Deutsche Akkreditierungsstelle

Annex to the Accreditation Certificate D-K-15127-01-02 according to DIN EN ISO/IEC 17025:2018

Valid from: **04.05.2023**

Date of issue: 04.05.2023

Holder of accreditation certificate:

Kistler Instrumente Gesellschaft mit beschränkter Haftung
Umberto-Nobile-Str. 14, 71063 Sindelfingen

with its calibration laboratory

Brunhamstraße 21, 81249 München

The calibration laboratory meets the requirements of DIN EN ISO/IEC 17025:2018 to carry out the conformity assessment activities listed in this annex. The calibration laboratory meets additional legal and normative requirements, if applicable, including those in relevant sectoral schemes, provided that these are explicitly confirmed below.

The management system requirements of DIN EN ISO/IEC 17025 are written in the language relevant to the operations of calibration laboratories and confirm generally with the principles of DIN EN ISO 9001.

Dimensional quantities

Length
- **Length measuring instruments**

Electrical quantities

DC and low frequency quantities
- **DC voltage**
- **DC current**
- **DC resistance**

This certificate annex is only valid together with the written accreditation certificate and reflects the status as indicated by the date of issue. The current status of any given scope of accreditation can be found in the directory of accredited bodies maintained by Deutsche Akkreditierungsstelle GmbH at https://www.dakks.de.

DAkkS Deutsche Akkreditierungsstelle

Permanent laboratory, Sindelfingen location

Calibration and Measurement Capabilities (CMC)

Measurement quantity / Calibration item	Range	Measurement conditions / procedure	Expanded uncertainty of measurement	Remarks
Length Displacement sensors	0 mm to 200 mm	CD30037:2023-01	25 µm	Analogue and digital sensors
	> 200 mm to 600 mm		50 µm	
	> 600 mm to 850 mm		90 µm	

Permanent laboratory, München location

Calibration and Measurement Capabilities (CMC)

Measurement quantity / Calibration item	Range	Measurement conditions / procedure	Expanded uncertainty of measurement	Remarks
DC voltage DC voltage source	0 V to 1 mV		4.6 µV	direct measurement
	> 1 mV to 10 mV		5.3 µV	
	> 10 mV to 100 mV		11 µV	
	> 100 mV to 1 V		44 µV	
	> 1 V to 10 V		0.41 mV	
	> 10 V to 20 V		1.7 mV	
	> 20 V to 100 V		6.0 mV	
	> 100 V to 1000 V		60 mV	

DAkkS Deutsche Akkreditierungsstelle

Permanent laboratory, München location

Calibration and Measurement Capabilities (CMC)

Measurement quantity / Calibration item	Range			Measurement conditions / procedure	Expanded uncertainty of measurement	Remarks
DC voltage measuring devices	0 V	to	450 µV		0.62 µV	
	>450 µV	to	3 mV		1.1 µV	
	>3 mV	to	4.5 mV		1.6 µV	
	>4.5 mV	to	10 mV		3.9 µV	
	>10 mV	to	30 mV		4.9 µV	
	>30 mV	to	45 mV		5.6 µV	
	>45 mV	to	300 mV		25 µV	
	>300 mV	to	450 m V		41 µV	
	>450 mV	to	3 V		0.25 mV	
	>3 V	to	4.5 V		0.43 mV	
	>4.5 V	to	30 V		2.5 mV	
DC current Source	0 A	to	100 µA		1.0 µA	
	>100 µA	to	1 mA		1.6 µA	
	>1 mA	to	10 mA		7.2 µA	
	>10 mA	to	100 mA		0.16 mA	
	>100 mA	to	1 A		1.1 mA	
	>1 A	to	3 A		4.5 mA	
	1 mA	to	20 mA		$1.5 \cdot 10^{-4}$	

DAkkS Deutsche Akkreditierungsstelle

Permanent laboratory, München location

Calibration and Measurement Capabilities (CMC)

Measurement quantity / Calibration item	Range	Measurement conditions / procedure	Expanded uncertainty of measurement	Remarks
DC resistance Resistance	0 Ω to 100 mΩ		0.10 mΩ	
	>100 mΩ to 1 Ω		0.14 mΩ	
	>1 Ω to 10 Ω		0.77 mΩ	
	>10 Ω to 100 Ω		7.6 mΩ	
	>100 Ω to 250 Ω		21 mΩ	
	>250 Ω to 660 Ω		51 mΩ	
	>660 Ω to 1 kΩ		76 mΩ	
	>1 kΩ to 10 kΩ		0.76 Ω	
	>10 kΩ to 100 kΩ		9.1 Ω	
	>100 kΩ to 1 MΩ		91 Ω	

Abbreviations used:

CD300xxx	In house method of the Kistler Instrumente GmbH
CMC	Calibration and measurement capabilities (Kalibrier- und Messmöglichkeiten)