

Quality Compliance

Certificate of Conformity

The designs of Variable Frequency Drive, VFD CFP2000 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	Immunity
EN 61000-4-2	ESD: Electrostatic Discharge
EN 61000-4-3	RS: Electromagnetic radiated susceptibility
EN 61000-4-4	EFT: Electric Fast Transient
EN 61000-4-5	Surge transient
EN 61000-4-6	CS: Conducted Susceptibility
EN 61800-3	Low frequency immunity
IEC 61000-2-4	Harmonics
IEC 60146-1-1	Commutation notches
IEC 61000-2-4	Voltage variations and fluctuation
EN 61000-4-11	Voltage dips and short interruption
IEC 61000-2-4	Voltage unbalance
IEC 61000-2-4	Frequency variations
EN 61800-3	Low frequency emission
EN 61000-3-12	Harmonics(I > 16A)

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Directive/Standard	Description
<p>UL61800-5-1 CAN/CSA C22.2 No. 274-13</p> <p>4. Protection against electric shock, thermal, and energy hazards Section 4.1 Section 4.2 Section 4.3 Section 4.4 Section 4.5 Section 4.6 Section 4.7DV.1 Section 4.8DV.1 Section 4.9DV.1 Section 4.10DV.1 Section 4.11DV.1 Section 4.12DV.1 Section 4.13DV.1 Section 4.14DV.1 Section 4.15DV.1</p> <p>5. Test requirements Section 5.1 Section 5.2</p> <p>6. Information and marking requirements Section 6.1 Section 6.2 Section 6.3 Section 6.4 Section 6.5</p> <p>Enclosure for Electrical Equipment, Non-Environmental Considerations Annex DVD (UL50)</p> <p>Enclosures for Electrical Equipment, Environmental Considerations Annex DVD (UL50E)</p>	<p>Power Conversion Equipment Industrial Control Equipment cUL marking (Approved by UL)</p> <p>General Fault conditions Protection against electric shock Protection against thermal hazards Protection against energy hazards Protection against environmental stresses Plenum rated drives Position of operating handles Auxiliary units Accessories Securement of LIVE PARTS Provisions for mounting Phase reversal protection Capacitors Isolation devices</p> <p>General Test specifications</p> <p>General Information for selection Information for INSTALLATION and commissioning Information for use Information for maintenance</p> <p>Frames and Enclosure</p> <p>Securement of snap-on cover test</p>

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Regional Certification

Description

Miscellaneous standards

ISTA Procedure 1A	Package Drop test and package vibration test Packaged-Products weighing 150 lb (68 kg) or Less
ISTA Procedure 2B	Package Drop test and package vibration test Packaged-Products weighing over 150 lb (68 kg)
EN 50178	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.

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Industrial Automation Business Group
QE Manager