

Applicable Standards

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AERO CERT - DIN EN ISO 9001:2002

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1 Uninterruptible Power Supply

1.1 General requirements

VDE	EN	IEC	
VDE 0558 Teil 511	DIN EN 50091-1-1		Uninterruptible power systems (UPS) - Part 1-1: General and safety requirements for UPS used in operator access locations; German version EN 50091-1-1:1996
VDE 0558 Teil 512	DIN EN 50091-1-2		Uninterruptible power systems (UPS) - Part 1-2: General and safety requirements for UPS used in restricted access locations; German version EN 50091-1-2:1998
VDE 0558 Teil 520	DIN EN 50091-2		Unterbrechungsfreie Stromversorgungssysteme (USV) - Teil 2: EMV-Anforderungen; Deutsche Fassung EN 50091-2:1995
VDE 0558 Teil 530	DIN EN 50091-3		Uninterruptible Power Systems (UPS) - Part 2: EMC requirements; German version EN 50091-2:1995
VDE 0558 Teil 531	prDIN EN 50091-3-1		Uninterruptible Power Systems (UPS) - Part 3: Performance requirements; German version prEN 50091-3:1995
			Uninterruptible Power Systems (UPS) - Part 3-1: General performance requirements; German version prEN 50091-3-1:1994

1.2 Safety Requirements

VDE	EN	IEC	
VDE 0160	DIN EN 50178		Electronic equipment for use in power installations; German version EN 50178:1997
VDE 0805	DIN EN 60950	IEC 60950	Safety of information technology equipment (IEC 60950:1991 + A1:1992 + A2:1993 + A3:1995 + A4:1996, modified); German version EN 60950:1992 + A1:1993 + A2:1993 + A3:1995 + A4:1997
VDE 0100 Teil 410		IEC 60364-4-41	Erection of power installations with nominal voltages up to 1000 V - Part 4: Protection for safety; Chapter 41: Protection against electric shock (IEC 60364-4-41:1992, modified); German version HD 384.4.41 S2:1996
VDE 0106-100 DIN 57106-100 VDE 0110 Teil 1		IEC 60664-1	Protection against electric shock; actuating members positioned close to parts liable to shock
VDE 0110 Teil 3		IEC 60664-3	Insulation coordination for equipment within low-voltage systems - Part 1: Principles, requirements and tests (IEC 60664-1:1992, modified); German version HD 625.1 S1:1996
VDE 0100 Teil 510		IEC 60364-5-51	Insulation coordination for equipment within low-voltage systems - Part 3: Use of coatings to achieve insulation coordination of printed board assemblies (IEC 60664-3:1992); German version HD 625.3 S1:1997
VDE 0100 Teil 520		IEC 60364-5-52	Erection of power installations with nominal voltages up to 1000 V - Part 5: Selection and erection of electrical equipment; Chapter 51: Common rules (IEC 60364-5-51:1994, modified); German version HD 384.5.51 S2:1996
VDE 0100-540		IEC 60364-5-54	Erection of power installations with nominal voltages up to 1000 V - Part 5: Selection and erection of equipment; chapter 52: Wiring systems (IEC 60364-5-52:1993 mod.); German version HD 384.5.52 S1:1995
VDE 0106 Teil 1 DIN 57106-1		IEC 60536 HD 366 S1	Erection of power installations with nominal voltages up to 1000 V; selection and erection of equipment; earthing arrangements, protective conductors, equipotential bonding conductors
VDE 0470-1	DIN EN 60529	IEC 60529	Classification of electrical and electronic equipment protection against electric shock
VDE 0570 Teil 1	DIN EN 61558-1	IEC 61558-1	Degrees of protection provided by enclosures (IP code); #(IEC 60529:1989)#; german version EN 60529:1991
			Safety of power transformers, power supply units and similar - Part 1: General requirements and tests

1.3 Test Requirements

VDE	EN	IEC	
DIN VDE 0558-5		IEC 60146-4	Semiconductor convertors; uninterruptible power systems (UPS); identical with IEC 60146-4

1.4 EMC Requirements

VDE	EN	IEC	
VDE 0558 Teil 520	DIN EN 50091-2		Uninterruptible Power Systems (UPS) - Part 2: EMC requirements; German version EN 50091-2:1995
VDE 0839 Teil 81-1	DIN EN 50081-1		Electromagnetic compatibility (EMC); generic emission standard; part 1: residential, commercial and light industry; german version EN 50081-1:1992
VDE 0839 Teil 81-2	DIN EN 50081-2		Electromagnetic compatibility (EMC); generic emission standard; part 2: industrial environment; German version EN 50081-2:1993
VDE 0847 Teil 4-1	DIN EN 61000-4-1	IEC 61000-4-1	Electromagnetic compatibility (EMC) - Part 4: Testing and measuring techniques; section 1: Overview over immunity tests; basic EMC publication (IEC 61000-4-1:1992); German version EN 61000-4-1:1994
VDE 0847 Teil 4-2	DIN EN 61000-4-2	IEC 61000-4-2 (IEC 801-2)	Electromagnetic compatibility (EMC) - Part 4: Testing and measuring techniques; section 2: Electrostatic discharge immunity test; basic EMC publication (IEC 61000-4-2:1995); German version EN 61000-4-2:1995
VDE 0847 Teil 4-3	DIN EN 61000-4-3	IEC 61000-4-3 (IEC 801-3)	Electromagnetic compatibility (EMC) - Part 4-3: Testing and measurement techniques; radiated, radio-frequency electromagnetic field immunity test (IEC 61000-4-3:1995 + A1:1998); German version EN 61000-4-3:1996 + A1:1998
VDE 0847 Teil 4-4	DIN EN 61000-4-4	IEC 61000-4-4 (IEC 801-4)	Electromagnetic compatibility (EMC) - Part 4: Testing and measurement techniques; section 4: Electrical fast transient/ burst immunity test; basic EMC publication (IEC 61000-4-4:1995); German version EN 61000-4-4:1995
VDE 0847 Teil 4-5	DIN EN 61000-4-5	IEC 61000-4-5 (IEC 801-5)	Electromagnetic compatibility (EMC) - Part 4: Testing and measurement techniques; section 5: Surge immunity test (IEC 61000-4-5:1995); German version EN 61000-4-5:1995

1.5 Environmental Conditions

VDE	EN	IEC	
	DIN EN 60721-3-2	IEC 60721-3-2	Classification of environmental conditions - Part 3: Classification of groups of environmental parameters and their severities; section 2: Transportation (IEC 60721-3-2:1997); German version EN 60721-3-2:1997
	DIN EN 60721-3-3	IEC 60721-3-3	Classification of environmental conditions - Part 3: Classification of groups of environmental parameters and their severities; section 3: Stationary use at weatherprotected locations (IEC 60721-3-3:1994); German version EN 60721-3-3:1995

1.6 Specific Product Standards (NPP-Products)

VDE / KTA	EN	IEC / IEEE	
KTA 1401		IEEE 308	Standard Criteria for Class 1E Power Systems for Nuclear Power Generation Stations General requirements for quality assurance
KTA 3507		IEEE 323	Standard Criteria for Qualifying Class 1E Equipment for Nuclear Power Generation Stations Work quality control, quality control after repair work and verification of reliability for process control technique equipment of assurance system
KTA 3703		IEEE 344	Recommended Practices for Seismic Qualification of Class 1E Equipment for Nuclear Power Generation Stations
KTA 3704		IEC 68 Teil 2-6	Basis environmental testing procedures; Test Fc and guidance: Vibration (sinusoidales) UPS with batteries and rectifiers in nuclear power plants UPS with DC-current -, AC-current – converters in nuclear power plants

1.7 Component Standards

VDE	EN	IEC	
DIN VDE 0558-6		IEC 60146-5	Semiconductor convertors; switches for Uninterruptible Power Systems (UPS-switches); identical with IEC 60146-5
VDE 0558 Teil 8	DIN EN 60146-1-3	IEC 60146-1-3	Semiconductor convertors; general requirements and line-commutated convertors; part 1-3: transformers and reactors (IEC 60146-1-3:1991); German version EN 60146-1-3:1993