

Accreditation



The Deutsche Akkreditierungsstelle attests with this **Accreditation Certificate** that the calibration laboratory

ETAS GmbH
Borsigstraße 24, 70469 Stuttgart

meets the requirements according to DIN EN ISO/IEC 17025:2018 for the conformity assessment activities listed in the annex to this certificate. This includes additional existing legal and normative requirements for the calibration laboratory, including those in relevant sectoral schemes, provided they are explicitly confirmed in the annex to this certificate.

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

This accreditation was issued in accordance with Art. 5 Para. 1 Sentence 2 of Regulation (EC) 765/2008, after an accreditation procedure was carried out in compliance with the minimum requirements of DIN EN ISO/IEC 17011 and on the basis of a review and decision of the appointed accreditation committees.

This accreditation certificate only applies in connection with the notices of 13.08.2024 with accreditation number D-K-19158-01.

It consists of this cover sheet, the reverse side of the cover sheet and the following annex with a total of 2 pages.

Registration number of the accreditation certificate: **D-K-19158-01-00**

Berlin, 13.08.2024

Dr. Florian Witt
Head of Technical Unit

Translation issued:
13.08.2024



Dr. Florian Witt
Head of Technical Unit

The certificate together with the annex 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 (www.dakks.de).

This document is a translation. The definitive version is the original German accreditation certificate.

See notes overleaf

Deutsche Akkreditierungsstelle GmbH

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The Deutsche Akkreditierungsstelle GmbH (DAkKS) is the entrusted national accreditation body of the Federal Republic of Germany according to § 8 section 1 AkkStelleG in conjunction with § 1 section 1 AkkStelleGBV. DAkKS is designated as the national accreditation authority by Germany according to Art. 4 Para. 4 of Regulation (EC) 765/2008 and clause 4.7 of DIN EN ISO/IEC 17000.

Pursuant to Art. 11 section 2 of Regulation (EC) 765/2008, the accreditation certificate shall be recognised as equivalent by the national authorities within the scope of this Regulation as well as by the WTO member states that have committed themselves in bilateral or multilateral mutual agreements to recognise the certificates of accreditation bodies that are members of ILAC or IAF as equivalent.

DAkKS is a signatory to the multilateral agreements for mutual recognition of the European co-operation for Accreditation (EA), International Accreditation Forum (IAF) and International Laboratory Accreditation Co-operation (ILAC).

The up-to-date state of membership can be retrieved from the following websites:

EA: www.european-accreditation.org

ILAC: www.ilac.org

IAF: www.iaf.nu

Deutsche Akkreditierungsstelle

Annex to the Accreditation Certificate D-K-19158-01-00 according to DIN EN ISO/IEC 17025:2018

Valid from: 13.08.2024

Date of issue: 13.08.2024

Holder of accreditation certificate:

ETAS GmbH
Borsigstraße 24, 70469 Stuttgart

with the location

ETAS GmbH
Borsigstraße 24, 70469 Stuttgart

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 they conform to the principles of DIN EN ISO 9001.

Calibration in the fields:

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>.

Permanent Laboratory

Calibration and Measurement Capabilities (CMC)

Measurement quantity / Calibration item	Range	Measurement conditions /procedure	Expanded uncertainty of measurement	Remarks
DC voltage sources and measuring devices	0 mV to 1 mV		$30 \cdot 10^{-6} \cdot U + 1.4 \mu\text{V}$	U: Measured value
	> 1 mV to 10 mV		$30 \cdot 10^{-6} \cdot U + 1.4 \mu\text{V}$	
	> 10 mV to 100 mV		$30 \cdot 10^{-6} \cdot U + 1.5 \mu\text{V}$	
	> 100 mV to 1 V		$20 \cdot 10^{-6} \cdot U + 2.5 \mu\text{V}$	
	> 1 V to 10 V		$20 \cdot 10^{-6} \cdot U + 15 \mu\text{V}$	
	> 10 V to 100 V		$30 \cdot 10^{-6} \cdot U + 0.6 \text{ mV}$	
DC current sources and measuring devices	0 μA to 100 μA		$35 \cdot 10^{-6} \cdot I + 0.15 \mu\text{A}$	I: Measured value
	> 100 μA to 1 mA		$30 \cdot 10^{-6} \cdot I + 0.15 \mu\text{A}$	
	> 1 mA to 10 mA		$70 \cdot 10^{-6} \cdot I + 0.2 \mu\text{A}$	
	> 10 mA to 100 mA		$0.2 \cdot 10^{-3} \cdot I + 5 \mu\text{A}$	
	> 100 mA to 1 A		$0.5 \cdot 10^{-3} \cdot I + 75 \mu\text{A}$	
	> 1 A to 3 A		$0.5 \cdot 10^{-3} \cdot I + 0.15 \text{ mA}$	
	> 3 A to 10 A		$2 \cdot 10^{-3} \cdot I + 3.5 \text{ mA}$	
DC resistance sources and measuring devices	0.1 Ω to 1 Ω		$5 \cdot 10^{-6} \cdot R + 1.2 \text{ m}\Omega$	R: Measured value
	> 1 Ω to 10 Ω		$10 \cdot 10^{-6} \cdot R + 1.2 \text{ m}\Omega$	
	> 10 Ω to 100 Ω		$30 \cdot 10^{-6} \cdot R + 1.2 \text{ m}\Omega$	
	> 100 Ω to 1 k Ω		$30 \cdot 10^{-6} \cdot R + 4.5 \text{ m}\Omega$	
	> 1 k Ω to 10 k Ω		$40 \cdot 10^{-6} \cdot R + 45 \text{ m}\Omega$	
	> 10 k Ω to 100 k Ω		$40 \cdot 10^{-6} \cdot R + 0.45 \Omega$	
	> 100 k Ω to 1 M Ω		$40 \cdot 10^{-6} \cdot R + 5 \Omega$	

Abbreviations used:

- CMC Calibration and measurement capabilities
- DIN Deutsches Institut für Normung e.V. – German institute for standardization
- EN Europäische Norm – European Standard
- IEC International Electrotechnical Commission
- ISO International Organization for Standardisation