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

DEUTA-WERKE GmbH
Paffrather Straße 140, 51465 Bergisch Gladbach

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

Electromagnetic compatibility (EMC), Device Safety and Environmental Testing

The accreditation certificate shall only apply in connection with the notice of accreditation of 27.04.2021 with the accreditation number D-PL-12087-01. It comprises the cover sheet, the reverse side of the cover sheet and the following annex with a total of 8 pages.

Registration number of the certificate: **D-PL-12087-01-00**

Frankfurt am Main, 27.04.2021	Dipl.-Ing. (FH) Ralf Egner Head of Division	Translation issued: 21.06.2021	Head of Division

The certificate together with the annex reflects the status as indicated by the date of issue.
The current status of any given scope of accreditation may be found respectively 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.

Deutsche Akkreditierungsstelle GmbH

Office Berlin
Spittelmarkt 10
10117 Berlin

Office Frankfurt am Main
Europa-Allee 52
60327 Frankfurt am Main

Office Braunschweig
Bundesallee 100
38116 Braunschweig

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

Test laboratory: DEUTA-WERKE GmbH
Paffrather Straße 140
51465 Bergisch Gladbach
Germany

Flexibility for the entire scope of accreditation with category III.

Note: The output statuses of corrections to the test procedures are not listed here.

Tests (DIN EN ISO/IEC 17025):

Department	Standard or test procedure / revision level	Title of the norm or test procedure	restriction for the test procedure
basic standards EMC			
EMC	DIN EN 61000-4-2:2009 (EN 61000-4-2:2009)	Electromagnetic compatibility (EMC) – Part 4-2: Testing and measurement techniques – Electrostatic discharge immunity test (IEC 61000-4-2:2008); German version EN 61000-4-2:2009	Desktop device
EMC	DIN EN 61000-4-3:2011 (EN 61000-4-3:2006 + A1:2008 + A2:2010)	Electromagnetic compatibility (EMC) – Part 4-3: Testing and measurement techniques – Radiated, radio-frequency, electromagnetic field immunity test (IEC 61000-4-3:2006 + A1:2007 + A2:2010); German version EN 61000-4-3:2006 + A1:2008 + A2:2010	Desktop device, Field strength ≤ 20 V/m
EMC	DIN EN 61000-4-3:2021 (EN 61000-4-3:2020)	Electromagnetic compatibility (EMC) – Part 4-3: Testing and measurement techniques – Radiated, radio-frequency, electromagnetic field immunity test (IEC 61000-4-3:2020); German version EN 61000-4-3:2020	Desktop device, Field strength ≤ 20 V/m
EMC	DIN EN 61000-4-4:2013 (EN 61000-4-4:2012)	Electromagnetic compatibility (EMC) – Part 4-4: Testing and measurement techniques – Electrical fast transient/burst immunity test (IEC 61000-4-4:2012); German version EN 61000-4-4:2012	Desktop device, Single-phase
EMC	DIN EN 61000-4-5:2019 (EN 61000-4-5:2014 + A1:2017)	Electromagnetic compatibility (EMC) – Part 4-5: Testing and measurement techniques – Surge immunity test (IEC 61000-4-5:2014 + A1:2017); German version EN 61000-4-5:2014 + A1:2017	Couplings capacitive and over capacities, Impulse form 1,2/50 µs
EMC	DIN EN 61000-4-6:2014 (EN 61000-4-6:2014)	Electromagnetic compatibility (EMC) – Part 4-6: Testing and measurement techniques – Immunity to conducted disturbances, induced by radio-frequency fields (IEC 61000-4-6:2013);	Single-phase

		German version EN 61000-4-6:2014	
EMC	DIN EN 55016-2-1:2019 (EN 55016-2-1:2014 + A1:2017)	Specification for radio disturbance and immunity measuring apparatus and methods – Part 2-1: Methods of measurement of disturbances and immunity – Conducted disturbance measurements (CISPR 16-2-1:2014 + A1:2017); German version EN 55016-2-1:2014 + A1:2017	Power supply connection: ≤ 16 A, single-phase
EMC	DIN EN 55016-2-3:2019 (EN 55016-2-3:2017)	Specification for radio disturbance and immunity measuring apparatus and methods – Part 2-3: Methods of measurement of disturbances and immunity – Radiated disturbance measurements (CISPR 16-2-3:2016); German version EN 55016-2-3:2017	Partial conforming to standards, Measurement distance: 3 m, f ≤ 6 GHz, Measurement in a fully anechoic chamber, one antenna height, measured side attenuation < ±6 dB
EMC	DIN EN 55016-2-3:2020 (EN 55016-2-3:2017 + A1:2019)	Specification for radio disturbance and immunity measuring apparatus and methods – Part 2-3: Methods of measurement of disturbances and immunity – Radiated disturbance measurements (CISPR 16-2-3:2016 + A1:2019); German version EN 55016-2-3:2017 + A1:2019	Partial conforming to standards, Measurement distance: 3 m, f ≤ 4 GHz, Measurement in a fully anechoic chamber, one antenna height, measured side attenuation < ±6 dB
Product family standards EMC			
EMC	DIN EN 50121-3-2:2017 (EN 50121-3-2:2016)	Railway applications – Electromagnetic compatibility – Part 3-2: Rolling stock – Apparatus; German version EN 50121-3-2:2016	
EMC	DIN EN 50121-3-2:2017/ A1:2020 (EN 50121-3-2:2016/ A1:2019)	Railway applications – Electromagnetic compatibility – Part 3-2: Rolling stock – Apparatus; German version EN 50121-3-2:2016/A1:2019	
EMC	DIN EN 61326-1:2013 (EN 61326-1:2013)	Electrical equipment for measurement, control and laboratory use – EMC requirements – Part 1: General requirements (IEC 61326-1:2012); German version EN 61326-1:2013	Without DIN EN 61000-4-8 Interference radiation: Partial conforming to standards, Measurement distance: 3 m, f ≤ 6 GHz, Measurement in a

			fully anechoic chamber, one antenna height, measured side attenuation < ±6 dB
Basic standards electrical equipment			
Environmental testing	DIN EN 60068-2-1:2008 (EN 60068-2-1:2007)	Environmental testing – Part 2-1: Tests – Test A: Cold (IEC 60068-2-1:2007); German version EN 60068-2-1:2007	
Environmental testing	DIN EN 60068-2-2:2008 (EN 60068-2-2:2007)	Environmental testing – Part 2-2: Tests – Test B: Dry heat (IEC 60068-2-2:2007); German version EN 60068-2-2:2007	
Environmental testing	DIN EN 60068-2-6:2008 (EN 60068-2-6:2008)	Environmental testing – Part 2-6: Tests – Test Fc: vibration (sinusoidal) (IEC 60068-2-6:2007); German version EN 60068-2-6:2008	5 Hz to 2.5 kHz
Environmental testing	DIN EN 60068-2-14:2010 (EN 60068-2-14:2009)	Environmental testing – Part 2-14: Tests - Test N: change of temperature (IEC 60068-2-14:2009); German version EN 60068-2-14:2009	
Environmental testing	DIN EN 60068-2-27:2010 (EN 60068-2-27:2009)	Environmental testing – Part 2-27: Tests – Test Ea and guidance: Shock (IEC 60068-2-27:2008); German version EN 60068-2-27:2009	
Environmental testing	DIN EN 60068-2-30:2006 (EN 60068-2-30:2005)	Environmental testing – Part 2-30: Tests – Test Db: Damp heat, cyclic (12 h + 12 h cycle) (IEC 60068-2-30:2005); German version EN 60068-2-30:2005	
Environmental testing	DIN EN 60068-2-64:2009 (EN 60068-2-64:2008)	Environmental testing – Part 2-64: Tests – Test Fh: vibration, broadband random and guidance (IEC 60068-2-64:2008); German version EN 60068-2-64:2008	5 Hz to 2.5 kHz
Environmental testing	DIN EN 60068-2-64:2020 (EN 60068-2-64:2008 + A1:2019)	Environmental testing – Part 2-64: Tests – Test Fh: vibration, broadband random and guidance (IEC 60068-2-64:2008 + A1:2019); German version EN 60068-2-64:2008 + A1:2019	5 Hz to 2.5 kHz
Environmental testing	DIN EN 60068-2-78:2014 (EN 60068-2-78:2013)	Environmental testing – Part 2-78: Tests – Test cab: Damp heat, Steady state (IEC 60068-2-78:2012); German version EN 60068-2-78:2013	
Environmental testing	DIN EN 61373:2011 (EN 61373:2010)	Railway applications – Rolling stock equipment – Shock and vibration tests (IEC 61373:2010); German version EN 61373:2010	5 Hz to 2,5 kHz

Device safety	DIN EN ISO 4589-2:2017 (EN ISO 4589-2:2017)	Plastics – Determination of burning behaviour by oxygen index – Part 2: Ambient-temperature test (ISO 4589-2:2017) German version EN ISO 4589-2:2017	
Device safety	DIN EN 50124-1:2017 (EN 50124-1:2017)	Railway applications – Insulation coordination – Part 1: Basic requirements – Clearances and creepage distances for all electrical and electronic equipment German version EN 50124-1:2017	
Device safety	DIN EN 50153 :2018 (EN 50153 :2014 + A1:2017)	Railway applications – Rolling stock – Protective provisions relating to electrical hazards German version EN 50153:2014 + A1:2017	Equipment, Voltage area I and II
Device safety	DIN EN 60529:2014 (EN 60529:1991 + A1:2000 + A2:2013)	Degrees of protection provided by enclosures (IP Code) (IEC 60529:1998 + A1:1999 + A2:2013); German version EN 60529:1991 + A1:2000 + A2:2013	IP1X to IP4X, IPX7 Additional letter A, B, C, D
Device safety	DIN EN 60529:2019 (EN 60529:1991 + A2:2013 + AC:2019)	Degrees of protection provided by enclosures (IP Code) (IEC 60529:1998 + A2:2013 + COR1:2019); German version EN 60529:1991 + A2:2013 + AC:2019	IP1X to IP4X, IPX7 Additional letter A, B, C, D
Product family standards electrical equipment			
Environmental testing	DIN EN 50155:2018 (EN 50155:2017)	Railway applications – Electronic equipment used on rolling stock; German version EN 50155:2017	Type tests without salt mist test
Environmental testing	DIN EN 50155:2022 (EN 50155:2021)	Railway applications – Rolling stock – Electronic equipment; German version EN 50155:2021	Type tests without salt mist test