

New

GPIB

USB

8½-digit high-precision and high-accuracy digital multimeter for system calibration

- 8½-digit display (119 999 999), 0.01 ppm resolution
DC voltage measurement: 100 mV to 1000 V, 10 nV resolution
DC current measurement: 100 nA to 1000 mA, 100 fA resolution
Resistance measurement: 10 Ω to 1000 MΩ, 1 μΩ resolution
- High-accuracy measurement by self-calibration function
5 ppm/year (DC voltage measurement relative accuracy)
8 ppm/year (resistance measurement relative accuracy)
- Internal memory storage up to 50,000 data



DMM for System Use with High Accuracy

The 7481 is an 8½-digit digital multimeter with high resolution of 0.01 ppm, equipped with DC voltage, DC current and resistance measurement functions. It is suitable for use in research and development fields or calibration organizations, and calibration of inspection systems for electronic components or semiconductors.

The 7481 achieves high-resolution measurement such as 10 nV for DC voltage measurement, 100 fA for DC current measurement and 1 μΩ for resistance measurement, and

also guarantees high relative accuracy 5 ppm per year for voltage measurement.

In addition, the self-calibration function allows high-accuracy measurement at any time, and external calibration can be performed with a smaller number of standards.

The 7481 has not only the GPIB and the USB as interface for automatic systems but also input terminals on the rear panel for easy system configuration

Voltage measurement

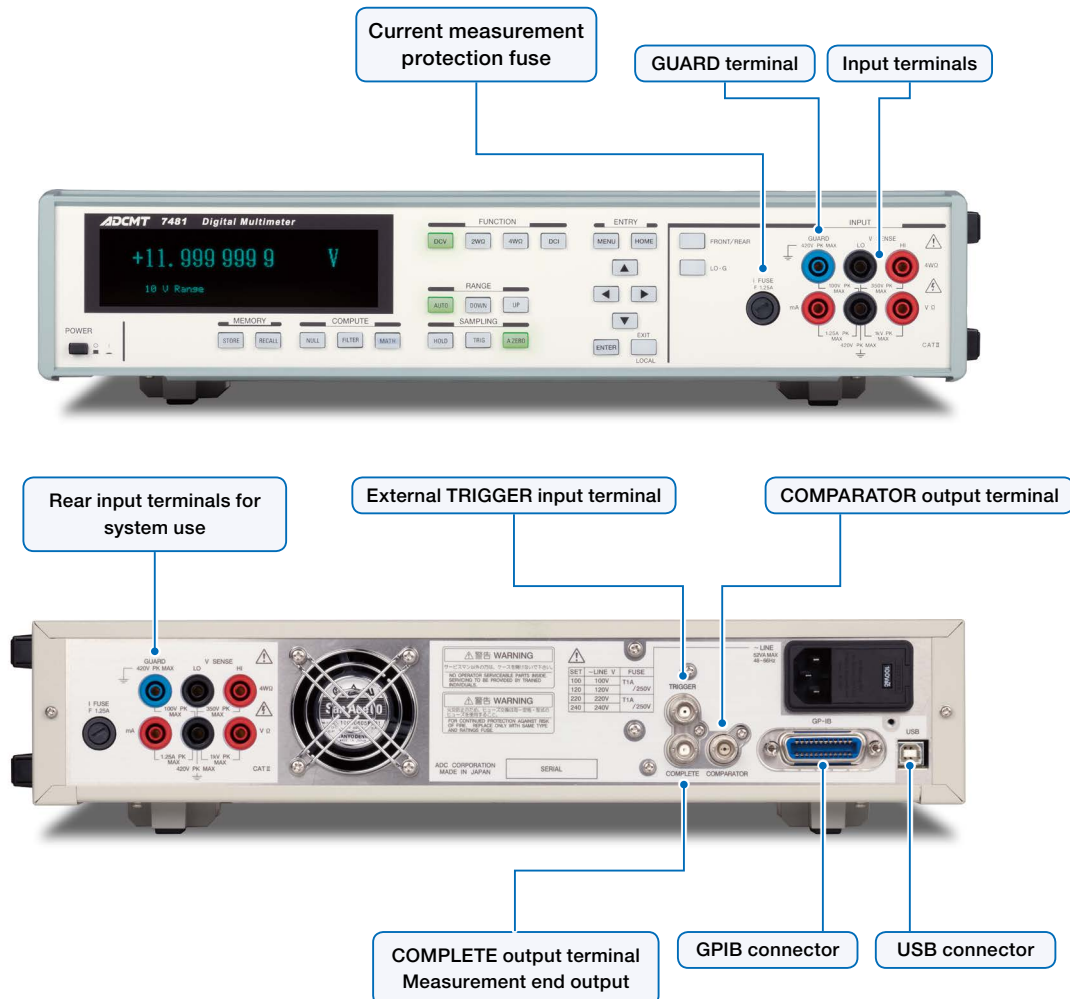
- 5 ranges: 0.1 V to 1000 V
- Resolution from 4½ digits to 8½ digits
- Minimum resolution 10 nV
- Stabilized voltage relative accuracy 5 ppm/year

Resistance measurement

- 9 ranges: 10 Ω to 1000 MΩ
- 2-wire and 4-wire resistance measurement
- Minimum resolution 1 μΩ
- Stabilized voltage relative accuracy 8 ppm/year
- Low power switching function to reduce the self-heating of resistors to be tested
- Automatic cancellation function of thermal EMF of the input cable

Current measurement

- 8 ranges: 100 nA to 1A
- Minimum resolution 100 fA
- High relative accuracy 20 ppm/year



8½-Digit High-Performance DMM Suitable for High-Accuracy Measurement

The 7481 is a high-performance digital multimeter with 8½-digit display for DC voltage or resistance measurement (119 999 999) and 7½-digit display for DC current measurement (11 999 999). As for DC voltage ratio measurement, maximum 8-digit display is possible. Consequently, this is the best used as standard and for high-accuracy measurement.

High-accuracy digital multimeter equipped with simple calibration function

	DC voltage	Resistance	DC current	Voltage ratio
Maximum display	119 999 999	119 999 999	11 999 999	99 999 999
Relative accuracy*	0.5±0.1	2±0.2	5±10	1.25±0.25
(Condition)	10 V range	10 kΩ range	1000 μA range	10 V range

*Relative accuracy: ppm of reading ± ppm of range, 23°C ± 1°C, 24 hours

All you need to perform external calibration for the 7481 are two sources: a DC voltage standard (10 V) and a resistance standard (10 kΩ).

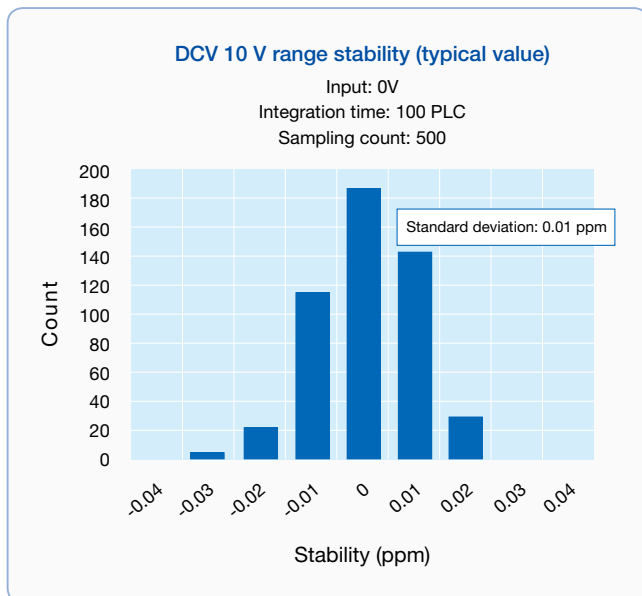
By the two-source calibration and the self-calibration function, all ranges of DC voltage, DC current and resistance are calibrated and internal errors due to ambient temperature change can be removed. As a result, high-accuracy measurements are guaranteed.

Calibration values are stored in the internal memory together with its calibration date, and these data can be read out by the GPIB or USB.

High-precision A/D converter

The 7481 adopts a self-developed multi-scope integration system for A/D conversion. So, it realizes high-precision linearity and excellent stability as standard, making it possible to perform high-accuracy measurements.

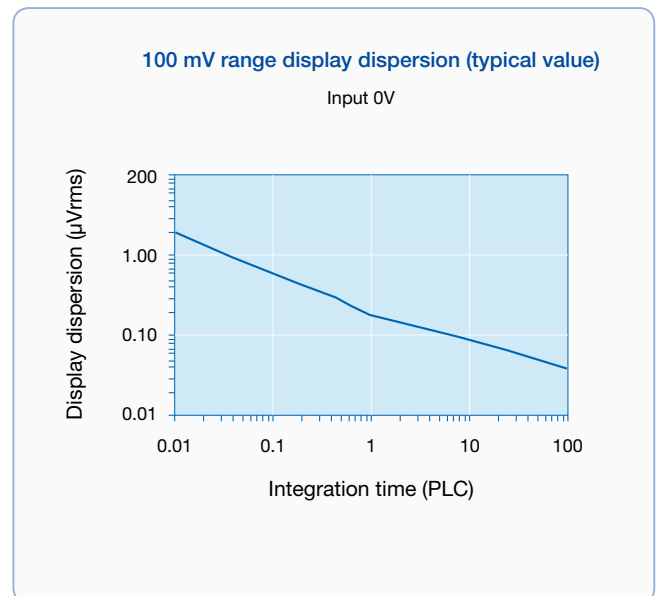
The following figure shows the stability at 0 V input in the 10 V range.



Low-noise design

The 7481 offers measurement with less dispersion by its low-noise ranging amplifier.

The following figure shows the integration time and effective values (rms) of display dispersion at 0 V input in the 100 mV range.

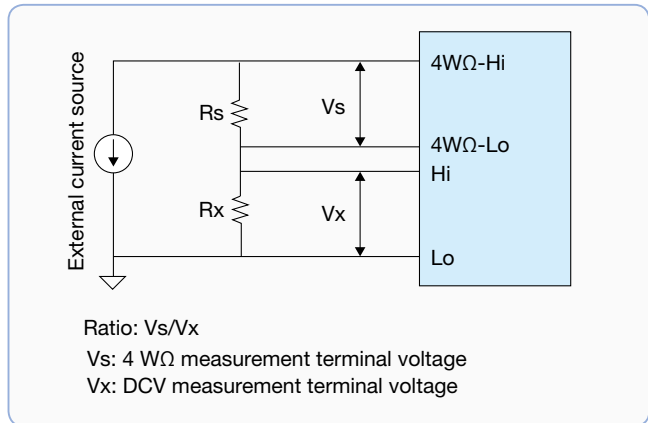


High-Precision Resistance Measurement by Thermal EMF Cancellation

The 7481 has not only precise DC voltage measurement function but also high-precision resistance measurement function in which micro thermal electromotive force that causes errors in resistance measurement is cancelled automatically.

Ratio measurement function

In ratio measurement, the reference DC voltage is measured by using the 4 WΩ measurement terminal in addition to normal DC voltage measurement, and its voltage ratio is gained by calculation. Using this function, it is possible to measure attenuator voltage division ratio and electric power, eliminating error factors of the external supply source in resistance measurement.



Various Functions Convenient for Measurements

50,000 data internal memory

Up to 50,000 measurement data can be stored in the internal memory (RAM).

Front/rear input terminal external control

The front and rear input terminals can be controlled externally via the GPIB or USB. It can prevent switching errors between the front and rear input.

4-wire contact check function

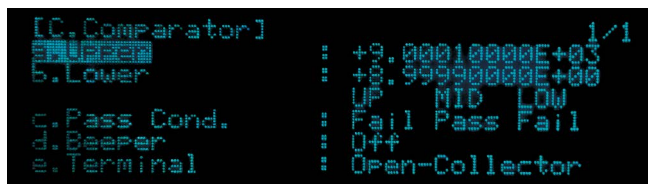
In 4-wire resistance measurement, contact check on the current source and voltage measurement points are performed. Measurement errors due to wrong connection or contact failure can be judged in advance.

Comparator function

Efficient PASS/FAIL judgement is available by setting threshold values for inspection of electronic components such as resistors and semiconductors. Judgment results PASS or FAIL are displayed as measurement results on the screen, and also are output to the COMPARATOR output terminal.



Comparator function Measurement display



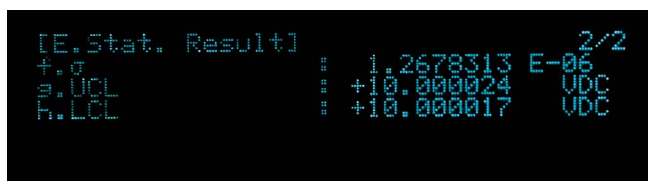
Comparator function Threshold values, judgment setting

Statistic operation function

The maximum 10,000 samples can be set. Statistic operation results such as maximum value, minimum value, average, dispersion and standard deviation (σ) are displayed.



Statistic operation function Result display



7481 Specifications

DC Voltage Measurement (DCV)

Range/maximum display resolution/input impedance

Range	Maximum display	Resolution					Input impedance
		8½	7½	6½	5½	4½	
100 mV	119.99999 mV	-	10 nV	0.1 µV	1 µV	10 µV	>100 GΩ
1000 mV	1199.99999 mV	10 nV	0.1 µV	1 µV	10 µV	100 µV	>100 GΩ
10 V	11.9999999 V	0.1 µV	1 µV	10 µV	100 µV	1 mV	>100 GΩ
100 V	119.999999 V	1 µV	10 µV	100 µV	1 mV	10 mV	10 MΩ±1%
1000 V	1099.99999 V	10 µV	100 µV	1 mV	10 mV	100 mV	10 MΩ±1%

Maximum input voltage: Input Hi-Lo ±1000 Vpeak
 GUARD-chassis ±420 Vpeak
 GUARD-Lo terminal ±100 Vpeak

Accuracy: Relative accuracy with the integration time of 100 PLC
 ± (ppm of reading, + ppm of range)

Range	24 hours ²	90 days ³	1 year ³
	Tcal ¹ ± 1°C	Tcal ± 5°C	
100 mV	2.5+10	5.0+10	7.0+10
1000 mV	1.5+1	4.0+1	6.0+1
10 V	0.5+0.1	3.0+0.2	5.0+0.2
100 V	2.5+1	5.0+1	7.0+1
1000 V	2.5+0.1	5.0+0.2	7.0+0.2

¹ Tcal = temperature at calibration

² 4 minutes or more after range switching (MATH NULL, fixed range), Tcal ± 1°C

³ Within 24 hours after last INT CAL, ±1°C, Tcal ± 5°C (MATH NULL, fixed range)

INT CAL: internal calibration (calibration of errors in DMM)

Add 0.9 ppm of reading additional error for ADC traceability to Japan's national standard.

Voltage coefficient: Add 7 ppm (Vin/1000 V)² for 100 V or higher input.

Temperature coefficient: (ppm of reading + ppm of range)/°C

Range	Temperature coefficient	
	Without INT CAL	With INT CAL
100 mV	1.2+1	0.25+1
1000 mV	1+0.1	0.15+0.1
10 V	1+0.01	0.15+0.01
100 V	1.2+0.1	0.25+0.1
1000 V	1.2+0.01	0.25+0.01

Without INT CAL: INT CAL is not performed regardless of the ambient temperature change

With INT CAL: INT CAL is performed according to the ambient temperature change and a measured value right after that is used.

Temperature coefficient additional error with Auto-zero OFF

Range	Additional error ppm of range/°C
100 mV	50
1000 mV/10 V	5
100 V/1000 V	1

Additional error: Add the following additional errors for integration time other than 100 PLC.

Additional errors by integration time⁴

Integration time	Gain error ppm of reading	Range error ppm of range
2 µs to 5 µs	2000	1000
6 µs to 10 µs	1000	500
20 µs to 100 µs	200	100
200 µs to 1 ms	30	20
2 ms to 10 ms	10	10
1 PLC	1	0.6
2 PLC to 3 PLC	0.8	0.5
4 PLC to 5 PLC	0.6	0.4
6 PLC to 10 PLC	0.5	0.3
20 PLC to 30 PLC	0.2	0.2
40 PLC to 50 PLC	0.2	0.1
10 PLC to 90 PLC	0.1	0.05

⁴ 1 µs is an unspecified accuracy.

Range multiplier of range error

Range	Multiplier ⁵
100 mV	×20 (×100)
1000 mV	×2 (×10)
10 V	×1 (×1)
100 V	×2 (×10)
1000 V	×1 (×1)

⁵ Integration time 200 µs to 10 ms for multipliers in the parentheses

Noise rejection: Between Guard and Lo terminals, at unbalanced impedance of 1 kΩ

Integration time	Effective CMR		NMR
	50/60 Hz±0.07%	DC	50/60 Hz±0.07%
10 ms or less	90 dB	140 dB	0 dB
1 PLC or more	150 dB	140 dB	60 dB

Resistance Measurement

	Range	Maximum display	Resolution					Measurement current	Open circuit voltage
			8½	7½	6½	5½	4½		
Hi-Power	10 Ω	11.999999 Ω	-	1 µΩ	10 µΩ	100 µΩ	1 mΩ	10 mA	13 V
	100 Ω	119.999999 Ω	1 µΩ	10 µΩ	100 µΩ	1 mΩ	10 mΩ	10 mA	13 V
	1000 Ω	1199.99999 Ω	10 µΩ	100 µΩ	1 mΩ	10 mΩ	100 mΩ	1 mA	13 V
	10 kΩ	11.9999999 kΩ	100 µΩ	1 mΩ	10 mΩ	100 mΩ	1 Ω	1 mA	17 V
	100 kΩ	119.999999 kΩ	1 mΩ	10 mΩ	100 mΩ	1 Ω	10 Ω	100 µA	17 V
	1000 kΩ	1199.99999 kΩ	10 mΩ	100 mΩ	1 Ω	10 Ω	100 Ω	10 µA	17 V
	10 MΩ	11.9999999 MΩ	-	1 Ω	10 Ω	100 Ω	1 kΩ	1 µA	17 V
	100 MΩ	119.999999 MΩ	-	10 Ω	100 Ω	1 kΩ	10 kΩ	100 nA	16 V
	1000 MΩ	1199.99999 MΩ	-	100 Ω	1 kΩ	10 kΩ	100 kΩ	10 nA	16 V
	Lo-Power	10 Ω	11.999999 Ω	-	1 µΩ	10 µΩ	100 µΩ	1 mΩ	10 mA
100 Ω		119.99999 Ω	-	10 µΩ	100 µΩ	1 mΩ	10 mΩ	1 mA	5 V
1000 Ω		1199.9999 Ω	-	100 µΩ	1 mΩ	10 mΩ	100 mΩ	1 mA	5 V
10 kΩ		11.999999 kΩ	-	1 mΩ	10 mΩ	100 mΩ	1 Ω	100 µA	5 V
100 kΩ		119.99999 kΩ	-	10 mΩ	100 mΩ	1 Ω	10 Ω	10 µA	5 V
1000 kΩ		1199.9999 kΩ	-	100 mΩ	1 Ω	10 Ω	100 Ω	1 µA	5 V
10 MΩ		11.999999 MΩ	-	1 Ω	10 Ω	100 Ω	1 kΩ	100 nA	5 V
100 MΩ		119.99999 MΩ	-	10 Ω	100 Ω	1 kΩ	10 kΩ	10 nA	5 V
1000 MΩ		1199.9999 MΩ	-	100 Ω	1 kΩ	10 kΩ	100 kΩ	10 nA	16 V

Maximum input voltage: Between measurement terminals: ±350 V peak
 GUARD-chassis ±420 V peak
 GUARD-Lo terminal ±100 V peak

4-Wire Resistance Measurement

Accuracy: Relative accuracy with the integration time of 100 PLC
 ± (ppm of reading + ppm of range)

	Range	24 hours	90 days ⁶	1 year ⁶
		Tcal ± 1°C	Tcal ± 5°C	
Hi-Power	10 Ω	5+10	12+20	14+20
	100 Ω	5+2	10+5	12+5
	1000 Ω	3+2	8+5	10+5
	10 kΩ	2+0.2	6+0.5	8+0.5
	100 kΩ	2+0.2	6+0.5	8+0.5
	1000 kΩ	10+1	12+1	14+1
	10 MΩ	50+5	50+5	50+5
	100 MΩ	500+10	500+10	500+10
	1000 MΩ	0.5%+10	0.5%+10	0.5%+10
	Lo-Power	10 Ω	5+10	12+20
100 Ω		5+10	12+20	14+20
1000 Ω		3+2	8+5	10+5
10 kΩ		3+2	10+5	12+5
100 kΩ		10+2	12+5	14+5
1000 kΩ		50+5	50+5	50+5
10 MΩ		500+50	500+50	500+50
100 MΩ		0.5%+50	0.5%+50	0.5%+50
1000 MΩ		0.5%+10	0.5%+10	0.5%+10

⁶ Within 24 hours after last INT CAL, ±1°C, Tcal ±5°C (MATH NULL, fixed range)

Add 3.1 ppm of reading additional error for ADC traceability to Japan's national standard.

Temperature coefficient: \pm (ppm of reading + ppm of range)/ $^{\circ}$ C

	Range	Temperature coefficient	
		Without INT CAL	With INT CAL
Hi-Power	10 Ω	3+3	1+3
	100 Ω	3+1	1+1
	1000 Ω	2+1	1+1
	10 k Ω	2+0.1	1+0.1
	100 k Ω	2+0.1	1+0.1
	1000 k Ω	2+0.1	1+0.1
	10 M Ω	20+0.1	5+0.1
	100 M Ω	100+1	50+1
	1000 M Ω	1000+1	500+1
Lo-Power	10 Ω	3+3	1+3
	100 Ω	3+3	1+3
	1000 Ω	2+1	1+1
	10 k Ω	2+1	1+1
	100 k Ω	2+1	1+1
	1000 k Ω	10+1	5+1
	10 M Ω	100+10	25+10
	100 M Ω	1000+10	250+10
	1000 M Ω	1000+1	500+1

Additional error: Add the following additional error for integration time other than 100 PLC.⁷

Integration time	Gain error ppm of reading	Range error ppm of range
2 μ s to 10 μ s	2000	1500
20 μ s to 100 μ s	200	150
200 μ s to 1 ms	30	30
2 ms to 10 ms	10	10
1 PLC to 10 PLC	1	0.6
20 PLC to 50 PLC	0.2	0.2
60 PLC to 90 PLC	0.1	0.1

⁷ 1 μ s is an unspecified accuracy.

Range multiplier of range error

	Range	Multiplier ⁸
Hi-Power	10 Ω	$\times 20$ ($\times 100$)
	100 Ω to 1000 Ω	$\times 5$ ($\times 10$)
	10 k Ω to 1000 M Ω	$\times 1$ ($\times 1$)
Lo-Power	10 Ω to 100 Ω	$\times 20$ ($\times 100$)
	1000 Ω to 100 M Ω	$\times 5$ ($\times 10$)
	1000 M Ω	$\times 1$ ($\times 1$)

⁸ Integration time 200 μ s to 10 ms for multipliers in the parentheses

4 W Ω check function ON: Add 5 ppm gain error.

Ω -COMP function ON: Add 2 ppm gain error for 100 k Ω and 5 ppm gain error for 1000 k Ω .

2-Wire Resistance Measurement

Accuracy: Add 0.2 Ω offset error to ppm of range of 4-wire resistance measurement (4 W Ω) accuracy.

Temperature coefficient (Auto-zero OFF):

Add the following addition error (ppm of range)/ $^{\circ}$ C to the temperature coefficient of 4-wire resistance measurement (4 W Ω).

	Range	Additional error ppm of range/ $^{\circ}$ C
Hi-Power	10 Ω	50
	100 Ω to 1000 Ω	5
	10 k Ω to 1000 M Ω	1
Lo-Power	10 Ω to 100 Ω	50
	1000 Ω to 100 M Ω	5
	1000 M Ω	1

DC Current Measurement

Range/maximum display resolution/input impedance/over input protection

Range	Maximum display	Resolution				Input impedance	Over input protection
		7½	6½	5½	4½		
100 nA	119.9999 nA	-	100 fA	1 pA	10 pA	1010 k Ω or less	1.25 A/250 V fast-blow fuse protection
1000 nA	1199.9999 nA	100 fA	1 pA	10 pA	100 pA	105 k Ω or less	
10 μ A	11.999999 μ A	1 pA	10 pA	100 pA	1 nA	10.1 k Ω or less	
100 μ A	119.99999 μ A	10 pA	100 pA	1 nA	10 nA	1.01 k Ω or less	
1000 μ A	1199.9999 μ A	100 pA	1 nA	10 nA	100 nA	102 Ω or less	
10 mA	11.999999 mA	1 nA	10 nA	100 nA	1 μ A	12 Ω or less	
100 mA	119.99999 mA	10 nA	100 nA	1 μ A	10 μ A	3 Ω or less	
1000 mA	1199.9999 mA	100 nA	1 μ A	10 μ A	100 μ A	2 Ω or less	

Accuracy: Relative accuracy with the integration time of 100 PLC \pm (ppm of reading, + ppm of range)

Range	24 hours ⁹	90 days ⁹	1 year ⁹
	Tcal $\pm 1^{\circ}$ C	Tcal $\pm 5^{\circ}$ C	
100 nA	10+400	25+400	25+400
1000 nA	10+40	15+40	20+40
10 μ A	5+10	15+20	20+20
100 μ A	5+10	15+20	20+20
1000 μ A	5+10	15+20	20+20
10 mA	10+10	15+20	20+20
100 mA	20+10	25+20	30+20
1000 mA	100+10	100+20	110+20

⁹ Within 24 hours after last INT CAL, $\pm 1^{\circ}$ C, Tcal $\pm 5^{\circ}$ C (MATH NULL, fixed range)

Add 4 ppm of reading additional error for ADC traceability to Japan's national standard.

Temperature coefficient: (ppm of reading + ppm of range)/ $^{\circ}$ C

Range	Temperature coefficient	
	Without INT CAL	With INT CAL
100 nA	10+200	2+50
1000 nA	10+20	2+5
10 μ A	2+4	2+1
100 μ A	5+3	2+1
1000 μ A	5+2	2+1
10 mA	10+2	5+1
100 mA	20+2	5+1
1000 mA	20+3	10+2

Additional error: Add the following additional errors for integration time other than 100 PLC.¹⁰

Integration time	Gain error ppm of reading	Range error ppm of range
2 μ s to 10 μ s	2000	2000
20 μ s to 100 μ s	200	1200
200 μ s to 1 ms	30	1200
2 ms to 10 ms	10	800
1 PLC to 10 PLC	1	10
20 PLC to 50 PLC	0.2	4
60 PLC to 90 PLC	0.1	2

¹⁰ 1 μ s is an unspecified accuracy.

Range multiplier of range error

Range	Multiplier
100 nA	$\times 50$
1000 nA	$\times 5$
10 μ A to 1000 mA	$\times 1$

Ratio Measurement

Ratio	Input voltage/reference voltage
Input voltage	DCV Hi-Lo terminals
Reference voltage	(Hi sense - Lo terminal) - (Lo sense - Lo terminal)
Reference measurement range	DCV 100 mV to 10 V (auto range only)

Accuracy:

Ratio measurement accuracy	± (Input measurement error + Reference measurement error)
Input measurement error	Total range error of DCV input signal measurement × 1
Reference measurement error	Total range error of DCV reference signal measurement × 1.5

Integration Time

The integration time can be set as follows:

1 μs to 10 μs:	1 μs step
20 μs to 100 μs:	10 μs step
200 μs to 1 ms:	100 μs step
2 ms to 10 ms:	1 ms step
1 PLC to 10 PLC:	1 PLC step
10 PLC to 100 PLC:	10 PLC step

4½-digit display	1 μs to 100 PLC
5½-digit display	100 μs to 100 PLC
6½-digit display	1 ms to 100 PLC
7½-digit display	1 PLC to 100 PLC
8½-digit display	10 PLC to 100 PLC

PLC: Power Line Cycle

10 PLC is repeated in case of 20 PLC or longer.

Computing Operations

Digital filter:

Smoothing Obtains the moving average of measurement data of a specified smoothing count.
Smoothing count: 2 to 100

Averaging Obtains the average of measurement data of a specified averaging count.
Averaging count: 2 to 100

Format:

Scaling

$$R = \frac{D - Y}{X} \times Z \quad (X, Y, Z: \text{constant})$$

% deviation

$$R = \frac{D - X}{|X|} \times 100 \quad (\%)$$

Delta

$$R = D_i - D_{i-1} \quad (\text{difference from the previous measured value})$$

dB conversion

$$R = 20 \log_{10} |D/X| \quad (\text{dB})$$

RMS

$$R = \sqrt{\frac{1}{N} \sum_{K=1}^N D_K^2}$$

dBm conversion

$$R = 10 \log_{10} \frac{D^2/X}{10^{-3}} \quad (\text{dBm})$$

R: dBm conversion value based on 1 mW (= 0 dBm)

D: voltage measured value (V),

X: reference resistance value (Ω)

Resistance value temperature compensation

$$R_{20} = \frac{R_x}{1 + 0.00393 (T - 20)} \times \frac{1000}{L} \quad (\Omega/\text{km})$$

R₂₀: Converted resistance value of copper wire at 20°C (Ω/km)

R_x: Measured resistance value at temperature of X°C (Ω)

T: Room temperature at measurement, L: Wire length

Pt sensor temperature measurement: JIS C1604-1997 (ITS90)

Comparator:	Operation	UP area	UPPER < D
		MID area	LOWER ≤ D ≤ UPPER
		LOW area	D < LOWER

Constant setting range

UPPER -9.9999999 E+51 to +9.9999999 E+51

LOWER -9.9999999 E+51 to +9.9999999 E+51

Operation result display

PASS or FAIL is displayed as result.

PASS setting is available independently for each of UP, MID and LOW areas.

Statistic operation: RN Number of samples, Rave Average value
Rmax Maximum value, Rp-p Dispersion range
Rmin Minimum value, R Standard deviation
Rucl Upper Control Line Rave+3R
Rlcl Lower Control Line Rave-3R

Null operation: Sets a certain measured value as null value, and subtracts the null value from the following measured values. Null correction is available in the full range of each measurement range.

Memory function: Memory contents Measured data (50,000 data)
Condition setting memory 4 files (USER0 to USER3)
RTC (real time clock)

Trigger function: Trigger source IMMEDIATE, MANUAL, EXTERNAL, BUS, LEVEL, TIMER, LINE

Interrace Function

GPIB interface:

Command system Compliant to IEEE 488.2-1987
Connector Amphenol 24 pin
Interface function SH1, AH1, T5, L4, SR1, RL1, PP0, DC1, DT1, C0, E2

USB interface:

Standard Compliant to USB 2.0 Full-Speed
Connector Type B

Input terminals:

Switchable between front input and rear input by remote control

External control signals: Connector BNC connector

Trigger input signal TTL level, positive/negative pulse selectable

Complete output signal TTL level, negative pulse

Comparator output signal Open collector/pull-up selectable
PASS/FAIL output selectable

General Specifications

Operating environment: Temperature: 0°C to +50°C
(Performance guaranteed between 0°C and +40°C)
Relative humidity: 85% or less, no condensation
(65% or less no condensation for resistance measurement ranges: 1 MΩ, 10 MΩ, 100 MΩ, 1000 MΩ, current measurement 100 nA range)

Storage environment: Temperature: -25°C to +70°C
Relative humidity: 85% or less, no condensation

Warm-up time: 4 hours or more to meet the specifications
Display 256 × 64 dot-matrix VFD
Range switching Automatic and manual
Input method Floating and guarded

Maximum allowable applied voltage

				4WLO	HI	4WHI
					350 V	350 V
				350 V	1000 V	350 V
		COM	350 V	450 V	1000 V	450 V
	Guard	100 V	450 V	770 V	1000 V	770 V
Chassis	420 V	420 V	770 V	1000 V	1000 V	770 V

* Do not apply more than 1000 V between the same terminals on the front and the rear.

Measurement method: Integration

Power supply: AC power supply 100V/120V/220V/240V (User selectable)

Option number	Standard	OPT. 32	OPT. 42	OPT. 44
Power voltage	100 V	120 V	220 V	240 V

Use a power cable and a fuse that are compliant with the safety standard when changing the power supply voltage.

Line frequency: 50 Hz/60 Hz
Power consumption: 42 VA or less
Dimensions: Approx. 424 (W) × 88 (H) × 450 (D) mm
Mass: 9 kg or less
Safety: Compliant with IEC61010-1 Ed.3 Measurement CAT II
EMC: EN61326-1 class A

Supplied accessories

Name	Model	Quantity
Power cable (JIS 2 m)	A01402	1
Input cable (test probe 1 m)	CC010001	1
Alligator clip adapter (for CC010001)	CC015001	1
Current terminal protection fuse	DFS-AN1R25A-1	1
Power fuse	DFT-AA1A-1	1
EMI clamp	DEE-100345-1	1

Optional accessories

Name	Model
Input cable (for 4-wire measurement)	A01006
Input cable (banana- alligator)	A01035
Input cable (test probe 1 m)	CC010001
Alligator clip adapter (for CC010001)	CC015001
Front handle set 2U	CC028002
Rack mount set EIA 2U	CC024002
Rack mount set JIS 2U	CC022002

(The front handle set and the rack mount set can be used in combination.)

- Please read through the operation manual carefully before using the product.
- All specifications are subject to change without notice.



E-mail : kcc@adcmt.com URL : <http://www.adcmt.com>

Head Office (R&D Center)

77-1, Miyako Namegawa-machi, Hiki-gun,
Saitama 355-0812, Japan
Phone: +81-493-56-4433 Fax: +81-493-57-1092

East Branch (Sales Dept.)

Okabe-building, 3-515, Onari-cho, Omiya-ku, Saitama-shi,
Saitama 330-0852, Japan
Phone: +81-48-651-4433 Fax: +81-48-651-4432