	See appended table 5.2.3.9.	P
5.2.4	Abnormal operation tests	See appended table 5.2.4.	P
5.2.4.1	General		P
5.2.4.2	Test duration		P
5.2.4.3	Pass criteria		P
5.2.4.4	Loss of phase (type test)	No clogged filter	N/A
5.2.4.5	Cooling failure tests (type tests)		N/A
5.2.4.5.1	General		N/A
5.2.4.5.2	Inoperative blower motor (type test)		N/A
5.2.4.5.3	Clogged filter (type test)		N/A
5.2.4.5.4	Loss of coolant		N/A
5.2.5	Material tests		P

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5.2.5.1	High current arcing ignition test (type test)		P
5.2.5.2	Glow-wire test (type test)	850℃	P
5.2.5.3	Hot wire ignition test (type test - alternative to Glow-wire test)	HWI=3	P
5.2.5.4	Flammability test (type test)	UL94-5VA/VB	P
5.2.6	Environmental tests (type tests)		P
5.2.6.1	General		P
5.2.6.2	Acceptance criteria		N/A
5.2.6.3	Climatic tests		P
5.2.6.3.1	Dry heat test (steady state)		P
5.2.6.3.2	Damp heat test (steady state)	40℃, 93%, 12h	P
5.2.6.4	Vibration test (type test)		N/A
5.2.7	Hydrostatic pressure test (type test and routine test) .....:		N/A
6	**INFORMATION AND MARKING REQUIREMENTS**		
6.1	General		P
6.2	Information for selection	See appended table 6, part 6.2.	P
6.3	Information for installing and commissioning	See appended table 6, part 6.3.	P
6.3.1	General		P
6.3.2	Mechanical considerations		P
6.3.3	Environment		P
6.3.4	Handling and mounting		P
6.3.5	Motor and driven equipment		P
6.3.5.1	Motor selection		P
6.3.5.2	Motor integrated sensors		P
6.3.5.3	Critical torsional speeds		P
6.3.5.4	Transient torque analysis		P
6.3.6	Connections		P

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6.3.6.1	General		P
6.3.6.2	Interconnection and wiring diagrams		P
6.3.6.3	Conductor (cable) selection		P
6.3.6.4	Terminal capacity and identification .....:		P
6.3.6.5	Protection requirements		P
6.3.6.6	Earthing		P
6.3.6.7	Protective earthing conductor current		P
6.3.6.8	Special requirements		P
6.3.7	Overcurrent and short-circuit protection		P
6.3.8	Motor overload protection		P
6.3.9	Commissioning		N/A
6.4	Information for use	See appended table 6, part 6.4.	P
6.4.1	General		P
6.4.2	Adjustment		P
6.4.3	Labels, signs and signals		P
6.4.3.1	General		P
6.4.3.2	Isolators		N/A
6.4.3.3	Visual and audible signals		N/A
6.4.3.4	Hot surfaces		N/A
6.4.3.5	Equipment marking		P
6.5	Information for maintenance	See appended table 6, part 6.5.	P
6.5.1	General		P
6.5.2	Capacitor discharge		P
6.5.3	Auto restart/bypass connection		P
6.5.4	PT/CT connection		N/A
6.5.5	Other hazards		N/A
Annex A	Examples of protection in case of direct contact	Considered	P
Annex B	Examples of overvoltage category reduction	Considered	N/A
Annex C	Measurement of clearance and creepage distances	Considered	P

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IEC/EN 61800-5-1			
Clause	Requirement + Test	Result - Remark	Verdict
Annex D	Altitude correction for clearances	Considered	P
Annex E	Clearance and creepage distance determination for frequencies greater than 30 kHz	Considered	N/A
Annex F	Cross sections of round conductors	Considered	N/A
Annex G	Guidelines for RCD compability	Considered	N/A
Annex H	Symbols referred to in this part of IEC 61800	Considered	P

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IEC/EN 61800-5-1			
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5.2.2.1	General selection and information of supply earthing systems for clearance distances									-
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)	N/A		380 Vac		N/A		N/A		N/A	
Max. altitude (m)	N/A		1000 m		N/A		N/A		N/A	
System voltage	N/A		380 Vac		N/A		N/A		N/A	
	B/S	D/R	B/S	D/R	B/S	D/R	B/S	D/R	B/S	D/R
Rated Impulse voltage (kV)	N/A	N/A	2500	4000	N/A	N/A	N/A	N/A	N/A	N/A
Temporary overvoltage (V)	N/A	N/A	0	0	N/A	N/A	N/A	N/A	N/A	N/A
Clearance (mm)	N/A	N/A	1.5	3.0	N/A	N/A	N/A	N/A	N/A	N/A
Test impulse voltage for clearance (kV)	N/A	N/A	2500	4000	N/A	N/A	N/A	N/A	N/A	N/A
IT corner earthed, simulated impedance (MΩ) .....:					N/A					
Supplementary information:										

5.2.2.1	TABLE: Working voltage measurements for clearance and creepage distances										-
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
	L to N	N/A	N/A	380	268	N/A	N/A	N/A	N/A	N/A	N/A
Supplementary information: Condition #: N/A											

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Clause	Requirement + Test	Result - Remark	Verdict

5.2.2.1	TABLE: Clearance and creepage distance measurements					P
Clearance (cl) and creepage distance (cr) at/of/between:	U_{peak} (V)	U_{rms} (V)	Req. cl. (mm)	Meas. cl. (mm)	Req. cr. (mm)	Meas. cr. (mm)
Functional:						
L to N	380	268	1.5	＞4.0	2.68	＞4.0
Basic/supplementary:						
Primary hazardous live parts to earthing terminal	380	268	1.5	＞5.0	2.68	＞5.0
Reinforced:						
Primary hazardous live parts to enclosure outside	380	268	3.0	＞10.0	5.36	＞10.0
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				P
Test voltage applied between/at:	DTI (mm)	Impulse test (kV, circuit)	Electric strength test (V a.c., V d.c.)	Partial discharge test (V)	Result
Functional:					
L to N	1.5	2500Vdc	1200Vdc	N/A	P
Basic/supplementary:					
Primary hazardous live parts to earthing terminal	1.5	2500Vdc	1200Vdc	N/A	P
Reinforced:					
Primary hazardous live parts to enclosure outside	3.0	3000Vdc	1200Vdc	N/A	P
Supplementary information:					

5.2.3.5	TABLE: Touch current measurement	P
Single phase equipment		

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IEC/EN 61800-5-1			
Clause	Requirement + Test	Result - Remark	Verdict

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)
--	--	--	--	--	--	--	3.5	3.5
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)
--	--	--	1.26	1.12			3.5	3.5
Supplementary information: Measurements have been carried out according to figures of IEC 60990.								

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IEC/EN 61800-5-1			
Clause	Requirement + Test	Result - Remark	Verdict

5.2.3.8	TABLE: Temperature rise test						P
	Supply voltage (V) .....:	380	--	--	--	--	—
	Derating (%) .....:	--	--	--	--	--	—
	Rated maximum ambient temperature (°C).....:	40	--	--	--	--	—
	Ambient T_{min} (°C) .....:	39.8	--	--	--	--	—
	Ambient T_{max} (°C) .....:	40.0	--	--	--	--	—
Maximum measured temperature T of part/at::		T (°C)					Allowed T_{max} (°C)
Terminal block		79.8	--	--	--	--	85
Varistor		80.6					85
Relay (K1)		80.4	--	--	--	--	85
C21 body		83.6					110
LX1 winding		87.6					110
TR1 winding		97.8					110
TR1 bobbin		92.4					110
PCB near Q2		98.6	--	--	--	--	130
PCB near PC1		94.3	--	--	--	--	130
PCB near Q1		93.4					130
Electrolytic capacitor		85.6	--	--	--	--	105
Fan enclosure		73.5	--	--	--	--	Ref.
Enclosure inside		73.1	--	--	--	--	Ref.
Enclosure outside		69.4	--	--	--	--	75
Supplementary information:							

Temperature T of winding:	t_1 (°C)	R_1 (Ω)	t_2 (°C)	R_2 (Ω)	T (°C)	Allowed T_{max} (°C)	Insulation class
--	--	--	--	--	--	--	--

Supplementary information:

5.2.2.2 5.2.3.6 5.2.4	TABLE: PWB short-circuit test, Short-circuit test and breakdown of component test, Abnormal operation tests		P
	Ambient temperature (°C) .....:	25°C	—
	Mains fuse during test (A) .....:	--	—

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Clause	Requirement + Test	Result - Remark	Verdict

Component No.	Fault	Supply voltage (V)	Test time	Observation
Rectifier	SC	380	10min	Unit shutdown immediately, No damage. no hazard.
Transformer secondary	SC	380	10min	Unit shutdown immediately, No damage. no hazard.
Supplementary information:				

5.2.3.9	TABLE: Protective bonding				P
	Test current (A) ..... :	25			—
Points of application		Resistance (mΩ)	Voltage (V)	Test time (s)	Result
PE terminal to protective bonding circuit		0.2	24	60	Pass
Supplementary information:					

5.2.5	TABLE: Material tests				P
Part	Manufacturer of material/part	Type of material/part	Thickness (mm)	Test	Result
PCB	/	/	1.8	type test	Pass
Fan enclosure	/	/	2.0	type test	Pass
Plastic enclosure	/	/	2.2	type test	Pass
Supplementary information:					

6	TABLE: Information and marking requirements					P
		Product	Package	Installation	User	Maintenance
6.2	Information for selection					
- Name or trademark of the manufacturer, supplier or importer .....:		P	P	P	P	P
- Catalogue number or equivalent .....:		P	P	P	P	P
- Voltage rating .....:		P	-	P	-	P
- Current rating .....:		P	-	P	-	P
- Power rating .....:		P	-	P	-	P
- Frequency .....:		P	-	P	-	P
- Number of phases .....:		P	-	P	-	P
- Reference to standards .....:		-	-	P	-	-
- Date code or serial number .....:		P	-	-	-	-

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- Reference to instructions .....:	-	-	P	P	P
6.3	Information for installation and comissioning				
6.3.2: Mechanical considerations	-	P	P	-	P
- Dimensions (SI units) .....:	-	-	P	-	P
- Mass (SI units) .....:	-	P	P	-	P
- Mounting details (SI units) .....:	-	-	P	-	P
6.3.3: Environment (operation, transport, storage) .....:	-	-	P	-	P
- Temperature .....:	-	-	P	-	P
- Humidity .....:	-	-	P	-	P
- Altitude .....:	-	-	P	-	P
- Pollution .....:	-	-	P	-	P
- Ultra violet light .....:	-	-	N/A	-	N/A
- Type of electrical supply system .....:	-	-	P	-	-
- Field supply requirements (if any).....:	-	-	N/A	-	-
- IP rating .....:	N/A	-	N/A	-	N/A
6.3.4: Handling and mounting .....:	-	N/A	N/A	-	N/A
- Packing and unpacking .....:	-	N/A	N/A	-	N/A
- Moving .....:	-	N/A	N/A	-	N/A
- Lifting .....:	-	N/A	N/A	-	N/A
- Strength and rigidity of mounting surface ....:	-	N/A	N/A	-	N/A
- Fastening .....:	-	N/A	N/A	-	N/A
- Coolant type and design pressure for liquid cooled product .....:	-	-	N/A	-	N/A
- Provision of adequate access for operation, adjustment and maintenance .....:	-	N/A	N/A	-	N/A
- Warning if mounting surface exceeds 90 °C :	-	-	N/A	-	-
6.3.5.1: Motor selection .....:	-	-	P	P	P
6.3.5.2: Motor integrated sensors .....:	-	-	N/A	N/A	N/A
6.3.5.3: Critical torsional speeds .....:	-	-	N/A	N/A	N/A
6.3.5.4: Transient torque analysis .....:	-	-	N/A	N/A	N/A
6.3.6.2: Interconnection and wiring diagrams :	-	-	N/A	-	N/A
6.3.6.3: Conductor (cable) selection .....:	-	-	N/A	-	N/A
6.3.6.4: Terminal capacity and identification ..:	P	-	P	-	P
6.3.6.5: Protection requirements .....:	-	-	P	P	P
- Protective class .....:	P	-	P	P	P
- Interface details .....:	-	-	N/A	-	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

- Terminals with protective separation .....:	-	-	P	P	P
6.3.6.6: Earthing .....:	-	-	P	-	P
- Symbol IEC 60417-5019, PE or green-yellow .....:	P	-	-	-	-
- Symbol IEC 6417-5172 for Class II .....:	N/A	-	-	-	-
6.3.6.7: Protective earthing conductor current .....:	-	-	P	-	P
- Symbol ISO 7000-0434 and instruction .....:	N/A	-	N/A	-	N/A
- RCD compability .....:	-	-	N/A	-	N/A
6.3.6.8: Special requirements .....:	-	-	N/A	-	N/A
6.3.7: Supply overcurrent or short-circuit protection .....:	-	-	N/A	-	N/A
6.3.8: Motor overload protection .....:	-	-	P	-	P
6.3.9: Commissioning .....:	-	-	N/A	-	-
6.4 Information for use					
6.4.1: General .....:	-	-	P	P	P
6.4.2: Adjustment .....:	P	-	P	P	P
6.4.3: Labels, signs, and signals .....:	P	-	P	P	P
6.4.3.1: General .....:	P	-	P	P	P
6.4.3.2: Isolators .....:	N/A	-	-	-	-
6.4.3.3: Visual and audible signals .....:	N/A	-	-	N/A	-
6.4.3.4: Hot surfaces, symbol IEC 60417-5041 .....:	N/A	-	-	N/A	-
6.4.3.5: Equipment marking .....:	P	-	P	P	P
6.5 Information for maintenance					
6.5.1: General.....:	-	-	-	N/A	N/A
- Maintenance procedures and schedules .....:	-	-	-	-	N/A
- Maintenance schedules .....:	-	-	-		N/A
- Safety precautions .....:	-	-	-	-	N/A
- Location of live parts accessible during maintenance .....:	-	-	-	-	N/A
- Adjustment procedures .....:	-	-	N/A	N/A	N/A
- Repair and replacement procedures .....:	-	-	-	-	N/A
- Special tools list .....:	-	-	-	N/A	N/A
6.5.2: Capacitor discharge .....:	P	-	P	-	P
6.5.3: Auto restart/bypass .....:	-	-	P	P	P
6.5.4: Potential Transformer (PT) / Current Transformer (CT) connection .....:	N/A	-	N/A	-	N/A

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6.5.5: Other hazards .....:	N/A	-	-	-	N/A
Supplementary information:					

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Attachment No. 1: photo documentation

Details of: External view for model G110



Details of: External view for model G110



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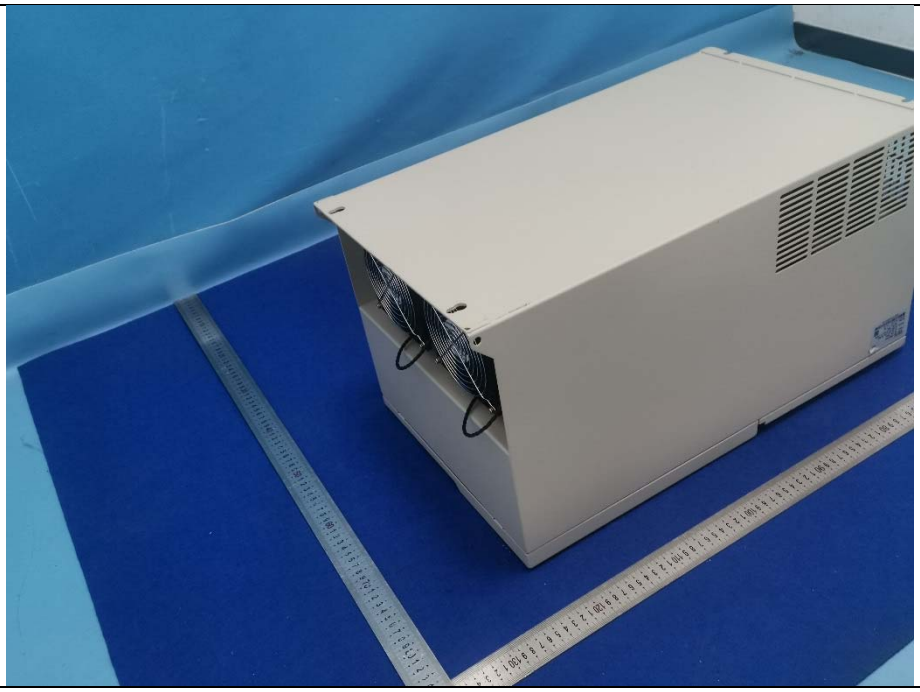

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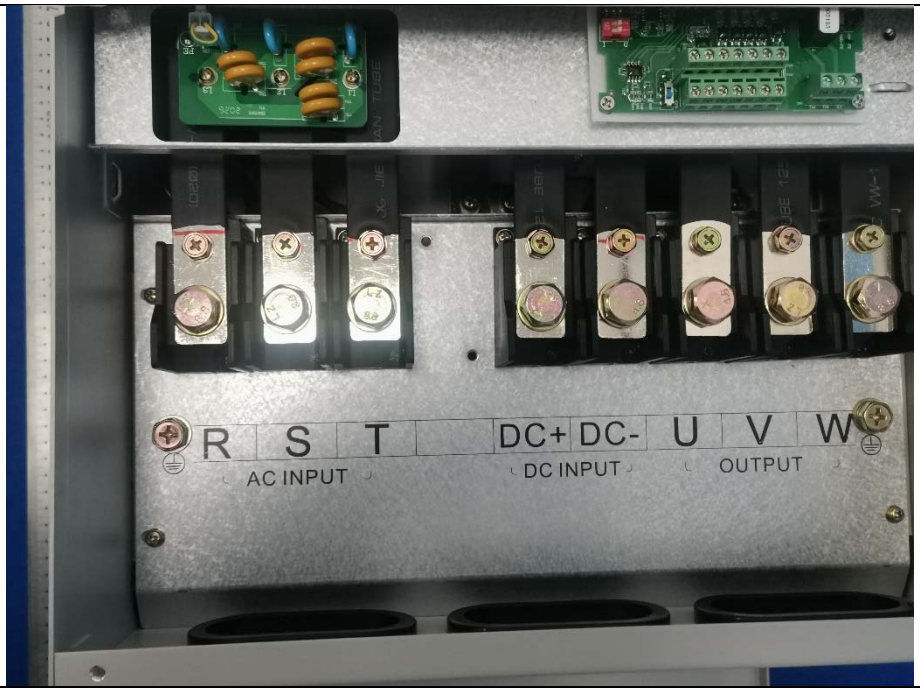
Details of: Details view



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