



The Dutch Accreditation Council RvA, by law appointed as the national accreditation body for The Netherlands, hereby declares that accreditation has been granted to:

## **Intermes B.V. Calibration Laboratory Hengelo**

The organisation has demonstrated to be able to generate technical valid results in a competent way and work according to a management system.

This accreditation is based on an assessment against the requirements as laid down in ISO/IEC 17025:2005.

The accreditation covers the activities as specified in the authorized annex bearing the registration number.

The accreditation is valid provided that the organisation continues to meet the requirements.

The accreditation with registration number:

**K 018**

is granted on 22 December 2016

This declaration is valid until  
**1 December 2020**

The accreditation has been granted for the first time on  
**15 September 1980**

The Chief Executive

Ir. J.C. van der Poel

of **Intermes B.V.**  
**Calibration Laboratory**

This annex is valid from: **01-11-2017** to **01-12-2020**

Replaces annex dated: **22-12-2016**

HCS code	Measured quantity, Instrument, Measure	Frequency	CMC <sup>1</sup>	Remarks
LF 0 0	DC / LF			
LF 1 0	Direct voltage			
	0 mV – 200mV		$1.0 \cdot 10^{-5} \cdot U$ , minimum 0.1 $\mu$ V	Measuring (1)
	0.2 V – 2 V		$7 \cdot 10^{-6} \cdot U$	Measuring (1)
	2 V – 20 V		$5 \cdot 10^{-6} \cdot U$	Measuring (1)
	20 V – 200 V		$7 \cdot 10^{-6} \cdot U$	Measuring (1)
	200 V – 1000 V		$5 \cdot 10^{-6} \cdot U$	Measuring (1)
	0 mV – 220 mV		$2.0 \cdot 10^{-5} \cdot U$ , minimum 1.5 $\mu$ V	Generate (1)
	0.22 V – 2,2 V		$7 \cdot 10^{-6} \cdot U$	Generate (1)
	2.2 V – 22 V		$1.0 \cdot 10^{-5} \cdot U$	Generate (1)
	22 V – 220 V		$1.5 \cdot 10^{-5} \cdot U$	Generate (1)
	220 V – 1100 V		$1.0 \cdot 10^{-5} \cdot U$	Generate (1)
LF 2 0	Direct current			
	1 $\mu$ A – 200 $\mu$ A		$1 \cdot 10^{-4} \cdot I$ , minimum 0.5 nA	Measuring (1)
	200 $\mu$ A – 20 mA		$3 \cdot 10^{-5} \cdot I$	Measuring (1)
	20 mA – 200 mA		$5 \cdot 10^{-5} \cdot I$	Measuring (1)
	0.2 A – 2 A		$2.0 \cdot 10^{-4} \cdot I$	Measuring (1)
	2 A – 20 A		$2.0 \cdot 10^{-4} \cdot I$	Measuring (1)

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	0 µA – 220 mA		$1.0 \cdot 10^{-4} \cdot I$ , minimum 0.5 nA	Generate compliance < 0,5 V (1)
	0.22 A – 2.2 A		$1 \cdot 10^{-4} \cdot I$	Generate compliance < 0.5 V (1)
	2.2 A – 20 A		$2.0 \cdot 10^{-4} \cdot I$	Generate compliance < 2 V (1)
	20 A – 1000 A		$5 \cdot 10^{-3} \cdot I$	Generate, with coils
LF 3 0	Alternating voltage			
	10 mV – 100 mV	20 Hz – 20 kHz	$1.2 \cdot 10^{-3} \cdot U$	Measuring (1)
	10 mV – 100 mV	20 kHz – 100 kHz	$4 \cdot 10^{-3} \cdot U$	Measuring (1)
	100 mV – 200 mV	20 Hz – 20 kHz	$3 \cdot 10^{-4} \cdot U$	Measuring (1)
	100 mV – 200 mV	20 kHz – 100 kHz	$4 \cdot 10^{-4} \cdot U$	Measuring (1)
	0.2 V – 2 V	20 Hz – 10 kHz	$1.0 \cdot 10^{-4} \cdot U$	Measuring (1)
	0.2 V – 2 V	10 kHz – 100 kHz	$5 \cdot 10^{-4} \cdot U$	Measuring (1)
	2 V – 20 V	20 Hz – 10 kHz	$1.5 \cdot 10^{-4} \cdot U$	Measuring (1)
	2 V – 20 V	10 kHz – 100 kHz	$3 \cdot 10^{-4} \cdot U$	Measuring (1)
	20 V – 200 V	20 Hz – 10 kHz	$1.0 \cdot 10^{-4} \cdot U$	Measuring (1)
	20 V – 200 V	10 kHz – 100 kHz	$2.0 \cdot 10^{-4} \cdot U$	Measuring (1)
	200 V – 1000 V	55 Hz – 10 kHz	$1.5 \cdot 10^{-4} \cdot U$	Measuring (1)
	200 V – 1000 V	10 kHz – 30 kHz	$1.5 \cdot 10^{-3} \cdot U$	Measuring (1)
	1 kV – 100 kV	50 Hz	$1.0 \cdot 10^{-3} \cdot U$	Measuring (1)
	2.2 mV – 22 mV	40 Hz – 20 kHz	$5 \cdot 10^{-4} \cdot U$	Generate (1)
	22 mV – 220 V	40 Hz – 20 kHz	$1.0 \cdot 10^{-4} \cdot U$	Generate (1)
	220 V – 1100 V	40 Hz – 1 kHz	$1.0 \cdot 10^{-4} \cdot U$	Generate (1)
LF 4 0	Alternating current			
	10 µA – 100 µA	55 Hz – 1 kHz	$4 \cdot 10^{-3} \cdot I$	Measuring (1)
	100 µA – 2 mA	55 Hz – 1 kHz	$1.5 \cdot 10^{-4} \cdot I$	Measuring (1)
	2 mA – 20 mA	55 Hz – 1 kHz	$5 \cdot 10^{-4} \cdot I$	Measuring (1)
	20 mA – 200 mA	55 Hz – 1 kHz	$1.0 \cdot 10^{-4} \cdot I$	Measuring (1)
	0.2 A – 2 A	55 Hz – 300 Hz	$3 \cdot 10^{-4} \cdot I$	Measuring (1)

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	0.2 A – 2 A	300 Hz – 1 kHz	$2.0 \cdot 10^{-4} \cdot I$	Measuring (1)
	2 A – 20 A	55 Hz – 1 kHz	$4 \cdot 10^{-4} \cdot I$	Measuring (1)
	20 A – 600 A	50 Hz	$6 \cdot 10^{-4} \cdot I$	Measuring (1)
	100 $\mu$ A – 220 mA	40 Hz – 1 kHz	$2.0 \cdot 10^{-4} \cdot I$	Generate (1)
	0.22 A – 2.2 A	40 Hz – 1 kHz	$3 \cdot 10^{-4} \cdot I$	Generate (1)
	2.2 A – 20 A	40 Hz – 440 Hz	$1.0 \cdot 10^{-3} \cdot I$	Generate (1)
	20 A – 1000 A	45 – 60 Hz	$5 \cdot 10^{-3} \cdot I$	Generate, with coils
	20 A – 200 A	60 – 440 Hz	$7.5 \cdot 10^{-3} \cdot I$	Generate, with coils
LF 6 1	Resistance			
	100 $\mu\Omega$ - 1 m $\Omega$		$3 \cdot 10^{-4} \cdot R$	Measuring (1)
	1 m $\Omega$ - 100 m $\Omega$		$1.5 \cdot 10^{-4} \cdot R$	Measuring (1)
	100 m $\Omega$ - 1 $\Omega$		$5 \cdot 10^{-5} \cdot R$	Measuring (1)
	1 $\Omega$ – 2 $\Omega$		$3.0 \cdot 10^{-5} \cdot R$	Measuring (1)
	2 $\Omega$ – 2 k $\Omega$		$1.0 \cdot 10^{-5} \cdot R$	Measuring (1)
	2 k $\Omega$ – 20 k $\Omega$		$5 \cdot 10^{-6} \cdot R$	Measuring (1)
	20 k $\Omega$ – 2 M $\Omega$		$1.0 \cdot 10^{-5} \cdot R$	Measuring (1)
	2 M $\Omega$ - 20 M $\Omega$		$3 \cdot 10^{-5} \cdot R$	Measuring (1)
	20 M $\Omega$ - 200 M $\Omega$		$1.0 \cdot 10^{-4} \cdot R$	Measuring (1)
	200 M $\Omega$ – 2 G $\Omega$		$1.5 \cdot 10^{-3} \cdot R$	Measuring (1)
	0 $\Omega$		70 $\mu\Omega$	Generate (1)
	100 $\mu\Omega$ , 1 m $\Omega$ , 10 m $\Omega$		$1 \cdot 10^{-4} \cdot R$	Generate (1)
	100 m $\Omega$		$4 \cdot 10^{-5} \cdot R$	Generate (1)
	1 $\Omega$ , 1.9 $\Omega$		$8 \cdot 10^{-5} \cdot R$	Generate (1)
	10 $\Omega$		$2.5 \cdot 10^{-5} \cdot R$	Generate (1)

Annex to declaration of accreditation (scope of accreditation)  
 Normative document: ISO/IEC 17025:2005  
 Registration number: **K 018**

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HCS code	Measured quantity, Instrument, Measure	Frequency	CMC <sup>1</sup>	Remarks
	19 Ω, 100 Ω, 190 Ω, 1 kΩ, 1.9 kΩ, 10 kΩ, 19 kΩ, 100 kΩ, 190 kΩ		$2.0 \cdot 10^{-5} \cdot R$	Generate (1)
	1 MΩ, 1.9 MΩ		$3 \cdot 10^{-5} \cdot R$	Generate (1)
	10 MΩ		$4 \cdot 10^{-5} \cdot R$	Generate (1)
	19 MΩ, 100 MΩ		$6 \cdot 10^{-5} \cdot R$	Generate (1)
LF 6 5	LF Capacity			
	2 nF, 10 nF, 20 nF, 200 nF	1 kHz	$1.0 \cdot 10^{-3} \cdot C$	Generate (1) only sine-shaped signals

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Temperature conditions for electrical calibrations is nominal 23 °C; temperature conditions for geometrical calibrations is nominal 20 °C ,  
temperature conditions for pressure and temperature calibrations is nominal 21 °C

$p_e = p - p_{amb}$ :  $p_e$  is overpressure,  $p_{amb}$  is ambient pressure

This list of calibrations is , unless otherwise stated, applicable for calibrations performed inside the IntermeS laboratory.

(1) Calibrations performed at customers' premises.