HIOKI DIGITAL MULTIMETER DT4200 Series Test Equipment 5 Commonwealth Ave Depot Woburn, MA 01801 Phone 781-665-1400 Toll Free 1-800-517-8431 1-800-517-8431 Visit us at www.TestEquipmentDepot.com 5000 6000

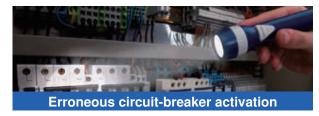
Defy conventional wisdom for achieving testing safety with a new and proprietary circuit breaker false trip prevention function

SERIES



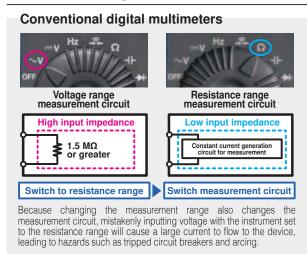
Hazard

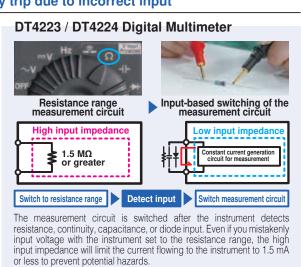
Mistakenly tripped circuit breakers and arcs due to careless input of voltage to the resistance range can be extremely hazardous.





The DT4223 and DT4224 feature a new proprietary function that prevents accidents resulting from breakers that mistakenly trip due to incorrect input







Prevent unavoidable debris from shorting the measurement target and causing an accident.



The DT4255's voltage input terminals incorporate a protective fuse so that contamination of the instrument's internal components with iron powder or other particulate matter will not result in an internal short-circuit. The fuse can be replaced easily on site.

Continued high input may result in major accidents such as fire.





To prevent an accident, a warning function immediately notifies the operator if the DMM receives excessively high input

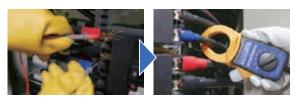
*Red screen available on high-end models and DT4223/DT4224 only.

Wrong insertion may lead to short-circuits.



The DT4281 and DT4282 use terminal shutters to keep probes from being inserted into the wrong inlets. The shutters block whichever terminal is not being used based on the selected measurement function.

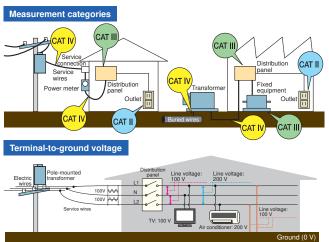
Mistakenly measuring voltage using the current range may lead to a short-circuit.



The DT4281, DT4253, DT4255, and DT4256 eliminate the root cause of such accidents by providing clamp-on sensor-based current measurement functionality instead of using conventional probes.

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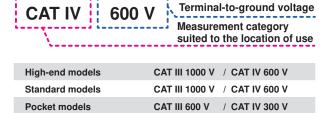






Safe measurement requires use of an instrument that suits the measurement location.

To ensure operators' ability to use measuring instruments safely, IEC 61010 classifies the locations in which instruments are used into a series of safety-based measurement categories (ranging from CAT II to CAT IV). Using an instrument that does not satisfy the required safety level can lead to an electrical accident.



Designed and manufactured in Japan to ensure high quality and guaranteed with a 3-year warranty for peace of mind



All development, design, and manufacturing processes for almost all Hioki digital multimeters are carried out at our Head Office in Nagano Prefecture. Some of the industry's most advanced technological capabilities enable us to deliver products of the highest possible quality.

Field-Proven Strength and Usability DT4200 series

Robust design capable of withstanding a drop from a height of 1 m onto concrete





To test our products' ability to withstand mechanical shock, we repeatedly drop them from a height of at least 1 m until they break. This drop-testing regime leads to more robust products by fostering a series of design improvements.

Drop tester

Fast, accurate measurement of the output voltage on the secondary side of an inverter







With low-pass filter off With low-pass filter on

The DT series can accurately measure the voltage on the secondary side of an inverter, just like a power meter. Its low-pass filter rejects harmonic components so that the fundamental wave can be isolated and accurately measured.

Outstanding viewing angle so display is easy to read at an angle or even in a dim location



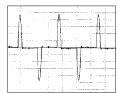
The DT4200 series features a display with a wide viewing angle and a backlight function so that it's easy to read, even when you can't view the screen from the front or when making measurements in a dim location.

Preventing instrument failure by keeping out dust



If dust gets into the instrument's enclosure, it can cause the device to fail. Since dust can get into the instrument especially easily through the gap around the rotary switch, the DT4200 series incorporates a dustproof part known as an O-ring where the rotary switch is mounted to improve the device's dust resistance.

True RMS measurement for accurate measurement of even distorted current waveforms







Average-value method. True RMS method measured value

measured value

Current waveforms are often distorted, causing the average-value and true RMS measurement methods to yield different results. To obtain accurate readings, RMS measurement is indispensable.

Rotary switch that's easy to operate even when wearing gloves



The DT4200's rotary switch is designed to be easy to turn even when wearing thick work gloves, for example while working in hazardous measurement locations or harsh conditions

Outstanding hands-free ease of use in the field when working with numerous measurement locations





Secure the instrument on the wall so that you don't have to hold it.



The display automatically stops once the measured value stabilizes.



Press the MEM key to save measured values in the instrument's internal memory.

It's hard to carry out work tasks smoothly when you're juggling a measuring instrument, probes, recording paper, and other supplies. Field concerns like these are resolved by the DT4200's magnetic strap, auto-hold function, and ability to save results in its internal memory. These capabilities boost work efficiency and help reduce work times.

*The auto-hold function is available exclusively in high-end, standard models and DT4223,DT4224. The ability to save results in internal memory is available exclusively in highend models.

Extensive selection of probe tips that you can choose based on the measurement location, improving ease of measurement





With screw terminals



In deep-set locations that can't be reached with other probes



For clamping around the target busbar

With the DT4200, you can choose the probe type that best suits your measurement location, making it possible to measure in areas that can't be reached with conventional probes and busbars that you wish to clamp between probes.

*Compatible probe tips vary with the DMM model. Please see page 16. The optional Connection Cable L4930 is required in order to use the probes shown at the left



High-end models

Featuring high accuracy, extensive additional functionality, and a broad range of measurement parameters

DCV typical accuracy: $\pm 0.025\%$ rdg. ± 2 dgt. Measurement categories: CAT III (1000 V) / CAT IV (600 V)



For electrical work in the field DT4281

Designed for maximum safety in the field when measuring current with clamp-on sensors.

DC voltage	60.000 mV to 1000.0 V
AC voltage	60.000 mV to 1000.0 V
DC + AC voltage	6.000 V to 1000.0 V
DC current	600.00 μA to 600.00 mA
AC current	600.00 μA to 600.00 mA
AC clamp-on measurement	Frequency
Resistance	Continuity check
Temperature	Diode test
Capacitance	Conductance
Gapaonanoo	



For laboratory and research use DT4282

Designed for use in laboratories and R&D applications where you wish to measure a wide variety of parameters.

DC voltage	60.000 mV to 1000.0 V
AC voltage	60.000 mV to 1000.0 V
DC + AC voltage	6.000 V to 1000.0 V
DC current	600.00 μA to 10.000 A
AC current	600.00 μA to 10.000 A
AC clamp-on measurement	Frequency
AC clamp-on measurement Resistance	Frequency Continuity check
Resistance	Continuity check

Supported measurement parameter
 Supported measurement parameter (with model-specific variations)
 Unsupported measurement parameter parameter
 *The range figures given indicate the instrument's measurement ranges (not the range of measurable values).

Applications



Magnetic strap frees both hands for work

Using the magnetic strap (option)

By using the magnetic strap to secure the instrument to the wall, you can free both hands so that you can more easily record measured values, significantly boosting work



Automatically hold display values and save results with one touch to the DMM's internal memory

The display is automatically held once the measured value stabilizes. You can save measurement results to the instrument's internal memory simply by pressing the MEM key, making it easy to read and record values during inspection work.



Manage measurement data on a computer

Using the Communication Package DT4900-01 (option)

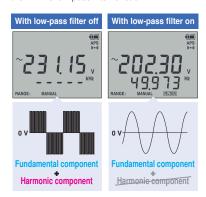
Measurement results can be downloaded to a computer via a USB connection. Once downloaded, you can save them as a file (text format) or display them as a graph using the desired interval. Results can also be sent in real time while measurement is ongoing.

*The computer and multimeter are electrically isolated by means of optical communications so that data can be sent with peace of mind.



Measure output voltage on the secondary sides of inverters

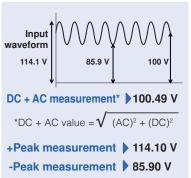
Accurately measure the fundamental wave alone by eliminating harmonic components with the DMM's low-pass filter function.





Ripple voltage confirmation of DC charging systems Peak value measurement / DC + AC voltage measurement

High-end models can detect ripple voltage with a superposed DC signal.





Percentage display for instrumentation signal measurement 4 to 20 mA / 0 to 20 mA percentageequivalent display

You can check percentage-equivalent values.

4 mA

20 mA

4 mA

20 mA

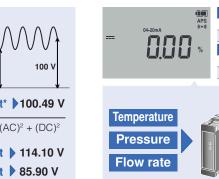
0%

100%

0%

100%

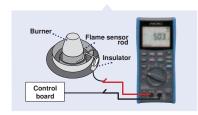
Transducer





Measure very low currents used by gas-burning devices DC µA range

High-end models provide a DC 600.00 µA range for measuring burner flame currents.





Intuitive notification of continuity check results and excessively high input with a red screen backlight and beep

High-end models notify the operator of continuity check results and excessively high input with a red screen backlight and beep, making it possible to check measurement results intuitively.





Display refresh rate

Change the display refresh speed to stabilize the display when performing measurement characterized by a high level of variability.



Relative display

View relative values using the display value before the relative function was enabled as the reference.



Maximum/minimum value display

Check the maximum and minimum measured values shown on the display after pressing the MAX/MIN button.



Decibel conversion

Convert the results of AC voltage measurement to a decibel value relative to a reference value and display the results (dbm/



Standard models

Introducing a line of field-optimized instruments that can be chosen based on the application at hand

DCV typical accuracy: ±0.3% rdg. ±3 dgt. Measurement categories: CAT III (1000 V) / CAT IV (600 V)



For laboratory and research use

DT4252

For laboratories and R&D applications where you wish to measure a wide variety of parameters.

DC voltage	600.0 mV to 1000 V
AC voltage	6.000 V to 1000 V
DC + AC voltage	DT4281/4282 only
DC current	6.000 A to 10.00 A
AC current	6.000 A to 10.00 A
AC clamp-on measurement	Frequency
	Frequency Continuity check
measurement	
Resistance	Continuity check



For instrumentation 4-20mA

DT4253

Measure instrumentation, airconditioning equipment, and gas-burning devices.

DC voltage	600.0 mV to 1000 V
AC voltage	6.000 V to 1000 V
DC + AC voltage	DT4281/4282 only
DC current	60.00 μA to 60.00 mA
AC current	n/a
AC clamp-on measurement	Frequency
	Frequency Continuity check
measurement	
measurement Resistance	Continuity check



Voltage measurement only model **DT4254**

Measure no-load voltage of photovoltaic modules at up to 1700 V DC.*

DC voltage	600.0 mV to 1500 V
AC voltage	6.000 V to 1000 V
DC + AC voltage	DT4281/4282 only
DC current	n/a
AC current	n/a
AC clamp-on measurement	Frequency
Resistance	Continuity check
Temperature	Diode test
Capacitance	Conductance
AC/DC automatic detection	Voltage detection function



For electrical work in the field

DT4255

Designed for maximum safety with voltage measurement terminals that are protected by a fuse.

600.0 mV to 1000 V
6.000 V to 1000 V
DT4281/4282 only
n/a
n/a
Frequency
Continuity check
Diode test
Conductance
Voltage detection function



Multifunction model

DT4256

Delivers maximum functionality for use in a wide range of settings.

600.0 mV to 1000 V
6.000 V to 1000 V
DT4281/4282 only
60.00 mA to 10.00 A
600.0 mA to 10.00 A
000.0 MA (0 10.00 A
Frequency
Frequency
Frequency Continuity check

Supported measurement parameter Supported measurement parameter (with model-specific variations) Unsupported measurement parameter The range figures given indicate the instrument's measurement ranges (not the range of measurable values).

Applications



Magnetic strap and auto-hold function free up hands for easier work

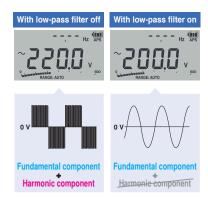
Using the magnetic strap (option)

By using the magnetic strap to secure the instrument to the wall and the auto-hold function to automatically stop display values, you can free your hands, making it easier to record measured values and significantly boosting work efficiency.



Measure output voltage on the secondary sides of inverters

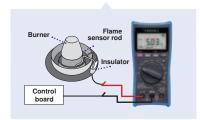
Accurately measure the fundamental wave by eliminating harmonic components with the DMM's low-pass filter function.





Measure very low currents used by gas-burning devices DC μA range (DT4253 only)

Model DT4253 provides a DC 60.00 μA range for measuring burner flame currents.





Automatic switching of measurement in locations where AC and DC voltages are mixed AC/DC voltage automatic detection

AC/DC voltage automatic detection (DT4253/54/55/56 only)

When making measurements in locations with both AC and DC voltages, automatic switching eliminates the need to operate the rotary switch and helps prevent measurement mistakes.



Test no-load voltage at megasolar installations

1700 V DC measurement (DT4254 only)

Model DT4254 can measure DC voltages up to 1700 V, enabling you to make no-load voltage inspections of megasolar installations.*

Polarity detection and notification

Certain standard models can detect a load voltage in excess of -10 V and notify the operator with a red LED and beep.

*DT4254/4255/4256 only





Intuitive notification of continuity check results and excessively high input with a red LED and beep

Standard models notify the operator of continuity check results and excessively high input with a red LED and beep, making it possible to check measurement results intuitively.





Use a computer in the field to save and check measured values With the Communication Package DT4900-01 (option)

Measured values can be displayed in real time on a computer, and displayed values can be saved to a file (text format) or graphed at a user-specified interval.

*The computer and multimeter are electrically isolated by means of optical communications so that data can be sent with peace of mind.



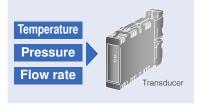
Percentage display for instrumentation signal measurement

4 to 20 mA percentage-equivalent display (DT4253 only)
The standard models' dual display function
lets you to simultaneously check measured
values and percentage-equivalent values at a
glance.



Output	Display	
4 mA	0%	
20 mA	100%	
Values ar	o convert	20

Values are converted to percentages and displayed.

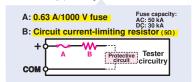


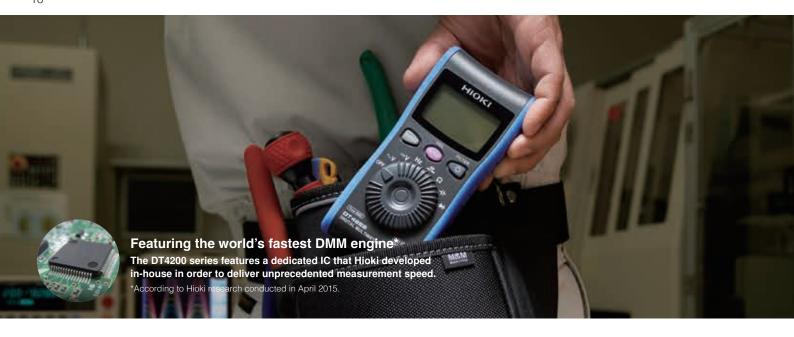


Thorough prevention of shortcircuit accidents

Voltage measurement terminal fuse (DT4255 only)

When using the resistance measurement function, a protective circuit functions to prevent a short-circuit accident in the event of erroneous operation such improperly supplying voltage input. Even if a short-circuit occurs inside the tester, a current-limiting resistor will limit any short-circuit current while a fast-blow fuse quickly and reliably disconnects the tester circuitry, preventing a short-circuit accident.





Pocket models

Featuring a compact body for ergonomic hold and a reliable, safe design

DCV typical accuracy: $\pm 0.5\%$ rdg. ± 5 dgt. Measurement categories: CAT III (600 V) / CAT IV (300 V)



For electrical work in the field DT4221

Delivering maximum field safety for workers whose principal use is voltage measurement.

DC voltage	600.0 mV to 600.0 V
AC voltage	6.000 V to 600.0 V
DC + AC voltage	DT4281/4282 only
DC current	n/a
AC current	n/a
AC clamp-on measurement	Frequency
AC clamp-on measurement Resistance	Frequency Continuity check
Resistance	Continuity check



For multiple applications

For laboratories and R&D applications to measure a wide variety of parameters.

DC voltage	600.0 mV to 600.0 V
AC voltage	6.000 V to 600.0 V
DC + AC voltage	DT4281/4282 only
DC current	n/a
AC current	n/a
AC clamp-on measurement	Frequency
Resistance	Continuity check
Temperature	Diode test
Capacitance	Conductance
AC/DC automatic detection	Voltage detection function



For electrical work in the field DT4223

Delivering maximum field safety for workers whose principal use is voltage measurement.

DC voltage	600.0 mV to 600.0 V
AC voltage	6.000 V to 600.0 V
DC + AC voltage	DT4281/4282 only
DC current	n/a
AC current	n/a
AC clamp-on measurement	Frequency
AC clamp-on measurement Resistance	Frequency Continuity check
	, ,
Resistance	Continuity check



For multiple applications

For laboratories and R&D applications to measure a wide variety of parameters.

DC voltage	600.0 mV to 600.0 V
AC voltage	6.000 V to 600.0 V
DC + AC voltage	DT4281/4282 only
DC current	n/a
AC current	n/a
AC clamp-on measurement	Frequency
AC clamp-on measurement Resistance	Frequency Continuity check
	' '
Resistance	Continuity check

Supported measurement parameter
 Supported measurement parameter (with model-specific variations)
 Unsupported measurement parameter
 *The range figures given indicate the instrument's measurement ranges (not the range of measurable values).

Applications

New DT4223 and DT4224 feature circuit breaker false trip prevention



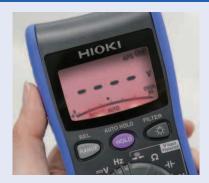
Prevent potential accidents during incorrect input

The measurement circuit switches only after detecting the appropriate signal. This way, even if you mistakenly input voltage, accidents due to tripped breakers or arcs will not happen. (see page 2)



LoZ icon identifies switched measurement circuit

When the instrument detects resistance, continuity, capacitance, or diode input, the LoZ icon is shown on the display, allowing you to identify at a glance which measurement circuit has been selected.



Warning function notifies you of incorrect input.

The instrument's display flashes red to warn you when voltage has been mistakenly input while the instrument is set to the resistance range.



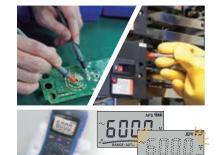
Compact and lightweight design for outstanding ease of use

The small form factor fits in your hand perfectly and is easily stowable, making it convenient to transport to and from the field and boosting work efficiency. The lightweight design also ensures that pocket models are easy to work with.



Safe enough for measuring voltage at distribution panels and service wires

Despite a compact body, the pocket models can be used to measure voltage at distribution panels and service wires in CAT III (600 V)/CAT IV (300 V) situations.



Intuitive notification of excessively high input with flashing screen

The pocket digital multimeters notify the operator of excessively high input by flashing the screen, making it possible to check measurement results intuitively.



Automatic switching of measurement in locations where AC and DC voltages are mixed

AC/DC voltage automatic detection (DT4221, DT4223 only)

When making measurements in locations with both AC and DC voltages, automatic switching eliminates the need to operate the rotary switch and helps prevent measurement mistakes.



Detect voltage simply by holding the instrument against a wire

Voltage detection function (DT4221, DT4223 only)

Easily detect voltage with the built-in sensor. Results are communicated with a beep.



Card HiTester 3244



During measurement



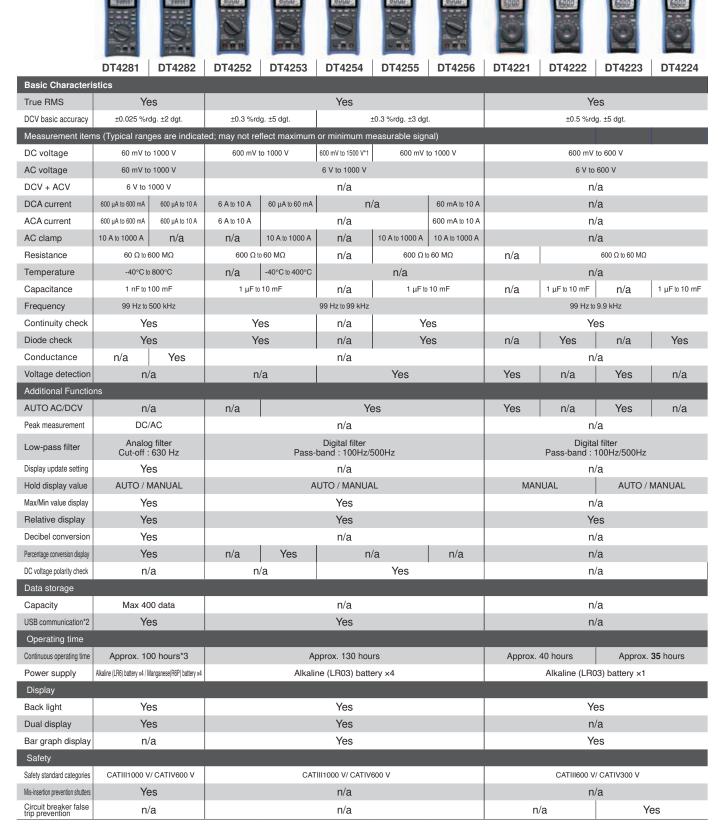


Immediate display of measurement results

Fast measurement for outstanding ease of use

Measured values are displayed quickly to facilitate quick testing. The difference is clear when you compare the measurement speed with that of the Hioki Card HiTESTER 3244-60.

DT4200 Series Basic Comparison



Glossary

*1. Your instrument can be used to measure voltages in excess of 1000 V DC if and only if both of the following conditions are satisfied:

1. The circuit under measurement is isolated from the commercial power grid. 2. The circuit under measurement is isolated from ground.

*2. Requires optional DT4900-01 Communication Package

*3. When using four AA alkaline batteries

Auto AC/DCV: Automatically detects and measures AC and DC voltage. | Peak measurement: After starting PEAK value measurement, check maximum and minimum instantaneous voltage and current values. | Low-pass filter: Cuts high frequency content to provide stable numerical values for measurement. | Display update setting: Reduces the display value update rate to stabilize measurements. | Hold display value: Manual: press the button to freeze the display. Auto: the display freezes automatically when the measurement value is stable. | Max/Min value display: Pressing the MAX/MIN button displays the maximum and minimum displayed measurement values. | Relative display: Pressing the REL button displays subsequent measurements as values relative to that displayed when the button was pressed. | Decibel conversion: Displays AC voltage measurements converted to decibel values (dbm/dbv) | Percentage conversion display: Displays 4 to 20 mA (or 0 to 20 mA) signals converted to 0 to 100% values. For the DT4253, only 4 to 20 mA.

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High-End DT4281/DT4282 (Accuracy guaranteed for 1 year, Post-adjustment accuracy guaranteed for 1 year)

DC Volta	ge			
Range	Accuracy	Input Impedance		
60.000 mV	±0.2 %rdg. ±25 dgt.	4.00 //400		
600.00 mV	±0.025 %rdg. ±5 dgt.	1 GΩ or more //100 pF or less		
6.0000 V	±0.025 %rdg. ±2 dgt.	11.0 MΩ± 2% //100 pF or less		
60.000 V	±0.025 %ldg. ±2 dgt.	10.3 MΩ±2% //100 pF or less		
600.00 V	±0.03 %rdg. ±2 dgt.	10.2 MΩ± 2% //100 pF or less		
1000.0 V		10.2 MΩ± 2% // 100 pr or less		

AC Voltage						
Dongo			Ac	curacy		
Range	20 to 45 Hz	45 to 65 Hz	65 to 1 kHz	1 k to 10 kHz	10 k to 20 kHz	20 k to 100 kHz
60.000 mV	±1.3 %rdg.	±0.4 %rdg.	±0.6 %rdg.	±0.9 %rdg.	±1.5 %rdg.	±20 %rdg. ±80 dgt.
600.00 mV	±60 dgt.	±40 dgt.	±40 dgt.	±40 dgt.	±40 dgt.	±8 %rdg. ±80 dgt.
6.0000 V	±60 dgt. V ±0.2 %rdg.		±0.3 %rdg. ±25 dgt.	±0.4 %rdg.	±0.7 %rdg. ±40 dgt.	±3.5 %rdg. ±40 dgt.
60.000 V		±0.2 %rdg. ±25 dgt.			±40 ugi.	±40 ugi.
600.00 V	Undefined	Undefined ±23 ugt.		±25 dgt.	Undefined	Undefined
1000.0 V	0.0 V				Undelined	Undenned

DCV + A	ACV Measu	CV Measurement					
Range			Accuracy				
riange	20 to 45 Hz	45 to 65 Hz	65 to 1 kHz	1 k to 10 kHz	10 k to 20 kHz	20 k to 100 kHz	
6.0000 V	±1.2 %rdg. ±65 dgt.			±0.4 %rdg.	±1.5 %rdg. ±45 dgt.	±3.5 %rdg. ±125 dgt.	
60.000 V		±0.3 %rdg.		±30 dgt.			
600.00 V	Undefined	±30 dgt. ±30 dgt	±30 dgt.				
1000.0 V	Ondenned			±0.4 %rdg. ±45 dgt.	Undefined	Undefined	
Input impe	edance	1MΩ ± 4 %//100pF or less					
Crest fact	or	3 or less (1.5 or less for the 1000.0V range)					
Accuracy		5% or more of each range					
Accuracy specificati	ion range	With the fil 100Hz or l	ter ON, acci ess. Furthe	uracy is defir rmore, 2% ro	ned only for fi dg. is added	requencies	

DCA Meas	urement		*1 : DT4282 only
Range	Accuracy / Display update : SLOW	Accuracy / Display update : NORMAL	Shunt Resistance
600.00 μΑ		±0.05 %rdg. ±25 dgt.	101 Q
6000.0 μΑ	±0.05 %rdg. ±5 dgt.	±0.05 %rdg. ±5 dgt.	101 12
60.000 mA		±0.05 %rdg. ±25 dgt.	1.0
600.00 mA	±0.15 %rdg. ±5 dgt.	±0.15 %rdg. ±5 dgt.	1 1 1 2
6.0000 A*1	±0.2 %rdg. ±5 dgt.	±0.2 %rdg. ±25 dgt.	10m Ω
10.000 A*1	±0.2 %rug. ±5 ugt.	±0.2 %rdg. ±5 dgt.	10111122

ACA Mea	surement			*1	: DT4282 only
Danna			Accuracy		
Range	20 to 45 Hz	45 to 65 Hz	65 to 1 kHz	1 k to 10 kHz	10 k to 20 kHz
600.00 μΑ	±1.0 %rdg. ±20 dgt.	±0.6 %rdg. ±20 dgt.	±0.6 %rdg. ±20 dgt.	±2 %rdg. ±20 dgt.	±4 %rdg. ±20 dgt.
6000.0 μΑ	±1.0 %rdg. ±5 dgt.	±0.6 %rdg. ±5 dgt.	±0.6 %rdg. ±5 dgt.	±2 %rdg. ±5 dgt.	±4 %rdg. ±5 dgt.
60.000 mA	±1.0 %rdg. ±20 dgt.	±0.6 %rdg. ±20 dgt.	±0.6 %rdg. ±20 dgt.	±1 %rdg. ±20 dgt.	±2 %rdg. ±20 dgt.
600.00 mA	±1.0 %rdg. ±5 dgt.	±0.6 %rdg. ±5 dgt.	±0.6 %rdg. ±5 dgt.	±1.5 %rdg. ±10 dgt.	Undefined
6.0000 A*1	Undefined	±0.8 %rdg. ±20 dgt.	±0.8 %rdg. ±20 dgt.	Undefined	Undefined
10.000 A*1	Undefined	±0.8 %rdg. ±5 dgt.	±0.8 %rdg. ±5 dgt.	Undefined	Undefined
Shunt resistance		μΑ Range 101Ω/ mA Range 1Ω/ A Range 10mΩ			
Crest factor		3 or less (Note that it applies to 1/2 of the range.)			
Accuracy spec	cification range	Accuracy is not defined for measurements below 5% of range			

Continuity Check				
Range	Accuracy	Measurement Current	Open-terminal Voltage	
600.0 Ω	±0.5 %rdg. ±5 dgt.	640 μA ±10%	DC2.5 V or less	
Continuity threshold	20Ω (default) $/50\Omega/$ $100\Omega/$ 500Ω			

Diode Check					
Range		Accuracy	Measurement Current	Open-terminal Voltage	
3.600 V	±0.1 %rdg. ±5 dgt.		1.2 mA or less	DC4.5 V or less	
Forward threshold		0.15V/ 0.5V (default)/1V/ 1.5V/ 2V/ 2.5V/ 3V			
		If the reading is lower than the threshold during the forward connection, a buzzer sounds and the red backlight turns on.			

AC Clamp (AC Current)	DT4281 only
Danga	Acc	uracy
Range	40 to 65 Hz	65 to 1 kHz
10.00 A	±0.6 %rdg. ±2 dgt.	±0.9 %rdg. ±2 dgt.
20.00 A	±0.6 %rdg. ±4 dgt.	±0.9 %rdg. ±4 dgt.
50.00 A	±0.6 %rdg. ±10 dgt.	±0.9 %rdg. ±10 dgt.
100.0 A	±0.6 %rdg. ±2 dgt.	±0.9 %rdg. ±2 dgt.
200.0 A	500.0 A ±0.6 %rdg. ±10 dgt. ±0.9 %rdg. ±10 dgt.	
500.0 A		
1000 A		

The optional 9010-50, 9018-50, or 9132-50 CLAMP ON PROBE is used.				
Accuracy does not include the error of the clamp-on probe.				
Crest factor 3 or less				
Accuracy is not defined for measurements below 15% of range				

Resistance Measurement					
Range	Accuracy	Measurement Current	Open-terminal Voltage		
60.000 Ω	±0.3 %rdg. ±20 dgt.	640 μA ±10%			
600.00 Ω	±0.03 %rdg. ±10 dgt.	040 μA ±10%			
6.0000 kΩ		96 μA ±10%			
60.000 kΩ	Ω ±0.03 %rdg. ±2 dgt.	9.3 μA ±10%			
600.00 kΩ		0.96 μA ±10%	DC2.5 V or less		
6.0000 MΩ	±0.15 %rdg. ±4 dgt.				
60.00 MΩ	±1.5 %rdg. ±10 dgt.	96 nA +10%			
600.0 MQ	±3.0 %rdg. ±20 dgt.	30 IIA ±10%			
000.0 1012	±8.0 %rdg. ±20 dgt.				

Conductano	e (nS)		DT4282 only
Range	Accuracy	Measurement Current	Open-circuit Voltage
600.00 nS	±1.5 %rdg. ±10 dgt.	96 nA ±10%	DC2.5 V or less

Accuracy is defined for humidity 60% RH or less. Accuracy is defined for the range 20nS or more. In the case of 300 nS or more, ±20 dgt. is added

Capacitance Measurement						
Range	Accuracy	Measurement Current	Open-circuit Voltage			
1.000 nF	±1 %rdg. ±20 dgt.	32 μA ±10%				
10.00 nF			DC2.5 V or less			
100.0 nF	±1 %rdg. ±5 dgt.		DO2.3 V 01 1633			
1.000 μF						
10.00 μF			DC3.1 V or less			
100.0 μF	±2 %rdg. ±5 dgt.		DC3.1 V OF less			
1.000 mF	±2 %iug. ±3 ugi.	680 μA ±20%				
10.00 mF			DC2.1 V or less			
100.0 mF	±2 %rdg. ±20 dgt.					

Temperature				
Thermocouple Type	Range	Accuracy		
K	-40.0 to 800.0 °C (-40.0 to 1472.0°F)	±0.5 %rdg. ±3 °C (5.4°F)		

The optional K Thermocouple DT4910 is used. Accuracy does not include the error of the K thermocouple

Frequency (For AC V, DC+AC V, AC μA, AC mA, AC A)			
Range	Accuracy		
99.999 Hz			
999.99 Hz	±0.005 %rdg. +3 dgt.		
9.9999 kHz			
99.999 kHz	10.005.0/		
500.00 kHz	±0.005 %rdg. +3 dgt.		
Measurement r	easurement range 0.5Hz or more ([] is displayed when frequency is less than 0.5Hz		
Pulse width 1µs or more (DUTY ratio is 50%)			
With the filter ON, accuracy is defined only for frequencies 100Hz or less. (For ACV, DC+ACV)			

Peak Measurement (For AC V, DC V, DC+AC V, Clamp, DC µA, DC mA, DC A, AC µA, AC mA, AC A)				
Main measurement	Signal width	Accuracy		
DCV	4ms or more (single)	±2.0 %rdg. ±40 dgt.		
DCV	1ms or more (repeated)	±2.0 %rdg. ±100 dgt.		
Other than	1ms or more (single)	±2.0 %rdg. ±40 dgt.		
DCV	250µs or more (repeated)	±2.0 %rdg. ±100 dgt.		

Decibel Conversion Measurement : Standard impedance (dBm)

4/8/16/32/50/75/93/110/125/135/150/200/250/300/500/600/800/900/1000/1200 Ω (default : 600 $\Omega)$

General Specifications

Durability			
Drop proof	YES		
Operating temperature and humidity*1	-15°C to 55°C		
Storage temperature and humidity*2	-30°C to 60°C		
Applicable standards	Safety: EN61010, EMC: EN61326, Waterproof and dustproof: IP40		

^{*1 : -15°}C to 55°C (5°F to 131°F), Up to 40°C (104°F): at 80%RH or less (non-condensating), 40°C to 45°C (104°F to 113°F): at 60%RH or less (non-condensating), 45°C to 55°C (113°F to 131°F): at 50%RH or less (non-condensating)

Safety	
Maximum rated voltage between input terminals and ground	CATIII1000 V/ CATIV600 V
Maximum rated voltage between terminals	Between the V and COM terminals : 1000 V DC/AC
Maximum rated current between terminals	Between the mA and COM terminals : 600mA DC/600mA AC Between the A and COM terminals : 10A DC/10A AC

Accessories .

TEST LEAD L9207-10 , Instruction Manual, LR6 alkaline battery×4

Dimensions/Mass

93mm(W)x197mm(H)x53mm(D)(3.66"W 7.76"H 2.09"D Inch) / 650g (including batteries) (23 oz.)

Standard

DT4252/DT4253/DT4254/DT4255/DT4256

(Accuracy guaranteed for 1 year, Post-adjustment accuracy guaranteed for 1 year)

DC Voltage		*1 : DT4252 only *2 : DT4254 only	
Range	Accuracy	Input Impedance	
High precision 600mV range 1	±0.2 %rdg. ±5 dgt.	10.2 MΩ ± 1.5 %	
600.0 mV	±0.5 %rdg. ±5 dgt.	11.2 MQ ± 2.0 %	
6.000 V		11.2 MΩ ± 2.0 %	
60.00 V	±0.3 %rdg. ±3 dgt."3	10.3 MΩ ± 2.0 %	
600.0 V	±0.5 %ldg. ±3 dgt.		
1000 V		10.2 MΩ ± 1.5 %	
1500 V ^{*2}	±0.3 %rdg. ±3 dgt. 4		

^{*2 :} Your instrument can be used to measure voltages in excess of 1000 V DC if and only if both of the following conditions are satisfied:

1. The circuit under measurement is isolated from the commercial power grid. 2. The circuit under measurement is isolated from ground.

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*3	: DT4254.DT4255	 DT4256 only. 	DT4252, D	T4253 is +5 do	t. *4:0 to	1000 V.	1001 V to	1700V	: +0.2 %rda, +5 (dat.

AC Voltage					
Range	Accı	ıracy	Innut Impedance		
naliye	40 to 500 Hz	500 or more to 1kHz	Input Impedance		
6.000V	±0.9 %rdg. ±3 dgt.		11.2 MΩ ± 2.0%//100 pF or less		
60.00V		±1.8 %rdg. ±3 dgt.	10.3 MΩ ± 2.0%//100 or less		
600.0V		±1.0 %iug. ±3 ugi.	10.2 MΩ ± 1.5%//100 or less		
1000V			10.2 IVILZ ± 1.5%// 100 OF IESS		

AUTO V (I	ldentification)	DT4253, DT4254, D	T4255, DT4256 only
Panga	Accu	Innut Impodonos	
Range	DC,40 to 500 Hz	500 or more to 1kHz	Input Impedance
600.0 V	±2.0 %rdg. ±3 dgt.	±4.0 %rdg. ±3 dgt.	900 kΩ ± 20% 1800 kΩ ± 20% ⁻¹

Crest factor	3 up to 4000 counts and reduces linearly to 2 at 6000 counts.
Accuracy specification range	For ACV, minimum 1% of range; add ±5 dgt. when measuring at or below 5% of range
specification range	With the filter ON, the accuracy is not specified at 100Hz/500Hz or more

^{*1 :} DT4254

DCA Measurem	ent	DT4252, DT4253, DT4256 only		
Range	Accuracy	Input Impedance		
• 60.00 μA	±0.8 %rdg. ±5 dgt.	1 kΩ±5 %		
• 600.0 μA	±0.8 %rdg. ±5 dgt.	1 kΩ±5 %		
• 6.000 mA	±0.8 %rdg. ±5 dgt.	15 Ω±40 %		
• • 60.00 mA	±0.8 %rdg. ±5 dgt. 1	15 Ω±40 % ⁻¹		
• 600.0 mA	±0.9 %rdg. ±5 dgt.	35 mΩ±30 %		
• • 6.000 A	±0.9 %rdg. ±3 dgt. 2	35 mΩ±30 %		
• • 10.00 A	±0.9 %rdg. ±3 dgt. ²	35 mΩ±30 %		

^{•:} DT4252 •: DT4253 •: DT4256

^{*2 :} DT4252 : ±0.9 %rdg. ±5 dgt.

	ACA Mea	surement	DT4252, DT4256 only	
	Range	Accu	Accuracy	
	Hange	40 to 500 Hz	500 or more to 1kHz	Input Impedance
	600.0 mA ⁻¹	±1.4 %rdg. ±5 dgt.	±1.8 %rdg. ±5 dgt.	35 mΩ±30 %
	6.000 A	±1.4 %rdg. ±3 dgt.	±1.8 %rdg. ±3 dgt.	35 mΩ±30 %
	10.00 A	±1.4 %rdg. ±3 dgt.	±1.8 %rdg. ±3 dgt.	35 mΩ±30 %

Crest factor	3 up to 4000 counts and reduces linearly to 2 at 6000 counts.
Accuracy specification range	Minimum 1% of range: add +5 dat, when measuring 300 counts or less

^{*1 :} DT4256 only

Electric Charge		DT4254, DT4255, DT4256 only
Range	Detection voltage range	Detection Target Frequency
Hi	AC40 V to AC600 V	50 Hz / 60 Hz
Lo	AC80 V to AC600 V	30 HZ / 60 HZ

During voltage detection, a continuous buzzer sounds and the red LED lights up.

Continuity Check		DT4252, DT4253, I	DT4255, DT4256 only	
Range	Ac	curacy	Measurement Current	Open-terminal Voltage
600.0 Ω	±0.7 %rdg. ±5 dgt.		Approx.200 μA	DC1.8 V or less
Continuity ON threshold Approx. 25Ω or le		ess (continuous buzzer	sound, red LED lights)	
Continuity OFF	threshold	Approx.245Ω o	or more	

Diode Check			DT4252, DT4253, I	DT4255, DT4256 only
Range		Accuracy	Measurement Current	Open-terminal Voltage
1.500 V	±().5 %rdg. ±5 dgt.*1	Approx. 0.5 mA	DC5.0 V or less
Forward threshold		Buzzer sounds intermit	tently at 0.15V to 1.5V, th	e red LED flashes

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^{*1 :} DT4255 : ±0.5 %rdg. ±8 dgt.

AC Clamp (AC Current)	DT4253, DT4255, DT4256 only
Range	Accuracy
nange	40 to 1 kHz
10.00 A	
20.00 A	
50.0 A	
100.0 A	±0.9 %rdg. ±3 dgt.
200.0 A	
500 A	
1000 A	

The optional 9010-50, 9018-50, or 9132-50 CLAMP ON PROBE is used. Accuracy does not include the error of the clamp-on probe.	
Crest factor	3 or less
Accuracy specification range	Minimum 1% of range; add ±5 dgt. when measuring at or below 5% of range

Resistance Measurement		DT4252, DT4253, I	DT4255, DT4256 only
Range	Accuracy	Measurement Current	Open-terminal Voltage
600.0 Ω	±0.7 %rdg. ±5 dgt.	Approx. 200 μA	
6.000 kΩ	±0.7 %rdg. ±3 dgt.*1	Approx. 100 μA	
60.00 kΩ		Approx. 10 μA	DC1.8 V or less
600.0 kΩ		Approx. 1 μA	DC1.6 v or less
6.000 MΩ	±0.9 %rdg. ±3 dgt.*1	Approx. 100 nA	
60.00 MΩ	±1.5 %rdg. ±3 dgt. 1	Approx. 10 nA	

Accuracy guarantee condition After zero adjustment has been performed

^{*1 :} DT4252/4253 : ±5dgt.

	Capacitance Measurement		DT4252 ,DT4253, DT	4255, DT4256 only
	Range	Accuracy	Measurement Current	Open-terminal Voltage
Ì	1.000 μF	±1.9 %rdg. ±5 dgt.	Approx. 10 n/100 n/1 μA	
	10.00 μF		Approx. 100 n/1 μ/10 μA	
	100.0 μF		Approx. 1 μ/10 μ/100 μA	DC1.8 V or less
	1.000 mF		Approx. 10 μ/100 μ/200 μA	
•	10.00 mF	±5.0 %rdg. ±20 dgt.	Approx. 100 μ/200 μA	

Temperature		DT4253 only
Thermocouple Type	Range	Accuracy
K	-40.0 to 400.0 °C	±0.5 %rdg. ±2 °C

The optional K Thermocouple DT4910 is used. Accuracy does not include the error of the K thermocouple

Frequency	
Range	Accuracy
99.99 Hz	
999.9 Hz	10.4.0/ md = .4.dm
9.999 kHz	±0.1 %rdg. +1 dgt.
99.99 kHz (V AC Only)	

^{*2 : 80%}RH or less (non-condensating)

^{*1 :} DT4256 : ±1.8 %rdg. ±15 dgt. Input Impedance : 35 m Ω ±30 %

General Specifications

Durability	
Drop proof	YES
Operating temperature and humidity*1	-25°C to 65°C(DT4254/4255/4256) -10°C to 50°C(DT4252/4253)
Storage temperature and humidity*2	-30°C to 70°C(DT4254/4255/4256) -30°C to 60°C(DT4252/4253)
Applicable standards	Safety : EN61010, EMC: EN61326, Waterproof and dustproof: IP42

- *1 : -10°C to 50°C(14°F to 122°F), Up to 40°C(104°F): at 80%RH or less(non-condensating), 40°C to 45°C (104°F to 113°F): at 60%RH or less(non-condensating), 45°C to 55°C (113°F to 131°F): at 50%RH or less (non-condensating)
- *1: Up to 40°C(104°F): at 80%RH or less(non-condensating), 40°C to 65°C (104°F to 149°F): reduces linearly 80%rh to 25%rh or less
- *2 : 80%RH or less (non-condensating)

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 $84mm(W)\times174mm(H)\times52mm(D)(3.31"W~6.85"H~2.05"D)$ 390g (including batteries and holster) (13.8 oz.)

Safety	
Maximum rated voltage between input terminals and ground	CATIII1000 V/ CATIV600 V
Maximum rated voltage between terminals	Between the V and COM terminals : DC1000 V/AC1000 V*1
Maximum rated current between terminals	Between the A and COM terminals : DC10 A/ AC10 A (DT4252/DT4256) Between the μA ,mAand COM terminals : DC60 mA (DT4253 only)

*1 : DT4254 ---- DC1700 V/AC1000 V

Your instrument can be used to measure voltages

in excess of 1000 V DC if and only if both of the following conditions are satisfied:

- 1. The circuit under measurement is isolated from the commercial power grid.
- 2. The circuit under measurement is isolated from ground.

Accessories

TEST LEAD L9207-10 / Instruction Manual / LR03 Alkaline battery×4 Holster (attached to the instrument, with a test lead holder)

Pocket

DT4221/DT4222 /DT4223 /DT4224

(Accuracy guaranteed for 1 year, Post-adjustment accuracy guaranteed for 1 year)

DC Voltage		
Range	Accuracy	Input Impedance
600.0 mV		11.2 MO ± 2.0 %
6.000 V	±0.5 %rdg. ±5 dgt.	11.2 IVIL2 ± 2.0 /6
60.00 V		10.3 M Ω ± 2.0 %
600.0 V		10.2 MΩ ± 1.5 %

AC Voltage				
Pango	Accuracy		Input Impedance	
Range	40 to 500Hz	500 or more to 1kHz	input impedance	
6.000 V		±2.5 %rdg. ±3 dgt.	11.2 M Ω ± 2.0%//100 pF or less	
60.00 V	±1.0 %rdg. ±3 dgt.	±2.0 %rdg. ±3 dgt.	10.3 M Ω ± 2.0 %//100 pF or less	
600.0 V			10.2 M Ω ± 1.5 %//100 pF or less	
Crest factor	3 up to 4000 counts and reduces linearly to 2 at 6000 counts.			
Accuracy	For ACV, minimum 1% of range; add ±5 dgt. when measuring at or below 5% of rang		measuring at or below 5% of range	
Accuracy specification range	With the filter ON,the accuracy is not specified in 100Hz/500Hz or more			

AUTO V (Identification)		DT422	21, DT4223 only
Pango	Accuracy		Input Impedance
Range	DC, 40 to 500 Hz	500 or more to 1kHz	input impedance
600.0 V	±2.0 %rdg. ±3 dgt.	±4.0 %rdg. ±3 dgt.	900 kΩ ± 20 %
Crest factor	3 up to 4000 counts and reduces linearly to 2 at 6000 counts.		
Accuracy specification range	For ACV, minimum 1% of range; add ±5 dgt. when measuring at or below 5% of range		
specification range	With the filter ON,the accuracy is not specified in 100Hz/500Hz or more		

Electric Charge	DT4221, DT4223 only
Detection Voltage Range	Detection Target Frequency
AC80 V to AC600 V	50 Hz / 60 Hz

During voltage detection, a continuous buzzer sounds.

Continuity Check				
Range	Accu	ıracy	Measurement Current	Open-terminal Voltage
600.0 Ω	±1.0 %rdg. ±5 dgt.		Approx. 200 μA	DC1.8 V or less (DT4221 / DT4222) DC2.0 V or less (DT4223 / DT4224)
Continuity ON threshold		Approx. 250	or less (continuous	buzzer sound)
Continuity OFF threshold		Approx.2459	Ω or more	

General Specifications

Durability	
Drop proof	YES
Operating temperature and humidity*1	-10°C to 50°C (DT4221, DT4222) -10°C to 65°C (DT4223, DT4224)
Storage temperature and humidity*2	-30°C to 60°C (DT4221, DT4222) -30°C to 70°C (DT4223, DT4224)
Applicable standards	Safety : EN61010, EMC: EN61326, Waterproof and dustproof: IP42

- *1 : -10°C to 50°C(14°F to 122°F), Up to 40°C(104°F): at 80%RH or less(non-condensating), 40°C to 45°C (104°F to 113°F): at 60%RH or less(non-condensating), 45°C to 65°C (113°F to 122°F): at 50%RH or less (non-condensating)
- *2 : 80%RH or less (non-condensating)

Dimensions/Mass

 $72 mm(W) \times 149 mm(H) \times 38 mm(D) \ (2.83"W \ 5.87"H \ 1.50"D) \\ 190g \ (including \ batteries \ and \ holster) \ (6.7 \ oz.)$

Diode Check		DT	1222, DT4224 only
Range	Accuracy	Measurement Current	Open-terminal Voltage
1.500 V	±0.9 %rdg. ±5 dgt.	Approx.0.5 mA (DT4222) Approx.0.2 mA (DT4224)	DC2.5 V or less

Resistance Measu	urement	DT4222, DT422	3, DT4224 only
Range	Accuracy	Measurement Current	Open-terminal Voltage
600.0 Ω		Approx.200 μA	DO1 01/
6.000 kΩ		Approx.100 μA	DC1.8 V or less (DT4222)
60.00 kΩ	±0.9 %rdg. ±5 dgt.	Approx.10 μA	(014222)
600.0 kΩ		Approx.1 μA	DC2.0 V or less
6.000 MΩ		Approx.100 nA	(DT4223 / DT4224)
60.00 MΩ	±1.5 %rdg. ±5 dgt.	Approx.10 nA	D1 1224)

Accuracy guarantee condition After zero adjustment has been performed	ned
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Capacitance Measurement		DT422	2, DT4224 only
Range	Accuracy	Measurement Current	Open-terminal Voltage
1.000 μF		Approx.10 n/100 n/1 μA	DC1.8 V or less
10.00 μF	±1.9 %rdg. ±5 dgt.	Approx.100 n/1 μ/10 μA	(DT4222)
100.0 μF		Approx.1 μ/10 μ/100 μA] ' '
1.000 mF		Approx.10 μ/100 μ/200 μA	DC2.0 V or less (DT4223 / DT4224)
10.00 mF	±5.0 %rdg. ±20 dgt.	Approx.100 μ/200 μA	(D14223 / D14224)

Frequency	
Range	Accuracy
99.99 Hz	
999.9 Hz	±0.1 %rdg. +2 dgt.
9.999 kHz	

Safety	
Maximum rated voltage between input terminals and ground	CAT III 600V/ CAT IV300V
Maximum rated voltage between terminals	Between the V and COM terminals : 600 V DC/AC

Accessories

TEST LEAD DT4911 / Instruction Manual / LR03 Alkaline battery×1 Holster (attached to the instrument, with a test lead holder.)

L9207-10 / DT4911 Options

DT4280/DT4250 Series (Bundled accessory)



TEST LEAD L9207-10

Cable length 90 cm (2.9527 ft) with one each red and black caps

with cap CAT III 1000V/CAT IV 600V without cap

DT4220 Series (Bundled accessory)



TEST LEAD DT4911

Cable length 54cm (1.77 ft) with one each red and black caps

CAT IV 300V/ CAT III 600V without cap CAT II 600V







L4930 Options

CAT II 1000V

Compatible DMMs: DT4250 Series / DT4280 Series



Probe tips (at right) can be used on L4930 connection cables.









TEST PIN SET L4932



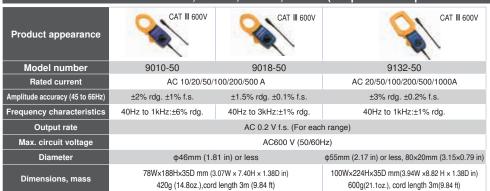




MAGNETIC ADAPTER SET L4937



AC CLAMP ON PROBES for DT4281, DT4253, DT4255, DT4256 (Adapter 9704 required for connection)



Adapter Model 9704 is required to connect AC CLAMP ON PROBES 9010-50, 9018-50 and 9132-50 to the DT4281, DT4253, DT4255 DT4256





CONVERSION ADAPTER 9704

Other options



THERMOCOUPLES (K) DT4910

- . Thermal junction form: exposed weld
- · Sensor length: approx. 800 mm Measurement temperature range -40 to 260°C
- Allowable tolerance:±2.5°C



COMMUNICATION PACKAGE (USB) DT4900-01

- · Communication cable
- · Communication adapter
- · PC software
- · Instruction manual OS: Windows 8.1/8/7, Vista (SP1 or later)



MAGNETIC STRAP Z5004



MAGNETIC STRAP Z5020



CARRYING CASE C0200 DT4220 Series



CARRYING CASE C0202 DT4250/DT4280 Series



CARRYING CASE C0201 DT4250 Series



CARRYING CASE 3853 DT4250 Series

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