Weidmüller

Auto Range Multimeter
DMM 600V & DMM 1000V

GB Manual

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 16
32758 Detmold, Germany
T +49 5231 14-0
F +49 5231 14-29 20 83
www.weidmueller.com

Content

References marked on instrument or in instruction manual:

⚠ Warning of a potential danger, follow with instruction manual.

☞ Reference! Please use utmost attention.

⚠ Caution! Dangerous voltage. Danger of electrical shock.

⧈ Continuous double or reinforced insulation category II IEC 536 / DIN EN 61140.

CE Conformity symbol, the instrument complies with the valid directives. It complies with the EMC Directive (2014/30/EU), Standards EN 61010-1, EN 61010-02-033, EN 61010-031 and EN 61326 are fulfilled. It also complies with the Low Voltage Directive (2014/35/EU).

Instrument fulfils the standard (2012/19/EU) WEEE. This marking indicates that this product should not be disposed with other household wastes throughout the EU. To prevent possible harm to the environment or human health from uncontrolled waste disposal, recycle it responsibly to promote the sustainable reuse of material resources. To return your used device, please use the return and collection systems or contact the retailer where the product was purchased. They can take this product for environmental safe recycling.

DMM 600V - CAT IV / 300V, CAT III / 600V

Instrument complies to Measurement Category CAT IV / 300V and CAT III / 600V against Earth.

DMM 1000V - CAT IV / 600V, CAT III / 1000V

Instrument complies to Measurement Category CAT IV / 600V and CAT III / 1000V against Earth.

Description:

CAT II: Measurement Category II is applicable to test and measuring circuits connected directly to utilization points (socket outlets and similar points) of the low-voltage MAINS installation.

CAT III: Measurement Category III is applicable to test and measuring circuits connected to the distribution part of the building's low-voltage MAINS installation.

CAT IV: Measurement Category IV is applicable to test and measuring circuits connected at the source of the building's low-voltage MAINS installation.

⚠ The instruction manual contains information and references, necessary for safe operation and maintenance of the instrument. Prior to using the instrument, the user is kindly requested to thoroughly read the instruction manual and comply with it in all sections.

⚠ Failure to read the instruction manual or to follow with the warnings and references contained herein can result in serious bodily injury or instrument damage. The respective accident prevention regulations established by the professional associations are to be strictly enforced at all times.

1.0 Introduction / Scope of Supply

You have purchased a high-quality measurement instrument which will allow you to carryout measurement over a long-time period.

Our multimeters are can be used in a wide range of applications and are built to the latest safety regulations. The multimeters are a valuable help in the handcraft or industrial area, as well as for the hobby electronics technician at all standard measurement tasks.

The digital multimeter is characterised by the following features:

- Digital Multimeter with extra large display
- 3¾- digit LC display with 4000 counts [DMM 600V] / 6000 counts and bargraph [DMM 1000V]
- Safety according to DIN VDE 0411, EN 61010, IEC 61010, CATIII / 600V [DMM 600V] or CATIII/1000V [DMM 1000V]
- Voltage, Current and Resistance measurement
- Non-Contact Voltage Test (NCV) [DMM 1000V only]
- V SCAN mode: Automatic AC/DC detection and measurement
- Diode and acoustical Continuity Test Function
- Temperature Measurement
- Capacitance, Frequency and Duty Cycle measurement
- Automatic Range Selection
- Hold and Relative functions
- Minimum, Maximum and Average functions [DMM 1000V only]
- Auto Power-OFF function
- Impact and shock proof due the standard protective holster
- Compact size

Scope of Supply:

1 pc. Digital Multimeter (DMM 600V or DMM 1000V)
1 pc. Protective Holster
2 pc. Test Leads (1x red, 1x black)
2 pc. Batteries 1,5 V, IEC LR03
1 pc. Instruction Manual

2.0 Transport and Storage

Please keep the original packaging for later transport, e.g. for calibration. Any transport damage due to faulty packaging will be excluded from warranty claims. In order to avoid instrument damage, it is advised to remove accumulators when not using the instrument over a certain time period. However, should the instrument be contaminated by leaking battery cells, you are kindly requested to return it to the factory for cleaning and inspection.

Instruments must be stored in dry and closed areas. In the case of an instrument being transported in extreme temperatures, a recovery time of minimum 2 hours is required prior to instrument operation.

3.0 Safety References

⚠ The respective accident prevention regulations established by the professional associations for electrical systems and equipment must be strictly met at all times.

⚠ The respective accident prevention regulations established by the professional associations are to be strictly enforced at all times regarding body protection in the event of danger of burns.

⚠ In order to avoid electrical shock, the valid safety and VDE regulations regarding excessive contact voltages must receive utmost attention, when working with voltages exceeding 120V (60V) DC or 50V (25V)rms AC. The values in brackets are valid for limited ranges (as for example medicine and agriculture).

⚠ Measurements in dangerous proximity of electrical systems are only to be carried out in compliance with the instructions of a responsible electronics technician, and never alone.

⚠ If the operator's safety is no longer ensured, the instrument is to be put out of service and protected against use. The safety is no longer insured, if the instrument:

- shows obvious damage
- does not carry out the desired measurements
- has been stored for too long under unfavourable conditions
- has been subjected to mechanical stress during transport.

⚠ The instrument may only be used within the operating ranges as specified in the technical data section.

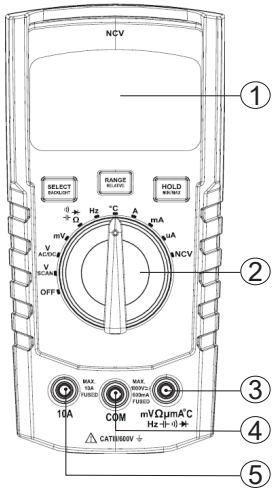
☞ Avoid any heating up of the instrument by direct sunlight to ensure perfect functioning and long instrument life.

⚠ The opening of the instrument for fuse replacement, for example, may only be carried out by professionals. Prior to opening, the instrument has to be switched off and disconnected from any current circuit.

⚠ The instrument may only be used under those conditions and for those purposes for which it was conceived. For this reason, in particular the safety references, the technical data including environmental conditions and the usage in dry environments must be followed. When modifying or changing the instrument, the operational safety is no longer ensured.

4.0 Operation elements and connection

1. LCD screen with backlight
2. Measurement Function Selection Switch
3. Input Sockets for measurement ranges
4. Ground connection for all measurement ranges
5. Input socket for 10 A current measurement range



[Model DMM 1000V shown]

4.1 Buttons

Activate short-press function by pressing the appropriate button and then releasing it after single-beep sound (it will take less than 1s).

On DMM 1000V each button is shared by two functions. To activate long-press functions by pressing the appropriate button and then releasing it after single and then double-beep sound (it will take more than 1s to hear the double-beep sound).

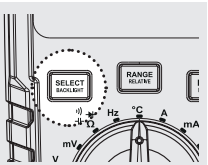
Select

Use SELECT button to cycle through different measurement modes that share the same position on the dial:

- Resistance, Continuity, Diode, Capacitance
- Temperature scales: °C or °F
- AC/DC Current Measurement (in 10A, mA and µA modes)

To select desired measurement mode

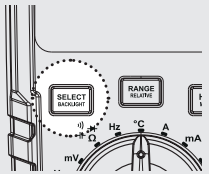
Apply short press (less than 1s) on the SELECT button. After one beep sound release the button.



Backlight [DMM 1000V only]

To turn Backlight on/off

Press BACKLIGHT button and hold it pressed (for more than 1s) until you hear double-beep sound.



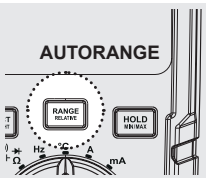
Range [DMM 1000V only]

Use RANGE button to toggle between Auto Range and Manual Range modes and cycle through different Manual Ranges as described below:

- When in Auto Range, short press (less than 1s) on RANGE/RELATIVE button will switch Multimeter to Manual Range.
- When in Manual Range, short press (less than 1s) on RANGE/RELATIVE button will cycle through different Manual Ranges.
- When in Manual Range, long press (more than 1s) on RANGE/RELATIVE button will switch Multimeter back to Auto Range.

To switch to Manual Range

When in Auto Range mode, apply short press (less than 1s) on the RANGE button. After one beep sound release the button.

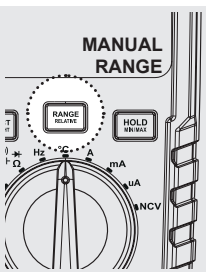


To switch to the next Range

When in Manual Range mode, apply short press (less than 1s) on the RANGE button. After one beep sound release the button.

To switch back to Auto Range

When in Manual Range mode, apply short press (less than 1s) on the RANGE button. After one beep sound release the button.



Relative [Note: Range modes for DMM1000V only]

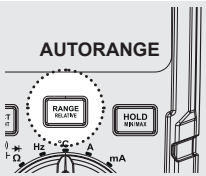
Use RELATIVE button to activate or deactivate the

Relative function. Multimeter MUST be in Auto Range mode before applying Relative function, unless it is in mV, Continuity, Diode or Temperature measurement, which operate in Manual Range mode only.

- When in Auto Range, long press (more than 1s) on RANGE/RELATIVE button activates Relative function (and at the same time Manual Range mode).
- When in Relative mode, long press (more than 1s) on RANGE/RELATIVE button will exit Relative function and set Multimeter back to Auto Range mode.

To activate Relative function

When in Auto Range mode, press RELATIVE button and hold it pressed (for more than 1s) until you hear double-beep sound.

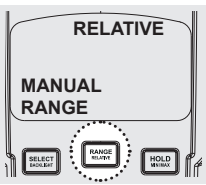


Multimeter enters Relative and Manual Range modes at the same time.

When Multimeter exits Relative function it also returns to Auto Range mode.

To deactivate Relative function and switch back to Auto Range

Press RANGE button and hold it pressed (for more than 1s) until you hear double-beep sound.



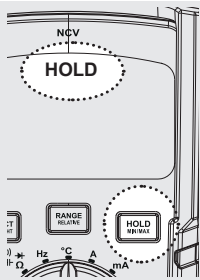
Hold

Use HOLD button to activate/deactivate Hold function.

- Short press (less than 1s) on HOLD button activates Hold function.
- Next short press (less than 1s) on HOLD button deactivates Hold function.

To activate/deactivate Hold function

Apply short press (less than 1s) on the HOLD button. After one beep sound release the button. When enabled, HOLD will appear on LCD.
When disabled, it will not be present on LCD.



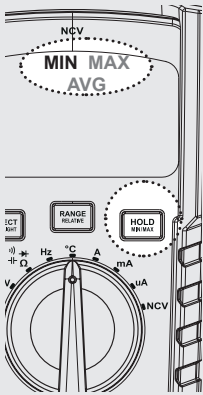
Minimum/Maximum/Average (MIN/MAX/AVG) Measurement [DMM 1000V only]

Use MIN/MAX button to activate/deactivate and cycle through Minimum, Maximum and Average measurement.

- Long press (more than 1s) on HOLD/MIN/MAX button activates Minimum, Maximum and Average functions. The LCD shows the minimum value that has been measured. Whenever a new minimum value is detected and shown on the LCD, it is also indicated by a short beep.
- Next short press (less than 1s) on HOLD/MIN/MAX button shows the maximum value that has been measured. Whenever a new maximum value is detected and shown on the LCD, it is also indicated by a short beep.
- Next short press (less than 1s) on HOLD/MIN/MAX button shows the average value that has been measured. Each next constitutive short press on HOLD/MIN/MAX button cycles through the MIN, MAX and AVG measurements.
- Long press (more than 1s) on HOLD/MIN/MAX button when any of MIN, MAX or AVG functions are

shown on the LCD deactivates Minimum, Maximum and Average functions.

To activate Minimum/Maximum/Average function
Press MIN/MAX button and hold it pressed (for more than 1s) until you hear double-beep sound.
The first function that is shown on LCD is MIN.



To cycle through the MIN, MAX and AVG functions
Apply short press (less than 1s) on the MIN/MAX button. After one beep sound release the button.

To deactivate Minimum/Maximum/Average function
Press MIN/MAX button and hold it pressed (for more than 1s) until you hear double-beep sound
1s) on the MIN/MAX button. After one beep sound release the button.

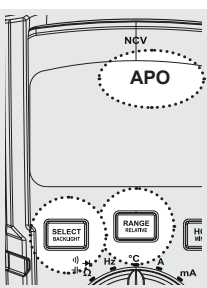
APO (Automatic Power Off)

When on, APO function will power down Multimeter after 15 minutes of inactivity.

APO can be turned off and back on at any time by pressing SELECT and RANGE/RELATIVE buttons at the same time for longer than 1s. The LCD will indicate APO function when it is enabled. If it is disabled, APO indication will be missing from the LCD.

To enable/disable APO

Press SELECT and RANGE/RELATIVE buttons at the same time and hold them pressed until you hear double-beep sound.
When enabled, APO will appear on LCD. When disabled, APO will disappear from the LCD.



4.2 Measurement Modes

Set the desired measurement by turning the dial so it points at the appropriate position. Power off the Multimeter by positioning the dial to the OFF position. Dial positions are as follows:

- **OFF**: Multimeter is turned off.
- **V AC**: [DMM 600V] AC voltage measurement.
- **V DC**: [DMM 600V] DC voltage measurement.
- **V SCAN**: [DMM 1000V] Automatic AC/DC Detection and Measurement: In V SCAN mode Multimeter automatically detects whether AC or DC voltage is present across the probes and performs the correct type of voltage measurement. Proper AC/DC recognition is valid for the voltages greater than 0.3V
- **V AC/DC**: [DMM 1000V] Manual selection of the type of voltage measurement. Use SELECT button to toggle between AC and DC measurement modes.
- **mV**: [DMM 1000V] mV measuring mode.
- Ω))) ▶|– ⊣⊢: Resistance, Continuity, Diode and Capacitance measurements. Use SELECT button to cycle through these measurement modes.
- **Hz:** Frequency measurement
- **°C**: Temperature measurement in °C or °F scale. Use SELECT button to toggle between °C and °F measurement scales.
- **A**: Current measurement in 10A range
- **mA**: Current measurement in mA range
- **µA**: [DMM 1000V] Current measurement in µA range
- **NCV**: [DMM 1000V] Non-Contact Voltage mode measures the strength of the electric field. Point the top of the Multimeter, which is labelled with NCV, towards the source of the electric field (power cable, power socket or light switch). Stronger the electric field Multimeter detects, more horizontal lines will appear on the LCD and faster beeping will be heard. If Multimeter detects no electric field it will indicate "EF" on the LCD.

5.0 Carrying out measurements

Commissioning

General Information to carry out measurements

⚠ Measurements in dangerous proximity of electrical systems are only to be carried out in compliance with the instructions of a responsible electronics technician, and never alone.

⚠ Test leads and test probes may only be touched at handle surfaces provided. Absolutely avoid the direct contact of the test probes. Prior to switching to a new measurement range or a new type of measurement, remove all connections from UUT (circuit / unit under test).

☞ Measurements have to be carried out by respecting the standards.

5.1 Voltage Measurement

⚠ To avoid electrical shock, the valid safety measures and VDE directives strictly have to be met concerning excessive contact voltage when working with voltages exceeding 120 V (60 V) DC or 50 V (25 V) rms AC. The values in brackets are valid for limited areas (such as e.g. medicine, agriculture).

AC Voltage Measurement:

- Select VAC or VSCAN measurement mode via measurement function selection switch.
- Connect the black test lead to the COM socket and the red test lead to the mV Ω µmA °C Hz ⏚))) ⏚ socket.
- Connect test leads to UUT (Unit under test).
- Read the measurement result displayed on the display.

DC Voltage Measurement:

- Select VDC or VSCAN measurement mode via measurement function selection switch.
- Connect the black test lead to the COM socket and the red test lead to the mV Ω µmA °C Hz ⏚))) ⏚ socket.

• Connect test leads to UUT (Unit under test).

• Read the measurement result displayed on the display.

AC mV Voltage Measurement: [DMM 1000V only]

• Select mV measurement mode via measurement function selection switch.

• Multimeter will automatically enter in mV AC mode

• Connect the black test lead to the COM socket and the red test lead to the mV Ω µmA °C Hz ⊣⊢))) ⊣▶⊢ socket.

• Connect test leads to UUT (Unit under test).

• Read the measurement result displayed on the display.

DC mV Voltage Measurement: [DMM 1000V only]

• Select mV measurement mode via measurement function selection switch.

• Press "Select" button once to enter mV DC measurement mode

• Connect the black test lead to the COM socket and the red test lead to the mV Ω µmA °C Hz ⊣⊢))) ⊣▶⊢ socket.

• Connect test leads to UUT.

• Read the measurement result displayed on the display.

5.2 NCV (Non-Contact Voltage Measurement)

[DMM 1000V only]

• Select NCV measurement mode via measurement function selection switch.

• Point the top of the multimeter, which is labelled with NCV, towards the source of the electric field (power cable, power socket or light switch).

• Read the measurement result displayed on the display (stronger the electric field multimeter detects, more horizontal lines will appear on the LCD and faster beeping will be heard. If Multimeter detects no electric field it will indicate "EF" on the LCD)

5.3 Frequency Measurement

- Select Hz measurement mode via measurement function selection switch.
- Connect the black test lead to the COM socket and the red test lead to the mV Ω µmA °C Hz ⏚ ⦀ ⏚ socket.
- Connect the test leads to UUT (Unit under test).
- Read the measurement result displayed on the display.

5.4 Resistance Measurement

⚠ Prior to any resistance measurement it has to be ensured that the resistor to be tested is not live. Failure to comply with this prescription can lead to dangerous corporal user injuries or cause instrument damage. Additionally, foreign voltages falsify the measurement result.

- Select ⦀ ⏚ Ω measurement mode via measurement function selection switch.
- If necessary, use SELECT button to set the measurement. Press SELECT button to cycle through resistance, continuity, diode and capacitance measurements.
- Connect the black test lead to the COM socket and the red test lead to the mV Ω µmA °C Hz ⏚ ⦀ ⏚ socket.
- Connect the test leads to UUT (Unit under test).
- Read the measurement result displayed on the display.

5.5 Continuity Measurement

⚠ Prior to any resistance measurement it has to be ensured that the resistor to be tested is not live. Failure to comply with this prescription can lead to dangerous corporal user injuries or cause instrument damage. Additionally, foreign voltages falsify the measurement result.

- Select ⦀ ⏚ Ω measurement mode via measurement function selection switch.
- If necessary, use SELECT button to set the measure-

ment. Press SELECT button to cycle through resistance, continuity, diode and capacitance measurements.

- Connect the black test lead to the COM socket and the red test lead to the mV Ω µmA °C Hz ⊣⊢))) ▶⊢ socket.
- Connect the test leads to UUT (Unit under test).
- Read the measurement result displayed on the display.

Acoustic indication by signal sound if resistance < 30 Ω (< 50 Ω for DMM 600V)

5.6 Diode Test

⚠ Prior to any diode test, it must be ensured, that the diode to be tested is not live. Failure to comply with this prescription can lead to dangerous corporal user injuries or cause instrument damage. Additionally, foreign voltages falsify the measurement result.

☞ Resistors and semiconductor paths in parallel to the diode cause falsified measurement results.

- Select))) ⊣⊢ ▶⊢ Ω measurement mode via measurement function selection switch.
- If necessary, use SELECT button to set the measurement. Press SELECT button to cycle through resistance, continuity, diode and capacitance measurements.
- Connect the black test lead to the COM socket and the red test lead to the mV Ω µmA °C Hz ⊣⊢))) ▶⊢ socket.
- Connect test leads to UUT (Unit under test).
- Read the measurement result displayed on the display.

5.7 Capacitance Test

⚠ Prior to any capacity test, it must be ensured, that the capacity to be tested is not live. Failure to comply with this prescription can lead to dangerous corporal user injuries or cause instrument damage. Additionally, foreign voltages falsify the meas-

urement result.

☞ Resistors and semiconductor paths in parallel to the capacity cause falsified measurement results.

- Select))) ⊣⊢ ▶| Ω measurement mode via measurement function selection switch.
- If necessary, use SELECT button to set the measurement. Press SELECT button to cycle through resistance, continuity, diode and capacitance measurements.
- Connect the black test lead to the COM socket and the red test lead to the mV Ω µmA °C Hz ⊣⊢))) ▶| socket.
- Connect test leads to UUT (Unit under test).
- Read the measurement result displayed on the display.

5.8 Temperature Measurement

⚠ Prior to any temperature measurement it has to be ensured that the surface to be measure is not live. Failure to comply with this prescription can lead to dangerous corporal user injuries or cause instrument damage.

⚠ To avoid burns only touch UUT by means of the thermocouple.

- Select °C measurement mode via measurement function selection switch.
- Connect the minus pole to the COM socket and the plus pole lead to the mV Ω µmA °C Hz ⊣⊢))) ▶| socket.
- Temperature probe leads to UUT (Unit under test).
- Read the measurement result displayed on the display.

5.9 Current Measurement

⚠ Ensure that the measurement circuit is not live when connecting the measurement instrument.

⚠ The instruments may only be used in current circuits protected with 16A up to a nominal voltage of 600V for DMM 600V and1000V for DMM 100V. The nominal cross section of connecting

line has to be respected and a safe connection has to be ensured.

⚠ After instruments fuse tripping eliminate the cause for the tripping prior to fuse replacement

Current Measurement µA AC [DMM 1000V only]

- Select µA measurement mode via measurement function selection switch.
- Multimeter will automatically enter µA AC mode
- Connect the black test lead to the COM socket and the red test lead to the mV Ω µmA °C Hz ⊣⊢))) ⊣▶⊢ socket.
- Connect test leads to UUT.
- Read the measurement result displayed on the display.

Current Measurement µA DC [DMM 1000V only]

- Select mA measurement mode via measurement function selection switch.
- Press "Select" button once to enter DC mode
- Connect the black test lead to the COM socket and the red test lead to the mV Ω µmA °C Hz ⊣⊢))) ⊣▶⊢ socket.
- Connect test leads to UUT (Unit under test).
- Read the measurement result displayed on the display.

Current Measurement mA AC

- Select mA measurement mode via measurement function selection switch.
- Multimeter will automatically enter mA AC mode
- Connect the black test lead to the COM socket and the red test lead to the mV Ω µmA °C Hz ⊣⊢))) ⊣▶⊢ socket.
- Connect test leads to UUT (Unit under test).
- Read the measurement result displayed on the display.

Current Measurement mA DC

• Select mA measurement mode via measurement function selection switch.

• Press “Select” button once to enter DC mode

• Connect the black test lead to the COM socket and the red test lead to the mV Ω µmA °C Hz ⊣⊢))) ⊣▶⊢ socket.

• Connect test leads to UUT (Unit under test).

• Read the measurement result displayed on the display.

Current Measurement A AC

• Select A measurement mode via measurement function selection switch.

• Connect the black test lead to the COM socket and the red test lead to the 10A socket.

• Connect test leads to UUT (Unit under test).

• Read the measurement result displayed on the display.

Current Measurement A DC

• Select A measurement mode via measurement function selection switch.

• Press “Select” button once to enter DC mode

• Connect the black test lead to the COM socket and the red test lead to the 10A socket.

• Connect test leads to UUT (Unit under test).

• Read the measurement result displayed on the display.

6.0 Maintenance

When using the instrument in compliance with the instruction manual, no special maintenance is required. If functional errors occur after expiration of warranty, our sales service will repair your instrument without delay.

6.1 Cleaning

If the instrument is dirty after daily usage, it is advised to clean it by using a humid cloth and a mild household detergent. Prior to cleaning, ensure that instrument is switched off and disconnected from external voltage supply and any other instruments connected (such as UUT (Unit under test), control instruments, etc.).

Never use acid detergents or dissolvants for cleaning.

6.2 Calibration Interval

The instrument has to be periodically calibrated by our service department in order to ensure the specified accurcy of measurement results. We recommend a calibration interval of two year years.

6.3 Battery Replacement

⚠ Prior to battery replacement, disconnect the instrument from any connected test leads. Only use batteries as described in the technical data section!

- Switch off instrument. Disconnect test leads.
- Loosen the screws of the battery cover on the instrument rear. Lift the battery cover.
- Remove discharged batteries.
- Insert new batteries 1,5V IEC LR03.
- Replace the battery cover and retighten the screws.

Please consider your environment when you dispose of your one-way batteries or accumulators. They belong in a rubbish dump for hazardous waste. In most cases, the batteries can be returned to their point of sale.

Please, comply with the respective valid regulation regarding the return, recycling and disposal of used bat-

teries and accumulators.

If an instrument is not used over an extended time period, the accumulators or batteries must be removed. Should the instrument be contaminated by leaking battery cells, the instrument has to be returned for cleaning and inspection to the factory.

6.4 Fuse Replacement

⚠ Prior to fuse replacement, ensure that multimeter is disconnected from external voltage supply and the other connected instruments (such as UUT, control instruments, etc.)

Only use fuses as described in the technical data section!

Using auxiliary fuses, in particular short-circuiting fuse holders is prohibited and can cause instrument destruction or serious bodily injury of operator.

- Switch off the instrument. Disconnect test leads.
- Loosen the screws on the instrument rear.
- Lift the case cover.
- Remove the defect fuse.
- Insert new fuse.
- Replace the case cover and retighten the screws.

Fuses DMM 600V

Fuse (A)	F 400mA 600 V Ceramic 6.3x32 mm
Fuse (A)	F 10 A / 600 V Ceramic 6.3x32 mm

Fuses DMM 1000V

Fuse (A)	F 600mA 1000 V Ceramic 6.3x32 mm
Fuse (A)	F 10 A / 1000 V Ceramic 6.3x32 mm

7.0 Technical Data

Display	3¾ digit, LC display
Total Display:	4000 Digits [DMM 600V]
	6000 Digits [DMM 1000V]
Polarity display:	Automatically
Battery status display:	Battery Symbol appears (< 2,4V)
Measurement Category	DMM 600V CAT IV / 300V and CAT III / 600V, DMM 1000V CAT IV / 600V and CAT III / 1000V.
Pollution Degree	2
Power Supply	Batteries, 2 x 1,5V IEC LR03, AAA
Dimension:	approx. 150 x 80 x 45 mm incl. Holster
Weight:	approx. 330 g

Ambient Conditions

Operation Temperature	0...50°C (0...80% rel. humidity)
Storage Temperature	-10...60°C (0...80% rel. humidity) (without batteries)

Height above sea level up to 2000 m

Overload Protection DMM 600V

Fuse (A)	F 400mA 600 V Ceramic 6.3x32 mm
Fuse (A)	F 10 A / 600 V Ceramic 6.3 x 32 mm

Overload Protection DMM 1000V

Fuse (A)	F 600mA 1000 V Ceramic 6.3x32 mm
Fuse (A)	F 10 A / 1000 V Ceramic 6.3 x 32 mm

Technical Data refer to 23°C ± 5°C at < 80% rel. Humidity

Temperature Coefficient 0,15 x specified Accuracy per 1°C (<18° and > 28°C)

DMM 600V	Measuring Range	Resolution	Accuracy
DC Voltage	400 mV	0.1 mV	±(1% of m.v. + 3D)
	4.000 V	1 mV	
	40.00 V	10 mV	
	400.0 V	100 mV	
	600 V	1 V	
AC Voltage	4.000 V	1 mV	±(1% of m.v. + 5D)
	40.00 V	10 mV	
	400.0 V	100 mV	
	600 V	1 V	
DC Current	40.00 mA	10 µA	±(1.5% of m.v. + 5D)
	400.0 mA	100 µA	
	10.00 A	10 mA	
AC Current	600.0 µA	0.1 µA	±(1.8% of m.v. + 5D)
	6000 µA	1 µA	
	60.00 mA	10 µA	
	600.0 mA	100 µA	
	6.000 A	1 mA	
	10.00 A	10 mA	
Resistance	400.0 Ω	0.1 Ω	±(1.5% of m.v. + 3D)
	4.000 kΩ	1 Ω	
	40.00 k Ω	10 Ω	
	400.0 k Ω	100 Ω	
	4.000 MΩ	1 kΩ	
	40.00 M Ω	10 kΩ	
Continuity Buzzer	< 50 Ohm		
Diode Test	yes, up to 1.5 V		
Capacity Test	5.120 nF	0.01 nF	±(5% of m.v. + 25D)
	51.20 nF	0.01 nF	±(2% of m.v. + 10D)
	512.0 nF	0.1 nF	±(1.5% of m.v. + 5D)
	5.120 µF	1 nF	±(1.5% of m.v. + 5D)
	51.20 µF	10 nF	±(5% Typical)
	100.0 µF	100 nF	±(5% Typical)

DMM 600V	Measuring Range	Resolution	Accuracy
Frequency	5.000 Hz	0.001 Hz	±0.1% + 1D
	50.00 Hz	0.01 Hz	
	500.0 kHz	0.1 Hz	
	5.000 kHz	1 Hz	
	50.00 kHz	10 Hz	
	500.0 MHz	100 Hz	
	5.000 MHz	1 kHz	
Temperature Measurement	-200 to 500°C		±(10% of m.v. + 1D)

DMM 600V

Data HOLD	Yes
RELATIVE Value Measurement	Yes
Auto/Manual RANGE Selection	Auto Only
DMM Battery LOW Indication	Yes
Display	4000 counts
IP rating	IP40
Battery	AAA 2x 1.5V; R03
Fuse	Ceramic fuses; F400mA/600V F10A/600V
Standards	EN 61010-1 EN 61010-02-033 EN 61010-031 EN 61326
Overvoltage Category	CAT IV / 300V CAT III / 600V
Pollution degree	2
Operating temperature	0°C - 50°C
Storage temperature	-10°C - 60°C

DMM 1000V	Measuring Range	Resolution	Accuracy
DC Voltage	600 mV	0.1 mV	±(1% of m.v. + 3D)
	6.000 V	1 mV	
	60.00 V	10 mV	
	600.0 V	100 mV	
	600 V	1 V	
	1000 V	1 V	
AC Voltage	600 mV	0.1 mV	±(1% of m.v. + 5D)
	6.000 V	1 mV	
	60.00 V	10 mV	
	600.0 V	100 mV	
	600 V	1 V	
	1000 V	1 V	
DC Current	600.0 µA	0.1 µA	±(1.5% of m.v. + 5D)
	6000 µA	1 µA	
	60.00 mA	10 µA	
	600.0 mA	100 µA	
	6.000 A	1 mA	
	10.00 A	10 mA	
AC Current	600.0 µA	0.1 µA	±(1.8% of m.v. + 5D)
	6000 µA	1 µA	
	60.00 mA	10 µA	
	600.0 mA	100 µA	
	6.000 A	1 mA	
	10.00 A	10 mA	
Resistance	60.00 Ω	0.01 Ω	±(10% of m.v. + 5D)
	600.0 Ω	0.1 Ω	±(1.5% of m.v. + 3D)
	6.000 kΩ	1 Ω	
	60.00 k Ω	10 Ω	
	600.0 k Ω	100 Ω	
	6.000 MΩ	1 kΩ	
	60.00 M Ω	10 kΩ	
	200.0 M Ω	100 k Ω	
Continuity Buzzer	< 30 Ohm		
Diode Test	Yes, up to 2.8 V		

DMM 1000V	Measuring Range	Resolution	Accuracy
Capacity Test	6.000 nF	0.001 nF	±(10% of m.v. + 25D)
	60.00 nF	0.01 nF	±(2% of m.v. + 10D)
	600.0 nF	0.1 nF	±(1.5% of m.v. + 5D)
	6.000 µF	1 nF	±(1.5% of m.v. + 5D)
	60.00 µF	10 nF	±(1.5% of m.v. + 5D)
	600.0 µF	100 nF	±(2% of m.v. + 10D)
	6.000 mF	1 µF	±(10% of m.v. + 25D)
	60.00 mF	10 µF	±(10% of m.v. + 25D)
Frequency	600.0 Hz	0.1 Hz	±0.1% + 1D
	6.000 kHz	1 Hz	
	60.00 kHz	10 Hz	
	600.0 kHz	100 Hz	
	6.000 MHz	1 kHz	
	60.00 MHz	10 kHz	
Temperature Measurement	-200 to 1350°C		±(10% of m.v. + 1D)

DMM 1000V

Data HOLD	Yes
RELATIVE Value Measurement	Yes
MIN/MAX Measurement	Yes
Auto/Manual RANGE Selection	Yes
DMM Battery LOW Indication	Yes
NCV Measurement (Non-contact AC Electric Field Detection)	Yes
True RMS	Yes

Backlight	Yes
Display	6000 counts, bargraph
IP rating	IP40
Battery	AAA 2x 1.5V; R03
Fuse	Ceramic fuses; F600mA/1000V F10A/1000V
Standards	EN 61010-1 EN 61010-02-033 EN 61010-031 EN 61326
Overvoltage Category	CAT IV / 600V CAT III / 1000V
Pollution degree	2
Operating temperature	0°C - 50°C
Storage temperatur	-10°C - 60°C

Note: The lowest ranges are specified from 5% of the range.

Note: AC Voltage and AC Current ranges are specified up to 400 Hz. As the frequency increases (over 400 Hz), the accuracy deteriorates.

Auto-Power-Off

The instruments are fitted with an Auto-Power-Off function. After 15 min. the instrument will be switched off.

Warranty

Our instruments are subject to strict quality control. However, should the instrument function improperly during normal use, you are protected by our 6-month warranty (valid with invoice or receipt).

Within the warranty period we will decide whether to exchange or repair the defective instrument. We will repair free of charge any defects in workmanship or materials, provided the instrument is returned unopened and untampered with.

Damage due to dropping or incorrect handling are not covered by the warranty. If the instrument shows failure following expiry of warranty our service department can offer you a quick and economical repair.

Subject to changes without notice!

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 16
32758 Detmold, Germany
T +49 5231 14-0
F +49 5231 14-29 20 83
www.weidmueller.com