

Deutsche Akkreditierungsstelle GmbH

Annex to the Accreditation Certificate D-PL-15172-01-00 according to DIN EN ISO/IEC 17025:2018

Valid from: 2021-12-16

Date of issue: 2022-02-04

Holder of certificate:

**Endress+Hauser SE+Co. KG
Hauptstraße 1, 79689 Maulburg**

Tests in the fields:

Electromagnetic Compatibility (EMC)

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 methods within the flexible scope of accreditation.

The management system requirements of DIN EN ISO/IEC 17025 are written in the language relevant to the operations of testing laboratories. Laboratories that conform to the requirements of this standard, operate generally in accordance with the principles of DIN EN ISO 9001.

*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>.*

Abbreviations used: see last page

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

Technical field	Standard / in house procedure / Version	Title of standard or in house procedure (deviations / modifications of standard)	Test area / reductions
1.1 Electromagnetic Compatibility (EMC)			
EMC	DIN EN 61000-4-2:2009-12	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	
EMC	IEC 61000-4-2:2008	Electromagnetic compatibility (EMC) Part 4-2: Testing and measurement techniques – Electrostatic discharge immunity test	
EMC	DIN EN 61000-4-3:2011-04	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	f=80-1000 MHz Field strength $E \leq 20$ V/m Distance 1.7m Area: 1.5m x 0.5m f=1-6 GHz Field strength $E \leq 15$ V/m Distance 1.7m Area : 0.5x0.5m
EMC	IEC 61000-4-3: 2006+A1:2007+A2:2010	Electromagnetic compatibility (EMC) Part 4-3: Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test	
EMC	DIN EN 61000-4-4:2013-04	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	Only single-phase CDN for supply line
EMC	IEC 61000-4-4:2012	Electromagnetic compatibility (EMC) Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test	
EMC	DIN EN 61000-4-5:2015-03	Electromagnetic compatibility (EMC) Part 4-5: Testing and measurement techniques - Surge immunity test (IEC 61000-4-5:2014); German Version EN 61000-4-5:2014	Only single-phase CDN for supply line

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EMC	IEC 61000-4-5: 2014	Electromagnetic compatibility (EMC) Part 4-5: Testing and measurement techniques - Surge immunity test	Only single-phase CDN for supply line
EMC	DIN EN 61000-4-6:2014-08	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	extended frequency range 10 kHz - 80 MHz
EMC	IEC 61000-4-6: 2013	Electromagnetic compatibility (EMC) Part 4-6: Testing and measurement techniques – Immunity to conducted disturbances, induced by radio-frequency fields	
EMC	DIN EN 61000-4-8:2010-11	Electromagnetic compatibility (EMC) Part 4-8: Testing and measurement techniques – Power frequency magnetic field immunity test) (IEC 61000-4-8:2009); German Version EN 61000-4-8:2010	Helmholtz coils for small test devices with spherical test volume with diameter $d < 0,3m$ Continuous field : For short duration $H \leq 500 A/m$
EMC	IEC 61000-4-8: 2009	Electromagnetic compatibility (EMC) Part 4-8: Testing and measurement techniques – Power frequency magnetic field immunity test)	
EMC	DIN EN 61000-4-11: 2005-02	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	Power supply for EUT only single-phase current
EMC	IEC 61000-4-11:2004	Electromagnetic compatibility (EMC) Part 4-11: Testing and measurement techniques - Voltage dips, short interruptions and voltage variations immunity tests	

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EMC	DIN EN 61000-4-16: 2011-09	Electromagnetic compatibility (EMC) Part 4-11: Testing and measurement techniques – Test for immunity to conducted, common mode disturbances in the frequency range 0 Hz to 150kHz (IEC 61000-4-16:1998 + A1:2001 + A2:2009); German Version EN 61000-4-16:1998 + A1:2004 + A2:2011	
EMC	IEC 61000-4-16: 1998+A1:2001+A2:2009	Electromagnetic compatibility (EMC) Part 4-11: Testing and measurement techniques – Test for immunity to conducted, common mode disturbances in the frequency range 0 Hz to 150kHz	
EMC	DIN EN 61000-4-29:2001-10	Electromagnetic compatibility (EMC) - Part 4-29: Testing and measurement techniques; Voltage dips, short interruptions and voltage variations on d.c. input power port immunity tests (IEC 61000-4-29:2000); German version EN 61000-4-29:2000	
EMC	IEC 61000-4-29:2000	Electromagnetic compatibility (EMC) - Part 4-29: Testing and measurement techniques - Voltage dips, short interruptions and voltage variations on d.c. input power port immunity tests	
1.2 Basic Standard			
EMC	DIN EN 61000-6-1: 2007-10	Elektromagnetische Verträglichkeit (EMV) Teil 6-1: Fachgrundnormen - Störfestigkeit für Wohnbereich, Geschäfts- und Gewerbebereiche sowie Kleinbetriebe (IEC 61000-6-1:2005); Deutsche Fassung EN 61000-6-1:2007	Reductions see base standard 61000-4-3
EMC	IEC 61000-6-1:2005	Electromagnetic compatibility (EMC) Part 6-1: Generic standards - Immunity for residential, commercial and light-industrial environments	

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EMC	DIN EN 61000-6-2:2006-03	Electromagnetic compatibility (EMC) Part 6-2: Generic standards - Immunity for industrial environments (IEC 61000-6-2:2005); German version EN 61000-6-2:2005	Reductions see base standard 61000-4-3
EMC	DIN EN 61000-6-2 Berichtigung 1:2011-06	Electromagnetic compatibility (EMC) Part 6-2: Generic standards - Immunity for industrial environments (IEC 61000-6-2:2005); German version EN 61000-6-2:2005 Corrigendum to DIN EN 61000-6-2 (VDE 0839-6-2):2006-03; German version CENELEC-Cor. :2005 to EN 61000-6-2:2005	
EMC	IEC 61000-6-2:2005	Electromagnetic compatibility (EMC) Part 6-2: Generic standards - Immunity for industrial environments	
EMC	DIN EN 61000-6-3:2011-09	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	No TEM-waveguide frequency range \leq 7 GHz Only single-phase networks < 16 A Without test equipment according EN 61000-3-2 EN 61000-3-3 EN 61000-3-11 EN 61000-3-12
EMC	DIN EN 61000-6-3 Berichtigung 1:2012-11	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, Corrigendum to DIN EN 61000-6-3 (VDE 0839-6-3):2011-09; German version EN 61000-6-3:2007/A1:2011/AC:2012	
EMC	IEC 61000-6-3:2006+A1:2010	Electromagnetic compatibility (EMC) Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments	

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EMC	DIN EN 61000-6-4:2011-09	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	No TEM-waveguide frequency range ≤ 7 GHz Only single-phase networks < 16 A
EMC	IEC 61000-6-4: 2006+A1:2010	Electromagnetic compatibility (EMC) Part 6-3: Generic standards - Emission standard for industrial environments	Without test equipment according EN 61000-3-2 EN 61000-3-3 EN 61000-3-11 EN 61000-3-12
EMC	DIN EN 61000-6-5:2016-07	Electromagnetic compatibility (EMC) Part 6-5: Generic standards - Immunity for equipment used in power station and substation environment (IEC 61000-6-5:2015); German version EN 61000-6-5:	Without test equipment according IEC 61000-4-17
EMC	IEC 61000-6-5:2015	Electromagnetic compatibility (EMC) – Part 6-5: Generic standards - Immunity for equipment used in power station and substation environment	IEC 61000-4-18 IEC 61000-4-34
EMC	DIN EN 61000-6-7:2015-12	Electromagnetic compatibility (EMC) Part 6-7: Generic standards - Immunity requirements for equipment intended to perform functions in a safety-related system (functional safety) in industrial locations (IEC 61000-6-7:2014); German version EN 61000-6-7:2015	Without test equipment according IEC 61000-4-34

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EMC	IEC 61000-6-7:2014	Electromagnetic compatibility (EMC) – Part 6-7: Generic standards - Immunity requirements for equipment intended to perform functions in a safety-related system (functional safety) in industrial locations	
EMC	DIN EN IEC 61000-6-8	Part 6-8: Generic standards - Emission standard for professional equipment in commercial and light-industrial locations (IEC CIS/H/401/CDV:2019); German and English version prEN IEC 61000-6-8:2019	
EMC	IEC 61000-6-8:2020	Electromagnetic compatibility (EMC) – Part 6-8: Generic standards - Emission standard for professional equipment in commercial and light-industrial locations	
1.3 Product family Standard			
EMC	DIN EN 55032/A11:2021-03	Electromagnetic compatibility of multimedia equipment - Emission Requirements; German version EN 55032:2015/A11:2020	f ≤ 7 GHz
EMC	CISPR 32:2015	Electromagnetic compatibility of multimedia equipment - Emission requirements	
EMC	DIN EN 61326-1:2013-07	Electrical equipment for measurement, control and laboratory use - EMC requirements Part 1: General requirements (IEC 61326-1:2012); German version EN 61326-1:2013	

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EMC	IEC 61326-1:2012	Electrical equipment for measurement, control and laboratory use - EMC requirements Part 1: General requirements	
EMC	DIN EN 61326-2-1:2013-08	Electrical equipment for measurement, control and laboratory use - EMC requirements Part 2-1: Particular requirements - Test configurations, operational conditions and performance criteria for sensitive test and measurement equipment for EMC unprotected applications (IEC 61326-2-1:2012); German version EN 61326-2-1:2013	
EMC	IEC 61326-2-1:2012	Electrical equipment for measurement, control and laboratory use - EMC requirements Part 2-1: Particular requirements - Test configurations, operational conditions and performance criteria for sensitive test and measurement equipment for EMC unprotected applications	
EMC	DIN EN 61326-2-2:2013-08	Electrical equipment for measurement, control and laboratory use - EMC requirements Part 2-2: Particular requirements - Test configurations, operational conditions and performance criteria for portable test, measuring and monitoring equipment used in low-voltage distribution systems (IEC 61326-2-2:2012); German version EN 61326-2-2:2013	

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EMC	IEC 61326-2-2:2012	Electrical equipment for measurement, control and laboratory use - EMC requirements Part 2-2: Particular requirements - Test configurations, operational conditions and performance criteria for portable test, measuring and monitoring equipment used in low-voltage distribution systems	
EMC	DIN EN 61326-2-3:2013-07	Electrical equipment for measurement, control and laboratory use - EMC requirements Part 2-3: Particular requirements - Test configuration, operational conditions and performance criteria for transducers with integrated or remote signal conditioning (IEC 61326-2-3:2012); German version EN 61326-2-3:2013	
EMC	IEC 61326-2-3:2012	Electrical equipment for measurement, control and laboratory use - EMC requirements Part 2-3: Particular requirements - Test configuration, operational conditions and performance criteria for transducers with integrated or remote signal conditioning	
EMC	DIN EN 61326-2-4:2013-07	Electrical equipment for measurement, control and laboratory use - EMC requirements Part 2-4: Particular requirements - Test configurations, operational conditions and performance criteria for insulation monitoring devices according to IEC 61557-8 and for equipment for insulation fault location according to IEC 61557-9 (IEC 61326-2-4:2012); German version EN 61326-2-4:2013	

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EMC	IEC 61326-2-4:2012	Electrical equipment for measurement, control and laboratory use - EMC requirements Part 2-4: Particular requirements - Test configurations, operational conditions and performance criteria for insulation monitoring devices according to IEC 61557-8 and for equipment for insulation fault location according to IEC 61557-9	
EMC	DIN EN 61326-2-5:2013-08	Electrical equipment for measurement, control and laboratory use - EMC requirements Part 2-5: Particular requirements - Test configurations, operational conditions and performance criteria for field devices with field bus interfaces according to IEC 61784-1 (IEC 61326-2-5:2012); German version EN 61326-2-5:2013	
EMC	IEC 61326-2-5:2012	Electrical equipment for measurement, control and laboratory use - EMC requirements Part 2-5: Particular requirements - Test configurations, operational conditions and performance criteria for field devices with interfaces according to IEC 61784-1	
EMC	DIN EN 61326-3-1:2008-11	Electrical equipment for measurement, control and laboratory use - EMC requirements Part 3-1: Immunity requirements for safety-related systems and for equipment intended to perform safety-related functions (functional safety) - General industrial applications (IEC 61326-3-1:2008); German version EN 61326-3-1:2008	Without tests accordingly EN 61000-4-29 Immunity: Reductions see 61000-4-3

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EMC	DIN EN 61326-3-1 Berichtigung 1:2009-04	Electrical equipment for measurement, control and laboratory use - EMC requirements Part 3-1: Immunity requirements for safety-related systems and for equipment intended to perform safety-related functions (functional safety) - General industrial applications (IEC 61326-3-1:2008); German version EN 61326-3-1:2008, Corrigendum to DIN EN 61326-3-1 (VDE 0843-20-3-1):2008-11	
EMC	IEC 61326-3-1:2008	Electrical equipment for measurement, control and laboratory use – EMC requirements Part 3-1: Immunity requirements for safety-related systems and for equipment intended to perform safety-related functions (functional safety) – General industrial applications	
EMC	DIN EN 61326-3-2:2008-11	Electrical equipment for measurement, control and laboratory use - EMC requirements Part 3-2: Immunity requirements for safety-related systems and for equipment intended to perform safety-related functions (functional safety) - Industrial applications with specified electromagnetic environment (IEC 61326-3-2:2008); German version EN 61326-3-2:2008	Without tests accordingly EN 61000-4-29 Immunity: Reductions see 61000-4-3
EMC	IEC 61326-3-2:2008	Electrical equipment for measurement, control and laboratory use – EMC requirements Part 3-2: Immunity requirements for safety-related systems and for equipment intended to perform safety-related functions (functional safety) – Industrial applications with specified electromagnetic environment	

Technical field	Standard / in house procedure / Version	Title of standard or in house procedure (deviations / modifications of standard)	Test area / reductions
EMC	DIN EN 55011:2011-04	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	Only single-phase networks < 16 A
EMC	IEC/CISPR 11:2009, modified +A1:2010	Industrial, scientific and medical equipment - Radio-frequency disturbance characteristics - Limits and methods of measurement	$f \leq 7$ GHz
EMC	DIN EN 55022:2011-12	Information technology equipment Radio disturbance characteristics - Limits and methods of measurement (CISPR 22:2008, modified); German version EN 55022:2010	Only single-phase networks < 16 A
EMC	CISPR 22:2008, modified	Information technology equipment - Radio disturbance characteristics Limits and methods of measurement	$f \leq 7$ GHz
1.4 Other EMC-Requirements			
EMC	DNVGL-CG-0339:2019	Environmental test specification for electrical, electronic and programmable equipment and systems	Only EMC
EMC	OIML D 11 : 2013	GENERAL REQUIREMENTS FOR MEASURING INSTRUMENTS - ENVIRONMENTAL CONDITIONS	Only EMC

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EMC	OIML R 117-2 : 2014	DYNAMIC MEASURING SYSTEMS FOR LIQUIDS OTHER THAN WATER - PART 2: METROLOGICAL CONTROLS AND PERFORMANCE TESTS	Without: IEC 61000-4-13 IEC 61000-4-17 IEC 61000-4-19 IEC 61000-4-20
EMC	OIML R137-1&2:2012 + AMD 2014	Gas Meters - Part 1 Metrological And Technical Requirements And Part 2 : Metrological Controls And Performance Tests	
EMC	OIML R 139-2:2018	Compressed gaseous fuel measuring systems for vehicles - Part 2: Metrological controls and performance tests	
EMC	OIML R 85-1 & 2 Edition 2008	Automatic level gauges for measuring the level of liquid in stationary storage tanks Part 1: Metrological and technical requirements Part 2: Metrological control and tests	
EMC	ETSI EN 301 489-1 V2.2.3 (2019-11)	Electromagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements; Harmonised Standard for Electromagnetic Compatibility	Only EMC Only single-phase networks < 16 A
EMC	ETSI EN 301 489-17 V3.2.4 (2020-09)	Electromagnetic Compatibility (EMC) standard for radio equipment and services; Part 17: Specific conditions for Broadband Data Transmission Systems; Harmonised Standard for Electromagnetic Compatibility	
EMC	Draft ETSI EN 301 489-52 V1.1.2 (2020-12)	Electromagnetic Compatibility (EMC) standard for radio equipment and services; Part 52: Specific conditions for Cellular Communication User Equipment (UE) radio and ancillary equipment; Harmonised Standard for Electromagnetic Compatibility	Without automotiv Without: ISO 7637-2 IEC 61000-3-2 IEC 61000-3-3 IEC 61000-3-11 IEC 61000-3-12 IEC 61000-3-34

Technical field	Standard / in house procedure / Version	Title of standard or in house procedure (deviations / modifications of standard)	Test area / reductions
EMC	ETSI EN 300 328 V2.2.2 (2019-07)	Wideband transmission systems; Data transmission equipment operating in the 2,4 GHz band; Harmonised Standard for access to radio spectrum	No Receiver Blocking Tests in accordance 4.3.1.12, 4.3.2.11 und 5.4.11
EMC	NAMUR- Empfehlung NE 21: 2012	Electromagnetic compatibility of equipment for industrial processes and laboratory – NE 21	Only single-phase networks < 16 A

Abbreviations used:

NAMUR Interessengemeinschaft Automatisierungstechnik der Prozessindustrie
 OIML INTERNATIONAL ORGANIZATION. OF LEGAL METROLOGY
 DNVGL Det Norske Veritas + Germanischer Lloyd