

# HIOKI

DIGITAL MULTIMETER DT4200 Series



# DT 4200 SERIES

MADE IN JAPAN



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





**Hazard 1**

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



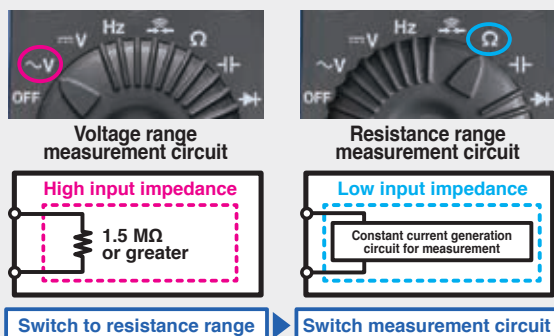
**Erroneous circuit-breaker activation**



**Arcing and sparks**

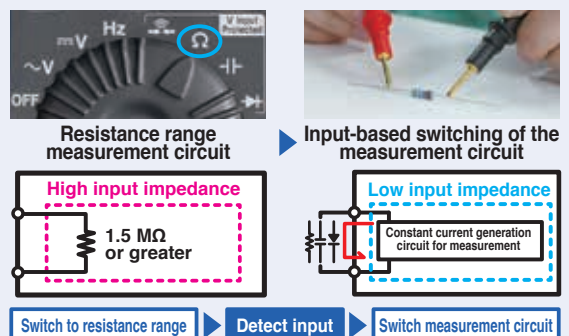
**The DT4223 and DT4224 feature a new proprietary function that prevents accidents resulting from breakers that mistakenly trip due to incorrect input**

**Conventional digital multimeters**



Because changing the measurement range also changes the measurement circuit, mistakenly inputting voltage with the instrument set to the resistance range will cause a large current to flow to the device, leading to hazards such as tripped circuit breakers and arcing.

**DT4223 / DT4224 Digital Multimeter**



The measurement circuit is switched after the instrument detects resistance, continuity, capacitance, or diode input. Even if you mistakenly input voltage with the instrument set to the resistance range, the high input impedance will limit the current flowing to the instrument to 1.5 mA or less to prevent potential hazards.



## Safe testers that protect workers from dangerous accidents

Engineered based on extensive customer feedback, the Hioki Digital Multimeter DT4200 series delivers the design and quality needed in order to ensure safety in field measurement.

**Hazard 2** 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.

**Hazard 3** 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.

**Hazard 4** 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.

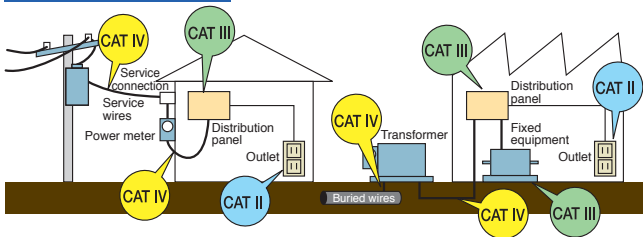
**Hazard 5** Mistakenly measuring voltage using the current range may lead to a short-circuit.



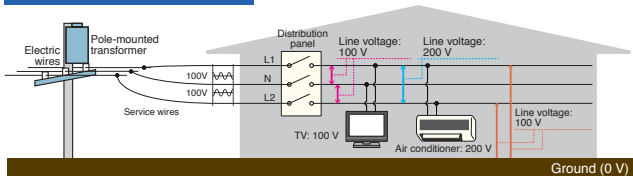
The DT4281, DT4253, DT4255, and DT4256 eliminate the root cause of such accidents by providing clamp-on sensor-based current measurement functionality instead of using conventional probes.



**Measurement categories**



**Terminal-to-ground voltage**



**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.

**CAT IV 600 V** Terminal-to-ground voltage  
Measurement category suited to the location of use

High-end models	CAT III 1000 V / CAT IV 600 V
Standard models	CAT III 1000 V / CAT IV 600 V
Pocket models	CAT III 600 V / CAT IV 300 V



**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



Drop tester

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.

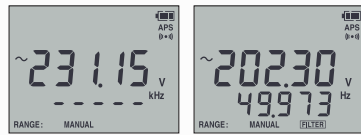


### Preventing instrument failure by keeping out dust



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 dust-proof part known as an O-ring where the rotary switch is mounted to improve the device's dust resistance.

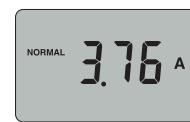
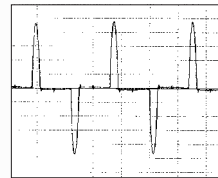
### Fast, accurate measurement of the output voltage on the secondary side of an inverter



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.

### True RMS measurement for accurate measurement of even distorted current waveforms



Average-value method measured value



True RMS method 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.

### 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.

### 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 high-end 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.  $\pm 2$  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 $\mu$ A to 600.00 mA
AC current	600.00 $\mu$ A to 600.00 mA
AC clamp-on measurement	Frequency
Resistance	Continuity check
Temperature	Diode test
Capacitance	Conductance
AC/DC automatic detection	Voltage detection function



**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 $\mu$ A to 10.000 A
AC current	600.00 $\mu$ A to 10.000 A
AC clamp-on measurement	Frequency
Resistance	Continuity check
Temperature	Diode test
Capacitance	Conductance
AC/DC automatic detection	Voltage detection function

● 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 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 efficiency.



## 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.

With low-pass filter off	With low-pass filter on
<p>0 V</p> <p>Fundamental component + Harmonic component</p>	<p>0 V</p> <p>Fundamental component + Harmonic component</p>



## 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.

Input waveform  
114.1 V      85.9 V      100 V

DC + AC measurement\* ▶ 100.49 V

\*DC + AC value =  $\sqrt{(AC)^2 + (DC)^2}$

+Peak measurement ▶ 114.10 V  
-Peak measurement ▶ 85.90 V



## Percentage display for instrumentation signal measurement

4 to 20 mA / 0 to 20 mA percentage-equivalent display

You can check percentage-equivalent values.

Output 1	Display
4 mA	0%
20 mA	100%

Output 2	Display
4 mA	0%
20 mA	100%

Temperature  
Pressure  
Flow rate

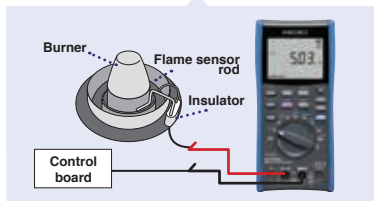
Transducer



## Measure very low currents used by gas-burning devices

DC  $\mu$ A range

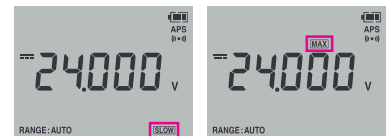
High-end models provide a DC 600.00  $\mu$ A range for measuring burner flame currents.



## 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.

Continuous state      Excessively high input

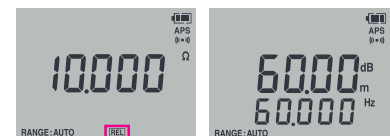


## Display refresh rate

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

## Maximum/minimum value display

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

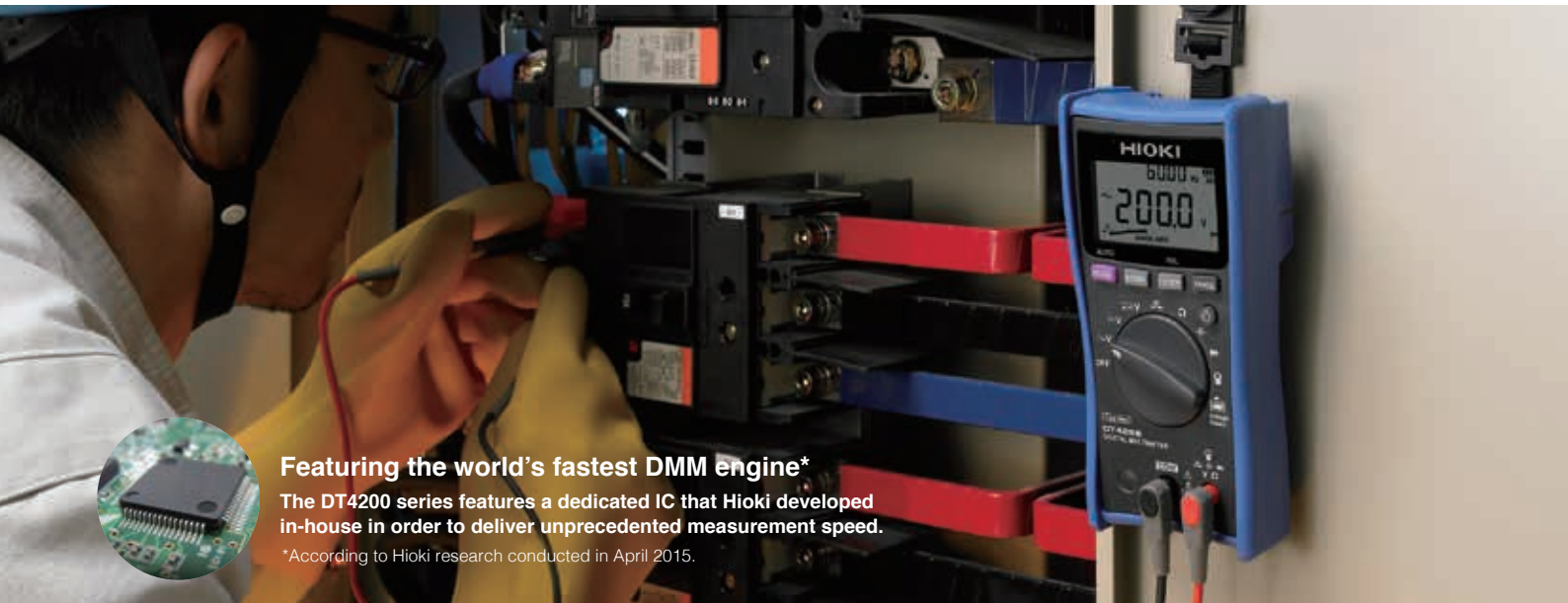


## Relative display

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

## Decibel conversion

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



**Featuring the world's fastest DMM engine\***  
 The DT4200 series features a dedicated IC that Hioki developed in-house in order to deliver unprecedented measurement speed.  
 \*According to Hioki research conducted in April 2015.

## Standard models

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

DCV typical accuracy:  $\pm 0.3\%$  rdg.  $\pm 3$  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.



**For instrumentation 4-20mA**

**DT4253**

Measure instrumentation, air-conditioning equipment, and gas-burning devices.



**Voltage measurement only model**

**DT4254**

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



**For electrical work in the field**

**DT4255**

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



**Multifunction model**

**DT4256**

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

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
Resistance	Continuity check
Temperature	Diode test
Capacitance	Conductance
AC/DC automatic detection	Voltage detection function

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 $\mu$ A to 60.00 mA
AC current	n/a
AC clamp-on measurement	Frequency
Resistance	Continuity check
Temperature	Diode test
Capacitance	Conductance
AC/DC automatic detection	Voltage detection function

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

DC voltage	600.0 mV to 1000 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

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 mA to 10.00 A
AC current	600.0 mA to 10.00 A
AC clamp-on measurement	Frequency
Resistance	Continuity check
Temperature	Diode test
Capacitance	Conductance
AC/DC automatic detection	Voltage detection function

● 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).

\*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.



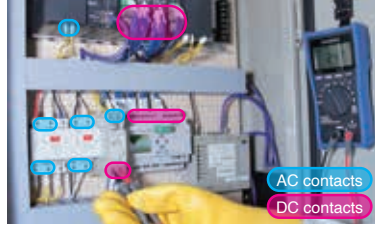
# Applications



## 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.



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

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.



## Use a computer in the field to save and check measured values

With the Communication Package DT4900-01 (option)

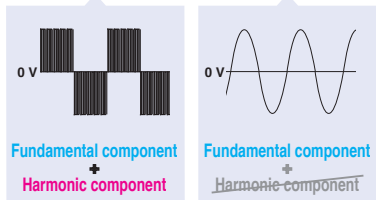
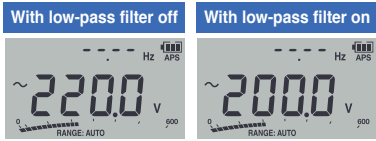
Measured values can be displayed in real time on a computer, and displayed values can be saved to a file (text format) or graphed at a user-specified interval.

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



## 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.



## 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.

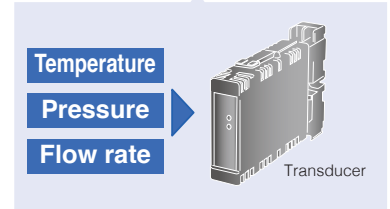
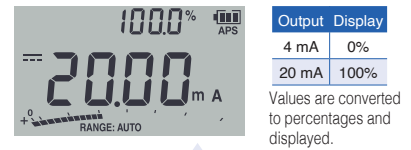
\*DT4254/4255/4256 only.



## Percentage display for instrumentation signal measurement

4 to 20 mA percentage-equivalent display (DT4253 only)

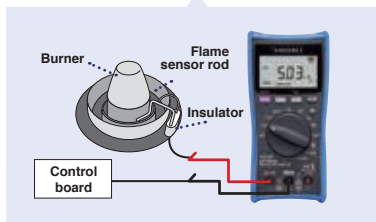
The standard models' dual display function lets you to simultaneously check measured values and percentage-equivalent values at a glance.



## Measure very low currents used by gas-burning devices

DC  $\mu$ A range (DT4253 only)

Model DT4253 provides a DC 60.00  $\mu$ A range for measuring burner flame currents.



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

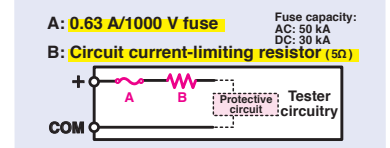
Standard models notify the operator of continuity check results and excessively high input with a red LED and beep, making it possible to check measurement results intuitively.



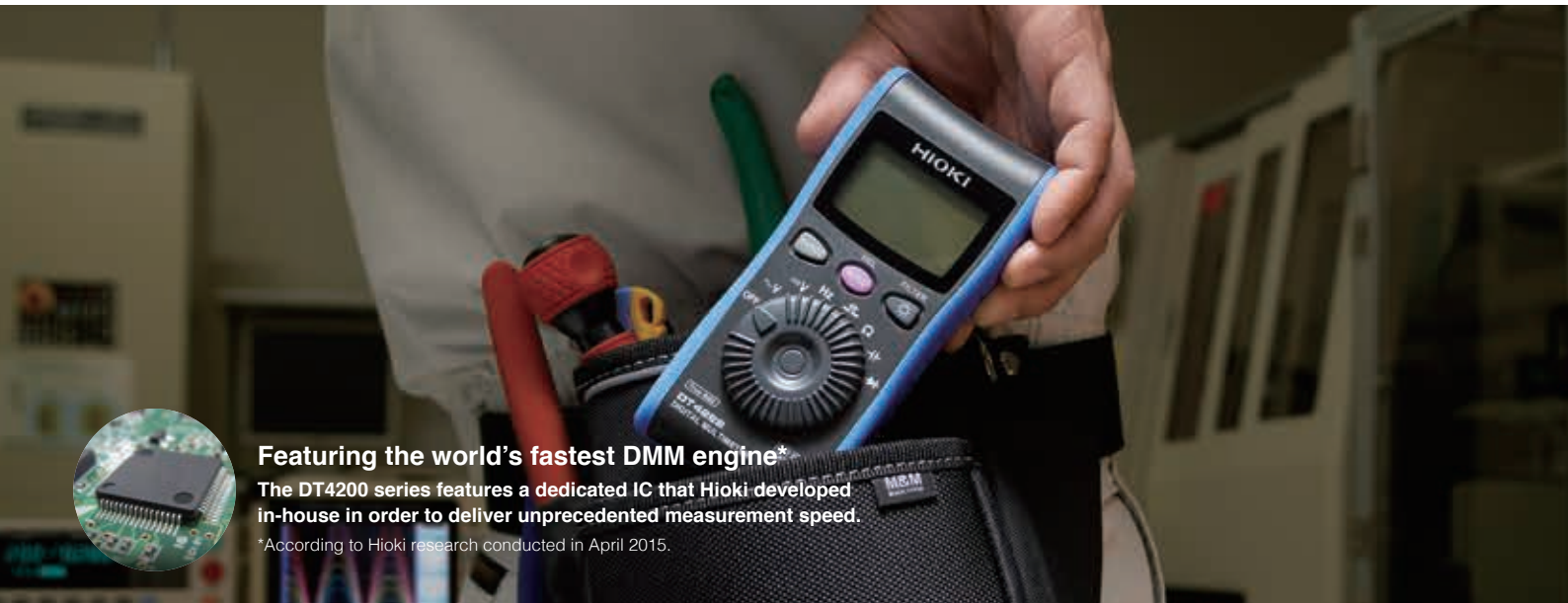
## Thorough prevention of short-circuit accidents

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 as 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.



\*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.



**Featuring the world's fastest DMM engine\***

The DT4200 series features a dedicated IC that Hioki developed in-house in order to deliver unprecedented measurement speed.

\*According to Hioki research conducted in April 2015.

## Pocket models

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

DCV typical accuracy:  $\pm 0.5\%$  rdg.  $\pm 5$  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.



**For multiple applications**  
**DT4222**

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



**For electrical work in the field**  
**DT4223**

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



**For multiple applications**  
**DT4224**

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

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

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

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

● 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.



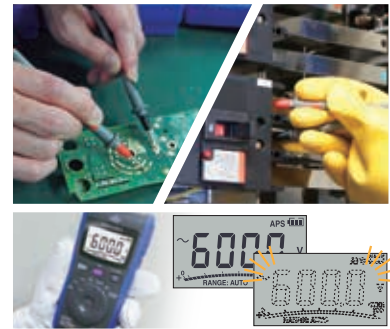
### Compact and lightweight design for outstanding ease of use

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.



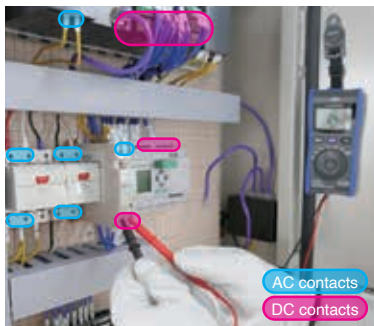
### Safe enough for measuring voltage at distribution panels and service wires

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

DT4221

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



	DT4281	DT4282	DT4252	DT4253	DT4254	DT4255	DT4256	DT4221	DT4222	DT4223	DT4224		
<b>Basic Characteristics</b>													
True RMS	Yes			Yes			Yes						
DCV basic accuracy	±0.025 %rdg. ±2 dgt.		±0.3 %rdg. ±5 dgt.		±0.3 %rdg. ±3 dgt.			±0.5 %rdg. ±5 dgt.					
Measurement items (Typical ranges are indicated; may not reflect maximum or minimum measurable signal)													
DC voltage	60 mV to 1000 V		600 mV to 1000 V		600 mV to 1500 V <sup>*1</sup>		600 mV to 1000 V		600 mV to 600 V				
AC voltage	60 mV to 1000 V		6 V to 1000 V									6 V to 600 V	
DCV + ACV	6 V to 1000 V		n/a									n/a	
DCA current	600 µA to 600 mA	600 µA to 10 A	6 A to 10 A	60 µA to 60 mA	n/a		60 mA to 10 A		n/a				
ACA current	600 µA to 600 mA	600 µA to 10 A	6 A to 10 A	n/a		600 mA to 10 A		n/a					
AC clamp	10 A to 1000 A	n/a	n/a	10 A to 1000 A	n/a	10 A to 1000 A	10 A to 1000 A	n/a					
Resistance	60 Ω to 600 MΩ		600 Ω to 60 MΩ		n/a		600 Ω to 60 MΩ		n/a	600 Ω to 60 MΩ			
Temperature	-40°C to 800°C		n/a	-40°C to 400°C		n/a		n/a					
Capacitance	1 nF to 100 mF		1 µF to 10 mF		n/a		1 µF to 10 mF		n/a	1 µF to 10 mF	n/a	1 µF to 10 mF	
Frequency	99 Hz to 500 kHz		99 Hz to 99 kHz									99 Hz to 9.9 kHz	
Continuity check	Yes		Yes		n/a		Yes		Yes				
Diode check	Yes		Yes		n/a		Yes		n/a	Yes	n/a	Yes	
Conductance	n/a	Yes	n/a				n/a						
Voltage detection	n/a		n/a		Yes			Yes	n/a	Yes	n/a		
<b>Additional Functions</b>													
AUTO AC/DCV	n/a		n/a	Yes				Yes	n/a	Yes	n/a		
Peak measurement	DC/AC		n/a									n/a	
Low-pass filter	Analog filter Cut-off : 630 Hz		Digital filter Pass-band : 100Hz/500Hz									Digital filter Pass-band : 100Hz/500Hz	
Display update setting	Yes		n/a									n/a	
Hold display value	AUTO / MANUAL		AUTO / MANUAL							MANUAL	AUTO / MANUAL		
Max/Min value display	Yes		Yes									n/a	
Relative display	Yes		Yes									Yes	
Decibel conversion	Yes		n/a									n/a	
Percentage conversion display	Yes		n/a	Yes	n/a		n/a		n/a				
DC voltage polarity check	n/a		n/a		Yes					n/a			
<b>Data storage</b>													
Capacity	Max 400 data		n/a									n/a	
USB communication*2	Yes		Yes									n/a	
<b>Operating time</b>													
Continuous operating time	Approx. 100 hours*3		Approx. 130 hours					Approx. 40 hours		Approx. 35 hours			
Power supply	Alkaline (LR6) battery x4 / Manganese(R6P) battery x4		Alkaline (LR03) battery x4					Alkaline (LR03) battery x1					
<b>Display</b>													
Back light	Yes		Yes									Yes	
Dual display	Yes		Yes									n/a	
Bar graph display	n/a		Yes									Yes	
<b>Safety</b>													
Safety standard categories	CATIII1000 V / CATIV600 V		CATIII1000 V / CATIV600 V					CATIII600 V / CATIV300 V					
Mis-insertion prevention shutters	Yes		n/a									n/a	
Circuit breaker false trip prevention	n/a		n/a									n/a	Yes

\*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

## Glossary

**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.

# High-End DT4281/DT4282

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

DC Voltage		
Range	Accuracy	Input Impedance
60.000 mV	±0.2 %rdg. ±25 dgt.	1 GΩ or more //100 pF or less
600.00 mV	±0.025 %rdg. ±5 dgt.	
6.0000 V	±0.025 %rdg. ±2 dgt.	11.0 MΩ±2% //100 pF or less
60.000 V		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		

AC Voltage						
Range	Accuracy					
	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	±1 %rdg.	±0.2 %rdg.	±0.3 %rdg.	±0.4 %rdg.	±0.7 %rdg.	±3.5 %rdg.
60.000 V	±60 dgt.					
600.00 V	Undefined	±25 dgt.	±25 dgt.	±25 dgt.	±40 dgt.	±40 dgt.
1000.0 V	Undefined	Undefined	Undefined	Undefined	Undefined	Undefined

DCV + ACV Measurement						
Range	Accuracy					
	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.	±0.3 %rdg.	±0.4 %rdg.	±0.4 %rdg.	±1.5 %rdg.	±3.5 %rdg.
60.000 V	±65 dgt.					
600.00 V	Undefined	±30 dgt.	±30 dgt.	±30 dgt.	±45 dgt.	±125 dgt.
1000.0 V	Undefined	Undefined	Undefined	±0.4 %rdg.	Undefined	Undefined
				±45 dgt.		

Input impedance	1MΩ ± 4 %//100pF or less
Crest factor	3 or less (1.5 or less for the 1000.0V range)
Accuracy specification range	5% or more of each range With the filter ON, accuracy is defined only for frequencies 100Hz or less. Furthermore, 2% rdg. is added

DCA Measurement			
Range	Accuracy / Display update : SLOW	Accuracy / Display update : NORMAL	Shunt Resistance
600.00 μA	±0.05 %rdg. ±5 dgt.	±0.05 %rdg. ±25 dgt.	101 Ω
6000.0 μA		±0.05 %rdg. ±5 dgt.	
60.000 mA	±0.15 %rdg. ±5 dgt.	±0.05 %rdg. ±25 dgt.	1 Ω
600.00 mA		±0.15 %rdg. ±5 dgt.	
6.0000 A <sup>1</sup>	±0.2 %rdg. ±5 dgt.	±0.2 %rdg. ±25 dgt.	10m Ω
10.000 A <sup>1</sup>		±0.2 %rdg. ±5 dgt.	

ACA Measurement					
Range	Accuracy				
	20 to 45 Hz	45 to 65 Hz	65 to 1 kHz	1 k to 10 kHz	10 k to 20 kHz
600.00 μA	±1.0 %rdg.	±0.6 %rdg.	±0.6 %rdg.	±2 %rdg.	±4 %rdg.
	±20 dgt.	±20 dgt.	±20 dgt.	±20 dgt.	±20 dgt.
6000.0 μA	±1.0 %rdg.	±0.6 %rdg.	±0.6 %rdg.	±2 %rdg.	±4 %rdg.
	±5 dgt.	±5 dgt.	±5 dgt.	±5 dgt.	±5 dgt.
60.000 mA	±1.0 %rdg.	±0.6 %rdg.	±0.6 %rdg.	±1 %rdg.	±2 %rdg.
	±20 dgt.	±20 dgt.	±20 dgt.	±20 dgt.	±20 dgt.
600.00 mA	±1.0 %rdg.	±0.6 %rdg.	±0.6 %rdg.	±1.5 %rdg.	Undefined
	±5 dgt.	±5 dgt.	±5 dgt.	±10 dgt.	
6.0000 A <sup>1</sup>	Undefined	±0.8 %rdg.	±0.8 %rdg.	Undefined	Undefined
		±20 dgt.	±20 dgt.		
10.000 A <sup>1</sup>	Undefined	±0.8 %rdg.	±0.8 %rdg.	Undefined	Undefined
		±5 dgt.	±5 dgt.		

Shunt resistance	μA Range 101Ω/ mA Range 1Ω/ A Range 10mΩ
Crest factor	3 or less (Note that it applies to 1/2 of the range.)
Accuracy specification 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) /50Ω/ 100Ω/ 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)		
Range	Accuracy	
	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	±0.6 %rdg. ±4 dgt.	±0.9 %rdg. ±4 dgt.
500.0 A	±0.6 %rdg. ±10 dgt.	±0.9 %rdg. ±10 dgt.
1000 A	±0.6 %rdg. ±2 dgt.	±0.9 %rdg. ±2 dgt.

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%	DC2.5 V or less
6000.00 Ω	±0.03 %rdg. ±10 dgt.		
6.0000 kΩ	±0.03 %rdg. ±2 dgt.	96 μA ±10%	
60.000 kΩ		9.3 μA ±10%	
600.00 kΩ		0.96 μA ±10%	
6.0000 MΩ	±0.15 %rdg. ±4 dgt.	96 nA ±10%	
60.00 MΩ	±1.5 %rdg. ±10 dgt.		
600.0 MΩ	±3.0 %rdg. ±20 dgt.		
	±8.0 %rdg. ±20 dgt.		

Conductance (nS)			
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%	DC2.5 V or less
10.00 nF	±1 %rdg. ±5 dgt.		
100.0 nF			
1.000 μF	±2 %rdg. ±5 dgt.	680 μA ±20%	DC3.1 V or less
10.00 μF			
100.0 μF			
1.000 mF			
10.00 mF			
100.0 mF	±2 %rdg. ±20 dgt.		DC2.1 V or less

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	±0.005 %rdg. +3 dgt.
999.99 Hz	
9.9999 kHz	
99.999 kHz	
500.00 kHz	±0.005 %rdg. +3 dgt.

Measurement 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.
	1ms or more (repeated)	±2.0 %rdg. ±100 dgt.
Other than DCV	1ms or more (single)	±2.0 %rdg. ±40 dgt.
	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 Ω)	

# 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)  
 \*2 : 80%RH or less (non-condensating)

Dimensions/Mass	
93mm(W)x197mm(H)x53mm(D)(3.66"W 7.76"H 2.09"D Inch) / 650g (including batteries) (23 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 : 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 batteryx4

## 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 <sup>1</sup>	±0.2 %rdg. ±5 dgt.	10.2 MΩ ± 1.5 %	
600.0 mV	±0.5 %rdg. ±5 dgt.	11.2 MΩ ± 2.0 %	
6.000 V	±0.3 %rdg. ±3 dgt. <sup>3</sup>		
60.00 V			
600.0 V			
1000 V		10.2 MΩ ± 1.5 %	
1500 V <sup>2</sup>	±0.3 %rdg. ±3 dgt. <sup>4</sup>		

\*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.  
 \*3 : DT4254,DT4255, DT4256 only, DT4252, DT4253 is ±5 dgt. \*4 : 0 to 1000 V, 1001 V to 1700V : ±0.2 %rdg. ±5 dgt.

AC Voltage			
Range	Accuracy		Input Impedance
	40 to 500 Hz	500 or more to 1kHz	
6.000V	±0.9 %rdg. ±3 dgt.	±1.8 %rdg. ±3 dgt.	11.2 MΩ ± 2.0%/100 pF or less
60.00V			10.3 MΩ ± 2.0%/100 or less
600.0V			10.2 MΩ ± 1.5%/100 or less
1000V			

AUTO V (Identification) DT4253, DT4254, DT4255, DT4256 only			
Range	Accuracy		Input Impedance
	DC,40 to 500 Hz	500 or more to 1kHz	
600.0 V	±2.0 %rdg. ±3 dgt.	±4.0 %rdg. ±3 dgt.	900 kΩ ± 20% 1800 kΩ ± 20% <sup>1</sup>

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  
 With the filter ON, the accuracy is not specified at 100Hz/500Hz or more  
 \*1 : DT4254

DCA Measurement 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. <sup>1</sup>	15 Ω±40 % <sup>1</sup>
600.0 mA	±0.9 %rdg. ±5 dgt.	35 mΩ±30 %
6.000 A	±0.9 %rdg. ±3 dgt. <sup>2</sup>	35 mΩ±30 %
10.00 A	±0.9 %rdg. ±3 dgt. <sup>2</sup>	35 mΩ±30 %

● : DT4252 ● : DT4253 ● : DT4256  
 \*1 : DT4256 : ±1.8 %rdg. ±15 dgt. Input Impedance : 35 mΩ±30 %  
 \*2 : DT4252 : ±0.9 %rdg. ±5 dgt.

ACA Measurement DT4252, DT4256 only			
Range	Accuracy		Input Impedance
	40 to 500 Hz	500 or more to 1kHz	
600.0 mA <sup>1</sup>	±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 dgt. 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	

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

Continuity Check DT4252, DT4253, DT4255, DT4256 only			
Range	Accuracy	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 less (continuous buzzer sound, red LED lights)		
Continuity OFF threshold	Approx.245Ω or more		

Diode Check DT4252, DT4253, DT4255, DT4256 only			
Range	Accuracy	Measurement Current	Open-terminal Voltage
1.500 V	±0.5 %rdg. ±5 dgt. <sup>1</sup>	Approx. 0.5 mA	DC5.0 V or less
Forward threshold	Buzzer sounds intermittently at 0.15V to 1.5V, the red LED flashes		

\*1 : DT4255 : ±0.5 %rdg. ±8 dgt.

AC Clamp (AC Current) DT4253, DT4255, DT4256 only	
Range	Accuracy
40 to 1 kHz	
10.00 A	±0.9 %rdg. ±3 dgt.
20.00 A	
50.0 A	
100.0 A	
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, DT4255, DT4256 only			
Range	Accuracy	Measurement Current	Open-terminal Voltage
600.0 Ω	±0.7 %rdg. ±5 dgt.	Approx. 200 μA	DC1.8 V or less
6.000 kΩ	±0.7 %rdg. ±3 dgt. <sup>1</sup>	Approx. 100 μA	
60.00 kΩ		Approx. 10 μA	
600.0 kΩ		Approx. 1 μA	
6.000 MΩ	±0.9 %rdg. ±3 dgt. <sup>1</sup>	Approx. 100 nA	
60.00 MΩ	±1.5 %rdg. ±3 dgt. <sup>1</sup>	Approx. 10 nA	

Accuracy guarantee condition After zero adjustment has been performed

\*1 : DT4252/4253 : ±5dgt.

Capacitance Measurement DT4252, DT4253, DT4255, DT4256 only			
Range	Accuracy	Measurement Current	Open-terminal Voltage
1.000 μF	±1.9 %rdg. ±5 dgt.	Approx. 10 n/100 n/1 μA	DC1.8 V or less
10.00 μF		Approx. 100 n/1 μ/10 μA	
100.0 μF		Approx. 1 μ/10 μ/100 μA	
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	±0.1 %rdg. +1 dgt.
999.9 Hz	
9.999 kHz	
99.99 kHz (V AC Only)	

# 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)

Dimensions/Mass
84mm(W)×174mm(H)×52mm(D)(3.31"W 6.85"H 2.05"D) 390g (including batteries and holster) (13.8 oz.)

## 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	±0.5 %rdg. ±5 dgt.	11.2 MΩ ± 2.0 %
6.000 V		10.3 MΩ ± 2.0 %
60.00 V		10.2 MΩ ± 1.5 %
600.0 V		

AC Voltage			
Range	Accuracy		Input Impedance
	40 to 500Hz	500 or more to 1kHz	
6.000 V	±1.0 %rdg. ±3 dgt.	±2.5 %rdg. ±3 dgt.	11.2 MΩ ± 2.0%/100 pF or less
60.00 V		±2.0 %rdg. ±3 dgt.	10.3 MΩ ± 2.0 %/100 pF or less
600.0 V			10.2 MΩ ± 1.5 %/100 pF or less
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 With the filter ON,the accuracy is not specified in 100Hz/500Hz or more		

AUTO V (Identification) DT4221, DT4223 only			
Range	Accuracy		Input Impedance
	DC, 40 to 500 Hz	500 or more to 1kHz	
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 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	Accuracy	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. 25Ω or less (continuous buzzer sound)		
Continuity OFF threshold	Approx.245Ω 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
72mm(W)×149mm(H)×38mm(D) (2.83"W 5.87"H 1.50"D) 190g (including batteries and holster) (6.7 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)

Diode Check DT4222, 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 Measurement DT4222, DT4223, DT4224 only			
Range	Accuracy	Measurement Current	Open-terminal Voltage
600.0 Ω	±0.9 %rdg. ±5 dgt.	Approx.200 μA	DC1.8 V or less (DT4222)
6.000 kΩ		Approx.100 μA	
60.00 kΩ		Approx.10 μA	DC2.0 V or less (DT4223 / DT4224)
600.0 kΩ		Approx.1 μA	
6.000 MΩ		Approx.100 nA	
60.00 MΩ	±1.5 %rdg. ±5 dgt.	Approx.10 nA	
Accuracy guarantee condition	After zero adjustment has been performed		

Capacitance Measurement DT4222, DT4224 only			
Range	Accuracy	Measurement Current	Open-terminal Voltage
1.000 μF	±1.9 %rdg. ±5 dgt.	Approx.10 n/100 n/1 μA	DC1.8 V or less (DT4222)
10.00 μF		Approx.100 n/1 μ/10 μA	
100.0 μF		Approx.1 μ/10 μ/100 μA	DC2.0 V or less (DT4223 / DT4224)
1.000 mF		Approx.10 μ/100 μ/200 μA	
10.00 mF	±5.0 %rdg. ±20 dgt.	Approx.100 μ/200 μA	

Frequency	
Range	Accuracy
99.99 Hz	±0.1 %rdg. +2 dgt.
999.9 Hz	
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  
CAT II 1000V

### DT4220 Series (Bundled accessory)

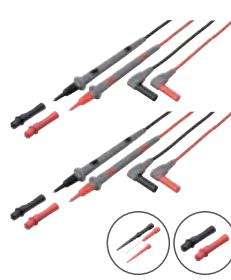


#### TEST LEAD DT4911

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

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

L4933 and L4934 probe tips  
(at right) can be used  
on L9207-10/DT4911 test leads.



DC70V/AC33V  
**CONTACT PIN SET L4933**



CAT II 600V  
CAT III 300V  
**SMALL ALLIGATOR CLIP SET L4934**

## L4930 Options

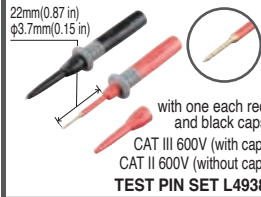
### Compatible DMMs: DT4250 Series / DT4280 Series



Length : 1.2m (3.937 ft)

#### CONNECTION CABLE L4930

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



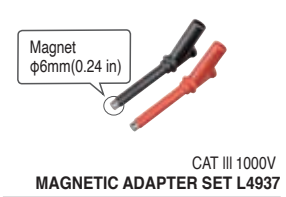
with one each red  
and black caps  
CAT III 600V (with cap)  
CAT II 600V (without cap)  
**TEST PIN SET L4938**



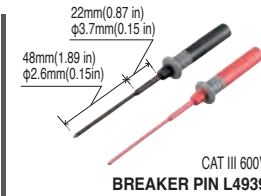
CAT III 1000V  
CAT IV 600V  
**ALLIGATOR CLIP SET L4935**



30mm  
(1.18 in)  
CAT III 600V  
**BUS BAR CLIP SET L4936**



Magnet  
φ6mm(0.24 in)  
CAT III 1000V  
**MAGNETIC ADAPTER SET L4937**



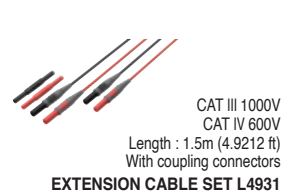
with one each red  
and black caps  
CAT III 600V  
**BREAKER PIN L4939**



CAT III 1000V /CAT IV 600V  
with one each red and black caps  
**TEST PIN SET L4932**



CAT II 1000V  
**GRABBER CLIP L9243**



CAT III 1000V  
CAT IV 600V  
Length : 1.5m (4.9212 ft)  
With coupling connectors  
**EXTENSION CABLE SET L4931**

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

Product appearance	CAT III 600V	CAT III 600V	CAT III 600V
Model number	9010-50	9018-50	9132-50
Rated current	AC 10/20/50/100/200/500 A		AC 20/50/100/200/500/1000A
Amplitude accuracy (45 to 66Hz)	±2% rdg. ±1% f.s.	±1.5% rdg. ±0.1% f.s.	±3% rdg. ±0.2% f.s.
Frequency characteristics	40Hz to 1kHz:±6% rdg.	40Hz to 3kHz:±1% rdg.	40Hz to 1kHz:±1% rdg.
Output rate	AC 0.2 V f.s. (For each range)		
Max. circuit voltage	AC600 V (50/60Hz)		
Diameter	φ46mm (1.81 in) or less	φ55mm (2.17 in) or less, 80×20mm (3.15×0.79 in)	
Dimensions, mass	78W×188H×35D mm (3.07W × 7.40H × 1.38D in) 420g (14.8oz.), cord length 3m (9.84 ft)	100W×224H×35D mm(3.94W ×8.82 H × 1.38D in) 600g(21.1oz.), cord length 3m(9.84 ft)	

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 C0201

DT4250/DT4280 Series



### CARRYING CASE C0201

DT4250 Series



### CARRYING CASE 3853

DT4250 Series

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# HIOKI

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