CERTIFICATE OF ACCREDITATION

The ANSI National Accreditation Board

Hereby attests that

DEWETRON Inc.
2850 County Trail
East Greenwich, RI 02818

Fulfills the requirements of

ISO/IEC 17025:2017

In the field of

CALIBRATION

This certificate is valid only when accompanied by a current scope of accreditation document.
The current scope of accreditation can be verified at www.anab.org.

Jason Stine, Vice President

Expiry Date: 02 June 2027

Certificate Number: AC-3212

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

DEWETRON Inc.
2850 South County Trail
East Greenwich, RI 02818
401-284-3750

CALIBRATION

Valid to: **June 2, 2027** Certificate Number: **AC-3212**

Electrical – DC/Low Frequency

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
DC Voltage – Source & Measure	Up to 100 mV (0.1 to 1) V (1 to 10) V (10 to 100) V (100 to 1 000) V	24 µV/V + 0.3 µV 6.8 µV/V + 0.3 µV 7.9 µV/V + 0.5 µV 8.2 µV/V + 30 µV 13 µV/V + 0.1 mV	Comparison to Fluke 5522A Multi Product Calibrator with Agilent 3458A Multimeter
DC Current – Source & Measure	Up to 1 mA (1 to 10) mA (10 to 100) mA (0.1 to 1) A (1 to 11) A (11 to 20) A	16 µA/A + 5 nA 27 µA/A + 50 nA 36 µA/A + 0.5 µA 110 µA/A + 10 µA 400 µA/A + 0.39 mA 770 µA/A + 0.58 mA	Comparison to Fluke 5522A Multi Product Calibrator with Agilent 3458A Multimeter
DC Current – Source & Measure	(0.2 to 1) A (1 to 10) A (10 to 20) A	0.003 2 % of reading + 2.3 µA 0.004 5 % of reading - 11 µA 0.007 6 % of reading - 320 µA	Comparison to Agilent 3458A Multimeter with Fluke A40 Shunt
DC Resistance – Measure	Up to 10 Ω (10 to 100) Ω (0.1 to 1) kΩ (1 to 10) kΩ (10 to 100) kΩ (0.1 to 1) MΩ	16 µΩ/Ω + 50 µΩ 8.0 µΩ/Ω + 0.5 mΩ 6.9 µΩ/Ω + 0.5 Ω 7.4 µΩ/Ω + 5 Ω 7.2 µΩ/Ω + 50 Ω 12 µΩ/Ω + 2 Ω	Comparison to Agilent 3458A Multimeter

Electrical – DC/Low Frequency

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DC Resistance - Source	Up to 11 Ω	55 μΩ/Ω + 1.0 mΩ	Comparison to Fluke 5522A Multi Product Calibrator
	(11 to 33) Ω	47 μΩ/Ω + 1.5 mΩ	
	(33 to 110) Ω	25 μΩ/Ω + 1.4 mΩ	
	(110 to 330) Ω	22 μΩ/Ω + 2.0 mΩ	
	(0.33 to 1.1) kΩ	29 μΩ/Ω + 2.0 mΩ	
	(1.1 to 3.3) kΩ	22 μΩ/Ω + 20 mΩ	
	(3.3 to 11) kΩ	25 μΩ/Ω + 20 mΩ	
	(11 to 33) kΩ	37 μΩ/Ω + 0.2 Ω	
	(33 to 110) kΩ	25 μΩ/Ω + 0.2 Ω	
	(110 to 330) kΩ	27 μΩ/Ω + 2 Ω	
	(0.33 to 1.1) MΩ	29 μΩ/Ω + 2 Ω	
	(1.1 to 3.3) MΩ	73 μΩ/Ω + 30 Ω	
	(3.3 to 11) MΩ	0.013 % of reading + 50 Ω	
	(11 to 33) MΩ	0.038 % of reading + 2.5 kΩ	
	(33 to 110) MΩ	0.061 % of reading + 3 kΩ	
	(110 to 330) MΩ	0.4 % of reading + 0.1 MΩ	
	(330 to 1 100) MΩ	1.2 % of reading + 0.5 MΩ	
AC Voltage – Source & Measure	Up to 100 mV		Comparison to Fluke 5522A Multi Product Calibrator with Agilent 3458A Multimeter
	(20 to 40) Hz	0.006 % of reading + 4 μV	
	40 Hz to 20 kHz	0.015 % of reading + 2 μV	
	(20 to 100) kHz	0.068 % of reading + 2 μV	
	(0.1 to 1) V		
	(20 to 40) Hz	0.006 % of reading + 40 μV	
	40 Hz to 20 kHz	0.014 % of reading + 20 μV	
	(20 to 100) kHz	0.074 % of reading + 20 μV	
	(1 to 10) V		
	(20 to 40) Hz	0.006 % of reading + 0.4 mV	
	40 Hz to 20 kHz	0.014 % of reading + 0.2 mV	
	(20 to 100) kHz	0.084 % of reading + 0.2 mV	
	(10 to 100) V		
	(20 to 40) Hz	0.016 % of reading + 4 mV	
	40 Hz to 20 kHz	0.017 % of reading + 2 mV	
	(20 to 100) kHz	0.11 % of reading + 2 mV	
	(100 to 1 000) V		
	(20 to 40) Hz	0.043 % of reading + 40 mV	
	40 Hz to 20 kHz	0.059 % of reading + 20 mV	
	(20 to 100) kHz	0.3 % of reading + 20 mV	

Electrical – DC/Low Frequency

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
AC Voltage – Source & Measure	(1 to 10) V (16 to 850) Hz (10 to 100) V (16 to 850) Hz (100 to 1 000) V (16 to 850) Hz	0.005 2 % of reading + 0.17 mV 0.005 % of reading + 1.3 mV 0.005 % of reading + 9 mV	Comparison to Fluke 6105A Electrical Power Standard
AC Current – Source & Measure	Up to 100 µA 45 Hz to 5 kHz (0.1 to 1) mA 45 Hz to 5 kHz (1 to 10) mA 45 Hz to 5 kHz (10 to 100) mA 45 Hz to 5 kHz (0.1 to 1) A 45 Hz to 5 kHz (1 to 3) A 45 Hz to 5 kHz (3 to 11) A 45 Hz to 5 kHz (11 to 20) A 45 Hz to 5 kHz	0.06 % of reading + 30 nA 0.06 % of reading + 0.2 µA 0.06 % of reading + 2 µA 0.06 % of reading + 20 µA 0.1 % of reading + 0.2 mA 0.48 % of reading + 0.78 mA 2.4 % of reading + 1.6 mA 2.3 % of reading + 3.9 mA	Comparison to Fluke 5522A Multi Product Calibrator with Agilent 3458A Multimeter
AC Current – Source & Measure	(0.01 to 0.25) A (16 to 850) Hz (0.25 to 1) A (16 to 850) Hz (1 to 2) A (16 to 850) Hz (2 to 5) A (16 to 850) Hz (5 to 10) A (16 to 850) Hz (10 to 21) A (16 to 850) Hz	0.006 % of reading + 5 µA 0.006 % of reading + 20 µA 0.006 % of reading + 40 µA 0.006 4 % of reading + 100 µA 0.006 5 % of reading + 200 µA 0.007 1 % of reading + 400 µA	Comparison to Fluke 6105A Electrical Power Standard

Electrical – DC/Low Frequency

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Electrical Simulation of Thermocouples - Measure/Source	Type J (-200 to -100) °C (-100 to 760) °C (760 to 1 200) °C Type K (-200 to -100) °C (-100 to 1 000) °C (1 000 to 1 370) °C Type T (-250 to -150) °C (-150 to 400) °C	 0.3 °C 0.2 °C 0.23 °C 0.35 °C 0.25 °C 0.35 °C 0.64 °C 0.17 °C	Comparison to Fluke 5522A Multi Product Calibrator
Electrical Simulation of RTDs - Measure/Source	Pt385, 100 Ohm (-200 to 630) °C Pt3926, 100 Ohm (-200 to 630) °C Pt385, 200 Ohm (-200 to 630) °C Pt385, 500 Ohm (-200 to 600) °C Pt385, 1 000 Ohm (-200 to 600) °C	 0.11 °C 0.11 °C 0.14 °C 0.094 °C 0.063 °C	Comparison to Fluke 5522A Multi Product Calibrator
DC Power Source	10.9 µW to 1W	190 µW/W	Comparison to Fluke 5522A Multi Product Calibrator with Agilent 3458A Multimeter
DC Power Source	(0.15 to 180) W (180 to 720) W (720 to 2 016) W Up to 1 800 W (1 800 to 7 200) W (7 200 to 20 160) W	260 µW/W 260 µW/W 260 µW/W 260 µW/W 260 µW/W 260 µW/W	Comparison to Fluke 6105A Electrical Power Standard
AC Power Source Power Factor PF = 1	16 Hz to 850 Hz (0.15 to 180) W (180 to 720) W (720 to 2 016) W 16 Hz to 850 Hz (1.5 to 1 800) W (1 800 to 7 200) W (7 200 to 20 160) W	 120 µW/W 120 µW/W 110 µW/W 130 µW/W 120 µW/W 120 µW/W	Comparison to Fluke 6105A Electrical Power Standard

Electrical – DC/Low Frequency

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
AC Power Source			Comparison to Fluke 6105A Electrical Power Standard
Power Factor PF = (< 1 to ≥ 0.9)	16 Hz to 450 Hz (0.15 to 20 160) W	200 µW/W	
PF = (< 0.9 to ≥ 0.5)	16 Hz to 180 Hz (0.15 to 20 160) W	580 µW/W	
PF = (< 0.5 to ≥ 0.1)	45 Hz to 65 Hz (0.15 to 20 160) W	3 200 µW/W	

Calibration and Measurement Capability (CMC) is expressed in terms of the measurement parameter, measurement range, expanded uncertainty of measurement and reference standard, method, and/or equipment. The expanded uncertainty of measurement is expressed as the standard uncertainty of the measurement multiplied by a coverage factor of 2 (k=2), corresponding to a confidence level of approximately 95%.

Notes:

1. This scope is formatted as part of a single document including Certificate of Accreditation No. AC-3212.

Jason Stine, Vice President