

## 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 17025:2005 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 2016-10-11 with the accreditation number D-PL-12087-01 and is valid until 2021-10-10. It comprises the cover sheet, the reverse side of the cover sheet and the following annex with a total of 08 pages.

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

# Deutsche Akkreditierungsstelle GmbH

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Office Frankfurt am Main  
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60327 Frankfurt am Main

Office Braunschweig  
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The publication of extracts of the accreditation certificate is subject to the prior written approval by Deutsche Akkreditierungsstelle GmbH (DAkKS). Exempted is the unchanged form of separate disseminations of the cover sheet by the conformity assessment body mentioned overleaf.

No impression shall be made that the accreditation also extends to fields beyond the scope of accreditation attested by DAkKS.

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](http://www.european-accreditation.org)

ILAC: [www.ilac.org](http://www.ilac.org)

IAF: [www.iaf.nu](http://www.iaf.nu)

# Deutsche Akkreditierungsstelle GmbH

## Annex to the Accreditation Certificate D-PL-12087-01-00 according to DIN EN ISO/IEC 17025:2005

Period of validity: 2016-10-11 to 2021-10-10

Date of issue: 2016-10-19

Holder of certificate:

**Deuta-Werke GmbH**  
**Paffrather Straße 140, 51465 Bergisch Gladbach**

Tests in the fields:

**Electromagnetic compatibility (EMC), Device Safety and Environmental Testing**

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 within the flexible scope of accreditation.

Department	Standard or test procedure / revision level	Title of the norm or test procedure	restriction for the test procedure
<b>basic standards EMC</b>			
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

Department	Standard or test procedure / revision level	Title of the norm or test procedure	restriction for the test procedure
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 61000-4-5:2007 (EN 61000-4-5:2006)	Electromagnetic compatibility (EMC) - part 4-5: testing and measurement techniques - surge immunity test (IEC 61000-4-5:2005); German version EN 61000-4-5:2006	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); German version EN 61000-4-6:2014	Single-phase
EMC	DIN EN 61000-4-11:2005 (EN 61000-4-11:2004)	Electromagnetic compatibility (EMC) - part 4-11: testing and measurement techniques - voltage dips, short interruptions and voltage variations immunity tests (IEC 61000-4-11:2004); German version EN 61000-4-11:2004	Single-phase

Department	Standard or test procedure / revision level	Title of the norm or test procedure	restriction for the test procedure
EMC	DIN EN 55011:2011 (EN 55011:2009 + A1:2010)	Industrial, scientific and medical equipment - radio-frequency disturbance characteristics - limits and methods of measurement (IEC/CISPR 11:2009, modified + A1:2010); German version EN 55011:2009 + A1:2010	Voltage measurement at power supply connection: ≤ 16 A, single-phase; Interference radiation: Partial conforming to standards, Measurement distance: 3 m, ≤ 6 GHz, Measurement in a fully anechoic chamber, one antenna height, measured side attenuation < ±6 dB
EMC	DIN EN 55016-2-1:2014 (EN 55016-2-1:2009 + A1:2011 + A2:2013)	Specification for radio disturbance and immunity measuring apparatus and methods - part 2-1: methods of measurement of disturbances and immunity - conducted disturbance measurements (CISPR 16-2-1:2008 + A1:2010 + A2:2013); German version EN 55016-2-1:2009 + A1:2011 + A2:2013	Power supply connection: ≤ 16 A, single-phase
EMC	DIN EN 55016-2-3:2011 (EN 55016-2-3:2010 + A1:2010)	Specification for radio disturbance and immunity measuring apparatus and methods - part 2-3: methods of measurement of disturbances and immunity - radiated disturbance measurements (IEC/CISPR 16-2-3:2010 + A1:2010); German version EN 55016-2-3:2010 + A1:2010	Partial conforming to standards, Measurement distance: 3 m, ≤ 6 GHz, Measurement in a fully anechoic chamber, one antenna height, measured side attenuation < ±6 dB
<b>Product family standards EMC</b>			

Department	Standard or test procedure / revision level	Title of the norm or test procedure	restriction for the test procedure
EMC	DIN EN 50121-3-2:2007 (EN 50121-3-2:2006)	Railway applications - electromagnetic compatibility - part 3-2: rolling stock - apparatus; German version EN 50121-3-2:2006	
EMC	DIN EN 55024:2011 (EN 55024:2010)	Information technology equipment - immunity characteristics - limits and methods of measurement (CISPR 24:2010) German version EN 55024:2010	Appendix B Data processing facilities; Without DIN EN 61000-4-8
EMC	DIN EN 55032:2012 (EN 55032:2012)	Electromagnetic compatibility of multimedia equipment - emission requirements (CISPR 32 :2012 + Cor.1 :2012 + Cor.2 :2012) ; German version EN 55032:2012	Information technology equipment; Voltage measurement at power supply connection: ≤ 16 A, single-phase; Interference radiation: Partial conforming to standards, Measurement distance: 3 m, ≤ 6 GHz, Measurement in a fully anechoic chamber, one antenna height, measured side attenuation < ±6 dB
EMC	DIN EN 61000-6-1:2007 (EN 61000-6-1:2007)	Electromagnetic compatibility (EMC) - part 6-1: generic standards - immunity for residential, commercial and light-industrial environments (IEC 61000-6-1:2005); German version EN 61000-6-1:2007	Without DIN EN 61000-4-8

Department	Standard or test procedure / revision level	Title of the norm or test procedure	restriction for the test procedure
EMC	DIN EN 61000-6-2:2006 (EN 61000-6-2:2005)	Electromagnetic compatibility (EMC) - part 6-2: generic standards - immunity for industrial environments (IEC 61000-6-2:2005); German version EN 61000-6-2:2005	Without DIN EN 61000-4-8
EMC	DIN EN 61000-6-3:2011 (EN 61000-6-3:2007 + A1:2011)	Electromagnetic compatibility (EMC) - part 6-3: generic standards - emission standard for residential, commercial and light-industrial environments (IEC 61000-6-3:2006 + A1:2010); German version EN 61000-6-3:2007 + A1:2011	Partial conforming to standards, Measurement distance: 3 m, $\leq$ 6 GHz, Measurement in a fully anechoic chamber, one antenna height, measured side attenuation < $\pm$ 6 dB
EMC	DIN EN 61000-6-4:2011 (EN 61000-6-4:2007 + A1:2011)	Electromagnetic compatibility (EMC) - part 6-4: generic standards - emission standard for industrial environments (IEC 61000-6-4:2006 + A1:2010); German version EN 61000-6-4:2007 + A1:2011	Partial conforming to standards, Measurement distance: 3 m, $\leq$ 6 GHz, Measurement in a fully anechoic chamber, one antenna height, measured side attenuation < $\pm$ 6 dB

Department	Standard or test procedure / revision level	Title of the norm or test procedure	restriction for the test procedure
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, ≤ 6 GHz, Measurement in a fully anechoic chamber, one antenna height, measured side attenuation < ±6 dB
<b>Basic standards electrical equipment</b>			
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	



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Department	Standard or test procedure / revision level	Title of the norm or test procedure	restriction for the test procedure
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 60068-2-75:1998 (EN 60068-2-75:1997)	Environmental testing - part 2-75: tests - test eh: hammer tests (IEC 60068-2-75:1997) German version EN 60068-2-75:1997	Test Ehb: Spring hammer up to 1 J
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 4589-2:2006 (EN ISO 4589-2:1996 + A1:2006)	Plastics - determination of burning behaviour by oxygen index - part 2: ambient-temperature test (ISO 4589-2:1996 + Amd. 1:2005) German version EN ISO 4589-2:1996 + A1:2006	
Device safety	DIN EN 50102:1997 (EN 50102:1995)	Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (ik code) German version EN 50102:1995	IK02 to IK06
Device safety	DIN EN 50124-1:2006 (EN 50124-1:2001 + A1:2003 + A2:2005)	Railway applications - insulation coordination - part 1: basic requirements - clearances and creepage distances for all electrical and electronic equipment German version EN 50124-1:2001 + A1:2003 + A2:2005	

Department	Standard or test procedure / revision level	Title of the norm or test procedure	restriction for the test procedure
Device safety	DIN EN 50153 :2014 (EN 50153 :2014)	Railway applications - rolling stock - protective provisions relating to electrical hazards German version EN 50153:2014	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
<b>Product family standards electrical equipment</b>			
Environment al testing	DIN EN 50155:2008 (EN 50155:2007)	Railway applications - electronic equipment used on rolling stock; German version EN 50155:2007	Type tests without salt mist test