



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

Interstate Industrial Instrumentation, Inc.

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CALIBRATION

Valid to: April 22, 2013

Certificate Number: AC-1174

I. Electromagnetic – DC/Low Frequency

Table with 5 columns: PARAMETER / EQUIPMENT, RANGE, CALIBRATION AND MEASUREMENT CAPABILITY [EXPRESSED AS UNCERTAINTY(+)], REFERENCE STANDARD OR EQUIPMENT, METHOD(S). Rows include DC Millivolts - Measure and Electrical Simulation of Thermocouple Indicators (Types J, K, T, E, R).



PARAMETER / EQUIPMENT	RANGE	CALIBRATION AND MEASUREMENT CAPABILITY [EXPRESSED AS UNCERTAINTY(±)]	REFERENCE STANDARD OR EQUIPMENT	METHOD(S)
Electrical Simulation of Thermocouple Indicators (cont.)				
Type S	(-18 to 100) °C (100 to 400) °C (400 to 1 700) °C (1 700 to 1 767) °C	2.2 °C 3.0 °C 2.2 °C 2.6 °C	Altek 422	INW-4.19.010 INW-4.19.102
Type N	(-230 to -180) °C (-180 to -50) °C (-50 to 1 100) °C (1 100 to 1 300) °C	3.8 °C 2.0 °C 0.8 °C 1.2 °C		
Type P	(-217 to -150) °C (-150 to -50) °C (-50 to 1 000) °C (1 000 to 1 395) °C	2.2 °C 1.5 °C 0.8 °C 1.2 °C		
Electrical Simulation of RTD Indicators				
Pt 100 Ω (1.3850)	(-200 to 800) °C	1.3 °C	Martel PTC8001	INW-4.19.010 INW-4.19.102
Pt 100 Ω (1.3916)	(-200 to 630) °C	1.2 °C		
Pt 100 Ω (1.3926)	(-200 to 630) °C	1.2 °C		
Pt 200 Ω (1.3850)	(-200 to 630) °C	3.0 °C		
Pt 500 Ω (1.3850)	(-200 to 500) °C (500 to 630) °C	1.2 °C 1.5 °C		
Pt 1 000 Ω (1.3850)	(-200 to 100) °C (100 to 630) °C	0.8 °C 1.2 °C		
Cu 10	(-200 to 250) °C	8.1 °C		
Cu 50	(-180 to 200) °C	2.0 °C		
Cu 100	(-180 to 200) °C	1.2 °C		
Ni 120 (1.6720)	(-80.0 to 260) °C	0.8 °C		
YSI400	(15 to 50) °C	0.25 °C		

PARAMETER / EQUIPMENT	RANGE	CALIBRATION AND MEASUREMENT CAPABILITY [EXPRESSED AS UNCERTAINTY(+)]	REFERENCE STANDARD OR EQUIPMENT	METHOD(S)
Ohms - Measure	0 to 400 Ω 400 to 1 500 Ω 1 500 to 3 200 Ω	0.4 Ω 2.0 Ω 4.0 Ω	Martel PTC8001	INW-4.19.102
Electrical Calibration of Process Indicators				
Source Milliamp Measure	Up to 24 mA	0.8 μ A/mA	Altek 934	INW-4.19.010 INW-4.19.101 INW-4.19.102
Read Milliamp Measure	(-24 to +24) mA	0.8 μ A/mA		
Source Voltage Measure	Up to 1 000 mVDC Up to 20 VDC	0.8 μ V/mV 0.8 mV/V		
Read Voltage Measure	(-100 to 100) VDC (-1 000 to 1 000) mVDC	0.8 mV/V 0.8 μ V/mV		

II. Mechanical

PARAMETER / EQUIPMENT	RANGE	CALIBRATION AND MEASUREMENT CAPABILITY [EXPRESSED AS UNCERTAINTY(+)]	REFERENCE STANDARD OR EQUIPMENT	METHOD(S)
Pressure	Up to 10 000 psig	0.004 psi/psi	Ametek TQ-100	INW-4.19.101 INW-4.19.102
	Up to 300 psig	0.002 psi/psi + 1 digit	Altek 1118-300	
	Up to 300 in H ₂ O	0.001 in/in H ₂ O	Ametek RK-300WC	

Notes:

1. Calibration and Measurement Uncertainties (Expanded Uncertainty) are based on approximately a 95% confidence interval, using a coverage of $k=2$
2. This scope is part of and must be included with the Certificate of Accreditation No. AC-1174

Karl Greenaway

Vice President