

# Deutsche Akkreditierungsstelle

## Annex to the Partial Accreditation Certificate D-K-11190-02-02 according to DIN EN ISO/IEC 17025:2018

**Valid from:** 29.09.2023

**Date of issue:** 22.11.2023

This annex is a part of the accreditation certificate D-K-11190-02-00.

Holder of partial accreditation certificate:

**TÜV SÜD Rail GmbH, Prüfstelle Schienenfahrzeuge  
Colditzstraße 28, 12009 Berlin**

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.

### **Electrical quantities**

#### **DC and low frequency quantities**

- **DC voltage** <sup>a)</sup>
- **Voltage ratio** <sup>a)</sup>

<sup>a)</sup> also on-site-calibrations

*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>.*

Abbreviations used: see last page

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

**Annex to the Partial Accreditation Certificate D-K-11190-02-02**

**Permanent Laboratory**

**Calibration and Measurement Capabilities (CMC)**

Measured quantity / Calibration item	Range	Measurement conditions / procedure	Expanded measurement uncertainty	Remarks
<b>DC voltage</b>	0 V to 0.1 V	TR_CC_P_2100 Kalibrierung Analog In-Out Rev. 2	9.8 $\mu$ V	
	> 0.1 V to 1 V		54 $\mu$ V	
	> 1 V to 10 V		0.5 mV	
	> 10 V to 42 V		6.0 mV	
<b>Voltage ratio</b>	0 mV/V to 2 mV/V	bridge amplifier  TR_CC_P_2300 Kalibrierung MRS Telemetrie Rev. 3	0.06 % (with regard to 2 mV/V)	

**On-site Calibration**

**Calibration and Measurement Capabilities (CMC)**

Measured quantity / Calibration item	Range	Measurement conditions / procedure	Expanded measurement uncertainty	Remarks
<b>DC voltage</b>	0 V to 0.1 V	TR_CC_P_2100 Kalibrierung Analog In-Out Rev. 2	9.8 $\mu$ V	
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	> 10 V to 42 V		6.0 mV	
<b>Voltage ratio</b>	0 mV/V to 2 mV/V	bridge amplifier  TR_CC_P_2300 Kalibrierung MRS Telemetrie Rev. 3	0.06 % (with regard to 2 mV/V)	

**Abbreviations used:**

**Verwendete Abkürzungen:**

CMC Calibration and measurement capabilities (Kalibrier- und Messmöglichkeiten)  
 TR\_CC\_P\_ internal calibration procedure of TÜV SÜD Rail GmbH

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