

# HIOKI

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## DIGITAL MULTIMETER DT4211/DT4212



# Safety Quality Value

- Long Battery Life
- Large Display
- LCD Backlight
- Temperature (DT4212)
- Rich Variety of Options



DT4211 **Mean**

DT4212 **True RMS**



ISO 9001  
JMI-0216



ISO 14001  
JQA-E-90091



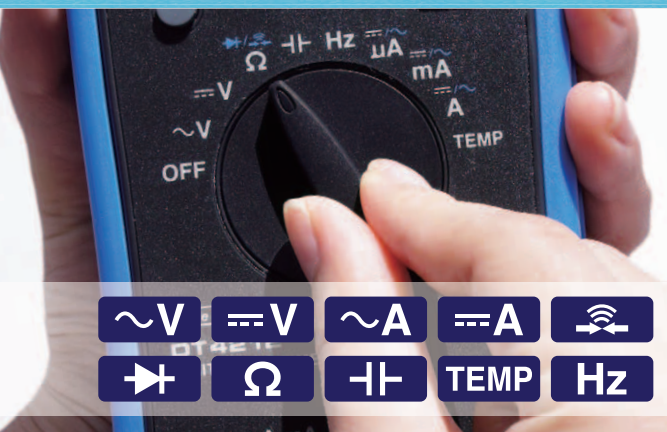
[www.hioki.com](http://www.hioki.com)

HIOKI company overview, new products, environmental considerations and other information are available on our website.



CAT III 600V  
CAT II 1000V

# DT4211/DT4212 DIGITAL MULTIMETER



## Extensive measurement functionality

Extensive selection of measurement parameters for a variety of applications

Measurement items	DT4211 / Mean	DT4212 / True RMS
AC voltage	400mV to 1000V	
DC voltage	400mV to 1000V	
DC current	400 $\mu$ A to 10A	
AC current	400 $\mu$ A to 10A	
Continuity check	Yes	
Diode check	Yes	
Resistance	400 $\Omega$ to 40 M $\Omega$	
Capacitance	50 nF to 100 $\mu$ F	
Temperature	n/a	-55 $^{\circ}$ C to 700 $^{\circ}$ C
Frequency	5 Hz to 5 MHz	

## Large screen for excellent visibility

### 4-digit display



Max. 4,000 count

### Quick update



Display value is updated 3 times every second.

### Auto-range function



Range is automatically set based on measured signal.

### Hold display



Freeze the display to make it easier to read measurements.

### Relative display

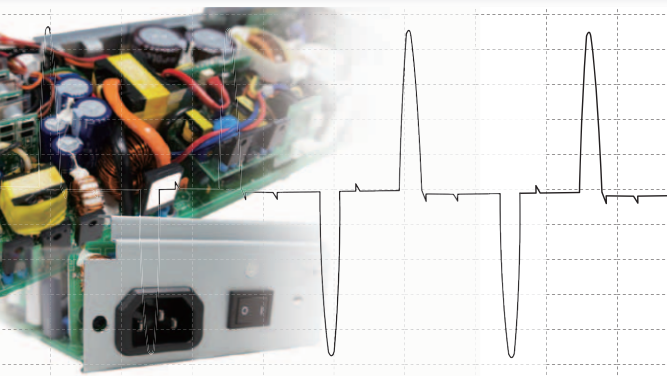


Display results as relative values.

### Back light



Easy to see even in dark worksites



## True RMS measurement for accurate data

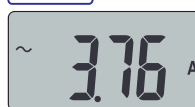
### Measurement of distorted current values

#### True RMS



True RMS measured value

#### Mean



Mean measured value

When measuring current values whose waveforms are distorted, for example for motors or inverters, measured values derived using the mean value method and true RMS method differ significantly. The true RMS method yields more accurate measured values.

\*Only the DT4212 supports true RMS measurement. The DT4211 uses the mean value method.

## Practical DMMs for a Variety of Worksites

### No dead batteries during measurement



Approx. 800 hours of continuous operating time

(When using two alkaline batteries with the DT4211)

### Automatic power off

The DMM turns off automatically when it has not been used for a certain amount of time.

### Battery strength display

Remaining battery life is shown so you'll always know when it's time to change batteries.

### Industry safe



CAT III 600V

CAT II 1000V

Defined by IEC 61010, these standards ensure that measuring instruments can be used safely. The DT4211/DT4212 can be used in measurement applications up to CAT III.

\*For more information, please see page 4.

### Wide temperature range



Operating temperature

range of -10 $^{\circ}$ C to 50 $^{\circ}$ C

Take the DMMs to extreme climate conditions without worrying about operability.

### Product and accuracy guarantees



12-month accuracy guarantee

The accuracy of measured values obtained with the DT4211/DT4212 is guaranteed for 12 months.

3-year product guarantee

HIOKI will repair any defects for which it is responsible free of charge for a period of three years after purchase (excludes accuracy).

# Specifications / Accuracy

Accuracy Guaranteed for 1 Year 23 ± 5°C (73°F±9°F), 80% RH or less (no condensation)

AC Voltage			
Range	Accuracy		Input Impedance
	40 to 60Hz	Over 60 to 500Hz	
400.0 mV*1	±1.0 %rdg. ±10 dgt.	±1.0 %rdg. ±10 dgt.*2	11MΩ ± 2 %/100pF or less
4.000 V	±1.0 %rdg. ±5 dgt.	±1.0 %rdg. ±5 dgt.*2	
40.00 V			
400.0 V			
1000 V			
Crest factor		2 up to 2800 counts and reduces linearly to 1.5 at 4000 counts.	
Accuracy specification range		1% or more of the range	

\*1 Only the manual range. \*2 DT4211 : add 0.4 %rdg.

DC Voltage		
Range	Accuracy	Input Impedance
400.0 mV	±0.5 %rdg. ±3 dgt.	100MΩ or more
4.000 V		11MΩ ± 2 %
40.00 V		10MΩ ± 2 %
400.0 V		
1000 V		

DC Current		
Range	Accuracy	Input Impedance
400.0 μA	±1.2 %rdg. ±3 dgt.	100 Ω ± 5 %
4000 μA		2 Ω ± 40 %
40.00 mA		
400.0 mA		0.05 Ω ± 40 %
4.000 A		
10.00 A		

AC Current		
Range	Accuracy	Input Impedance
400.0 μA	±1.2%rdg.±5dgt.	100 Ω ± 5 %
4000 μA		2 Ω ± 40 %
40.00 mA		
400.0 mA		0.05 Ω ± 40 %
4.000 A		
10.00 A		
Crest factor		2 up to 2800 counts and reduces linearly to 1.5 at 4000 counts.
Accuracy specification range		1% or more of the range
Accuracy guarantee range for frequency		40 Hz to 500 Hz

## Other

Durability		
Operating temperature and humidity	-10°C to 40°C	80% RH or less (non-condensating)
	40°C to 45°C	60% RH or less (non-condensating)
	45°C to 50°C	50% RH or less (non-condensating)
Storage temperature and humidity	-20°C to 60°C	80% RH or less (non-condensating)
Dielectric strength		AC7.06kV (Between all input terminals and case)

Applicable standards
Safety : EN61010, EMC: EN61326, Waterproof and dustproof: IP40

Continuity Check			
Range	Accuracy	Measurement Current	Open-terminal Voltage
400.0 Ω	±1.0 %rdg. ±5 dgt.	Approx. 140 μA	DC0.5 V or less
Continuity ON threshold		90Ω ± 40Ω or less (buzzer)	

Diode Check			
Range	Accuracy	Measurement Current	Open-terminal Voltage
1.000 V	±10.0 %rdg.	Approx. 0.5 mA	DC3.0 V or less

Resistance			
Range	Accuracy	Measurement Current	Open-terminal Voltage
400.0 Ω	±0.5 %rdg. ±3 dgt.	Approx. 140 μA	DC0.5 V or less
4.000 kΩ	±0.5 %rdg. ±2 dgt.		
40.00 kΩ			
400.0 kΩ			
4.000 MΩ		Approx. 40 μA	
40.00 MΩ	±1.5 %rdg. ±3 dgt.	Approx. 4 μA	
		Approx. 400 nA	
		Approx. 40 nA	

Capacitance			
Range	Accuracy	Charging current	Open-terminal Voltage
50.00 nF	±1.5 %rdg. ±15 dgt.	Approx. 30 μA	DC1.5 V or less
500.0 nF	±2.0 %rdg. ±5 dgt.		
5.000 μF	±5.0 %rdg. ±5 dgt.		
50.00 μF			
500.0 μF			
100.0 μF			

Temperature			
Range	Measurement range	Accuracy	Thermocouple Type
400 °C	-55.0 to 0.0 °C	±2.0 %rdg. ±2°C	K
	0.0 to 50.0 °C	±2°C	
	50.0 to 400.0 °C	±2.0 %rdg. ±1°C	
700 °C	400 to 700 °C		

Frequency		
Range	Accuracy	Minimum sensitivity voltage
5.000 Hz	±0.1 %rdg. +3 dgt.	Square wave of 1.5Vms or more
50.00 Hz		
500.0 kHz		
5.000 kHz		
50.00 kHz		
500.0 kHz		
5.000 MHz		Square wave of 2.0Vms or more
Measurement range		1Hz or more

Safety	
Maximum rated voltage between input terminals and ground	CAT III600V/ CAT II1000V
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 : 400mA DC/400mA AC Between the A and COM terminals : 10A DC/10A AC

Power supply
Alkaline (LR6) battery ×2 / Manganese(R6P) battery ×2

Dimensions/Mass
91.6mm(W)×180.6mm(H)×57.1mm(D) (3.61"W 7.11"H 2.25"D) Approx. 388g (including batteries and holster) (Approx. 13.7 oz.)

## Package Contents

TEST LEAD L9206 × 1 / Holster (attached) × 1 / Instruction Manual × 1 / Manganese(R6P) battery × 2

# Options

## L9206 Options (sold separately)



Cable length 98 cm (2.95 ft) with one each red and black sleeves

- with sleeves  
CAT III 1000V/CAT IV 600V
- without sleeves  
CAT II 1000V

**TEST LEAD L9206**  
(Bundled accessory)

L4933 and L4934 probe tips (at right) can be used on L9206 test leads.




50mm

DC70V/AC33V

**CONTACT PIN SET L4933**



CAT III 600V  
CAT III 300V

**SMALL ALLIGATOR CLIP SET L4934**

## L4930 Options (sold separately)

L4935, L4936, L4937, L4932, 9243, and L4931 probe tips (at right) can be used on L4930 test leads.



Length : 1.2m (3.94 ft)

**CONNECTION CABLE L4930**



CAT III 1000V  
CAT IV 600V

**ALLIGATOR CLIP SET L4935**



(1.18 in)  
30mm CAT III 600V

**BUS BAR CLIP SET L4936**



Magnet  $\phi$ 6mm (0.24 in)

CAT III 1000V

**MAGNETIC ADAPTER SET L4937**



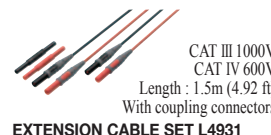
CAT III 1000V, CAT IV 600V with one each red and black sleeves

**TEST PIN SET L4932**



CAT III 1000V

**GRABBER CLIP 9243**



CAT III 1000V  
CAT IV 600V  
Length : 1.5m (4.92 ft)  
With coupling connectors

**EXTENSION CABLE SET L4931**

## Other options



- Thermal junction form: exposed weld
- Sensor length: approx. 800 mm
- Measurement temperature range  
-40 to 260°C (thermocouple)  
-15 to 55°C (connector)
- Allowable tolerance:  $\pm$ 2.5°C

**THERMOCOUPLES (K) DT4910**



**MAGNETIC STRAP Z5004**



**CARRYING CASE C0202**



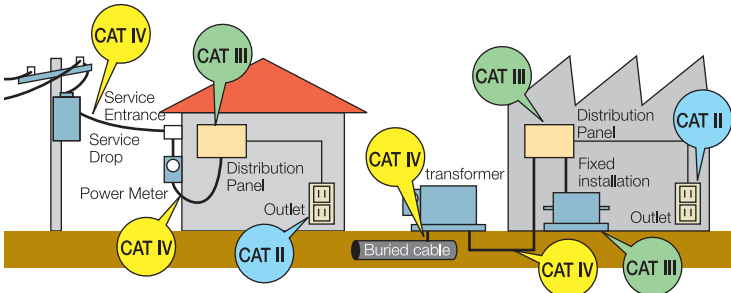
**CARRYING CASE C0201**

## Measurement categories (Overvoltage categories)

To ensure safe operation of measurement products, IEC 61010 establishes safety standards for various electrical environments, categorized as CAT II to CAT IV <sup>\*1</sup>, and called measurement categories. These are defined as follows.

- CAT II** : Primary electrical circuits in equipment connected to an AC electrical outlet by a power cord (portable tools, household appliances, etc.)
- CAT III** : Primary electrical circuits of heavy equipment (fixed installations) connected directly to the distribution panel, and feeders from the distribution panel to outlets.
- CAT IV** : The circuit from the service drop to the service entrance, and to the power meter and primary overcurrent protection device (distribution panel).

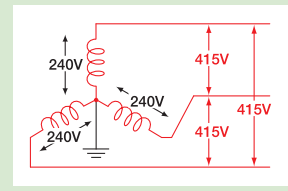
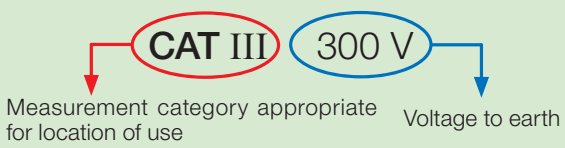
\*1: CAT I was eliminated from the IEC 61010 : 2010 edition



Higher-numbered categories correspond to electrical environments with greater momentary energy, so a measurement product designed for CAT III environments can endure greater momentary energy than one designed for CAT II.

\*HIOKI products bearing the CE Mark are designed in accordance with the requirements for the relevant measurement categories. To ensure safe use of measuring instruments, please use products displaying the appropriate CAT label for the intended location of use.

### How to view categories



About the indicated voltage

Black: Input-to-ground voltage (Including line voltage)

Red: Line voltage

Although the line voltage for the 400 V line shown in the figure is 415 V, the input-to-ground voltage is 240 V (300 V) or less.

Note: Company names and Product names appearing in this catalog are trademarks or registered trademarks of various companies.



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