



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 2020**

This declaration is prolonged until  
**1 April 2021**

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

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

Annex to declaration of accreditation (scope of accreditation)  
 Normative document: EN ISO/IEC 17025:2017  
 Registration number: **K 018**

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

This annex is valid from: **05-06-2020 to 01-12-2020**

Replaces annex dated: **23-10-2019**

**Prolonged until 01-04-2021**

HCS code	Measured quantity, Instrument, Measure	Frequency	CMC <sup>1</sup>	Remarks	Location
LF 0 0	DC / LF				
LF 1 0	Direct voltage				HLO
	0 mV – 200mV		$1.0 \cdot 10^{-5} \cdot U$ , minimum 0.15 $\mu$ 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		$8 \cdot 10^{-6} \cdot U$	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				HLO
	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		$7 \cdot 10^{-5} \cdot I$	Measuring (1)	
	0.2 A – 2 A		$2.5 \cdot 10^{-4} \cdot I$	Measuring (1)	

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	2 A – 20 A		$6 \cdot 10^{-4} \cdot I$	Measuring (1)	
	0 $\mu$ A – 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				HLO
	10 mV – 200 mV	20 Hz – 20 kHz	$1.4 \cdot 10^{-3} \cdot U$	Measuring (1)	
	10 mV – 200 mV	20 kHz – 100 kHz	$4 \cdot 10^{-3} \cdot U$	Measuring (1)	
	0.2 V – 2 V	20 Hz – 10 kHz	$2.0 \cdot 10^{-4} \cdot U$	Measuring (1)	
	0.2 V – 2 V	10 kHz – 100 kHz	$1.0 \cdot 10^{-3} \cdot U$	Measuring (1)	
	2 V – 20 V	20 Hz – 10 kHz	$1.6 \cdot 10^{-4} \cdot U$	Measuring (1)	
	2 V – 20 V	10 kHz – 100 kHz	$1 \cdot 10^{-3} \cdot U$	Measuring (1)	
	20 V – 200 V	20 Hz – 10 kHz	$1.6 \cdot 10^{-4} \cdot U$	Measuring (1)	
	20 V – 200 V	10 kHz – 100 kHz	$1 \cdot 10^{-3} \cdot U$	Measuring (1)	
	200 V – 1000 V	55 Hz – 10 kHz	$2.0 \cdot 10^{-4} \cdot U$	Measuring (1)	
	200 V – 1000 V	10 kHz – 30 kHz	$1.0 \cdot 10^{-3} \cdot U$	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				HLO
	10 $\mu$ A – 100 $\mu$ A	55 Hz – 1 kHz	$4 \cdot 10^{-3} \cdot I$	Measuring (1)	
	100 $\mu$ A – 200 mA	55 Hz – 1 kHz	$6 \cdot 10^{-4} \cdot I$	Measuring (1)	
	0.2 A – 2 A	55 Hz – 1 kHz	$1.0 \cdot 10^{-3} \cdot I$	Measuring (1)	

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	2 A – 20 A	55 Hz – 1 kHz	$1.3 \cdot 10^{-3} \cdot I$	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				HLO
	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 $\Omega$		$1.3 \cdot 10^{-5} \cdot R$	Measuring (1)	
	2 k $\Omega$ – 20 k $\Omega$		$1.1 \cdot 10^{-5} \cdot R$	Measuring (1)	
	20 k $\Omega$ – 2 M $\Omega$		$1.2 \cdot 10^{-5} \cdot R$	Measuring (1)	
	2 M $\Omega$ - 20 M $\Omega$		$3.6 \cdot 10^{-5} \cdot R$	Measuring (1)	
	20 M $\Omega$ - 200 M $\Omega$		$2.8 \cdot 10^{-4} \cdot R$	Measuring (1)	
	200 M $\Omega$ – 2 G $\Omega$		$3.0 \cdot 10^{-3} \cdot R$	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)	

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	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				HLO
	2 nF, 10 nF, 20 nF, 200 nF	1 kHz	$1.0 \cdot 10^{-3} \cdot C$	Generate (1) only sine-shaped signals	