

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

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CALIBRATION

Valid To : Oct. 29. 2025

Accreditation No : KC01-018

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 | | | 201. Mass | | | 40424 | Volt/Current recorders | Y |
| 10211 | Filler gauges | Y | 20109 | Electric balances | Y | 501. Contact thermometry | | |
| 10216 | Height gauges/measuring machines | Y | 20112 | Platform scale balances | Y | 50101 | Temperature generators: ovens, furnaces, isothermal liquid baths, ice-point baths, dry-block calibrators | Y |
| | | | 20116 | Weights | Y | | | |
| 10228 | Cylindrical plug/pin gauges, Thread measuring wire gauges | Y | 401. DC Voltage & current | | | | | |
| | | | 40101 | DC ammeters | Y | | | |
| 10234 | Ultrasonic thickness gauges | Y | 40103 | DC voltage/current calibrators | Y | 50102 | Temperature indicators /recorders/controllers, temperature calibrators | Y |
| 10236 | Coating thickness testers | Y | | | | | | |
| 104. Form | | | 40104 | Electrical temperature calibrators | Y | 50103 | Glass thermometers; liquid-in-glass, Beckmann | N |
| 10401 | Form testers | Y | | | | | | |
| 10407 | Precision surface plates | Y | 40108 | DC power supplies | Y | | | |
| 10409 | Roundness measurement instruments | N | 40112 | DC voltmeters | Y | 50104 | Resistance thermometers; SPRT, IPRT, thermistors, etc. | Y |
| | | | 402. Resistance, Capacitance and Inductance | | | | | |
| 10412 | Straight edges | Y | | | | 50105 | Thermal expansion thermometers ; bimetal, gas or liquid type | Y |
| 105. Complex geometry | | | 40205 | Earth testers | Y | | | |
| 10503 | Contact coordinate measuring machines | Y | 40210 | Insulation testers | Y | 50107 | Temperature transducers | Y |
| | | | 40214 | Resistance meters | Y | | | |
| 10504 | Non-contact coordinate measuring machines | Y | 40215 | Resistors | Y | 503. Humidity | | |
| | | | 403. AC voltage, current & power | | | 50302 | Relative humidity hygrometers polimer thin film, hair, etc. | Y |
| 10511 | Measuring microscopes, Profile projectors | Y | 40301 | AC ammeters | Y | 50304 | Temperature humidity recorders ; Hygrothermograph, etc | N |
| | | | 40302 | Clamp ammeters/voltmeters | Y | | | |
| 10512 | Microscopes, micro measuring | Y | 40303 | AC voltage/current calibrators | Y | | | |
| 10517 | Stylus type roughness testers | Y | 40310 | Power factor meters | Y | 50305 | Transducers; dew-point /relative humidity | N |
| 106. Various dimensional | | | 40311 | AC power meters | Y | | | |
| 10601 | Inside/Outside/Gear tooth calipers, Caliper gauges | Y | 40312 | AC power supplies | Y | 50306 | Humidity generators; two-pressure, two-temperature, flow mixing humidity generator, constant temperature and humidity chamber, etc. | Y |
| | | | 40313 | Puncture/safety testers | Y | | | |
| 10603 | Cylinder/bore gauges | Y | 40314 | Power recorders | Y | | | |
| 10604 | Depth gauges, Depth micrometers | Y | 40318 | AC voltmeters | Y | | | |
| 10605 | Dial/digital gauges | Y | 404. Other DC & LF Measurements | | | | | |
| 10609 | Microindicators, Test indicators | Y | 40410 | Line frequency meters | Y | | | |
| | | | 40416 | Leakage current testers | Y | | | |
| 10611 | 3-points, Micrometers | Y | 40417 | Electronic AC/DC loads | Y | | | |
| 10612 | Inside micrometers | Y | 40419 | Analogue/Digital multimeters | Y | | | |
| 10613 | Outside micrometers | Y | 40421 | Oscilloscopes | 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 calibration 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. |
|---|------------|----------------|--|--|
| Filler gauges | 10211 | (0.01 ~ 10) mm | 1.2 μm | Micrometers/ SICT-CP-10211 |
| Height gauges/measuring machines | 10216 | (0 ~ 1 010) mm | $\sqrt{1.1^2 + (0.0037 \times l_0)^2}$ μm | Gauge Block, Step gauge/ SICT-CP-10216 |
| Cylindrical plug/pin gauges, Thread measuring wire gauges Cylindrical plug/pin gauges | 10228 | (1 ~ 20) mm | $\sqrt{0.48^2 + (0.0034 \times l_0)^2}$ μm | Laser Scan Micrometers/ SICT-CP-10228 |
| Ultrasonic thickness gauges | 10234 | (2.5 ~ 100) mm | 3 μm | Ultrasonic Tester Blocks/ SICT-CP-10234 |
| Coating thickness testers | 10236 | (0 ~ 1.527) mm | 1.1 μm | Thickness specimens/ SICT-CP-10236 |

Note 1. l_0 unit : mm

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 Height length Width Angle | 10401 | (0 ~ 50) mm (0 ~ 45) mm 15° ~ 45° | 1.0 μm 1.7 μm 2' | Form Standard Specimens Gage Block, Angle Gage Block/ SICT-CP-10401 |
| Precision surface plates Flatness | 10407 | (2 000 ~ 20 000) cm ² | 2.0 μm | Electronic Level/ SICT-CP-10407 |
| Roundness measurement instruments Detector accuracy Rotational accuracy of spindle Rotational accuracy of axis | 10409 | (0 ~ 15) μm 360° 360° | 0.62 μm 0.09 μm 0.05 μm | Roundness Standard Ball/ SICT-CP-10409 |
| Straight edges | 10412 | (0 ~ 1 500) mm (0 ~ 1 500) mm | 1.9 μm 1.8 μm | Electronic Micrometers/ SICT-CP-10412 |

Note 1. l_0 unit : mm

105. Complex geometry

| Measured Quantity Instrument or Gauge | Field Code | Range | Measurement uncertainty (The Confidence Level is about 95 %) | Standard/Method of Measurement etc. |
|---|------------|---|---|--|
| Contact coordinate measuring machines | 10503 | (0 ~ 1 000) mm | $\sqrt{0.04^2 + (0.0048 \times l_0)^2} \mu\text{m}$ | Step Gauge/ SICT-CP-10503 |
| Non-contact coordinate measuring machines | 10504 | (0 ~ 500) mm | $\sqrt{0.53^2 + (0.0036 \times l_0)^2} \mu\text{m}$ | Standard Scale/ SICT-CP-10504 |
| Measuring microscopes, Profile projectors Length Magnification Angle | 10511 | (0 ~ 300) mm (5 ~ 100) 배 (0 ~ 360) ° | $\sqrt{0.56^2 + (0.0036 \times l_0)^2} \mu\text{m}$ 0.05 % 0.9' | Standard Scale/ SICT-CP-10511 |
| Microscopes, micro measuring | 10512 | (0 ~ 1) mm (1 ~ 50) mm | 1.3 μm 3.0 μm | Standard Scale/ SICT-CP-10512 |
| Stylus type roughness testers Ra Rz | 10517 | (0 ~ 4) μm (0 ~ 12) μm | 추후확정 추후확정 | Roughness Specimen/ SICT-CP-10517 |

Note 1. l_0 unit : mm

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 Inside/Outside calipers Caliper gauges | 10601 | (0 ~ 2 000) mm (0 ~ 100) mm (100 ~ 300) mm | $\sqrt{8.2^2 + (0.008\ 1 \times l_0)^2}$ μm $\sqrt{2.5^2 + (0.004\ 2 \times l_0)^2}$ μm $\sqrt{8.2^2 + (0.004\ 2 \times l_0)^2}$ μm | Gauge Block/ SICT-CP-10601 |
| Cylinder/bore gauges Cylinder gauges Hole gauges | 10603 | (0 ~ 400) mm (0.1 ~ 25) mm | 0.7 μm 3.5 μm | Dial Gauge Tester/ SICT-CP-10603 |
| Depth gauges, Depth micrometers Depth micrometers Depth gauges | 10604 | (0 ~ 300) mm (0 ~ 600) mm | $\sqrt{0.87^2 + (0.003\ 3 \times l_0)^2}$ μm $\sqrt{6.0^2 + (0.007\ 8 \times l_0)^2}$ μm | Gauge Block/ SICT-CP-10604 |
| Dial/digital gauges Dial/Digital gauges Digital thickness gauges | 10605 | (0 ~ 100) mm (0 ~ 25) mm | $\sqrt{0.33^2 + (0.006\ 8 \times l_0)^2}$ μm $\sqrt{0.82^2 + (0.006\ 8 \times l_0)^2}$ μm | Gauge Block/ SICT-CP-10605 |
| Micro indicators, Test indicators | 10609 | (0 ~ 5) mm | 0.29 μm | Dial Gauge Tester/ SICT-CP-10609 |
| 3-points, Micrometers | 10611 | (6 ~ 100) mm | $\sqrt{1.2^2 + (0.004\ 1 \times l_0)^2}$ μm | Ring Gauge/ SICT-CP-10611 |
| Inside micrometers Inside micrometer bar type micrometer (Accuracy of scale) bar type micrometer (Length of extension bars) | 10612 | (5 ~ 200) mm (25 ~ 200) mm (13 ~ 150) mm | $\sqrt{1.1^2 + (0.004\ 2 \times l_0)^2}$ μm $\sqrt{1.1^2 + (0.004\ 2 \times l_0)^2}$ μm $\sqrt{1.5^2 + (0.004\ 2 \times l_0)^2}$ μm | Gauge Block/ SICT-CP-10612 |
| Outside micrometers Outside micrometers V-anvil micrometers | 10613 | (0 ~ 25) mm (25 ~ 500) mm (1 ~ 20) mm | $\sqrt{0.22^2 + (0.003 \times l_0)^2}$ μm $\sqrt{0.83^2 + (0.003\ 1 \times l_0)^2}$ μm 0.97 μm | Gauge Block, cylindrical plug gauges/ SICT-CP-10613 |

Note 1. l_0 unit : mm

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 | (0 ~ 2) g (2 ~ 6) g (6 ~ 20) g (20 ~ 50) g (50 ~ 200) g (200 ~ 500) g (500 ~ 2 000) g (2 ~ 5) kg (5 ~ 10) kg (10 ~ 20) kg (20 ~ 30) kg (30 ~ 60) kg (60 ~ 100) kg (100 ~ 600) kg (600 ~ 1 000) kg | 21 µg 40 µg 42 µg 61 µg 0.12 mg 0.33 mg 1.2 mg 3.2 mg 6.2 mg 12 mg 0.20 g 0.36 g 6.8 g 18 g 38 g | Weight/ SICT-CP-20109 |
| Platform scale balances | 20112 | (0 ~ 200) kg (200 ~ 500) kg (500 ~ 1 000) kg | 46 g 0.092 kg 0.46 kg | Weight/ SICT-CP-20112 |
| Weights less than class F1 | 20116 | (1 mg ~ 20 kg) 1 mg 2 mg 5 mg 10 mg 20 mg 50 mg 100 mg 200 mg 500 mg 1 g 2 g 5 g 10 g 20 g 50 g 100 g 200 g 500 g 1 kg 2 kg 5 kg 10 kg 20 kg | 3.5 µg 3.5 µg 3.5 µg 3.5 µg 4.4 µg 5.3 µg 6.4 µg 7.5 µg 10 µg 12 µg 16 µg 19 µg 24 µg 31 µg 38 µg 64 µg 0.12 mg 0.39 mg 0.66 mg 1.2 mg 4.7 mg 7.1 mg 13 mg | Weight,Electronic Balance/ SICT-CP-20116 |

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. |
|---|------------|---|---|--|
| DC ammeters DC Current | 40101 | (±) 0 μA (0.1 ~ 1) μA (1 ~ 10) μA (10 ~ 100) μA (0.1 ~ 10) mA (10 ~ 100) mA (0.1 ~ 1) A (1 ~ 10) A (10 ~ 20) A | 9.3 nA 9.4×10^{-3} 9.9×10^{-4} 1.5×10^{-4} 6.9×10^{-5} 8.0×10^{-5} 1.2×10^{-4} 6.5×10^{-4} 1.2×10^{-3} | Calibrator/ SICT-CP-40101 |
| DC voltage/current calibrators DC Voltage DC Current | 40103 | (±) 0 mV (0 ~ 1) mV (1 ~ 10) mV (10 ~ 100) mV (0.1 ~ 1) V (1 ~ 10) V (10 ~ 100) V (100 ~ 1 000) V (±) 0 μA (0 ~ 10) μA (10 ~ 100) μA (0.1 ~ 1) mA (1 ~ 10) mA (10 ~ 100) mA (0.1 ~ 1) A (1 ~ 10) A (10 ~ 100) A | 0.51 μV 6.1×10^{-4} 6.2×10^{-5} 1.3×10^{-5} 6.6×10^{-6} 5.2×10^{-6} 7.2×10^{-6} 9.0×10^{-6} 6.9 nA 7.4×10^{-4} 1.1×10^{-4} 7.2×10^{-5} 4.7×10^{-5} 7.5×10^{-5} 2.4×10^{-4} 5.7×10^{-4} 2.8×10^{-4} | Reference Multimeter/ SICT-CP-40103 |
| Electrical temperature calibrators TEMPERATURE(SOURCE) T/C RTD | 40104 | -9.835 mV (-9.835 ~ -5.237) mV (-5.237 ~ 0.000) mV (0.000 ~ 13.421) mV (13.421 ~ 68.788) mV (68.788 ~ 76.373) mV 1.000 Ω (1.000 ~ 2.499) Ω (2.499 ~ 16.996) Ω (16.996 ~ 100.000) Ω (100.000 ~ 249.584) Ω (249.584 ~ 3 233.3) Ω | 0.62 μV 0.62 μV 0.52 μV 0.62 μV 1.2 μV 1.3 μV 0.063 mΩ 3.7×10^{-5} 3.0×10^{-5} 1.0×10^{-5} 2.8×10^{-5} 1.8×10^{-5} | Digital Multimeter/ SICT-CP-40104 |

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. | |
|--|------------|---|--|--|---|
| Electrical temperature calibrators | 40104 | | | Digital Multimeter/ SICT-CP-40104 | |
| DC VOLTAGE(SOURCE) | | (±) 0 mV (0 ~ 10) mV (10 ~ 100) mV (0.1 ~ 1) V (1 ~ 10) V (10 ~ 100) V | 8.1 μV 8.5×10^{-4} 1.2×10^{-4} 4.6×10^{-5} 4.0×10^{-5} 5.9×10^{-5} | | |
| DC CURRENT(SOURCE) | | (±) 0 mA (0 ~ 1) mA (1 ~ 10) mA (10 ~ 100) mA | 0.14 μA 7.0×10^{-4} 1.0×10^{-3} 7.0×10^{-4} | | |
| RESISTANCE(SOURCE) | | 0 Ω (0 ~ 1) Ω (1 ~ 10) Ω 100 Ω ~ 50 kΩ | 0.072 mΩ 6.7×10^{-5} 4.6×10^{-4} 1.2×10^{-4} | | |
| TEMPERATURE(MEASURE) T/C | | -9.836 mV (-9.836 ~ -5.238) mV (-5.238 ~ 0.000) mV (0.000 ~ 0.002) mV (0.002 ~ 6.319) mV (6.319 ~ 13.421) mV (13.421 ~ 21.036) mV (21.036 ~ 28.946) mV (28.946 ~ 37.006) mV (37.006 ~ 53.112) mV (53.112 ~ 61.017) mV (61.017 ~ 76.373) mV | 0.84 μV 0.83 μV 0.80 μV 0.70 μV 0.81 μV 0.87 μV 0.94 μV 1.0 μV 1.1 μV 1.2 μV 1.3 μV 1.4 μV | | |
| | | RTD | 0.999 Ω (0.999 ~ 2.497) Ω (2.497 ~ 4.316) Ω (4.316 ~ 16.995) Ω (16.995 ~ 177.156) Ω (177.156 ~ 249.584) Ω (249.584 ~ 3 233.3) Ω | | 0.24 mΩ 1.0×10^{-4} 7.1×10^{-5} 3.9×10^{-5} 3.4×10^{-5} 3.5×10^{-5} 4.3×10^{-5} |
| DC VOLTAGE(MEASURE) | | (±) 0 mV (0 ~ 10) mV (10 ~ 100) mV (0.1 ~ 1) V (1 ~ 10) V (10 ~ 200) V (200 ~ 300) V | 1.2 μV 1.4×10^{-4} 3.5×10^{-5} 6.0×10^{-5} 1.7×10^{-5} 2.3×10^{-5} 2.9×10^{-5} | | |
| DC CURRENT(MEASURE) | | (±) 0 mA (0 ~ 1) mA (1 ~ 10) mA (10 ~ 50) mA (50 ~ 100) mA (100 ~ 130) mA | 0.09 μA 9.3×10^{-5} 7.0×10^{-5} 9.6×10^{-5} 8.1×10^{-5} 9.6×10^{-5} | | |

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. |
|--|------------|---|---|--|
| Electrical temperature calibrators RESISTANCE (MEASURE) | 40104 | 0 Ω (0 ~ 1) Ω (1 ~ 10) Ω (10 ~ 100) Ω (0.1 ~ 1) kΩ (1 ~ 10) kΩ (10 ~ 20) kΩ (20 ~ 30) kΩ (30 ~ 40) kΩ (40 ~ 50) kΩ | 23 mΩ 1.3×10^{-4} 4.8×10^{-5} 3.4×10^{-5} 7.3×10^{-5} 7.0×10^{-5} 4.8×10^{-5} 4.0×10^{-5} 4.2×10^{-5} 3.9×10^{-5} | Digital Multimeter/ SICT-CP-40104 |
| DC power supplies DC Voltage DC Current Load regulation Ripple | 40108 | (±) 0 mV (0 ~ 10) mV (10 ~ 100) mV 100 mV ~ 1 V (1 ~ 10) V (10 ~ 100) V (100 ~ 600) V (600 ~ 1 000) V 1 mA (1 ~ 10) mA (10 ~ 100) mA (0.1 ~ 1) A (1 ~ 5) A (5 ~ 10) A (10 ~ 20) A (20 ~ 200) A 0 mV (0 ~ 2) mV (2 ~ 20) mV (20 ~ 200) mV 0.1 mV (0.1 ~ 0.2) mV (0.2 ~ 0.4) mV (0.4 ~ 0.6) mV (0.6 ~ 1) mV (1 ~ 10) mV (10 ~ 50) mV | 5.8 μV 5.8×10^{-4} 5.9×10^{-5} 9.2×10^{-5} 5.3×10^{-5} 9.2×10^{-5} 1.7×10^{-5} 6.6×10^{-5} 5.8 μA 6.5×10^{-3} 6.5×10^{-4} 8.7×10^{-5} 1.3×10^{-4} 4.0×10^{-4} 3.1×10^{-4} 2.2×10^{-4} 0.97 mV 4.9×10^{-1} 3.3×10^{-1} 3.3×10^{-2} 0.097 mV 6.4×10^{-1} 2.5×10^{-1} 1.6×10^{-1} 9.6×10^{-2} 9.2×10^{-2} 1.9×10^{-1} | DC Electronics Load/ SICT-CP-40108 |
| DC voltmeters DC Voltage | 40112 | (±) 0 mV (0 ~ 1) mV (1 ~ 2) mV (2 ~ 8) mV (8 ~ 10) mV (10 ~ 20) mV (20 ~ 50) mV (50 ~ 80) mV (80 ~ 100) mV (0.1 ~ 1) V (1 ~ 10) V (10 ~ 100) V (100 ~ 1 000) V | 0.69 μV 8.0×10^{-4} 4.0×10^{-4} 1.6×10^{-4} 8.0×10^{-5} 4.5×10^{-5} 2.4×10^{-5} 1.9×10^{-5} 1.6×10^{-5} 9.4×10^{-6} 8.6×10^{-6} 1.0×10^{-5} 1.1×10^{-5} | Calibrator/ SICT-CP-40112 |

402. Resistance, Capacitance and 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 | 60 Hz 1 V (1 ~ 10) V (10 ~ 50) V (50 ~ 100) V (100 ~ 500) V (500 ~ 1 000) V | 6.1×10^{-3} 6.2×10^{-4} 1.2×10^{-3} 6.2×10^{-4} 4.9×10^{-4} 7.7×10^{-4} | Decade Resistor/ SICT-CP-40205 |
| Resistance | | 1 m Ω 1 m Ω ~ 1 Ω 1 Ω ~ 10 Ω 10 Ω ~ 100 k Ω | 1.3×10^{-3} 1.3×10^{-3} 8.4×10^{-4} 6.5×10^{-4} | |
| AC Current out | | 60 Hz 1 A (1 ~ 3) A (3 ~ 10) A (10 ~ 20) A (20 ~ 30) A (30 ~ 60) A | 3.1×10^{-3} 4.1×10^{-3} 3.1×10^{-3} 3.4×10^{-3} 6.4×10^{-3} 4.6×10^{-3} | |
| Timer | | (1 ~ 100) s (100 ~ 1 000) s | 5.8×10^{-6} 8.2×10^{-6} | |
| Insulation testers | 40210 | 60 Hz 1 V (1 ~ 10) V (10 ~ 100) V (100 ~ 1 000) V | 1.2×10^{-4} 1.2×10^{-4} 1.3×10^{-4} 4.9×10^{-4} | High Resistance Decade/ SICT-CP-40210 |
| Insulation Voltage | | 1 V (1 ~ 10) V (10 ~ 25) V (25 ~ 50) V (50 ~ 100) V (100 ~ 250) V (250 ~ 500) V (500 ~ 1 000) V (1 000 ~ 5 000) V (5 000 ~ 10 000) V | 6.1×10^{-4} 6.1×10^{-5} 2.5×10^{-4} 1.2×10^{-4} 6.2×10^{-5} 2.5×10^{-4} 1.2×10^{-4} 6.1×10^{-5} 6.5×10^{-3} 6.1×10^{-3} | |
| Insulation Resistance | | 1 k Ω 1 k Ω ~ 1 M Ω (1 ~ 10) M Ω (10 ~ 100) M Ω 100 M Ω ~ 1 G Ω (1 ~ 10) G Ω (10 ~ 100) G Ω 100 G Ω ~ 1 T Ω | 1.4×10^{-4} 1.2×10^{-4} 3.6×10^{-4} 1.2×10^{-3} 2.3×10^{-3} 5.8×10^{-3} 5.9×10^{-3} 3.5×10^{-2} | |
| Resistance meters | 40214 | 1 m Ω (1 ~ 10) m Ω (10 ~ 100) m Ω 100 m Ω ~ 1 M Ω | 2.2×10^{-5} 2.1×10^{-5} 2.2×10^{-5} 2.1×10^{-5} | Standard Resistance Set/ SICT-CP-40214 |

402. Resistance, Capacitance and Inductance

| Measured Quantity Instrument or Gauge | Field Code | Range | Measurement uncertainty (The Confidence Level is about 95 %) | Standard/Method of Measurement etc. |
|--|------------|---|---|---|
| Resistors Decade Resistance | 40215 | 0 Ω (0 ~ 1) mΩ (1 ~ 2) mΩ (2 ~ 3) mΩ (3 ~ 6) mΩ (6 ~ 8) mΩ (8 ~ 10) mΩ (10 ~ 30) mΩ (30 ~ 60) mΩ 60 mΩ ~ 0.1 Ω (0.1 ~ 0.3) Ω (0.3 ~ 0.6) Ω (0.6 ~ 1) Ω (1 ~ 3) Ω (3 ~ 10) Ω (10 ~ 300) Ω (300 ~ 1000) Ω (1 ~ 10) kΩ (10 ~ 100) kΩ 100 kΩ ~ 1 MΩ (1 ~ 2) MΩ (2 ~ 10) MΩ (10 ~ 100) MΩ 100 MΩ ~ 1 GΩ | 62 μΩ 3.1×10^{-3} 6.2×10^{-3} 2.1×10^{-3} 1.5×10^{-3} 8.9×10^{-4} 6.9×10^{-4} 3.1×10^{-3} 1.6×10^{-3} 8.9×10^{-4} 3.1×10^{-4} 1.6×10^{-4} 9.0×10^{-5} 4.6×10^{-5} 2.5×10^{-5} 2.9×10^{-5} 1.6×10^{-5} 3.7×10^{-5} 3.0×10^{-5} 4.0×10^{-5} 8.5×10^{-5} 5.9×10^{-5} 6.5×10^{-4} 6.6×10^{-3} | Standard Resistance Set/ SICT-CP-40215 |

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. |
|---|------------|---------------------|--|--|
| Clamp ammeters/voltmeters AC Current | 40302 | (70 ~ 90) mA | 4.4×10^{-4} | Power Calibrator, Calibrator/ SICT-CP-40302 |
| | | (90 ~ 100) mA | 7.5×10^{-4} | |
| | | (100 ~ 200) mA | 3.9×10^{-4} | |
| | | (200 ~ 300) mA | 3.1×10^{-4} | |
| | | (300 ~ 400) mA | 2.7×10^{-4} | |
| | | (400 ~ 500) mA | 2.5×10^{-4} | |
| | | (500 ~ 700) mA | 2.4×10^{-4} | |
| | | (700 ~ 900) mA | 2.2×10^{-4} | |
| | | 900 mA ~ 1 A | 6.4×10^{-4} | |
| | | (1 ~ 2) A | 3.7×10^{-4} | |
| | | (2 ~ 3) A | 4.0×10^{-4} | |
| | | (3 ~ 4) A | 3.3×10^{-4} | |
| | | (4 ~ 5) A | 2.9×10^{-4} | |
| | | (5 ~ 6) A | 3.4×10^{-4} | |
| | | (6 ~ 7) A | 3.3×10^{-4} | |
| | | (7 ~ 9) A | 3.1×10^{-4} | |
| | | (9 ~ 10) A | 6.8×10^{-4} | |
| | | (10 ~ 20) A | 6.4×10^{-4} | |
| | | (20 ~ 30) A | 5.6×10^{-4} | |
| | | (30 ~ 40) A | 5.2×10^{-4} | |
| | | (40 ~ 500) A | 1.2×10^{-3} | |
| | | (500 ~ 700) A | 1.4×10^{-3} | |
| | | (700 ~ 1 000) A | 1.3×10^{-3} | |
| DC Current | | 30 μ A | 29 nA | |
| | | (30 ~ 40) μ A | 7.7×10^{-4} | |
| | | (40 ~ 50) μ A | 6.5×10^{-4} | |
| | | (50 ~ 60) μ A | 5.7×10^{-4} | |
| | | (60 ~ 70) μ A | 5.1×10^{-4} | |
| | | (70 ~ 80) μ A | 4.7×10^{-4} | |
| | | (80 ~ 90) μ A | 4.4×10^{-4} | |
| | | (90 ~ 100) μ A | 7.3×10^{-4} | |
| | | (100 ~ 200) μ A | 4.2×10^{-4} | |
| | | (200 ~ 300) μ A | 3.2×10^{-4} | |
| | | (300 ~ 400) μ A | 2.8×10^{-4} | |
| | | (400 ~ 500) μ A | 2.5×10^{-4} | |
| | | (500 ~ 600) μ A | 2.4×10^{-4} | |
| | | (600 ~ 700) μ A | 2.3×10^{-4} | |
| | | (700 ~ 800) μ A | 2.2×10^{-4} | |
| | | (800 ~ 900) μ A | 2.1×10^{-4} | |
| | | 900 μ A ~ 1 mA | 6.4×10^{-4} | |
| | | (1 ~ 2) mA | 3.6×10^{-4} | |
| | | (2 ~ 4) mA | 2.7×10^{-4} | |
| | | (4 ~ 9) mA | 1.8×10^{-4} | |
| | | (9 ~ 10) mA | 6.2×10^{-4} | |
| | | (10 ~ 20) mA | 3.3×10^{-4} | |
| | | (20 ~ 70) mA | 2.4×10^{-4} | |
| | | (70 ~ 90) mA | 1.5×10^{-4} | |
| | | (90 ~ 100) mA | 6.2×10^{-4} | |
| | | (100 ~ 200) mA | 3.3×10^{-4} | |
| | | (200 ~ 400) mA | 3.9×10^{-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. | |
|--|------------|-----------------|--|--|--|
| Clamp ammeters/voltmeters | 40302 | DC Current | (400 ~ 900) mA | 3.5×10^{-4} | Power Calibrator, Calibrator/ SICT-CP-40302 |
| | | | 900 mA ~ 1 A | 6.7×10^{-4} | |
| | | | (1 ~ 2) A | 4.8×10^{-4} | |
| | | (2 ~ 3) A | 6.0×10^{-4} | | |
| | | (3 ~ 9) A | 8.1×10^{-4} | | |
| | | (9 ~ 10) A | 8.9×10^{-4} | | |
| | | (10 ~ 20) A | 1.2×10^{-3} | | |
| | | (20 ~ 40) A | 3.8×10^{-4} | | |
| | | (40 ~ 500) A | 1.3×10^{-3} | | |
| | | (500 ~ 1 000) A | 1.7×10^{-3} | | |
| | | AC Voltage | (50 ~ 60) Hz | | |
| | | | 10 mV | 11 μ V | |
| | | | (10 ~ 20) mV | 6.3×10^{-4} | |
| | | | (20 ~ 30) mV | 4.7×10^{-4} | |
| | | | (30 ~ 40) mV | 4.6×10^{-4} | |
| | | | (40 ~ 50) mV | 4.0×10^{-4} | |
| | | | (50 ~ 60) mV | 3.6×10^{-4} | |
| | | | (60 ~ 80) mV | 3.3×10^{-4} | |
| | | | (80 ~ 90) mV | 2.9×10^{-4} | |
| | | | (90 ~ 100) mV | 2.8×10^{-4} | |
| | | | (100 ~ 200) mV | 2.2×10^{-4} | |
| | | | (200 ~ 300) mV | 2.0×10^{-4} | |
| | | | (300 ~ 400) mV | 3.6×10^{-4} | |
| | | | (400 ~ 600) mV | 3.2×10^{-4} | |
| | | | (600 ~ 700) mV | 2.8×10^{-4} | |
| | | | (700 ~ 800) mV | 2.6×10^{-4} | |
| | | | 800 mV ~ 1 V | 2.5×10^{-4} | |
| | | | (1 ~ 3) V | 2.1×10^{-4} | |
| | | | (3 ~ 4) V | 3.5×10^{-4} | |
| | | | (4 ~ 5) V | 3.2×10^{-4} | |
| | | | (5 ~ 6) V | 2.9×10^{-4} | |
| | | | (6 ~ 7) V | 2.8×10^{-4} | |
| | | | (7 ~ 8) V | 2.6×10^{-4} | |
| | | | (8 ~ 10) V | 2.5×10^{-4} | |
| | | | (10 ~ 20) V | 2.3×10^{-4} | |
| | | | (20 ~ 40) V | 1.9×10^{-4} | |
| | | | (40 ~ 70) V | 2.2×10^{-4} | |
| | | | (70 ~ 90) V | 1.9×10^{-4} | |
| | | | (90 ~ 100) V | 1.8×10^{-4} | |
| | | | (100 ~ 200) V | 1.5×10^{-4} | |
| | | | (200 ~ 500) V | 1.9×10^{-4} | |
| | | | (500 ~ 700) V | 2.6×10^{-4} | |
| | | | (700 ~ 1 000) V | 3.7×10^{-4} | |
| | | DC Voltage | 10 mV | 61 μ V | |
| | | | (10 ~ 20) mV | 3.1×10^{-3} | |
| | | | (20 ~ 30) mV | 2.0×10^{-3} | |
| | | | (30 ~ 40) mV | 1.5×10^{-3} | |
| | | | (40 ~ 50) mV | 1.2×10^{-3} | |
| | | | (50 ~ 60) mV | 1.0×10^{-3} | |
| | | | (60 ~ 70) mV | 8.7×10^{-4} | |
| | | | (70 ~ 80) mV | 7.6×10^{-4} | |
| | | | (80 ~ 90) mV | 6.8×10^{-4} | |
| | | | (90 ~ 100) mV | 7.0×10^{-5} | |

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. |
|--|------------|--|--|--|
| Clamp ammeters/voltmeters DC Voltage | 40302 | (100 ~ 200) mV (200 ~ 300) mV (300 ~ 400) mV (400 ~ 500) mV (500 ~ 600) mV (600 ~ 800) mV (800 ~ 900) mV 900 mV ~ 1 V (1 ~ 2) V (2 ~ 4) V (4 ~ 5) V (5 ~ 6) V (6 ~ 7) V (7 ~ 9) V (9 ~ 10) V (10 ~ 20) V (20 ~ 30) V (30 ~ 40) V (40 ~ 50) V (50 ~ 60) V (60 ~ 70) V (70 ~ 90) V (90 ~ 100) V (100 ~ 200) V (200 ~ 400) V (400 ~ 500) V (500 ~ 600) V (600 ~ 700) V (700 ~ 900) V (900 ~ 1 000) V | 4.2×10^{-5} 3.4×10^{-5} 2.4×10^{-5} 2.2×10^{-5} 2.0×10^{-5} 1.8×10^{-5} 1.7×10^{-5} 6.3×10^{-5} 3.4×10^{-5} 2.5×10^{-5} 2.2×10^{-5} 2.0×10^{-5} 1.9×10^{-5} 1.8×10^{-5} 6.3×10^{-5} 3.4×10^{-5} 2.5×10^{-5} 3.0×10^{-6} 2.7×10^{-5} 2.6×10^{-5} 2.5×10^{-5} 2.4×10^{-5} 6.5×10^{-5} 3.8×10^{-5} 3.0×10^{-5} 2.8×10^{-5} 2.6×10^{-5} 2.5×10^{-5} 2.4×10^{-5} 6.5×10^{-5} | Power Calibrator, Calibrator/ SICT-CP-40302 |
| Resistance | | 1 Ω (1 ~ 9) Ω (9 ~ 100) Ω (100 ~ 900) Ω 900 Ω ~ 90 k Ω 90 k Ω ~ 1 M Ω (1 ~ 10) M Ω (10 ~ 100) M Ω | 0.62 m Ω 3.1×10^{-4} 6.1×10^{-4} 4.7×10^{-5} 7.0×10^{-5} 7.2×10^{-5} 1.9×10^{-4} 7.1×10^{-4} | |
| AC voltage/current calibrators AC Voltage | 40303 | (2 mV) 10 Hz (10 ~ 40) Hz 40 Hz ~ 1 kHz (1 ~ 20) kHz (20 ~ 100) kHz (2 ~ 20) mV 10 Hz (10 ~ 40) Hz 40 Hz ~ 1 kHz (1 ~ 20) kHz (20 ~ 100) kHz | 8.2×10^{-3} 2.5×10^{-3} 1.3×10^{-3} 5.0×10^{-3} 1.2×10^{-2} 9.5×10^{-4} 3.5×10^{-4} 2.3×10^{-4} 8.1×10^{-4} 2.0×10^{-3} | Alternating Voltage Measurement Standard, Reference Multimeter, Current Shunt/ SICT-CP-40303 |

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 voltage/current calibrators AC Voltage | 40303 | (20 ~ 30) mV 10 Hz (10 ~ 40) Hz 40 Hz ~ 1 kHz (1 ~ 20) kHz (20 ~ 100) kHz | 6.8×10^{-4} 2.7×10^{-4} 1.9×10^{-4} 6.5×10^{-4} 1.6×10^{-3} | Alternating Voltage Measurement Standard, Reference Multimeter, Current Shunt/ SICT-CP-40303 |
| | | (30 ~ 40) mV 10 Hz (10 ~ 40) Hz 40 Hz ~ 1 kHz (1 ~ 20) kHz (20 ~ 100) kHz | 5.4×10^{-4} 2.3×10^{-4} 1.7×10^{-4} 5.8×10^{-4} 1.4×10^{-3} | |
| | | (40 ~ 50) mV 10 Hz (10 ~ 40) Hz 40 Hz ~ 1 kHz (1 ~ 20) kHz (20 ~ 100) kHz | 4.6×10^{-4} 2.1×10^{-4} 1.6×10^{-4} 5.3×10^{-4} 1.3×10^{-3} | |
| | | (50 ~ 60) mV 10 Hz (10 ~ 40) Hz 40 Hz ~ 1 kHz (1 ~ 20) kHz (20 ~ 100) kHz | 4.1×10^{-4} 1.9×10^{-4} 1.5×10^{-4} 5.0×10^{-4} 1.2×10^{-3} | |
| | | (70 ~ 90) mV 10 Hz (10 ~ 40) Hz 40 Hz ~ 1 kHz (1 ~ 20) kHz (20 ~ 100) kHz | 3.7×10^{-4} 1.8×10^{-4} 1.5×10^{-4} 4.8×10^{-4} 1.1×10^{-3} | |
| | | (90 ~ 100) mV 10 Hz (10 ~ 40) Hz 40 Hz ~ 1 kHz (1 ~ 20) kHz (20 ~ 100) kHz | 3.0×10^{-4} 1.6×10^{-4} 1.4×10^{-4} 4.4×10^{-4} 1.0×10^{-3} | |
| | | (100 ~ 200) mV 10 Hz (10 ~ 40) Hz 40 Hz ~ 1 kHz (1 ~ 20) kHz (20 ~ 100) kHz | 2.3×10^{-4} 1.4×10^{-4} 1.3×10^{-4} 3.9×10^{-4} 9.3×10^{-4} | |
| | | (200 ~ 300) mV 10 Hz (10 ~ 40) Hz 40 Hz ~ 1 kHz (1 ~ 20) kHz (20 ~ 100) kHz | 8.6×10^{-4} 2.5×10^{-4} 2.0×10^{-4} 4.1×10^{-4} 1.4×10^{-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. |
|--|------------|--------------------------------|--|--|
| AC voltage/current calibrators | 40303 | | | Alternating Voltage Measurement Standard, Reference Multimeter, Current Shunt/ SICT-CP-40303 |
| AC Voltage | | (90 ~ 200) V 10 Hz | 8.6×10^{-4} | |
| | | (10 ~ 40) Hz | 2.3×10^{-4} | |
| | | 40 Hz ~ 1 kHz | 2.0×10^{-4} | |
| | | (1 ~ 20) kHz | 4.1×10^{-4} | |
| | | (20 ~ 100) kHz | 1.4×10^{-3} | |
| | | (200 ~ 300) V 50 Hz ~ 1 kHz | 1.7×10^{-4} | |
| | | (300 ~ 1 000) V 50 Hz | 1.3×10^{-4} | |
| | | 50 Hz ~ 1 kHz | 1.2×10^{-4} | |
| AC Current | | (100 μ A) | | |
| | | 10 Hz | 7.1×10^{-4} | |
| | | 10 Hz ~ 1 kHz | 5.6×10^{-4} | |
| | | (1 ~ 5) kHz | 7.1×10^{-4} | |
| | | (5 ~ 10) kHz | 2.3×10^{-3} | |
| | | (100 μ A ~ 1 mA) | | |
| | | 10 Hz | 6.2×10^{-4} | |
| | | 10 Hz ~ 1 kHz | 5.5×10^{-4} | |
| | | (1 ~ 5) kHz | 6.4×10^{-4} | |
| | | (5 ~ 10) kHz | 2.1×10^{-3} | |
| | | (1 ~ 10) mA | | |
| | | 10 Hz | 6.2×10^{-4} | |
| | | 10 Hz ~ 1 kHz | 5.5×10^{-4} | |
| | | (1 ~ 5) kHz | 6.2×10^{-4} | |
| | | (5 ~ 10) kHz | 3.2×10^{-3} | |
| | | (10 ~ 100) mA | | |
| | | 10 Hz | 6.3×10^{-4} | |
| | | 10 Hz ~ 1 kHz | 5.4×10^{-4} | |
| | | (1 ~ 5) kHz | 6.1×10^{-4} | |
| | | (5 ~ 10) kHz | 1.5×10^{-3} | |
| | | (100 mA ~ 1 A) | | |
| | | 40 Hz ~ 1 kHz | 9.8×10^{-4} | |
| | | (1 ~ 5) kHz | 1.2×10^{-3} | |
| | | (5 ~ 10) kHz | 8.1×10^{-3} | |
| | | (1 ~ 10) A | | |
| | | (40 ~ 100) Hz | 1.3×10^{-3} | |
| | | 100 Hz ~ 1 kHz | 1.5×10^{-3} | |
| | | (10 ~ 20) A | | |
| | | (40 ~ 100) Hz | 1.6×10^{-3} | |
| | | 100 Hz ~ 1 kHz | 1.7×10^{-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. |
|--|------------|---|--|--|
| AC power meters | 40311 | | | Power Calibrator, Calibrator/ SICT-CP-40311 |
| AC Current | | (30 ~ 40) mA (40 ~ 60) mA (60 ~ 70) mA (70 ~ 100) mA (100 ~ 150) mA (150 ~ 300) mA (300 ~ 800) mA (800 mA ~ 2 A) (2 ~ 3) A (3 ~ 4) A (4 ~ 5) A (5 ~ 6) A (6 ~ 10) A (10 ~ 15) A (15 ~ 20) A (20 ~ 30) A (30 ~ 40) A (40 ~ 500) A (500 ~ 800) A (800 ~ 1 000) A | 3.0×10^{-4} 2.7×10^{-4} 2.4×10^{-4} 2.3×10^{-4} 2.7×10^{-4} 2.5×10^{-4} 2.2×10^{-4} 2.1×10^{-4} 3.4×10^{-4} 2.9×10^{-4} 2.6×10^{-4} 3.3×10^{-4} 3.1×10^{-4} 6.2×10^{-4} 5.7×10^{-4} 5.2×10^{-4} 5.0×10^{-4} 1.3×10^{-3} 1.4×10^{-3} 1.3×10^{-3} | |
| AC Wattage | | (50 ~ 60) Hz 24 mW (24 ~ 72) mW (72 ~ 120) mW (120 ~ 480) mW 480 mW ~ 2.4 W (2.4 ~ 24) W (24 ~ 120) W (120 ~ 240) W (240 ~ 480) W (480 ~ 600) W (600 ~ 960) W 960 W ~ 1.2 kW (1.2 ~ 2.4) kW (2.4 ~ 4.8) kW (4.8 ~ 9.6) kW (9.6 ~ 120) kW | 0.42 mW 5.8×10^{-3} 3.5×10^{-3} 2.9×10^{-3} 1.1×10^{-3} 4.9×10^{-4} 2.1×10^{-4} 2.3×10^{-4} 2.6×10^{-4} 2.0×10^{-4} 2.4×10^{-4} 2.0×10^{-4} 3.0×10^{-4} 6.4×10^{-4} 5.8×10^{-4} 1.3×10^{-3} | |
| Frequency | | 25 Hz (25 ~ 60) Hz (60 ~ 100) Hz (100 ~ 200) Hz (200 ~ 400) Hz (400 ~ 1 000) Hz | 9.1 mHz 1.7×10^{-4} 6.0×10^{-4} 3.9×10^{-4} 2.7×10^{-4} 1.3×10^{-3} | |
| Power Factor | | (50 ~ 60) Hz 240 mW -1 ~ 1 -0.8, 0.8 -0.5, 0.5 -0.3, 0.3 -0.1, 0.1 240 mW ~ 120 kW -1 ~ 1 -0.8, 0.8 -0.5, 0.5 -0.3, 0.3 -0.1, 0.1 | 3.1×10^{-4} 3.9×10^{-4} 4.6×10^{-4} 5.6×10^{-4} 5.7×10^{-4} 2.1×10^{-4} 3.2×10^{-4} 4.6×10^{-4} 4.9×10^{-4} 5.0×10^{-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. | |
|--|------------|---|---|---|---|
| Puncture/safety testers | 40313 | DC Breaking Current | 0.1 mA (0.1 ~ 0.5) mA (0.5 ~ 1) mA (1 ~ 2) mA (2 ~ 5) mA (5 ~ 10) mA (10 ~ 20) mA (20 ~ 50) mA (50 ~ 100) mA | 0.61 μA 1.2×10^{-3} 6.1×10^{-4} 3.1×10^{-4} 1.5×10^{-4} 7.7×10^{-5} 3.2×10^{-4} 1.8×10^{-4} 6.2×10^{-4} | AC/DC Kilovoltmeter, High Voltage Digital Meter, Reference Multimeter/ SICT-CP-40313 |
| Resistance | | 1 mΩ 1 mΩ ~ 10 mΩ 10 mΩ ~ 100 kΩ | 0.84 μΩ 7.0×10^{-4} 6.5×10^{-4} | | |
| Insulation Voltage | | 1 V (1 ~ 10) V (10 ~ 25) V (25 ~ 50) V (50 ~ 100) V (100 ~ 250) V (250 ~ 500) V (500 ~ 1 000) V (1 000 ~ 2 000) V | 0.62 mV 1.2×10^{-4} 2.8×10^{-4} 1.7×10^{-4} 1.2×10^{-4} 2.8×10^{-4} 1.7×10^{-4} 1.2×10^{-4} 6.9×10^{-3} | | |
| Insulation Resistance | | 1 kΩ (1 ~ 100) kΩ 100 kΩ ~ 1 MΩ (1 ~ 10) MΩ (10 ~ 100) MΩ 100 MΩ ~ 1 GΩ (1 ~ 10) GΩ (10 ~ 100) GΩ 100 GΩ ~ 1 TΩ | 0.14 Ω 1.3×10^{-4} 1.0×10^{-4} 9.1×10^{-4} 2.0×10^{-4} 2.6×10^{-4} 9.1×10^{-3} 1.5×10^{-3} 2.8×10^{-3} | | |
| Leakage current(DC) | | 30 μA (30 ~ 100) μA 100 μA ~ 10 mA (10 ~ 50) mA | 29 nA 7.3×10^{-4} 6.4×10^{-4} 2.2×10^{-4} | | |
| Leakage current(AC) | | 60 Hz 30 μA (30 ~ 100) μA 100 μA ~ 1 mA (1 ~ 10) mA (10 ~ 50) mA | 0.16 μA 2.7×10^{-3} 1.5×10^{-3} 9.3×10^{-4} 9.5×10^{-4} | | |
| Timer | | 1 s (1 ~ 100) s (100 ~ 1 000) s (1 000 ~ 10 000) s | 5.8 μs 5.8×10^{-6} 8.2×10^{-6} 5.8×10^{-5} | | |
| Output AC Current | | 60 Hz 1 A (1 ~ 5) A (5 ~ 10) A (10 ~ 20) A (20 ~ 30) A (30 ~ 50) A (50 ~ 60) A | 2.9 mA 2.1×10^{-3} 2.0×10^{-3} 3.0×10^{-3} 4.0×10^{-3} 3.1×10^{-3} 7.8×10^{-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. | | |
|--|------------|-----------------|--|--|------------------------------|----------------------|
| Leakage current testers | 40416 | AC Current | (100 ~ 200) μ A 50 Hz ~ 1 kHz | 2.1×10^{-3} | Calibrator/ SICT-CP-40416 | |
| | | | (200 ~ 500) μ A 50 Hz ~ 1 kHz | 1.6×10^{-3} | | |
| | | | (0.5 ~ 1) mA 50 Hz ~ 1 kHz | 6.9×10^{-4} | | |
| | | | (1 ~ 2) mA 50 Hz ~ 1 kHz | 4.7×10^{-4} | | |
| | | | (2 ~ 5) mA 50 Hz ~ 1 kHz | 3.0×10^{-3} | | |
| | | | (5 ~ 10) mA 50 Hz ~ 1 kHz | 8.2×10^{-4} | | |
| | | | (10 ~ 20) mA 50 Hz ~ 1 kHz | 5.3×10^{-4} | | |
| | | | (20 ~ 30) mA 50 Hz ~ 1 kHz | 1.2×10^{-4} | | |
| | | | DC Voltage | 0 V | | 61 μ V |
| | | | | (0 ~ 0.1) V | | 6.1×10^{-4} |
| | | (0.1 ~ 0.2) V | | 3.1×10^{-4} | | |
| | | (0.2 ~ 0.5) V | | 1.2×10^{-4} | | |
| | | (0.5 ~ 1) V | | 6.1×10^{-4} | | |
| | | (1 ~ 2) V | | 3.1×10^{-4} | | |
| | | (2 ~ 5) V | | 1.2×10^{-4} | | |
| | | (5 ~ 10) V | | 6.2×10^{-5} | | |
| | | (10 ~ 20) V | | 3.3×10^{-5} | | |
| | | (20 ~ 50) V | | 1.7×10^{-5} | | |
| | | (50 ~ 100) V | 1.2×10^{-5} | | | |
| | | (100 ~ 200) V | 3.4×10^{-5} | | | |
| | | (200 ~ 300) V | 2.5×10^{-5} | | | |
| | | (300 ~ 500) V | 1.2×10^{-4} | | | |
| | | (500 ~ 1 000) V | 6.2×10^{-5} | | | |
| | | AC Voltage | (0.1 V) | | | |
| | | | 50 Hz ~ 1 kHz | 6.5×10^{-4} | | |
| | | | (1 ~ 20) kHz | 6.6×10^{-4} | | |
| | | | (20 ~ 50) kHz | 7.8×10^{-4} | | |
| | | | (50 ~ 100) kHz | 1.4×10^{-3} | | |
| | | | (0.1 ~ 1) V | | | |
| | | | 50 Hz ~ 1 kHz | 1.2×10^{-4} | | |
| | | | (1 ~ 20) kHz | 1.3×10^{-4} | | |
| | | | (20 ~ 50) kHz | 1.8×10^{-4} | | |
| | | | (50 ~ 100) kHz | 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. |
|--|------------|--|--|--|
| Electronic AC/DC loads AC Voltage | 40417 | (50 ~ 60) Hz 0.1 V (0.1 ~ 0.2) V (0.2 ~ 0.5) V (0.5 ~ 1) V (1 ~ 10) V (10 ~ 100) V (100 ~ 200) V (200 ~ 500) V | 0.61 mV 3.1×10^{-3} 1.2×10^{-3} 6.2×10^{-4} 3.5×10^{-4} 2.2×10^{-4} 1.9×10^{-4} 2.0×10^{-4} | Calibrator/ SICT-CP-40417 |
| AC Current | | (50 ~ 60) Hz 100 mA 100 mA ~ 0.3 A (0.3 ~ 0.4) A (0.4 ~ 0.5) A (0.5 ~ 0.6) A (0.6 ~ 0.8) A (0.8 ~ 2) A (2 ~ 4) A (4 ~ 5) A (5 ~ 7) A (7 ~ 9) A (9 ~ 10) A (10 ~ 13) A (13 ~ 16) A (16 ~ 20) A | 2.5 mA 3.9×10^{-3} 3.2×10^{-3} 2.7×10^{-3} 3.5×10^{-3} 3.1×10^{-3} 2.7×10^{-3} 3.5×10^{-3} 2.6×10^{-3} 3.5×10^{-3} 2.9×10^{-3} 2.5×10^{-3} 4.5×10^{-3} 3.7×10^{-3} 3.2×10^{-3} | |
| Analogue/Digital multimeters DC Voltage | 40419 | (±) 0 mV (0 ~ 1) mV (1 ~ 2) mV (2 ~ 5) mV (5 ~ 10) mV (10 ~ 20) mV (20 ~ 50) mV (50 ~ 100) mV 100 mV ~ 0.2 V (0.2 ~ 0.5) V (0.5 ~ 1) V (1 ~ 2) V (2 ~ 5) V (5 ~ 10) V (10 ~ 20) V (20 ~ 50) V (50 ~ 100) V (100 ~ 200) V (200 ~ 500) V (500 ~ 1 000) V | 0.7 µV 7.7×10^{-4} 3.9×10^{-4} 1.6×10^{-4} 8.4×10^{-5} 4.6×10^{-5} 2.4×10^{-5} 1.6×10^{-5} 1.7×10^{-5} 1.1×10^{-5} 9.4×10^{-6} 1.2×10^{-5} 9.3×10^{-6} 8.6×10^{-6} 1.6×10^{-5} 1.2×10^{-5} 1.0×10^{-5} 1.8×10^{-5} 1.2×10^{-5} 1.1×10^{-5} | Calibrator/ SICT-CP-40419 |

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. |
|--|------------|--|--|--|
| Analogue/Digital multimeters AC Voltage | 40419 | (3 mV) 50 Hz ~ 1 kHz | 10 μ V | Calibrator/ SICT-CP-40419 |
| | | (3 ~ 10) mV 50 Hz ~ 10 kHz (10 ~ 20) kHz (20 ~ 50) kHz (50 ~ 100) kHz | 9.0 $\times 10^{-4}$ 1.3 $\times 10^{-3}$ 1.3 $\times 10^{-3}$ 2.1 $\times 10^{-3}$ | |
| | | (10 ~ 100) mV 50 Hz ~ 10 kHz (10 ~ 20) kHz (20 ~ 50) kHz (50 ~ 100) kHz | 2.5 $\times 10^{-4}$ 2.7 $\times 10^{-4}$ 5.4 $\times 10^{-4}$ 1.4 $\times 10^{-3}$ | |
| | | (0.1 ~ 1) V 50 Hz ~ 10 kHz (10 ~ 20) kHz (20 ~ 50) kHz (50 ~ 100) kHz | 1.1 $\times 10^{-4}$ 1.3 $\times 10^{-4}$ 2.0 $\times 10^{-4}$ 4.2 $\times 10^{-4}$ | |
| | | (1 ~ 10) V 50 Hz ~ 10 kHz (10 ~ 20) kHz (20 ~ 50) kHz (50 ~ 100) kHz | 1.1 $\times 10^{-4}$ 1.3 $\times 10^{-4}$ 2.0 $\times 10^{-4}$ 3.8 $\times 10^{-4}$ | |
| | | (10 ~ 100) V 50 Hz ~ 20 kHz (20 ~ 50) kHz (50 ~ 100) kHz | 1.2 $\times 10^{-4}$ 3.4 $\times 10^{-4}$ 8.1 $\times 10^{-4}$ | |
| | | (100 ~ 300) V 50 Hz ~ 1 kHz (1 ~ 10) kHz (10 ~ 20) kHz | 2.3 $\times 10^{-4}$ 2.7 $\times 10^{-4}$ 5.1 $\times 10^{-4}$ | |
| | | (300 ~ 1 000) V 50 Hz ~ 10 kHz | 3.6 $\times 10^{-4}$ | |
| Resistance | | 0 Ω (0 ~ 1) Ω (1 ~ 10) Ω (10 ~ 100) Ω 100 Ω ~ 1 k Ω (1 ~ 10) k Ω (10 ~ 100) k Ω 100 k Ω ~ 1 M Ω (1 ~ 10) M Ω (10 ~ 100) M Ω | 85 $\mu\Omega$ 1.3 $\times 10^{-4}$ 3.4 $\times 10^{-5}$ 2.0 $\times 10^{-5}$ 1.6 $\times 10^{-5}$ 1.4 $\times 10^{-5}$ 1.7 $\times 10^{-5}$ 2.4 $\times 10^{-5}$ 5.0 $\times 10^{-5}$ 1.3 $\times 10^{-4}$ | |

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. | |
|--|------------|------------|---|---|------------------------------|
| Analogue/Digital multimeters | 40419 | DC Current | (±) 10 µA (10 ~ 20) µA (20 ~ 50) µA (50 ~ 100) µA (0.1 ~ 0.2) mA (0.2 ~ 0.5) mA (0.5 ~ 1) mA (1 ~ 2) mA (2 ~ 5) mA (5 ~ 10) mA (10 ~ 20) mA (20 ~ 50) mA (50 ~ 100) mA (0.1 ~ 0.2) A (0.2 ~ 0.5) A (0.5 ~ 1) A (1 ~ 2) A (2 ~ 5) A (5 ~ 10) A (10 ~ 20) A | 10 nA 5.2×10^{-4} 2.5×10^{-4} 1.5×10^{-4} 1.0×10^{-4} 8.1×10^{-5} 6.8×10^{-5} 9.0×10^{-5} 8.1×10^{-5} 6.8×10^{-5} 9.0×10^{-5} 9.2×10^{-5} 8.0×10^{-5} 9.8×10^{-5} 1.5×10^{-4} 1.2×10^{-4} 4.6×10^{-4} 7.4×10^{-4} 6.5×10^{-4} 1.2×10^{-3} | Calibrator/ SICT-CP-40419 |
| | | AC Current | (30 µA) 50 Hz ~ 1 kHz (30 ~ 50) µA 50 Hz ~ 1 kHz (50 ~ 100) µA 50 Hz ~ 1 kHz (0.1 ~ 0.2) mA 50 Hz ~ 1 kHz (0.2 ~ 0.5) mA 50 Hz ~ 1 kHz (0.5 ~ 1) mA 50 Hz ~ 1 kHz (1 ~ 2) mA 50 Hz ~ 1 kHz (2 ~ 5) mA 50 Hz ~ 1 kHz (5 ~ 10) mA 50 Hz ~ 1 kHz (10 ~ 20) mA 50 Hz ~ 1 kHz | 0.16 µA 3.9×10^{-3} 2.7×10^{-3} 3.6×10^{-5} 4.9×10^{-5} 2.4×10^{-4} 3.0×10^{-4} 1.4×10^{-4} 7.2×10^{-5} 3.0×10^{-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. | | | |
|--|----------------------|--|--|--|----------------------|--------|---|
| Analogue/Digital multimeters AC Current | 40419 | (20 ~ 50) mA 50 Hz ~ 1 kHz | 1.4×10^{-4} | Calibrator/ SICT-CP-40419 | | | |
| | | (50 ~ 100) mA 50 Hz ~ 1 kHz | 7.2×10^{-5} | | | | |
| | | 100 mA ~ 0.2 A 50 Hz ~ 1 kHz | 4.5×10^{-4} | | | | |
| | | (0.2 ~ 0.5) A 50 Hz ~ 1 kHz | 2.6×10^{-4} | | | | |
| | | (0.5 ~ 1) A 50 Hz ~ 1 kHz | 1.3×10^{-4} | | | | |
| | | (1 ~ 2) A 50 Hz ~ 1 kHz | 7.6×10^{-4} | | | | |
| | | (2 ~ 5) A 50 Hz ~ 1 kHz | 1.7×10^{-3} | | | | |
| | | (5 ~ 10) A 50 Hz ~ 1 kHz | 1.4×10^{-3} | | | | |
| | | (10 ~ 15) A 50 Hz ~ 1 kHz | 2.1×10^{-3} | | | | |
| | | (15 ~ 20) A 50 Hz ~ 1 kHz | 2.0×10^{-3} | | | | |
| | | Frequency | 10 Hz ~ 1 MHz | | 6.1×10^{-7} | | |
| | | Oscilloscopes Impedance Measure DC Voltage | 40421 | | 50 Ω | 0.7 mΩ | Calibration Generator/ SICT-CP-40421 |
| | | | | | 75 Ω | 0.8 mΩ | |
| 1 MΩ | 13 Ω | | | | | | |
| 1 mV | 1.0 μV | | | | | | |
| (1 ~ 2) mV | 4.9×10^{-4} | | | | | | |
| (2 ~ 5) mV | 2.0×10^{-4} | | | | | | |
| (5 ~ 10) mV | 1.0×10^{-4} | | | | | | |
| (10 ~ 20) mV | 5.5×10^{-5} | | | | | | |
| (20 ~ 50) mV | 2.7×10^{-5} | | | | | | |
| (50 ~ 100) mV | 1.8×10^{-5} | | | | | | |
| 100 mV ~ 0.5 V | 1.6×10^{-5} | | | | | | |
| (0.5 ~ 1) V | 9.4×10^{-6} | | | | | | |
| (1 ~ 2) V | 1.1×10^{-5} | | | | | | |
| (2 ~ 5) V | 9.2×10^{-6} | | | | | | |
| (5 ~ 10) V | 8.6×10^{-6} | | | | | | |
| (10 ~ 50) V | 1.2×10^{-5} | | | | | | |
| (50 ~ 200) V | 1.5×10^{-5} | | | | | | |

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. |
|--|------------|---|--|---|
| Oscilloscopes AC Voltage(Square wave) | 40421 | (1 kHz) 1 mV (1 ~ 2) mV (2 ~ 5) mV (5 ~ 10) mV (10 ~ 20) mV (20 ~ 50) mV (50 ~ 100) mV (100 ~ 200) mV (0.2 ~ 0.5) V (0.5 ~ 120) V | 47 μ V 2.4×10^{-2} 1.0×10^{-2} 5.8×10^{-3} 3.5×10^{-3} 2.1×10^{-3} 1.6×10^{-3} 1.4×10^{-3} 1.3×10^{-3} 1.2×10^{-3} | Calibration Generator/ SICT-CP-40421 |
| Time Marker | | 5 ns 5 ns ~ 10 ms (10 ~ 20) ms 20 ms ~ 5 s | 16 fs 3.0×10^{-6} 3.3×10^{-6} 3.3×10^{-5} | |
| CAL Output Amplitude | | (50 Hz ~ 10 kHz) 100 mV (100 ~ 200) mV 200 mV ~ 1.2 V (1.2 ~ 2) V (2 ~ 4) V (4 ~ 12) V | 36 μ V 2.2×10^{-4} 1.7×10^{-4} 1.4×10^{-4} 1.2×10^{-4} 1.7×10^{-4} | |
| CAL Output Frequency | | 100 Hz ~ 10 MHz | 6.5×10^{-7} | |
| Sine Wave Signal Generator Level | | (600 mV) 50 kHz (0.05 ~ 100) MHz (100 ~ 500) MHz (0.5 ~ 1) GHz (1 ~ 3) GHz | 25 mV 4.5×10^{-2} 7.2×10^{-2} 1.9×10^{-2} 2.3×10^{-2} | |
| Volt/Current recorders DC Voltage | 40424 | (\pm) 0 μ V 0 μ V ~ 10 mV (10 ~ 100) mV 100 mV ~ 1 V (1 ~ 10) V (10 ~ 100) V (100 ~ 500) V (500 ~ 1 000) V | 0.70 μ V 8.1×10^{-5} 1.6×10^{-5} 9.4×10^{-6} 8.6×10^{-6} 1.0×10^{-5} 1.2×10^{-5} 1.1×10^{-5} | Calibrator/ SICT-CP-40424 |
| DC Current | | (\pm) 0 μ A (0 ~ 10) μ A (10 ~ 100) μ A 100 μ A ~ 10 mA 10 mA ~ 1 A (1 ~ 10) A (10 ~ 20) A | 9.3 nA 9.9×10^{-4} 1.6×10^{-4} 9.2×10^{-5} 2.0×10^{-4} 6.5×10^{-4} 1.2×10^{-3} | |

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 | 0 ℃ (-90 ~ 250) ℃ (250 ~ 500) ℃ (500 ~ 650) ℃ (650 ~ 700) ℃ (700 ~ 1 300) ℃ | 0.01 ℃ 0.020 ℃ 0.024 ℃ 0.028 ℃ 1.3 ℃ 2.6 ℃ | SPRT, STANDARD TC/ SICT-CP-50101 |
| Temperature indicators/recorders /controllers, temperature calibrators Temperature indicators/recorders/controllers (With Sensor) | 50102 | (-45 ~ 0) ℃ (0 ~ 250) ℃ (250 ~ 650) ℃ (650 ~ 900) ℃ (900 ~ 1 100) ℃ (1 100 ~ 1 300) ℃ | 0.024 ℃ 0.031 ℃ 0.13 ℃ 1.4 ℃ 1.5 ℃ 2.6 ℃ | SPRT, STANDARD TC/ SICT-CP-50102 |
| (Without Sensor) | | (-45 ~ 0) ℃ (0 ~ 100) ℃ (100 ~ 200) ℃ (200 ~ 300) ℃ (300 ~ 400) ℃ (400 ~ 500) ℃ (500 ~ 600) ℃ (600 ~ 700) ℃ (700 ~ 800) ℃ (800 ~ 1 100) ℃ (1 100 ~ 1 300) ℃ | 0.013 ℃ 0.018 ℃ 0.022 ℃ 0.027 ℃ 0.031 ℃ 0.035 ℃ 0.048 ℃ 0.052 ℃ 0.057 ℃ 0.08 ℃ 0.09 ℃ | |
| Glass thermometers: liquid-in-glass, Beckmann liquid-in-glass | 50103 | (-45 ~ 0) ℃ (0 ~ 100) ℃ (100 ~ 200) ℃ | 0.048 ℃ 0.058 ℃ 0.062 ℃ | SPRT/ SICT-CP-50103 |
| Resistance thermometers: SPRT, IPRT, thermistors, etc. IPRT | 50104 | (-45 ~ 50) ℃ (50 ~ 250) ℃ | 0.024 ℃ 0.028 ℃ | SPRT, Fixed point/ SICT-CP-50104 |
| Thermal expansion thermometers: bimetal, gas or liquid type bimetal | 50105 | (-45 ~ 100) ℃ (100 ~ 300) ℃ (300 ~ 400) ℃ (400 ~ 650) ℃ | 0.4 ℃ 0.6 ℃ 1.5 ℃ 3.2 ℃ | SPRT/ SICT-CP-50105 |

501. Contact thermometry

| Measured Quantity Instrument or Gauge | Field Code | Range | Measurement uncertainty (The Confidence Level is about 95 %) | Standard/Method of Measurement etc. |
|---|------------|--|--|--|
| Thermocouples: noble metal, base metal, pure metal, special type, etc. Base metal | 50106 | (-45 ~ 300) °C (300 ~ 400) °C (400 ~ 500) °C (500 ~ 650) °C (650 ~ 1 000) °C (1 000 ~ 1 100) °C (1 100 ~ 1 200) °C (1 200 ~ 1 300) °C | 0.4 °C 0.6 °C 0.7 °C 0.8 °C 1.8 °C 2.0 °C 3.1 °C 3.6 °C | SPRT, Fixed point, STANDARD TC/ SICT-CP-50106 |
| Temperature transducers | 50107 | (-45 ~ 100) °C (100 ~ 200) °C (200 ~ 250) °C (250 ~ 300) °C (300 ~ 500) °C (500 ~ 650) °C (650 ~ 700) °C (700 ~ 800) °C (800 ~ 1 000) °C (1 000 ~ 1 100) °C (1 100 ~ 1 300) °C | 0.05 °C 0.06 °C 0.09 °C 0.14 °C 0.16 °C 0.18 °C 1.4 °C 1.6 °C 1.7 °C 2.8 °C 3.0 °C | SPRT, THERMOCOUPLE, MULTIMETER SICT-CP-50107 |

