

Annex to declaration of accreditation (scope of accreditation)
 Normative document: EN ISO/IEC 17025:2017
 Registration number: **K 105**

of **EURO-INDEX B.V. Kalibratielaboratorium**

This annex is valid from: **22-07-2021** to **01-08-2025**

Replaces annex dated: **01-07-2020**

Location(s) where activities are performed under accreditation

Head Office

Rivium 2e Straat 12
 2909 LG
 Capelle a/d IJssel
 The Netherlands

Location	Abbreviation/ location code
Rivium 2e Straat 12 2909 LG Capelle a/d IJssel The Netherlands	C

HCS code	Measured quantity, Range	Frequency	CMC ¹	Remarks	Location
LF 0 0	DC/LF Quantities				C
LF 1 1	DC Voltage				C
	0 mV - 330 mV		$2,8 \cdot 10^{-5} \cdot U + 1,4 \mu\text{V}$	generating	
	0,33 V - 3,3 V		$1,6 \cdot 10^{-5} \cdot U + 2,8 \mu\text{V}$		
	3,3 V - 33 V		$1,7 \cdot 10^{-5} \cdot U + 28 \mu\text{V}$		
	33 V - 330 V		$2,6 \cdot 10^{-5} \cdot U + 0,21 \text{ mV}$		
	330 V - 1000 V		$2,6 \cdot 10^{-5} \cdot U + 2,1 \text{ mV}$		
LF 2 1	DC Current				C

¹ Calibration and Measurement Capability (CMC): Demonstrated measurement uncertainty, with coverage probability of 95%, in a given measurement point or measurement range. Measurement uncertainty, *U*, is calculated according to EA-4/02 "Evaluation of the Uncertainty of Measurement in Calibration".

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

J.A.W.M. de Haas

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HCS code	Measured quantity, Range	Frequency	CMC ¹	Remarks	Location
	0 mA - 0,33 mA		$2,1 \cdot 10^{-4} \cdot I + 0,03 \mu\text{A}$	generating	
	0,33 mA - 3,3 mA		$1,4 \cdot 10^{-4} \cdot I + 0,07 \mu\text{A}$		
	3,3 mA - 33 mA		$1,4 \cdot 10^{-4} \cdot I + 0,4 \mu\text{A}$		
	33 mA - 330 mA		$1,4 \cdot 10^{-4} \cdot I + 3,5 \mu\text{A}$		
	330 mA - 1,1 A		$2,8 \cdot 10^{-4} \cdot I + 56 \mu\text{A}$		
	1,1 A - 3 A		$5,3 \cdot 10^{-4} \cdot I + 56 \mu\text{A}$		
	3 A - 11 A		$7,0 \cdot 10^{-4} \cdot I + 0,7 \text{ mA}$		
	11 A - 20 A		$1,4 \cdot 10^{-3} \cdot I + 2,1 \text{ mA}$		
LF 3 1	AC Voltage				C
	10 mV - 33 mV	45 Hz – 10 kHz	$2,1 \cdot 10^{-4} \cdot U + 8,4 \mu\text{V}$	generating	
		10 kHz – 20 kHz	$2,8 \cdot 10^{-4} \cdot U + 8,4 \mu\text{V}$		
		20 kHz – 50 kHz	$1,4 \cdot 10^{-3} \cdot U + 9 \mu\text{V}$		
		50 kHz – 100 kHz	$4,9 \cdot 10^{-3} \cdot U + 17 \mu\text{V}$		
	33 mV - 330 mV	10 Hz – 45 Hz	$4,2 \cdot 10^{-4} \cdot U + 12 \mu\text{V}$		
		45 Hz – 10 kHz	$2,1 \cdot 10^{-4} \cdot U + 12 \mu\text{V}$		
		10 kHz – 20 kHz	$2,3 \cdot 10^{-4} \cdot U + 12 \mu\text{V}$		
		20 kHz – 50 kHz	$4,9 \cdot 10^{-4} \cdot U + 12 \mu\text{V}$		
		50 kHz – 100 kHz	$1,2 \cdot 10^{-3} \cdot U + 45 \mu\text{V}$		
		100 kHz – 500 kHz	$2,8 \cdot 10^{-3} \cdot U + 98 \mu\text{V}$		
	0,33 V - 3,3 V	10 Hz – 45 Hz	$4,2 \cdot 10^{-4} \cdot U + 70 \mu\text{V}$		
		45 Hz – 10 kHz	$2,1 \cdot 10^{-4} \cdot U + 84 \mu\text{V}$		
		10 kHz – 20 kHz	$2,7 \cdot 10^{-4} \cdot U + 84 \mu\text{V}$		
		20 kHz – 50 kHz	$4,2 \cdot 10^{-4} \cdot U + 70 \mu\text{V}$		
		50 kHz – 100 kHz	$9,8 \cdot 10^{-4} \cdot U + 0,18 \text{ mV}$		
		100 kHz – 500 kHz	$3,4 \cdot 10^{-3} \cdot U + 0,84 \text{ mV}$		
	3,3 V - 33 V	10 Hz – 45 Hz	$4,2 \cdot 10^{-4} \cdot U + 0,91 \text{ mV}$		

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HCS code	Measured quantity, Range	Frequency	CMC ¹	Remarks	Location
		45 Hz – 10 kHz	$2,1 \cdot 10^{-4} \cdot U + 0,84$ mV		
		10 kHz – 20 kHz	$3,4 \cdot 10^{-4} \cdot U + 0,90$ mV		
		20 kHz – 50 kHz	$4,9 \cdot 10^{-4} \cdot U + 0,84$ mV		
		50 kHz – 100 kHz	$1,3 \cdot 10^{-3} \cdot U + 2,3$ mV		
	33 V - 330 V	45 Hz – 1 kHz	$2,7 \cdot 10^{-4} \cdot U + 2,8$ mV		
		1 kHz – 10 kHz	$2,8 \cdot 10^{-4} \cdot U + 9$ mV		
		10 kHz – 20 kHz	$3,5 \cdot 10^{-4} \cdot U + 8,4$ mV		
		20 kHz – 50 kHz	$4,2 \cdot 10^{-4} \cdot U + 8,4$ mV		
		50 kHz – 100 kHz	$2,8 \cdot 10^{-3} \cdot U + 70$ mV		
	330 V - 1000 V	45 Hz – 1 kHz	$4,2 \cdot 10^{-4} \cdot U + 14$ mV		
		1 kHz – 5 kHz	$3,5 \cdot 10^{-4} \cdot U + 14$ mV		
		5 kHz – 10 kHz	$4,2 \cdot 10^{-4} \cdot U + 14$ mV		
LF 4 1	AC Current				C
	0,1 mA - 0,33 mA	10 Hz – 20 Hz	$2,8 \cdot 10^{-3} \cdot I + 0,14$ μA	generating	
		20 Hz – 45 Hz	$2,1 \cdot 10^{-3} \cdot I + 0,14$ μA		
		45 Hz – 1 kHz	$1,8 \cdot 10^{-3} \cdot I + 0,14$ μA		
		1 kHz – 5 kHz	$4,2 \cdot 10^{-3} \cdot I + 0,21$ μA		
		5 kHz – 10 kHz	$1,2 \cdot 10^{-2} \cdot I + 0,28$ μA		
	0,33 mA - 3,3 mA	10 Hz – 20 Hz	$2,8 \cdot 10^{-3} \cdot I + 0,21$ μA		
		20 Hz – 45 Hz	$1,8 \cdot 10^{-3} \cdot I + 0,21$ μA		
		45 Hz – 1 kHz	$1,4 \cdot 10^{-3} \cdot I + 0,21$ μA		
		1 kHz – 5 kHz	$2,8 \cdot 10^{-3} \cdot I + 0,28$ μA		
		5 kHz – 10 kHz	$7,0 \cdot 10^{-3} \cdot I + 0,42$ μA		
	3,3 mA - 33 mA	10 Hz – 20 Hz	$2,6 \cdot 10^{-3} \cdot I + 2,8$ μA		

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HCS code	Measured quantity, Range	Frequency	CMC ¹	Remarks	Location
LF 6 2	DC Resistance				C
	0 Ω - 11 Ω		$1,7 \cdot 10^{-4} \cdot R + 14 \text{ m}\Omega$	generating	
	11 Ω - 110 Ω		$1,2 \cdot 10^{-4} \cdot R + 22 \text{ m}\Omega$		
	110 Ω - 1100 Ω		$3,9 \cdot 10^{-5} \cdot R + 35 \text{ m}\Omega$		
	1,1 kΩ - 3,3 kΩ		$3,9 \cdot 10^{-5} \cdot R + 0,35 \Omega$		
	3,3 kΩ - 11 kΩ		$3,9 \cdot 10^{-5} \cdot R + 0,21 \Omega$		
	11 kΩ - 110 kΩ		$3,9 \cdot 10^{-5} \cdot R + 2,1 \Omega$		
	110 kΩ - 1,1 MΩ		$4,5 \cdot 10^{-5} \cdot R + 21 \Omega$		
	1,1 MΩ - 3,3 MΩ		$8,4 \cdot 10^{-5} \cdot R + 0,24 \text{ k}\Omega$		
	3,3 MΩ - 11 MΩ		$1,9 \cdot 10^{-4} \cdot R + 0,38 \text{ k}\Omega$		
	11 MΩ - 33 MΩ		$3,5 \cdot 10^{-4} \cdot R + 3,8 \text{ k}\Omega$		
	33 MΩ - 110 MΩ		$7,0 \cdot 10^{-4} \cdot R + 4,5 \text{ k}\Omega$		
	110 MΩ - 330 MΩ		$4,2 \cdot 10^{-3} \cdot R + 0,14 \text{ M}\Omega$		
	Resistance, decade values				
	0,1 Ω - 100 Ω		$1,5 \cdot 10^{-3} \cdot R + 5 \text{ m}\Omega$	generating	
	100 Ω - 1 MΩ		$2,6 \cdot 10^{-4} \cdot R$		
	1 MΩ - 10 MΩ		$1,6 \cdot 10^{-3} \cdot R$		
	10 MΩ - 100 MΩ		$2,6 \cdot 10^{-3} \cdot R$		
	100 MΩ - 1000 MΩ		$1,6 \cdot 10^{-2} \cdot R$		
	1 GΩ - 10 GΩ		$2,1 \cdot 10^{-2} \cdot R$		
	10 GΩ - 100 GΩ		$3,1 \cdot 10^{-2} \cdot R$		
	100 GΩ - 1000 GΩ		$6,2 \cdot 10^{-2} \cdot R$		

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HCS code	Measured quantity, Range	Frequency	CMC ¹	Remarks	Location
LF 6 5	LF Capacitance			generating	C
	110 µF – 329,9 µF		$6,3 \cdot 10^{-3} \cdot C + 0,42$ µF	Meters using charge/discharge principle. Max. rate 350 Hz	
	330 µF - 1099,9 µF		$6,3 \cdot 10^{-3} \cdot C$		
	1,1 mF - 3,3 mF		$6,3 \cdot 10^{-3} \cdot C$		
TF 2 1	Frequency				C
	0,1 Hz - 2 MHz		$3,5 \cdot 10^{-6} \cdot f + 7$ µHz	generating	

Remarks:

Nominal temperature for calibrations is (23 ± 3) °C
 The measurements are carried out inside the own laboratory.