DAkkS
Deutsche
Akkreditierungsstelle

Deutsche Akkreditierungsstelle GmbH

Entrusted according to Section 8 subsection 1 AkkStelleG in connection with Section 1 subsection 1 AkkStelleGBV
Signatory to the Multilateral Agreements of EA, ILAC and IAF for Mutual Recognition

Accreditation

The Deutsche Akkreditierungsstelle GmbH attests that the testing laboratory

Phoenix Contact GmbH & Co. KG
Laboratory Device Connectors
Flachsmarktstraße 8, 32825 Blomberg

is competent under the terms of DIN EN ISO/IEC 17025:2018 to carry out tests in the following fields:

Safety of electrical equipment in device and circuit board connection technology (connectors, terminals and electronics housing) and environmental simulation tests

The accreditation certificate shall only apply in connection with the notice of accreditation of 11.08.2020 with the accreditation number D-PL-12161-01. It comprises the cover sheet, the reverse side of the cover sheet and the following annex with a total of 26 pages.

Registration number of the certificate: **D-PL-12161-01-00**

Frankfurt am Main, 11.08.2020	Dipl.-Ing. (FH) Ralf Egner Head of Division	Translation issued: 11.08.2020	Head of Division

The certificate together with its annex reflects the status at the time of the date of issue. The current status of the scope of accreditation can be found in the database of accredited bodies of Deutsche Akkreditierungsstelle GmbH.
https://www.dakks.de/en/content/accredited-bodies-dakks

This document is a translation. The definitive version is the original German accreditation certificate.

See notes overleaf.

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The accreditation was granted pursuant to the Act on the Accreditation Body (AkkStelleG) of 31 July 2009 (Federal Law Gazette I p. 2625) and the Regulation (EC) No 765/2008 of the European Parliament and of the Council of 9 July 2008 setting out the requirements for accreditation and market surveillance relating to the marketing of products (Official Journal of the European Union L 218 of 9 July 2008, p. 30). DAkkS is a signatory to the Multilateral Agreements for Mutual Recognition of the European co-operation for Accreditation (EA), International Accreditation Forum (IAF) and International Laboratory Accreditation Cooperation (ILAC). The signatories to these agreements recognise each other's accreditations.

The up-to-date state of membership can be retrieved from the following websites:
EA: www.european-accreditation.org
ILAC: www.ilac.org
IAF: www.iaf.nu

Deutsche Akkreditierungsstelle GmbH

Annex to the Accreditation Certificate D-PL-12161-01-00 according to DIN EN ISO/IEC 17025:2018

Valid from: 11.08.2020

Date of issue: 11.08.2020

Holder of certificate:

Phoenix Contact GmbH & Co. KG
Laboratory Device Connectors
Flachsmarktstraße 8, 32825 Blomberg

Tests in the fields:

Safety of electrical equipment in device and circuit board connection technology (connectors, terminals and electronics housing) and environmental simulation tests

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.

The testing laboratory maintains a current list of all testing standards / equivalent testing procedures within the flexible scope of accreditation.

Testing field	Standard / In-House Procedure / Version	Title of Standard or In-House Procedure (Deviations / Modifications of Standard)	Test Range / Restrictions
Basic standards			
Electrical Engineering	DIN EN 61984 (VDE 0627):2009-11; Corrigendum 1: 2012-03	Connectors - Safety requirements and tests	Except protection class: IPX1 to IPX5; IPX9 to DIN EN 60529

This document is a translation. The definitive version is the original German annex to the accreditation certificate.

Abbreviations used: see last page

The certificate together with its annex reflects the status at the time of the date of issue. The current status of the scope of accreditation can be found in the database of accredited bodies of Deutsche Akkreditierungsstelle GmbH. https://www.dakks.de/en/content/accredited-bodies-dakks

Testing field	Standard / In-House Procedure / Version	Title of Standard or In-House Procedure (Deviations / Modifications of Standard)	Test Range / Restrictions
Electrical Engineering	IEC 61984:2008-10; Corrigendum 1: 2011-10	Connectors - Safety requirements and tests	Except protection class: IPX1 to IPX5; IPX9
Electrical Engineering	DIN EN 60998-1 (VDE 0613-1): 2005-03	Connecting devices for low-voltage circuits for household and similar purposes - Part 1: General requirements	Except for test acc to chapter 19 (leakage current resistance)
Electrical Engineering	IEC 60998-1:2002-12; 2005-03	Connecting devices for low-voltage circuits for household and similar purposes - Part 1: General requirements	Except for test acc to chapter 19 (leakage current resistance)
Electrical Engineering	DIN EN 60998-2-1 (VDE 0613-2-1): 2005-03	Connecting devices for low-voltage circuits for household and similar purposes - Part 2-1: Particular requirements for connecting devices as separate entities with screw-type clamping units	Except for test acc to chapter 19 (leakage current resistance)
Electrical Engineering	IEC 60998-2-1: 2002-12	Connecting devices for low-voltage circuits for household and similar purposes - Part 2-1: Particular requirements for connecting devices as separate entities with screw-type clamping units	Except for test acc to chapter 19 (leakage current resistance)
Electrical Engineering	DIN EN 60998-2-2 (VDE 0613-2-2): 2005-03	Connecting devices for low-voltage circuits for household and similar purposes - Part 2-2: Particular requirements for connecting devices as separate entities with screwless-type clamping units	Except for test acc to chapter 19 (leakage current resistance)
Electrical Engineering	IEC 60998-2-2: 2002-12	Connecting devices for low-voltage circuits for household and similar purposes - Part 2-2: Particular requirements for connecting devices as separate entities with screwless-type clamping units	Except for test acc to chapter 19 (leakage current resistance)
Electrical Engineering	DIN EN 60998-2-3 (VDE 0613-2-3): 2005-03	Connecting devices for low-voltage circuits for household and similar purposes - Part 2-3: Particular requirements for connecting devices as separate entities with insulation-piercing clamping units	Except for test acc to chapter 19 (leakage current resistance)

Testing field	Standard / In-House Procedure / Version	Title of Standard or In-House Procedure (Deviations / Modifications of Standard)	Test Range / Restrictions
Electrical Engineering	IEC 60998-2-3: 2002-12; Corrigendum 1: 2006-11	Connecting devices for low-voltage circuits for household and similar purposes - Part 2-3: Particular requirements for connecting devices as separate entities with insulation-piercing clamping units	Except for test acc to chapter 19 (leakage current resistance)
Electrical Engineering	DIN EN 61076-2-101 (VDE 0687-76-2-101): 2013-01	Connectors for electronic equipment - Product requirements - Part 2-101: Circular connectors - Detail specification for M12 connectors with screw-locking	Except splash water IPX5
Electrical Engineering	IEC 61076-2-101: 2012-04	Connectors for electronic equipment - Product requirements - Part 2-101: Circular connectors - Detail specification for M12 connectors with screw-locking	Except splash water IPX5
Electrical Engineering	DIN EN 61076-2-104 (VDE 0687-76-2-104): 2015-06	Connectors for electronic equipment - Product requirements - Part 2-104: Circular connectors - Detail specification for circular connectors with M8 screw-locking or snap-locking	Except splash water IPX5
Electrical Engineering	IEC 61076-2-104: 2014-09	Connectors for electronic equipment - Product requirements - Part 2-104: Circular connectors - Detail specification for circular connectors with M8 screw-locking or snap-locking	Except splash water IPX5
Electrical Engineering	DIN EN 61076-2-109 (VDE 0687-76-2-109): 2015-02	Connectors for electronic equipment - Product requirements - Part 2-109: Circular connectors - Detail specification for connectors with M 12 x 1 screw-locking, for data transmission frequencies up to 500 MHz	Except for test FP1 to FP6 and FP9 to FP10
Electrical Engineering	IEC 61076-2-109: 2014-05	Connectors for electronic equipment - Product requirements - Part 2-109: Circular connectors - Detail specification for connectors with M 12 x 1 screw-locking, for data transmission frequencies up to 500 MHz	Except for test FP1 to FP6 and FP9 to FP10

Testing field	Standard / In-House Procedure / Version	Title of Standard or In-House Procedure (Deviations / Modifications of Standard)	Test Range / Restrictions
Electrical Engineering	DIN EN IEC 61076-2-111 (VDE 0687-76-2-111):2018-10	Connectors for electronic equipment - Product requirements - Part 2-111: Circular connectors - Detail specification for power connectors with M12 screw-locking	Except IPX5 and IPX9
Electrical Engineering	IEC 61076-2-111: 2017-12	Connectors for electronic equipment - Product requirements - Part 2-111: Circular connectors - Detail specification for power connectors with M12 screw-locking	Except IPX5 and IPX9
Electrical Engineering	DIN EN 61076-3-101: 1998-05; Corrigendum 1: 2012-07	Connectors with assessed quality, for use in d.c. low-frequency analogue and in digital high-speed data applications - Part 3: Rectangular connectors; Section 101: Detail specification for a range of shielded connectors with trapezoidal shaped shells and non-removable rectangular contacts on a 1,27 x 2,54 mm centre-line	Except for test AP 3.1 and AP 3.2 as well as test group JP
Electrical Engineering	IEC 61076-3-101: 1997-08; COR1:2010-04	Connectors with assessed quality, for use in d.c. low-frequency analogue and in digital high-speed data applications - Part 3: Rectangular connectors; Section 101: Detail specification for a range of shielded connectors with trapezoidal shaped shells and non-removable rectangular contacts on a 1,27 x 2,54 mm centre-line	Except for test AP 3.1 and AP 3.2 as well as test group JP
Electrical Engineering	DIN EN 61076-3-106: 2007-07	Connectors for electronic equipment - Product requirements – Part 3-106: Rectangular connectors - Detail specification for protective housings for use with 8-way shielded and unshielded connectors for industrial environments incorporating the IEC 60603-7 series interface	Except protection class: IPX5 of IEC 60529

Testing field	Standard / In-House Procedure / Version	Title of Standard or In-House Procedure (Deviations / Modifications of Standard)	Test Range / Restrictions
Electrical Engineering	IEC 61076-3-106: 2006-09	Connectors for electronic equipment - Product requirements – Part 3-106: Rectangular connectors - Detail specification for protective housings for use with 8-way shielded and unshielded connectors for industrial environments incorporating the IEC 60603-7 series interface	Except protection class: IPX5 of IEC 60529
Electrical Engineering	DIN EN 61076-3-117: 2010-01	Connectors for electronic equipment - Product requirements - Part 3-117: Rectangular connectors - Detail specification for protective housings for use with 8-way shielded and unshielded connectors for industrial environments incorporating the IEC 60603-7 series interface - Variant 14 related to IEC 61076-3-106 - Push pull coupling	Except protection class: IPX5 of IEC 60529
Electrical Engineering	IEC 61076-3-117: 2009-04	Connectors for electronic equipment - Product requirements - Part 3-117: Rectangular connectors - Detail specification for protective housings for use with 8-way shielded and unshielded connectors for industrial environments incorporating the IEC 60603-7 series interface - Variant 14 related to IEC 61076-3-106 - Push pull coupling	Except protection class: IPX5 of IEC 60529
Electrical Engineering	DIN EN 61076-2 (VDE 0687-76-2): 2012-04	Connectors for electronic equipment - Product requirements - Part 2: Sectional specification for circular connectors	Except for tests acc to 14a, 14b, 24a, 1d, 12a, 12b, 12c, 12e, 16a, 6a, 11k, 14g, 14f, 15h, 14e, 11h, 11e, 20b, 16m, 15g and Ozon resistance test

Testing field	Standard / In-House Procedure / Version	Title of Standard or In-House Procedure (Deviations / Modifications of Standard)	Test Range / Restrictions
Electrical Engineering	IEC 61076-2:2011-06	Connectors for electronic equipment - Product requirements - Part 2: Sectional specification for circular connectors	Except for tests acc to 14a, 14b, 24a, 1d, 12a, 12b, 12c, 12e, 16a, 6a, 11k, 14g, 14f, 15h, 14e, 11h, 11e, 20b, 16m, 15g and Ozon resistance test
Electrical Engineering	DIN EN 62196-1 (VDE 0623-5-1): 2015-06	Plugs, socket-outlets, vehicle connectors and vehicle inlets - Conductive charging of electric vehicles - Part 1: General requirements	Except for 12 b to c; 20 (Except protection class: IPX1 to IPX6; IPX9 of IEC 60529), 22, 23, 31 and 33
Electrical Engineering	IEC 62196-1:2014-06	Plugs, socket-outlets, vehicle connectors and vehicle inlets - Conductive charging of electric vehicles - Part 1: General requirements	Except for 12 b to c; 20 (Except protection class: IPX1 to IPX6; IPX9 of IEC 60529), 22, 23, 31 and 33
Electrical Engineering	DIN EN 62196-2 (VDE 0623-5-2): 2014-12; 2017-11	Plugs, socket-outlets, vehicle connectors and vehicle inlets - Conductive charging of electric vehicles - Part 2: Dimensional compatibility and interchangeability requirements for a.c. pin and contact-tube accessories	Except for 12 b to c; 20 (Except protection class: IPX1 to IPX6; IPX9 of IEC 60529), 22, 23, 31 and 33
Electrical Engineering	IEC 62196-2:2016-02	Plugs, socket-outlets, vehicle connectors and vehicle inlets - Conductive charging of electric vehicles - Part 2: Dimensional compatibility and interchangeability requirements for a.c. pin and contact-tube accessories	Except for 12 b to c; 20 (Except protection class: IPX1 to IPX6; IPX9 of IEC 60529), 22, 23, 31 and 33

Testing field	Standard / In-House Procedure / Version	Title of Standard or In-House Procedure (Deviations / Modifications of Standard)	Test Range / Restrictions
Electrical Engineering	DIN EN 62196-3 (VDE 0623-5-3): 2012-07; 2015-05	Plugs, socket-outlets, vehicle connectors and vehicle inlets - Conductive charging of electric vehicles - Part 3: Dimensional compatibility and interchangeability requirements for d.c. and a.c./d.c. pin and contact-tube vehicle couplers	Except for 12 b to c; 20 (Except protection class: IPX1 to IPX6; IPX9 of IEC 60529), 22, 23, 31
Electrical Engineering	IEC 23H/279/CD: 2012-02 IEC 62196-3:2014-06	Plugs, socket-outlets, vehicle connectors and vehicle inlets - Conductive charging of electric vehicles - Part 3: Dimensional compatibility and interchangeability requirements for d.c. and a.c./d.c. pin and contact-tube vehicle couplers	Except for 12 b to c; 20 (Except protection class: IPX1 to IPX6; IPX9 of IEC 60529), 22, 23, 31
Electrical Engineering	DIN EN 175301-801: 2007-08	Detail Specification: High density rectangular connectors, round removable crimp contacts	Except protection class: IPX4, IPX5 and IPX9 of IEC 60529
Electrical Engineering		Detail Specification: High density rectangular connectors, round removable crimp contacts	Except protection class: IPX4, IPX5 and IPX9 of IEC 60529
Electrical Engineering	DIN EN 175301-803: 2007-03	Detail Specification: Rectangular connectors - Flat contacts, 0,8 mm thickness, locking screw not detachable	Except protection class: IPX4, IPX5 and IPX9 of IEC 60529
Electrical Engineering		Detail Specification: Rectangular connectors - Flat contacts, 0,8 mm thickness, locking screw not detachable	Except protection class: IPX4, IPX5 and IPX9 of IEC 60529

Testing field	Standard / In-House Procedure / Version	Title of Standard or In-House Procedure (Deviations / Modifications of Standard)	Test Range / Restrictions
Electrical Engineering	DIN EN 62444 (VDE 0619): 2014-05	Cable glands for electrical installations	Except chapter 9 type D table 2 >2000 N, chapter 12 IPX4, chapter 10.3 table 5 short-time current test
Electrical Engineering	IEC 62444:2010-08, modified, German Version EN 62444:2013	Cable glands for electrical installations	Except chapter 9 type D table 2 >2000 N, chapter 12 IPX4, chapter 10.3 table 5 short-time current test
Electrical Engineering	DIN EN 50521 (VDE 0126-3): 2013-02	Connectors for photovoltaic systems - Safety requirements and tests	Except for test A8; test E2 except IPX5, IPX6 and IPX9
Electrical Engineering		Connectors for photovoltaic systems - Safety requirements and tests	Except for test A8; test E2 except IPX5, IPX6 and IPX9
Electrical Engineering	DIN EN 62852 (VDE 0126-300): 2015-10	Connectors for DC-application in photovoltaic systems - Safety requirements and tests	Except for test A8; test E2 except IPX5, IPX6 und IPX9
Electrical Engineering	IEC 62852:2014-11	Connectors for DC-application in photovoltaic systems - Safety requirements and tests	Except for test A8; test E2 except IPX5, IPX6 und IPX9
Electrical Engineering	DIN EN 50548 (VDE 0126-5): 2015-08	Junction boxes for photovoltaic modules	Except tests B4, B10, D4, F1, F4, G3, chapter 4.4.2 h) and j); test E1 except IPX5, IPX6 and IPX9
Electrical Engineering		Junction boxes for photovoltaic modules	Except tests B4, B10, D4, F1, F4, G3, chapter 4.4.2 h)

Testing field	Standard / In-House Procedure / Version	Title of Standard or In-House Procedure (Deviations / Modifications of Standard)	Test Range / Restrictions
			and j); test E1 except IPX5, IPX6 and IPX9
Electrical Engineering	DIN EN 60947-7-1 (VDE 0611-1): 2010-03	Low-voltage switchgear and controlgear - Part 7-1: Ancillary equipment - Terminal blocks for copper conductors	
Electrical Engineering	IEC 60947-7-1: 2009-04	Low-voltage switchgear and controlgear - Part 7-1: Ancillary equipment - Terminal blocks for copper conductors	
Electrical Engineering	DIN EN 60947-7-2 (VDE 0611-3): 2010-03	Low-voltage switchgear and controlgear - Part 7-2: Ancillary equipment - Protective conductor terminal blocks for copper conductors	
Electrical Engineering	IEC 60947-7-2: 2009-04	Low-voltage switchgear and controlgear - Part 7-2: Ancillary equipment - Protective conductor terminal blocks for copper conductors	
Electrical Engineering	DIN EN IEC 60947-7-4 (VDE 0611-7-4): 2019-10	Low-voltage switchgear and controlgear - Part 7-4: Ancillary equipment - PCB terminal blocks for copper conductors	
Electrical Engineering	IEC 60947-7-4:2019-01	Low-voltage switchgear and controlgear - Part 7-4: Ancillary equipment - PCB terminal blocks for copper conductors	
Electrical Engineering	DIN EN 60999-1 (VDE 0609-1): 2000-12	Connecting devices - Electrical copper conductors; Safety requirements for screw-type and screwless-type clamping units - Part 1: General requirements and particular requirements for clamping units for conductors 0,2 mm² up to 35 mm² (included)	

Testing field	Standard / In-House Procedure / Version	Title of Standard or In-House Procedure (Deviations / Modifications of Standard)	Test Range / Restrictions
Electrical Engineering	IEC 60999-1: 1999-11	Connecting devices - Electrical copper conductors; Safety requirements for screw-type and screwless-type clamping units - Part 1: General requirements and particular requirements for clamping units for conductors 0,2 mm² up to 35 mm² (included)	
Electrical Engineering	DIN EN 60999-2 (VDE 0609-101): 2004-04	Connecting devices - Electrical copper conductors - Safety requirements for screw-type and screwless-type clamping units - Part 2: Particular requirements for clamping units for conductors above 35 mm2 up to 300 mm2 (included)	
Electrical Engineering	IEC 60999-2: 2003-05	Connecting devices - Electrical copper conductors - Safety requirements for screw-type and screwless-type clamping units - Part 2: Particular requirements for clamping units for conductors above 35 mm2 up to 300 mm2 (included)	
Electrical Engineering	DIN EN 60352-2: 2006-11; 2014-04	Solderless connections - Part 2: Crimped connections - General requirements, test methods and practical guidance	
Electrical Engineering	IEC 60352-2: 2006-02 +AMD1:2013-06	Solderless connections - Part 2: Crimped connections - General requirements, test methods and practical guidance	
Electrical Engineering	DIN EN 60352-3: 1995-05 Corrigendum 1 2018-12	Solderless connections - Part 3: Solderless accessible insulation displacement connections; general requirements, test methods and practical guidance	
Electrical Engineering	IEC 60352-3: 1993-02; Corrigendum1: 1995-11	Solderless connections - Part 3: Solderless accessible insulation displacement connections; general requirements, test methods and practical guidance	

Testing field	Standard / In-House Procedure / Version	Title of Standard or In-House Procedure (Deviations / Modifications of Standard)	Test Range / Restrictions
Electrical Engineering	DIN EN 60352-4: 2001-09	Solderless connections - Part 4: Solderless non-accessible insulation displacement connections; General requirements, test methods and practical guidance	
Electrical Engineering	IEC 60352-4:1994-08 IEC 60352-4 AMD 1: 2000-07	Solderless connections - Part 4: Solderless non-accessible insulation displacement connections; General requirements, test methods and practical guidance	
Electrical Engineering	DIN EN 60352-5: 2012-10 Corrigendum 1: 2014-12	Solderless connections - Part 5: Press-in connections - General requirements, test methods and practical guidance	
Electrical Engineering	IEC 60352-5: 2012-02 Corrigendum 1: 2014-09	Solderless connections - Part 5: Press-in connections - General requirements, test methods and practical guidance	
Electrical Engineering	DIN EN 60352-6: 1998-03	Solderless connections - Part 6: Insulation piercing connections; general requirements, test methods and practical guidance	
Electrical Engineering	IEC 60352-6: 1997-08	Solderless connections - Part 6: Insulation piercing connections; general requirements, test methods and practical guidance	
Electrical Engineering	DIN EN 60352-7: 2003-07	Solderless connections - Part 7: Spring clamp connections; General requirements, test methods and practical guidance	
Electrical Engineering	IEC 60352-7: 2003-01	Solderless connections - Part 7: Spring clamp connections; General requirements, test methods and practical guidance	

Testing field	Standard / In-House Procedure / Version	Title of Standard or In-House Procedure (Deviations / Modifications of Standard)	Test Range / Restrictions
Electrical Engineering	DIN EN IEC 60512-1 (VDE 0687-512-1): 2019-09	Connectors for electrical and electronic equipment - Tests and measurements - Part 1: Generic specification	
Electrical Engineering	IEC 60512-1:2001-01; 2018-10	Connectors for electrical and electronic equipment - Tests and measurements - Part 1: Generic specification	
Electrical Engineering	DIN EN 60512-1-1: 2003-01	Connectors for electronic equipment - Tests and measurements - Part 1-1: General examination; Test 1a: Visual examination	
Electrical Engineering	IEC 60512-1-1: 2002-02	Connectors for electronic equipment - Tests and measurements - Part 1-1: General examination; Test 1a: Visual examination	
Electrical Engineering	DIN EN 60512-2-1: 2003-01	Connectors for electronic equipment - Tests and measurements - Part 2-1: Electrical continuity and contact resistance tests; Test 2a: Contact resistance; Millivolt level method	
Electrical Engineering	IEC 60512-2-1: 2002-02	Connectors for electronic equipment - Tests and measurements - Part 2-1: Electrical continuity and contact resistance tests; Test 2a: Contact resistance; Millivolt level method	

Testing field	Standard / In-House Procedure / Version	Title of Standard or In-House Procedure (Deviations / Modifications of Standard)	Test Range / Restrictions
Electrical Engineering	DIN EN 60512-2-2: 2004-01	Connectors for electronic equipment - Tests and measurements - Part 2-2: Electrical continuity and contact resistance tests - Test 2b: Contact resistance - Specified test current method	
Electrical Engineering	IEC 60512-2-2: 2003-05	Connectors for electronic equipment - Tests and measurements - Part 2-2: Electrical continuity and contact resistance tests - Test 2b: Contact resistance - Specified test current method	
Electrical Engineering	DIN EN 60512-3-1: 2003-01	Connectors for electronic equipment - Tests and measurements - Part 3-1: Insulation tests; Test 3a: Insulation resistance	
Electrical Engineering	IEC 60512-3-1: 2002-02	Connectors for electronic equipment - Tests and measurements - Part 3-1: Insulation tests; Test 3a: Insulation resistance	
Electrical Engineering	DIN EN 60512-4-1: 2004-01	Connectors for electronic equipment - Tests and measurements - Part 4-1: Voltage stress tests - Test 4a: Voltage proof	
Electrical Engineering	IEC 60512-4-1: 2003-05	Connectors for electronic equipment - Tests and measurements - Part 4-1: Voltage stress tests - Test 4a: Voltage proof	
Electrical Engineering	DIN EN 60512-5-1: 2003-01; Corrigendum 1: 2015-06	Connectors for electronic equipment - Tests and measurements - Part 5-1: Current-carrying capacity tests; Test 5a: Temperature rise	

Testing field	Standard / In-House Procedure / Version	Title of Standard or In-House Procedure (Deviations / Modifications of Standard)	Test Range / Restrictions
Electrical Engineering	IEC 60512-5-1: 2002-02	Connectors for electronic equipment - Tests and measurements - Part 5-1: Current-carrying capacity tests; Test 5a: Temperature rise	
Electrical Engineering	DIN EN 60512-5-2: 2003-01	Connectors for electronic equipment - Tests and measurements - Part 5-2: Current-carrying capacity tests; Test 5b: Current-temperature derating	
Electrical Engineering	IEC 60512-5-2: 2002-02	Connectors for electronic equipment - Tests and measurements - Part 5-2: Current-carrying capacity tests; Test 5b: Current-temperature derating	
Electrical Engineering	DIN EN 60512-7-1 (VDE 0687-512-7-1): 2010-12	Connectors for electronic equipment - Tests and measurements – Part 7-1: Impact tests (free connectors) - Test 7a: Free fall (repeated)	
Electrical Engineering	IEC 60512-7-1: 2010-03	Connectors for electronic equipment - Tests and measurements – Part 7-1: Impact tests (free connectors) - Test 7a: Free fall (repeated)	
Electrical Engineering	DIN EN 60512-7-2 (VDE 0687-512-7-2): 2012-09	Connectors for electronic equipment - Tests and measurements - Part 7-2: Impact tests (free connectors) - Test 7b: Mechanical strength impact	
Electrical Engineering	IEC 60512-7-2: 2011-11	Connectors for electronic equipment - Tests and measurements - Part 7-2: Impact tests (free connectors) - Test 7b: Mechanical strength impact	

Testing field	Standard / In-House Procedure / Version	Title of Standard or In-House Procedure (Deviations / Modifications of Standard)	Test Range / Restrictions
Electrical Engineering	DIN EN 60512-8-1 (VDE 0687-512-8-1): 2011-06	Connectors for electronic equipment - Tests and measurements - Part 8-1: Static load tests (fixed connectors) - Test 8a: Static load, transverse	
Electrical Engineering	IEC 60512-8-1: 2010-06	Connectors for electronic equipment - Tests and measurements - Part 8-1: Static load tests (fixed connectors) - Test 8a: Static load, transverse	
Electrical Engineering	DIN EN 60512-8-2 (VDE 0687-512-8-2): 2012-02	Connectors for electronic equipment - Tests and measurements - Part 8-2: Static load tests (fixed connectors) - Test 8b: Static load, axial	
Electrical Engineering	IEC 60512-8-2: 2011-04	Connectors for electronic equipment - Tests and measurements - Part 8-2: Static load tests (fixed connectors) - Test 8b: Static load, axial	
Electrical Engineering	DIN EN 60512-9-1 (VDE 0687-512-9-1): 2010-12	Connectors for electronic equipment - Tests and measurements - Part 9-1: Endurance tests - Test 9a: Mechanical operation	
Electrical Engineering	IEC 60512-9-1: 2010-03	Connectors for electronic equipment - Tests and measurements - Part 9-1: Endurance tests - Test 9a: Mechanical operation	
Electrical Engineering	DIN EN 60512-9-2 (VDE 0687-512-9-2): 2012-09	Connectors for electronic equipment - Tests and measurements - Part 9-2: Endurance tests - Test 9b: Electrical load and temperature	

Testing field	Standard / In-House Procedure / Version	Title of Standard or In-House Procedure (Deviations / Modifications of Standard)	Test Range / Restrictions
Electrical Engineering	IEC 60512-9-2: 2011-11	Connectors for electronic equipment - Tests and measurements - Part 9-2: Endurance tests - Test 9b: Electrical load and temperature	
Electrical Engineering	DIN EN 60512-9-5 (VDE 0687-512-9-5): 2010-12	Connectors for electronic equipment - Tests and measurements - Part 9-5: Endurance tests - Test 9e: Current loading, cyclic	
Electrical Engineering	IEC 60512-9-5: 2010-03	Connectors for electronic equipment - Tests and measurements - Part 9-5: Endurance tests - Test 9e: Current loading, cyclic	
Electrical Engineering	DIN EN 60512-11-1: 1999-08	Electromechanical components for electronic equipment - Basic testing procedures and measuring methods - Part 11: Climatic tests; Section 1: Test 11a: Climatic sequence	
Electrical Engineering	IEC 60512-11-1: 1995-11; 2019-05	Electromechanical components for electronic equipment - Basic testing procedures and measuring methods - Part 11: Climatic tests; Section 1: Test 11a: Climatic sequence	
Electrical Engineering	DIN EN 60512-11-4: 2003-01	Connectors for electronic equipment - Tests and measurements - Part 11-4: Climatic tests; Test 11d: Rapid change of temperature	
Electrical Engineering	IEC 60512-11-4: 2002-02	Connectors for electronic equipment - Tests and measurements - Part 11-4: Climatic tests; Test 11d: Rapid change of temperature	

Testing field	Standard / In-House Procedure / Version	Title of Standard or In-House Procedure (Deviations / Modifications of Standard)	Test Range / Restrictions
Electrical Engineering	DIN EN 60512-11-9: 2003-01	Connectors for electronic equipment - Tests and measurements - Part 11-9: Climatic tests; Test 11i: Dry heat	
Electrical Engineering	IEC 60512-11-9: 2002-02	Connectors for electronic equipment - Tests and measurements - Part 11-9: Climatic tests; Test 11i: Dry heat	
Electrical Engineering	DIN EN 60512-11-10: 2003-01	Connectors for electronic equipment - Tests and measurements - Part 11-10: Climatic tests; Test 11j: Cold	
Electrical Engineering	IEC 60512-11-10: 2002-02	Connectors for electronic equipment - Tests and measurements - Part 11-10: Climatic tests; Test 11j: Cold	
Electrical Engineering	DIN EN 60512-11-14: 2004-06	Connectors for electronic equipment - Tests and measurements - Part 11-14: Climatic tests - Test 11p: Flowing single gas corrosion test	
Electrical Engineering	IEC 60512-11-14: 2003-07	Connectors for electronic equipment - Tests and measurements - Part 11-14: Climatic tests - Test 11p: Flowing single gas corrosion test	
Electrical Engineering	DIN EN 60512-13-1: 2006-11 Corrigendum 1: 2008-11	Connectors for electronic equipment - Tests and measurements - Part 13-1: Mechanical operation tests - Test 13a: Engaging and separating forces	
Electrical Engineering	IEC 60512-13-1: 2006-02	Connectors for electronic equipment - Tests and measurements - Part 13-1: Mechanical operation tests - Test 13a: Engaging and separating forces	
Electrical Engineering	DIN EN 60512-13-2: 2006-11 Corrigendum 1: 2008-11	Connectors for electronic equipment - Tests and measurements - Part 13-2: Mechanical operation tests - Test 13b: Insertion and withdrawal force	

Testing field	Standard / In-House Procedure / Version	Title of Standard or In-House Procedure (Deviations / Modifications of Standard)	Test Range / Restrictions
Electrical Engineering	IEC 60512-13-2: 2006-02	Connectors for electronic equipment - Tests and measurements - Part 13-2: Mechanical operation tests - Test 13b: Insertion and withdrawal force	
Electrical Engineering	DIN EN 60512-13-5: 2006-11 Corrigendum 1: 2008-11	Connectors for electronic equipment - Tests and measurements - Part 13-5: Mechanical operation tests - Test 13e: Polarizing and keying method	
Electrical Engineering	IEC 60512-13-5: 2006-02	Connectors for electronic equipment - Tests and measurements - Part 13-5: Mechanical operation tests - Test 13e: Polarizing and keying method	
Electrical Engineering	DIN EN 60512-15-1: 2009-03	Connectors for electronic equipment - Tests and measurements - Part 15-1 Connector tests (mechanical) - Test 15a: Contact retention in insert	
Electrical Engineering	IEC 60512-15-1: 2008-05	Connectors for electronic equipment - Tests and measurements - Part 15-1 Connector tests (mechanical) - Test 15a: Contact retention in insert	
Electrical Engineering	DIN EN IEC 60512-15-2 (VDE 0687-512-15-2):2018-10	Connectors for electronic equipment - Tests and measurements - Part 15-2: Connector tests (mechanical) - Test 15b: Insert retention in housing (axial)	Except test method B
Electrical Engineering	IEC 60512-15-2: 2008-05; 2018-01	Connectors for electronic equipment - Tests and measurements - Part 15-2: Connector tests (mechanical) - Test 15b: Insert retention in housing (axial)	Except test method B

Testing field	Standard / In-House Procedure / Version	Title of Standard or In-House Procedure (Deviations / Modifications of Standard)	Test Range / Restrictions
Electrical Engineering	DIN EN 60512-16-4: 2009-03	Connectors for electronic equipment - Tests and measurements - Part 16-4: Mechanical tests on contacts and terminations - Test 16d: Tensile strength (crimped connections)	
Electrical Engineering	IEC 60512-16-4: 2008-06	Connectors for electronic equipment - Tests and measurements - Part 16-4: Mechanical tests on contacts and terminations - Test 16d: Tensile strength (crimped connections)	
Electrical Engineering	DIN EN 60512-17-1 (VDE 0687-512-17-1): 2011-06	Connectors for electronic equipment - Tests and measurements - Part 17-1: Cable clamping tests - Test 17a: Cable clamp robustness	
Electrical Engineering	IEC 60512-17-1: 2010-06	Connectors for electronic equipment - Tests and measurements - Part 17-1: Cable clamping tests - Test 17a: Cable clamp robustness	
Electrical Engineering	DIN EN 60512-17-2 (VDE 0687-512-17-2): 2012-02	Connectors for electronic equipment - Tests and measurements - Part 17-2: Cable clamping tests - Test 17b: Cable clamp resistance to cable rotation	
Electrical Engineering	IEC 60512-17-2: 2011-04	Connectors for electronic equipment - Tests and measurements - Part 17-2: Cable clamping tests - Test 17b: Cable clamp resistance to cable rotation	
Electrical Engineering	DIN EN 60512-17-3 (VDE 0687-512-17-3): 2011-06	Connectors for electronic equipment - Tests and measurements - Part 17-3: Cable clamping tests - Test 17c: Cable clamp resistance to cable pull (tensile)	

Testing field	Standard / In-House Procedure / Version	Title of Standard or In-House Procedure (Deviations / Modifications of Standard)	Test Range / Restrictions
Electrical Engineering	IEC 60512-17-3: 2010-06	Connectors for electronic equipment - Tests and measurements - Part 17-3: Cable clamping tests - Test 17c: Cable clamp resistance to cable pull (tensile)	
Electrical Engineering	DIN EN 60512-17-4 (VDE 0687-512-17-4): 2011-06	Connectors for electronic equipment - Tests and measurements - Part 17-4: Cable clamping tests - Test 17d: Cable clamp resistance to cable torsion	
Electrical Engineering	IEC 60512-17-4: 2010-06	Connectors for electronic equipment - Tests and measurements - Part 17-4: Cable clamping tests - Test 17d: Cable clamp resistance to cable torsion	
Electrical Engineering	DIN EN 60512-19-3: 1998-03	Electromechanical components for electronic equipment - Basic testing procedures and measuring methods - Part 19: Chemical resistance tests; section 3: Test 19c: Fluid resistance	
Electrical Engineering	IEC 60512-19-3: 1997-07	Electromechanical components for electronic equipment - Basic testing procedures and measuring methods - Part 19: Chemical resistance tests; section 3: Test 19c: Fluid resistance	
Electrical Engineering	DIN EN 60603-7 (VDE 0627-603-7): 2012-0; 2019-11	Connectors for electronic equipment – Part 7: Detail specification for 8-way, unshielded, free and fixed connectors	Except tests BP3, DP6, FP1
Electrical Engineering	IEC 60603-7:2008-07 AMD 1:2011-09 AMD 2:2019-01	Connectors for electronic equipment – Part 7: Detail specification for 8-way, unshielded, free and fixed connectors	Except tests BP3, DP6, FP1

Testing field	Standard / In-House Procedure / Version	Title of Standard or In-House Procedure (Deviations / Modifications of Standard)	Test Range / Restrictions
Electrical Engineering	DIN EN 60603-7-1 (VDE 0687-603-7-1): 2012-01	Connectors for electronic equipment – Part 7-1: Detail specification for 8-way, shielded, free and fixed connectors	Except tests BP3, DP7, GP4, GP5
Electrical Engineering	IEC 60603-7-1: 2011-04	Connectors for electronic equipment – Part 7-1: Detail specification for 8-way, shielded, free and fixed connectors	Except tests BP3, DP7, GP4, GP5
Product Safety	UL 1059: 2011-10; 2019-11	Standard for Safety for Terminal Blocks	
Product Safety	UL 1977:2016-01	Component connectors for use in data, signal, control and power applications	
Product Safety	UL 2238:2018-10	Cable assemblies and fittings for industrial control and signal distribution	Only Test Number 19; 21; 22; 23; 24; 24.1; 24.2; 25; 27; 28 and 31
Product Safety	UL 6703: 2014-08	Connectors for Use in Photovoltaic Systems	Only table 9.1 Required tests; except Water spray
Environmental Testing	DIN 50018:2013-05	Testing in a saturated atmosphere in the presence of sulfur dioxide	
Environmental Testing		Testing in a saturated atmosphere in the presence of sulfur dioxide	
Environmental Testing	DIN EN ISO 4892-2: 2013-06	Plastics - Methods of exposure to laboratory light sources - Part 2: Xenon-arc lamps	
Environmental Testing	ISO 4892-2: 2013-03	Plastics - Methods of exposure to laboratory light sources - Part 2: Xenon-arc lamps	

Testing field	Standard / In-House Procedure / Version	Title of Standard or In-House Procedure (Deviations / Modifications of Standard)	Test Range / Restrictions
Environmental Testing	DIN EN ISO 6988: 1997-03	Corrosion of metals and alloys - Sulfur dioxide test in a humid atmosphere (fixed gas method)	
Environmental Testing	ISO 22479:2019-05 ISO 6988:1985-02	Corrosion of metals and alloys - Sulfur dioxide test in a humid atmosphere (fixed gas method)	
Environmental Testing	DIN EN 61373 (VDE 0155-106): 2011-04; Corrigendum 1:2018-01	Railway applications - Rolling stock equipment - Shock and vibration tests	Only category 1A, 1B and 2
Environmental Testing	IEC 61373:2010-05/ COR1:2011-10	Railway applications - Rolling stock equipment - Shock and vibration tests	Only category 1A, 1B and 2
Environmental Testing	DIN EN 60068-2-1 (VDE 0468-2-1): 2008-01	Environmental testing - Part 2-1: Tests - Test A: Cold	
Environmental Testing	IEC 60068-2-1: 2007-03	Environmental testing - Part 2-1: Tests - Test A: Cold	
Environmental Testing	DIN EN 60068-2-2 (VDE 0468-2-2): 2008-05	Environmental testing - Part 2-2: Tests - Test B: Dry heat	
Environmental Testing	IEC 60068-2-2: 2007-07	Environmental testing - Part 2-2: Tests - Test B: Dry heat	
Environmental Testing	DIN EN 60068-2-6 (VDE 0468-2-6): 2008-10	Environmental testing - Part 2-6: Tests - Test Fc: Vibration (sinusoidal)	
Environmental Testing	IEC 60068-2-6: 2007-12	Environmental testing - Part 2-6: Tests - Test Fc: Vibration (sinusoidal)	
Environmental Testing	DIN EN 60068-2-14 (VDE 0468-2-14): 2010-04	Environmental testing - Part 2-14: Tests - Test N: Change of temperature	Except test Nc Two-Bath-Method

Testing field	Standard / In-House Procedure / Version	Title of Standard or In-House Procedure (Deviations / Modifications of Standard)	Test Range / Restrictions
Environmental Testing	IEC 60068-2-14: 2009-01	Environmental testing - Part 2-14: Tests - Test N: Change of temperature	Except test Nc Two-Bath-Method
Environmental Testing	DIN EN 60068-2-27 (VDE 0468-2-27): 2010-02	Environmental testing - Part 2-27: Tests - Test Ea and guidance: Shock	
Environmental Testing	IEC 60068-2-27: 2008-02	Environmental testing - Part 2-27: Tests - Test Ea and guidance: Shock	
Environmental Testing	DIN EN 60068-2-30: 2006-06	Environmental testing - Part 2-30: Tests - Test Db: Damp heat, cyclic (12 h + 12 h cycle)	
Environmental Testing	IEC 60068-2-30: 2005-08	Environmental testing - Part 2-30: Tests - Test Db: Damp heat, cyclic (12 h + 12 h cycle)	
Environmental Testing	DIN EN 60068-2-31 (VDE 0468-2-31): 2009-04	Environmental testing - Part 2-31: Tests - Test Ec: Rough handling shocks, primarily for equipment-type specimens	Only „free fall“
Environmental Testing	IEC 60068-2-31: 2008-05	Environmental testing - Part 2-31: Tests - Test Ec: Rough handling shocks, primarily for equipment-type specimens	Only „free fall“
Environmental Testing	DIN EN 60068-2-38 (VDE 0468-2-38): 2010-06	Environmental testing - Part 2-38: Tests - Test Z/AD: Composite temperature/humidity cyclic test	
Environmental Testing	IEC 60068-2-38: 2009-01	Environmental testing - Part 2-38: Tests - Test Z/AD: Composite temperature/humidity cyclic test	
Environmental Testing	DIN EN 60068-2-42: 2004-04	Environmental testing - Part 2-42: Tests - Test Kc: Sulphur dioxide test for contacts and connections	
Environmental Testing	IEC 60068-2-42: 2003-05	Environmental testing - Part 2-42: Tests - Test Kc: Sulphur dioxide test for contacts and connections	

Testing field	Standard / In-House Procedure / Version	Title of Standard or In-House Procedure (Deviations / Modifications of Standard)	Test Range / Restrictions
Environmental Testing	DIN EN 60068-2-43: 2004-04	Environmental testing - Part 2-43: Tests - Test Kd: Hydrogen sulphide test for contacts and connections	
Environmental Testing	IEC 60068-2-43: 2003-05	Environmental testing - Part 2-43: Tests - Test Kd: Hydrogen sulphide test for contacts and connections	
Environmental Testing	DIN EN 60068-2-64 (VDE 0468-2-64): 2009-04	Environmental testing - Part 2-64: Tests - Test Fh: Vibration, broadband random and guidance	Only “gaussian test”
Environmental Testing	IEC 60068-2-64: 2008-04 AMD 1:2019-10	Environmental testing - Part 2-64: Tests - Test Fh: Vibration, broadband random and guidance	Only “gaussian test”
Environmental Testing	DIN EN 60068-2-74 (VDE 0468-2-74): 2019-06	Environmental testing - Part 2-74: Tests - Test Xc: Fluid contamination	
Environmental Testing	IEC 60068-2-74 Edition 1.1:2018-04	Environmental testing - Part 2-74: Tests - Test Xc: Fluid contamination	
Environmental Testing	DIN EN 60068-2-78 (VDE 0468-2-78): 2014-02	Environmental testing - Part 2-78: Tests; Test Cab: Damp heat, steady state	
Environmental Testing	IEC 60068-2-78: 2012-10	Environmental testing - Part 2-78: Tests; Test Cab: Damp heat, steady state	
Environmental Testing	DIN EN 60068-2-82: 2007-12	Environmental testing - Part 2-82: Tests - Test Xw1: Whisker test methods for components and parts used in electronic assemblies	
Environmental Testing	IEC 60068-2-82: 2019-07	Environmental testing - Part 2-82: Tests - Test Xw1: Whisker test methods for components and parts used in electronic assemblies	

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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
Environmental Testing	DIN EN 60529 (VDE 0470-1): 2014-09 Corrigendum 1: 2017-02 Corrigendum 2: 2019-06	Degrees of protection provided by enclosures (IP code)	Except protection class: IPX1 to IPX6; IPX9
Environmental Testing	IEC 60529:1989-11 +AMD1:1999-11 +AMD2:2013-08 +AMD2 Corrigendum 1:2019-01	Degrees of protection provided by enclosures (IP code)	Except protection class: IPX1 to IPX6; IPX9
Environmental Testing	DIN EN 60695-10-2 (VDE 0471-10-2): 2016-01	Fire hazard testing - Part 10-2: Abnormal heat - Ball pressure test	
Environmental Testing	IEC 60695-10-2: 2014-02	Fire hazard testing - Part 10-2: Abnormal heat - Ball pressure test	
Environmental Testing	DIN EN 60695-11-5 (VDE 0471-11-5): 2017-12	Fire hazard testing - Part 11-5: Test flames - Needle-flame test method - Apparatus, confirmatory test arrangement and guidance	
Environmental Testing	IEC 60695-11-5: 2016-12	Fire hazard testing - Part 11-5: Test flames - Needle-flame test method - Apparatus, confirmatory test arrangement and guidance	
Environmental Testing	DIN EN 60695-2-10 (VDE 0471-2-10): 2014-04	Fire hazard testing - Part 2-10: Glowing/hot-wire based test methods; Glow-wire apparatus and common test procedure	
Environmental Testing	IEC 60695-2-10: 2013-04	Fire hazard testing - Part 2-10: Glowing/hot-wire based test methods; Glow-wire apparatus and common test procedure	

Testing field	Standard / In-House Procedure / Version	Title of Standard or In-House Procedure (Deviations / Modifications of Standard)	Test Range / Restrictions
Environmental Testing	DIN EN 60695-2-11 (VDE 0471-2-11): 2014-11	Fire hazard testing - Part 2-11: Glowing/hot-wire based test methods; Glow-wire flammability test method for end-products (GWEPT)	
Environmental Testing	IEC 60695-2-11: 2014-02	Fire hazard testing - Part 2-11: Glowing/hot-wire based test methods; Glow-wire flammability test method for end-products (GWEPT)	
Environmental Testing	DIN EN 2591-315: 2016-01	Aerospace series - Elements of electrical and optical connection; test methods - Part 315: Fluid resistance	
Environmental Testing		Aerospace series - Elements of electrical and optical connection; test methods - Part 315: Fluid resistance	
Environmental Testing	VDMA 24364:2018-05	Testing for paint wetting impairment substances (LABS-conformity)	
Environmental Testing		Testing for paint wetting impairment substances (LABS-conformity)	