SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017 & KS Q ISO/IEC 17025:2017

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CALIBRATION

Valid To : Mar 21, 2025 Accreditation No. : KC05-187

In recognition of the successful completion of the KOLAS evaluation process,
accreditation is granted to this laboratory to perform the following calibrations.

Field Code	Item of Calibration	on-site	Field Code	Item of Calibration	on-site	Field Code	Item of Calibration	on-site
102. Linear dimension			10236	Coating thickness testers	Y	10514	Taper plug gauges	N
10201	Balls	N	103. Angle			10517	Stylus type roughness testers	Y
10206	Dial/cylinder gauge testers	N	10304	Bevel protractors	N	10518	Socket gauges for electric bulb	N
10207	Doctor blades	N	10311	Plate/square/electric levels	N			
10209	End bars	N	10318	Squareness testers, right angle testers	N	10525	Thread plug gauges	N
10210	Extensometers, linear displacement transducers	Y				10526	Taper thread plug gauges	N
			10319	Cylindrical squares	N	10527	Thread ring gauges	N
10211	Filler gauges	N	10320	Precision squares	N	10529	V-blocks, box blocks	N
10212	Film applicators	N	104. Form			106. Various dimensional		
10213	Gap gauges	N	10401	Form testers	Y	10601	Inside/Outside/Geartooth calipers, Calipergauges	Y
10214	Gage Blocks, by comparison	N	10404	Optical flats	N			
10216	Height gauges/measuring machines	Y	10405	Optical parallels	N	10603	Cylinder/bore gauges	Y
			10406	Parallel blocks	N	10604	Depthgauges,Depthmicrometers	Y
10220	Measuring machines, standard	Y	10407	Precision surface plates	Y	10605	Dial/digital gauges	Y
			10409	Roundness measurement instruments	Y	10608	Grind gauges	N
10223	Electronic micrometers	N				10609	Microindicators, Test indicators	Y
10224	Height micrometers, Riser blocks	Y	10412	Straight edges	N			
			10413	Straight rules	N	10610	Micrometer heads	Y
10227	Standard tape rules/ Peripheral gauges	N	105. Complex geometry			10611	3-point micrometers	Y
			10501	Base gauges for electric bulb	N	10612	Inside micrometers	Y
10228	Cylindrical plug/pin gauges, thread measuring wire gauges	N	10502	Bench centers	Y	10613	Outside micrometers	Y
			10503	Contact coordinatemeasuring machines	Y	10617	Standard sieves	N
10229	Radius gauges	N				10620	Welding gauges	N
10230	Cylindrical ring gauges	N	10504	Non-contact coordinate measuringmachines	Y	201. Mass		
10232	Step gauges	N				20102	Auto-hopper scale balances	Y
10233	Thickness gauges, taper	N	10511	Measuring microscopes, Profileprojectors	Y	20104	Axle weigher balances	N
10234	Ultrasonic thickness gauges	Y				20105	Counter beam balances	Y
10235	Ultrasonic/coating thickness specimens	N	10512	Micro measuring microscopes	N	20107	Dial swing scale balances	Y
						20108	Direct reading balances	Y

Field Code	Item of Calibration	on-site
20109	Electric balances	Y
20110	Equal arm balances	Y
20112	Platform scale balances	Y
20113	Spring scale balances	Y
20114	Trip balances	Y
20116	Weights	Y
202. Force		
20202	Force measuring devices	N
20203	Tension/Compression testing machines	Y
20204	Push-pull gauges	Y
203.Torque		
20303	Torque wrenches/drivers	Y
204. Pressure		
20406	Absolute pressure gauges	Y
20407	Blood pressure gauges	Y
20408	Compound pressure gauges	Y
20409	Differential pressure gauges	Y
20411	Gauge pressure gauges	Y
20412	Pressure transducers/ transmitters	Y
20413	Dial type vacuum gauges	Y
206. Volume		
20601	Volumetric glasswares	N
20602	Pycnometers	N
20605	Concrete air content meters	N
20606	Piston type volume meters	N
207. Density		
20704	Salinity meters	N
20707	Chloride meters	N
210. Hardness		
21001	Brinell hardness testers	Y
21002	Rockwell hardness testers	Y
21003	Shore hardness testers	Y
21004	Vickers hardness testers	Y
21005	Durometer hardness testers	Y
21006	Leeb hardness testers	Y
211. Impact		
21102	Impact testers, Charpy	Y
21103	Impact testers, izod	Y
301. Time / Frequency		
30103	General frequency sources	Y
30106	Time Interval Meter / Stop Watches & Timer	Y
302. Velocity & Revolution		
30201	Standard RPM Generators	Y
30202	Contact Type Tachometer	Y
30203	Photo Tachometers / Stroboscopes	Y
401. DC Voltage & Current		
40101	Ammeters, DC	Y
40103	Calibrators, DC Voltage /Current	Y
40104	Calibrators, Temperature Simulation	Y
40105	Current Shunts, DC	Y
40106	Galvanometers / Null Detectors	Y
40108	Power Supplies, DC	Y
40112	Voltmeters, DC	Y
402. Resistance, Capacitance & Inductance		
40205	Earth Testers	Y
40210	Insulation Testers	Y
40213	Resistance Bridges / Simuilar Instruments	Y
40214	Resistance Meters	Y
40215	Resistors	Y
403. AC Voltage, Current & Power		
40301	Ammeters, AC	Y
40302	Clamp Ammeters / Voltmeters	Y
40303	Calibrators, AC Voltage/ Current	Y
40307	Voltagr / Current Phase Angle Meters	Y
40310	Power Factor Meters	Y
40311	Power Meters, AC	Y
40312	Power Supplies, AC	Y
40313	Puncture / Safety Testers	Y
40318	Voltmeters, AC	Y
404. Other DC & LF Measurements		
40403	Calibrators, Multimeter	Y
40410	Line Frequency Meters	Y
40411	Function Generators	Y
40414	Impulse Generators, LF	Y
40416	Leakage Current Testers	Y
40417	AC / DC Loads, Electronic Electronic	Y
40419	Multimeters, Analogue/Digital	Y
40421	Oscillscopes	Y
40424	Recorders, Volt / Current	Y
40425	Relay Test Sets	Y
40426	Signal Generators, LF	Y
501. Contact thermometry		
50101	Temperature generators ; ovens, furnaces, isothermal liquid baths,ice-point baths, dry-black calibrators	Y
50102	Temperature indicators/ recorders/ controllers, temperature calibrators	Y
50103	Glass thermometers; liquid-in-glass, Beckmann	N
50104	Resistance thermometers; SPRT, IPRT, thermistors,etc.	N
50105	Thermal expansion thermometers ; bimetal, gas or liquid type	N

Field Code	Item of Calibration	on-site	Field Code	Item of Calibration	on-site	Field Code	Item of Calibration	on-site
50106	Thermomecouples:noble metal, base metal, pure metal, special type, etc.	Y						
50107	Temperature transducers	N						
502. Non contact thermometry								
50204	Standard radiation thermometers	N						
50206	Blackboby furnaces	N						
503. Humidity								
50302	Relative humidity hygrometers; polimer thinfilm, hair, etc.	N						
50304	Temperature humidity recorders; Hygrothermograph, etc	N						
50305	Transducers; dew-point/ relative humidity	N						
50306	Humidity generators; two-pressure, two-temperature, flow mixing humidity gererator, constant temperature and humidity chamber, etc.	Y						

Note

1. This laboratory provides calibration services in permanent standard laboratory and at on-site.
2. Laboratory conducts on-site calibration should meet requirements of KOLAS-SR-007.
3. On-site calibration is allowed to items with marking 'Y', not allowed to items with marking 'N'.
4. Measurement uncertainty normally is quoted as an expanded uncertainty at a coverage probability of 95%, which usually requires the use of a coverage factor of K=2. It expresses the lowest uncertainty of measurement that can be provided by accredited calbration laboratories in normal conditions.
5. Due to the calibration environment such as reference standards or customers' facilities, it is note that uncertainty of measurement on a calibration certificate may be expressed larger than measurement uncertainty on scope of accreditation in general.

102. Linear dimension

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Balls	10201	(0 ~ 100) mm	$\sqrt{0.52^2 + 0.004\ 7^2 \times l^2}$ μm (l:mm)	Measuring machines standard KCS CO.,LTD.
Dial/cylinder gauge testers	10206	(0 ~ 100) mm	$\sqrt{0.26^2 + 0.003\ 2^2 \times l^2}$ μm (l:mm)	Gauge blocks / KCSI-LE11
Doctor blades	10207	(0 ~ 10) mm	3.4 μm	Height micrometers / KCSI-LE12
End bars	10209	(25 ~ 1 000) mm	$\sqrt{1.6^2 + 0.003\ 0^2 \times l^2}$ μm (l:mm)	Electronic micrometers, Gauge blocks / KCSI-LE13
Extensometers, linear displacement transducers	10210	(0 ~ 500) mm	$\sqrt{0.40^2 + 0.044^2 \times l^2}$ μm (l:mm)	Gauge blocks / KCSI-LE14
Filler gauges	10211	(0 ~ 5) mm	0.61 μm	Measuring machines standard, Outside micrometers / KCSI-LE15
Film applicators	10212	(0 ~ 1) mm	3.4 μm	Height micrometers / KCSI-LE16
Gap gauges	10213	(0 ~ 300) mm	3.7 μm	Height micrometers / KCSI-LE17
Gage Blocks, by comparison	10214	(0.5 ~ 100) mm	$\sqrt{85^2 + 1.2^2 \times l^2}$ nm (l:mm)	Gauge blocks, Gauge block comparators / KCSI-LE63
Height gauges/measuring machines	10216	(0 ~ 1 000) mm	$\sqrt{1.6^2 + 0.003\ 0^2 \times l^2}$ μm (l:mm)	Gauge blocks, Caliper testers / KCSI-LE18
Standard measuring machines	10220	(0 ~ 500) mm	$\sqrt{0.22^2 + 0.003\ 0^2 \times l^2}$ μm (l:mm)	Gauge blocks / KCSI-LE19
Electronic micrometers	10223	± (0 ~ 5) mm	0.14 μm	Gauge blocks / KCSI-LE20
Height micrometers, riser blocks Riser blocks/blocks Heads	10224	(0 ~ 600) mm (0 ~ 30) mm	$\sqrt{1.6^2 + 0.003\ 0^2 \times l^2}$ μm (l:mm) 1.7 μm	Gauge blocks / KCSI-LE21 / KCSI-LE22
Standard tape rules, peripheral gauges	10227	(0 ~ 50) m	$\sqrt{0.73^2 + 0.003\ 4^2 \times l^2}$ mm (l:m)	Standard tape rules / KCSI-LE23
Cylindricalplug/pingauges, Threadmeasuringwiregauges	10228	(0 ~ 200) mm	$\sqrt{0.53^2 + 0.004\ 7^2 \times l^2}$ μm (l:mm)	Gauge blocks, Measuring machines standard / KCSI-LE50, KCSI-LE51

102. Linear dimension

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Radius gauges	10229	(0.1 ~ 100) mm	2.9 μm	Measuring microscopes / KCSI-LE24
Cylindrical ring gauges	10230	(0.5 ~ 150) mm	$\sqrt{0.93^2 + 0.003\,0^2 \times l^2}$ μm (l:mm)	Gauge blocks, Measuring machines standard / KCSI-LE52
Step gauges	10232	(0 ~ 1 010) mm	$\sqrt{1.7^2 + 0.003\,0^2 \times l^2}$ μm (l:mm)	Gauge blocks / KCSI-LE25
Taper thickness gauges	10233	(0 ~ 50) mm	0.029 mm	Measuring microscopes / KCSI-LE26
Ultrasonic thickness gauges	10234	(0 ~ 500) mm	9.5 μm	Ultrasonic thickness specimens / KCSI-LE27
Ultrasonic/coating thickness specimens	10235			Gauge blocks, Measuring machines standard
Coating		(0 ~ 25) mm	3.5 μm	/ KCSI-LE28
Flatness			1.3 μm	/ KCSI-LE29
Ultrasonic		(0 ~ 500) mm	$\sqrt{1.9^2 + 0.003\,0^2 \times l^2}$ μm (l:mm)	
Coating thickness testers	10236	(0 ~ 15) mm	1.6 μm	Coating thickness specimens / KCSI-LE30

103. Angle

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Bevel protractors	10304			Angle gauge blocks
Angle accuracy		(0 ~ 360)°	4'	/ KCSI-LE69
Angle of Accessories		(0 ~ 360)°	2'	
Gradation accuracy		(0 ~ 300) mm	0.16 mm	
Plate/square/electric levels	10311			level comparators
Bubble Tube Type		±10 mm/m	1.0"	/ KCSI-LE70
Electric Type		±10 mm/m	0.8"	
Flatness of Base		(0 ~ 500) mm	1.2 μm	
Squareness		(0 ~ 450) mm	2.2 μm/m	
Squareness testers	10318			Cylindrical squares
Squareness		(0 ~ 480) mm	2.2 μm	/ KCSI-LE67
Cylindrical squares	10319			Electronic micrometers
Squareness		(0 ~ 500) mm	2.0 μm	/ KCSI-LE20
Straightness			1.5 μm	

103. Angle

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Precision squares	10320			Squareness testers
Squareness		(0 ~ 450) mm	2.3 μm	/ KCSI-LE66
Straightness		(0 ~ 450) mm	2.8 μm	
Parallelism of Precision squares		(0 ~ 500) mm	3.2 μm	

104. Form

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Form testers	10401			Gauge blocks,
Vertical accuracy		(0 ~ 30) mm	0.13 μm	Specimens form standards
Horizontal accuracy		(0 ~ 50) mm	0.91 μm	/ KCSI-LE31
Optical flats	10404	Ø (0 ~ 100) mm	0.10 μm	Optical flats, Monochromatic Light Unit / KCSI-LE32
Optical parallels	10405	Ø (10 ~ 50) mm		Optical flats
Flatness			0.07 μm	/ KCSI-LE32
Paralleism			0.12 μm	
Parallel blocks	10406	(0 ~ 1 000) mm		Electronic micrometers
Paralleism			1.7 μm	/ KCSI-LE33
Flatness			1.7 μm	
Length Difference			2.3 μm	
Precision surface plates	10407			Electric levels
		(900 ~ 10 000) cm^2	2.7 μm	/ KCSI-LE34
		(10 000 ~ 40 000) cm^2	4.3 μm	
Roundness measurement instruments	10409			Roundness standard specimen / KCSI-LE35
Detector accuracy		(0 ~ 100) μm	0.45 μm	
Rotation accuracy of circumference direction		360°	0.020 μm	
Rotation accuracy of shaft direction		360°	0.051 μm	
Straight edges	10412	(0 ~ 1 000) mm		Electronic micrometers
Straightness			5.1 μm	/ KCSI-LE36
Parallelism			5.0 μm	
Straight rules	10413	(0 ~ 3 000) mm	$\sqrt{0.15^2 + 0.003\ 3^2 \times l^2}$ mm (l:m)	Standard tape rules / KCSI-LE37

105. Complex geometry

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Base gauges for electric bulb	10501	(1 ~ 50) mm		Gauge blocks,
Pass Stop Bore			$\sqrt{0.60^2 + 0.003\,0^2 \times l^2}$ μm (l:mm)	Measuring machines standard / KCSI-LE54
Screw bore			3.0 μm	
Bench centers	10502	(0 ~ 400) mm		Test bars,
Parallelism of both centers			3.3 μm	Electronic micrometers
Difference of both centers			3.3 μm	/ KCSI-LE38
Flatness of bed			2.4 μm	
Contact coordinate measuring machines	10503			Step gauges, Precision squares
Detector, space accuracy		(0 ~ 1 000) mm	$\sqrt{0.90^2 + 0.003\,3^2 \times l^2}$ μm (l:mm)	/ KCSI-LE39
Squareness		(0 ~ 500) mm	2.0 μm	
Straightness		(0 ~ 500) mm	2.0 μm	
Non-contact coordinate measuring machines	10504			Standard scales, Precision squares, Angle gage blocks
Directed accuracy		(0 ~ 500) mm	$\sqrt{0.52^2 + 0.002\,5^2 \times l^2}$ μm (l:mm)	/ KCSI-LE40
Squareness			2.0 μm	
Angle		(0~180) °	3.3″	
Measuring microscopes, profile projectors	10511			Standard scales, Precision squares, Angle gage blocks
Directed accuracy		(0 ~ 500) mm	$\sqrt{0.58^2 + 0.002\,5^2 \times l^2}$ μm (l:mm)	/ KCSI-LE41 / KCSI-LE42
Squareness			2.0 μm	
Angle			3.3″	
	10511			
Scale errors			0.015 %	
Rotation angle of projection plane			1.3′	
Reticle angle of projection plane			0.4′	
Micro measuring microscopes	10512	(0 ~ 20) mm	0.86 μm	Standard scales / KCSI-LE55
Taper plug gauges	10514			Gauge blocks,
Height		(0 ~ 200) mm	2.6 μm	Measuring machines standard
Taper half angle		(0 ~ 65)°	2.4″	/ KCSI-LE56
Small diameter		(2 ~ 200) mm	1.7 μm	
Great diameter		(2 ~ 200) mm	2.7 μm	

105. Complex geometry

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Stylus type roughness testers	10517			Roughness standard specimen / KCSI-LE43
Ra		(0 ~ 10) μm	0.040 μm	
Rz		(0 ~ 20) μm	0.15 μm	
h		(0 ~ 20) μm	0.20 μm	
Socket gauges for electric bulb	10518			Gauge blocks,
Pass,Stop, Screw Bore		(1 ~ 50) mm	$\sqrt{0.55^2 + 0.003\,0^2 \times l^2}$ μm (l:mm)	Measuring machines standard / KCSI-LE57
Thread plug gauges	10525			Gauge blocks,
Effective diameter		(1 ~ 200) mm	1.8 μm	Measuring machines standard
Outside diameter		(1 ~ 200) mm	1.0 μm	/ KCSI-LE58
pitch		(0.25 ~ 5.5) mm	1.3 μm	
Screw half angle		(0 ~ 45)°	1.6′	
Taper thread plug gauges	10526			Gauge blocks,
Gauge length		(0 ~ 150) mm	2.6 μm	Measuring machines standard
Notch and step length		(0 ~ 150) mm	3.7 μm	/ KCSI-LE59
Taper half angle		(0 ~ 2)°	5.8″	
Small Outside diameter		(2 ~ 200) mm	1.9 μm	
Great Outside diameter		(2 ~ 200) mm	2.8 μm	
Small Effective diameter		(2 ~ 200) mm	2.4 μm	
Great Effective diameter		(2 ~ 200) mm	3.1 μm	
pitch		(0.25 ~ 10) mm	1.3 μm	
Screw half angle		(0 ~ 45)°	1.0′	
Thread ring gauges	10527			Measuring machines standard,
Effective diameter		(3 ~ 100) mm	2.0 μm	Cylindrical ring gauges
Inner diameter		(3 ~ 100) mm	2.1 μm	/ KCSI-LE60
pitch		(0.25 ~ 5) mm	1.5 μm	
V-blocks, Boxblocks	10529	(0 ~ 300) mm		Electronic micrometers,
Boxblocks				Test bars
The parallelism of upper surface for the undersurface			1.6 μm	/ KCSI-LE61
The parallelism between the undersurface and the cylinder on the V surface			3.3 μm	
Squareness			2.0 μm	

105. Complex geometry

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
V-blocks	10529			Electronic micrometers,
Flatness of base side			1.6 μm	Test bars
Flatness of V surface			1.6 μm	/ KCSI-LE61
The parallelism between the under surface and the cylinder on the V surface			3.3 μm	
The gradient on the base side of V-groove			1.1 μm	
The parallelism between the side and the cylinder on the V surface			3.3 μm	
The mutual height difference of V surface for a pair of V blocks			1.7 μm	

106. Various dimensional

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Inside/outside/gear tooth calipers, caliper gauges	10601			Gauge blocks, Caliper testers
Inside/outside/gear tooth calipers		(0 ~ 1 500) mm	$\sqrt{9.7^2 + 0.003\,0^2 \times l^2}$ μm (l:mm)	/ KCSI-LE01 / KCSI-LE02
Caliper gauges		(0 ~ 200) mm	$\sqrt{0.71^2 + 0.003\,0^2 \times l^2}$ μm (l:mm)	
Cylinder/bore gauges	10603	(0 ~ 600) mm	0.87 μm	Dial gauge testers / KCSI-LE03
Depth gauges, depth micrometers	10604	(0 ~ 300) mm	$\sqrt{0.71^2 + 0.003\,1^2 \times l^2}$ μm (l:mm)	Gauge blocks, Long gauge blocks / KCSI-LE04, KCSI-LE07
Dial/digital gauges	10605			Gauge blocks, Dial gauge testers / KCSI-LE05
		(0 ~ 50) mm	$\sqrt{0.13^2 + 0.044^2 \times l^2}$ μm (l:mm)	
		(50 ~ 100) mm	$\sqrt{0.71^2 + 0.044^2 \times l^2}$ μm (l:mm)	
Grind gauges	10608			Height micrometers
Depth of inclined plane		(0 ~ 1) mm	3.4 μm	/ KCSI-LE44
Straightness		(0 ~ 100) mm	2.2 μm	
Micro indicators, test indicators	10609	(0 ~ 5) mm	0.87 μm	Dial gauge testers / KCSI-LE06, KCSI-LE10

106. Various dimensional

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Micrometer heads	10610	(0 ~ 100) mm	$\sqrt{0.62^2 + 0.003\ 0^2 \times l^2}$ μm (l:mm)	Gauge blocks / KCSI-LE45
3-point micrometers	10611	(2 ~ 100) mm (100~200) mm	2.0 μm 2.5 μm	Cylindrical ring gauges / KCSI-LE62
Inside micrometers	10612	(5 ~ 200) mm	$\sqrt{1.4^2 + 0.003\ 0^2 \times l^2}$ μm (l:mm)	Gauge blocks / KCSI-LE08
Micrometers, bar type		(50 ~ 1 100) mm	$\sqrt{1.7^2 + 0.003\ 0^2 \times l^2}$ μm (l:mm)	/ KCSI-LE46
Outside micrometers	10613	(0 ~ 100) mm (100 ~ 500) mm (500 ~ 1000) mm	$\sqrt{0.82^2 + 0.003\ 0^2 \times l^2}$ μm $\sqrt{0.91^2 + 0.003\ 0^2 \times l^2}$ μm $\sqrt{1.4^2 + 0.003\ 0^2 \times l^2}$ μm (l:mm)	Gauge blocks, Long gauge blocks / KCSI-LE09
Standard sieves	10617	(0 ~ 150) mm		Measuring microscope
Wire diameter			2.7 μm	/ KCSI-LE47
sieve size			3.8 μm	
Diameter of hole			2.7 μm	
Distance of hole center			2.7 μm	
Welding gauges	10620			Measuring microscope
Length		(0 ~ 100) mm	0.1 mm	/ KCSI-LE48
Angle		(0 ~ 90)°	0.28°	

201. Mass

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Auto-hopper scale balances	20102	(0 ~ 20) kg (20 ~ 200) kg (200 ~ 500) kg (500 ~ 1 000) kg (1 000 ~ 2 000) kg (2 000 ~ 5 000) kg (5 000 ~ 10 000) kg	5.1 g 10 g 50 g 0.10 kg 0.5 kg 1.0 kg 5.0 kg	Weights / KCSI-MA07
Axle weigher balances	20104	(500 ~ 1 000) kg (1 000 ~ 2 000) kg (2 000 ~ 5 000) kg (5 000 ~ 20 000) kg	1.0 kg 2.0 kg 5.0 kg 20 kg	Force measuring devices / KCSI-MA11
Counter beam balances	20105	(0 ~ 311) g (311 ~ 2 610) g (2 610 ~ 20 000) g	5.0 mg 50 mg 0.50 g	Weights / KCSI-MA04
Dial swing scale balances	20107	(0 ~ 100) kg (100 ~ 200) kg (200 ~ 500) kg (500 ~ 1 000) kg (1 000 ~ 2 000) kg	0.20 kg 0.50 kg 1.0 kg 2.0 kg 5.0 kg	Weights / KCSI-MA02
Direct reading balances	20108	(0 ~ 30) g (30 ~ 210) g (210 ~ 1 000) g	61 µg 0.18 mg 0.51 mg	Weights / KCSI-MA03
Electric balances	20109	(0 ~ 5) g (5 ~ 30) g (30 ~ 200) g (200 ~ 1 200) g (1.2 ~ 5) kg (5 ~ 20) kg (20 ~ 30) kg (30 ~ 60) kg (60 ~ 100) kg (100 ~ 200) kg (200 ~ 500) kg (500 ~ 1 000) kg (1 000 ~ 2 000) kg (2 000 ~ 5 000) kg (5 000 ~ 10 000) kg	18 µg 53 µg 0.18 mg 0.62 mg 3.1 mg 13 mg 18 mg 0.10 g 0.9 g 2.1 g 7.8 g 15 g 23 g 0.87 kg 2.5 kg	Weights / KCSI-MA06

201. Mass

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Electric balances	20109	(10 000 ~ 30 000) kg	7.8 kg	Weights
		(30 000 ~ 60 000) kg	11 kg	/ KCSI-MA06
Equal arm balances	20110	(0 ~ 200) g	0.20 mg	Weights
		(0.2 ~ 5) kg	2.7 mg	/ KCSI-MA10
		(5 ~ 30) kg	21 mg	
Platform scale balances	20112	(0 ~ 5) kg	51 mg	Weights
		(5 ~ 20) kg	0.20 g	/ KCSI-MA05
		(20 ~ 100) kg	11 g	
		(100 ~ 200) kg	21 g	
		(200 ~ 500) kg	51 g	
		(500 ~ 1 000) kg	0.11 kg	
		(1 000 ~ 2 000) kg	1.0 kg	
		(2 000 ~ 10 000) kg	5.0 kg	
Spring scale balances	20113	(0 ~ 5) kg	2.0 g	Weights
		(5 ~ 20) kg	5.0 g	/ KCSI-MA01
		(20 ~ 100) kg	50 g	
Trip balances	20114	(0 ~ 200) g	11 mg	Weights
		(0.2 ~ 5) kg	53 mg	/ KCSI-MA09
Weights	20116	(1 mg ~ 20 kg)	(F1 class)	Standard weights,
		1 mg	6.4 µg	Mass comparator
		2 mg	6.4 µg	/ KCSI-MA08
		5 mg	6.4 µg	
		10 mg	6.9 µg	
		20 mg	6.9 µg	
		50 mg	7.5 µg	
		100 mg	8.3 µg	
		200 mg	9.1 µg	
		500 mg	11 µg	
		1 g	17 µg	
		2 g	19 µg	
		5 g	22 µg	
		10 g	26 µg	
		20 g	32 µg	
		50 g	40 µg	
		100 g	62 µg	
		200 g	0.12 mg	
		500 g	0.32 mg	

201. Mass

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Weights	20116	1 kg	0.62 mg	Standard weights,
		2 kg	1.7 mg	Mass comparator
		5 kg	3.2 mg	/ KCSI-MA08
		10 kg	8.5 mg	
		20 kg	13 mg	
		(50 kg)	(M2 class)	
		50 kg	1.4 g	
		(500 kg)	(M2 class)	
		500 kg	13 g	
		(1000 kg)	(M2 class)	
		1 000 kg	45 g	

202. Force

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Force measuring devices	20202	(0.05~5) kN	7.0×10^{-5}	Force measuring
		(5~20) kN	5.0×10^{-4}	devices
		(20~50) kN	5.0×10^{-4}	/ KCSI-FC03
		(50~100) kN	4.5×10^{-4}	
		(100~200) kN	4.0×10^{-4}	
		(200~500) kN	5.0×10^{-4}	
		(500~1 000) kN	4.8×10^{-4}	
Tension/Compression	20203			Weights,
testing machines				Electric force measuring
Tensile		(0.1 ~ 1 000) N	8.0×10^{-4}	device
		(1 ~ 5) kN	1.2×10^{-3}	/ KCSI-FC02
		(5 ~ 20) kN	1.3×10^{-3}	
		(20 ~ 50) kN	1.3×10^{-3}	
		(50 ~ 100) kN	1.3×10^{-3}	
		(100 ~ 200) kN	1.3×10^{-3}	
Compression		(0.1 ~ 1 000) N	8.0×10^{-4}	
		(1 ~ 2) kN	1.6×10^{-3}	
		(2 ~ 10) kN	1.3×10^{-3}	
		(10 ~ 30) kN	1.2×10^{-3}	
		(30 ~ 100) kN	1.4×10^{-3}	
		(100 ~ 300) kN	1.3×10^{-3}	
		(300 ~ 500) kN	1.2×10^{-3}	
		(500 ~ 1 000) kN	1.3×10^{-3}	

202. Force

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Compression	20203	(1 ~ 2) MN (2 ~ 5) MN (5 ~ 10) MN	1.7×10^{-3} 1.7×10^{-3} 1.9×10^{-3}	Weights, Electric force measuring device / KCSI-FC02
Push-pull gauges Tensile, Compression	20204	(1 ~ 1 000) N	1.0×10^{-3}	Standard weights / KCSI-FC01

203. Torque

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Torque wrenches/drivers	20303	(0.1 ~ 1) N·m (1 ~ 10) N·m (10 ~ 25) N·m (25 ~ 50) N·m (50 ~ 100) N·m (100 ~ 250) N·m (250 ~ 500) N·m (500 ~ 1 000) N·m (1 000 ~ 2 000) N·m	1.1×10^{-2} 6.0×10^{-3} 6.2×10^{-3} 6.1×10^{-3} 9.5×10^{-3} 6.0×10^{-3} 6.3×10^{-3} 9.5×10^{-3} 8.0×10^{-3}	Torque testers, electronical / KCSI-TO01

204. Pressure

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Absolute pressure gauges	20406	5 kPa abs. ~ 3 500 kPa abs.	3.2×10^{-4}	Pressure controller/ calibrator / KCSI-PS01
Blood pressure gauges	20407	(0 ~ 40) kPa	1.5×10^{-3}	Pneumatic pressure ballances / KCSI-PS02
Compound pressure gauges	20408	-95 kPa ~ 3.5 MPa	3.5×10^{-4}	Pressure controller / calibrator / KCSI-PS03
Differential pressure gauges	20409	(0 ~ 350) kPa (0.35 ~ 5) MPa	2.0×10^{-4} 2.0×10^{-4}	Pneumatic pressure ballances / KCSI-PS04
Gauge pressure gauges	20411	(0 ~ 350) kPa 350 kPa ~ 100 MPa	1.1×10^{-4} 1.0×10^{-4}	Pneumatic pressure ballances / Hydraulic pressure ballances / KCSI-PS05

204. Pressure

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Pressure transducers/ transmitters	20412	5 kPa abs. ~ 3.5 MPa abs. (0 ~ 7) kPa 7 kPa ~ 5 MPa (5 ~ 100) MPa	4.5×10^{-4} 4.5×10^{-4} 4.0×10^{-4} 4.0×10^{-4}	Pneumatic pressure ballances / Hydraulic pressure ballances / KCSI-PS06
Dial type vacuum gauges	20413	(-95 ~ 0) kPa	1.0×10^{-3}	Pressure controller, calibrator / KCSI-PS07

206. Volume

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Volumetric glasswares	20601	(0 ~ 2) ml (2 ~ 10) ml (10 ~ 25) ml (25 ~ 50) ml (50 ~ 100) ml (100 ~ 250) ml (250 ~ 500) ml (500 ~ 1 000) ml (1 000 ~ 2 000) ml (2 000 ~ 5 000) ml (5 000 ~ 10 000) ml	1.2 µl 2.2 µl 5.2 µl 7.5 µl 10 µl 42 µl 84 µl 0.15 ml 0.23 ml 0.88 ml 1.8 ml	Weights, Digital Balance / KCSI-VO01
Pycnometers	20602	(0 ~ 100) mL (100 ~ 250) mL (250 ~ 500) mL	6.0 µl 10 µl 20 µl	Weights, Digital Balance / KCSI-VO01
Concrete air content meters	20605	(0 ~ 7 500) mL (0 ~ 10) %	0.06 %	Weights, Digital Balance / KCSI-AI01
Piston type volume meters	20606	(0 ~ 0.01) ml (0.01 ~ 0.02) ml (0.02 ~ 0.05) ml (0.05 ~ 0.1) ml (0.1 ~ 0.2) ml (0.2 ~ 0.5) ml (0.5 ~ 1) ml (1 ~ 2) ml (2 ~ 5) ml (5 ~ 10) ml (10 ~ 20) ml	24 nl 30 nl 36 nl 0.09 µl 0.17 µl 0.37 µl 0.74 µl 1.2 µl 2.9 µl 5.8 µl 12 µl	Weights, Digital Balance / KCSI-VO02

206. Volume

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
	20606	(20 ~ 50) ml	29 µl	Weights, Digital Balance
		(50 ~ 100) ml	58 µl	/ KCSI-VO02

207. Density

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Salinity meters	20704	(0.0 ~ 1.5) %	0.018 %	Standard matter,
		(1.5 ~ 15) %	0.028 %	Ion chromatograph
		(15 ~ 30) %	0.080 %	/ KCSI-DE02
Chloride meters	20707	(0.0 ~ 0.1) %	0.002 0 %	Standard matter,
		(0.1 ~ 1.5) %	0.005 0 %	Ion chromatograph
				/ KCSI-DE01

210. Hardness

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Brinell hardness testers	21001			Brinell hardness test blocks
		(95 ~ 250) HBW 10/3000	2.6 HBW 10/3000	/ KCSI-HD04
		(250 ~ 450) HBW 10/3000	4.4 HBW 10/3000	
Rockwell hardness testers	21002			Rockwell hardness test blocks
		(20 ~ 70) HRC	0.42 HRC	/ KCSI-HD01
		(20 ~ 100) HRBW	0.68 HRBW	
		(65 ~ 94) HR15N	0.64 HR15N	
		(42 ~ 86) HR30N	0.68 HR30N	
		(67 ~ 93) HR15TW	1.1 HR15TW	
		(29 ~ 82) HR30TW	1.2 HR30TW	
Shore hardness testers	21003			Shore hardness test blocks
		(25 ~ 100) HS	1.4 HS	/ KCSI-HD02
Vickers hardness testers	21004			Vickers hardness test blocks
		(95 ~ 225) HV 0.2	5.9 HV 0.2	/ KCSI-HD03
		(400 ~ 600) HV 0.2	18 HV 0.2	
		(700 ~ 950) HV 0.2	27 HV 0.2	
		(95 ~ 225) HV 0.5	6.4 HV 0.5	
		(400 ~ 600) HV 0.5	15 HV 0.5	
		(700 ~ 950) HV 0.5	22 HV 0.5	
		(95 ~ 225) HV 10	2.7 HV 10	
		(400 ~ 600) HV 10	7.2 HV 10	
		(700 ~ 950) HV 10	10 HV 10	
		(95 ~ 225) HV 30	3.3 HV 30	

210. Hardness

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
	21004	(400 ~ 600) HV 30 (700 ~ 950) HV 30	7.2 HV 30 10 HV 30	Vickers hardness test blocks / KCSI-HD03
Durometer hardness testers	21005	(0 ~ 100) HDA (0 ~ 100) HDD	0.30 HDA 0.30 HDD	Rubber hardness testing machines / KCSI-HD05
Leeb hardness testers	21006	(400 ~ 500) HLD (500 ~ 700) HLD (700 ~ 1 000) HLD	4.6 HLD 4.6 HLD 4.6 HLD	Leeb hardness test blocks / KCSI-HD06

211. Impact

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Charpy impact testers	21102			Impact test gauge
Metal		(0 ~ 900) J	-	/ KCSI-IM01
Plastics		(0 ~ 50) J	-	
Izod impact testers	21103			Impact test gauge
Metal		(0 ~ 900) J	-	/ KCSI-IM02
Plastics		(0 ~ 50) J	-	

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301. Time / Frequency

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
General frequency sources	30103			Frequency counters
Frequency		(10 ~ 100) Hz	5.8×10^{-5}	/ KCSI-TL-03
		(0.1 ~ 100) kHz	5.8×10^{-5}	
		(0.1 ~ 1) MHz	5.8×10^{-5}	
Time Interval Meter	30106			Stop Watch Calibrators,
/ Stop Watches, Timer				Oscilloscope
Stop Watche		(1 ~ 86 400) s	3.1×10^{-7}	/ KCSI-TL-01
Timer		(0.1 ~ 30) s	3.1×10^{-3}	
		(30 ~ 60) s	4.0×10^{-3}	

302. Velocity & Revolution

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Standard RPM Generators	30201			Tacometer, Stroboscope.
Revolution Velocity		(30 ~ 500) min^{-1}	0.08 min^{-1}	/ KCSI-RL-03
Measurement		(500 ~ 1 000) min^{-1}	0.2 min^{-1}	
		(1 000 ~ 5 000) min^{-1}	0.3 min^{-1}	
		(5 000 ~ 20 000) min^{-1}	2 min^{-1}	
Contact Type Tachometer	30202			Frequency Counters,
Revolution Velocity		(6 ~ 100) min^{-1}	0.11 min^{-1}	RPM Calibration System,
Measurement		(100 ~ 4 000) min^{-1}	0.2 min^{-1}	Function Generators,
				/ KCSI-RL-01
Photo Tachometers	30203			Frequency Counters,
Stroboscopes		(6 ~ 600) min^{-1}	0.02 min^{-1}	RPM Calibration System,
Revolution Velocity		(600 ~ 6 000) min^{-1}	0.12 min^{-1}	Function Generators,
Measurement		(6 000 ~ 30 000) min^{-1}	0.65 min^{-1}	/ KCSI-RL-02
		(30 000 ~ 60 000) min^{-1}	0.67 min^{-1}	
		(60 000 ~ 90 000) min^{-1}	1.2 min^{-1}	

401. DC Voltage & Current

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Ammeters, DC	40101			Meter Calibrators,
DC Current		(±)		Current Amplifiers
		(0 ~ 100) μA	35 nA	/ KCSI-EL-01
		(0.1 ~ 1) mA	1.5×10^{-4}	
		(1 ~ 100) mA	1.3×10^{-4}	
		(0.1 ~ 1) A	2.4×10^{-4}	
		(1 ~ 10) A	5.7×10^{-4}	
		(10 ~ 100) A	4.9×10^{-4}	
Calibrators, DC Voltage/Current	40103			Digital Multimeterts,
DC voltage		(±)		Active Shunts
		(0 ~ 10) mV	0.62 μV	/ KCSI-EL-02
		(10 ~ 100) mV	1.3×10^{-5}	
		(0.1 ~ 1) V	8.6×10^{-6}	
		(1 ~ 10) V	7.6×10^{-6}	
		(10 ~ 100) V	8.9×10^{-6}	
		(100 ~ 1 000) V	1.0×10^{-5}	
DC Current		(±)		
		(0 ~ 100) μA	12 nA	
		(0.1 ~ 1) mA	7.2×10^{-5}	
		(1 ~ 10) mA	7.4×10^{-5}	
		(10 ~ 100) mA	9.4×10^{-5}	
		(0.1 ~ 1) A	2.2×10^{-4}	
		(1 ~ 10) A	4.3×10^{-4}	
		(10 ~ 100) A	1.2×10^{-3}	
Resistance		(0 ~ 1) Ω	60 μΩ	
		(1 ~ 10) Ω	5.9×10^{-5}	
		(10 ~ 100) Ω	1.1×10^{-5}	
		(0.1 ~ 100) kΩ	1.1×10^{-5}	
		(0.1 ~ 1) MΩ	2.1×10^{-5}	
		(1 ~ 10) MΩ	1.2×10^{-5}	
Calibrators, Temperature Simulation	40104			Digital Multimeterts,
Temperature(Measure)		B Type		Meter Calibrators,
		(600 ~ 1 000) ℃	0.44 ℃	Standard Resistors,
		(1 000 ~ 1 600) ℃	0.35 ℃	/ KCSI-EL-03
		E Type		
		(-196 ~ 0) ℃	0.50 ℃	
		(0 ~ 1 000 ℃)	0.22 ℃	

401. DC Voltage & Current

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Temperature(Measure)	40104	J Type		Digital Multimeterts,
		(-196 ~ 0) ℃	0.28 ℃	Meter Calibrators,
		(0 ~ 1 200) ℃	0.24 ℃	Standard Resistors,
		K Type		/ KCSI-EL-03
		(-196 ~ 0) ℃	0.34 ℃	
		(0 ~ 1 370) ℃	0.40 ℃	
		N Type		
		(-196 ~ 0) ℃	0.31 ℃	
		(0 ~ 1 300) ℃	0.22 ℃	
		R Type		
		(0 ~ 800) ℃	0.47 ℃	
		(800 ~ 1 600) ℃	0.35 ℃	
		S Type		
		(0 ~ 800) ℃	0.47 ℃	
		(800 ~ 1 600) ℃	0.35 ℃	
		T Type		
		(-196 ~ 0) ℃	0.48 ℃	
		(0 ~ 400) ℃	0.12 ℃	
		PT100(385) Type		
		(-196 ~ 0) ℃	0.07 ℃	
		(0 ~ 600) ℃	0.23 ℃	
		PT100(3916) Type		
		(-196 ~ 0) ℃	0.25 ℃	
		(0 ~ 600) ℃	0.23 ℃	
DC Voltage(Measure)		(±)		
		(0 ~ 100) mV	3.1 μV	
		(0.1 ~ 10) V	1.5×10^{-5}	
		(10 ~ 100) V	2.0×10^{-5}	
		(100 ~ 300) V	2.7×10^{-5}	
DC Current(Measure)		(±)		
		(0 ~ 1) mA	0.60 μA	
		(1 ~ 10) mA	1.4×10^{-4}	
		(10 ~ 100) mA	1.4×10^{-4}	
AC Voltage(Measure)		(0.05 ~ 1) kHz		
		(0 ~ 1) V	81 μV	
		(1 ~ 100) V	2.2×10^{-4}	
		(100 ~ 300) V	3.1×10^{-4}	

401. DC Voltage & Current

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Resistance(Measure)	40104	(0 ~ 1) Ω	0.13 mΩ	Digital Multimeterts,
		(1 ~ 10) Ω	4.2×10^{-5}	Meter Calibrators,
		(0.01 ~ 100) kΩ	3.0×10^{-5}	Standard Resistors,
Temperature(Source)		B Type		/ KCSI-EL-03
		(0 ~ 4.834) mV	0.74 μV	
		(0 ~ 1 000) ℃		
		(4.834 ~ 13.820) mV	0.74 μV	
		(1 000 ~ 1 820) ℃		
		E Type		
		(-9.835 ~ 0) mV	2.1 μV	
		(-270 ~ 0) ℃		
		(0 ~ 76.373) mV	1.4 μV	
		(0 ~ 1 000) ℃		
		J Type		
		(-8.095 ~ 0) mV	2.0 μV	
		(-210 ~ 0) ℃		
		(0 ~ 69.553) mV	1.3 μV	
		(0 ~ 1 200) ℃		
		K Type		
		(-6.458 ~ 0) mV	2.3 μV	
		(-270 ~ 0) ℃		
		(0 ~ 54.886) mV	1.3 μV	
		(0 ~ 1 372) ℃		
		N Type		
		(-4.345 ~ 0) mV	2.0 μV	
		(-270 ~ 0) ℃		
		(0 ~ 47.513) mV	1.3 μV	
		(0 ~ 1 300) ℃		
		R Type		
		(-0.226 ~ 0) mV	2.0 μV	
		(-50 ~ 0) ℃		
		(0 ~ 21.101) mV	1.3 μV	
		(0 ~ 1 768) ℃		
		S Type		
		(-0.236 ~ 0) mV	2.0 μV	
		(-50 ~ 0) ℃		
		(0 ~ 18.693) mV	0.7 μV	
		(0 ~ 1 768) ℃		

401. DC Voltage & Current

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Temperature(Source)	40104	T Type		Digital Multimeterts,
		(-6.258 ~ 0) mV	2.0 μV	Meter Calibrators,
		(-270 ~ 0) ℃		Standard Resistors,
		(0 ~ 20.872) mV	1.3 μV	/ KCSI-EL-03
		(0 ~ 400) ℃		
		PT100(385) Type		
		(18.520 ~ 100.000) Ω	0.90 mΩ	
		(-200 ~ 0) ℃		
		(100.000 ~ 390.481) Ω	5.8 mΩ	
		(0 ~ 850) ℃		
		PT100(3916) Type		
		(17.14 ~ 100.00) Ω	0.90 mΩ	
		(-200 ~ 0) ℃		
		(100.00 ~ 287.4) Ω	5.5 mΩ	
		(0 ~ 600) ℃		
DC Voltage(Source)		(±)		
		(0 ~ 1) mV	0.93 μV	
		(1 ~ 10) mV	9.3×10^{-5}	
		(10 ~ 100) mV	1.4×10^{-5}	
		(0.1 ~ 1) V	9.4×10^{-6}	
		(1 ~ 10) V	8.6×10^{-6}	
		(10 ~ 100) V	9.7×10^{-6}	
DC current(Source)		(±)		
		(0 ~ 1) mA	0.081 μA	
		(1 ~ 10) mA	4.7×10^{-5}	
		(10 ~ 100) mA	7.4×10^{-5}	
Resistance(Source)		(0 ~ 1) Ω	0.70 mΩ	
		(0.001 ~ 100) kΩ	7.1×10^{-5}	
Current Shunts, DC	40105			Meter Calibrators,
Resistance		(0 ~ 10) μΩ	7.7 nΩ	Current Amplifiers,
		(0.01 ~ 1) mΩ	4.7×10^{-4}	Digital Multimeterts,
		(1 ~ 10) mΩ	5.7×10^{-4}	/ KCSI-EL-04
		(10 ~ 100) mΩ	2.4×10^{-4}	
		(0.1 ~ 10) Ω	1.3×10^{-4}	
		(10 ~ 100) Ω	1.5×10^{-4}	

401. DC Voltage & Current

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Galvanometers / Null Detectors	40106			Meter Calibrators,
DC Voltage		(±)		KCSI-EL-05
		(0 ~ 1) mV	6.2 μV	
		(0.001 ~ 1 000) V	6.1×10^{-3}	
DC current		(±)		
		(0 ~ 1) A	5.8×10^{-3}	
Power Supplies, DC	40108			Digital Multimeterts,
DC Voltage		(±)		Active Shunts
		(0 ~ 1) V	71 μV	Electronic Loads,
		(1 ~ 10) V	6.9×10^{-5}	True RMS Voltmeters,
		(10 ~ 100) V	8.1×10^{-5}	/ KCSI-EL-06
		(100 ~ 1 000) V	8.2×10^{-5}	
DC current		(±)		
		(0 ~ 100) mA	19 μA	
		(0.1 ~ 1) A	3.0×10^{-4}	
		(1 ~ 10) A	5.4×10^{-4}	
		(10 ~ 20) A	5.3×10^{-4}	
		(20 ~ 100) A	1.4×10^{-3}	
		(100 ~ 1 000) A	2.9×10^{-3}	
Voltmeters, DC	40112			Meter Calibrators,
DC Voltage		(±)		/ KCSI-EL-07
		(0 ~ 10) mV	1.2 μV	
		(10 ~ 100) mV	3.0×10^{-5}	
		(0.1 ~ 1) V	1.3×10^{-5}	
		(1 ~ 10) V	1.4×10^{-5}	
		(10 ~ 1 000) V	2.0×10^{-5}	

402. Resistance, Capacitance & Inductance

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Earth Testers	40205			Meter Calibrators,
Resistance		(0 ~ 10) mΩ	5.8 μΩ	Decade Resistances,
		(10 ~ 100) mΩ	5.8×10^{-4}	/ KCSI-EL-08
		(0.1 ~ 100) Ω	5.8×10^{-4}	
		(0.1 ~ 100) kΩ	5.8×10^{-4}	
		60 Hz		
AC Voltage		(1 ~ 100) V	7.4×10^{-4}	
		(100 ~ 1 000) V	7.9×10^{-4}	

402. Resistance, Capacitance & Inductance

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Insulation Testers	40210			Decade Resistances,
Test Voltage		(10 ~ 100) V	7.0×10^{-4}	High Voltage Meter,
		(100 ~ 1 000) V	7.1×10^{-4}	Meter Calibrators,
		(1 000 ~ 5 000) V	6.5×10^{-3}	Digital Multimeterts,
AC Voltage		60 Hz		/ KCSI-EL-09
		(0 ~ 1) V	0.26 mV	
		(1 ~ 100) V	2.5×10^{-4}	
		(100 ~ 1 000) V	3.7×10^{-4}	
DC Voltage		(0 ~ 1) V	0.68 mV	
		(1 ~ 100) V	6.8×10^{-4}	
		(100 ~ 1 000) V	7.0×10^{-4}	
Resistance		(0 ~ 1) kΩ	0.71 Ω	
		(1 ~ 1 000) kΩ	7.1×10^{-4}	
		(1 ~ 100) MΩ	7.7×10^{-4}	
		(0.1 ~ 100) GΩ	1.4×10^{-3}	
		(100 ~ 1 000) GΩ	1.8×10^{-3}	
Resistance Bridges / Simuilar Instruments	40213			Digital Multimeterts, Standard Resistors,
Resistance(Rheostat Arm)		(0 ~ 10) mΩ	7.3 μΩ	Decade Resistances,
		(10 ~ 100) mΩ	1.1×10^{-4}	/ KCSI-EL-10
		(0.1 ~ 1) Ω	7.2×10^{-5}	
		(0.001 ~ 10) kΩ	7.1×10^{-5}	
Resistance(Ratio Arm)		(0 ~ 1) mΩ	55 nΩ	
		(1 ~ 100) mΩ	5.5×10^{-5}	
		(0.1 ~ 1) Ω	2.3×10^{-5}	
		(1 ~ 10) Ω	1.3×10^{-5}	
		(10 ~ 100) Ω	1.1×10^{-5}	
		(0.1 ~ 100) kΩ	1.2×10^{-5}	
		(0.1 ~ 1) MΩ	1.7×10^{-5}	
Resistance Meters	40214			Standard Resistors,
Resistance		(1 ~ 100) mΩ	9.1×10^{-5}	Decade Resistances,
		(0.1 ~ 1) Ω	7.4×10^{-5}	/ KCSI-EL-11
		(0.001 ~ 100) kΩ	7.1×10^{-5}	
		(0.1 ~ 1) MΩ	7.2×10^{-5}	
		(0.1 ~ 10) MΩ	7.6×10^{-5}	

402. Resistance, Capacitance & Inductance

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Resistor	40215			Digital Multimeterts,
Resistance		(0 ~ 10) mΩ	2.8 μΩ	Meter Calibrators
		(10 ~ 100) mΩ	24 μΩ	/KCSI-EL-12
		(100 ~ 1 000) mΩ	17 μΩ	
		(1 ~ 10) Ω	0.12 mΩ	
		(10 ~ 100) Ω	1.1 mΩ	
		(100 ~ 1 000) Ω	11 mΩ	
		(1 ~ 10) kΩ	0.11 Ω	
		(10 ~ 100) kΩ	1.1 Ω	
		(100 ~ 1 000) kΩ	13 Ω	
		(1 ~ 10) MΩ	0.22 kΩ	
		(10 ~ 100) MΩ	3.5 kΩ	
		(100 ~ 1 000) MΩ	0.35 MΩ	

403. AC Voltage, Current & Power

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Ammeters, AC	40301			Meter Calibrators,
AC Current		(0.04 ~ 1) kHz		Current Amplifiers,
		1 mA	1.4×10^{-3}	/ KCSI-EL-13
		(0.001 ~ 1) A	9.3×10^{-4}	
		(1 ~ 10) A	1.5×10^{-3}	
		(0.05 ~ 1) kHz		
		(10 ~ 100) A	2.7×10^{-3}	
Clamp Ammeters / Voltmeters	40302			Meter Calibrators,
DC Current		(0 ~ 1) mA	7.2×10^{-4}	Turn Coil,
		(1 ~ 10) mA	7.1×10^{-4}	Standard Resistors,
		(10 ~ 100) mA	7.1×10^{-4}	Decade Resistances
		(0.1 ~ 1) A	7.4×10^{-4}	/ KCSI-EL-14
		(1 ~ 10) A	9.0×10^{-4}	
		(10 ~ 100) A	3.5×10^{-3}	
		(100 ~ 500) A	3.1×10^{-3}	
		(500 ~ 1 000) A	3.2×10^{-3}	
AC Current		60 Hz		
		(1 ~ 10) mA	9.3×10^{-4}	
		(10 ~ 100) mA	8.2×10^{-4}	
		(0.1 ~ 1) A	8.7×10^{-4}	

403. AC Voltage, Current & Power

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
AC Current	40302	(1 ~ 10) A	9.7×10^{-4}	Meter Calibrators,
		(10 ~ 100) A	3.6×10^{-3}	Turn Coil,
		(100 ~ 500) A	3.2×10^{-3}	Standard Resistors,
		(500 ~ 1 000) A	3.4×10^{-3}	Decade Resistances
DC Voltage		(0 ~ 10) mV	7.1×10^{-4}	/ KCSI-EL-14
		(0.01 ~ 1 000) V	7.0×10^{-4}	
AC Voltage		60 Hz		
		10 mV	1.1×10^{-3}	
		(10 ~ 100) mV	7.4×10^{-4}	
		(0.1 ~ 100) V	7.3×10^{-4}	
		(100 ~ 1 000) V	7.7×10^{-4}	
Resistance		(0 ~ 10) MΩ	7.0×10^{-4}	
Calibrators, AC Voltage / Current	40303			Digital Multimeterts,
AC Voltage		(0.04 ~ 10) kHz		Active Shunts
		10 mV	1.6×10^{-3}	/ KCSI-EL-15
		(10 ~ 100) mV	2.1×10^{-4}	
		(0.1 ~ 10) V	1.4×10^{-4}	
		(10 ~ 100) V	2.0×10^{-4}	
		(0.04 ~ 1) kHz		
		(100 ~ 1 000) V	1.5×10^{-4}	
AC Current		(0.04 ~ 1) kHz		
		0.1 mA	5.0×10^{-4}	
		(0.1 ~ 100) mA	4.8×10^{-4}	
		(0.1 ~ 1) A	8.7×10^{-4}	
		(1 ~ 10) A	1.4×10^{-3}	
		(10 ~ 20) A	1.6×10^{-3}	
		(20 ~ 100) A	2.7×10^{-3}	
		(1 ~ 10) kHz		
		(0.1 ~ 10) mA	2.1×10^{-3}	
		(10 ~ 100) mA	1.5×10^{-3}	
		(0.1 ~ 1) A	8.1×10^{-3}	
Voltagr / Current Phase Angle Meters	40307			Power Meter Calibrators
Phase Angle		(±)		/ KCSI-EL-16
		(0 ~ 20) °	1.1×10^{-3}	
		(20 ~ 30) °	1.6×10^{-3}	
		(30 ~ 40) °	2.0×10^{-3}	
		(40 ~ 50) °	2.5×10^{-3}	

403. AC Voltage, Current & Power

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Phase Angle	40307	(50 ~ 60) °	3.3×10^{-3}	Power Meter Calibrators
		(60 ~ 65) °	4.1×10^{-3}	/ KCSI-EL-16
		(65 ~ 70) °	5.8×10^{-3}	
		(70 ~ 75) °	8.9×10^{-3}	
		(75 ~ 90) °	1.7×10^{-2}	
Power Factor Meters	40310			Power Meter Calibrators
Power Factor(LEAD / LAG)		(50 ~ 60) Hz		/ KCSI-EL-17
		0.1	1.8×10^{-2}	
		0.1 ~ 0.2	9.1×10^{-3}	
		0.2 ~ 0.3	5.9×10^{-3}	
		0.3 ~ 0.4	4.3×10^{-3}	
		0.4 ~ 0.5	3.3×10^{-3}	
		0.5 ~ 0.6	2.5×10^{-3}	
		0.6 ~ 0.7	2.0×10^{-3}	
		0.7 ~ 0.8	1.5×10^{-3}	
		0.8 ~ 0.9	1.1×10^{-3}	
		0.9 ~ 1	6.0×10^{-4}	
Power Meters, AC	40311			Power Meter Calibrators,
Wattage		(50 ~ 60) Hz		Meter Calibrators
		10 W	1.2×10^{-3}	/ KCSI-EL-18
		(10 ~ 100) W	9.2×10^{-4}	
		(0.1 ~ 20) kW	1.1×10^{-3}	
		(20 ~ 100) kW	3.3×10^{-3}	
		(100 ~ 240) kW	4.4×10^{-3}	
AC Voltage		(50 ~ 60) Hz		
		(1 ~ 100) V	2.3×10^{-4}	
		(100 ~ 1 000) V	3.2×10^{-4}	
AC Current		(50 ~ 60) Hz		
		(10 ~ 1 000) mA	7.3×10^{-4}	
		(1 ~ 20) A	1.5×10^{-3}	
		(20 ~ 1 000) A	3.5×10^{-3}	
Power Factor(LEAD / LAG)		(50 ~ 60) Hz		
		0.1	1.8×10^{-2}	
		0.1 ~ 0.2	9.1×10^{-3}	
		0.2 ~ 0.3	5.9×10^{-3}	
		0.3 ~ 0.4	4.3×10^{-3}	
		0.4 ~ 0.5	3.3×10^{-3}	

403. AC Voltage, Current & Power

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Power Factor(LEAD / LAG)	40311	0.5 ~ 0.6	2.5×10^{-3}	Power Meter Calibrators,
		0.6 ~ 0.7	2.0×10^{-3}	Meter Calibrators
		0.7 ~ 0.8	1.5×10^{-3}	/ KCSI-EL-18
		0.8 ~ 0.9	1.1×10^{-3}	
		0.9 ~ 1	6.0×10^{-4}	
Power Supplies, AC	40312			Digital Multimeterts,
AC Voltage		(0.05 ~ 1) kHz		Electronic Loads,
		(1 ~ 1 000) V	1.3×10^{-3}	Active Shunts
AC Current		(0.05 ~ 1) kHz		/ KCSI-EL-19
		(0 ~ 100) mA	1.8×10^{-3}	
		(0.1 ~ 1) A	2.1×10^{-3}	
		(1 ~ 20) A	3.0×10^{-3}	
Puncture / Safety Testers	40313			Leakage Current Testers,
DC Voltage		(0 ~ 100) V	5.8×10^{-4}	High Voltage Testers
		(100 ~ 500) V	1.2×10^{-3}	/ KCSI-EL-20
		(500 ~ 1 000) V	5.8×10^{-3}	
		(1 ~ 5) kV	6.6×10^{-3}	
		(5 ~ 100) kV	8.4×10^{-3}	
AC Voltage		(10 ~ 100) V	1.2×10^{-3}	
		(100 ~ 500) V	1.7×10^{-3}	
		(500 ~ 1 000) V	5.9×10^{-3}	
		(1 ~ 10) kV	1.3×10^{-2}	
		(10 ~ 100) kV	1.6×10^{-2}	
DC Current		(0.5 ~ 10) mA	1.4×10^{-2}	
AC Current		(0.5 ~ 100) mA	1.4×10^{-2}	
Operating Time		(0 ~ 10) s	6.6×10^{-3}	
		(10 ~ 30) s	2.6×10^{-3}	
		(30 ~ 60) s	3.5×10^{-3}	
Voltmeters, AC	40318			Meter Calibrators
AC Voltage		(0.05 ~ 1) kHz		/ KCSI-EL-21
		10 mV	1.1×10^{-3}	
		(10 ~ 100) mV	7.4×10^{-4}	
		(0.1 ~ 100) V	7.3×10^{-4}	
		(100 ~ 1 000) V	7.7×10^{-4}	

404. Other DC & LF Measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Calibrators, Multimeter	40403			Digital Multimeterts
DC Voltage		(±)		/ KCSI-EL-22
		(0 ~ 10) mV	6.2×10^{-5}	
		(10 ~ 100) mV	1.4×10^{-5}	
		(0.1 ~ 1) V	8.7×10^{-6}	
		(1 ~ 10) V	7.7×10^{-6}	
		(10 ~ 100) V	8.9×10^{-6}	
		(100 ~ 1 000) V	1.1×10^{-5}	
DC Current		(±)		
		(0 ~ 0.1) mA	1.1×10^{-4}	
		(0.1 ~ 1) mA	4.3×10^{-5}	
		(1 ~ 10) mA	4.7×10^{-5}	
		(10 ~ 100) mA	7.3×10^{-5}	
		(0.1 ~ 1) A	2.1×10^{-4}	
		(1 ~ 10) A	4.3×10^{-4}	
Resistance		(0 ~ 1) Ω	6.3×10^{-5}	
		(1 ~ 100) Ω	6.0×10^{-5}	
		(0.1 ~ 100) kΩ	6.0×10^{-5}	
		(0.1 ~ 10) MΩ	6.0×10^{-5}	
AC Voltage		(0.04 ~ 10) kHz		
		10 mV	1.6×10^{-3}	
		(10 ~ 100) mV	2.2×10^{-4}	
		(0.1 ~ 10) V	1.4×10^{-4}	
AC Voltage		(10 ~ 1 000) V	1.5×10^{-4}	
		(10 ~ 20) kHz		
		10 mV	2.0×10^{-3}	
		(10 ~ 100) mV	4.2×10^{-4}	
		(0.1 ~ 100) V	2.6×10^{-4}	
		(100 ~ 1 000) V	2.9×10^{-4}	
		(20 ~ 100) kHz		
		10 mV	6.3×10^{-3}	
		(10 ~ 100) mV	1.1×10^{-3}	
		(0.1 ~ 10) V	7.3×10^{-4}	
		(10 ~ 100) V	7.5×10^{-4}	
AC Current		(0.04 ~ 1) kHz		
		0.1 mA	5.4×10^{-4}	
		(0.1 ~ 10) mA	5.2×10^{-4}	

404. Other DC & LF Measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
AC Current	40403	(10 ~ 100) mA	4.9×10^{-4}	Digital Multimeterts
		(0.1 ~ 1) A	8.7×10^{-4}	/ KCSI-EL-22
		(1 ~ 10) A	1.4×10^{-3}	
Line Frequency Meters	40410			AC Voltage Current Standards,
Frequency		10 Hz	1.2×10^{-2}	Funtion Generators,
		(10 ~ 100) Hz	1.4×10^{-3}	/ KCSI-EL-23
		(100 ~ 1 000) Hz	9.8×10^{-4}	
Function Generators	40411			Frequency Counters,
Frequency		(10 ~ 100) Hz	1.2×10^{-6}	Digital Multimeterts,
		(0.1 ~ 100) kHz	1.2×10^{-6}	True RMS Voltmeters,
		(0.1 ~ 100) MHz	1.2×10^{-6}	Oscilloscopes
Flatness		1 V		/ KCSI-EL-24
		20 Hz	1.2×10^{-2}	
		(20 ~ 100) Hz	6.2×10^{-3}	
		(0.1 ~ 100) kHz	6.2×10^{-3}	
		(0.1 ~ 1) MHz	9.3×10^{-3}	
		(1 ~ 10) MHz	4.1×10^{-2}	
Attenuation		(0.1 ~ 10) kHz		
		-60 dB	0.31 dB	
		(-60 ~ -40) dB	0.21 dB	
		(-40 ~ 50) dB	0.16 dB	
Rise & Fall Time		(1 ~ 1 000) ns	2.2×10^{-2}	
		(0 ~ 1) V	5.8×10^{-3}	
DC Offset		(1 ~ 10) V	5.8×10^{-4}	
		(10 ~ 20) V	2.9×10^{-3}	
Impulse Generators, LF	40414			Oscilloscopes,
Pulse Voltage		(0.1 ~ 10) kV	4.6×10^{-2}	High Voltage Proves
		(10 ~ 20) kV	4.4×10^{-2}	/ KCSI-EL-25
		(20 ~ 30) kV	4.7×10^{-2}	
Rise Time		(10 ~ 100) ns	2.2×10^{-2}	
		(0.1 ~ 100) μs	2.2×10^{-2}	
		(0.1 ~ 10) ms	2.2×10^{-2}	
Leakage Current Testers	40416			AC Voltage Current Standards,
DC Current		10 μA	1.3×10^{-2}	Meter Calibrators,
		(10 ~ 100) μA	2.1×10^{-3}	/ KCSI-EL-26
		(0.1 ~ 1) mA	1.2×10^{-3}	
		(1 ~ 100) mA	9.0×10^{-4}	

404. Other DC & LF Measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
AC Current	40416	(0.05 ~ 1) kHz		AC Voltage Current Standards,
		10 μA	9.1×10^{-2}	Meter Calibrators,
		(10 ~ 100) μA	1.4×10^{-2}	/ KCSI-EL-26
		(0.1 ~ 100) mA	7.3×10^{-3}	
DC Voltage		(1 ~ 1 000) V	6.3×10^{-3}	
AC Voltage		(0.05 ~ 1) kHz		
		(1 ~ 1 000) V	6.6×10^{-3}	
Resistance		1 kΩ	5.8×10^{-4}	
		(1 ~ 10) kΩ	6.2×10^{-4}	
AC / DC Loads, Electronic	40417			Meter Calibrators,
DC Voltage		(0 ~ 0.1) V	8.6×10^{-5}	Digital Multimeterts,
		(0.1 ~ 1) V	8.2×10^{-5}	DC Power Supplies,
		(1 ~ 10) V	7.3×10^{-5}	Active Shunts,
		(10 ~ 1 000) V	7.6×10^{-5}	Oscilloscopes
DC Current		(0 ~ 100) mA	2.3×10^{-4}	/ KCSI-EL-27
		(0.1 ~ 1) A	4.0×10^{-4}	
		(1 ~ 10) A	8.3×10^{-4}	
		(10 ~ 100) A	1.4×10^{-3}	
Multimeters, Analogue / Digital	40419			Meter Calibrators,
DC Voltage		(±)		Decade Resistances,
		(0 ~ 10) mV	1.5×10^{-4}	Standard Resistors
		(10 ~ 100) mV	3.5×10^{-5}	/ KCSI-EL-28,29,30
		(0.1 ~ 1) V	1.6×10^{-5}	
		(1 ~ 10) V	1.7×10^{-5}	
		(10 ~ 1 000) V	2.3×10^{-5}	
DC Current		(±)		
		(0 ~ 10) μA	2.5×10^{-3}	
		(10 ~ 100) μA	4.1×10^{-4}	
		(0.1 ~ 1) mA	1.8×10^{-4}	
		(1 ~ 100) mA	1.5×10^{-4}	
		(0.1 ~ 1) A	2.8×10^{-4}	
		(1 ~ 10) A	6.5×10^{-4}	
Resistance		(0 ~ 100) Ω	1.2×10^{-5}	
		(0.1 ~ 100) kΩ	1.2×10^{-5}	
		(0.1 ~ 1) MΩ	1.8×10^{-5}	
		(1 ~ 10) MΩ	3.0×10^{-5}	
		(10 ~ 100) MΩ	6.0×10^{-4}	

404. Other DC & LF Measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
AC Voltage	40419	(0.05 ~ 1) kHz		Meter Calibrators,
		10 mV	1.1×10^{-3}	Decade Resistances,
		(10 ~ 100) mV	2.7×10^{-4}	Standard Resistors
		(0.1 ~ 100) V	2.5×10^{-4}	/ KCSI-EL-28,29,30
		(100 ~ 1 000) V	3.7×10^{-4}	
		(1 ~ 10) kHz		
		10 mV	9.6×10^{-4}	
		(10 ~ 100) mV	4.8×10^{-4}	
		(0.1 ~ 1) V	3.5×10^{-4}	
		(1 ~ 10) V	3.8×10^{-4}	
		(10 ~ 100) V	3.1×10^{-4}	
		(100 ~ 1 000) V	3.7×10^{-4}	
		(10 ~ 20) kHz		
		10 mV	2.1×10^{-3}	
		(10 ~ 100) mV	1.8×10^{-3}	
		(0.1 ~ 1) V	1.2×10^{-3}	
		(1 ~ 10) V	8.7×10^{-4}	
		(10 ~ 100) V	3.7×10^{-4}	
		(20 ~ 50) kHz		
		10 mV	3.2×10^{-3}	
		(10 ~ 100) mV	2.5×10^{-3}	
		(0.1 ~ 1) V	1.6×10^{-3}	
		(1 ~ 10) V	1.2×10^{-3}	
		(10 ~ 100) V	4.4×10^{-4}	
		(50 ~ 100) kHz		
		10 mV	6.1×10^{-3}	
		(10 ~ 100) mV	3.0×10^{-3}	
		(0.1 ~ 1) V	2.0×10^{-3}	
		(1 ~ 10) V	1.9×10^{-3}	
		(10 ~ 100) V	2.9×10^{-3}	
AC Current		(50 ~ 100) Hz		
		10 μA	1.4×10^{-2}	
		(10 ~ 100) μA	2.7×10^{-3}	
		(0.1 ~ 1) mA	1.4×10^{-3}	
		(1 ~ 100) mA	7.0×10^{-4}	
		(0.1 ~ 1) A	7.1×10^{-4}	

404. Other DC & LF Measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
AC Current	40419	(1 ~ 2.9) A	7.9×10^{-4}	Meter Calibrators,
		(2.9 ~ 10) A	8.6×10^{-4}	Decade Resistances,
		(0.1 ~ 1) kHz		Standard Resistors
		10 μA	1.4×10^{-2}	/ KCSI-EL-28,29,30
		(10 ~ 100) μA	2.7×10^{-3}	
		(0.1 ~ 1) mA	1.4×10^{-3}	
		(1 ~ 100) mA	7.0×10^{-4}	
		(0.1 ~ 1) A	7.1×10^{-4}	
		(1 ~ 2.9) A	7.9×10^{-4}	
		(2.9 ~ 10) A	1.5×10^{-3}	
Oscillscopes	40421			Oscilloscopes Calibrators,
Vertical Axis		1 mV	4.8×10^{-2}	Frequency Counters,
		(1 ~ 25) mV	3.2×10^{-3}	Oscilloscopes
		(25 ~ 100) mV	1.9×10^{-3}	/ KCSI-EL-31
		(0.1 ~ 2) V	1.7×10^{-3}	
		(2 ~ 10) V	1.5×10^{-3}	
		(10 ~ 120) V	1.3×10^{-3}	
Bandwidth		50 kHz	2.5×10^{-2}	
		(50 ~ 1 000) kHz	4.5×10^{-2}	
		(1 ~ 100) MHz	4.5×10^{-2}	
		(100 ~ 200) MHz	5.2×10^{-2}	
		(200 ~ 600) MHz	7.3×10^{-2}	
		(600 ~ 1 000) MHz	8.5×10^{-2}	
Horizontal Axis		1 ns	5.8×10^{-3}	
		(1 ~ 2) ns	2.9×10^{-3}	
		(2 ~ 5) ns	1.2×10^{-3}	
		(5 ~ 10) ns	5.8×10^{-3}	
		(10 ~ 20) ns	2.9×10^{-3}	
		(20 ~ 50) ns	1.2×10^{-3}	
		(50 ~ 100) ns	5.8×10^{-3}	
		(100 ~ 200) ns	2.9×10^{-3}	
		(200 ~ 500) ns	1.2×10^{-3}	
		(0.5 ~ 1) μs	5.8×10^{-3}	
		(1 ~ 2) μs	2.9×10^{-3}	
		(2 ~ 5) μs	1.2×10^{-3}	
		(5 ~ 10) μs	5.8×10^{-3}	
		(10 ~ 20) μs	2.9×10^{-3}	

404. Other DC & LF Measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Horizontal Axis	40421	(20 ~ 50) μs	1.2×10^{-3}	Oscilloscopes Calibrators,
		(50 ~ 100) μs	5.8×10^{-3}	Frequency Counters,
		(100 ~ 200) μs	2.9×10^{-3}	Oscilloscopes
Time Marker		(200 ~ 500) μs	1.2×10^{-3}	/ KCSI-EL-31
		(0.5 ~ 1) ms	5.8×10^{-3}	
		(1 ~ 2) ms	2.9×10^{-3}	
		(2 ~ 5) ms	1.2×10^{-3}	
		(5 ~ 10) ms	5.8×10^{-3}	
		(10 ~ 20) ms	2.9×10^{-3}	
		(20 ~ 50) ms	1.2×10^{-3}	
		(50 ~ 100) ms	5.8×10^{-3}	
		(100 ~ 200) ms	2.9×10^{-3}	
		(200 ~ 500) ms	1.3×10^{-3}	
		(0.5 ~ 1) s	1.2×10^{-3}	
		(1 ~ 2) s	2.4×10^{-3}	
		(2 ~ 5) s	6.0×10^{-3}	
		(5 ~ 10) s	1.2×10^{-2}	
Recorders, Volt / Current	40424			Meter Calibrators
DC Voltage		(±)		/ KCSI-EL-32
		(0 ~ 10) mV	1.8×10^{-4}	
		(10 ~ 100) mV	9.1×10^{-5}	
		(0.1 ~ 1) V	7.6×10^{-5}	
		(1 ~ 100) V	7.3×10^{-5}	
		(100 ~ 1 000) V	7.8×10^{-5}	
DC Current		(±)		
		(0 ~ 10) μA	2.5×10^{-3}	
		(10 ~ 100) μA	4.2×10^{-4}	
		(0.1 ~ 10) mA	2.0×10^{-4}	
		(10 ~ 100) mA	1.7×10^{-4}	
		(0.1 ~ 1) A	2.9×10^{-4}	
		(1 ~ 10) A	6.5×10^{-4}	
		(10 ~ 20) A	1.3×10^{-3}	
AC Voltage		60 Hz		
		10 mV	9.7×10^{-4}	
		(10 ~ 100) mV	2.9×10^{-4}	
		(0.1 ~ 100) V	2.7×10^{-4}	
		(100 ~ 1 000) V	3.8×10^{-4}	

404. Other DC & LF Measurements

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
AC Current	40424	60 Hz		Meter Calibrators
		10 μA	1.4×10^{-2}	/ KCSI-EL-32
		(10 ~ 100) μA	2.7×10^{-3}	
		(0.1 ~ 1) mA	1.4×10^{-3}	
		(1 ~ 100) mA	7.1×10^{-4}	
		(0.1 ~ 1) A	7.1×10^{-4}	
		(1 ~ 10) A	1.5×10^{-3}	
		(10 ~ 20) A	2.1×10^{-3}	
Relay Test Sets	40425			Digital Multimeterts,
DC Voltage		(0 ~ 1 000) V	5.9×10^{-4}	Active Shunts,
DC Current		(0 ~ 100) mA	6.0×10^{-4}	Oscilloscopes
		(0.1 ~ 1) A	6.3×10^{-4}	/ KCSI-EL-33
		(1 ~ 10) A	7.3×10^{-4}	
		(10 ~ 20) A	4.0×10^{-4}	
		(20 ~ 100) A	1.5×10^{-3}	
AC Voltage		(0.04 ~ 1) kHz		
		(1 ~ 750) V	1.3×10^{-3}	
AC Current		(0.04 ~ 1) kHz		
		0.1 A	2.2×10^{-3}	
		(0.1 ~ 1) A	2.3×10^{-3}	
		(1 ~ 10) A	2.2×10^{-3}	
		(10 ~ 20) A	3.0×10^{-3}	
		(20 ~ 100) A	2.8×10^{-3}	
Operating Time		(0 ~ 1 000) ms	4.2×10^{-3}	
		(1 ~ 5) s	5.2×10^{-3}	
Signal Generators, LF	40426			Frequency Counters,
Frequency		(10 ~ 100) Hz	5.9×10^{-4}	Digital Multimeterts,
		(0.1 ~ 1 000) kHz	5.9×10^{-4}	True RMS Voltmeters,
		(1 ~ 10) MHz	5.8×10^{-4}	/ KCSI-EL-34
Flatness		1 V		
		20 Hz	1.2×10^{-2}	
		(20 ~ 100) Hz	6.2×10^{-3}	
		(0.1 ~ 100) kHz	6.2×10^{-3}	
		(0.1 ~ 1) MHz	9.3×10^{-3}	
		(1 ~ 10) MHz	4.1×10^{-2}	
Attenuation		(0.1 ~ 10) kHz		
		-60 dB	0.31 dB	
		(-60 ~ -40) dB	0.21 dB	
		(-40 ~ 50) dB	0.16 dB	

501. Contact thermometry

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Temperature generators: ovens, furnaces, isothermal liquid baths, ice-point baths, dry-block calibrators	50101			
		(-196 ~ 250) ℃	0.09 ℃	SPRT, STC
		(250 ~ 650) ℃	0.10 ℃	/ KCSI-TE01
		(650 ~ 1 100) ℃	1.7 ℃	
		(1 100 ~ 1 200) ℃	3.0 ℃	
ice-point baths		0 ℃	0.02 ℃	
Temperature indicators /recorders/ controllers	50102			
Sensor inclusion		(-196 ~ 250) ℃	0.08 ℃	SPRT, STC
		(250 ~ 1 100) ℃	1.7 ℃	/ KCSI-TE03
		(1 100 ~ 1 200) ℃	3.2 ℃	
Sensor exclusion		(-196 ~ 1 200) ℃	0.09 ℃	Calibrator / KCSI-TE03
Glass thermometers	50103	(-40 ~ 250) ℃	0.10 ℃	SPRT / KCSI-TE04
Resistance thermometers	50104			SPRT
IPRT		(-196 ~ 250) ℃	0.12 ℃	/ KCSI-TE06
Thermal expansion thermometers	50105			SPRT
Bimetal		(-40 ~ 250) ℃	0.3 ℃	/ KCSI-TE08
Thermomecoules	50106			
base metal		(-40 ~ 250) ℃	0.62 ℃	SPRT,STC
		(250 ~ 1 100) ℃	1.3 ℃	/ KCSI-TE09
		(1 100 ~ 1 200) ℃	3.2 ℃	
Temperature transducers	50107	(-40 ~ 250) ℃	0.13 ℃	SPRT,STC
		(250 ~ 1 100) ℃	1.3 ℃	/ KCSI-TE10
		(1 100 ~ 1 200) ℃	3.0 ℃	

502. non contact thermometry

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Standard radiation thermometers	50204	(0 ~ 200) ℃	1.5 ℃	Standard radiation
		(200 ~ 500) ℃	1.7 ℃	thermometers
		(500 ~ 800) ℃	2.7 ℃	/ KCSI-TN01
		(800 ~ 1000) ℃	3.5 ℃	

502. non contact thermometry

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Blackbody furnaces	50206	(0 ~ 100) ℃ (100 ~ 500) ℃ (500 ~ 1000) ℃	1.4 ℃ 1.8 ℃ 2.9 ℃	Standard radiation thermometers / KCSI-TN02

503. Humidity

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Relative humidity hygrometers	50302			
Hair hygrometers		(20 ~ 95) % R.H. (0 ~ 50) ℃	4.5 % R.H. 0.7 ℃	Dew point instruments / KCSI-HU02
Polymer thin film hygrometers		(20 ~ 95) % R.H. (-40 ~ 100) ℃	3.0 % R.H. 0.7 ℃	Dew point instruments / KCSI-HU04
Temperature humidity recorders;	50304			
Hygrothermograph, etc.		(20 ~ 95) % R.H. (-20 ~ 50) ℃	4.6 % R.H. 1.2 ℃	Dew point instruments / KCSI-HU06
Transducers; dew-point/ relative humidity	50305			
Relative humidity		(20 ~ 95) % R.H.	3.0 % R.H.	Dew point instruments / KCSI-HU07
Humidity generators;	50306			
constant temperature and Humidity Chamber, etc.		(20 ~ 60) % R.H. (60 ~ 95) % R.H. (-40 ~ 150) ℃	3.0 % R.H. 4.0 % R.H. 0.8 ℃	Dew point instruments / KCSI-HU08

(Note 1) The range whichever is greater above 500 g and up to 5 kg.

(Note 2) The numeral without unit(7.0×10^{-4} = 0.070 %) at index colume of CMC indicates the relative uncertainty value expressed as a form of exponent.

The end.