



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

TRESCAL Hengelo 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 EN ISO/IEC 17025:2017.

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 15 September 1980

This declaration is valid until

1 December 2028

The board of the Dutch Accreditation Council,
on its behalf,

mr. J.A.W.M. de Haas

A large, stylized handwritten signature in blue ink, which appears to be 'J.A.W.M. de Haas', is written over the printed name.

of **TRESCAL Hengelo B.V.**
Calibration Laboratory

This annex is valid from: **24-04-2025 to 01-12-2028**

Replaces annex dated: **02-10-2024**

HCS code	Measured quantity, Instrument, Measure	Range	CMC ¹	Remarks	Location
MW 1 0	MASS AND WEIGHT				HLO, OS
MW 1 2	Weighing instruments	1 mg – 33 kg	$2.5 \cdot 10^{-5} \cdot m + \text{last digit} + h/2$	h = Repeatability	
		1 mg – 2500 kg	$6 \cdot 10^{-5} \cdot m + \text{last digit} + h/2$	h = Repeatability	

HCS code	Measured quantity, Instrument, Measure	Frequency	CMC ¹	Remarks	Location
LF 0 0	DC/LF ELECTRICITY				
LF 1 0	Direct voltage				HLO, OS
	0 mV – 200 mV		$1.0 \cdot 10^{-5} \cdot U$, minimum 0.15 µV	Measuring	
	0.2 V – 2 V		$7 \cdot 10^{-6} \cdot U$	Measuring	
	2 V – 20 V		$5 \cdot 10^{-6} \cdot U$	Measuring	
	20 V – 200 V		$7 \cdot 10^{-6} \cdot U$	Measuring	
	200 V – 1000 V		$8 \cdot 10^{-6} \cdot U$	Measuring	
	0 mV – 220 mV		$2.0 \cdot 10^{-5} \cdot U$, minimum 1.5 µV	Generate	
	0.22 V – 2.2 V		$7 \cdot 10^{-6} \cdot U$	Generate	
	2.2 V – 22 V		$1.0 \cdot 10^{-5} \cdot U$	Generate	
	22 V – 220 V		$1.5 \cdot 10^{-5} \cdot U$	Generate	
	220 V – 1100 V		$1.0 \cdot 10^{-5} \cdot U$	Generate	

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HCS code	Measured quantity, Instrument, Measure	Frequency	CMC ¹	Remarks	Location
LF 2 0	Direct current				HLO, OS
	1 µA – 200 µA		$1 \cdot 10^{-4} \cdot I$, minimum 0.5 nA	Measuring	
	200 µA – 20 mA		$3 \cdot 10^{-5} \cdot I$	Measuring	
	20 mA – 200 mA		$7 \cdot 10^{-5} \cdot I$	Measuring	
	0.2 A – 2 A		$2.5 \cdot 10^{-4} \cdot I$	Measuring	
	2 A – 20 A		$6 \cdot 10^{-4} \cdot I$	Measuring	
	0 µA – 220 mA		$1.0 \cdot 10^{-4} \cdot I$, minimum 0.5 nA	Generate compliance < 0,5 V	
	0.22 A – 2.2 A		$1 \cdot 10^{-4} \cdot I$	Generate compliance < 0,5 V	
	2.2 A – 20 A		$2.0 \cdot 10^{-4} \cdot I$	Generate compliance < 0,5 V	
	20 A – 1000 A		$5 \cdot 10^{-3} \cdot I$	Generate, with coils	
LF 3 0	Alternating voltage				HLO, OS
	10 mV – 200 mV	20 Hz – 20 kHz	$1.4 \cdot 10^{-3} \cdot U$	Measuring	
	10 mV – 200 mV	20 kHz – 100 kHz	$4 \cdot 10^{-3} \cdot U$	Measuring	
	0.2 V – 2 V	20 Hz – 10 kHz	$2.0 \cdot 10^{-4} \cdot U$	Measuring	
	0.2 V – 2 V	10 kHz – 100 kHz	$1.0 \cdot 10^{-3} \cdot U$	Measuring	
	2 V – 20 V	20 Hz – 10 kHz	$1.6 \cdot 10^{-4} \cdot U$	Measuring	
	2 V – 20 V	10 kHz – 100 kHz	$1 \cdot 10^{-3} \cdot U$	Measuring	
	20 V – 200 V	20 Hz – 10 kHz	$1.6 \cdot 10^{-4} \cdot U$	Measuring	
	20 V – 200 V	10 kHz – 100 kHz	$1 \cdot 10^{-3} \cdot U$	Measuring	
	200 V – 1000 V	55 Hz – 10 kHz	$2.0 \cdot 10^{-4} \cdot U$	Measuring	
	200 V – 1000 V	10 kHz – 30 kHz	$1.0 \cdot 10^{-3} \cdot U$	Measuring	
	1 kV – 100 kV	50 Hz	$1.0 \cdot 10^{-3} \cdot U$	Measuring	
	2.2 mV – 22 mV	40 Hz – 20 kHz	$5 \cdot 10^{-4} \cdot U$	Generate	
	22 mV – 220 V	40 Hz – 20 kHz	$1.0 \cdot 10^{-4} \cdot U$	Generate	

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HCS code	Measured quantity, Instrument, Measure	Frequency	CMC ¹	Remarks	Location
LF 4 0	220 V – 1100 V	40 Hz – 1 kHz	$1.0 \cdot 10^{-4} \cdot U$	Generate	HLO, OS
	Alternating current				
	10 μ A – 100 μ A	55 Hz – 1 kHz	$4 \cdot 10^{-3} \cdot I$	Measuring	
	100 μ A – 200 mA	55 Hz – 1 kHz	$6 \cdot 10^{-4} \cdot I$	Measuring	
	0.2 A – 2 A	55 Hz – 1 kHz	$1.0 \cdot 10^{-3} \cdot I$	Measuring	
	2 A – 20 A	55 Hz – 1 kHz	$1.3 \cdot 10^{-3} \cdot I$	Measuring	
	20 A – 600 A	50 Hz	$6 \cdot 10^{-4} \cdot I$	Measuring	
	100 μ A – 220 mA	40 Hz – 1 kHz	$2.0 \cdot 10^{-4} \cdot I$	Generate	
	0.22 A – 2.2 A	40 Hz – 1 kHz	$3 \cdot 10^{-4} \cdot I$	Generate	
	2.2 A – 20 A	40 Hz – 440 Hz	$1.0 \cdot 10^{-3} \cdot I$	Generate	
	20 A – 1000 A	45 – 60 Hz	$5 \cdot 10^{-3} \cdot I$	Generate, with coils Calibration of clamps	
	20 A – 200 A	60 – 440 Hz	$7.5 \cdot 10^{-3} \cdot I$	Generate, with coils Calibration of clamps	
LF 6 1	Resistance				HLO, OS
	100 $\mu\Omega$ – 1 m Ω		$3 \cdot 10^{-4} \cdot R$	Measuring	
	1 m Ω – 100 m Ω		$1.5 \cdot 10^{-4} \cdot R$	Measuring	
	100 m Ω – 1 Ω		$5 \cdot 10^{-5} \cdot R$	Measuring	
	1 Ω – 2 Ω		$3.0 \cdot 10^{-5} \cdot R$	Measuring	
	2 Ω – 2 k Ω		$1.3 \cdot 10^{-5} \cdot R$	Measuring	
	2 k Ω – 20 k Ω		$1.1 \cdot 10^{-5} \cdot R$	Measuring	
	20 k Ω – 2 M Ω		$1.2 \cdot 10^{-5} \cdot R$	Measuring	
	2 M Ω – 20 M Ω		$3.6 \cdot 10^{-5} \cdot R$	Measuring	
	20 M Ω – 200 M Ω		$2.8 \cdot 10^{-4} \cdot R$	Measuring	
	200 M Ω – 2 G Ω		$3.0 \cdot 10^{-3} \cdot R$	Measuring	

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HCS code	Measured quantity, Instrument, Measure	Frequency	CMC ¹	Remarks	Location
LF 6 1	Resistance				HLO, OS
	0 Ω		70 μΩ	Generate	
	100 μΩ, 1 mΩ, 10 mΩ		$1 \cdot 10^{-4} \cdot R$	Generate	
	100 mΩ		$4 \cdot 10^{-5} \cdot R$	Generate	
	1 Ω, 1.9 Ω		$8 \cdot 10^{-5} \cdot R$	Generate	
	10 Ω		$2.5 \cdot 10^{-5} \cdot R$	Generate	
	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 MΩ, 1.9 MΩ		$3 \cdot 10^{-5} \cdot R$	Generate	
	10 MΩ		$4 \cdot 10^{-5} \cdot R$	Generate	
	19 MΩ, 100 MΩ		$6 \cdot 10^{-5} \cdot R$	Generate	
LF 6 5	LF Capacity				HLO, OS
	2 nF, 10 nF, 20 nF, 200 nF	1 kHz	$1.0 \cdot 10^{-3} \cdot C$	Generate only sine-shaped signals	

HCS code	Measured quantity, Instrument, Measure	Range	CMC ¹	Remarks	Location
PV 0 0	PRESSURE AND VACUUM				
PV 1 0	Gas pressure				
PV 1 1	Absolute pressure	(750 – 1150) hPa a	0.3 hPa	By comparison to a reference barometer	HLO
		(0.01 – 1.1) MPa a	$0.3 \text{ hPa} + 25 \cdot 10^{-5} \cdot (p - 100 \text{ kPa}) $		
		(1.1 – 60.1) MPa a	$ 1 \cdot 10^{-3} \cdot (p - 0.1 \text{ MPa}) $	By comparison with digital pressure indicators	HLO, OS