



DEWETRON GmbH

Parking 4
8074 Grambach
Austria



AAT2560025
Akkreditierung Austria 0632
14.01.2025

Kalibrierstelle für elektrische Messgrößen
Calibration body for electrical measurands

akkreditiert durch / accredited by
AKKREDITIERUNG AUSTRIA

Kalibrierzeichen
Calibration Mark

Kalibrierschein nach ISO/IEC 17025
Calibration certificate according to ISO/IEC 17025

Gegenstand
Object 16 Channel Data Acquisition

Hersteller
Manufacturer DEWETRON

Typ
Type DEWE-800

Herstellernummer
Serial number 12170685

Auftraggeber
Customer

Kalibriernummer
Order number AAT2560025

Anzahl der Seiten des Kalibrierscheines
Number of pages of the certificate 8

Datum der Kalibrierung
Date of calibration 14.01.2025

Dieser Kalibrierschein dokumentiert die Rückführbarkeit auf nationale Normale zur Darstellung der physikalischen Einheiten in Übereinstimmung mit dem Internationalen Einheitensystem (SI).

Akkreditierung Austria ist Unterzeichner der multilateralen Übereinkommen der European Co-operation for Accreditation (EA) und der International Laboratory Accreditation Cooperation (ILAC) zur gegenseitigen Anerkennung der Kalibrierscheine.

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements according to the International system of Units (SI).

Akkreditierung Austria is a signatory to the multilateral agreements of the European Co-operation for Accreditation (EA) and of the International Laboratory Accreditation Cooperation (ILAC) for the mutual recognition of calibration certificates.

Dieser Kalibrierschein darf nur vollständig und unverändert weiterverbreitet werden. Auszüge oder Änderungen sind unzulässig. Kalibrierscheine ohne Unterschrift und Stempel haben keine Gültigkeit.

This calibration certificate may not be reproduced other than in full. Calibration certificates without signature and seal are not valid.

Stempel
Seal

Datum
Date

Zeichnungsberechtigter
Authorised person

Bearbeiter
Person responsible

14.01.2025

Stefan Strohmaier

Nandor Nagy

1. Kalibriergegenstand / Calibration object

16 Channel Data Acquisition DEWETRON DEWE-800, S/N: 12170685

2. Kalibrierverfahren / Calibration procedure

Die Kalibrierung erfolgt durch Vergleich der durch die Kalibrierstelle / Normale dargestellten Werte mit den Ausgangsgrößen am Kalibriergegenstand beziehungsweise den am Kalibriergegenstand angezeigten Werten.
The calibration is made by comparing the readings from the laboratory / standards to the output of the calibration object respectively the values displayed on the calibration object.

Prüfroutine / *Calibration procedure*: DEWE-RACK_Akkred, Rev. 2.00

3. Messergebnisse / Measurement results

Die Kalibrierung im Rahmen der Akkreditierung umfasst die Messgrößen Gleichspannung, Wechselspannung, Gleichstrom, Wechselstrom und Gleichstromwiderstand.

Die Messergebnisse beziehen sich ausschließlich auf diesen Kalibriergegenstand zum Zeitpunkt der Kalibrierung.
The calibration scope of the accreditation contains the quantities direct voltage, alternating voltage, direct current, alternating current and direct current resistance.

The measurement results are exclusively linked to this calibration object at the time of calibration.

4. Messunsicherheit / Measurement uncertainty

Angegeben ist die erweiterte Messunsicherheit, die sich aus der Standardmessunsicherheit durch Multiplikation mit dem Erweiterungsfaktor $k=2$ ergibt. Sie wurde gemäß EA-4/02 ermittelt. Der Wert der Messgröße liegt im Regelfall mit einer Wahrscheinlichkeit von annähernd 95% im zugeordneten Werteintervall.

Ein Anteil für die Langzeitstabilität des Kalibriergegenstandes ist nicht enthalten.

The stated extended measurement uncertainty is derived from the standard uncertainty of measurement multiplied by the coverage factor $k=2$. It has been determined according to EA-4/02. The measured quantity is inside the corresponding value interval with a probability of approximately 95%.

A factor for the long time stability of the calibration object is not taken into account.

5. Umgebungsbedingungen / environmental conditions

Temperatur / *Temperature*: 22,4 °C

Rel. Luftfeuchte / *Rel. humidity*: 33,0 % r.H.

Kalibrierort / *Place of calibration*: DEWETRON GmbH, Parkring 4, 8074 Grambach, Austria

6. Auftragsnummer / Reference Number

7. Status / Status

PASS ()

AS-FOUND: Eingangskalibration / *Incoming calibration*

AS-LEFT: Ausgangskalibration / *Outgoing calibration*

FOUND/LEFT: Eingangskalibration erfüllt Herstellerspezifikation / *Incoming calibration according to manufacturer specifications*

PASS: Messergebnis liegt innerhalb der Herstellerspezifikationen (ohne Berücksichtigung der Messunsicherheiten) / *Measurement result is within manufacturer's specifications (without taking into account the measurement uncertainties)*

FAIL: Das Messergebnis liegt nicht innerhalb der Herstellerspezifikationen (ohne Berücksichtigung der Messunsicherheiten) / *Measurement result is out of manufacturer's specifications (without taking into account the measurement uncertainties)*

8. Verwendete Fußnoten / Used foot notes:

(1) Zusätzliche Messwerte außerhalb des akkreditierten Bereiches, es kann keine Konformitätsaussage getroffen werden.

(1) Additional measured values outside the accredited scope, a conformity statement cannot be made.

9. Kommentare / Comments

test

Für die Festlegung und Einhaltung einer angemessenen Frist zur Wiederholung der Kalibrierung ist der Benutzer verantwortlich.

The user is responsible for the definition and the compliance to a reasonable period for repeating the calibration.



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10. Verwendete Normale / Standards used

<u>Asset</u>	<u>Description</u>	<u>Serial Number</u>	<u>Certificate No.</u>	<u>Cal Date</u>	<u>Due Date</u>
5522A 02	5522A CALIBRATOR	6032901	SA01246868	9-Feb-2024	8-Feb-2025
Keysight 3458A 08	3458A Multimeter	MY59353022	E5042024	23-Apr-2024	23-Apr-2025



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11. Testergebnisse / Test results

Test Description	True Value	Test Result	Lower limit	Upper limit	Exp Uncert	Error	% of Tol	Status
Kalibrierverfahren / calibration method: CAL-KV-01_Gleichspannung_v1.0_2024-07-04.xlsx-02 CAL-KV-02_Wechselspannung_v1.0_2024-07-04.xlsx-02C								
Current Temperature Calibrator: 24.97°C								
AD-Board Number: 0 AD-Board Type: ORION-1624-200 AD-Board serialnumber: 2572640 AD-Board Firmwarerevision: 283								
Driver Revision: 5.0.1.0								
All DC-tests done with appropriate Range SampleRate: 200kS/s No Softwarefilter active								
Test @ 0mV DC								
Channel 0	0.000000 V	0.000036 V	-0.000500 V	0.000500 V	3.40 e-06 V	0,000036 V	7.24%	Pass
Channel 1	0.000000 V	0.000179 V	-0.000500 V	0.000500 V	3.40 e-06 V	0,000179 V	35.7%	Pass
Channel 2	0.000000 V	-0.000025 V	-0.000500 V	0.000500 V	3.40 e-06 V	-0,000025 V	5.04%	Pass
Channel 3	0.000000 V	0.000020 V	-0.000500 V	0.000500 V	3.40 e-06 V	0,000020 V	4%	Pass
Channel 4	0.000000 V	-0.000008 V	-0.000500 V	0.000500 V	3.40 e-06 V	-0,000008 V	1.57%	Pass
Channel 5	0.000000 V	0.000002 V	-0.000500 V	0.000500 V	3.40 e-06 V	0,000002 V	0.442%	Pass
Channel 6	0.000000 V	-0.000043 V	-0.000500 V	0.000500 V	3.40 e-06 V	-0,000043 V	8.62%	Pass
Channel 7	0.000000 V	0.000068 V	-0.000500 V	0.000500 V	3.40 e-06 V	0,000068 V	13.6%	Pass
Channel 8	0.000000 V	0.000066 V	-0.000500 V	0.000500 V	3.40 e-06 V	0,000066 V	13.2%	Pass
Channel 9	0.000000 V	-0.000074 V	-0.000500 V	0.000500 V	3.40 e-06 V	-0,000074 V	14.8%	Pass
Channel 10	0.000000 V	0.000078 V	-0.000500 V	0.000500 V	3.40 e-06 V	0,000078 V	15.6%	Pass
Channel 11	0.000000 V	0.000085 V	-0.000500 V	0.000500 V	3.40 e-06 V	0,000085 V	16.9%	Pass
Channel 12	0.000000 V	0.000026 V	-0.000500 V	0.000500 V	3.40 e-06 V	0,000026 V	5.21%	Pass
Channel 13	0.000000 V	-0.000015 V	-0.000500 V	0.000500 V	3.40 e-06 V	-0,000015 V	2.98%	Pass
Channel 14	0.000000 V	-0.000001 V	-0.000500 V	0.000500 V	3.40 e-06 V	-0,000001 V	0.286%	Pass
Channel 15	0.000000 V	0.000024 V	-0.000500 V	0.000500 V	3.40 e-06 V	0,000024 V	4.73%	Pass
Test @ +500mV DC								
Channel 0	0.500000 V	0.499812 V	0.499213 V	0.500787 V	9.90 e-06 V	-0,000188 V	23.8%	Pass
Channel 1	0.500000 V	0.499954 V	0.499213 V	0.500787 V	9.90 e-06 V	-0,000046 V	5.85%	Pass
Channel 2	0.500000 V	0.499741 V	0.499213 V	0.500787 V	9.90 e-06 V	-0,000259 V	32.9%	Pass
Channel 3	0.500000 V	0.499798 V	0.499213 V	0.500787 V	9.90 e-06 V	-0,000202 V	25.6%	Pass
Channel 4	0.500000 V	0.499761 V	0.499213 V	0.500787 V	9.90 e-06 V	-0,000239 V	30.4%	Pass
Channel 5	0.500000 V	0.499781 V	0.499213 V	0.500787 V	9.90 e-06 V	-0,000219 V	27.8%	Pass
Channel 6	0.500000 V	0.499744 V	0.499213 V	0.500787 V	9.90 e-06 V	-0,000256 V	32.6%	Pass
Channel 7	0.500000 V	0.499845 V	0.499213 V	0.500787 V	9.90 e-06 V	-0,000155 V	19.7%	Pass
Channel 8	0.500000 V	0.499850 V	0.499213 V	0.500787 V	9.90 e-06 V	-0,000150 V	19.1%	Pass
Channel 9	0.500000 V	0.499705 V	0.499213 V	0.500787 V	9.90 e-06 V	-0,000295 V	37.5%	Pass
Channel 10	0.500000 V	0.499866 V	0.499213 V	0.500787 V	9.90 e-06 V	-0,000134 V	17.1%	Pass
Channel 11	0.500000 V	0.499858 V	0.499213 V	0.500787 V	9.90 e-06 V	-0,000142 V	18.1%	Pass
Channel 12	0.500000 V	0.499804 V	0.499213 V	0.500787 V	9.90 e-06 V	-0,000196 V	25%	Pass
Channel 13	0.500000 V	0.499747 V	0.499213 V	0.500787 V	9.90 e-06 V	-0,000253 V	32.2%	Pass
Channel 14	0.500000 V	0.499781 V	0.499213 V	0.500787 V	9.90 e-06 V	-0,000219 V	27.8%	Pass
Channel 15	0.500000 V	0.499808 V	0.499213 V	0.500787 V	9.90 e-06 V	-0,000192 V	24.4%	Pass
Test @ -500mV DC								
Channel 0	-0.500000 V	-0.499737 V	-0.500787 V	-0.499213 V	9.90 e-06 V	0,000263 V	33.4%	Pass
Channel 1	-0.500000 V	-0.499593 V	-0.500787 V	-0.499213 V	9.90 e-06 V	0,000407 V	51.8%	Pass
Channel 2	-0.500000 V	-0.499801 V	-0.500787 V	-0.499213 V	9.90 e-06 V	0,000199 V	25.3%	Pass
Channel 3	-0.500000 V	-0.499748 V	-0.500787 V	-0.499213 V	9.90 e-06 V	0,000252 V	32%	Pass
Channel 4	-0.500000 V	-0.499783 V	-0.500787 V	-0.499213 V	9.90 e-06 V	0,000217 V	27.6%	Pass
Channel 5	-0.500000 V	-0.499765 V	-0.500787 V	-0.499213 V	9.90 e-06 V	0,000235 V	29.9%	Pass
Channel 6	-0.500000 V	-0.499817 V	-0.500787 V	-0.499213 V	9.90 e-06 V	0,000183 V	23.2%	Pass
Channel 7	-0.500000 V	-0.499699 V	-0.500787 V	-0.499213 V	9.90 e-06 V	0,000301 V	38.3%	Pass
Channel 8	-0.500000 V	-0.499703 V	-0.500787 V	-0.499213 V	9.90 e-06 V	0,000297 V	37.8%	Pass
Channel 9	-0.500000 V	-0.499845 V	-0.500787 V	-0.499213 V	9.90 e-06 V	0,000155 V	19.7%	Pass
Channel 10	-0.500000 V	-0.499716 V	-0.500787 V	-0.499213 V	9.90 e-06 V	0,000284 V	36.1%	Pass
Channel 11	-0.500000 V	-0.499681 V	-0.500787 V	-0.499213 V	9.90 e-06 V	0,000319 V	40.5%	Pass
Channel 12	-0.500000 V	-0.499751 V	-0.500787 V	-0.499213 V	9.90 e-06 V	0,000249 V	31.7%	Pass
Channel 13	-0.500000 V	-0.499773 V	-0.500787 V	-0.499213 V	9.90 e-06 V	0,000227 V	28.9%	Pass
Channel 14	-0.500000 V	-0.499778 V	-0.500787 V	-0.499213 V	9.90 e-06 V	0,000222 V	28.2%	Pass
Channel 15	-0.500000 V	-0.499757 V	-0.500787 V	-0.499213 V	9.90 e-06 V	0,000243 V	30.9%	Pass
Test @ +1.5V DC								
Channel 0	1.500000 V	1.499360 V	1.498639 V	1.501361 V	24.00 e-06 V	-0,000640 V	47%	Pass
Channel 1	1.500000 V	1.499484 V	1.498639 V	1.501361 V	24.00 e-06 V	-0,000516 V	37.9%	Pass
Channel 2	1.500000 V	1.499287 V	1.498639 V	1.501361 V	24.00 e-06 V	-0,000713 V	52.4%	Pass



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11. Testergebnisse / Test results

Table with 9 columns: Test Description, True Value, Test Result, Lower limit, Upper limit, Exp Uncert, Error, % of Tol, Status. It contains multiple test blocks for different voltage levels: +2.500V DC, -2.500V DC, +3.500V DC, and +4.500V DC, each with 15 channels.



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11. Testergebnisse / Test results

Test Description	True Value	Test Result	Lower limit	Upper limit	Exp Uncert	Error	% of Tol	Status
Channel 11	4.500000 V	4.498028 V	4.496917 V	4.503083 V	99.00 e-06 V	-0,001972 V	64%	Pass
Channel 12	4.500000 V	4.498024 V	4.496917 V	4.503083 V	99.00 e-06 V	-0,001976 V	64.1%	Pass
Channel 13	4.500000 V	4.497862 V	4.496917 V	4.503083 V	99.00 e-06 V	-0,002138 V	69.4%	Pass
Channel 14	4.500000 V	4.498023 V	4.496917 V	4.503083 V	99.00 e-06 V	-0,001977 V	64.1%	Pass
Channel 15	4.500000 V	4.498061 V	4.496917 V	4.503083 V	99.00 e-06 V	-0,001939 V	62.9%	Pass

Test @ -4.500V DC

Channel 0	-4.500000 V	-4.497928 V	-4.503083 V	-4.496917 V	99.00 e-06 V	0,002072 V	67.2%	Pass
Channel 1	-4.500000 V	-4.497753 V	-4.503083 V	-4.496917 V	99.00 e-06 V	0,002247 V	72.9%	Pass
Channel 2	-4.500000 V	-4.497969 V	-4.503083 V	-4.496917 V	99.00 e-06 V	0,002031 V	65.9%	Pass
Channel 3	-4.500000 V	-4.497905 V	-4.503083 V	-4.496917 V	99.00 e-06 V	0,002095 V	68%	Pass
Channel 4	-4.500000 V	-4.497966 V	-4.503083 V	-4.496917 V	99.00 e-06 V	0,002034 V	66%	Pass
Channel 5	-4.500000 V	-4.497928 V	-4.503083 V	-4.496917 V	99.00 e-06 V	0,002072 V	67.2%	Pass
Channel 6	-4.500000 V	-4.498047 V	-4.503083 V	-4.496917 V	99.00 e-06 V	0,001953 V	63.4%	Pass
Channel 7	-4.500000 V	-4.497829 V	-4.503083 V	-4.496917 V	99.00 e-06 V	0,002171 V	70.4%	Pass
Channel 8	-4.500000 V	-4.497904 V	-4.503083 V	-4.496917 V	99.00 e-06 V	0,002096 V	68%	Pass
Channel 9	-4.500000 V	-4.498022 V	-4.503083 V	-4.496917 V	99.00 e-06 V	0,001978 V	64.2%	Pass
Channel 10	-4.500000 V	-4.498009 V	-4.503083 V	-4.496917 V	99.00 e-06 V	0,001991 V	64.6%	Pass
Channel 11	-4.500000 V	-4.497829 V	-4.503083 V	-4.496917 V	99.00 e-06 V	0,002171 V	70.4%	Pass
Channel 12	-4.500000 V	-4.497966 V	-4.503083 V	-4.496917 V	99.00 e-06 V	0,002034 V	66%	Pass
Channel 13	-4.500000 V	-4.497872 V	-4.503083 V	-4.496917 V	99.00 e-06 V	0,002128 V	69%	Pass
Channel 14	-4.500000 V	-4.498005 V	-4.503083 V	-4.496917 V	99.00 e-06 V	0,001995 V	64.7%	Pass
Channel 15	-4.500000 V	-4.497989 V	-4.503083 V	-4.496917 V	99.00 e-06 V	0,002011 V	65.2%	Pass

All AC-tests done with appropriate Range
 SampleRate: 200ks/s
 No Softwarefilter active

Test @ +500mV @ 20Hz

Channel 0	0.500000 V	0.499782 V	0.499163 V	0.500837 V	250.00 e-06 V	-0,000218 V	26.1%	Pass
Channel 1	0.500000 V	0.499776 V	0.499163 V	0.500837 V	250.00 e-06 V	-0,000224 V	26.7%	Pass
Channel 2	0.500000 V	0.499779 V	0.499163 V	0.500837 V	250.00 e-06 V	-0,000221 V	26.4%	Pass
Channel 3	0.500000 V	0.499778 V	0.499163 V	0.500837 V	250.00 e-06 V	-0,000222 V	26.5%	Pass
Channel 4	0.500000 V	0.499781 V	0.499163 V	0.500837 V	250.00 e-06 V	-0,000219 V	26.2%	Pass
Channel 5	0.500000 V	0.499777 V	0.499163 V	0.500837 V	250.00 e-06 V	-0,000223 V	26.6%	Pass
Channel 6	0.500000 V	0.499788 V	0.499163 V	0.500837 V	250.00 e-06 V	-0,000212 V	25.4%	Pass
Channel 7	0.500000 V	0.499778 V	0.499163 V	0.500837 V	250.00 e-06 V	-0,000222 V	26.5%	Pass
Channel 8	0.500000 V	0.499787 V	0.499163 V	0.500837 V	250.00 e-06 V	-0,000213 V	25.4%	Pass
Channel 9	0.500000 V	0.499783 V	0.499163 V	0.500837 V	250.00 e-06 V	-0,000217 V	25.9%	Pass
Channel 10	0.500000 V	0.499800 V	0.499163 V	0.500837 V	250.00 e-06 V	-0,000200 V	23.9%	Pass
Channel 11	0.500000 V	0.499786 V	0.499163 V	0.500837 V	250.00 e-06 V	-0,000214 V	25.6%	Pass
Channel 12	0.500000 V	0.499793 V	0.499163 V	0.500837 V	250.00 e-06 V	-0,000207 V	24.7%	Pass
Channel 13	0.500000 V	0.499778 V	0.499163 V	0.500837 V	250.00 e-06 V	-0,000222 V	26.5%	Pass
Channel 14	0.500000 V	0.499796 V	0.499163 V	0.500837 V	250.00 e-06 V	-0,000204 V	24.4%	Pass
Channel 15	0.500000 V	0.499798 V	0.499163 V	0.500837 V	250.00 e-06 V	-0,000202 V	24.1%	Pass

Test @ +500mV @ 50Hz

Channel 0	0.500000 V	0.499801 V	0.499163 V	0.500837 V	170.00 e-06 V	-0,000199 V	23.7%	Pass
Channel 1	0.500000 V	0.499797 V	0.499163 V	0.500837 V	170.00 e-06 V	-0,000203 V	24.3%	Pass
Channel 2	0.500000 V	0.499797 V	0.499163 V	0.500837 V	170.00 e-06 V	-0,000203 V	24.2%	Pass
Channel 3	0.500000 V	0.499798 V	0.499163 V	0.500837 V	170.00 e-06 V	-0,000202 V	24.1%	Pass
Channel 4	0.500000 V	0.499797 V	0.499163 V	0.500837 V	170.00 e-06 V	-0,000203 V	24.2%	Pass
Channel 5	0.500000 V	0.499795 V	0.499163 V	0.500837 V	170.00 e-06 V	-0,000205 V	24.5%	Pass
Channel 6	0.500000 V	0.499801 V	0.499163 V	0.500837 V	170.00 e-06 V	-0,000199 V	23.8%	Pass
Channel 7	0.500000 V	0.499789 V	0.499163 V	0.500837 V	170.00 e-06 V	-0,000211 V	25.2%	Pass
Channel 8	0.500000 V	0.499797 V	0.499163 V	0.500837 V	170.00 e-06 V	-0,000203 V	24.3%	Pass
Channel 9	0.500000 V	0.499795 V	0.499163 V	0.500837 V	170.00 e-06 V	-0,000205 V	24.5%	Pass
Channel 10	0.500000 V	0.499811 V	0.499163 V	0.500837 V	170.00 e-06 V	-0,000189 V	22.6%	Pass
Channel 11	0.500000 V	0.499790 V	0.499163 V	0.500837 V	170.00 e-06 V	-0,000210 V	25.1%	Pass
Channel 12	0.500000 V	0.499794 V	0.499163 V	0.500837 V	170.00 e-06 V	-0,000206 V	24.6%	Pass
Channel 13	0.500000 V	0.499778 V	0.499163 V	0.500837 V	170.00 e-06 V	-0,000222 V	26.5%	Pass
Channel 14	0.500000 V	0.499792 V	0.499163 V	0.500837 V	170.00 e-06 V	-0,000208 V	24.9%	Pass
Channel 15	0.500000 V	0.499793 V	0.499163 V	0.500837 V	170.00 e-06 V	-0,000207 V	24.7%	Pass

Test @ +500mV @ 1kHz

Channel 0	0.500000 V	0.499783 V	0.499138 V	0.500862 V	170.00 e-06 V	-0,000217 V	25.1%	Pass
Channel 1	0.500000 V	0.499778 V	0.499138 V	0.500862 V	170.00 e-06 V	-0,000222 V	25.8%	Pass
Channel 2	0.500000 V	0.499780 V	0.499138 V	0.500862 V	170.00 e-06 V	-0,000220 V	25.5%	Pass
Channel 3	0.500000 V	0.499778 V	0.499138 V	0.500862 V	170.00 e-06 V	-0,000222 V	25.8%	Pass
Channel 4	0.500000 V	0.499778 V	0.499138 V	0.500862 V	170.00 e-06 V	-0,000222 V	25.7%	Pass
Channel 5	0.500000 V	0.499777 V	0.499138 V	0.500862 V	170.00 e-06 V	-0,000223 V	25.9%	Pass
Channel 6	0.500000 V	0.499783 V	0.499138 V	0.500862 V	170.00 e-06 V	-0,000217 V	25.2%	Pass
Channel 7	0.500000 V	0.499773 V	0.499138 V	0.500862 V	170.00 e-06 V	-0,000227 V	26.3%	Pass
Channel 8	0.500000 V	0.499784 V	0.499138 V	0.500862 V	170.00 e-06 V	-0,000216 V	25.1%	Pass
Channel 9	0.500000 V	0.499784 V	0.499138 V	0.500862 V	170.00 e-06 V	-0,000216 V	25.1%	Pass
Channel 10	0.500000 V	0.499799 V	0.499138 V	0.500862 V	170.00 e-06 V	-0,000201 V	23.3%	Pass
Channel 11	0.500000 V	0.499780 V	0.499138 V	0.500862 V	170.00 e-06 V	-0,000220 V	25.5%	Pass
Channel 12	0.500000 V	0.499787 V	0.499138 V	0.500862 V	170.00 e-06 V	-0,000213 V	24.7%	Pass
Channel 13	0.500000 V	0.499774 V	0.499138 V	0.500862 V	170.00 e-06 V	-0,000226 V	26.2%	Pass
Channel 14	0.500000 V	0.499788 V	0.499138 V	0.500862 V	170.00 e-06 V	-0,000212 V	24.6%	Pass



DEWETRON GmbH
 Parkring 4
 8074 Grambach
 AUSTRIA

Kalibrierschein nach ISO/IEC 17025
 Calibration Certificate according to ISO/IEC 17025

AAT2560025
Akkreditierung Austria 0632
14.01.2025

11. Testergebnisse / Test results

Test Description	True Value	Test Result	Lower limit	Upper limit	Exp Uncert	Error	% of Tol	Status
Channel 15	0.500000 V	0.499787 V	0.499138 V	0.500862 V	170.00 e-06 V	-0,000213 V	24.7%	Pass
Test @ +2.5V @ 20Hz								
Channel 0	2.500000 V	2.498868 V	2.497815 V	2.502185 V	990.00 e-06 V	-0,001132 V	51.8%	Pass
Channel 1	2.500000 V	2.498843 V	2.497815 V	2.502185 V	990.00 e-06 V	-0,001157 V	53%	Pass
Channel 2	2.500000 V	2.498850 V	2.497815 V	2.502185 V	990.00 e-06 V	-0,001150 V	52.6%	Pass
Channel 3	2.500000 V	2.498854 V	2.497815 V	2.502185 V	990.00 e-06 V	-0,001146 V	52.5%	Pass
Channel 4	2.500000 V	2.498861 V	2.497815 V	2.502185 V	990.00 e-06 V	-0,001139 V	52.1%	Pass
Channel 5	2.500000 V	2.498852 V	2.497815 V	2.502185 V	990.00 e-06 V	-0,001148 V	52.5%	Pass
Channel 6	2.500000 V	2.498886 V	2.497815 V	2.502185 V	990.00 e-06 V	-0,001114 V	51%	Pass
Channel 7	2.500000 V	2.498836 V	2.497815 V	2.502185 V	990.00 e-06 V	-0,001164 V	53.3%	Pass
Channel 8	2.500000 V	2.498875 V	2.497815 V	2.502185 V	990.00 e-06 V	-0,001125 V	51.5%	Pass
Channel 9	2.500000 V	2.498862 V	2.497815 V	2.502185 V	990.00 e-06 V	-0,001138 V	52.1%	Pass
Channel 10	2.500000 V	2.498938 V	2.497815 V	2.502185 V	990.00 e-06 V	-0,001062 V	48.6%	Pass
Channel 11	2.500000 V	2.498843 V	2.497815 V	2.502185 V	990.00 e-06 V	-0,001157 V	53%	Pass
Channel 12	2.500000 V	2.498878 V	2.497815 V	2.502185 V	990.00 e-06 V	-0,001122 V	51.3%	Pass
Channel 13	2.500000 V	2.498807 V	2.497815 V	2.502185 V	990.00 e-06 V	-0,001193 V	54.6%	Pass
Channel 14	2.500000 V	2.498885 V	2.497815 V	2.502185 V	990.00 e-06 V	-0,001115 V	51%	Pass
Channel 15	2.500000 V	2.498895 V	2.497815 V	2.502185 V	990.00 e-06 V	-0,001105 V	50.6%	Pass
Test @ +2.5V @ 50Hz								
Channel 0	2.500000 V	2.498897 V	2.497815 V	2.502185 V	540.00 e-06 V	-0,001103 V	50.5%	Pass
Channel 1	2.500000 V	2.498870 V	2.497815 V	2.502185 V	540.00 e-06 V	-0,001130 V	51.7%	Pass
Channel 2	2.500000 V	2.498879 V	2.497815 V	2.502185 V	540.00 e-06 V	-0,001121 V	51.3%	Pass
Channel 3	2.500000 V	2.498879 V	2.497815 V	2.502185 V	540.00 e-06 V	-0,001121 V	51.3%	Pass
Channel 4	2.500000 V	2.498888 V	2.497815 V	2.502185 V	540.00 e-06 V	-0,001112 V	50.9%	Pass
Channel 5	2.500000 V	2.498883 V	2.497815 V	2.502185 V	540.00 e-06 V	-0,001117 V	51.1%	Pass
Channel 6	2.500000 V	2.498919 V	2.497815 V	2.502185 V	540.00 e-06 V	-0,001081 V	49.5%	Pass
Channel 7	2.500000 V	2.498865 V	2.497815 V	2.502185 V	540.00 e-06 V	-0,001135 V	51.9%	Pass
Channel 8	2.500000 V	2.498904 V	2.497815 V	2.502185 V	540.00 e-06 V	-0,001096 V	50.2%	Pass
Channel 9	2.500000 V	2.498891 V	2.497815 V	2.502185 V	540.00 e-06 V	-0,001109 V	50.8%	Pass
Channel 10	2.500000 V	2.498966 V	2.497815 V	2.502185 V	540.00 e-06 V	-0,001034 V	47.3%	Pass
Channel 11	2.500000 V	2.498875 V	2.497815 V	2.502185 V	540.00 e-06 V	-0,001125 V	51.5%	Pass
Channel 12	2.500000 V	2.498910 V	2.497815 V	2.502185 V	540.00 e-06 V	-0,001090 V	49.9%	Pass
Channel 13	2.500000 V	2.498838 V	2.497815 V	2.502185 V	540.00 e-06 V	-0,001162 V	53.2%	Pass
Channel 14	2.500000 V	2.498915 V	2.497815 V	2.502185 V	540.00 e-06 V	-0,001085 V	49.7%	Pass
Channel 15	2.500000 V	2.498928 V	2.497815 V	2.502185 V	540.00 e-06 V	-0,001072 V	49.1%	Pass
Test @ +2.5V @ 1kHz								
Channel 0	2.500000 V	2.498833 V	2.497690 V	2.502310 V	700.00 e-06 V	-0,001167 V	50.5%	Pass
Channel 1	2.500000 V	2.498811 V	2.497690 V	2.502310 V	700.00 e-06 V	-0,001189 V	51.5%	Pass
Channel 2	2.500000 V	2.498822 V	2.497690 V	2.502310 V	700.00 e-06 V	-0,001178 V	51%	Pass
Channel 3	2.500000 V	2.498820 V	2.497690 V	2.502310 V	700.00 e-06 V	-0,001180 V	51.1%	Pass
Channel 4	2.500000 V	2.498831 V	2.497690 V	2.502310 V	700.00 e-06 V	-0,001169 V	50.6%	Pass
Channel 5	2.500000 V	2.498824 V	2.497690 V	2.502310 V	700.00 e-06 V	-0,001176 V	50.9%	Pass
Channel 6	2.500000 V	2.498860 V	2.497690 V	2.502310 V	700.00 e-06 V	-0,001140 V	49.3%	Pass
Channel 7	2.500000 V	2.498809 V	2.497690 V	2.502310 V	700.00 e-06 V	-0,001191 V	51.6%	Pass
Channel 8	2.500000 V	2.498846 V	2.497690 V	2.502310 V	700.00 e-06 V	-0,001154 V	49.9%	Pass
Channel 9	2.500000 V	2.498836 V	2.497690 V	2.502310 V	700.00 e-06 V	-0,001164 V	50.4%	Pass
Channel 10	2.500000 V	2.498911 V	2.497690 V	2.502310 V	700.00 e-06 V	-0,001089 V	47.2%	Pass
Channel 11	2.500000 V	2.498818 V	2.497690 V	2.502310 V	700.00 e-06 V	-0,001182 V	51.2%	Pass
Channel 12	2.500000 V	2.498858 V	2.497690 V	2.502310 V	700.00 e-06 V	-0,001142 V	49.4%	Pass
Channel 13	2.500000 V	2.498785 V	2.497690 V	2.502310 V	700.00 e-06 V	-0,001215 V	52.6%	Pass
Channel 14	2.500000 V	2.498859 V	2.497690 V	2.502310 V	700.00 e-06 V	-0,001141 V	49.4%	Pass
Channel 15	2.500000 V	2.498874 V	2.497690 V	2.502310 V	700.00 e-06 V	-0,001126 V	48.8%	Pass
Test @ +3.5V @ 20Hz								
Channel 0	3.500000 V	3.498455 V	3.497141 V	3.502859 V	2.50 e-03 V	-0,001545 V	54%	Pass
Channel 1	3.500000 V	3.498420 V	3.497141 V	3.502859 V	2.50 e-03 V	-0,001580 V	55.3%	Pass
Channel 2	3.500000 V	3.498424 V	3.497141 V	3.502859 V	2.50 e-03 V	-0,001576 V	55.1%	Pass
Channel 3	3.500000 V	3.498420 V	3.497141 V	3.502859 V	2.50 e-03 V	-0,001580 V	55.3%	Pass
Channel 4	3.500000 V	3.498446 V	3.497141 V	3.502859 V	2.50 e-03 V	-0,001554 V	54.3%	Pass
Channel 5	3.500000 V	3.498451 V	3.497141 V	3.502859 V	2.50 e-03 V	-0,001549 V	54.2%	Pass
Channel 6	3.500000 V	3.498525 V	3.497141 V	3.502859 V	2.50 e-03 V	-0,001475 V	51.6%	Pass
Channel 7	3.500000 V	3.498470 V	3.497141 V	3.502859 V	2.50 e-03 V	-0,001530 V	53.5%	Pass
Channel 8	3.500000 V	3.498518 V	3.497141 V	3.502859 V	2.50 e-03 V	-0,001482 V	51.8%	Pass
Channel 9	3.500000 V	3.498513 V	3.497141 V	3.502859 V	2.50 e-03 V	-0,001487 V	52%	Pass
Channel 10	3.500000 V	3.498619 V	3.497141 V	3.502859 V	2.50 e-03 V	-0,001381 V	48.3%	Pass
Channel 11	3.500000 V	3.498499 V	3.497141 V	3.502859 V	2.50 e-03 V	-0,001501 V	52.5%	Pass
Channel 12	3.500000 V	3.498553 V	3.497141 V	3.502859 V	2.50 e-03 V	-0,001447 V	50.6%	Pass
Channel 13	3.500000 V	3.498453 V	3.497141 V	3.502859 V	2.50 e-03 V	-0,001547 V	54.1%	Pass
Channel 14	3.500000 V	3.498571 V	3.497141 V	3.502859 V	2.50 e-03 V	-0,001429 V	50%	Pass
Channel 15	3.500000 V	3.498589 V	3.497141 V	3.502859 V	2.50 e-03 V	-0,001411 V	49.3%	Pass
Test @ +3.5V @ 50Hz								
Channel 0	3.500000 V	3.498594 V	3.497141 V	3.502859 V	1.40 e-03 V	-0,001406 V	49.2%	Pass
Channel 1	3.500000 V	3.498556 V	3.497141 V	3.502859 V	1.40 e-03 V	-0,001444 V	50.5%	Pass
Channel 2	3.500000 V	3.498557 V	3.497141 V	3.502859 V	1.40 e-03 V	-0,001443 V	50.5%	Pass
Channel 3	3.500000 V	3.498569 V	3.497141 V	3.502859 V	1.40 e-03 V	-0,001431 V	50.1%	Pass
Channel 4	3.500000 V	3.498574 V	3.497141 V	3.502859 V	1.40 e-03 V	-0,001426 V	49.9%	Pass

11. Testergebnisse / Test results

Test Description	True Value	Test Result	Lower limit	Upper limit	Exp Uncert	Error	% of Tol	Status
Channel 5	3.500000 V	3.498555 V	3.497141 V	3.502859 V	1.40 e-03 V	-0,001445 V	50.6%	Pass
Channel 6	3.500000 V	3.498640 V	3.497141 V	3.502859 V	1.40 e-03 V	-0,001360 V	47.6%	Pass
Channel 7	3.500000 V	3.498588 V	3.497141 V	3.502859 V	1.40 e-03 V	-0,001412 V	49.4%	Pass
Channel 8	3.500000 V	3.498644 V	3.497141 V	3.502859 V	1.40 e-03 V	-0,001356 V	47.4%	Pass
Channel 9	3.500000 V	3.498619 V	3.497141 V	3.502859 V	1.40 e-03 V	-0,001381 V	48.3%	Pass
Channel 10	3.500000 V	3.498696 V	3.497141 V	3.502859 V	1.40 e-03 V	-0,001304 V	45.6%	Pass
Channel 11	3.500000 V	3.498579 V	3.497141 V	3.502859 V	1.40 e-03 V	-0,001421 V	49.7%	Pass
Channel 12	3.500000 V	3.498640 V	3.497141 V	3.502859 V	1.40 e-03 V	-0,001360 V	47.6%	Pass
Channel 13	3.500000 V	3.498540 V	3.497141 V	3.502859 V	1.40 e-03 V	-0,001460 V	51.1%	Pass
Channel 14	3.500000 V	3.498647 V	3.497141 V	3.502859 V	1.40 e-03 V	-0,001353 V	47.3%	Pass
Channel 15	3.500000 V	3.498659 V	3.497141 V	3.502859 V	1.40 e-03 V	-0,001341 V	46.9%	Pass
Test @ +3.5V @ 1kHz								
Channel 0	3.500000 V	3.498342 V	3.496966 V	3.503034 V	1.40 e-03 V	-0,001658 V	54.7%	Pass
Channel 1	3.500000 V	3.498302 V	3.496966 V	3.503034 V	1.40 e-03 V	-0,001698 V	56%	Pass
Channel 2	3.500000 V	3.498314 V	3.496966 V	3.503034 V	1.40 e-03 V	-0,001686 V	55.6%	Pass
Channel 3	3.500000 V	3.498341 V	3.496966 V	3.503034 V	1.40 e-03 V	-0,001659 V	54.7%	Pass
Channel 4	3.500000 V	3.498351 V	3.496966 V	3.503034 V	1.40 e-03 V	-0,001649 V	54.4%	Pass
Channel 5	3.500000 V	3.498331 V	3.496966 V	3.503034 V	1.40 e-03 V	-0,001669 V	55%	Pass
Channel 6	3.500000 V	3.498400 V	3.496966 V	3.503034 V	1.40 e-03 V	-0,001600 V	52.7%	Pass
Channel 7	3.500000 V	3.498326 V	3.496966 V	3.503034 V	1.40 e-03 V	-0,001674 V	55.2%	Pass
Channel 8	3.500000 V	3.498355 V	3.496966 V	3.503034 V	1.40 e-03 V	-0,001645 V	54.2%	Pass
Channel 9	3.500000 V	3.498322 V	3.496966 V	3.503034 V	1.40 e-03 V	-0,001678 V	55.3%	Pass
Channel 10	3.500000 V	3.498433 V	3.496966 V	3.503034 V	1.40 e-03 V	-0,001567 V	51.6%	Pass
Channel 11	3.500000 V	3.498294 V	3.496966 V	3.503034 V	1.40 e-03 V	-0,001706 V	56.2%	Pass
Channel 12	3.500000 V	3.498332 V	3.496966 V	3.503034 V	1.40 e-03 V	-0,001668 V	55%	Pass
Channel 13	3.500000 V	3.498241 V	3.496966 V	3.503034 V	1.40 e-03 V	-0,001759 V	58%	Pass
Channel 14	3.500000 V	3.498349 V	3.496966 V	3.503034 V	1.40 e-03 V	-0,001651 V	54.4%	Pass
Channel 15	3.500000 V	3.498357 V	3.496966 V	3.503034 V	1.40 e-03 V	-0,001643 V	54.2%	Pass
Test @ +3.5V @ 20kHz								
Channel 0	3.500000 V	3.483741 V	3.436241 V	3.563759 V	1.80 e-03 V	-0,016259 V	25.5%	Pass
Channel 1	3.500000 V	3.483717 V	3.436241 V	3.563759 V	1.80 e-03 V	-0,016283 V	25.5%	Pass
Channel 2	3.500000 V	3.483191 V	3.436241 V	3.563759 V	1.80 e-03 V	-0,016809 V	26.4%	Pass
Channel 3	3.500000 V	3.483231 V	3.436241 V	3.563759 V	1.80 e-03 V	-0,016769 V	26.3%	Pass
Channel 4	3.500000 V	3.483812 V	3.436241 V	3.563759 V	1.80 e-03 V	-0,016188 V	25.4%	Pass
Channel 5	3.500000 V	3.483706 V	3.436241 V	3.563759 V	1.80 e-03 V	-0,016294 V	25.6%	Pass
Channel 6	3.500000 V	3.483460 V	3.436241 V	3.563759 V	1.80 e-03 V	-0,016540 V	25.9%	Pass
Channel 7	3.500000 V	3.483154 V	3.436241 V	3.563759 V	1.80 e-03 V	-0,016846 V	26.4%	Pass
Channel 8	3.500000 V	3.483487 V	3.436241 V	3.563759 V	1.80 e-03 V	-0,016513 V	25.9%	Pass
Channel 9	3.500000 V	3.483630 V	3.436241 V	3.563759 V	1.80 e-03 V	-0,016370 V	25.7%	Pass
Channel 10	3.500000 V	3.483424 V	3.436241 V	3.563759 V	1.80 e-03 V	-0,016576 V	26%	Pass
Channel 11	3.500000 V	3.483705 V	3.436241 V	3.563759 V	1.80 e-03 V	-0,016295 V	25.6%	Pass
Channel 12	3.500000 V	3.483471 V	3.436241 V	3.563759 V	1.80 e-03 V	-0,016529 V	25.9%	Pass
Channel 13	3.500000 V	3.483650 V	3.436241 V	3.563759 V	1.80 e-03 V	-0,016350 V	25.6%	Pass
Channel 14	3.500000 V	3.483505 V	3.436241 V	3.563759 V	1.80 e-03 V	-0,016495 V	25.9%	Pass
Channel 15	3.500000 V	3.483467 V	3.436241 V	3.563759 V	1.80 e-03 V	-0,016533 V	25.9%	Pass

Ende des Kalibrierscheines / End of Calibration Certificate

