

Deutsche Akkreditierungsstelle GmbH

Annex to the Accreditation Certificate D-ZE-12007-01-11 according to DIN EN ISO/IEC 17065:2013

Valid from: 12.09.2019

Date of issue: 12.09.2019

Holder of certificate:

TÜV NORD CERT GmbH
Langemarckstraße 20, 45141 Essen

Certifications of products, processes and services in the fields:

Certification of electrical properties of photovoltaic plants, energy storage systems and their components

Within the scopes of accreditation marked with *, the certification body is authorized to apply the specification standards listed below in various versions without the need for prior notification of the DAkKS and their consent. The certification body has at its disposal an updated list of all documents in the accreditation field.

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Certification of consumer products, machineries and products
for PV applications

On the basis of the specification standards and basic test standards listed below:

Abbreviations used: see last page

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EN 61215 2005-05	Crystalline silicon terrestrial photovoltaic (PV) modules - Design qualification and type approval	*
IEC 61215 2005-04	Crystalline silicon terrestrial photovoltaic (PV) modules - Design qualification and type approval	*
EN 61215-1-1 2016-06	Terrestrial photovoltaic (PV) modules - Design qualification and type approval - Part 1-1: Special requirements for testing of crystalline silicon photovoltaic (PV) modules	*
IEC 61215-1-1 2016-03	Terrestrial photovoltaic (PV) modules - Design qualification and type approval - Part 1-1: Special requirements for testing of crystalline silicon photovoltaic (PV) modules	*
EN 61215-1-2 2017-04	Terrestrial photovoltaic (PV) modules - Design qualification and type approval - Part 1-2: Special requirements for testing of thin- film Cadmium Telluride (CdTe) based photovoltaic (PV) modules	*
IEC 61215-1-2 2016-12	Terrestrial photovoltaic (PV) modules - Design qualification and type approval - Part 1-2: Special requirements for testing of thin-film Cadmium Telluride (CdTe) based photovoltaic (PV) modules	*
EN 61215-1-3 2017-05	Terrestrial photovoltaic (PV) modules - Design qualification and type approval - Part 1-3: Special requirements for testing of thin-film amorphous silicon based photovoltaic (PV) modules	*
IEC 61215-1-3 2016-12	Terrestrial photovoltaic (PV) modules - Design qualification and type approval - Part 1-3: Special requirements for testing of thin-film amorphous silicon based photovoltaic (PV) modules	*
EN 61215-1-4 2017-05	Terrestrial photovoltaic (PV) modules - Design qualification and type approval - Part 1-4: Special requirements for testing of thin-film Cu(In,Ga)(S,Se) ₂ based photovoltaic (PV) modules	*
IEC 61215-1-4 2016-12	Terrestrial photovoltaic (PV) modules - Design qualification and type approval - Part 1-4: Special requirements for testing of thin-film Cu(In,Ga)(S,Se) ₂ based photovoltaic (PV) modules	*
IEC 61215-1 2016-03	Terrestrial photovoltaic (PV) modules - Design qualification and type approval - Part 1: Test requirements	*
EN 61215-1 2016-12	Terrestrial photovoltaic (PV) modules - Design qualification and type approval - Part 1: Test requirements	*

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IEC 61215-2 2016-03 +COR1 2018-03	Terrestrial photovoltaic (PV) modules - Design qualification and type approval - Part 2: Test procedures	*
EN 61215-2 2017-02 +AC 2017-07 +AC 2018-04	Terrestrial photovoltaic (PV) modules - Design qualification and type approval - Part 2: Test procedures	*
EN 61646 2008-08	Thin-film terrestrial photovoltaic (PV) modules - Design qualification and type approval	*
IEC 61646 2008-05	Thin-film terrestrial photovoltaic (PV) modules - Design qualification and type approval	*
EN 61701 2012-03	Salt mist corrosion testing of photovoltaic (PV) modules	*
IEC 61701 2011-12	Salt mist corrosion testing of photovoltaic (PV) modules	*
IEC 61724-1 2017-03	Photovoltaic system performance - Part 1: Monitoring	*
EN 61724-1 2017-05	Photovoltaic system performance - Part 1: Monitoring	*
IEC TS 61724-2 2016-10	Photovoltaic system performance - Part 2: Capacity evaluation method	*
IEC TS 61724-3 2016-07	Photovoltaic system performance - Part 3: Energy evaluation method	*
EN 61730-1 2007-05 + A1; 2012-02 + A2; 2013-05 + A11; 2014-11	Photovoltaic (PV) module safety qualification - Part 1: Requirements for construction	*
IEC 61730-1 2016-08	Photovoltaic (PV) module safety qualification - Part 1: Requirements for construction	*

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IEC 61730-1 2004-10 + Amd.1; 2011-11 + Amd.2; 2013-03	Photovoltaic (PV) module safety qualification - Part 1: Requirements for construction (withdrawn standard)	*
EN IEC 61730-1 2018-04 + AC 2018-06	Photovoltaic (PV) module safety qualification - Part 1: Requirements for construction	*
EN 61730-2 2007-05 +A1 2012-02	Photovoltaic (PV) module safety qualification - Part 2: Requirements for testing	*
IEC 61730-2 2016-08	Photovoltaic (PV) module safety qualification - Part 2: Requirements for testing	*
IEC 61730-2 2004-10 + Amd.1; 2011-11	Photovoltaic (PV) module safety qualification - Part 2: Requirements for testing (withdrawn standard)	*
EN IEC 61730-2 2018-04 + AC 2018-06	Photovoltaic (PV) module safety qualification - Part 2: Requirements for testing	*
IEC 62093 2005-03	Balance-of-system components for photovoltaic systems - Design qualification natural environments	*
EN 62108 2016-12	Concentrator photovoltaic (CPV) modules and assemblies - Design qualification and type approval	*
IEC 62108 2016-09	Concentrator photovoltaic (CPV) modules and assemblies - Design qualification and type approval	*
IEC 62109-1 2010-04	Safety of power converters for use in photovoltaic power systems - Part 1: General requirements	*
EN 62109-1 2010-07	Safety of power converters for use in photovoltaic power systems - Part 1: General requirements	*
IEC 62109-2 2011-06	Safety of power converters for use in photovoltaic power systems - Part 2: Particular requirements for inverters	*
EN 62109-2 2011-09	Safety of power converters for use in photovoltaic power systems - Part 2: Particular requirements for inverters	*
EN 62446-1 2016-04 + A1 2018-10	Photovoltaic (PV) systems - Requirements for testing, documentation and maintenance - Part 1: Grid connected systems - Documentation, commissioning tests and inspection	*

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IEC 62446-1 2016-01 + AMD1, 2018-08	Photovoltaic (PV) systems - Requirements for testing, documentation and maintenance - Part 1: Grid connected systems - Documentation, commissioning tests and inspection	*
IEC TS 62446-3 2017-06	Photovoltaic (PV) systems - Requirements for testing, documentation and maintenance - Part 3: Photovoltaic modules and plants - Outdoor infrared thermography	*
EN 62509 2011-09	Battery charge controllers for photovoltaic systems - Performance and functioning	*
IEC 62509 2010-12	Battery charge controllers for photovoltaic systems - Performance and functioning	*
IEC 62548 2016-09	Photovoltaic (PV) arrays - Design requirements	*
EN 62716 2013-08 + AC 2014-05	Photovoltaic (PV) modules - Ammonia corrosion testing	*
IEC 62716 2013-06	Photovoltaic (PV) modules - Ammonia corrosion testing	*
IEC TS 62738 2018-08	Ground-mounted photovoltaic power plants - Design guidelines and recommendations	*
IEC 62817 2014-08 + AMD1 2017-07	Photovoltaic systems - Design qualification of solar trackers	*
EN 62817 2015-03 +A1 2017-11	Photovoltaic systems - Design qualification of solar trackers	*
EN IEC 62933-2-1 2018-03	Electrical energy storage (EES) systems - Part 2-1: Unit parameters and testing methods - General specification	*
IEC 62933-2-1 2017-12	Electrical energy storage (EES) systems - Part 2-1: Unit parameters and testing methods - General specification	*
IEC TS 62941 2016-01	Terrestrial photovoltaic (PV) modules - Guideline for increased confidence in PV module design qualification and type approval	*

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IEC TS 63049 2017-09	Terrestrial photovoltaic (PV) systems - Guidelines for effective quality assurance in PV systems installation, operation and maintenance	*
IEC 62619 2017-02	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Safety requirements for secondary lithium cells and batteries, for use in industrial applications	*
EN 62619 2017-05	Secondary cells and batteries containing alkaline or other non- acid electrolytes - Safety requirements for secondary lithium cells and batteries, for use in industrial applications	*
IEC 62620 2014-11	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Secondary lithium cells and batteries for use in industrial applications	*
EN 62620 2015-01	Secondary cells and batteries containing alkaline or other non- acid electrolytes - Secondary lithium cells and batteries for use in industrial applications	*
IEC 61427-1 2013-04	Secondary cells and batteries for renewable energy storage - General requirements and methods of test - Part 1: Photovoltaic off-grid application	*
EN 61427-1 2013-07	Secondary cells and batteries for renewable energy storage - General requirements and methods of test - Part 1: Photovoltaic Off-grid application	*
IEC 61427-2 2015-08	Secondary cells and batteries for renewable energy storage - General requirements and methods of test - Part 2: On-grid applications	*
EN 61427-2 2015-11	Secondary cells and batteries for renewable energy storage - General requirements and methods of test - Part 2: On-grid applications	*
GB/T 34120 (Translation) 2017	Technical specification for power conversion system of electrochemical energy storage system	*
VDE-AR-E 2510-50 2017-05	Stationary battery energy storage systems with lithium batteries - Safety requirements	*

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abbreviations used:

CPV	Concentrator photovoltaic
EN	European Norm
IEC	International Electrotechnical Commission
PV	Photovoltaic
PXX-VA-XX	Certification procedures of the TÜV NORD CERT GmbH
TS	Technical Specification