

1. Kalibriergegenstand / Calibration object

Multi channel thermocouple module DEWETRON EPAD2-V8, S/N: 461528

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*: xPAD2-V8_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*: 22,8 °C

Rel. Luftfeuchte / *Rel. humidity*: 32,1 % 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.



DEWETRON GmbH
Parkring 4
8074 Grambach
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17.02.2025

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	5522A CALIBRATOR	2940903	N9102024	31-Okt-2024	31-Okt-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								
Current Temperature Calibrator: 24.96°C								
EPAD2-V8 Serialnumber: 00461528 Firmware revision: 7.10								
Accuracy : 0.02% of reading +/- 900µV								
All Tests done in appropriate range								
Range: 100mV #####								
Test @ -90mV DC								
Channel 0	-0.09000 V	-0.08986 V	-0.09092 V	-0.08908 V	12.00 e-06 V	0,00014 V	14.9%	Pass
Channel 1	-0.09000 V	-0.08969 V	-0.09092 V	-0.08908 V	12.00 e-06 V	0,00031 V	33.8%	Pass
Channel 2	-0.09000 V	-0.08958 V	-0.09092 V	-0.08908 V	12.00 e-06 V	0,00042 V	45.8%	Pass
Channel 3	-0.09000 V	-0.08978 V	-0.09092 V	-0.08908 V	12.00 e-06 V	0,00022 V	23.6%	Pass
Channel 4	-0.09000 V	-0.08972 V	-0.09092 V	-0.08908 V	12.00 e-06 V	0,00028 V	30.1%	Pass
Channel 5	-0.09000 V	-0.08999 V	-0.09092 V	-0.08908 V	12.00 e-06 V	0,00001 V	1.09%	Pass
Channel 6	-0.09000 V	-0.08982 V	-0.09092 V	-0.08908 V	12.00 e-06 V	0,00018 V	20%	Pass
Channel 7	-0.09000 V	-0.08991 V	-0.09092 V	-0.08908 V	12.00 e-06 V	0,00009 V	10.2%	Pass
Test @ 0V DC								
Channel 0	0.00000 V	0.00005 V	-0.00090 V	0.00090 V	12.00 e-06 V	0,00005 V	5.19%	Pass
Channel 1	0.00000 V	0.00002 V	-0.00090 V	0.00090 V	12.00 e-06 V	0,00002 V	1.85%	Pass
Channel 2	0.00000 V	-0.00000 V	-0.00090 V	0.00090 V	12.00 e-06 V	0,00000 V	0.37%	Pass
Channel 3	0.00000 V	0.00001 V	-0.00090 V	0.00090 V	12.00 e-06 V	0,00001 V	1.48%	Pass
Channel 4	0.00000 V	0.00002 V	-0.00090 V	0.00090 V	12.00 e-06 V	0,00002 V	2.22%	Pass
Channel 5	0.00000 V	-0.00003 V	-0.00090 V	0.00090 V	12.00 e-06 V	-0,00003 V	3.7%	Pass
Channel 6	0.00000 V	0.00005 V	-0.00090 V	0.00090 V	12.00 e-06 V	0,00005 V	5.56%	Pass
Channel 7	0.00000 V	0.00002 V	-0.00090 V	0.00090 V	12.00 e-06 V	0,00002 V	2.22%	Pass
Test @ 10mV DC								
Channel 0	0.01000 V	0.00990 V	0.00910 V	0.01090 V	12.00 e-06 V	-0,00010 V	11.1%	Pass
Channel 1	0.01000 V	0.00994 V	0.00910 V	0.01090 V	12.00 e-06 V	-0,00006 V	6.65%	Pass
Channel 2	0.01000 V	0.00993 V	0.00910 V	0.01090 V	12.00 e-06 V	-0,00007 V	8.13%	Pass
Channel 3	0.01000 V	0.00999 V	0.00910 V	0.01090 V	12.00 e-06 V	-0,00001 V	1.48%	Pass
Channel 4	0.01000 V	0.00996 V	0.00910 V	0.01090 V	12.00 e-06 V	-0,00004 V	4.8%	Pass
Channel 5	0.01000 V	0.00982 V	0.00910 V	0.01090 V	12.00 e-06 V	-0,00018 V	19.6%	Pass
Channel 6	0.01000 V	0.00996 V	0.00910 V	0.01090 V	12.00 e-06 V	-0,00004 V	4.43%	Pass
Channel 7	0.01000 V	0.00992 V	0.00910 V	0.01090 V	12.00 e-06 V	-0,00008 V	8.87%	Pass
Test @ 50mV DC								
Channel 0	0.05000 V	0.04967 V	0.04909 V	0.05091 V	12.00 e-06 V	-0,00033 V	36.6%	Pass
Channel 1	0.05000 V	0.04970 V	0.04909 V	0.05091 V	12.00 e-06 V	-0,00030 V	33%	Pass
Channel 2	0.05000 V	0.04963 V	0.04909 V	0.05091 V	12.00 e-06 V	-0,00037 V	41%	Pass
Channel 3	0.05000 V	0.04964 V	0.04909 V	0.05091 V	12.00 e-06 V	-0,00036 V	39.2%	Pass
Channel 4	0.05000 V	0.04970 V	0.04909 V	0.05091 V	12.00 e-06 V	-0,00030 V	33%	Pass
Channel 5	0.05000 V	0.04955 V	0.04909 V	0.05091 V	12.00 e-06 V	-0,00045 V	49.1%	Pass
Channel 6	0.05000 V	0.04967 V	0.04909 V	0.05091 V	12.00 e-06 V	-0,00033 V	36.3%	Pass
Channel 7	0.05000 V	0.04967 V	0.04909 V	0.05091 V	12.00 e-06 V	-0,00033 V	35.9%	Pass
Test @ 90mV DC								
Channel 0	0.09000 V	0.08942 V	0.08908 V	0.09092 V	12.00 e-06 V	-0,00058 V	63.2%	Pass
Channel 1	0.09000 V	0.08952 V	0.08908 V	0.09092 V	12.00 e-06 V	-0,00048 V	52.7%	Pass
Channel 2	0.09000 V	0.08949 V	0.08908 V	0.09092 V	12.00 e-06 V	-0,00051 V	55.2%	Pass
Channel 3	0.09000 V	0.08949 V	0.08908 V	0.09092 V	12.00 e-06 V	-0,00051 V	55.6%	Pass
Channel 4	0.09000 V	0.08952 V	0.08908 V	0.09092 V	12.00 e-06 V	-0,00048 V	52.3%	Pass
Channel 5	0.09000 V	0.08927 V	0.08908 V	0.09092 V	12.00 e-06 V	-0,00073 V	79.9%	Pass
Channel 6	0.09000 V	0.08944 V	0.08908 V	0.09092 V	12.00 e-06 V	-0,00056 V	60.6%	Pass
Channel 7	0.09000 V	0.08945 V	0.08908 V	0.09092 V	12.00 e-06 V	-0,00055 V	60.3%	Pass
Range: 500mV #####								
Test @ -450mV DC								
Channel 0	-0.45000 V	-0.45014 V	-0.45099 V	-0.44901 V	15.00 e-06 V	-0,00014 V	14.1%	Pass
Channel 1	-0.45000 V	-0.45009 V	-0.45099 V	-0.44901 V	15.00 e-06 V	-0,00009 V	9.09%	Pass
Channel 2	-0.45000 V	-0.45003 V	-0.45099 V	-0.44901 V	15.00 e-06 V	-0,00003 V	3.03%	Pass
Channel 3	-0.45000 V	-0.45013 V	-0.45099 V	-0.44901 V	15.00 e-06 V	-0,00013 V	13.1%	Pass
Channel 4	-0.45000 V	-0.45009 V	-0.45099 V	-0.44901 V	15.00 e-06 V	-0,00009 V	8.75%	Pass



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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 5	-0.45000 V	-0.45035 V	-0.45099 V	-0.44901 V	15.00 e-06 V	-0,00035 V	35.7%	Pass
Channel 6	-0.45000 V	-0.45014 V	-0.45099 V	-0.44901 V	15.00 e-06 V	-0,00014 V	14.5%	Pass
Channel 7	-0.45000 V	-0.45021 V	-0.45099 V	-0.44901 V	15.00 e-06 V	-0,00021 V	21.2%	Pass
Test @ 50mV DC								
Channel 0	0.05000 V	0.04968 V	0.04909 V	0.05091 V	12.00 e-06 V	-0,00032 V	34.8%	Pass
Channel 1	0.05000 V	0.04976 V	0.04909 V	0.05091 V	12.00 e-06 V	-0,00024 V	26.7%	Pass
Channel 2	0.05000 V	0.04965 V	0.04909 V	0.05091 V	12.00 e-06 V	-0,00035 V	38.8%	Pass
Channel 3	0.05000 V	0.04967 V	0.04909 V	0.05091 V	12.00 e-06 V	-0,00033 V	36.3%	Pass
Channel 4	0.05000 V	0.04967 V	0.04909 V	0.05091 V	12.00 e-06 V	-0,00033 V	36.6%	Pass
Channel 5	0.05000 V	0.04953 V	0.04909 V	0.05091 V	12.00 e-06 V	-0,00047 V	51.6%	Pass
Channel 6	0.05000 V	0.04965 V	0.04909 V	0.05091 V	12.00 e-06 V	-0,00035 V	38.8%	Pass
Channel 7	0.05000 V	0.04968 V	0.04909 V	0.05091 V	12.00 e-06 V	-0,00032 V	35.5%	Pass
Test @ 250mV DC								
Channel 0	0.25000 V	0.24995 V	0.24905 V	0.25095 V	14.00 e-06 V	-0,00005 V	4.91%	Pass
Channel 1	0.25000 V	0.25003 V	0.24905 V	0.25095 V	14.00 e-06 V	0,00003 V	3.16%	Pass
Channel 2	0.25000 V	0.25002 V	0.24905 V	0.25095 V	14.00 e-06 V	0,00002 V	2.46%	Pass
Channel 3	0.25000 V	0.24994 V	0.24905 V	0.25095 V	14.00 e-06 V	-0,00006 V	6.67%	Pass
Channel 4	0.25000 V	0.24999 V	0.24905 V	0.25095 V	14.00 e-06 V	-0,00001 V	1.05%	Pass
Channel 5	0.25000 V	0.24975 V	0.24905 V	0.25095 V	14.00 e-06 V	-0,00025 V	26.3%	Pass
Channel 6	0.25000 V	0.24993 V	0.24905 V	0.25095 V	14.00 e-06 V	-0,00007 V	7.37%	Pass
Channel 7	0.25000 V	0.24990 V	0.24905 V	0.25095 V	14.00 e-06 V	-0,00010 V	10.5%	Pass
Test @ 450mV DC								
Channel 0	0.45000 V	0.44989 V	0.44901 V	0.45099 V	15.00 e-06 V	-0,00011 V	11.1%	Pass
Channel 1	0.45000 V	0.44998 V	0.44901 V	0.45099 V	15.00 e-06 V	-0,00002 V	2.02%	Pass
Channel 2	0.45000 V	0.45000 V	0.44901 V	0.45099 V	15.00 e-06 V	0,00000 V	0%	Pass
Channel 3	0.45000 V	0.44994 V	0.44901 V	0.45099 V	15.00 e-06 V	-0,00006 V	6.4%	Pass
Channel 4	0.45000 V	0.44996 V	0.44901 V	0.45099 V	15.00 e-06 V	-0,00004 V	4.04%	Pass
Channel 5	0.45000 V	0.44974 V	0.44901 V	0.45099 V	15.00 e-06 V	-0,00026 V	26.3%	Pass
Channel 6	0.45000 V	0.44987 V	0.44901 V	0.45099 V	15.00 e-06 V	-0,00013 V	13.1%	Pass
Channel 7	0.45000 V	0.44984 V	0.44901 V	0.45099 V	15.00 e-06 V	-0,00016 V	16.5%	Pass
Range: 1V #####								
Test @ -900mV DC								
Channel 0	-0.90000 V	-0.90017 V	-0.90108 V	-0.89892 V	19.00 e-06 V	-0,00017 V	16%	Pass
Channel 1	-0.90000 V	-0.90012 V	-0.90108 V	-0.89892 V	19.00 e-06 V	-0,00012 V	11.1%	Pass
Channel 2	-0.90000 V	-0.90000 V	-0.90108 V	-0.89892 V	19.00 e-06 V	0,00000 V	0.309%	Pass
Channel 3	-0.90000 V	-0.90016 V	-0.90108 V	-0.89892 V	19.00 e-06 V	-0,00016 V	14.5%	Pass
Channel 4	-0.90000 V	-0.90010 V	-0.90108 V	-0.89892 V	19.00 e-06 V	-0,00010 V	8.95%	Pass
Channel 5	-0.90000 V	-0.90032 V	-0.90108 V	-0.89892 V	19.00 e-06 V	-0,00032 V	29.3%	Pass
Channel 6	-0.90000 V	-0.90018 V	-0.90108 V	-0.89892 V	19.00 e-06 V	-0,00018 V	16.7%	Pass
Channel 7	-0.90000 V	-0.90022 V	-0.90108 V	-0.89892 V	19.00 e-06 V	-0,00022 V	20.1%	Pass
Test @ 100mV DC								
Channel 0	0.10000 V	0.09943 V	0.09908 V	0.10092 V	12.00 e-06 V	-0,00057 V	62.3%	Pass
Channel 1	0.10000 V	0.09954 V	0.09908 V	0.10092 V	12.00 e-06 V	-0,00046 V	50.4%	Pass
Channel 2	0.10000 V	0.09957 V	0.09908 V	0.10092 V	12.00 e-06 V	-0,00043 V	46.7%	Pass
Channel 3	0.10000 V	0.09945 V	0.09908 V	0.10092 V	12.00 e-06 V	-0,00055 V	60.1%	Pass
Channel 4	0.10000 V	0.09951 V	0.09908 V	0.10092 V	12.00 e-06 V	-0,00049 V	53.6%	Pass
Channel 5	0.10000 V	0.09918 V	0.09908 V	0.10092 V	12.00 e-06 V	-0,00082 V	88.8%	Pass
Channel 6	0.10000 V	0.09942 V	0.09908 V	0.10092 V	12.00 e-06 V	-0,00058 V	63.4%	Pass
Channel 7	0.10000 V	0.09945 V	0.09908 V	0.10092 V	12.00 e-06 V	-0,00055 V	60.1%	Pass
Test @ 500mV DC								
Channel 0	0.50000 V	0.49992 V	0.49900 V	0.50100 V	15.00 e-06 V	-0,00008 V	8.33%	Pass
Channel 1	0.50000 V	0.49997 V	0.49900 V	0.50100 V	15.00 e-06 V	-0,00003 V	3%	Pass
Channel 2	0.50000 V	0.49998 V	0.49900 V	0.50100 V	15.00 e-06 V	-0,00002 V	2.33%	Pass
Channel 3	0.50000 V	0.49990 V	0.49900 V	0.50100 V	15.00 e-06 V	-0,00010 V	10.3%	Pass
Channel 4	0.50000 V	0.50001 V	0.49900 V	0.50100 V	15.00 e-06 V	0,00001 V	0.667%	Pass
Channel 5	0.50000 V	0.49969 V	0.49900 V	0.50100 V	15.00 e-06 V	-0,00031 V	31%	Pass
Channel 6	0.50000 V	0.49984 V	0.49900 V	0.50100 V	15.00 e-06 V	-0,00016 V	16%	Pass
Channel 7	0.50000 V	0.49986 V	0.49900 V	0.50100 V	15.00 e-06 V	-0,00014 V	14%	Pass
Test @ 900mV DC								
Channel 0	0.90000 V	0.89991 V	0.89892 V	0.90108 V	19.00 e-06 V	-0,00009 V	8.02%	Pass
Channel 1	0.90000 V	0.90001 V	0.89892 V	0.90108 V	19.00 e-06 V	0,00001 V	0.926%	Pass
Channel 2	0.90000 V	0.89997 V	0.89892 V	0.90108 V	19.00 e-06 V	-0,00003 V	3.09%	Pass
Channel 3	0.90000 V	0.89996 V	0.89892 V	0.90108 V	19.00 e-06 V	-0,00004 V	3.4%	Pass
Channel 4	0.90000 V	0.89998 V	0.89892 V	0.90108 V	19.00 e-06 V	-0,00002 V	1.85%	Pass
Channel 5	0.90000 V	0.89979 V	0.89892 V	0.90108 V	19.00 e-06 V	-0,00021 V	19.8%	Pass
Channel 6	0.90000 V	0.89989 V	0.89892 V	0.90108 V	19.00 e-06 V	-0,00011 V	10.5%	Pass
Channel 7	0.90000 V	0.89986 V	0.89892 V	0.90108 V	19.00 e-06 V	-0,00014 V	13%	Pass
Range: 2.5V #####								



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11. Testergebnisse / Test results

Test Description	True Value	Test Result	Lower limit	Upper limit	Exp Uncert	Error	% of Tol	Status
Test @ -2.25V DC								
Channel 0	-2.25000 V	-2.25028 V	-2.25135 V	-2.24865 V	36.00 e-06 V	-0,00028 V	21%	Pass
Channel 1	-2.25000 V	-2.25020 V	-2.25135 V	-2.24865 V	36.00 e-06 V	-0,00020 V	15.1%	Pass
Channel 2	-2.25000 V	-2.25003 V	-2.25135 V	-2.24865 V	36.00 e-06 V	-0,00003 V	1.98%	Pass
Channel 3	-2.25000 V	-2.25020 V	-2.25135 V	-2.24865 V	36.00 e-06 V	-0,00020 V	14.6%	Pass
Channel 4	-2.25000 V	-2.25015 V	-2.25135 V	-2.24865 V	36.00 e-06 V	-0,00015 V	11.1%	Pass
Channel 5	-2.25000 V	-2.25039 V	-2.25135 V	-2.24865 V	36.00 e-06 V	-0,00039 V	29.1%	Pass
Channel 6	-2.25000 V	-2.25027 V	-2.25135 V	-2.24865 V	36.00 e-06 V	-0,00027 V	20.2%	Pass
Channel 7	-2.25000 V	-2.25026 V	-2.25135 V	-2.24865 V	36.00 e-06 V	-0,00026 V	19.3%	Pass
Test @ 250mV DC								
Channel 0	0.25000 V	0.24988 V	0.24905 V	0.25095 V	14.00 e-06 V	-0,00012 V	12.3%	Pass
Channel 1	0.25000 V	0.25000 V	0.24905 V	0.25095 V	14.00 e-06 V	0,00000 V	0.351%	Pass
Channel 2	0.25000 V	0.25003 V	0.24905 V	0.25095 V	14.00 e-06 V	0,00003 V	2.81%	Pass
Channel 3	0.25000 V	0.24993 V	0.24905 V	0.25095 V	14.00 e-06 V	-0,00007 V	7.37%	Pass
Channel 4	0.25000 V	0.25002 V	0.24905 V	0.25095 V	14.00 e-06 V	0,00002 V	1.75%	Pass
Channel 5	0.25000 V	0.24979 V	0.24905 V	0.25095 V	14.00 e-06 V	-0,00021 V	22.5%	Pass
Channel 6	0.25000 V	0.24990 V	0.24905 V	0.25095 V	14.00 e-06 V	-0,00010 V	10.9%	Pass
Channel 7	0.25000 V	0.24988 V	0.24905 V	0.25095 V	14.00 e-06 V	-0,00012 V	13%	Pass
Test @ 1.25V DC								
Channel 0	1.25000 V	1.24995 V	1.24885 V	1.25115 V	23.00 e-06 V	-0,00005 V	4.06%	Pass
Channel 1	1.25000 V	1.25000 V	1.24885 V	1.25115 V	23.00 e-06 V	0,00000 V	0.29%	Pass
Channel 2	1.25000 V	1.24997 V	1.24885 V	1.25115 V	23.00 e-06 V	-0,00003 V	2.32%	Pass
Channel 3	1.25000 V	1.24997 V	1.24885 V	1.25115 V	23.00 e-06 V	-0,00003 V	2.61%	Pass
Channel 4	1.25000 V	1.24995 V	1.24885 V	1.25115 V	23.00 e-06 V	-0,00005 V	4.64%	Pass
Channel 5	1.25000 V	1.24982 V	1.24885 V	1.25115 V	23.00 e-06 V	-0,00018 V	15.4%	Pass
Channel 6	1.25000 V	1.24992 V	1.24885 V	1.25115 V	23.00 e-06 V	-0,00008 V	6.96%	Pass
Channel 7	1.25000 V	1.24983 V	1.24885 V	1.25115 V	23.00 e-06 V	-0,00017 V	14.8%	Pass
Test @ 2.25V DC								
Channel 0	2.25000 V	2.25005 V	2.24865 V	2.25135 V	36.00 e-06 V	0,00005 V	3.95%	Pass
Channel 1	2.25000 V	2.25007 V	2.24865 V	2.25135 V	36.00 e-06 V	0,00007 V	5.19%	Pass
Channel 2	2.25000 V	2.24997 V	2.24865 V	2.25135 V	36.00 e-06 V	-0,00003 V	2.47%	Pass
Channel 3	2.25000 V	2.24997 V	2.24865 V	2.25135 V	36.00 e-06 V	-0,00003 V	2.47%	Pass
Channel 4	2.25000 V	2.25004 V	2.24865 V	2.25135 V	36.00 e-06 V	0,00004 V	3.21%	Pass
Channel 5	2.25000 V	2.24985 V	2.24865 V	2.25135 V	36.00 e-06 V	-0,00015 V	11.4%	Pass
Channel 6	2.25000 V	2.24999 V	2.24865 V	2.25135 V	36.00 e-06 V	-0,00001 V	0.494%	Pass
Channel 7	2.25000 V	2.24996 V	2.24865 V	2.25135 V	36.00 e-06 V	-0,00004 V	3.21%	Pass
Range: 5V #####								
Test @ -4.5V DC								
Channel 0	-4.50000 V	-4.50041 V	-4.50180 V	-4.49820 V	100.00 e-06 V	-0,00041 V	22.6%	Pass
Channel 1	-4.50000 V	-4.50026 V	-4.50180 V	-4.49820 V	100.00 e-06 V	-0,00026 V	14.6%	Pass
Channel 2	-4.50000 V	-4.50000 V	-4.50180 V	-4.49820 V	100.00 e-06 V	0,00000 V	0.185%	Pass
Channel 3	-4.50000 V	-4.50027 V	-4.50180 V	-4.49820 V	100.00 e-06 V	-0,00027 V	15%	Pass
Channel 4	-4.50000 V	-4.50030 V	-4.50180 V	-4.49820 V	100.00 e-06 V	-0,00030 V	16.7%	Pass
Channel 5	-4.50000 V	-4.50049 V	-4.50180 V	-4.49820 V	100.00 e-06 V	-0,00049 V	27.4%	Pass
Channel 6	-4.50000 V	-4.50028 V	-4.50180 V	-4.49820 V	100.00 e-06 V	-0,00028 V	15.7%	Pass
Channel 7	-4.50000 V	-4.50042 V	-4.50180 V	-4.49820 V	100.00 e-06 V	-0,00042 V	23.3%	Pass
Test @ -2.5V DC								
Channel 0	-2.50000 V	-2.50025 V	-2.50140 V	-2.49860 V	40.00 e-06 V	-0,00025 V	17.6%	Pass
Channel 1	-2.50000 V	-2.50018 V	-2.50140 V	-2.49860 V	40.00 e-06 V	-0,00018 V	12.6%	Pass
Channel 2	-2.50000 V	-2.50005 V	-2.50140 V	-2.49860 V	40.00 e-06 V	-0,00005 V	3.57%	Pass
Channel 3	-2.50000 V	-2.50025 V	-2.50140 V	-2.49860 V	40.00 e-06 V	-0,00025 V	17.9%	Pass
Channel 4	-2.50000 V	-2.50014 V	-2.50140 V	-2.49860 V	40.00 e-06 V	-0,00014 V	10%	Pass
Channel 5	-2.50000 V	-2.50039 V	-2.50140 V	-2.49860 V	40.00 e-06 V	-0,00039 V	28.1%	Pass
Channel 6	-2.50000 V	-2.50026 V	-2.50140 V	-2.49860 V	40.00 e-06 V	-0,00026 V	18.3%	Pass
Channel 7	-2.50000 V	-2.50028 V	-2.50140 V	-2.49860 V	40.00 e-06 V	-0,00028 V	20%	Pass
Test @ -500mV DC								
Channel 0	-0.50000 V	-0.50018 V	-0.50100 V	-0.49900 V	15.00 e-06 V	-0,00018 V	17.7%	Pass
Channel 1	-0.50000 V	-0.50012 V	-0.50100 V	-0.49900 V	15.00 e-06 V	-0,00012 V	12%	Pass
Channel 2	-0.50000 V	-0.50001 V	-0.50100 V	-0.49900 V	15.00 e-06 V	-0,00001 V	0.667%	Pass
Channel 3	-0.50000 V	-0.50013 V	-0.50100 V	-0.49900 V	15.00 e-06 V	-0,00013 V	13%	Pass
Channel 4	-0.50000 V	-0.50009 V	-0.50100 V	-0.49900 V	15.00 e-06 V	-0,00009 V	9%	Pass
Channel 5	-0.50000 V	-0.50031 V	-0.50100 V	-0.49900 V	15.00 e-06 V	-0,00031 V	31.3%	Pass
Channel 6	-0.50000 V	-0.50014 V	-0.50100 V	-0.49900 V	15.00 e-06 V	-0,00014 V	14%	Pass
Channel 7	-0.50000 V	-0.50024 V	-0.50100 V	-0.49900 V	15.00 e-06 V	-0,00024 V	23.7%	Pass
Test @ 500mV DC								
Channel 0	0.50000 V	0.49989 V	0.49900 V	0.50100 V	15.00 e-06 V	-0,00011 V	11%	Pass
Channel 1	0.50000 V	0.49990 V	0.49900 V	0.50100 V	15.00 e-06 V	-0,00010 V	10%	Pass
Channel 2	0.50000 V	0.49997 V	0.49900 V	0.50100 V	15.00 e-06 V	-0,00003 V	3%	Pass
Channel 3	0.50000 V	0.49998 V	0.49900 V	0.50100 V	15.00 e-06 V	-0,00002 V	2%	Pass
Channel 4	0.50000 V	0.49991 V	0.49900 V	0.50100 V	15.00 e-06 V	-0,00009 V	9%	Pass
Channel 5	0.50000 V	0.49975 V	0.49900 V	0.50100 V	15.00 e-06 V	-0,00025 V	25.3%	Pass



DEWETRON GmbH
 Parkring 4
 8074 Grambach
 AUSTRIA

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

AAT2540121
Akkreditierung Austria 0632
17.02.2025

11. Testergebnisse / Test results

Test Description	True Value	Test Result	Lower limit	Upper limit	Exp Uncert	Error	% of Tol	Status
Channel 6	0.50000 V	0.49985 V	0.49900 V	0.50100 V	15.00 e-06 V	-0,00015 V	14.7%	Pass
Channel 7	0.50000 V	0.49983 V	0.49900 V	0.50100 V	15.00 e-06 V	-0,00017 V	16.7%	Pass
Test @ 1.5V DC								
Channel 0	1.50000 V	1.49994 V	1.49880 V	1.50120 V	27.00 e-06 V	-0,00006 V	4.72%	Pass
Channel 1	1.50000 V	1.50001 V	1.49880 V	1.50120 V	27.00 e-06 V	0,00001 V	0.556%	Pass
Channel 2	1.50000 V	1.49999 V	1.49880 V	1.50120 V	27.00 e-06 V	-0,00001 V	1.11%	Pass
Channel 3	1.50000 V	1.49993 V	1.49880 V	1.50120 V	27.00 e-06 V	-0,00007 V	5.83%	Pass
Channel 4	1.50000 V	1.50008 V	1.49880 V	1.50120 V	27.00 e-06 V	0,00008 V	6.39%	Pass
Channel 5	1.50000 V	1.49981 V	1.49880 V	1.50120 V	27.00 e-06 V	-0,00019 V	15.6%	Pass
Channel 6	1.50000 V	1.49990 V	1.49880 V	1.50120 V	27.00 e-06 V	-0,00010 V	8.33%	Pass
Channel 7	1.50000 V	1.49986 V	1.49880 V	1.50120 V	27.00 e-06 V	-0,00014 V	11.9%	Pass
Test @ 2.5V DC								
Channel 0	2.50000 V	2.50006 V	2.49860 V	2.50140 V	40.00 e-06 V	0,00006 V	4.05%	Pass
Channel 1	2.50000 V	2.50010 V	2.49860 V	2.50140 V	40.00 e-06 V	0,00010 V	7.38%	Pass
Channel 2	2.50000 V	2.49999 V	2.49860 V	2.50140 V	40.00 e-06 V	-0,00001 V	0.476%	Pass
Channel 3	2.50000 V	2.49998 V	2.49860 V	2.50140 V	40.00 e-06 V	-0,00002 V	1.19%	Pass
Channel 4	2.50000 V	2.50009 V	2.49860 V	2.50140 V	40.00 e-06 V	0,00009 V	6.19%	Pass
Channel 5	2.50000 V	2.49985 V	2.49860 V	2.50140 V	40.00 e-06 V	-0,00015 V	11%	Pass
Channel 6	2.50000 V	2.49992 V	2.49860 V	2.50140 V	40.00 e-06 V	-0,00008 V	5.71%	Pass
Channel 7	2.50000 V	2.49993 V	2.49860 V	2.50140 V	40.00 e-06 V	-0,00007 V	5%	Pass
Test @ 3.5V DC								
Channel 0	3.50000 V	3.50006 V	3.49840 V	3.50160 V	84.00 e-06 V	0,00006 V	3.54%	Pass
Channel 1	3.50000 V	3.50016 V	3.49840 V	3.50160 V	84.00 e-06 V	0,00016 V	9.79%	Pass
Channel 2	3.50000 V	3.49999 V	3.49840 V	3.50160 V	84.00 e-06 V	-0,00001 V	0.625%	Pass
Channel 3	3.50000 V	3.50007 V	3.49840 V	3.50160 V	84.00 e-06 V	0,00007 V	4.37%	Pass
Channel 4	3.50000 V	3.50012 V	3.49840 V	3.50160 V	84.00 e-06 V	0,00012 V	7.71%	Pass
Channel 5	3.50000 V	3.49992 V	3.49840 V	3.50160 V	84.00 e-06 V	-0,00008 V	5.21%	Pass
Channel 6	3.50000 V	3.49996 V	3.49840 V	3.50160 V	84.00 e-06 V	-0,00004 V	2.29%	Pass
Channel 7	3.50000 V	3.50000 V	3.49840 V	3.50160 V	84.00 e-06 V	0,00000 V	0%	Pass
Test @ 4.5V DC								
Channel 0	4.50000 V	4.50013 V	4.49820 V	4.50180 V	100.00 e-06 V	0,00013 V	7.41%	Pass
Channel 1	4.50000 V	4.50021 V	4.49820 V	4.50180 V	100.00 e-06 V	0,00021 V	11.9%	Pass
Channel 2	4.50000 V	4.49997 V	4.49820 V	4.50180 V	100.00 e-06 V	-0,00003 V	1.85%	Pass
Channel 3	4.50000 V	4.50009 V	4.49820 V	4.50180 V	100.00 e-06 V	0,00009 V	4.81%	Pass
Channel 4	4.50000 V	4.50018 V	4.49820 V	4.50180 V	100.00 e-06 V	0,00018 V	10%	Pass
Channel 5	4.50000 V	4.49998 V	4.49820 V	4.50180 V	100.00 e-06 V	-0,00002 V	1.11%	Pass
Channel 6	4.50000 V	4.50000 V	4.49820 V	4.50180 V	100.00 e-06 V	0,00000 V	0%	Pass
Channel 7	4.50000 V	4.50004 V	4.49820 V	4.50180 V	100.00 e-06 V	0,00004 V	2.41%	Pass
Range: 10V #####								
Test @ -9V DC								
Channel 0	-9.00000 V	-9.00059 V	-9.00270 V	-8.99730 V	170.00 e-06 V	-0,00059 V	21.9%	Pass
Channel 1	-9.00000 V	-9.00050 V	-9.00270 V	-8.99730 V	170.00 e-06 V	-0,00050 V	18.6%	Pass
Channel 2	-9.00000 V	-9.00002 V	-9.00270 V	-8.99730 V	170.00 e-06 V	-0,00002 V	0.741%	Pass
Channel 3	-9.00000 V	-9.00040 V	-9.00270 V	-8.99730 V	170.00 e-06 V	-0,00040 V	14.8%	Pass
Channel 4	-9.00000 V	-9.00042 V	-9.00270 V	-8.99730 V	170.00 e-06 V	-0,00042 V	15.7%	Pass
Channel 5	-9.00000 V	-9.00072 V	-9.00270 V	-8.99730 V	170.00 e-06 V	-0,00072 V	26.7%	Pass
Channel 6	-9.00000 V	-9.00041 V	-9.00270 V	-8.99730 V	170.00 e-06 V	-0,00041 V	15.3%	Pass
Channel 7	-9.00000 V	-9.00056 V	-9.00270 V	-8.99730 V	170.00 e-06 V	-0,00056 V	20.9%	Pass
Test @ 1V DC								
Channel 0	1.00000 V	0.99999 V	0.99890 V	1.00110 V	20.00 e-06 V	-0,00001 V	0.606%	Pass
Channel 1	1.00000 V	0.99999 V	0.99890 V	1.00110 V	20.00 e-06 V	-0,00001 V	0.606%	Pass
Channel 2	1.00000 V	1.00001 V	0.99890 V	1.00110 V	20.00 e-06 V	0,00001 V	0.606%	Pass
Channel 3	1.00000 V	0.99992 V	0.99890 V	1.00110 V	20.00 e-06 V	-0,00008 V	6.97%	Pass
Channel 4	1.00000 V	0.99993 V	0.99890 V	1.00110 V	20.00 e-06 V	-0,00007 V	6.06%	Pass
Channel 5	1.00000 V	0.99977 V	0.99890 V	1.00110 V	20.00 e-06 V	-0,00023 V	20.6%	Pass
Channel 6	1.00000 V	0.99993 V	0.99890 V	1.00110 V	20.00 e-06 V	-0,00007 V	6.67%	Pass
Channel 7	1.00000 V	0.99986 V	0.99890 V	1.00110 V	20.00 e-06 V	-0,00014 V	13%	Pass
Test @ 5V DC								
Channel 0	5.00000 V	5.00010 V	4.99810 V	5.00190 V	110.00 e-06 V	0,00010 V	5.44%	Pass
Channel 1	5.00000 V	5.00028 V	4.99810 V	5.00190 V	110.00 e-06 V	0,00028 V	14.9%	Pass
Channel 2	5.00000 V	4.99999 V	4.99810 V	5.00190 V	110.00 e-06 V	-0,00001 V	0.351%	Pass
Channel 3	5.00000 V	5.00012 V	4.99810 V	5.00190 V	110.00 e-06 V	0,00012 V	6.32%	Pass
Channel 4	5.00000 V	5.00017 V	4.99810 V	5.00190 V	110.00 e-06 V	0,00017 V	9.12%	Pass
Channel 5	5.00000 V	4.99999 V	4.99810 V	5.00190 V	110.00 e-06 V	-0,00001 V	0.702%	Pass
Channel 6	5.00000 V	5.00002 V	4.99810 V	5.00190 V	110.00 e-06 V	0,00002 V	1.05%	Pass
Channel 7	5.00000 V	5.00011 V	4.99810 V	5.00190 V	110.00 e-06 V	0,00011 V	5.96%	Pass
Test @ 9V DC								
Channel 0	9.00000 V	9.00048 V	8.99730 V	9.00270 V	170.00 e-06 V	0,00048 V	17.7%	Pass
Channel 1	9.00000 V	9.00047 V	8.99730 V	9.00270 V	170.00 e-06 V	0,00047 V	17.5%	Pass
Channel 2	9.00000 V	9.00000 V	8.99730 V	9.00270 V	170.00 e-06 V	0,00000 V	0.123%	Pass



DEWETRON GmbH
 Parking 4
 8074 Grambach
 AUSTRIA

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

AAT2540121
Akkreditierung Austria 0632
17.02.2025

11. Testergebnisse / Test results

Test Description	True Value	Test Result	Lower limit	Upper limit	Exp Uncert	Error	% of Tol	Status
Channel 3	9.00000 V	9.00029 V	8.99730 V	9.00270 V	170.00 e-06 V	0,00029 V	10.6%	Pass
Channel 4	9.00000 V	9.00040 V	8.99730 V	9.00270 V	170.00 e-06 V	0,00040 V	14.7%	Pass
Channel 5	9.00000 V	9.00013 V	8.99730 V	9.00270 V	170.00 e-06 V	0,00013 V	4.69%	Pass
Channel 6	9.00000 V	9.00013 V	8.99730 V	9.00270 V	170.00 e-06 V	0,00013 V	4.69%	Pass
Channel 7	9.00000 V	9.00030 V	8.99730 V	9.00270 V	170.00 e-06 V	0,00030 V	11.2%	Pass

Range: 50V

#####

Test @ -45V DC

Channel 0	-45.00000 V	-45.00260 V	-45.00990 V	-44.99010 V	1.30 e-03 V	-0,00260 V	26.3%	Pass
Channel 1	-45.00000 V	-45.00248 V	-45.00990 V	-44.99010 V	1.30 e-03 V	-0,00248 V	25.1%	Pass
Channel 2	-45.00000 V	-45.00000 V	-45.00990 V	-44.99010 V	1.30 e-03 V	0,00000 V	0.0337%	Pass
Channel 3	-45.00000 V	-45.00197 V	-45.00990 V	-44.99010 V	1.30 e-03 V	-0,00197 V	19.9%	Pass
Channel 4	-45.00000 V	-45.00204 V	-45.00990 V	-44.99010 V	1.30 e-03 V	-0,00204 V	20.6%	Pass
Channel 5	-45.00000 V	-45.00243 V	-45.00990 V	-44.99010 V	1.30 e-03 V	-0,00243 V	24.5%	Pass
Channel 6	-45.00000 V	-45.00158 V	-45.00990 V	-44.99010 V	1.30 e-03 V	-0,00158 V	16%	Pass
Channel 7	-45.00000 V	-45.00232 V	-45.00990 V	-44.99010 V	1.30 e-03 V	-0,00232 V	23.5%	Pass

Test @ 5V DC

Channel 0	5.00000 V	4.99994 V	4.99810 V	5.00190 V	110.00 e-06 V	-0,00006 V	3.33%	Pass
Channel 1	5.00000 V	5.00007 V	4.99810 V	5.00190 V	110.00 e-06 V	0,00007 V	3.86%	Pass
Channel 2	5.00000 V	4.99989 V	4.99810 V	5.00190 V	110.00 e-06 V	-0,00011 V	5.61%	Pass
Channel 3	5.00000 V	5.00003 V	4.99810 V	5.00190 V	110.00 e-06 V	0,00003 V	1.4%	Pass
Channel 4	5.00000 V	5.00010 V	4.99810 V	5.00190 V	110.00 e-06 V	0,00010 V	5.44%	Pass
Channel 5	5.00000 V	4.99989 V	4.99810 V	5.00190 V	110.00 e-06 V	-0,00011 V	5.79%	Pass
Channel 6	5.00000 V	5.00001 V	4.99810 V	5.00190 V	110.00 e-06 V	0,00001 V	0.351%	Pass
Channel 7	5.00000 V	5.00003 V	4.99810 V	5.00190 V	110.00 e-06 V	0,00003 V	1.75%	Pass

Test @ 25V DC

Channel 0	25.00000 V	25.00142 V	24.99410 V	25.00590 V	430.00 e-06 V	0,00142 V	24.1%	Pass
Channel 1	25.00000 V	25.00143 V	24.99410 V	25.00590 V	430.00 e-06 V	0,00143 V	24.3%	Pass
Channel 2	25.00000 V	25.00015 V	24.99410 V	25.00590 V	430.00 e-06 V	0,00015 V	2.49%	Pass
Channel 3	25.00000 V	25.00101 V	24.99410 V	25.00590 V	430.00 e-06 V	0,00101 V	17.1%	Pass
Channel 4	25.00000 V	25.00125 V	24.99410 V	25.00590 V	430.00 e-06 V	0,00125 V	21.2%	Pass
Channel 5	25.00000 V	25.00101 V	24.99410 V	25.00590 V	430.00 e-06 V	0,00101 V	17.1%	Pass
Channel 6	25.00000 V	25.00082 V	24.99410 V	25.00590 V	430.00 e-06 V	0,00082 V	14%	Pass
Channel 7	25.00000 V	25.00119 V	24.99410 V	25.00590 V	430.00 e-06 V	0,00119 V	20.2%	Pass

Test @ 45V DC

Channel 0	45.00000 V	45.00303 V	44.99010 V	45.00990 V	1.30 e-03 V	0,00303 V	30.6%	Pass
Channel 1	45.00000 V	45.00307 V	44.99010 V	45.00990 V	1.30 e-03 V	0,00307 V	31%	Pass
Channel 2	45.00000 V	45.00076 V	44.99010 V	45.00990 V	1.30 e-03 V	0,00076 V	7.71%	Pass
Channel 3	45.00000 V	45.00237 V	44.99010 V	45.00990 V	1.30 e-03 V	0,00237 V	23.9%	Pass
Channel 4	45.00000 V	45.00272 V	44.99010 V	45.00990 V	1.30 e-03 V	0,00272 V	27.4%	Pass
Channel 5	45.00000 V	45.00245 V	44.99010 V	45.00990 V	1.30 e-03 V	0,00245 V	24.7%	Pass
Channel 6	45.00000 V	45.00192 V	44.99010 V	45.00990 V	1.30 e-03 V	0,00192 V	19.4%	Pass
Channel 7	45.00000 V	45.00273 V	44.99010 V	45.00990 V	1.30 e-03 V	0,00273 V	27.6%	Pass

Ende des Kalibrierscheines / End of Calibration Certificate

