Annex to declaration of accreditation (scope of accreditation)
Normative document: EN ISO/IEC 17025:2017
Registration number: **L 218**

of **KEMA B.V.**
Metering, Protection & Substation Automation Laboratory

This annex is valid from: **04-05-2020** to **01-04-2022** Replaces annex dated: **01-05-2020**

Location(s) where activities are performed under accreditation

Head Office

Klingelbeekseweg 195 - Building no. R10
6812 DE
Arnhem
The Netherlands

Location	Abbreviation/ location code
Klingelbeekseweg 195, Building no. R32 6812 DE Arnhem The Netherlands	ARN

No.	Material or product	Type of activity[1]	Internal reference number	Location
1	Protection relays & substation automation equipment	Functional requirements	IEC 60255-1 IEC 60255-12 IEC 60255-13 IEC 60255-121 IEC 60255-127 IEC 60255-149 IEC 60255-151 IEEE C37.112	ARN
		Energizing quantities	IEC 60255-1	

[1] If there is a referral to a code starting with NAW, NAP, EA or IAF, this concerns a scheme mentioned on the RvA-BR010-lijst.
If no date or version number is mentioned for a normative document, the accreditation concerns the most current version of the document or scheme.

This annex has been approved by the Board of the Dutch Accreditation Council, on its behalf,

J.A.W.M. de Haas
Director of Operations

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No.	Material or product	Type of activity[1]	Internal reference number	Location
2	Electrical energy meters	**Tests of Accuracy requirements** • Limits of error due to variation of the current • Test of meter constant • Test of Starting condition • Test of No-load condition • Tests of Influence quantities	EN 50470-1/2/3 IEC 62052-11 IEC 62053-11/21/22/23/24	ARN
3	Electrical energy meters	**Tests of electrical requirements** • Test of power consumption • Test of influence of supply voltage • Test of short-time overcurrents Test of self-heating	EN 50470-1/2/3 1) IEC 62052-11 IEC 62053-11/21/22/23/24	ARN
4	Electrical energy meters	Durability - Testing of the stability of metrological characteristics by applying elevated temperature	IEC 62059-32-1	ARN
		Climatic environmental tests		
5	Electrical energy meters and Protection relays & substation automation equipment	Cold operational test Cold storage test -40°C to +5°C	IEC 60255-1 IEC 62052-11 EN 50470-1 EN-IEC 60068-2-1	ARN
6		Dry heat operational test Dry heat storage test +5°C to +85°C	IEC 60255-1IEC 62052-11 EN 50470-1 EN-IEC 60068-2-2	ARN
7		Change of temperature test -40°C to +85°C	IEC 60255-1 EN-IEC 60068-2-14	ARN
8		Damp heat cyclic test (12 h + 12 h) +40°C and +55°C up to 100% relative humidity	IEC 60255-1 IEC 62052-11 EN 50470-1 EN-IEC 60068-2-30	ARN
9		Damp heat steady state test +30°C, +40°C and +55°C 85% or 93% relative humidity	IEC 60255-1 EN-IEC 60068-2-78	ARN
10		Solar radiation	IEC 60068-2-5	ARN

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No.	Material or product	Type of activity[1]	Internal reference number	Location
		Electrical safety tests and measurements		
11	Electrical energy meters and Protection relays & substation automation equipment	Creepage and clearance measurements	IEC 60255-27 IEC 62052-11 EN 50470-1	ARN
12		Mechanical strength of housing test (springhammer test)	IEC 62052-11 EN 50470-1 EN-IEC 60068-2-75	ARN
13		Abnormal operation and single fault conditions	IEC 60255-27	ARN
14		Dielectric and insulation test	IEC 60255-27	ARN
15		Degree of protection provided by enclosures	IEC 60255-27 IEC 62052-11 EN 50470-1 EN-IEC 60529	ARN
16		Test of influence of heating	IEC 62052-11 EN 50470-1 EN-IEC 60085	ARN
17		Test of immunity to earth fault	IEC 62052-11 EN 50470-2/3	ARN
18	Electrical energy meters and Protection relays & substation automation equipment	Test of Insulation properties	IEC 62052-11 IEC 62053-11/21/22/23/24 EN 50470-1/2/3 EN-IEC 60060-1 HD 588.1 S1	ARN
19		Accessible parts test	IEC 60255-27	ARN
20		Impulse voltage	IEC 60255-27	ARN
21		Protective bonding resistance	IEC 60255-27	ARN
22		Single fault	IEC 60255-27	ARN

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No.	Material or product	Type of activity[1]	Internal reference number	Location
		Mechanical testing		
23	Electrical energy meters and Protection relays & substation automation equipment	Shock test Maximale acceleratie: 11500 m/s2 Nominale tijdsduur: 1 - 65 ms Maximale (piek-piek) snelheid:13 m/s	EN-IEC 60068-2-27 IEC 62052-11 EN 50470 IEC 60255-21-2	ARN
24		Vibration test Maximale acceleratie: 1120 m/s2 Maximale snelheid: 1,8 m/s Maximale verplaatsing: 60 mm Frequentiebereik: 1 – 2000 Hz	EN-EC 60068-2-6 IEC 62052-11 EN 50470-1 IEC 60255-21-1 IEC 60255-21-3	ARN
25		Glow wire test	EN-IEC 60695-2-11 EN 60695-2-10 IEC 62052-11 EN 50470-1 IEC 60255-27	ARN
26		Determination of temperature of deflection under load temperature of 135 °C pressure of 1,8 MPa	ISO 75-2 (method A) IEC 62052-11 EN 50470-1	ARN

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No.	Material or product	Type of activity[1]	Internal reference number	Location
EMC.I		EMC Immunity tests		
EMC.I.21	Electric and electronic equiment	Electrostatic discharge immunity (ESD) Contact discharge up to 30 kV Air discharge up to 30 kV	IEC 60255-26 IEC 62052-11 EN 50470-1 IEEE C37.90.3 EN-IEC 61000-4-2	ARN
EMC.I.22		Electrical fast transient / burst immunity (EFT) 1 and 3 phases 0,25 – 4 kV	IEC 60255-26 IEC 62052-11 EN 501470-1 IEEE C37.90.1 EN-IEC 61000-4-4	ARN
EMC.I.23		Surge immunity 1 and 3 phases 0,25 – 8 kV	IEC 60255-26 IEC 62052-11 EN 50470-1 EN-IEC 61000-4-5	ARN
EMC.I.07		Immunity to conducted disturbances, induced by radio-frequency fields 3 V, 10 V (“-“ ipv “,” ?) 150 kHz – 80 MHz	IEC 60255-26 IEC 62052-11 EN-IEC 61000-4-6 EN 50470-1	ARN
EMC.!.24		Power frequency magnetic field immunity, 50/60 Hz 3 A/m – 1000 A/m	IEC 60255-26 EN 50470-1 EN-IEC 61000-4-8	ARN
EMC.I.26		Voltage dips, short interruptions and voltage variations Immunity 1 , 2 or 3 phase 0° - 360°.	IEC 60255-26 EN 50470-1 EN-IEC 61000-4-11 IEC 62052-11	ARN
EMC.I.08		Immunity to conducted disturbances Common mode 1 - 30 V (continue) 10 - 300 V (short duration) 15 Hz – 150 kHz; 3 – 30 V	IEC 60255-26 EN-IEC 61000-4-16	ARN

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No.	Material or product	Type of activity[1]	Internal reference number	Location
EMC.I.30		DC voltage ripple Immunity 0 – 20%, 00/120 Hz 0 –300 Vdc	IEC 60255-26 EN-IEC 61000-4-17	ARN
EMC.I.38		Damped oscillatory wave 100 kHz, 1 MHz; 0,25 –2,5 kV 3 MHz, 10 MHz, 30 MHz; 0,5 kV – 4,0 kV	IEC 60255-26 IEEE C37.90.1 EN-IEC 61000-4-18 IEC 62052-11 EN 50470-1	ARN
EMC.I.37		DC Voltage dips, short interruptions, and voltage variations immunity 20 – 300 Vdc Up to 10 A	IEC 60255-26 EN-IEC 61000-4-29	ARN
EMC.I.25		Pulsed magnetic field immunity 100 – 1000 A/m	EN-IEC 61000-4-9	ARN
EMC.I.33		Damped oscillatory magnetic field immunity 10 – 100 A/m	EN-IEC 61000-4-10	ARN
EMC.I.36	Electric and electronic equipement	Ringwave immunity test 1 and 3 phases 0,25 to 2 kV Line-to-Line 0,5 to 4 kV line-to-ground	EN-IEC 61000-4-12	ARN
EMC.I.45	Electric and electronic equipement	Immunity to conducted, differential mode disturbances and signaling 2 kHz to 150 kHz at a.c. power ports 0,1 to 20 Vrms Diff. voltage testing 0,5 to 4 Arms Diff. current testing	EN-IEC 61000-4-19 NPR-CLC/TR 50579	ARN

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No.	Material or product	Type of activity[1]	Internal reference number	Location
EMC.E		Electromagnetic Compatibility Emission (EMC)		
EMC.E.34	Electric and electronic equipment	Conducted emission Voltage method (AAN) 150 kHz – 30 MHz	EN-IEC 60255-26 CISPR 32 EN 55032 IEC 62052-11 EN 50470-1	ARN
EMC.E.02		Conducted emission Voltage method (AMN) 150 kHz – 30 MHz	EN-IEC 60255-26 CISPR 32 EN 55032 IEC 62052-11 EN 50470-1	ARN

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Product standards containing one or more of the above mentioned test activities are listed below. Accreditation is only applicable to the tests mentioned above.

No.	Material of product	Activity reference number	Product Standard, directive and/or approval requirements
EMC.S.03	EMC Testing Electrical Energy Meters	EMC Immunity No. EMC.I.07, EMC.I.08, EMC.I.21, EMC.I.22, EMC.I.23, EMC.I.24, EMC.I.25, EMC.I 26, EMC.I.30, EMC.I.33, EMC.I.36, EMC.I 37, EMC.I.38, EMC.I.45	EN 50470-1/2/3 IEC 62052-11 IEC 62053-11/21/22/23/24 In accordance with Directive 2014/32/EU annex I, annex V MI-003
EMC.S.08	EMC Testing Protection relays & substation automation equipment	EMC Immunity No. EMC.I.07, EMC.I.08, EMC.I.21, EMC.I.22, EMC.I.23, EMC.I.24, EMC.I.25, EMC.I 26, EMC.I.30, EMC.I.33, EMC.I.36, EMC.I 37, EMC.I.38, EMC.I.45 EMC Emission No. EMC.E.34 t/m EMC.E.02	IEC 60255-1 IEC 60255-26 IEEE C37.90.1/3