

Scope

Industrial Technology Institute, Metrology Group

Measured Quantity, Instrument or Fauga	Method of Calibration	Range	Readability	Best Measurement Capability, Ex pressed As an Expanded Uncer- tainty (k=2)
---	--------------------------	-------	-------------	--

Temperature

Calibration of Liquid-in glass Thermometer	MM/TE/02	-60 to +35°C 35 to 250 °C 250 to 500 °C		35mK 30mK 70mK
Calibration of a dial thermometer	MM/TE/03	-60 to +35°C 35 to 250°C 250 to 550 °C		85mK 80mK 100mK
Comparison calibration of PRT	MM/TE/04	-60 to +35°C 35 to 250°C 250 to 660 °C		10mK 8 mK 15mK
Calibration of a digital thermometer with a sensor	MM/TE/05	-60 to +35°C 35 to 250°C 250 to 660 °C		25mK 23mK 85mK
Calibration of a thermocouple	MM/TE/06	-60 to +35°C 35 to 250°C 250 to 500 °C 500 to 1100 °C		0.8 °C 0.7 °C 0.9 °C 1.6 °C
Calibration of temperature indicators and controllers	MM/TE/07	100 to 1500 °C		0.01°C
Calibration of simulators	MM/TE/07	100 to 1500 °C		
Voltage				1.6µv
Resistance				1.2mΩ
Current				1µA
Performance test of block calibrator	MM/TE/08	-60 to +600°C		14mK
Performance test of laboratory oven/incubator - multi points	MM/TE/09	50 to 250°C for ovens and 15 to 60°C for incubators		0.2°C

DECISIONDate
2007-08-29**Annex 2b** 2(5)Reference
06-341-51.1791
06-3993-51.1791**Scope**

Industrial Technology Institute, Metrology Group

Measured Quantity, Instrument or Fauga	Method of Calibration	Range	Readability	Best Measurement Capability, Ex pressed As an Expanded Uncer- tainty (k=2)
---	----------------------------------	--------------	--------------------	---

Performance test of laboratory oven/incubator - three point	MM/TE/10	50 to 250°C for ovens and 15 to 60°C for incubators		0.2°C
Performance test of stirred liquid bath	MM/TE/11	-60 to +600°C		24mK
Performance test of autoclave	MM/TE/12	100 to 130°C		0.4°C
Performance test of muffle furnace	MM/TE/13	250 to 1100°C		1.2°C
Performance test of water bath	MM/TE/14	5 to 95°C		0.1 °C

Mass

Calibration of Weighing Balances	MM/MA/01	0-200g	0.01mg	0.10mg
	MM/MA/02	0-500g	0.1mg	0.27mg
	MM/MA/04	0-1kg	1mg	0.96mg
	MM/MA/07	0-5kg	10mg	8.6mg
		0-20kg	100mg	82mg

NOTE:

1. Weights are available in OIML Class E2 from 1 mg to 10 kg, Class F1 from 1 mg to 10 kg, Class F2 from 1 mg to 10 kg, Class M1 from 1 mg to 10 kg

Scope

Industrial Technology Institute, Metrology Group

Measured Quantity, Instrument or Fauga	Method of Calibration	Range	Readability	Best Measurement Capability, Ex pressed As an Expanded Uncer- tainty (k=2)
---	----------------------------------	--------------	--------------------	---

Determination of the conventional mass value of weights-Direct comparison method	MM/MA/05	20000		80
		10000		9
		5000		8
		2000		2
		1000		0.51
		500		0.26
		200		0.11
		100		0.06
		50		0.04
		20		0.026
		10		0.021
		5		0.016
		2		0.013
		1		0.011
		0.5		0.009
0.2		0.007		
0.1		0.006		
0.05		0.005		
0.02		0.004		
0.01		0.003		
0.005		0.003		
0.002		0.003		
0.001		0.003		

NOTE:

1. The best measurement capability relates to weights, which are constructed in conformity with the requirements of OIML recommendation 111 for weights of Class F1 except for weight of 20kg.

2. For 20kg weight the best measurement capability relates to weights of OIML Class M1.

Dimension

Range (mm)

Calibration of Gauge Blocks	MM/DI/02	0 to 10		0,06
		10 to 25		0,07
		25 to 50		0,08
		50 to 75		0,12
		75 to 100		0,17
Calibration of Vernier Caliper	MM/DI/03	0 to 150	0,02	17
			0,05	41
		150 to 200	0,02	17
			0,05	41
		200 to 300	0,02	17
			0,05	41
		300 to 600	0,02	17
			0,05	41
		600 to 900	0,02	17
			0,05	42
		0,1	82	

Scope

Industrial Technology Institute, Metrology Group

Measured Quantity, Instrument or Fauga	Method of Calibration	Range	Readability	Best Measurement Capability, Ex pressed As an Expanded Uncer- tainty (k=2)
---	--------------------------	-------	-------------	--

Calibration of Micrometer(Extl)	MM/DI/04	0 to 25	0,01	7
			0,001	3
		25 to 75	0,01	7
			0,001	3
		75 to 200	0,01	7
			0,001	3
		200 to 300	0,01	7
Calibration of Steel rule	MM/DI/05	0 to 150	1	400
		150 to 300	1	400
		300 to 500	1	400
		500 to 1000	1	400
Calibration of Dial Gauges	MM/DI/06	0 to 25	0,01	5
			0,001	2
Calibration of Micrometer(Int)	MM/DI/07	50 to 75	0,01	7
		75 to 100	0,01	7
		100 to 125	0,01	7
		125 to 150	0,01	7
		150 to 175	0,01	7
		175 to 200	0,01	7

VolumeCalibration of volumetric glassware by
gravimetric method

		Range(ml)	
One mark pipette	MM/VO/01	0 to 200	0,001
Graduated pipette	MM/VO/01	0 to 25	0,001
Burette	MM/VO/01	0 to 100	0,001
Volumetric flask	MM/VO/01	0 to 200	0,001
		0 to 2000	0,01
Graduated measuring cylinder	MM/VO/01	0 to 200	0,001
		0 to 2000	0,01

Electricity

Calibration of Digital Multimeters

Value Frequency

Scope

Industrial Technology Institute, Metrology Group

Measured Quantity, Instrument or Fauga	Method of Calibration	Range	Readability	Best Measurement Capability, Ex pressed As an Expanded Uncer- tainty (k=2)
DC Voltage	MM/EL/01	100 mV		4 μV/V
		1 V		4 μV/V
		10 V		4 μV/V
		100 V		4 μV/V
		1000 V		5 μV/V
AC Voltage	MM/EL/01	100 mV	40 Hz-20 kHz	46 μV/V
		1 V	40 Hz-20 kHz	47 μV/V
		10 V	40 Hz-20 kHz	42 μV/V
		100 V	40 Hz-20 kHz	43 μV/V
		1000 V	50 Hz-10 kHz	48 μV/V
DC Current	MM/EL/01	100 μA		14 μA/A
		1 mA		14 μA/A
		10 mA		13 μA/A
		100 mA		13 μA/A
		1 A		27 μA/A
		10 A		19 μA/A
AC Current	MM/EL/01	100 μA	40 Hz-10 kHz	203 μA/A
		1 mA	40 Hz-10 kHz	68 μA/A
		10 mA	40 Hz-10 kHz	77 μA/A
		100 mA	40 Hz-10 kHz	98 μA/A
		1 A	40 Hz-10 kHz	133 μA/A
		10 A	40 Hz-10 kHz	122 μA/A
		20 A	40 Hz-1 kHz	485 μA/A
Resistance	MM/EL/01	1 ohm		182 μohm/ohm
		10 ohm		29 μohm/ohm
		100 ohm		13 μohm/ohm
		1000 ohm		11 μohm/ohm
		10000 ohm		11 μohm/ohm
		100000 ohm		101 μohm/ohm
		1000000 ohm		71 μohm/ohm
		10000000 ohm		122 μohm/ohm
100000000 ohm		195 μohm/ohm		