

## Deutsche Akkreditierungsstelle

### Annex to the Accreditation Certificate D-PL-12110-01-00 according to DIN EN ISO/IEC 17025:2018

**Valid from:** 07.04.2025

**Date of issue:** 16.04.2025

Holder of accreditation certificate:

**FGH Engineering & Test GmbH  
Hallenweg 40, 68219 Mannheim**

with the location

**FGH Engineering & Test GmbH  
Hallenweg 40, 68219 Mannheim**

The testing laboratory meets the requirements of DIN EN ISO/IEC 17025:2018 to carry out the conformity assessment activities listed in this annex. The testing laboratory meets additional legal and normative requirements, if applicable, including those in relevant sectoral schemes, provided that these are explicitly confirmed below.

The management system requirements of DIN EN ISO/IEC 17025 are written in the language relevant to the operations of testing laboratories and they conform to the principles of DIN EN ISO 9001.

Tests in the fields:

**High-voltage devices and systems and their components  
On-site testing\***

*This certificate annex is only valid together with the written accreditation certificate and reflects the status as indicated by the date of issue. The current status of any given scope of accreditation can be found in the directory of accredited bodies maintained by Deutsche Akkreditierungsstelle GmbH at <https://www.dakks.de>.*

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**Within the given testing field the testing laboratory is permitted, without being required to inform and obtain prior approval from DAkkS, to use standards or equivalent testing methods listed here with different issue dates. (flexibilisation according to category A)**

**The testing laboratory maintains a current list of all testing methods within the flexible scope of accreditation.**

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Testing field	Standard / In-House Procedure / Version	Title of Standard or In-House Procedure (Deviations / Modifications of Standard)	Test Range / Restrictions
A.C. switchgear, voltage above 1 kV (general)	IEC 62271-1: 2017-07+ 2021 AMD	High voltage switchgear and controlgear – Part 1: Common specification	
	IEEE Std C37.100: 1992	IEEE Standard Definitions for Power Switchgear	
	IEEE Std C37.20.2: 2022	IEEE Standard for Metal-Clad Switchgear	Without 6.2.7.1-.3, 6.2.8,6.2.9
	IEEE Std C37.20.3: 2023	IEEE Standard for Metal-Enclosed Interrupter Switchgear (1kV-38kV)	Without 6.2.8.3- 6.2.8.5, 6.2.9
	IEEE Std C37.21: 2017	IEEE Standard for Control Switchboards	
Circuit-breakers	IEC 62271-100: 2021-07	High-voltage switchgear and controlgear – Part 100: Alternating current circuit- breakers	
	IEC 62271-108: 2020-07	High-voltage switchgear and controlgear - Part 108: High-voltage alternating current disconnecting circuit-breakers for rated voltages of 72,5 kV and above	
	IEC 62271-110: 2023-03	High-voltage switchgear and controlgear – Part 110: Inductive load switching	
	VDE 0115 Teil 300-2: 2003- 11 DIN EN 50123-2	Railway applications – Fixed installations – D.C. switchgear – Part 2: D.C. circuit breakers	
	EN 50123-2: 2003		

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	IEEE Std C37.06: 2009	IEEE Standard for AC High-Voltage Circuit Breakers Rated on a Symmetrical Current Basis - Preferred Ratings and Related Required Capabilities for Voltages Above 1000 V	
	IEEE Std C37.06.1: 2017	American National Standard Guide for High-Voltage Circuit Breakers Rated on Symmetrical Current Basis Designated - Definite Purpose for Fast Transient Recovery Voltage Rise Times	
	IEEE Std C37.09: 2018	IEEE Standard Test Procedure for AC High-Voltage Circuit-Breakers Rated on a Symmetrical Current Basis	
	IEEE Std C37.010: 2016	IEEE Application Guide for AC High-Voltage Circuit Breakers Rated on a Symmetrical Current Basis	
	IEEE Std C37.011: 2019	IEEE Application Guide for Transient Recovery Voltage for AC High-Voltage Circuit Breakers	
	IEEE/IEC 62271-37-013: 2021	IEEE/IEC International Standard for High-voltage switchgear and controlgear  Part 37-013: Alternating –current generator circuit-breaker	Without 7.101.4, 7.11
	IEEE Std 62271-37-082:2012	High-voltage switchgear and controlgear - Part 37-082: Standard practice for the measurement of sound pressure levels on alternating current circuit-breakers	
	IEEE Std C37.11: 2014	IEEE Standard Requirements for Electrical Control for AC High-Voltage Circuit Breakers Rated on a Symmetrical Current Basis	

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High-voltage switches	IEC 62271-103: 2021-05	High-voltage switchgear and controlgear – Part 103: Switches for rated voltages above 1 kV up to and including 52 kV	
	IEC 62271-104: 2020-08	High-voltage switchgear and controlgear – Part 104: Alternating current switches for rated voltages of 52 kV and above	
	IEC 62271-105: 2021-06	High-voltage switchgear and controlgear – Part 105: Alternating current switch- fuse combinations for rated voltages above 1 kV up to and including 52 kV	
High-voltage a.c. contactors and motorstarters	IEC 62271-106: 2021-04	High-voltage switchgear and controlgear – Part 106: Alternating current contactors, contactor-based controllers and motor-starters	
Disconnectors and earthing switches	IEC 62271-102: 2018-05 + 2022AMD	High-voltage switchgear and controlgear – Part 102: Alternating current disconnectors and earthing switches	
	VDE 0115 Teil 320-2: 2013- 07 DIN EN 50152-2  EN 50152-2: 2012	Railway applications – Fixed installations – Particular requirements for a.c. switchgear – Part 2: Single-phase disconnectors, earthing switches and switches with Un above 1 kV	
	IEEE Std C37.30.1: 2022	IEEE Standard Requirements for AC High- Voltage Switches Rated Above 1000 V	Without 7.3.2

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	IEEE Std C37.34: 1994	IEEE Standard Test Code for High-Voltage Air Switches	
	IEEE Std C37.37: 1996	IEEE Loading Guide for AC High-Voltage Air Switches (In Excess of 1000 V)	
	IEEE Std C37.38: 1989	IEEE Standard for Gas-Insulated, Metal-Enclosed Disconnecting, Interrupter and Grounding Switches	
	IEEE Std C37.41: 2016	IEEE Standard Design Tests for High-Voltage (>1000 V) Fuses, Fuses and Disconnecting Cutouts, Distribution Enclosed Single-Pole Air Switches, Fuse Disconnecting Switches, and Fuse Links and Accessories Used with These Devices	
Fuses	VDE 0670 Teil 4: 2021-12 DIN EN IEC 60282-1 IEC 60282-1: 2020-04	High-voltage fuses – Part 1: Current-limiting fuses	Without 8.3.4
	IEC 60282-2: 2008-04	High-voltage fuses – Part 2: Expulsion fuses	
	VDE 0636-6:2011-11: 2011-11 DIN EN 60269-6 IEC 60269-6: 2010+2021 AMD	Low-voltage fuses - Part 6: Supplementary requirements for fuse-links for the protection of solar photovoltaic energy systems	

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	VDE 0670-404: 2014-02 DIN EN 60549 IEC 60549: 2013	High-voltage fuses for the external protection of shunt capacitors	
	VDE 0670 Teil 401: 2020-08 DIN EN 60644 IEC 60644: 2009-08	Specification for high-voltage fuse-links for motor circuit applications	
Switchgear and controlgear	IEC 62271-200: 2021-05	High-voltage switchgear and controlgear – Part 200: AC metal-enclosed switchgear and controlgear for rated voltages above 1 kV and up to and including 52 kV	
	IEC 62271-201: 2014-03	High-voltage switchgear and controlgear – Part 201: AC insulation-enclosed switchgear and controlgear for rated voltages above 1 kV and up to and including 52 kV	
	IEC 62271-202: 2022-06	High-voltage switchgear and controlgear – Part 202: High-voltage/low-voltage prefabricated substations	Without 7.9
	IEC 62271-203: 2022-05	High-voltage switchgear and controlgear – Part 203: Gas-insulated metal-enclosed switchgear for rated voltages above 52 kV	
	IEC 62271-205: 2008-01	High-voltage switchgear and controlgear – Part 205: Compact switchgear assemblies for rated voltages above 52 kV	

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	IEC 62271-206: 2011-01	High-voltage switchgear and controlgear – Part 206: Voltage presence indicating systems for rated voltages above 1 kV and up to and including 52 kV	
	IEC 62271-212: 2022-06	High-voltage switchgear and controlgear - Part 212: Compact Equipment Assembly for Distribution Substation (CEADS)	
	IEC 62271-214:2024-04	High-voltage switchgear and controlgear - Part 214: Internal arc classification for metal-enclosed pole-mounted switchgear and controlgear for rated voltages above 1 kV and up to and including 52 kV	
	IEC TS 62271-304:2019-03	High-voltage switchgear and controlgear –Part 304: Design classes for indoor enclosed switchgear and controlgear for rated voltages above 1 kV up to and including 52 kV to be used in severe climatic conditions	
	IEC TS 62271-5: 2024-05	High-voltage switchgear and controlgear - Part 5: Common specifications for direct current switchgear and controlgear	Without 7.10
	IEC TS 62271-314: 2024-06	High-voltage switchgear and controlgear - Part 314: Direct current disconnectors and earthing switches	Without 7.10, 7.103
	IEC TS 62271-318: 2024-09	High-voltage switchgear and controlgear - Part 318: DC gas-insulated metal- enclosed switchgear for rated voltages including and above 100 kV	Without 7.10

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Railway applications	VDE 0115 Teil 300-1: 2003-12 DIN EN 50123-1 EN 50123-1: 2003	Railway applications – Fixed installations – D.C. switchgear – Part 1: General	
Surge arresters	VDE 0675 Teil 1: 2000-08 DIN EN 60099-1: 2000-08	Surge arresters - Part 1: Non-linear resistor type gapped surge arresters for a.c. systems	
	IEC 60099-4: 2014-06	Surge arresters – Part 4: Metal-oxide surge arresters without gaps for a.c. systems	
	IEC 60099-9: 2014	Surge arresters - Part 9: Metal-oxide surge arresters without gaps for HVDC converter stations	
	IEEE C62.11:2020	IEEE Standard for Metal-Oxide Surge Arresters for AC Power Circuits (>1kV)	without 6, 8.1, 8.2, 8.4- 8.6, 8.9, 8.11-8.14, 8.18, 8.19, 8.21

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Transformers, reactors, PLC- systems, On- load tap- changers	IEC 60076-1: 2011-04	Power transformers – Part 1: General	
	IEC 60076-2: 2011-02	Power transformers – Part 2: Temperature rise for liquid-immersed transformers	
	IEC 60076-3: 2013-07 + 2018 AMD	Power transformers – Part 3: Insulation levels, dielectric tests and external clearances in air	
	IEC 60076-5: 2006-02	Power transformers – Part 5: Ability to withstand short-circuit	
	IEC 60076-10: 2016-03	Power Transformers – Part 10: Determination of sound levels	
	IEC 60076-11: 2018-08	Power transformers – Part 11: Dry-type transformers	
	IEC 60076-13: 2006-05	Power transformers – Part 13 : Self- protected liquid-filled transformers	
	IEC 60076-4: 2002-06	Power transformers – Part 4: Guide to the lightning impulse and switching impulse testing - Power transformers and reactors	
	IEC 60076-6: 2007-12	Power transformers – Part 6: Reactors	
	VDE 0532 Teil 21: 1982-03 DIN 57532-21: 1982-03	Transformers and reactors; starting transformers and starting reactors	
	IEC 61378-1: 2011-07	Convertor transformers – Part 1: Transformers for industrial applications	

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	VDE 0115 Teil 329: 2011-02 DIN EN 50329 EN 50329: 2010	Railway applications – Fixed installations – Traction transformers	
	IEC 60214-1: 2014-05	Tap-changers – Part 1: Performance requirements and test methods	
	IEEE C57.131: 2024	IEEE Standard Requirements for Tap Changers	
	IEC 60310: 2016-01	Railway applications – Traction transformers and inductors on board rolling stock	
	IEEE Std C57.21: 2008	IEEE Standard Requirements, Terminology, and Test Code for Shunt Reactors Rated Over 500 kVA	
	IEEE Std C57.12.90: 2015	IEEE Standard Test Code for Liquid- Immersed Distribution, Power, and Regulating Transformers	
	IEEE Std C57.12.00: 2015	IEEE Standard General Requirements for Liquid-Immersed Distribution, Power, and Regulating Transformers	
Instrument transformers	IEC 60044-7: 1999-12	Instrument transformers – Part 7: Electronic voltage transformers	
	IEC 60044-8: 2002-07	Instrument transformers - Part 8: Electronic current transformers	
	IEC 61869-1: 2007-10	Instrument transformers – Part 1: General requirements	
	IEC 61869-2: 2012-09	Instrument transformers – Part 2: Additional requirements for current transformers	

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	IEC 61869-3: 2011-07	Instrument transformers – Part 3: Additional requirements for inductive voltage transformers	
	IEC 61869-4: 2014-08	Instrument transformers – Part 4: Additional requirement for combined transformers	
	IEC 61869-5: 2015-08	Instrument transformers – Part 5: Additional requirements for capacitor voltage transformers	
	IEC 61869-14: 2018-07	Instrument transformers - Part 14: Additional requirements for current transformers for DC applications	Without 7.2.5.2; 7.2.6.1402, 7.2.1402, 7.2.1403, 7.4.1402
	IEEE C57.12.01: 2015	IEEE general requirements for dry type distribution and power trafos	
	IEEE C57.12.20: 2017	IEEE Standard for Overhead-Type Distribution Transformers ≤ 500 kVA	
	IEEE C57.138: 2016	IEEE Recommended Practice for Routine Impulse Tests for Distribution Transformers	
	IEEE C57.12.91: 2011	IEEE Standard Test Code for Dry-Type Distribution and Power Transformers	
	IEC 60252-1: 2013-08+2013 AMD	AC motor capacitors – Part 1: General; Performance, testing and rating; Safety requirements; Guide for installation and operation	
	IEC 60110-1: 1998-06	Power capacitors for induction heating installations – Part 1: General	

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	IEC 60143-1: 2015-06	Series capacitors for power systems – Part 1: General	
	IEC 60143-2:2012	Series capacitors for power systems - Part 2: Protective equipment for series capacitor banks	
	IEC 60143-3: 2015	Series capacitors for power systems - Part 3: Internal fuses	
	IEC 60143-4: 2010	Series capacitors for power systems - Part 4: Thyristor controlled series capacitors	
	IEC 60871-1: 2014-05	Shunt capacitors for a.c. power systems having a rated voltage above 1000 V – Part 1: General	
	IEC TS 60871-2: 2014-11+ 2022 AMD	Shunt capacitors for a.c. power systems having a rated voltage above 1 000 V – Part 2: Endurance testing	
	IEC 60871-4: 2014-03	Shunt capacitors for AC power systems having a rated voltage above 1000 V – Part 4: Internal fuses	
	IEEE Std 18: 2012	IEEE Standard for Shunt Power Capacitors	
	HN 54-S-05:1998+ Amd 1: 2006	MV power capacitors with an all-film dielectric impregnated with a non- chlorinated dielectric liquid and with or without internal fuses	
Insulators, Bushings	IEC 62217: 2012-09	Polymeric HV insulators for indoor and outdoor use – General definitions, test methods and acceptance criteria	Without 9.3.2, 9.3.4
	ANSI C29.11: 2012	Composite Insulators - Test Methods	

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	ANSI C29.13: 2018-11	Insulators – composite. distribution deadend type	
	IEC 60660: 1999-10	Insulators – Tests on indoor post insulators of organic material for systems with nominal voltages greater than 1000 V up to but not including 300 kV	
	IEC 60383-1: 2023-07	Insulators for overhead lines with a nominal voltage above 1000 V – Part 1: Ceramic or glass insulator units for a.c. systems - Definitions, test methods and acceptance criteria	
	IEC 60383-2: 1993-04	Insulators for overhead lines with a nominal voltage above 1000 V – Part 2: Insulator strings and insulator sets for a.c. systems - Definitions, test methods and acceptance criteria	
	IEC 61325: 1995-03	Insulators for overhead lines with a nominal voltage above 1000 V – Ceramic or glass insulator units for d.c. systems - Definitions, test methods and acceptance criteria	
	IEC 60507: 2013-12	Artificial pollution tests on high-voltage ceramic and glass insulators to be used on a.c. systems	
	IEC 60168: 1994-11 + 1997 AMD + 2000 AMD	Tests on indoor and outdoor post insulators of ceramic material or glass for systems with nominal voltages greater than 1000 V	
	IEC 60137: 2017-06	Insulated bushings for alternating voltages above 1000 V	

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	IEEE C57.19.00: 2004	IEEE Standard General Requirements and Test Procedure for Power Apparatus Bushings	
	IEC 60437: 1997-09	Radio interference test on high-voltage insulators	
	IEC 61109: 2008-05	Insulators for overhead lines - Composite suspension and tension insulators for a.c. systems with a nominal voltage greater than 1000 V - Definitions, test methods and acceptance criteria	
	IEC 61211 2004-11	Insulators of ceramic material or glass for overhead lines with a nominal voltage greater than 1000 V – Impulse puncture testing in air	
	IEC/TS 61245: 2015-03	Artificial pollution tests on high-voltage insulators to be used on d.c. systems	
	IEC TS 60815-1:2008	Selection and dimensioning of high-voltage insulators intended for use in polluted conditions - Part 1: Definitions, information and general principles  Only Annex C: Measurement of ESDD and NSDD	
	IEC 61462: 2023-09	Composite hollow insulators – Pressurized and unpressurized insulators for use in electrical equipment with rated voltage greater than 1000 V - Definitions, test methods, acceptance criteria and design recommendations	Without 7.3.2, 7.3.4, 7.3.5
	IEC 61467: 2008-08	Insulators for overhead lines – Insulator strings and sets for lines with a nominal voltage greater than 1000 V - AC power arc tests	

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	IEC 61952: 2008-05	Insulators for overhead lines – Composite line post insulators for A.C. systems with a nominal voltage greater than 1000 V - Definitions, test methods and acceptance criteria	
	IEC TS 62073:2016-02	Guidance on the measurement of hydrophobicity of insulator surface Methode C: The spray method	
	IEC 62231: 2006-02	Composite station post insulators for substations with a.c. voltages greater than 1000 V up to 245 kV – Definitions, test methods and acceptance criteria	
	IEC 62621: 2011-06	Railway applications – Fixed installations – Electric traction – Special requirements for composite insulators used for overhead contact line systems	
	IEC 62772: 2016	Composite hollow core station post insulators for substations with a.c. voltage greater than 1 000 V and d.c. voltage greater than 1 500 V - Definitions, test methods and acceptance criteria	
	IEC TS 62896: 2015-11	Hybrid insulators for a.c. and d.c. for high-voltage applications - Definitions, test methods and acceptance criteria	
	IEC TR 62039: 2021-08	Selection guidelines for polymeric materials for outdoor use under HV stress	Only 4.4; 4.8
	IEC/IEEE 65700-19-03: 2014-07	Bushings for DC application	

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Fittings for overhead lines and switchgear	IEC 61284: 1998-09	Overhead lines – Requirements and tests for fittings	
	IEC 61854: 2020-02	Overhead lines – Requirements and tests for spacers	
	IEC 61897: 2020-03	Overhead lines – Requirements and tests for Stockbridge type aeolian vibration dampers	
	DIN VDE V 0212-490 VDE V 0212-490: 2014-12	Fittings for overhead lines - Part 490: Components for the protection of birds - Requirements and tests	
	DIN EN 50119 VDE 0115-601:2014-01	Railway applications - Fixed installations - Electric traction overhead contact lines	Chapter 8.11.1.3
HVDC-thyristor valves	VDE 0553 Teil 1: 2016-07 DIN EN 60700-1	Thyristor valves for high voltage direct current (HVDC) power transmission - Part 1: Electrical testing	
	IEC 60700-1: 2017	Thyristor valves for high voltage direct current (HVDC) power transmission – Part 1: Electrical testing	
	VDE 0553 Teil 100: 2018-01 DIN EN 61954 IEC 61954: 2017-04	Static var compensators (SVC) – Testing of thyristor valves	
	VDE 0553-501: 2018-08 DIN EN 62501 IEC 62501: 2017	Voltage sourced converter (VSC) valves for high-voltage direct current (HVDC) power transmission - Electrical testing	

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Operating, detecting and safe-guarding devices for work on electrically energized systems Equipment for earthing, short- circuiting	VDE V 0681 Teil 1: 2016-11 DIN VDE V 0681-1	Live working - Devices for operating and testing with nominal voltages exceeding 1 kV - Part 1: General requirements	
	VDE V 0681 Teil 2: 2016-11 DIN VDE V 0681-2	Live working - Devices for operating and testing with nominal voltages exceeding 1 kV - Part 2: Specifications for switching sticks	
	VDE V 0681 Teil 3: 2016-11 DIN VDE V 0681-3	Live working - Devices for operating and testing with nominal voltages exceeding 1 kV - Part 3: Specifications for fuse tongs	
	VDE 0682 Teil 201: 2019-04 DIN EN 60900 IEC 60900: 2018-06	Live working - Hand tools for use up to 1000 V a.c. and 1500 V d.c.	
	VDE 0682 Teil 551: 1997-01+1999 A1 + 2003 A2 DIN EN 61229 IEC 61229: 1993-07+ 1998 A1 + 2002 A2	Rigid protective covers for live working on a.c. installations	
	VDE 0682 Teil 552: 2003-10 DIN VDE 0682-552	Live working - Insulating protective barriers above 1 kV	
	VDE 0682 Teil 211: 2010-12 DIN EN 60832-1 IEC 60832-1: 2010-02	Live working – Insulating sticks and attachable devices – Part 1: Insulating sticks	

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	VDE 0682 Teil 212: 2010-12 DIN EN 60832-2 IEC 60832-2: 2010-02	Live working – Insulating sticks and attachable devices – Part 2: Attachable devices	
	VDE 0682 Teil 411: 2010-09 DIN EN 61243-1 IEC 61243-1: 2009-04	Live working - Voltage detectors – Part 1: Capacitive type to be used for voltages exceeding 1 kV a.c.	
	VDE 0682 Teil 412: 2003-09 DIN EN 61243-2 IEC 61243-2: 1995-10 + 1999 A1 + 2002 A2	Live working - Voltage detectors – Part 2: Resistive type to be used for voltages of 1 kV to 36 kV a.c.	
	VDE 0683 Teil 100: 2009-07 DIN EN 61230 IEC 61230: 2008-07	Live working – Portable equipment for earthing or earthing and short-circuiting	
	DIN EN 62193: 2004-07 IEC 62193:2003	Marking of electrical equipment with ratings related to electrical supply - Safety requirements	

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	DIN EN 61235:1995 IEC 61235:1993	Live working - Insulating hollow tubes for electrical purposes	Chapter 8 & 9
	VDE 0683 Teil 200: 1995-01 DIN EN 61219  IEC 61219: 2000-05	Live working - Earthing or earthing and short-circuiting equipment using lances as a short-circuiting device - Lance earthing	
High-voltage test techniques	VDE 0432 Teil 1: 2011-10 DIN IEC 60060-1 IEC 60060-1: 2010-11	High voltage test techniques – Part 1: General definitions and test requirements	
	IEEE 4: 2013	IEEE Standard for High-Voltage Testing Techniques	
	CISPR TR 18/2: 2017	Radio interference characteristics of overhead power lines and high-voltage equipment - Part 2: Methods of measurement and procedure for determining limits	
	NEMA 107: 2023	Methods of Measurement of Radio Influence Voltage (RIV) of High-Voltage Apparatus	

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	VDE 0432 Teil 9: 2003-06 DIN EN 60052  IEC 60052: 2002-10	Voltage measurement by means of standard air gaps	
	VDE 0434: 2015-11 + 2020 AMD DIN EN 60270  IEC 60270: 2000-12 + 2015 AMD	High-voltage test techniques – Partial discharge measurements	
	IEC 61180:2016	High-voltage test techniques for low- voltage equipment - Definitions, test and procedure requirements, test equipment	Chapter 6
Mechan. Tests	VDE 0470-1: 2019-06 DIN EN 60529: 2019-06  IEC 60529:1989/ AMD1:1999/AMD2:2013	Degrees of protection provided by enclosures (IP Code)	
Cables and their accessories	VDE 0604-202: 2023-03 DIN EN IEC 61914  IEC 61914: 2021-10	Cable cleats for electrical installations	
	VDE 0278-393: 2015-10 DIN EN 50393: 2015-10  EN 50393: 2015	Test methods and requirements for accessories for use on distribution cables of rated voltage 0,6/1,0 (1,2) kV;	

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	IEC 61442: 2023-10	Test methods for accessories for power cables with rated voltages from 6 kV (Um=7,2 kV) up to 36 kV (Um=42 kV)	
	VDE 0278-629-1: 2019-11 DIN VDE 0278-629-1 HD 629.1 S3: 2019-03	Test requirements on accessories for use on power cables of rated voltage from 3,6/6 (7,2) kV up to 20,8/36 (42) kV – Part 1: Cables with extruded insulation	
	VDE 0278-629-2: 2009-07 DIN VDE 0278-629-2 HD 629.1 S2: 2006 +A1:2008	Test requirements on accessories for use on power cables of rated voltage from 3,6/6 (7,2) kV up to 20,8/36 (42) kV – Part 2: Cables with impregnated paper insulation	
	VDE 0276 Teil 620: 2018-04 DIN VDE 0276-620	Distribution cables with extruded insulation for rated voltages from 3,6/6 (7,2) kV up to and including 20,8/36 (42) kV	
	HD 620 S3: 2023-03	Power cables – Distribution cables with extruded insulation for rated voltages from 3,6/6 (7,2) kV up to and including 20,8/36 (42) kV	

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	VDE 0276 Teil 621: 1997-05 DIN VDE 0276-621  HD 621 S1: 1996 + 2021AMD	Medium voltage impregnated paper insulated distribution cables	
	VDE 0276 Teil 622: 2006-05 DIN VDE 0276-622  HD 622 S1: 1996 +A1:2000 +A2:2005	Power cables – Power cables having rated voltages from 3,6/6 (7,2) kV up to and including 20,8/36 (42) kV with special fire performance for use in power stations	
	VDE 0276 Teil 632: 2013-05 DIN VDE 0276-632  HD 632 S3: 2016	Power cables with extruded insulation and their accessories for rated voltages above 36 kV (Um=42 kV) up to 150 kV (Um=170 kV)	
	VDE 0276 Teil 605: 2020-09 DIN VDE 0276-605  HD 605 S2: 2019-08	Electric cables – Additional test methods	
	VDE 0481 Teil 230: 2018-10* DIN EN 60230: 2018-10*  IEC 60230: 2018-01*	Impulse tests on cables and their accessories	

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	VDE 0481 Teil 885-2: 2004-11 DIN EN 60885-2	Electrical test methods for electric cables - Part 2: Partial discharge tests	
	VDE 0481 Teil 885-3: 2015-11 DIN EN 60885-3 IEC 60885-3: 2015-04	Electrical test methods for electric cables – Part 3: Test methods for partial discharge measurements on lengths of extruded power cables	
	IEC 60055-2: 1981-01 + 1989 A1+ 2005 A2	Paper-insulated metal-sheathed cables for rated voltages up to 18/30 kV (with copper or aluminium conductors and excluding gas-pressure and oil-filled cables) – Part 2: General and construction requirements	
	IEC 60502-1: 2009-11	Power cables with extruded insulation and their accessories for rated voltages from 1 kV (Um = 1,2 kV) up to 30 kV (Um = 36 kV) – Part 1: Cables for rated voltages of 1 kV (Um = 1,2 kV) and 3 kV (Um = 3,6 kV)	
	IEC 60502-2:2014-02	Power cables with extruded insulation and their accessories for rated voltages from 1 kV (Um = 1,2 kV) up to 30 kV (Um = 36 kV) – Part 2: Cables for rated voltages from 6 kV (Um = 7,2 kV) up to 30 kV (Um = 36 kV)	

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	IEC 60502-4: 2010-12	Power cables with extruded insulation and their accessories for rated voltages from 1 kV (Um = 1,2 kV) up to 30 kV (Um = 36 kV) – Part 4: Test requirements on accessories for cables with rated voltages from 6 kV (Um = 7,2 kV) up to 30 kV (Um = 36 kV)	
	IEC 60840: 2011-11	Power cables with extruded insulation and their accessories for rated voltages above 30 kV (Um = 36 kV) up to 150 kV (Um = 170 kV) - Test methods and requirements	
	IEC 62067: 2022-04	Power cables with extruded insulation and their accessories for rated voltages above 150 kV (Um = 170 kV) up to 500 kV (Um = 550 kV) - Test methods and requirements	Without 10.7.4
	DIN IEC 62895* VDE 0276-2895: 2019-02  IEC 62895: 2017-05*	High voltage direct current (HVDC) power transmission – Cables with extruded insulation and their accessories for rated voltages up to 320 kV for land applications – Test methods and requirements	
	CIGRE TB 496: 2012-04*	Recommendations for Testing DC Extruded Cable Systems for Power Transmission at a Rated Voltage up to 500 kV	

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	CIGRE TB 852: 2021*	Recommendations for testing DC extruded cable systems for power transmission at a rated voltage up to and including 800 kV	
	CIGRE TB 853: 2021*	"TB 853 - Recommendations for testing DC lapped cable systems for power transmission  at a rated voltage up to and including 800 kV"	
	IEC TR 61901:2016	Tests recommended on cables with a longitudinally applied metal foil for rated voltages above 30 kV (Um = 36 kV) up to and including 500 kV (Um = 550 kV)	without chapter 4.1
	VDE 0888-100-24: 2015-03 DIN EN 60794-1-24 IEC 60794-1-24: 2014	Optical fibre cables - Part 1-24: Generic specification - Basic optical cable test procedures - Electrical test methods	
	IEC 60947-1-401: 2021-07	Optical fibre cables - Part 1-401: Generic specification - Basic optical cable test procedures - Electrical test methods - Short-circuit test (for OPGW, OPAC and OPAC), Method H1	
	IEC 60947-1-402: 2021-07	Optical fibre cables - Part 1-402: Generic specification - Basic optical cable test procedures - Electrical test methods - Lightning test (for OPGW, OPAC and OPAC), Method H2	

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	IEEE Std. 1138 – 2021-11	IEEE Standard for Testing and Performance for Optical Ground Wire (OPGW) Use on Electric Utility Power Lines	Without 6.5.3.8, 6.5.1.1-.4, 6.5.2.1-.4, 6.5.3.1, 6.5.3.2, 6.5.3.7, 6.6, 6.7

**Abbreviations used:**

DIN	Deutsches Institut für Normung e.V. – German institute for standardization
EN	Europäische Norm – European Standard
IEC	International Electrotechnical Commission
ISO	International Organization for Standardisation

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