

Quality Compliance

Certificate of Conformity

The designs of Variable Frequency Drive, VFD CP series, of Delta Electronics were in accordance with following European Directives and International standards and met the high quality requirements on Safety and Environment.

Directive/Standard	Description
2014/35/EU	Low Voltage Directive(LVD)
EN 61800-5-1 Part 5-1:	Adjustable speed electrical power drive systems – Part 5-1: Safety requirements – Electrical, thermal and energy
4.2	Protection against electric shock, thermal, and energy hazards – Fault conditions
4.3.1	Decisive voltage classification
4.3.2	Protective separation
4.3.3	Protection against direct contact
4.3.4	Protection in case of direct contact
4.3.5.1	Protection against indirect contact - General
4.3.5.2	Insulation between live parts and accessible conductive parts
4.3.5.3	Protective bonding circuit
4.3.5.4	Protective earthing conductor
4.3.5.5	Means of connection for the protective earthing conductor
4.3.5.6	Special features in equipment for protective class II
4.3.6	Insulation
4.3.7	Enclosures
4.3.8	Wiring and connections
4.3.9	Output short-circuit requirements
4.3.10	Residual Current-operated protective (RCD) or monitoring (RCM) device compatibility
4.3.11	Capacitor discharge
4.4	Protection against thermal hazards
4.5.1	Electrical energy hazards
4.5.2	Mechanical energy hazards
4.6	Protection against environmental stresses
5.2.1	Visual inspection
5.2.2	Mechanical tests
5.2.3	Electrical tests
5.2.4	Abnormal operation tests
5.2.5	Material tests
5.2.6	Environmental tests
6.1	Information and marking requirements - General

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Directive/Standard	Description
2014/30/EU	Electromagnetic Compatibility (EMC)
EN 61800-3 Part 3:	Adjustable speed electrical power drive systems – Part 3: EMC requirements and specific test methods
EN 61000-6-3	Emission –Residential, commercial and light-industrial environments
EN 61000-6-4	Emission – Industrial environments
EN 61800-3 EN 61800-3	Conducted Emission : Category C3 Radiated Emission : Category C3
EN 61000-6-1	Immunity –Residential, commercial and light-industrial environments
EN 61000-6-2	Immunity – Industrial environments
EN 61800-3 EN 61000-4-2 EN 61000-4-3 EN 61000-4-4 EN 61000-4-5 EN 61000-4-6	Immunity ESD: Electrostatic Discharge RS: Radiated Susceptibility EFT: Electrical Fast Transient Surge immunity CS: Conducted Susceptibility
EN 61800-3	Low frequency immunity
EN 61000-4-11 IEC 61000-2-4 IEC 61000-2-4	Voltage dips and short interruption Voltage unbalance Frequency variations
EN 61800-3 EN 61000-3-2 EN 61000-3-12	Low frequency emission Harmonics($I \leq 16A$) Harmonics($16A < I \leq 75A$)

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Directive/Standard	Description
UL508C CAN/CSA-C22.2 No. 14-2005	Power Conversion Equipment Industrial Control Equipment cUL marking (Approved by UL)
Enclosure Construction Section 6 (UL 50)	Frames and Enclosure
Environmental Ration Related Enclosure Construction Section 7 (UL 50) Section 8 (UL 50)	General Protection against corrosion
Environmental Rating Related Enclosure Performance section 9 (UL 50)	General
Non-Environmental Rating Related Enclosure Performance section 10 section 11	General Securement of snap-on cover test
Instructions and Marking Pertaining to Enclosures section 12 section 13	Permanence of marking Details
Device Construction Section 14 Section 15 Section 16 Section 17 Section 18 Section 19 Section 20 Section 21 Section 23 Section 24 Section 25 Section 26 Section 27 Section 29 Section 30 Section 32 Section 35 Section 36 Section 37 Section 38	General Protection against corrosion Provisions for Mounting Insulation Material Means for switching Live Parts Drive Protection Capacitors Internal Wiring External interconnections Transformers Blower Motors Supply Connections Risk of Electric Shock Risk of Fire Secondary Circuits Isolation Devices Spacings Grounding Accessories
Device Performance Section 39 Section 40 Section 41 Section 41.1	General Temperature Abnormal operation test General

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Directive/Standard	Description
<p>UL508C CAN/CSA-C22.2 No. 14-2005</p> <p>Section 41.2 Section 41.3 Section 41.4 Section 41.5 Section 41.6 Section 42 Section 43 Section 44 Section 45 Section 48 Section 50 Section 51 Section 53 Section 54</p> <p>Device Marking</p> <p>Section 55 Section 56 Section 57 Section 60 Section 61 Section 62 Section 63</p> <p>Manufacturing and production line test</p> <p>Section 64 Section 64A</p>	<p>Power Conversion Equipment Industrial Control Equipment cUL marking (Approved by UL)</p> <p>Contactor overload Single phasing Inoperative blower motor Clogged filter Current limiting control Full-load motor-running current tables Solid state motor overload protection test Dielectric voltage withstand test Short circuit test – standard fault currents Transient voltage surge suppression Test Breakdown of component Terminal torque test Secondary circuits test Rating</p> <p>General Overload, over-current, and over-speed protection Branch circuit short circuit protection Wiring terminal markings Cautionary Markings Instructions and markings pertaining to accessories Marking location</p> <p>Circuit functionality evaluation Production-line dielectric voltage withstand test</p>

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Regional Certification

Australia

EN 61800-3

Russia

TP TC 004/2011
TP TC 020/2011

Miscellaneous standards

ISTA Procedure 1A

ISTA Procedure 2B

EN 50178

Description

RCM for 0.7KW-355KW

Section 182 of the Australian Radio
communications Act 1992

EMI: Conducted and Radiated emission

EAC

Safety of low voltage equipment

Electromagnetic compatibility of technical means

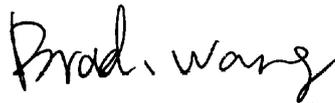
Package Drop test and package vibration test
Packaged-Products weighing 150 lb (68 kg) or Less

Package Drop test and package vibration test
Packaged-Products weighing over 150 lb (68 kg)

Operation and non-operation vibration test

Performance upon above Directives/Standards might be discrete based on different installation and operation, reading user manual and quick start is advised.

Issued by:



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Industrial Automation Business Group
QE Manager