

- Bluetooth®**
- DATALOGGER VOICE READING**
- PROFESSIONAL MEASUREMENTS**

TRMS MULTIMETERS

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TRMS MULTIMETERS

WHAT DO RMS AND TRUE RMS STAND FOR?




RMS stands for **Root Mean Square** and TRMS (True RMS) for **True Root Mean Square**. The TRMS instruments are much more accurate than the RMS when measuring AC current.

This is why all the multimeters in PROMAX catalog have True RMS measurement capabilities.



**DO YOU WANT
MORE INFO
ON TRMS?**



	 FP-2	 PD-35x	 PD-184	 MD-200C	 IC-117/118
TRUE RMS	YES	YES	YES	YES	YES
MEASUREMENTS					
DC Voltage	1000 V	1000 V	1000 V	1000 V	1000 V
AC Voltage	750 V	750 V	750 V	750 V	1000 V
DC Current	20 A	20 A	20 A	20 A	10 A
AC Current	20 A	20 A	20 A	20 A	10 A
Impedance	60 MΩ	60 MΩ	220 MΩ	20 MΩ	40 MΩ
Capacitance	60 mF	4000 μF	>220 mF	220 μF	>1000 μF
Frequency	~10 MHz	~10 MHz	>220 MHz	200 kHz	1 MHz
Temperature	-50 to 400 °C	-50 to 400 °C	-50 to 400 °C	-	-200 ~ 800 °C (IC-118)
Diodes & Continuity	YES	YES	YES	YES	YES
Transistor test	-	YES	YES	YES	-
Duty Cycle	YES	-	-	-	-
FUNCTIONS					
Datalogger	-	YES	YES	-	YES
Internal memory	-	-	YES	-	YES
Voice measurements	-	YES	YES	-	-
Bluetooth connectivity	-	PD-351/352	YES	-	-
Selectable Auto range	YES	YES	YES	-	YES
Data hold	HOLD	MAX/MIN	MAX/MIN/HOLD	HOLD	MAX/MIN/HOLD
DISPLAY					
Bar graph	-	YES	YES	-	YES
Backlight LCD	YES	YES	YES	YES	YES
OTHER FUNCTIONS	Contactless voltage detector Flashlight Auto power off Low battery warning Input protection	Auto power off Low battery warning Input protection	Auto power off Low battery warning Input protection	Relative measurement Input protection	Auto lock Analog scale Square-wave signal Auto power off Low battery warning Input protection PC conn. (infrared)

DESIGN AND SPECIFICATIONS ARE SUBJECT TO CHANGES WITHOUT PRIOR NOTICE. 01/21

FP-2 AUTO RANGE TRUE RMS DIGITAL MULTIMETER



Digital multimeter **FP-2** from PROMAX is a measuring instrument designed to go hand in hand with the vocational training students, both during their **learning** and their later **everyday working life**.

In the **training centers** it is a suitable instrument for measuring low-voltage installations and electronic components (diodes, resistors and capacitors) assisted by alligator clips. It also has a microprocessor-controlled autoranging function that avoids the typical faults that a student may cause by any mistake while manually selecting the proper measurement scale.

It is also perfect for **field work** because it integrates a rubber anti shock protector, non-contact AC detector, true RMS measurement and a temperature probe to evaluate the possible overheating of the elements of an installation.

And for those professionals working in poorly lit environments the **FP-2** includes a **flashlight** and an extra-large **backlit LCD display**.



FOR TRAINING CENTERS



FOR ELECTRICIANS



PROFESSIONAL MEASUREMENTS



INTEGRATED FLASHLIGHT



ANTI-SHOCK PROTECTOR

SPECIFICATIONS	FP-2 TRUE RMS DIGITAL MULTIMETER
Display	Graphic LCD backlit screen, 58.5 x 51 mm
Reading rate	3 measurements / s
Voltage ranges	From 60 mV to 1000 V (DC) / From 600 mV to 750 V (AC)
Current ranges	From 600 μ A to 20 A (DC / AC)
Impedance ranges	From 600 Ω to 60 M Ω
Capacitance ranges	From 60 nF to 60 mF
Frequency test	From 9.999 Hz to 9.999 MHz
Duty Cycle	From 0,1% to 99.9%
Temperature probe	From -50 $^{\circ}$ C to 400 $^{\circ}$ C (-58 $^{\circ}$ F to 752 $^{\circ}$ F)
Contactless voltage detector	From 90 to 1000 V AC (50/60 Hz)
Frequency response	From 40 to 1000 Hz
Other functions and features	Diode test, Continuity test, Relative measurements, Automatic or manual range, Protected input, Data hold, Work LED flashlight, Anti-shock protector, Foldable holder
Power supply	9 V (6F22) battery with low battery alert and auto power off function
Polarity indication	The symbol "-" appears in the display for negative polarity
Dimensions	90 (W) x 190 (H) x 56 (D) mm
Included accessories	Test leads, temperature probe, quick reference guide, 6F22 9V battery, Phillips screwdriver, DC-231 carrying case (optional)

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PD-35X SERIES DIGITAL MULTIMETERS WITH BLUETOOTH, DATALOGGER AND TEMPERATURE



The new range of digital multimeters offers a new way to perform measures, much more accurate and comfortable with additional features like measures through a mobile application. With this app the user can control any data remotely in real time using a mobile phone or other mobile device with Android OS.

- ✓ 3 functions in 1: Multimeter + Temperature + Datalogger
- ✓ Multi-connection (two multimeters) supported via mobile app
- ✓ Automatic voice-reading measures
- ✓ True RMS (PD-350 and PD-352)
- ✓ Larger display, easier data-reading; analog bar graph is displayed synchronously
- ✓ Smart power-off function, extending battery life



FOR TRAINING CENTERS



FOR ELECTRICIANS



PROFESSIONAL MEASUREMENTS



SPECIFICATIONS	PD-350 / PD-351 / PD-352 DIGITAL MULTIMETERS WITH BLUETOOTH AND VOICE
Display	Graphic 69x52 mm LCD backlit screen with 61-segment analog bar graph
Reading rate	3 samples/s (digital mode) / 30 samples/s (analog bar graph mode)
Voltage ranges	From 60 mV to 1000 V (DC) / From 60 mV to 750 V (AC)
Current ranges	From 600 μ A to 20 A (DC / AC)
Impedance ranges	From 600 Ω to 60 M Ω
Capacitance ranges	From 40 nF to 4000 μ F
Frequency test	From 9.999 Hz to 9.999 MHz
Duty Cycle	From 0.1% to 99.9%
Temperature	From -50 to 400 $^{\circ}$ C
Bluetooth + Datalogger	PD-351 and PD-352
TRMS	PD-350 and PD-352
Frequency response	From 40 Hz to 10 kHz (PD-350 and PD-352) / From 40 Hz to 400 Hz (PD-351)
Other functions and features	Auto range, Diode test, hFE transistor test, Continuity test, Data hold, Relative value, MAX/MIN values, Input protection
Power supply	3V (2x 1.5 V alkaline AA batteries) with low battery alert and auto power off function
Dimensions and weight	85 (W.) x 185 (H.) x 30 (D.) mm, 320 g. (without battery)
Included accessories	Test leads, Alligator clips, K-type thermocouple, Multi-functional test socket, Soft bag, Quick reference guide

PD-184 HIGH PRECISION DIGITAL MULTIMETERS WITH BLUETOOTH, DATALOGGER AND TEMPERATURE



High precision TRMS multimeters model **PD-184** allow transferring via Bluetooth the live measurements, or transferring the measurements stored in the digital multimeter itself. Bluetooth connectivity also enables the remote control of the digital multimeter, as well as using voice speech synthesis to read the measurements as they are taken thus using the multimeter leaving the screen unattended.

The **high precision in DC** (0.05%) of **PD-184** multimeters ensures reliable measurements in any professional field.

- ✓ 3 functions in 1: Multimeter + Temperature + Datalogger
- ✓ Measurements storage in the internal memory or in an external device via the Bluetooth connectivity
- ✓ Automatic voice measurements
- ✓ True RMS
- ✓ Complete 3 5/6 digit reading with scale and panoramic backlighted screen
- ✓ Smart auto power off (extends battery lifetime)



DC ACCURACY:
0.05%



**THREE TOOLS
IN ONE**



**TRUE
RMS
PROFESSIONAL
MEASUREMENTS**



SPECIFICATIONS	PD-184 PRECISION DIGITAL MULTIMETERS WITH BLUETOOTH AND VOICE
Display	Graphic 69x52 mm LCD backlighted screen with 61-segment analog bar graph
Reading rate	3 samples/s (digital mode) / 30 samples/s (analog bar graph mode)
Voltage ranges	From 220 mV to 1000 V (DC) / From 220 mV to 750 V (AC). Max accuracy $\pm 0.05\%$.
Current ranges	From 220 μ A to 20 A (DC / AC). Max accuracy $\pm 0.5\%$.
Impedance ranges	From 220 Ω to 220 M Ω . Max accuracy $\pm 0.5\%$.
Capacitance ranges	From 22 nF to >220 mF. Max accuracy $\pm 3\%$.
Frequency test	From 22 Hz to >220 MHz. Max accuracy $\pm 0.1\%$.
Duty Cycle	From 0,1% to 99,9%. Max accuracy $\pm 1.2\%$.
Temperature	From -50 to 400 $^{\circ}$ C. Max accuracy 1%.
Data recording	Mobile device (Bluetooth connectivity) or directly to the multimeter internal memory (offline mode)
TRMS	Yes
Frequency response	From 40 Hz to 10 kHz
Other functions and features	Auto range, Diode test, h_{FE} transistor test, Continuity test, Data hold, Relative value, MAX/MIN values, Input protection
Power supply	3V (2x 1.5 V alkaline AA batteries) with low battery alert and auto power off function
Dimensions and weight	85 (W.) x 185 (H.) x 30 (D.) mm, 320 g. (without battery)
Included accessories	Test leads, Temperature probe, Multi-functional test socket, Alligator clips, Soft bag, Quick reference guide

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MD-200C DESKTOP TRMS DIGITAL MULTIMETER



The **MD-200C** digital multimeter brings together the basic features of a professional instrument such as high accuracy, reliability and a wide range of measurements.

It will allow measurements to be taken of current up to 20 A and reading of direct voltage diode drops. It provides a high basic accuracy of 0.05% for DC voltage and True RMS AC/AC+DC reading. It can accurately measure any waveform of AC or AC+DC and has wide-bandwidth measuring. Furthermore, it includes functions such as HOLD and continuity sound signal among others. Rear illuminated display makes reading comfortable even in the dark.



**FOR TRAINING
CENTERS**



**FOR
LABORATORIES**



**PRODUCTION
LINES**



**PROFESSIONAL
MEASUREMENTS**



**EXTRA LARGE
DISPLAY**

SPECIFICATIONS	MD-200C DESKTOP TRMS DIGITAL MULTIMETER
Display	Extra large 4 1/2 digit graphical LCD display
Reading rate	3 samples / s
Voltage ranges	From 200 mV to 1000 V (DC) / From 200 mV to 750 V (AC)
Current ranges	From 20 mA to 20 A (DC) / From 200 mA to 20 A (AC)
Impedance ranges	From 200 Ω to 20 MΩ
Capacitance ranges	From 20 nF to 200 μF
Frequency test	Up to 200 kHz
Other functions and features	Diode test, Continuity test, Transistor h _{FE} test
Power supply	220 / 110 V AC
Polarity	Automatic polarity
Dimensions and weight	220 (W.) x 260 (H.) x 82 (D.) mm
Included accessories	User manual, Test probes, Mains cable

IC-117, IC-118 PRECISION DIGITAL MULTIMETERS WITH ANALOG BAR GRAPH



The **IC-117** and **IC-118** digital multimeters have been designed both for field work and for workbench applications: Laboratories, Telecommunications, Training, etc.

The **IC-117** is the basic model, featuring voltage and current TRMS measurements, frequency measurement and DC current measurement. For **advanced applications**, the **IC-118** model features capacitance measurements, PC computer connection, 4 Mb internal memory and mains supply.

Both models feature a locking system that enables the access only to those required sockets to performing the selected measurement in the rotary selector, thus eliminating any personal harm or material damage risk because of an improper operation. This is a safety measure that makes the **IC-117** and **IC-118** specially suitable for the training field.

- ✓ 4 1/2 backlitged display with bar graph.
- ✓ Automatic socket locking system
- ✓ Overload protection
- ✓ AC TRMS value
- ✓ Filtering option for the V AC measurement
- ✓ 5 V square-wave measurements
- ✓ Automatic or manual measurement range selection
- ✓ Continuity test with signal tone
- ✓ DATA HOLD & MIN/MAX functions
- ✓ Internal 4 Mb memory
- ✓ Infrared port PC connection



15000 SAMPLES MEMORY



BATTERY & MAINS OPERATION



PROFESSIONAL MEASUREMENTS



DKD CERTIFICATE (ENAC COUNTERPART)

CAT III / CAT IV (1000 V / 600 V)

SPECIFICATIONS	IC-117, IC-118 PRECISION DIGITAL MULTIMETERS
Display	4 1/2 backlitged graphic LCD display with analog bar graph
Voltage measurement	From 100 mV to 1000 V
Current measurement	1 A, 10 A (IC-117) / From 100 μ A to 10 A (IC-118)
Impedance	From 100 Ω to 40 M Ω
Capacitance	From 10 nF to 1000 μ F
Frequency test	From 100 Hz to 1 MHz
Temperature (IC-118)	From -200 $^{\circ}$ C to 800 $^{\circ}$ C
Data recording (IC-118)	Memory (4 Mbit) for more than 15000 samples (incl. date/time), PC connection via infrared port
TRMS value	Yes
Other functions and features	Analog trends scale, Diodes and continuity test, Automatic or manual range, Filtering option for V AC measurement, 5 V square-wave measurements, MAX/MIN/DATA HOLD, Automatic socket locking system, Overload protection
Power supply	3V (2x alkaline 1.5 V) with low battery alert and auto power off, or mains adapter (only IC-118)
Included accessories	Safety measurement test probes (1,5 m), 4 mm test probes (1000 V CAT III, 600 V CAT IV), Rubber protective cover (only IC-118)

