Deutsche Akkreditierungsstelle

Annex to the Accreditation Certificate D-K-18446-01-02 according to DIN EN ISO/IEC 17025:2018

Valid from: **22.10.2025**

Date of issue: 22.10.2025

This annex is part of the Accreditation Certificate D-K-18446-01-00.

Holder of the Accreditation Certificate:

Humanetics Europe GmbH
Im Breitspiel 6 A, 69126 Heidelberg

with the location

Humanetics Europe GmbH
Airport Boulevard B210, 77836 Rheinmünster

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:

Dimensional quantities

Length

- **Length measuring instruments**

Angle

- **Angle of rotation**
- **Inclination**

Electrical quantities

DC and low frequency quantities

- **DC voltage**
- **DC current**

Within the measurands/calibration items marked with *, the calibration laboratory is permitted, without being required to inform and obtain prior approval from DAkkS, to use calibration standards or equivalent calibration procedures listed here with different issue dates.
The calibration laboratory maintains a current list of all calibration standards / equivalent calibration procedures within the flexible scope of accreditation.

Permanent laboratory, Rheinmünster location

Calibration and Measurement Capabilities (CMC)

Measurement quantity / Calibration item	Range	Measurement conditions / procedure	Expanded uncertainty of measurement	Remarks
Length*				
Displacement sensor (ATD)	0 mm to 200 mm	ISO/TS 21002:2021	100 µm	Zero point verification
	0 mm to 200 mm	ISO 23521:2020	20 µm	Analogue and digital sensors
chest displacement potentiometer	0 mm to 200 mm	SAE J 2517:2022	20 µm	
IR Tracc displacement	0 mm to 200 mm	ISO/TS 21476:2018	100 µm	
Angle Angle of rotation* Direct rotary encoder systems*	0° to 360°	VDI/VDE/DKD 2648 sheet 1:2024	0.2°	Rotation angle sensors Analogue and digital sensors
Inclinometers	-90° to 90°	KW-AN0001:2025-04	0.2°	Inclination angle sensors Analogue and digital sensors
Inclinometers, electronic inclinometers	-90° to 90°	KW-AN0005:2025-07	0.2°	TILT-sensors
angle of rotation	-45° to 45°	KW-DS0003:2025-04	0.3°	Analogue and digital sensors
	-45° to 45°	ISO/TS 21002:2021	0.3°	Zero point verification
Electrical quantities DC voltage	0 V to 1000 V		$0.1 \cdot 10^{-3}\ U + 2$ µV	U = measured value
DC current	0 A		5 nA	I = measured value
	100 µA to 1 A		$0.3 \cdot 10^{-3} \cdot I$	
	> 1 A to 10 A		$2 \cdot 10^{-3} \cdot I$	
DC current current clamps	0 A to 1000 A	1 to N windings	$10 \cdot 10^{-3} \cdot I + 10$ mA	

Abbreviations used:

DIN	Deutsches Institut für Normung e.V.
DKD-R	Guideline of Deutscher Kalibrierdienst (DKD), published by Physikalisch-Technische Bundesanstalt
EN	Europäische Norm
IEC	International Electrotechnical Commission – Internationale Elektrotechnische Kommission
ISO	International Organization for Standardization – Internationale Organisation für Normung
KW-	calibration procedure of the Humanetics Europe GmbH
VDE	Verband der Elektrotechnik, Elektronik und Informationstechnik e.V.
VDI	Verein Deutscher Ingenieure e.V.