

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

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CALIBRATION AND MEASUREMENT CAPABILITY (CMC) ^{Note 1,2}

Measured Parameter or Device Calibrated	Range	Expanded Uncertainty ^{Note 3,5}	Remarks
ELECTROMAGNETIC - DC/LOW FREQUENCY			
DC RESISTANCE AND CURRENT (20/E05)			
DC Resistance – Generate, Fixed Resistors	25 Ω	160 μΩ	Additel ADT280-PRS Reference Resistors
	50 Ω	250 μΩ	
	100 Ω	500 μΩ	
	200 Ω	1.0 mΩ	
	400 Ω	2.0 mΩ	
	1 kΩ	5.0 mΩ	
	2 kΩ	10 mΩ	
	4 kΩ	20 mΩ	
	10 kΩ	50 mΩ	
DC Resistance – Measure	0 Ω to 100 Ω	13 μΩ/Ω + 150 μΩ	Additel ADT286
	>100 Ω to 1 kΩ	12 μΩ/Ω + 300 μΩ	
	>1k Ω to 10 kΩ	12 μΩ/Ω + 4 mΩ	
DC Current – Generate	0 mA to 3.3 mA	50 μA/A + 1 nA	Fluke 5500A with Additel ADT286
	> 3.3 mA to 33 mA	75 μA/A + 60 nA	
	> 33 mA to 330 mA	75 μA/A +100 nA	



2025-01-02 through 2025-12-31

Effective dates

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CALIBRATION LABORATORIES

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Measured Parameter or Device Calibrated	Range	Expanded Uncertainty ^{Note 3,5}	Remarks
DC Current – Measure	0 to 100 μ A > 100 μ A to 1.0 mA > 1.0 mA to 10 mA > 10 mA to 100 mA	50 μ A/A + 0.6 nA 50 μ A/A + 1 nA 75 μ A/A + 60 nA 75 μ A/A + 100 μ A	Additel ADT286

DC VOLTAGE (20/E06)

DC Voltage – Generate	0 mV to 330 mV >330 mV to 3.3 V >3.3 V to 33 V >33 V to 50 V >50V to 1000 V	11 μ V/V + 0.4 μ V 8.1 μ V/V + 0.6 μ V 8.2 μ V/V + 0.8 μ V 32 μ V/V + 50 μ V 47 μ V/V + 1.5 mV	Fluke 5500A with Additel ADT286 Fluke 5500A
DC Voltage – Measure	0 mV to 100 mV >100 mV to 1 V >1 V to 10 V >10 V to 100 V >100V to 1000 V	10 μ V/V + 0.4 μ V 8.1 μ V/V + 0.6 μ V 8.2 μ V/V + 0.8 μ V 32 μ V/V + 50 μ V 500 μ V/V + 30 mV	Additel ADT286 Additel 227

Measured Parameter or Device Calibrated	Range	Frequency	Expanded Uncertainty ^{Note 3,5}	Remarks
LF AC VOLTAGE (20/E09)				
AC Voltage – Generate	0 V to 3.3 V >3.3 V to 33 V >33 V to 330 V >330 V to 1000 V	45 Hz to 10 kHz 45 Hz to 10 kHz 45 Hz to 1 kHz 45 Hz to 1 kHz	310 μ V/V + 60.0 μ V 410 μ V/V + 600.0 μ V 510 μ V/V + 6.6 mV 510 μ V/V + 80.0 mV	Fluke 5500A
AC Voltage – Measure	0 mV to 1 V > 1 V to 10 V > 10 V to 100 V > 100 V to 1000 V	40 Hz to 1 kHz 40 Hz to 1 kHz 40 Hz to 1 kHz 40 Hz to 1 kHz	56 μ V/V + 20.0 μ V 69 μ V/V + 200.0 μ V 150 μ V/V + 2.0 mV 300 μ V/V + 20.0 mV	Keysight 3458A



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Measured Parameter or Device Calibrated	Range	Expanded Uncertainty ^{Note 3,5}	Remarks
TIME & FREQUENCY			
FREQUENCY DISSEMINATION (20/F01)			
Frequency – Generate	> 100 Hz to 50 kHz	1 μHz/ Hz + 2 nHz	Keysight 33512B
Frequency – Measure	> 100 Hz to 50 kHz	1 μHz/ Hz + 2 nHz	Keysight 53220A
THERMODYNAMIC			
PRESSURE (20/T05)			
Absolute Pressure Source – Pneumatic	60 kPa to 110 kPa	10 Pa	8.7 to 15.0 psia- ADT783 w/ADT151-BPH
	0 kPa to 200 kPa	0.01 %RD or 0.005 % F.S., whichever is greater	0 to 30 psia- ADT783 w/ADT151-01RD-CP15M
	0 kPa to 350 kPa	0.01 %RD or 0.005 % F.S., whichever is greater	0 to 50 psia- ADT783 w/ADT151-01RD-CP35M
	0 kPa to 800 kPa	0.01 %RD or 0.005 % F.S., whichever is greater	0 to 100 psia- ADT783 w/ADT151-01RD-CP100M
	0 MPa to 2.6 MPa	0.01 %RD or 0.005 % F.S., whichever is greater	0 to 362 psia- ADT783 w/ADT151-01RD-CP350M
	0 MPa to 7.1 MPa	0.01 %RD or 0.005 % F.S., whichever is greater	0 to 1030 psia- ADT783 w/ADT151-01RD-CP1KM
	0 MPa to 25.1 MPa	0.01 %RD or 0.005 % F.S., whichever is greater	0 to 3640 psia- ADT783 w/ADT151-01RD-CP3.6KM
	0 MPa to 70.1 MPa	0.01 %RD or 0.005 % F.S., whichever is greater	0 to 10165 psia- ADT793 w/ADT151-01RD-CP10KM
	0 MPa to 105.1 MPa	0.01 %RD or 0.005 % F.S., whichever is greater	0 to 15245 psia- ADT793 w/ADT151-01RD-CP15KM
0 MPa to 280.1 MPa	0.015 % F.S.	0 to 40625 psia- ADT959 w/ADT161-AP40KQ	



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Measured Parameter or Device Calibrated	Range	Expanded Uncertainty ^{Note 3,5}	Remarks
Gauge Pressure Source – Pneumatic ^{Note 7}	0 Pa to 750 Pa	0.12 Pa	0 to 3 inH2O - Fluke 7250LP
	750 Pa to 7500 Pa	0.01 %	3 to 30 inH2O - Fluke 7250LP
	-100 kPa to 100 kPa	0.01 %RD or 0.005 % F.S., whichever is greater	-15 psig to 15 psig - ADT783 w/ADT151-01RD-CP15M
	-100 kPa to 250 kPa	0.01 %RD or 0.005 % F.S., whichever is greater	-15 psig to 35 psig - ADT783 w/ADT151-01RD-CP35M
	-100 kPa to 700 kPa	0.01 %RD or 0.005 % F.S., whichever is greater	-15 psig to 100 psig - ADT783 w/ADT151-01RD-CP100M
	-0.1 MPa to 2.5 MPa	0.01 %RD or 0.005 % F.S., whichever is greater	-15 psig to 362 psig - ADT783 w/ADT151-01RD-CP350M
	-0.1 MPa to 7.1 MPa	0.01 %RD or 0.005 % F.S., whichever is greater	-15 psig to 1015 psig - ADT783 w/ADT151-01RD-CP1KM
	-0.1 MPa to 25.1 MPa	0.01 %RD or 0.005 % F.S., whichever is greater	-15 psig to 3625 psig - ADT783 w/ADT151-01RD-CP3.6KM
	0 MPa to 70 MPa	0.01 %RD or 0.005 % F.S., whichever is greater	0 psig to 10150 psig - ADT793 w/ADT151-01RD-CP10KM
0 MPa to 105 MPa	0.01 %RD or 0.005 % F.S., whichever is greater	0 psig to 15230 psig - ADT793 w/ADT151-01RD-CP15KM	
0 MPa to 280 MPa	0.015 %F.S.	0 psig to 40610 psig – ADT959 w/ADT161-GP40KQ	
TEMPERATURE INDICATORS (20/T08)			
Digital Thermometers – Reference Junction Compensation	20 °C to 25 °C	0.05 °C	ADT875, SPRT, Type E Thermocouples
Fixed Point Triple Point	0.01 °C	2.0 mK	Triple Point Water Cell with Accumac SPRT



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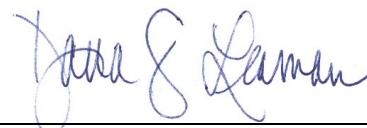
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CALIBRATION AND MEASUREMENT CAPABILITY (CMC) ^{Note 1,2}

Measured Parameter or Device Calibrated	Range	Expanded Uncertainty ^{Note 3,5}	Remarks	
Drywell Calibrators	-40 °C to 0 °C	0.016 °C	Direct Comparison to SPRT	
	>0 °C to 50 °C	0.011 °C		
	>50 °C to 155 °C	0.010 °C		
	>155 °C to 300 °C	0.019 °C		
	>300 °C to 450 °C	0.034 °C		
	>450 °C to 550 °C	0.053 °C		
	>550 °C to 660 °C	0.060 °C		
	25 °C to 100 °C	0.40 °C	Direct Comparison to Reference grade Type S Thermocouple	
	>100 °C to 300 °C	0.45 °C		
	>300 °C to 600 °C	0.50 °C		
	>600 °C to 900 °C	0.55 °C		
	>900 °C to 1210 °C	0.85 °C		
	END			

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Notes

Note 1: A Calibration and Measurement Capability (CMC) is a description of the best result of a calibration or measurement (result with the smallest uncertainty of measurement) that is available to the laboratory's customers under normal conditions, when performing more or less routine calibrations of nearly ideal measurement standards or instruments. The CMC is described in the laboratory's scope of accreditation by: the measurement parameter/device being calibrated, the measurement range, the uncertainty associated with that range (see note 3), and remarks on additional parameters, if applicable.

Note 2: Calibration and Measurement Capabilities are traceable to the national measurement standards of the U.S. or to the national measurement standards of other countries and are thus traceable to the internationally accepted representation of the appropriate SI (Système International) unit.

Note 3: The uncertainty associated with a measurement in a CMC is an expanded uncertainty with a level of confidence of approximately 95 %, typically using a coverage factor of $k = 2$. However, laboratories may report a coverage factor different than $k = 2$ to achieve the 95 % level of confidence. Units for the measurand and its uncertainty are to match. Exceptions to this occur when marketplace practice employs mixed units, such as when the artifact to be measured is labeled in non-SI units and the uncertainty is given in SI units (Example: 5 lb weight with uncertainty given in mg).

Note 3a: The uncertainty of a specific calibration by the laboratory may be greater than the uncertainty in the CMC due to the condition and behavior of the customer's device and specific circumstances of the calibration. The uncertainties quoted do not include possible effects on the calibrated device of transportation, long term stability, or intended use.

Note 3b: As the CMC represents the best measurement results achievable under normal conditions, the accredited calibration laboratory shall not report smaller uncertainty of measurement than that given in a CMC for calibrations or measurements covered by that CMC.

Note 3c: As described in Note 1, CMCs cover calibrations and measurements that are available to the laboratory's customers under *normal conditions*. However, the laboratory may have the capability to offer special tests, employing special conditions, which yield calibration or measurement results with lower uncertainties. Such special tests are not covered by the CMCs and are outside the laboratory's scope of accreditation. In this case, NVLAP requirements for the labeling, on calibration reports, of results outside the laboratory's scope of accreditation apply. These requirements are set out in Annex A.5. of NIST Handbook 150, Procedures and General Requirements.

Note 3d: CMC expanded uncertainties include repeatability of best existing device (BED).

Note 4: Uncertainties associated with field service calibration may be greater as they incorporate on-site environmental contributions, transportation effects, or other factors that affect the measurements. (This note applies only if marked in the body of the scope.)

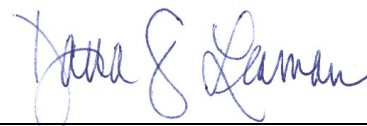
Note 5: Uncertainty values listed with percent (%) are percent of reading or generated value unless otherwise noted.

Note 6: NVLAP accreditation is the formal recognition of specific calibration capabilities. Neither NVLAP nor NIST guarantee the accuracy of individual calibrations made by accredited laboratories.

Note 7: Uncertainty applies to positive and negative pressures.

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