

# HIOKI

## DIGITAL MULTIMETER DT4200 Series



# DT 4200 SERIES

MADE IN JAPAN



New wireless “Middle Model” DT4261 between the Standard and High-end models of the DT4200 lineup!

# Bluetooth® wireless technology support for recording and managing measurement data

## Now joined by the DT4261!



### Bluetooth® communication with Z3210 attached to DT4261 Bluetooth®

Install the Wireless Adapter Z3210 to the DT4261 to enable Bluetooth® communications. With the Z3210, you can transfer data directly to an Excel® file or pair the instrument with GENNECT Cross.



Attach to enable Bluetooth® wireless technology



Transport to the Excel® file



Transport to GENNECT Cross

Z3210  
For more details



### Manage measurement data using GENNECT Cross

Pair the DT4261 built in with Bluetooth® wireless technology with the free GENNECT Cross mobile app to further data management, processing and report exporting on your mobile device.

GENNECT Cross  
For more details



Transfer data to a tablet wirelessly



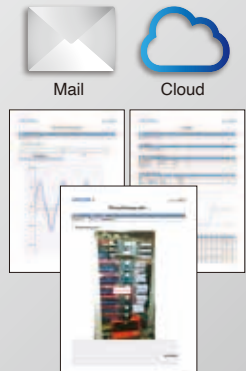
Take a picture of the test location and map measured values on it



View and verify waveforms on your mobile device like on an oscilloscope



Troubleshoot with simple harmonic analysis in the field



- Save data and create reports right on the App
- Share data via cloud services or E-mail



# Safe testers that protect workers from dangerous accidents

**Hazard 1** 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 2** 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 DT4261, DT4223, DT4224 only.

**Hazard 3** Wrong insertion may lead to short-circuits.



A range: Only the A and COM terminal inlets open.  
V range: Only the V and COM terminal inlets open.

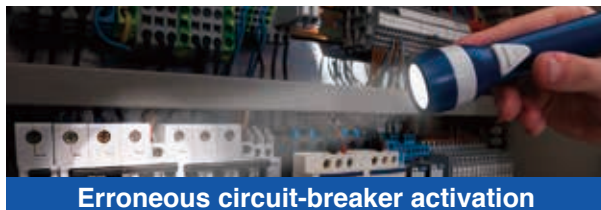
The DT4281, DT4282 and DT4261 use terminal shutters to keep probes from being inserted into the wrong inlets. The shutters block whichever terminal is not being used based on the selected measurement function.

**Hazard 4** Mistakenly measuring voltage using the current range may lead to a short-circuit.



The DT4281, DT4261, 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.

**Hazard 5** Mistakenly tripped circuit breakers and arcs due to careless input of voltage to the resistance range can be extremely hazardous.



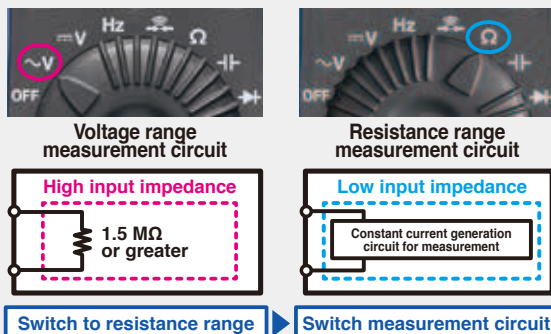
**Erroneous circuit-breaker activation**



**Arcing and sparks**

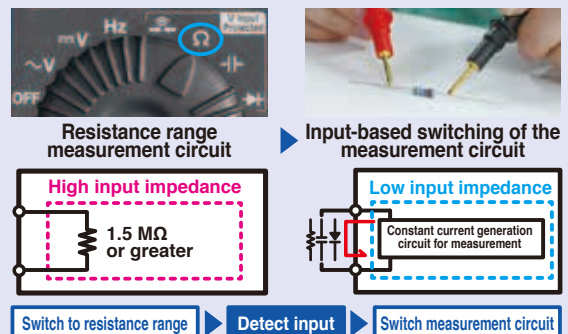
The DT4223 and DT4224 feature a new proprietary function that prevents accidents resulting from breakers that mistakenly trip due to incorrect input

## 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.

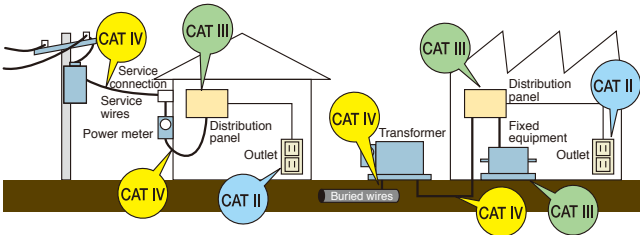
## DT4223 / DT4224 Digital Multimeter



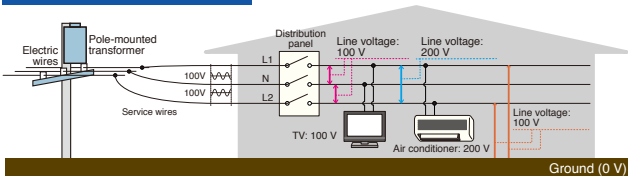
The measurement circuit is switched after the instrument detects resistance, continuity, capacitance, or diode input. Even if you mistakenly input voltage with the instrument set to the resistance range, the high input impedance will limit the current flowing to the instrument to 1.5 mA or less to prevent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



**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.

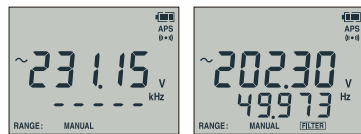


### Preventing instrument failure by keeping out dust



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.

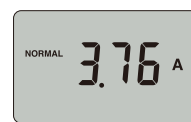
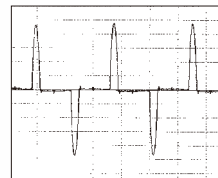
### Fast, accurate measurement of the output voltage on the secondary side of an inverter



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.

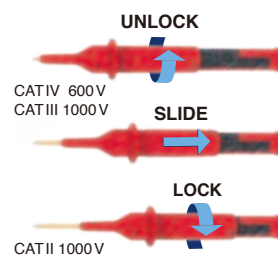
### Hand-free and easy to use



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 DT4261, DT4223, DT4224. The ability to save results in internal memory is available exclusively in high-end models.

### New L9300 test leads with integrated cap\*



Test leads L9300 now incorporate integrated caps. The design lets you change the measurement category simply by sliding the test lead's protective finger guard. As an added bonus, you no longer have to worry about losing caps!

\*Standard accessory for DT4261

### 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

DC V 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).

# Functions and Features



## 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)

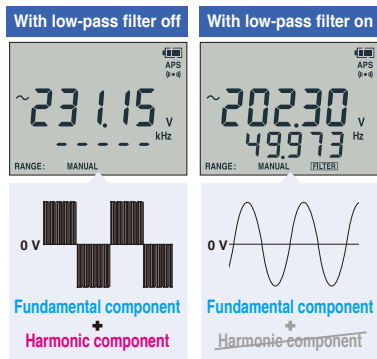
Measurement results can be downloaded to a computer via a USB connection. Once downloaded, you can save them as a file (text format) or display them as a graph using the desired interval. Results can also be sent in real time while measurement is ongoing.

\*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

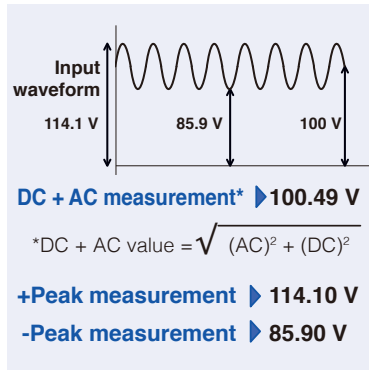
Accurately measure the fundamental wave alone by eliminating harmonic components with the DMM's low-pass filter function.



## Ripple voltage confirmation of DC charging systems

Peak value measurement / DC + AC voltage measurement

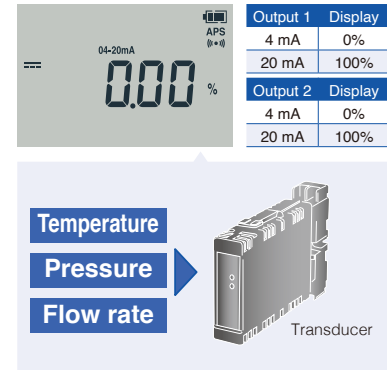
High-end models can detect ripple voltage with a superposed DC signal.



## Percentage display for instrumentation signal measurement

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

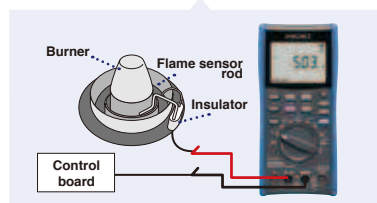
You can check percentage-equivalent values.



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

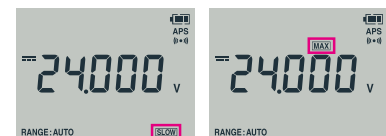
DC  $\mu$ A range

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.

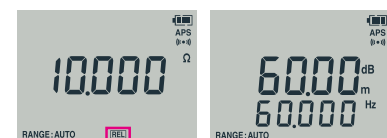


## Display refresh rate

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).



**NEW Middle model**

Supports wireless communication to increase work efficiency

DC V typical accuracy:  $\pm 0.15\%$  rdg.  $\pm 2$  dgt.  
Measurement categories: CAT III (1000 V), CAT IV (600 V)



**Multi-functional, for on-site maintenance**  
**DT4261**

Go wireless with the Z3210!  
For trouble analysis in the field.

|                           |                            |
|---------------------------|----------------------------|
| DC voltage                | 600.0 mV to 1000 V         |
| AC voltage                | 6.000 V to 1000 V          |
| DC + AC voltage           | 6.000 V to 1000 V          |
| DC current                | 600.0 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 |

Easily go wireless and manage your data digitally

**WIRELESS ADAPTER Z3210**



Wireless communication is supported in combination with the wireless adapter Z3210 (sold separately). In addition to working with the free "GENNECT Cross" application, the Excel® direct input function can also be used.

**NEW DT4261-90 (Z3210 set product)**

The DT4261-90, a set of DT4261 and Z3210, is also available. It is more economical than purchasing the DT4261 and Z3210 separately, and allows you to build a wireless communication environment with one purchase.



When Z3210 is installed

● Supported measurement parameter    ● Unsupported measurement parameter

\*The range figures given indicate the instrument's measurement ranges. Not the range of measurable values. Please see page 16 for details.



# Link with GENNECT Cross



## Troubleshoot in the field

When combined with GENNECT Cross, the DT4261 you can perform simple harmonic analysis. Applications include harmonic measurement of power conditioners for solar systems and problem analysis of power supply systems.

## Problems that can be caused by harmonics

- Equipment burn-out and destruction due to overheating
- Malfunctions of power control devices
- Reduced service life and efficiency for power devices

# Excel® Direct Input Function



## Improve work efficiency! Labor-saving measurement with digitalization

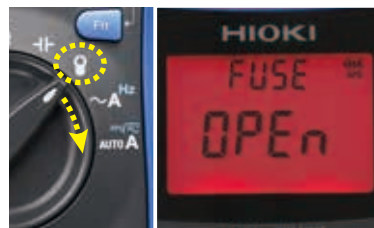
The wireless adapter Z3210 (sold separately) comes standard with an Excel® direct input function. It enables direct transfer and input of measurement data to templates created in Excel® leading to increased work efficiency in the field.

# Functions and Features



## Terminal shutter closes on unused terminals depending on the measurement function

The DT4261's terminal shutters are linked to the instrument's rotary switch. They block access to test lead terminals that aren't being used, making it physically impossible to insert a lead into the wrong terminal.



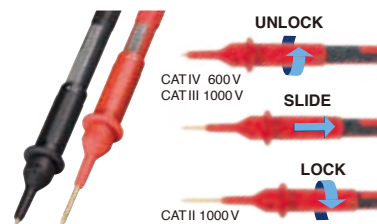
## Prevents incorrect current measurement with the Fuse Check function

When switching from the clamp function to the current function, a fuse disconnection check is automatically performed. This allows the user to know if the fuse is broken before current measurement, which prevents erroneous measurement.



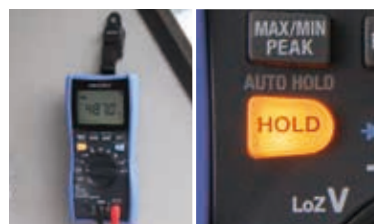
## Automatic switching of measurement in locations where AC and DC voltages are mixed

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 leads with an integrated cap for greater convenience and safety

The L9300 test lead with an integrated cap is included as a standard. The finger guard can be easily slid to switch between measurement categories without worrying about losing the cap.



## Free up hands for work with the magnetic strap\* and auto-hold function

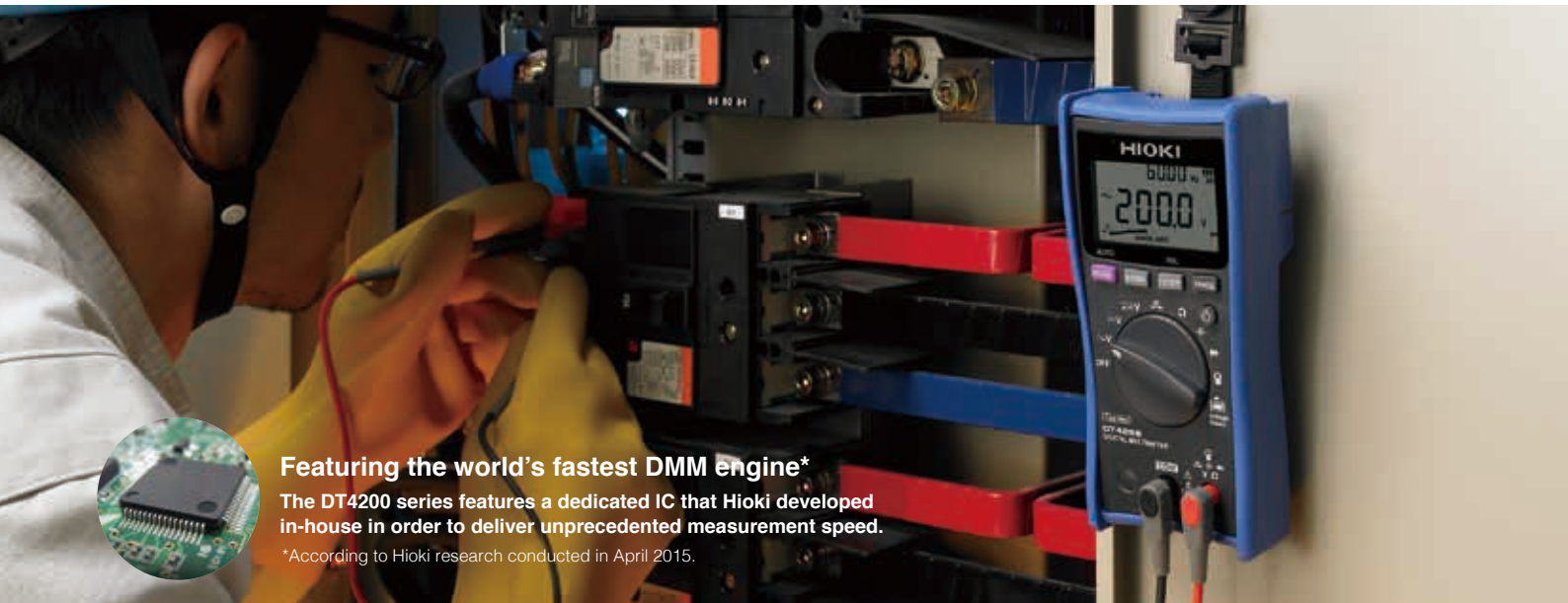
\*The Magnetic Strap is sold separately  
By using the magnetic strap to secure the instrument to the wall and the auto-hold function to automatically stop display values, you can free your hands, making it easier to record measured values and significantly boosting work efficiency.



## Manage measurement data on a computer

Using the Communication Package DT4900-01 (sold separately)

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.



**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

DC V 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.

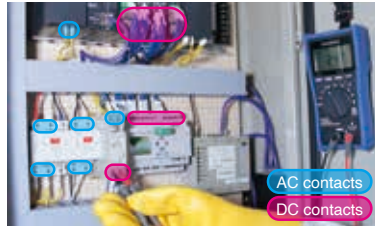
# Functions and Features



## 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, DT4254, DT4255, DT4256 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)

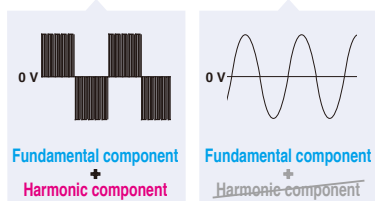
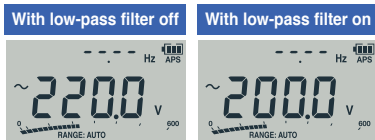
Measured values can be displayed in real time on a computer, and displayed values can be saved to a file (text format) or graphed at a user-specified interval.

\*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.

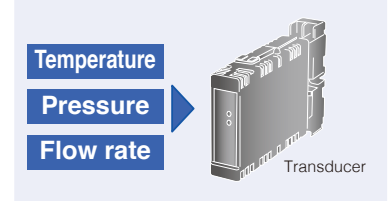
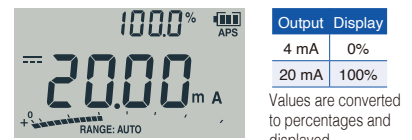
\*DT4254, DT4255, DT4256 only.



## Percentage display for instrumentation signal measurement

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

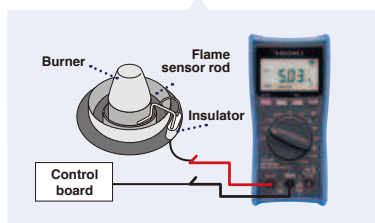
The standard models' dual display function lets you to simultaneously check measured values and percentage-equivalent values at a glance.



## 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

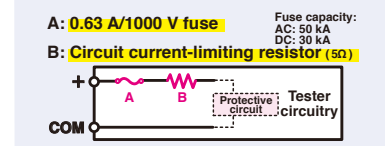
Standard models notify the operator of continuity check results and excessively high input with a red LED and beep, making it possible to check measurement results intuitively.



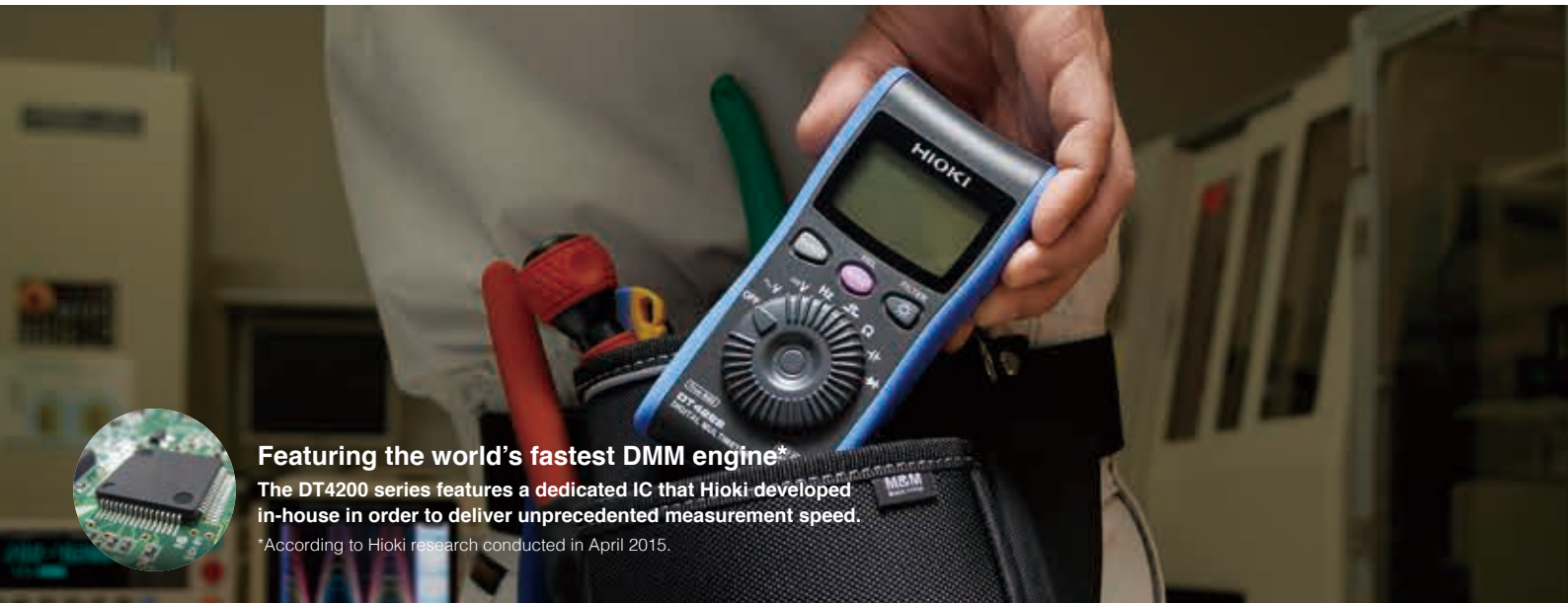
## Thorough prevention of short-circuit accidents

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

DC V 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).

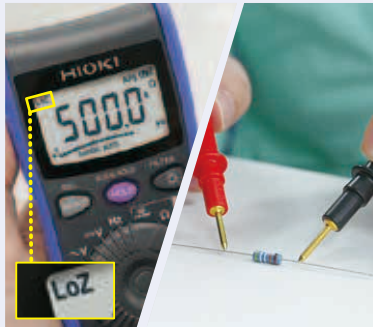
# Functions and Features

## 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.



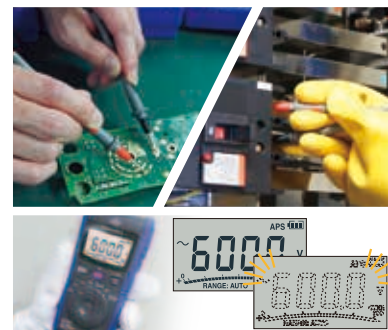
### Compact and lightweight design for outstanding ease of use

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.



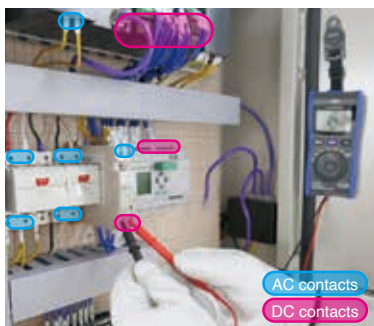
### Safe enough for measuring voltage at distribution panels and service wires

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

**NEW**



DT4281 | DT4282 | DT4261/DT4261-90\*1 | DT4252 | DT4253 | DT4254 | DT4255 | DT4256 | DT4221 | DT4222 | DT4223 | DT4224

| Basic Characteristics  |  |  |   |  |   |  |                      |  |                                 |  |   |  |
|--|--|--|---|--|---|--|----------------------|--|---------------------------------|--|---|--|
| True RMS   | Yes  |  | Yes                                     |  | Yes                                     |  |                      |  | Yes                             |  |   |  |
| DC V basic accuracy  | ±0.025% rdg. ±2 dgt.                                   |  | ±0.15% 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 1000 V                        |  | 600 mV to 1500 V*2   |  | 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 1000 V                           |  |                      |  |                                 |  | 6 V to 600 V                              |  |
| DC V + AC V  | 6 V to 1000 V  |  | 6 V to 1000 V                           |  | n/a                                     |  |                      |  |                                 |  | n/a                                       |  |
| DC A current   | 600 µA to 600 mA   600 µA to 10 A                      |  | 60 mA to 10 A                           |  | 6 A to 10 A   60 µA to 60 mA            |  | n/a                  |  | 60 mA to 10 A                   |  | n/a                                       |  |
| AC A current   | 600 µA to 600 mA   600 µA to 10 A                      |  | 60 mA 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                                   |  | 10 A to 1000 A                          |  | n/a   10 A to 1000 A                    |  | n/a   10 A to 1000 A |  | 10 A to 1000 A   10 A to 1000 A |  | n/a                                       |  |
| Resistance   | 60 Ω to 600 MΩ   |  | 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                                     |  | n/a   -40°C to 400°C                    |  | n/a                  |  | n/a                             |  | n/a                                       |  |
| Capacitance  | 1 nF to 100 mF   |  | 1 µF to 10 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 500 kHz                        |  | 99 Hz to 99 kHz                         |  |                      |  |                                 |  | 99 Hz to 9.9 kHz                          |  |
| Continuity check   | Yes  |  | Yes                                     |  | Yes                                     |  | n/a                  |  | Yes                             |  | Yes                                       |  |
| Diode check  | Yes  |  | Yes                                     |  | Yes                                     |  | n/a                  |  | Yes                             |  | n/a   Yes   n/a   Yes                     |  |
| Conductance  | n/a   Yes  |  | n/a                                     |  | n/a                                     |  |                      |  |                                 |  | n/a                                       |  |
| Voltage detection  | n/a  |  | n/a                                     |  | n/a                                     |  | Yes                  |  | Yes   n/a   Yes   n/a           |  |   |  |
| Additional Functions   |  |  |   |  |   |  |                      |  |                                 |  |   |  |
| AUTO AC/DC V   | n/a  |  | Yes                                     |  | n/a                                     |  | Yes                  |  | Yes   n/a   Yes   n/a           |  |   |  |
| Peak measurement   | DC/AC  |  | DC/AC                                   |  | n/a                                     |  |                      |  |                                 |  | n/a                                       |  |
| Low-pass filter  | Analog filter<br>Cut-off: 630 Hz                       |  | Digital filter<br>Pass-band: 100/500 Hz |  | Digital filter<br>Pass-band: 100/500 Hz |  |                      |  |                                 |  | Digital filter<br>Pass-band: 100/500 Hz   |  |
| Display update setting   | Yes  |  | n/a                                     |  | n/a                                     |  |                      |  |                                 |  | n/a                                       |  |
| Hold display value   | AUTO/MANUAL  |  | AUTO/MANUAL                             |  | AUTO/MANUAL                             |  |                      |  | MANUAL                          |  | AUTO/MANUAL                               |  |
| Max/Min value display  | Yes  |  | Yes                                     |  | Yes                                     |  |                      |  |                                 |  | n/a                                       |  |
| Relative display   | Yes  |  | n/a                                     |  | Yes                                     |  |                      |  |                                 |  | Yes                                       |  |
| Decibel conversion   | Yes  |  | n/a                                     |  | n/a                                     |  |                      |  |                                 |  | n/a                                       |  |
| Percentage conversion display  | Yes  |  | n/a                                     |  | n/a   Yes                               |  | n/a   n/a            |  | n/a                             |  |   |  |
| DC voltage polarity check  | n/a  |  | n/a                                     |  | n/a                                     |  | Yes                  |  | n/a                             |  |   |  |
| Data storage   |  |  |   |  |   |  |                      |  |                                 |  |   |  |
| Capacity   | Max 400 data   |  | n/a                                     |  | n/a                                     |  |                      |  |                                 |  | n/a                                       |  |
| USB communication*3  | Yes  |  | Yes                                     |  | Yes                                     |  |                      |  |                                 |  | n/a                                       |  |
| Bluetooth*4 communication*4  | n/a  |  | Yes                                     |  | n/a                                     |  |                      |  |                                 |  | n/a                                       |  |
| Operating time   |  |  |   |  |   |  |                      |  |                                 |  |   |  |
| Continuous operating time  | Approx. 100 hours*5                                    |  | Approx. 130 hours*6                     |  | Approx. 130 hours                       |  |                      |  | Approx. 40 hours                |  | Approx. 35 hours                          |  |
| Power supply   | Alkaline (LR6) battery x4   Manganese (R6P) battery x4 |  | Alkaline (LR6) battery x3               |  | Alkaline (LR03) battery x4              |  |                      |  |                                 |  | Alkaline (LR03) battery x1                |  |
| Display  |  |  |   |  |   |  |                      |  |                                 |  |   |  |
| Back light   | Yes  |  | Yes                                     |  | Yes                                     |  |                      |  |                                 |  | Yes                                       |  |
| Dual display   | Yes  |  | Yes                                     |  | Yes                                     |  |                      |  |                                 |  | n/a                                       |  |
| Bar graph display  | n/a  |  | Yes                                     |  | Yes                                     |  |                      |  |                                 |  | Yes                                       |  |
| Safety   |  |  |   |  |   |  |                      |  |                                 |  |   |  |
| Safety standard categories   | CAT III 1000 V, CAT IV 600 V                           |  | CAT III 1000 V, CAT IV 600 V            |  | CAT III 1000 V, CAT IV 600 V            |  |                      |  | CAT III 600 V, CAT IV 300 V     |  |   |  |
| Mis-insertion prevention shutters  | Yes  |  | Yes                                     |  | n/a                                     |  |                      |  |                                 |  | n/a                                       |  |
| Circuit breaker false trip prevention  | n/a  |  | n/a                                     |  | n/a                                     |  |                      |  |                                 |  | n/a   Yes                                 |  |

\*1. Z3210 set product \*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. Requires optional DT4900-01 Communication Package \*4. Requires optional Z3210 wireless adapter \*5. When using four AA alkaline batteries \*6. When Z3210 is not installed

## 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   |                      | 10.2 MΩ ±2% // 100 pF or less  |
| 1000.0 V   |                      |                                |

| AC Voltage |                     |                     |                     |                     |                     |                     |
|------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Range      | Accuracy            |                     |                     |                     |                     |                     |
|            | 20Hz to 45Hz        | 45Hz to 65Hz        | 65Hz to 1kHz        | 1kHz to 10kHz       | 10kHz to 20kHz      | 20kHz to 100kHz     |
| 60.000 mV  | ±1.3% rdg. ±60 dgt. | ±0.4% rdg. ±40 dgt. | ±0.0% rdg. ±40 dgt. | ±0.9% rdg. ±40 dgt. | ±1.5% rdg. ±40 dgt. | ±20% rdg. ±80 dgt.  |
| 600.00 mV  | ±1% rdg. ±60 dgt.   | ±0.2% rdg. ±25 dgt. | ±0.3% rdg. ±25 dgt. | ±0.4% rdg. ±25 dgt. | ±0.7% rdg. ±40 dgt. | ±3.5% rdg. ±40 dgt. |
| 6.0000 V   | ±0.2% rdg. ±25 dgt. |                     |                     |                     |                     |                     |
| 60.000 V   | Undefined           | ±0.3% rdg. ±30 dgt. | ±0.4% rdg. ±30 dgt. | ±0.4% rdg. ±45 dgt. | Undefined           | Undefined           |
| 600.00 V   |                     |                     |                     |                     |                     |                     |
| 1000.0 V   |                     |                     |                     |                     |                     |                     |

| DC V + AC V Measurement |                     |                     |                     |                     |                     |                      |
|-------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|----------------------|
| Range                   | Accuracy            |                     |                     |                     |                     |                      |
|                         | 20Hz to 45Hz        | 45Hz to 65Hz        | 65Hz to 1kHz        | 1kHz to 10kHz       | 10kHz to 20kHz      | 20kHz to 100kHz      |
| 6.0000 V                | ±1.2% rdg. ±65 dgt. | ±0.3% rdg. ±30 dgt. | ±0.4% rdg. ±30 dgt. | ±0.4% rdg. ±30 dgt. | ±1.5% rdg. ±45 dgt. | ±3.5% rdg. ±125 dgt. |
| 60.000 V                | ±0.3% rdg. ±30 dgt. |                     |                     |                     |                     |                      |
| 600.00 V                | Undefined           | ±0.3% rdg. ±30 dgt. | ±0.4% rdg. ±30 dgt. | ±0.4% rdg. ±45 dgt. | Undefined           | Undefined            |
| 1000.0 V                |                     |                     |                     |                     |                     |                      |

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

| DC A Measurement *1. DT4282 only |                                  |                                    |                  |
|----------------------------------|----------------------------------|------------------------------------|------------------|
| 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                        |                                  | ±0.05% rdg. ±25 dgt.               |                  |
| 600.00 mA                        | ±0.15% rdg. ±5 dgt.              | ±0.15% rdg. ±5 dgt.                | 1 Ω              |
| 6.0000 A <sup>-1</sup>           |                                  | ±0.2% rdg. ±25 dgt.                |                  |
| 10.000 A <sup>-1</sup>           | ±0.2% rdg. ±5 dgt.               | ±0.2% rdg. ±25 dgt.                | 10m Ω            |
|                                  |                                  | ±0.2% rdg. ±5 dgt.                 |                  |

| AC A Measurement *1. DT4282 only |                     |                     |                     |                     |                   |
|----------------------------------|---------------------|---------------------|---------------------|---------------------|-------------------|
| Range                            | Accuracy            |                     |                     |                     |                   |
|                                  | 20Hz to 45 Hz       | 45Hz to 65 Hz       | 65Hz to 1 kHz       | 1kHz to 10 kHz      | 10kHz to 20 kHz   |
| 600.00 μA                        | ±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 μA                        | ±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 <sup>-1</sup>           | Undefined           | ±0.8% rdg. ±20 dgt. | ±0.8% rdg. ±20 dgt. | Undefined           | Undefined         |
| 10.000 A <sup>-1</sup>           | Undefined           | ±0.8% rdg. ±5 dgt.  | ±0.8% rdg. ±5 dgt.  | Undefined           | Undefined         |

Shunt resistance: μA Range 101 Ω, mA Range 1Ω, A Range 10 mΩ  
 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%         | DC 2.5 V or less      |

Continuity threshold: 20 Ω (default), 50 Ω, 100 Ω, 500 Ω

| Diode Check |                    |                     |                       |
|-------------|--------------------|---------------------|-----------------------|
| Range       | Accuracy           | Measurement Current | Open-terminal Voltage |
| 3.600 V     | ±0.1% rdg. ±5 dgt. | 1.2 mA or less      | DC 4.5 V or less      |

Forward threshold: 0.15 V, 0.5 V (default), 1 V, 1.5 V, 2 V, 2.5 V, 3 V  
 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 |                     |                     |
|-----------------------------------|---------------------|---------------------|
| Range                             | Accuracy            |                     |
|                                   | 40 Hz to 65 Hz      | 65 Hz 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%         | DC 2.5 V or less      |
| 600.00 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) DT4282 only |                     |                     |                      |
|------------------------------|---------------------|---------------------|----------------------|
| Range                        | Accuracy            | Measurement Current | Open-circuit Voltage |
| 600.00 nS                    | ±1.5% rdg. ±10 dgt. | 96 nA ±10%          | DC 2.5 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%          | DC 2.5 V or less     |
| 10.00 nF                | ±1% rdg. ±5 dgt.  |                     |                      |
| 100.0 nF                |                   |                     |                      |
| 1.000 μF                | ±2% rdg. ±5 dgt.  | 680 μA ±20%         | DC 3.1 V or less     |
| 10.00 μF                |                   |                     |                      |
| 100.0 μF                |                   |                     | DC 2.1 V or less     |
| 1.000 mF                |                   |                     |                      |
| 10.00 mF                |                   |                     |                      |
| 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   | ±0.005% rdg. +3 dgt. |
| 999.99 Hz   |                      |
| 9.9999 kHz  |                      |
| 99.999 kHz  |                      |
| 500.00 kHz  |                      |

Measurement range: 0.5 Hz or more ([---] is displayed when frequency is less than 0.5 Hz)  
 Pulse width: 1 μs or more (DUTY ratio is 50%)  
 With the filter ON, accuracy is defined only for frequencies 100 Hz 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             |
| DC V  | 4 ms or more (single)     | ±2.0% rdg. ±40 dgt.  |
|   | 1 ms or more (repeated)   | ±2.0% rdg. ±100 dgt. |
| Other than DC V   | 1 ms or more (single)     | ±2.0% rdg. ±40 dgt.  |
|   | 250 μs 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)

# High-End 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/Weight

93W × 197H × 53D mm (3.66"W × 7.76"H × 2.09"D),  
650 g (23 oz.) (including batteries)

| Safety   |   |
|--|---|
| Maximum rated voltage between input terminals and ground | CAT III 1000 V, CAT IV 600 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: 600 mA DC/600 mA AC<br>Between the A and COM terminals: 10 A DC/10 A AC |

## Accessories

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

# Middle NEW DT4261

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

| DC Voltage |                     |                 |
|------------|---------------------|-----------------|
| Range      | Accuracy*1          | Input Impedance |
| 600.0 mV   | ±0.15% rdg. ±5 dgt. | 11.3 MΩ ± 2.0 % |
| 6.000 V    |                     |                 |
| 60.00 V    | ±0.15% rdg. ±2 dgt. | 10.4 MΩ ± 2.0 % |
| 600.0 V    |                     |                 |
| 1000 V     | ±0.15% rdg. ±5 dgt. | 10.3 MΩ ± 1.5 % |

\*1. Add ±1 dgt. when measuring at or below 5% of range

| AC Voltage |                    |                    |                                  |
|------------|--------------------|--------------------|----------------------------------|
| Range      | Accuracy           |                    | Input Impedance                  |
|            | 40 Hz to 500 Hz    | 500 Hz to 1 kHz    |                                  |
| 6.000 V    | ±0.9% rdg. ±3 dgt. | ±1.5% rdg. ±3 dgt. | 11.3 MΩ ± 2.0% // 100 pF or less |
| 60.00 V    |                    |                    | 10.4 MΩ ± 2.0% // 100 pF or less |
| 600.0 V    |                    |                    | 10.3 MΩ ± 1.5% // 100 pF or less |
| 1000 V     |                    |                    |                                  |

Crest factor 3 at up to 4000 counts and reduces linearly to 2 at 6000 counts.  
1000 V range only: 2 at up to 750 counts, linearly decreasing to 1.5 at 1000 counts.

Accuracy specification range For ACV, minimum 1% of range; add ±5 dgt. when measuring at or below 5% of range.

| DC A Measurement |                    |                 |
|------------------|--------------------|-----------------|
| Range            | Accuracy           | Input Impedance |
| 600.0 mA         | ±0.5% rdg. ±3 dgt. | 35 mΩ ±30%      |
| 6.000 A          |                    |                 |
| 10.00 A          |                    |                 |

Accuracy specification range Add ±2 dgt. when measuring at or below 5% of range.

| AC A Measurement |                    |                    |                 |
|------------------|--------------------|--------------------|-----------------|
| Range            | Accuracy           |                    | Input Impedance |
|                  | 40 Hz to 500 Hz    | 500 H to 1 kHz     |                 |
| 600.0 mA         | ±1.4% rdg. ±3 dgt. | ±1.8% rdg. ±3 dgt. | 35 mΩ ±30%      |
| 6.000 A          |                    |                    |                 |
| 10.00 A          |                    |                    |                 |

Crest factor 3 at 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.

| Continuity Check         |  |                     |                       |
|--------------------------|--|---------------------|-----------------------|
| Range                    | Accuracy   | Measurement Current | Open-terminal Voltage |
| 600.0 Ω                  | ±0.7% rdg. ±5 dgt.   | Approx. 200 μA      | DC 2.0 V or less      |
| Continuity ON threshold  | Approx. 25 Ω or less (continuous buzzer sound, red backlight on) |                     |                       |
| Continuity OFF threshold | Approx. 245 Ω or more (buzzer sound off, red backlight off)      |                     |                       |

| Diode Check       |  |                     |                       |
|-------------------|--|---------------------|-----------------------|
| Range             | Accuracy   | Measurement Current | Open-terminal Voltage |
| 1.800 V           | ±0.5% rdg. ±5 dgt.   | Approx. 200 μA      | DC 2.0 V or less      |
| Forward threshold | Intermittent buzzer sound at 0.15 V to 1.8 V, continuous buzzer sound at less than 0.15 V, red backlight on. |                     |                       |

| AC Clamp (AC Current) |                    |                    |
|-----------------------|--------------------|--------------------|
| Range                 | Accuracy           |                    |
|                       | 40 Hz to 500 Hz    | 500 Hz to 1 kHz    |
| 10.00 A               | ±0.9% rdg. ±3 dgt. | ±1.5% 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 |                    |                     |                       |
|------------------------|--------------------|---------------------|-----------------------|
| Range                  | Accuracy           | Measurement Current | Open-terminal Voltage |
| 600.0 Ω                | ±0.7% rdg. ±5 dgt. | Approx. 200 μA      | DC 2.0 V or less      |
| 6.000 kΩ               |                    | Approx. 100 μA      |                       |
| 60.00 kΩ               |                    | Approx. 10 μA       |                       |
| 600.0 kΩ               | ±0.7% rdg. ±3 dgt. | Approx. 1 μA        |                       |
| 6.000 MΩ               |                    | Approx. 100 nA      |                       |
| 60.00 MΩ               |                    | Approx. 10 nA       |                       |

Accuracy guarantee condition After zero adjustment has been performed

| Capacitance Measurement |                     |                           |                       |
|-------------------------|---------------------|---------------------------|-----------------------|
| Range                   | Accuracy            | Measurement Current       | Open-terminal Voltage |
| 1.000 μF                | ±1.9% rdg. ±5 dgt.  | Approx. 10 n,100 n,1 μA   | DC 2.0 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      |                       |

| Frequency             |                    |
|-----------------------|--------------------|
| Range                 | Accuracy           |
| 99.99 Hz              | ±0.1% rdg. +1 dgt. |
| 999.9 Hz              |                    |
| 9.999 kHz             |                    |
| 99.99 kHz (V AC Only) |                    |



# Middle General Specifications

| Durability                                       |   |
|--|---|
| Drop proof                                       | Yes   |
| Operating temperature and humidity <sup>*1</sup> | -25°C to 65°C   |
| Storage temperature and humidity <sup>*2</sup>   | -30°C to 70°C   |
| Applicable standards                             | Safety: EN61010, EMC: EN61326; Waterproof and dustproof: IP54 <sup>*3</sup> |

\*1: 80% RH or less at up to 40°C (non-condensating), linearly decreases from 80% RH at 40°C to 25% RH or less at 65°C (non-condensating)  
 \*2: 80% RH or less (non-condensating) \*3: Do not use in wet conditions.

| Dimensions/Weight   |
|---|
| 87W x 185H x 47D mm (3.43"W x 7.28"H x 1.85"D),<br>480 g (16.9 oz.) (including batteries) |

| Safety   |  |
|--|--|
| Maximum rated voltage between input terminals and ground | CAT III 1000 V, CAT IV 600 V                     |
| Maximum rated voltage between terminals                  | Between the V and COM terminals: 1000 V DC/AC    |
| Maximum rated current between terminals                  | Between the A and COM terminals: 10 A DC/10 A AC |

## Accessories

TEST LEAD L9300, Instruction Manual, LR6 alkaline battery x 3

# 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 600 mV range <sup>*1</sup> | ±0.2% rdg. ±5 dgt.               | 10.2 MΩ ±1.5%   |                 |
| 600.0 mV                                  | ±0.3% rdg. ±3 dgt. <sup>*3</sup> | 11.2 MΩ ±2.0%   |                 |
| 6.000 V                                   |                                  | 10.3 MΩ ±2.0%   |                 |
| 60.00 V                                   |                                  | 10.2 MΩ ±1.5%   |                 |
| 600.0 V                                   |                                  | 10.2 MΩ ±1.5%   |                 |
| 1000 V                                    | ±0.3% rdg. ±3 dgt. <sup>*4</sup> | 10.2 MΩ ±1.5%   |                 |
| 1500 V <sup>*2</sup>                      | ±0.3% rdg. ±3 dgt. <sup>*4</sup> | 10.2 MΩ ±1.5%   |                 |

\*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 1700 V: ±0.2% rdg. ±5 dgt.

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

| AUTO V (Identification)      |  | Accuracy                |   | Input Impedance |
|------------------------------|--|-------------------------|---|-----------------|
| Range                        | DC, 40 Hz to 500 Hz  | 500 Hz or more to 1 kHz |   |                 |
| 600.0 V                      | ±2.0% rdg. ±3 dgt.   | ±4.0% rdg. ±3 dgt.      | 900 kΩ ±20%<br>1800 kΩ ±20% <sup>*1</sup> |                 |
| Crest factor                 | 3 at up to 4000 counts and reduces linearly to 2 at 6000 counts.   |                         |   |                 |
| Accuracy specification range | For AC V, minimum 1% of range; add ±5 dgt. when measuring at or below 5% of range.<br>With the filter ON, the accuracy is not specified at 100/500 Hz or more. |                         |   |                 |

\*1. DT4254

| DC A Measurement |                    | Accuracy           |                    | Input Impedance                  |                    |                                  |                                  |
|------------------|--------------------|--------------------|--------------------|----------------------------------|--------------------|----------------------------------|----------------------------------|
| Range            | 60.00 μA           | 600.0 μA           | 6.000 mA           | 60.00 mA                         | 600.0 mA           | 6.000 A                          | 10.00 A                          |
| 60.00 μA         | ±0.8% rdg. ±5 dgt. | ±0.8% rdg. ±5 dgt. | ±0.8% rdg. ±5 dgt. | ±0.8% rdg. ±5 dgt. <sup>*1</sup> | ±0.9% rdg. ±5 dgt. | ±0.9% rdg. ±3 dgt. <sup>*2</sup> | ±0.9% rdg. ±3 dgt. <sup>*2</sup> |
| 600.0 μA         | 1 kΩ ±5%           | 1 kΩ ±5%           | 15 Ω ±40%          | 15 Ω ±40% <sup>*1</sup>          | 35 mΩ ±30%         | 35 mΩ ±30%                       | 35 mΩ ±30%                       |
| 6.000 mA         | 1 kΩ ±5%           | 1 kΩ ±5%           | 15 Ω ±40%          | 15 Ω ±40% <sup>*1</sup>          | 35 mΩ ±30%         | 35 mΩ ±30%                       | 35 mΩ ±30%                       |
| 60.00 mA         | 1 kΩ ±5%           | 1 kΩ ±5%           | 15 Ω ±40%          | 15 Ω ±40% <sup>*1</sup>          | 35 mΩ ±30%         | 35 mΩ ±30%                       | 35 mΩ ±30%                       |
| 600.0 mA         | 1 kΩ ±5%           | 1 kΩ ±5%           | 15 Ω ±40%          | 15 Ω ±40% <sup>*1</sup>          | 35 mΩ ±30%         | 35 mΩ ±30%                       | 35 mΩ ±30%                       |
| 6.000 A          | 1 kΩ ±5%           | 1 kΩ ±5%           | 15 Ω ±40%          | 15 Ω ±40% <sup>*1</sup>          | 35 mΩ ±30%         | 35 mΩ ±30%                       | 35 mΩ ±30%                       |
| 10.00 A          | 1 kΩ ±5%           | 1 kΩ ±5%           | 15 Ω ±40%          | 15 Ω ±40% <sup>*1</sup>          | 35 mΩ ±30%         | 35 mΩ ±30%                       | 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.

| AC A Measurement             |   | Accuracy                |            | Input Impedance |
|------------------------------|---|-------------------------|------------|-----------------|
| Range                        | 40 Hz to 500 Hz   | 500 Hz or more to 1 kHz |            |                 |
| 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 at 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              | AC 40 V to AC 600 V     | 50 Hz / 60 Hz               |  |
| Lo              | AC 80 V to AC 600 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. 25 Ω or less (continuous buzzer sound, red LED lights) |                                     |                       |
| Continuity OFF threshold | Approx. 245 Ω 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                      | DC 5.0 V or less      |

Forward threshold Buzzer sound intermittently at 0.15 V to 1.5 V, the red LED flashes.

\*1. DT4255 : ±0.5% rdg. ±8 dgt.

| AC Clamp (AC Current) |                                      | DT4253, DT4255, DT4256 only |  |
|-----------------------|--------------------------------------|-----------------------------|--|
| Range                 | Accuracy                             |                             |  |
| 10.00 A               | 40 Hz to 1 kHz<br>±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. <sup>*1</sup> | Approx. 200 μA                      | DC 1.8 V or less      |
| 6.000 kΩ               |                                  | 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, DT4253 : ±5 dgt.

| Capacitance Measurement |                     | DT4252, DT4253, DT4255, DT4256 only |                       |
|-------------------------|---------------------|-------------------------------------|-----------------------|
| Range                   | Accuracy            | Measurement Current                 | Open-terminal Voltage |
| 1.000 μF                | ±1.9% rdg. ±5 dgt.  | Approx. 10 nA, 100 nA, 1 μA         | DC 1.8 V or less      |
| 10.00 μF                |                     | Approx. 100 nA, 1 μA, 10 μA         |                       |
| 100.0 μF                |                     | Approx. 1 μA, 10 μA, 100 μA         |                       |
| 1.000 mF                |                     | Approx. 10 μA, 100 μA, 200 μA       |                       |
| 10.00 mF                | ±5.0% rdg. ±20 dgt. | Approx. 100 μA, 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) |                    |

## Standard General Specifications

| Durability                           |  |
|--------------------------------------|--|
| Drop proof                           | Yes  |
| Operating temperature and humidity*1 | -25°C to 65°C (DT4254, DT4255, DT4256)<br>-10°C to 50°C (DT4252, DT4253) |
| Storage temperature and humidity*2   | -30°C to 70°C (DT4254, DT4255, DT4256)<br>-30°C to 60°C (DT4252, DT4253) |
| 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/Weight   |
|---|
| 84W × 174H × 52D mm (3.31"W × 6.85"H × 2.05"D),<br>390 g (13.8 oz.) (including batteries and holster) |

| Safety   |  |
|--|--|
| Maximum rated voltage between input terminals and ground | CAT III 1000 V, CAT IV 600 V   |
| Maximum rated voltage between terminals                  | Between the V and COM terminals: DC 1000 V, AC 1000 V*1  |
| Maximum rated current between terminals                  | Between the A and COM terminals: DC 10 A / AC 10 A (DT4252, DT4256)<br>Between the $\mu$ A and COM terminals: DC 60 mA (DT4253 only) |

\*1. DT4254: DC 1700 V, AC 1000 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   | ±0.5% rdg. ±5 dgt. | 11.2 MΩ ±2.0%   |
| 6.000 V    |                    |                 |
| 60.00 V    |                    |                 |
| 600.0 V    |                    |                 |

| AC Voltage                   |  |  |                                 |
|------------------------------|--|--|---------------------------------|
| Range                        | Accuracy   |  | Input Impedance                 |
|                              | 40 Hz to 500 Hz  | 500 Hz or more to 1 kHz  |                                 |
| 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 at up to 4000 counts and reduces linearly to 2 at 6000 counts. |                                 |
| Accuracy specification range | For AC V, minimum 1% of range; add ±5 dgt. when measuring at or below 5% of range.<br>With the filter ON, the accuracy is not specified in 100/500 Hz or more. |  |                                 |

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

| Electric Charge         |                            |
|-------------------------|----------------------------|
| Detection Voltage Range | Detection Target Frequency |
| AC 80 V to AC 600 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 $\mu$ A | DC 1.8 V or less (DT4221, DT4222)<br>DC 2.0 V or less (DT4223, DT4224) |
| Continuity ON threshold  | Approx. 25 Ω or less (continuous buzzer sound) |                     |  |
| Continuity OFF threshold | Approx. 245 Ω or more                          |                     |  |

| Diode Check |                    |  |                       |
|-------------|--------------------|--|-----------------------|
| Range       | Accuracy           | Measurement Current                                | Open-terminal Voltage |
| 1.500 V     | ±0.9% rdg. ±5 dgt. | Approx. 0.5 mA (DT4222)<br>Approx. 0.2 mA (DT4224) | DC 2.5 V or less      |

| Resistance Measurement       |   |                     |                                   |
|------------------------------|---|---------------------|-----------------------------------|
| Range                        | Accuracy                                  | Measurement Current | Open-terminal Voltage             |
| 600.0 Ω                      | ±0.9% rdg. ±5 dgt.                        | Approx. 200 $\mu$ A | DC 1.8 V or less (DT4222)         |
| 6.000 kΩ                     |   | Approx. 100 $\mu$ A |                                   |
| 60.00 kΩ                     |   | Approx. 10 $\mu$ A  |                                   |
| 600.0 kΩ                     |   | Approx. 1 $\mu$ A   | DC 2.0 V or less (DT4223, DT4224) |
| 6.000 MΩ                     |   | Approx. 100 nA      |                                   |
| 60.00 MΩ                     |   | Approx. 10 nA       |                                   |
| Accuracy guarantee condition | After zero adjustment has been performed. |                     |                                   |

| Capacitance Measurement |                     |  |                                   |
|-------------------------|---------------------|--|-----------------------------------|
| Range                   | Accuracy            | Measurement Current                        | Open-terminal Voltage             |
| 1.000 $\mu$ F           | ±1.9% rdg. ±5 dgt.  | Approx. 10 n, 100 n, 1 $\mu$ A             | DC 1.8 V or less (DT4222)         |
| 10.00 $\mu$ F           |                     | Approx. 100 n, 1 $\mu$ , 10 $\mu$ A        |                                   |
| 100.0 $\mu$ F           |                     | Approx. 1 $\mu$ , 10 $\mu$ , 100 $\mu$ A   | DC 2.0 V or less (DT4223, DT4224) |
| 1.000 mF                |                     | Approx. 10 $\mu$ , 100 $\mu$ , 200 $\mu$ A |                                   |
| 10.00 mF                | ±5.0% rdg. ±20 dgt. | Approx. 100 $\mu$ , 200 $\mu$ A            |                                   |

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

# Pocket General Specifications

| Durability                           |  |
|--------------------------------------|--|
| Drop proof                           | Yes  |
| Operating temperature and humidity*1 | -10°C to 50°C (DT4221, DT4222)<br>-10°C to 65°C (DT4223, DT4224) |
| Storage temperature and humidity*2   | -30°C to 60°C (DT4221, DT4222)<br>-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/Weight

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

| Safety   |  |
|--|--|
| Maximum rated voltage between input terminals and ground | CAT III 600 V, CAT IV 300 V                  |
| Maximum rated voltage between terminals                  | Between the V and COM terminals: 600 V DC/AC |

## Accessories

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

## Models



| High-end models        |        |        |
|------------------------|--------|--------|
| Model no. (order code) | DT4281 | DT4282 |



| Middle models           |        |            |
|-------------------------|--------|------------|
| Model n o. (order code) | DT4261 | DT4261-90* |

\*Z3210 set product



| Standard models        |        |        |        |        |        |
|------------------------|--------|--------|--------|--------|--------|
| Model no. (order code) | DT4252 | DT4253 | DT4254 | DT4255 | DT4256 |



| Pocket models          |        |        |        |        |
|------------------------|--------|--------|--------|--------|
| Model no. (order code) | DT4221 | DT4222 | DT4223 | DT4224 |

## Accessories/Options

### L9300 / L9207-10 / DT4911 Options (accessory)

**DT4261**  
(Bundled accessory)



#### TEST LEAD L9300

Cable length 95 cm (3.12 ft)  
Integrated cap and protective finger guard

- Exposed tip metal pin: short  
CAT III 1000V, CAT IV 600V
- Exposed tip metal pin: long  
CAT II 1000V

**DT4280/DT4250 Series**  
(Bundled accessory)



#### TEST LEAD L9207-10

Cable length 90 cm (2.95 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)

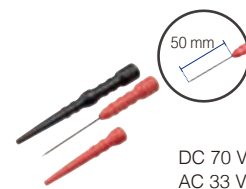
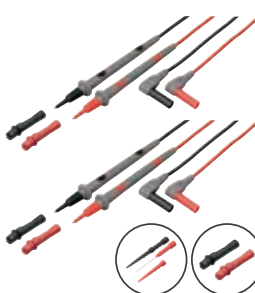


#### TEST LEAD DT4911

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

L9300, L4933 and L4934 probe tips (at right) can be used on L9207-10, DT4911 test leads.



#### CONTACT PIN SET L4933

DC 70 V  
AC 33 V



#### SMALL ALLIGATOR CLIP SET L4934

CAT II 600 V  
CAT III 300 V

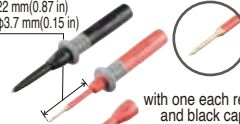
## L4930 Options

Compatible DMMs: DT4261, DT4250 Series, DT4280 Series



**CONNECTION CABLE L4930**  
Length : 1.2 m (3.937 ft)

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



22 mm(0.87 in)  
φ3.7 mm(0.15 in)


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




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



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



Magnet  
φ6 mm(0.24 in)  
CAT III 1000 V  
**MAGNETIC ADAPTER SET L4937**



22 mm(0.87 in)  
φ3.7 mm(0.15 in)  
48 mm(1.89 in)  
φ2.6 mm(0.15 in)


CAT III 600 V  
**BREAKER PIN L4939**



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






CAT II 1000 V  
**GRABBER CLIP L9243**



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

## AC CLAMP ON PROBES for DT4281, DT4261, DT4253, DT4255, DT4256 (Adapter 9704 required for connection)

| Product appearance                  |  CAT III 600 V |  CAT III 600 V |  CAT III 600 V |
|-------------------------------------|---|---|---|
| Model number                        | 9010-50   | 9018-50   | 9132-50   |
| Rated current                       | AC 10 A, 20 A, 50 A, 100 A, 200 A, 500 A  | AC 10 A, 20 A, 50 A, 100 A, 200 A, 500 A  | AC 20 A, 50 A, 100 A, 200 A, 500 A, 1000 A  |
| Amplitude accuracy (45 Hz to 66 Hz) | ±2% rdg. ±1% f.s.   | ±1.5% rdg. ±0.1% f.s.   | ±3% rdg. ±0.2% f.s.   |
| Frequency characteristics           | 40 Hz to 1 kHz:±6% rdg.   | 40 Hz to 3 kHz:±1% rdg.   | 40 Hz to 1 kHz:±1% rdg.   |
| Output rate                         | AC 0.2 V f.s. (For each range)  |   |   |
| Max. circuit voltage                | AC 600 V (50/60 Hz)   |   |   |
| Diameter                            | φ46 mm (1.81 in) or less  |   | φ55 mm (2.17 in) or less, 80 × 20 mm (3.15 × 0.79 in)   |
| Dimensions, mass                    | 78W × 188H × 35D mm (3.07"W × 7.40"H × 1.38"D), 420 g (14.8 oz.), cord length 3 m (9.84 ft)     |   | 100W × 224H × 35D mm (3.94"W × 8.82"H × 1.38"D), 600 g (21.1 oz.), cord length 3 m (9.84 ft)    |

Adapter Model 9704 is required to connect AC CLAMP ON PROBES 9010-50, 9018-50 and 9132-50 to the DT4281, DT4261, 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 10



**MAGNETIC STRAP Z5004**    **MAGNETIC STRAP Z5020**



**WIRELESS ADAPTER Z3210**

For DT4261  
Enables Bluetooth® communication




**CARRYING CASE C0200**

DT4220 Series



**CARRYING CASE C0202**

DT4250, DT4280 Series, DT4261



**CARRYING CASE C0201**

DT4250 Series

**NEW**

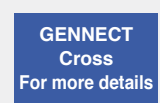


**CARRYING CASE C0207**

Bag type for use with all field products

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