

Scope of Accreditation For Signal Instrumentation cc

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In recognition of a successful assessment to ISO/IEC 17025:2005 to the following Calibration and Measurement Capabilities, accreditation has been granted to **Signal Instrumentation cc** for the following:

Accreditation granted through: **July 15, 2018**

Calibration

Electrical – Current¹

Calibration Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Remarks
DC Current – Source	(0 to 20) mA (20 to 99) mA	0.015 % of reading + 0.01 mA 0.015 % of reading + 0.06 mA	Process Calibrator
DC Current - Measure	(0 to 20) mA (20 to 200) mA	0.015 % of reading + 0.004 mA 0.015 % of reading + 0.021 mA	Process Calibrator

Electrical – Resistance¹

Calibration Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Remarks
Resistance – Source	(15 to 500) Ω	0.025 % of reading + 0.26 Ω	Process Calibrator
Resistance - Measure	(15 to 500) Ω	0.031 % of reading + 0.26 Ω	
RTD Temperature Simulation PT 100 - 385	(-200 to 850) °C	0.029 % of reading + 0.26 Ω	Process Calibrator

Electrical – Voltage¹

Calibration Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Remarks
DC Voltage – Source	(0 to 20) mV (20 to 200) mV (0.2 to 2) V (2 to 20) V	0.015 % of reading + 0.004 mV 0.015 % of reading + 0.037 mV 0.015 % of reading + 0.21mV 0.02 % of reading + 2.6 mV	Process Calibrator

Calibration Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Remarks
DC Voltage - Measure	(0 to 20) mV (20 to 200) mV (0.2 to 2) V (2 to 20) V	0.015 % of reading + 0.004 mV 0.015 % of reading + 0.037 mV 0.015 % of reading + 0.21mV 0.02 % of reading + 3.7 mV	Process Calibrator
Electrical Temperature Simulation			
Type K	(-200 to 967) °C (967 to 1 370) °C	0.018 % of reading + 0.61 °C 0.032 % of reading + 0.61 °C	Process Calibrator
Type J	(-200 to 1 200) °C	0.021 % of reading + 0.61 °C	
Type R / S	(0 to 600) °C (600 to 1 760) °C	0.048 % of reading + 0.61 °C 0.024 % of reading + 0.61 °C	

Mass – Pressure/Low Vacuum¹

Calibration Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Remarks
Vacuum	(-95 to 0) kPa	0.24 kPa	Standard Digital Pressure CONST 211
Pneumatic Pressure	(0 to 4) MPa	2.1 kPa	Standard Digital Pressure CONST 211

Mass – Scale and Balances¹

Calibration Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Remarks
Scales and Balances (Resolution – 0.001 kg)	(0 to 2) kg	1.6 g	OIML Class M1 Mass pieces
	(2 to 5) kg	1.9 g	
	(5 to 20) kg	3.6 g	OIML Class M1 & M2 Mass pieces

Thermodynamics – Humidity

Calibration Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Remarks
Humidity - Source	(33, 53, 75) %RH @ (23 ± 5) °C	1.5 %RH	Reference Hygrometer
Humidity Uniformity Surveys ¹ – Chambers, Cold rooms, Incubators	(11 to 90) %RH	3.5 %RH	Reference Dataloggers

Thermodynamics – Thermometers and Probes¹

Calibration Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Remarks
Digital and Mechanical Thermometry systems	0 °C	0.071 °C	Ice Point with Reference PRT
	- 21 °C	0.32 °C	H ₂ O / NaCl slurry with PRT
	(-30 to 125) °C	0.11 °C	Reference PRT and Micro Bath
	(50 to 150) °C (150 to 600) °C	0.37 °C (0.15 % of reading + 0.29 °C)	Dryblock calibrator
Liquid in Glass Thermometers (Partial immersion)	(-30 to 150) °C	0.3 °C	Reference PRT and Baths

Thermodynamic – Thermodynamic Sources¹

Calibration Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Remarks
System Accuracy Test – Chambers, Cold rooms, Incubators, Autoclaves and Retorts	(-30 to 150) °C	0.35 °C	Reference PRT
Temperature Uniformity Surveys – Chambers, Cold rooms, Incubators, Autoclaves and Retorts	(25 to 80) °C	0.52 °C	Reference Dataloggers

Calibration and Measurement Capability (CMC) is expressed in terms of the measurement parameter, measurement range, expanded uncertainty of measurement and remarks. 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) Laboratory offers calibration services at the laboratory's own facilities and at the client or other agreed upon facilities.

Approved by: 
R. Douglas Leonard
Chief Technical Officer

Date: July 15, 2015

Issued: 7/15/15