

Deutsche Akkreditierungsstelle GmbH

Anlage zur Akkreditierungsurkunde D-ZE-14169-01-02 nach DIN EN ISO/IEC 17065:2013

Gültigkeitsdauer: 29.11.2017 bis 28.11.2022

Ausstellungsdatum: 29.11.2017

Urkundeninhaber:

TÜV Rheinland LGA Products GmbH
Zentralbereich Zertifizierung
Am Grauen Stein 29, 51105 Köln

Zertifizierungen von Produkten in den Bereichen:

Geräte und Anlagen im Bereich des Erneuerbare-Energien-Gesetzes: Photovoltaische sowie solarthermische Komponenten und Systeme

verwendete Abkürzungen: siehe letzte Seite

Innerhalb der mit * gekennzeichneten Akkreditierungsbereiche ist der Zertifizierungsstelle - ohne dass es einer vorherigen Information und Zustimmung der DAkkS bedarf - die Anwendung der hier aufgeführten Zertifizierungsprogramme/Anforderungsdokumente mit unterschiedlichen Ausgabeständen gestattet. Die Zertifizierungsstelle verfügt über eine aktuelle Liste aller Dokumente im Akkreditierungsbereich.

Zertifizierungen von Produkten in den Bereichen Elektrotechnik, Geräte und Anlagen im Bereich des Erneuerbare-Energien-Gesetzes, photovoltaische sowie solarthermische Komponenten und Systeme nach:

QMA TRLP 4.3-500 Zertifizierung: Grundsätze und Aufgabenbereiche der Zertifizierung *

2016-06

auf der Basis von:

1. Photovoltaik-Komponenten und –Systeme:

EN 50521+A1 Steckverbinder für Photovoltaik-Systeme -
2012-07 Sicherheitsanforderungen und Prüfungen
DIN EN 50521 Connectors for photovoltaic systems - Safety requirements and tests
2013-02

IEC 62852 Steckverbinder für Gleichspannungsanwendungen in Photovoltaik- *
2014-11 Systemen - Sicherheitsanforderungen und Prüfungen
EN 62852 Connectors for DC-application in photovoltaic systems - Safety
2015-03 requirements and tests
DIN EN 62852
2015-10

UL-6703 Standard for connectors for use in photovoltaic systems *

2014-08

CSA 22.2 No. 182.5 Photovoltaic connectors *

2014-03

2 PfG 1915 Requirements for connectors for use in photovoltaic systems with
2015-03 AC-supply

EN 50548+A1+A2 Anschlussdosen für Photovoltaik-Module
2014-11 Junction boxes for photovoltaic modules

IEC 62790 Anschlussdosen für Photovoltaik-Module *
2014-11 Junction boxes for photovoltaic modules
EN 62790
2015-03
DIN EN 62790
2016-02

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UL 3730 2014-11	Standard for photovoltaic junction boxes	*
EN 50618 2014-12 DIN EN 50618 2015-11	Leitungen für Photovoltaik Systeme Electric cables for photovoltaic systems	*
UL 4703 2014-09	Photovoltaic wire	*
CSA 22.2 No. 271-11 2011-05	Photovoltaic cables	*
2 PfG 1940 2011-12	Requirements for cables for use on AC-applications in renewable energy-systems	
2 PfG 1913 2011-04	PV-array interconnection systems	
UL 9703 2011-08	Wiring harnesses	*
2 PfG 1793 2014-04	Backsheets for PV modules	
DIN VDE V 0126-1-1 2013-08	Selbsttätige Schaltstelle zwischen einer netzparallelen Eigenerzeugungsanlage und dem öffentlichen Niederspannungsnetz Automatic disconnection device between a generator and the public low-voltage grid	*
ABNT NBR IEC 62116 2012-03	Test procedure of islanding prevention measures for utility-interconnected photovoltaic inverters	*
ABNT NBR 16149 2013-03	Brazilian Specifications for Grid-Connected Inverters Photovoltaic (PV) systems - Characteristics of the utility interface	*
ABNT NBR 16150 2013-03	Brazilian Specifications for Grid-Connected Inverters Conformity Testing Procedures	*

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IEC 62109-1 2010-04 DIN EN 62109-1 VDE 0126-14-1 2013-09	Sicherheit von Wechselrichtern zur Anwendung in photovoltaischen Energiesystemen - Teil 1: Allgemeine Anforderungen Safety of power converters for use in photovoltaic power systems - Part 1: General requirements	*
IEC 62109-2 2011-06 DIN EN 62109-2 VDE 0126-14-2 2012-04	Sicherheit von Wechselrichtern zur Anwendung in photovoltaischen Energiesystemen - Teil 2: Besondere Anforderungen an Wechselrichter Safety of power converters for use in photovoltaic power systems - Part 2: Particular requirements for inverters	*
2 PfG 2305 2013-06	Requirements for electronics to be integrated or implemented with PV modules	
UL 1741 2010-01	Standard for Inverters, Converters, Controllers and Interconnection System Equipment for Use With Distributed Energy Resources	*
IEEE 1547 2003-01	Standard for Interconnecting Distributed Resources with Electric Power Systems	*
CSA 22.2 No. 107.1 2016-06	Power conversion equipment	*
CSA 22.2 No. 31-14 2014-03	Switchgear assemblies	*
AS/NZS 3100 2017-01	Approval and test specification - general requirements for electrical equipment	*
AS 4777.1 2016-09 AS 4777.2 2015-10 AS 4777.3 2005-05	Grid connection for energy systems via inverter	*
PVVC9 2012-09	P.O. 12.3 Anforderungen an Reaktion auf Spannungseinbrüche P.O. 12.3 Requisitos de respuesta frente a huecos de tensión de las instalaciones eólicas P.O. 12.3 requirements for response to voltage dips of wind farms	*
G59/3 2014-08	Recommendations for the connection of generating plant to the distribution systems of licensed distribution network operators	*

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G83/2 2012-12	Recommendations for the connection of type tested small-scale embedded generators (up to 16A per phase) in parallel with low-voltage distribution systems	*
CEI 0-21 2016-07	Regola tecnica di riferimento per la connessione di Utenti attivi e passivi alle reti BT delle imprese distributrici di energia elettrica Reference technical rules for the connection of active and passive users to the LV electrical Utilities	*
CEI 0-16 2016-07	Regola tecnica di riferimento per la connessione di Utenti attivi e passivi alle reti AT ed MT delle imprese distributrici di energia elettrica Reference technical rules for the connection of active and passive consumers to the HV and MV electrical networks of distribution Company	*
IEC 61727 2004-12	Photovoltaische (PV) Systeme - Eigenschaften der Netzschnittstelle Photovoltaic (PV) systems - Characteristics of the utility interface	*
IEC 62116 2014-02	Prüfverfahren für Maßnahmen zur Verhinderung der Inselbildung durch Photovoltaik-Wechselrichter in Stromversorgungsnetzen Test procedure of islanding prevention measures for utility-interconnected photovoltaic inverters	*
VDE-AR-N 4105 2011-08	Erzeugungsanlagen am Niederspannungsnetz - Technische Mindestanforderungen für Anschluss und Parallelbetrieb von Erzeugungsanlagen am Niederspannungsnetz Generators connected to the low-voltage distribution network - Technical requirements for the connection to and parallel operation with low-voltage distribution networks	*
EN 50530+A1 2013-003 DIN EN 50530 2013-12	Gesamtwirkungsgrad von Photovoltaik-Wechselrichtern Overall efficiency of grid connected photovoltaic inverters	*
IEC 61683 1999-11 EN 61683 2000-03 DIN EN 61683 2000-08	Photovoltaische Systeme - Stromrichter – Verfahren zur Messung des Wirkungsgrades Photovoltaic systems – Power conditioners – Procedure for measuring efficiency	*

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EN 50438+IS1 2015-05 DIN EN 50438 2014-06	Anforderungen für den Anschluss von Klein-Generatoren an das öffentliche Niederspannungsnetz Requirements for the connection of micro-generators in parallel with public low-voltage distribution networks	*
IEC 60904-9 2010-12	Photovoltaic devices - part 9: Solar simulator performance requirements	*
IEC 61646 2008-05	Thin-film terrestrial photovoltaic (PV) modules - Design qualification and type approval	*
IEC 62108 2016-09	Concentrator photovoltaic (CPV) modules and assemblies - Design qualification and type approval	*
IEC 62093 2005-03	BOS components - Environmental reliability testing - Design qualification and type approval	*
IEC 62124+Corr.1 2013-01	Photovoltaic (PV) stand-alone systems - Design qualification and type approval	*
ANSI / UL 1703 2016-01	Flat-Plate Photovoltaic Modules and Panels	*
IEC 61701 2011-12	Salt mist corrosion testing of photovoltaic (PV) modules	*
IEC 62446 2016-01	Grid connected photovoltaic systems - Minimum requirements for system documentation, commissioning tests and inspection	*
EN 50380 2003-03	Datasheet and nameplate information for photovoltaic modules	*
DIN 50018 2013-05	Prüfung im Kondenswasser-Wechselklima mit schwefeldioxidhaltiger Atmosphäre	*
IEC 61345 2002-11	UV Test for photovoltaic (PV) modules	*
IEC 61724 1998-04	Photovoltaic system performance monitoring - Guidelines for measurement, data exchange and analysis	*
IEC 61853-1 2011-01	Photovoltaic (PV) module performance testing and energy rating - Part 1: Irradiance and temperature performance measurements and power rating	*

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ISO 9227 2012-05	Corrosion tests in artificial atmospheres - Salt spray tests	*
ASTM G87 2002-01	Standard Practice for Conducting Moist SO ₂ Tests	*
2 PFG 1911 2016-04	Resistance of PV-connector / PV-junction box against ammonia atmosphere	
2 PFG 1795 2015-10	“Power Controlled” for Photovoltaic (PV) modules	
2 PFG 1794 2010-10	Qualification of PV-mounting systems	
2 PFG 1793 2014-04	Requirements for Flexible Front and Back Sheets for Photovoltaic Modules	
UL 8703 2011-05	Concentrator photovoltaic modules and assemblies	*
IEC 61215-1 2016-03	Terrestrial photovoltaic (PV) modules - Design qualification and type approval - Part 1: Test requirements	*
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	*
IEC 61215-1-2 2016-12	Terrestrial photovoltaic (PV) modules - Design qualification and type approval - Part 1-2: Special requirements for testing of cadmium telluride (CdTe) 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 amorphous silicon (a-Si) and microcrystalline silicon (c-Si) 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 copper indium gallium selenide (CIGS) and copper indium selenide (CIS) photovoltaic (PV) modules	*

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IEC 61215-2 2016-03	Terrestrial photovoltaic (PV) modules - Design qualification and type approval - Part 2: Test procedures	*
IEC 61730-1, ed. 2.0 2016-08	Photovoltaic (PV) module safety qualification - Part 1: Requirements for construction	*
EN 61730-1 +A1+A2+A11 2014-11	Photovoltaic (PV) module safety qualification - Part 1: Requirements for construction	*
IEC 61730-2, ed. 2.0 2016-08	Photovoltaic (PV) module safety qualification - Part 2: Requirements for testing	*
EN 61730-2+A1 2012-02	Photovoltaic (PV) module safety qualification - Part 2: Requirements for testing	*
IEC 62759-1 2015-06	Photovoltaic (PV) modules - Transportation testing - Part 1: Transportation and shipping of module package units	*
EN 61701 2012-03	Salt mist corrosion testing of photovoltaic (PV) modules	*
IEC 62716+ Corr.1 2014-05 EN 62716 2013-08	Photovoltaic (PV) modules - Ammonia corrosion testing	*
2 PfG 2376 2014-02	Shipping units of Photovoltaic (PV) modules - Design qualification and type approval	
2 PfG 2387 2014-04	System voltage durability qualification test for crystalline silicon modules (Potential Induced Degradation (PID))	
IEC 62670-1 2013-09	Photovoltaic concentrators (CPV) - Performance testing - Part 1: Standard conditions	*
IEC 62670-2 2015-05	Photovoltaic concentrators (CPV) - Performance testing - Part 2: Energy measurement	*
IEC 62688 CDV 2016-07	Concentrator photovoltaic (CPV) module and assembly safety qualification	*
IEC 62548 2016-09	Photovoltaic (PV) arrays - Design requirements	*

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IEC 62938 2015-01	Non-uniform snow load testing for photovoltaic (PV modules)	*
2 PFG 2310 2012-10	Prüfung zur Qualifizierung von Photovoltaik-(PV)-Modulen unter der Einwirkung von inhomogenen Schneelasten	
MCS 005 Issue 2.4 2015-09	Product Certification Scheme Requirements: Solar Photovoltaic Modules	*
MCS 012 Issue 2.1 2016-04	Product Certification Scheme Requirements: Pitched Roof Installation Kits	*
MCS 017 Issue 1.1 2015-03	Product Certification Scheme Requirements: Bespoke Building Integrated Photovoltaic Products	*
VKF Prüfbestimmung Nr. 19 2016-11	„Thermische Sonnenkollektoren“ – Stand 01.06.2014 / 19-14de / Version 1.02	*
VKF Prüfbestimmung Nr. 25 2016-11	„Photovoltaik-Module“ – Stand 01.06.2014 / 25-12de / Version 1.02	*
IEC 62817 2014-08 EN 62817 2015-03	Photovoltaic systems – Design qualification of solar trackers	*
IEC/TS 62804-1 2015-08	Photovoltaic (PV) modules. Test methods for the detection of potential-induced degradation. Crystalline silicon	*
MIL-STD 810G Method 510.5 2008-10	Environmental Engineering Considerations and Laboratory Tests. Method 510.5 - Sand and Dust	

2. Solarthermische Komponenten und-Systeme:

VKF Prüfbestimmung 00a Version 1.02 2014-02	ALLGEMEINER TEIL A	*
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VKF Prüfbestimmung 00b Version 1.01 2010-01	ALLGEMEINER TEIL B	*
EN 12975-1+A1 2010-10	Thermal solar systems and components – Solar collectors – Part 1: General requirements	*
EN 12976-1 2006-01	Thermal solar systems and components - Factory made systems - Part 1: General requirements	*
EN 12976-2 2006-01	Thermal solar systems and components - Factory made systems - Part 2: Test methods	*
EN 12977-1 2012-04	Thermal solar systems and components - Custom built systems - Part 1: General requirements for solar water heaters and combisystems	*
EN 12977-2 2012-04	Thermal solar systems and components - Custom built systems - Part 2: Test methods for solar water heaters and combisystems	*
EN 12977-3 2012-04	Thermal solar systems and components - Custom built systems - Part 3: Performance test methods for solar water heater stores	*

verwendete Abkürzungen:

ANSI	American National Standards Institute
CEI	Comitato Elettrotecnico Italiano
CSA	Canadian Standards Association
DIN	Deutsches Institut für Normung e.V.
EN	Europäische Norm
EG	Europäische Gemeinschaft
G59/3	ENA (Energy networks association) Engineering recommendation
MCS	Microgeneration Certification Scheme
PfG	Prüfgrundsatz für Gerätesicherheit (der TRLP)
QMA	Qualitätsmanagement-Arbeitsanweisung
RL	Richtlinie
TRLP	TÜV Rheinland LGA Products GmbH
UL	Underwriters Laboratories
VKF	Vereinigung Kantonalen Feuerversicherungen