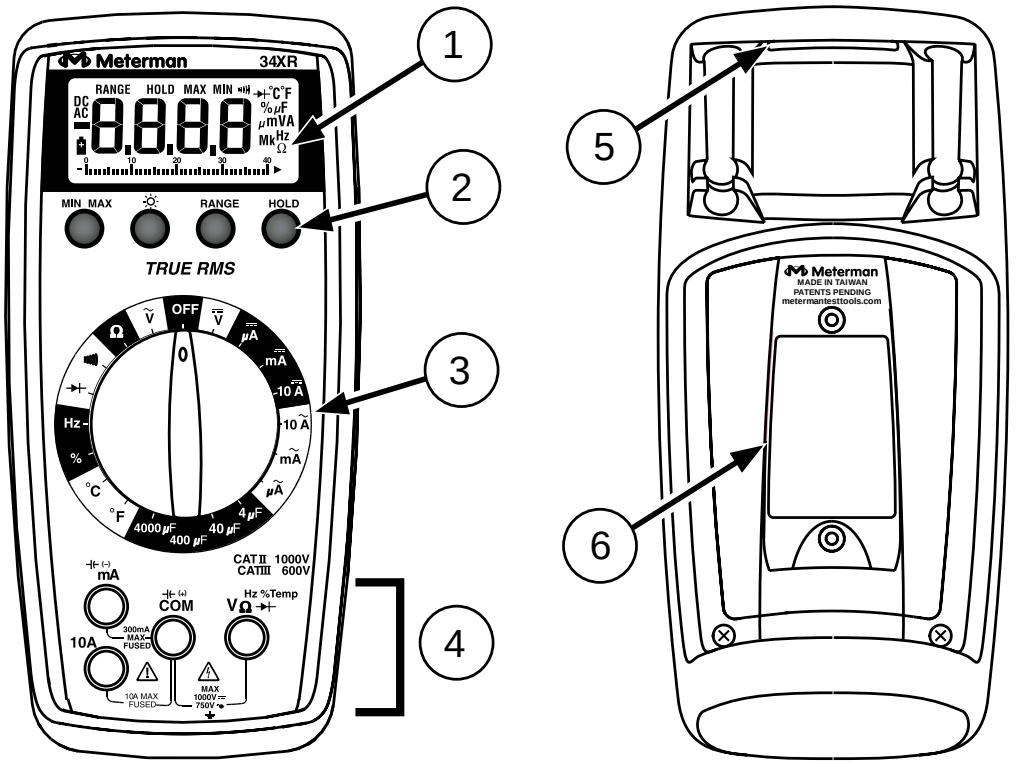
34XR

Professional Digital Multimeter

True-RMS with Temperature and Backlight

Users Manual

- Mode d'emploi
- Bedienungshandbuch
- Manuale d'Uso
- Manual de uso



1. **Display**
   Afficheur
   Anzeige
   Display
   Pantalla

2. **Feature Buttons**
   Boutons de fonctions
   Funktionstasten
   Pulsanti delle funzioni
   Botones de función

3. **Function/Range Switch**
   Commutateur de gamme/fonction
   Funktion/Bereich-Schalter
   Selettore funzione/portata
   Selector de la función y del rango

4. **Test Lead Connections**
   Branchements des cordons de test
   Messleitungsanschlüsse
   Boccole per i cavetti
   Conexiones de los conductores de prueba

5. **Strap Clip**
   Clip de bretelle
   Klemme
   Clip in velcro
   Clip para correa

6. **Battery/Fuse Cover**
   Capot des fusibles/pile
   Batterie-/Sicherungsabdeckung
   Sportello del vano portapile/fusibili
   Puerta de la batería y el fusible

34XR

Users Manual

Contents

Safety Information

- The 34XR Digital Multimeter is UL, cUL, and EN61010-1 certified for Installation Category III – 600V and Category II – 1000V. It is recommended for use with local level power distribution, appliances, portable equipment, etc, where only smaller transient overvoltages may occur, and not for primary supply lines, overhead lines and cable systems.
- Do not exceed the maximum overload limits per function (see specifications) nor the limits marked on the instrument itself. Never apply more than 1000V dc/750 V ac rms between the test lead and earth ground.
- Inspect the DMM, test leads and accessories before every use. Do not use any damaged part.
- Never ground yourself when taking measurements. Do not touch exposed circuit elements or test probe tips.
- Do not operate the instrument in an explosive atmosphere.
- Exercise extreme caution when: measuring voltage >20V // current >10mA // AC power line with inductive loads // AC power line during electrical storms // current, when the fuse blows in a circuit with open circuit voltage >1000 V // servicing CRT equipment.
- Always measure current in series with the load – NEVER ACROSS a voltage source. Check fuse first. Never replace a fuse with one of a different rating.
- Remove test leads before opening the Battery Cover or case.

Symbols Used in this Manual

	Battery		Refer to the manual
	Double insulated		Dangerous Voltage
⎓	Direct Current	⏚	Earth Ground
~	Alternating Current		Audible tone
CE	Complies with EU directives	c UL us	Underwriters Laboratories, Inc
	Fuse		

Introduction

The 34XR is a True rms autoranging handheld digital multimeter for measuring or testing the following:

- DC and AC voltage
- DC and AC current
- Resistance
- Frequency
- Dutycycle
- Temperature
- Capacitance
- Diodes
- Continuity

Additional features include: MIN MAX, HOLD, Backlight, and Range Lock

Making Measurements

Verify Instrument Operation

Before attempting to make a measurement, verify that the instrument is operational and the battery is good. If the instrument is not operational, have it repaired before attempting to make a measurement.

Range Selection

In addition to autoranging the 34XR allows you to manually select and lock a range by pressing the **RANGE** button. **RANGE** appears on the display to indicate that manual ranging is active. Each subsequent press of the range button steps the meter to the next higher range. When the highest range is reached the next press returns the meter to the lowest range. To return to autoranging press and hold the **RANGE** button for 2 seconds. **RANGE** no longer shows on the display.

Use autorange for all initial measurements. Then, when appropriate, use the **RANGE** button to select and lock a range.

Warning

To avoid electrical shock while manual ranging use the display annunciators to identify the actual range selected.

Correcting an Overload (OL or -OL) Indication ⚠

An OL indication may appear on the display to indicate that an overload condition exists. For voltage and current measurements, an overload should be immediately corrected by selecting a higher range. If the highest range setting does not eliminate the overload, interrupt the measurement until the problem is identified and eliminated. The OL indication is normal for some functions; for example, resistance, continuity, and diode test.

Measuring DC Voltage ⎓ See Figure -1-

1. Set the Function Switch to V⎓.
2. If **RANGE** is displayed, press the **RANGE** button to enable autoranging.
3. Connect the Test Leads: Red to **V** Ω →⊢, Black to **COM**
4. Connect the Test Probes to the circuit test points.
5. Read the display, and, if necessary, correct any overload (OL) conditions.

Measuring AC Voltage (True rms) See Figures -2- & -3-

See *Additional Features* to find out the advantages of true rms.

1. Set the Function Switch to $\widetilde{\mathbf{V}}$.
2. If **RANGE** is displayed, press the **RANGE** button to enable autoranging.
3. Connect the Test Leads: Red to **V** Ω ⇥⊢, Black to **COM**
4. Connect the Test Probes to the circuit test points
5. Read the display, and, if necessary, correct any overload (OL) conditions.

Preparing for Current Measurements

- Turn off circuit power before connecting the test probes.
- Allow the meter to cool between measurements if current measurements approach or exceeds 10 amps.
- A warning tone sounds if you connect a test lead to a current input before you select a current range.
- Open circuit voltage at the measurement point must not exceed 1000 V.
- Always measure current in series with the load. Never measure current across a voltage source.

Measuring DC Current See Figure -4-

1. Set the Function Switch to a $\overline{\overline{\mathbf{A}}}$ function and range.
2. If **RANGE** is displayed, press the **RANGE** button to enable autoranging.
3. Connect the Test Leads: Red to **µA mA** or **10A**, Black to **COM**
4. Turn off power to the circuit being measured.
5. Open the test circuit (—X—) to establish measurement points.
6. Connect the Test Probes in series with the load.
7. Turn on power to the circuit being measured.
8. Read the display, and, if necessary, correct any overload (OL) conditions.

Measuring AC Current (True rms) See Figures -3- & -5-

See *Additional Features* to find out the advantages of true rms.

1. Set the Function Switch to a $\widetilde{\mathbf{A}}$ function and range.
2. If **RANGE** is displayed, press the **RANGE** button to enable autoranging.
3. Connect the Test Leads: Red to **µA mA** or **10A**, Black to **COM**
4. Turn off power to the circuit being measured.
5. Open the test circuit (—X—) to establish measurement points.
6. Connect the Test Probes in series with the load.
7. Turn on power to the circuit being measured.
8. Read the display, and, if necessary, correct any overload (OL) conditions.

Measuring Resistance See Figure -6-

1. Set the Function Switch to Ω.
2. If **RANGE** is displayed, press the **RANGE** button to enable autoranging.
3. Connect the Test Leads: Red to **V** Ω ⇥⊢, Black to **COM**
4. Turn off power to the circuit being measured. Never measure resistance across a voltage source or on a powered circuit.
5. Discharge any capacitors that may influence the reading.
6. Connect the Test Probes across the resistance.
7. Read the display. If OL appears on the highest range, the resistance is too large to be measured.

Measuring Continuity See Figure -7-

1. Set the Function Switch to •))).
2. Connect the Test Leads: Red to **V** Ω ⇥⊢, Black to **COM**
3. Turn off power to the circuit being measured.
4. Discharge any capacitors that may influence the reading.
5. Connect the Test Probes across the resistance.
6. Listen for the tone that indicates continuity (< 35 Ω).

Checking Diodes See Figure -8-

1. Set the Function Switch to ⇥⊢.
2. Connect the Test Leads: Red to **V** Ω ⇥⊢, Black to **COM**
3. Turn off power to the circuit being measured.
4. Free at least one end of the diode from the circuit.
5. Connect the Test Probes across the diode.
6. Read the display. A good diode has a forward voltage drop of about 0.6 V. An open or reverse biased diode will read OL.

Measuring Capacitance See Figure -9-

1. Set the Function Switch to an appropriate **µF** function and range.
2. Connect the Test Leads: Red to **COM**, Black to **µA mA ⊣⊢(-)**
3. Turn off power to the circuit being measured.
4. Discharge the capacitor using a 100 kΩ resistor.
5. Free at least one end of the capacitor from the circuit.
6. Connect the Test Probes across the capacitor. When measuring an electrolytic capacitor match the test lead polarity to the polarity of the capacitor.
7. Read the display.

Measuring Temperature See Figure -10-

1. Set the Function Switch to **°C** or **°F**.
2. Connect the K-type thermocouple to a TEMP adapter (XR-TA).
   Match the polarity of the adapter to the polarity of the thermocouple.
3. Connect the TEMP adapter to the **V** Ω ⇥⊢ and **COM** inputs.

Note: The 34XR is compatible with all K-type thermocouples. The K-type bead thermocouple supplied with the meter is not intended for contact with liquids or electrical circuits.

4. Expose the thermocouple to the temperature to be measured.
5. Read the display.

Measuring Frequency See Figure -11-

1. Set the Function Switch to **Hz**.
2. Connect the Test Leads: Red to **Hz**, Black to **COM**
3. Connect the Test Probes to the signal source.
4. Read the display. The Meter will autorange for the best resolution.

Measuring Dutycycle See Figure -12-

1. Set the Function Switch to **%**.
2. Connect the Test Leads: Red to **%**, Black to **COM**
3. Connect the Test Probes to the signal source.
4. Read the display. The Meter will autorange for the best resolution.

Additional Features

Input Test Lead Warning

The meter emits a continuous tone when a test lead is placed in the **µA mA** or **10A** input jack and the Function/Range Switch is not set to a correct current position. (If the meter is connected to a voltage source with leads connected for current, very high current could result). All current ranges are protected by fast acting fuses.

True-rms Measurements

For ac measurements most DMMs average the ac input signal and display the result as an estimated rms value. This average-responding method is accurate for sinusoidal waveforms, but can be very inaccurate for distorted waveforms. To ensure the most accurate measurements, always use a true-rms DMM when measuring ac voltage or ac current on circuits for the following kinds of applications:

- Power Supplies - diodes
- Controllers
- Power Limiting - SCR or Triac
- Starting - motors
- Florescent Lighting - ballasts
- Speed Control - motors
- Pulsed Signals
- Any non-sinusoidal ac waveform

MIN MAX Measurements

The MIN MAX function reads and updates the display to show the maximum or minimum value measured after you press the **MIN MAX** button.

Pressing the **MIN MAX** button for less than 1 second will put the meter into a mode of displaying the maximum, minimum, or actual readings. Each time the button is pressed, the meter will cycle to the next display mode as shown in the table below. Press the **MIN MAX** button for more than 2 seconds to exit **MIN MAX**.

Button	Display	Value Displayed
< 1 second	**MAX**	Maximum value after feature activated
< 1 second	**MIN**	Minimum value after feature activated
< 1 second	**MIN MAX** (blinks)	Normal measurement, actual reading
> 2 seconds	Exit **MIN MAX**	Normal measurement, actual reading

Auto Power Off

Auto Power Off is a battery saving feature that puts the meter into a sleep mode if the Function/Range Switch has not changed position in the last 30 minutes. To wake the meter turn it off and then on.

The Auto Power Off feature can be disabled to keep the meter from going to sleep. This feature is useful when using the MIN MAX mode for extended periods. To disable the Auto Power Off feature use the following procedure:

1. Set the Function Switch to **OFF**.
2. Press and hold the **MIN MAX** button while turning the Function Switch to the desired function.
3. Continue to press the **MIN MAX** button until the display finishes this initialization period and the reading settles.
4. Release the **MIN MAX** button. The Auto Power Off feature will remain disabled until the meter is turned off and then on.

HOLD Measurements

The **HOLD** button causes the meter to capture and continuously display a measurement reading. To use the **HOLD** feature make a measurement, and then, after the reading has stabilized, momentarily press the **HOLD** button. You can remove the test leads and the reading will remain on the display. Pressing the **HOLD** button again releases the display.

Backlight

Pressing the ☼ button illuminates the display with a blue backlight. The backlight will automatically turn off in about 60 seconds. Frequent use of the backlight will decrease battery life.

Product Maintenance

Cleaning

To clean the meter, use a soft cloth moistened with water. To avoid damage to the plastic components do not use benzene, alcohol, acetone, ether, paint thinner, lacquer thinner, ketone or other solvents to clean the meter.

Troubleshooting

If the meter appears to operate improperly, check the following items first.

1. Review the operating instructions to ensure the meter is being used properly.
2. Inspect and test the continuity of the test leads.
3. Make sure the battery is in good condition. The low battery symbol ▮ appears when the battery falls below the level where accuracy is guaranteed. Replace a low-battery immediately.
4. Check the condition of the fuses if the current ranges operate incorrectly.

Battery and Fuse Replacement

See Figure -13-

⚠⚠WARNING

To avoid electrical shock remove the test leads from both the meter and the test circuit before accessing the battery or the fuses.

To access the battery and the mA fuse remove the two screws holding the Battery/Fuse Cover in place, and lift the cover from the meter.

To replace the mA fuse, pry it from its clips using a small screwdriver. A spare mA fuse is located between the battery and the mA fuse.

mA Fuse: Fast Blow 315mA/1000V, minimum interrupt rating 30 kA (6.3 x 32 mm) (Meterman FP300)

To replace the 10 A fuse: 1) Remove the battery. 2) Remove the four rear-case screws. 3) Separate the case. 4) Remove the 10 A fuse cover. 5) Remove and replace the 10A fuse. 6) Re-install the fuse cover. 7) Reassemble the meter.

10A Fuse: Fast Blow 10A/1000V, minimum interrupt rating 30 kA (10 x 38 mm) (Meterman FP100).

Repair

All test tools returned for warranty or non-warranty repair or for calibration should be accompanied by the following: your name, company's name, address, telephone number, and proof of purchase. Additionally, please include a brief description of the problem or the service requested and include the test leads with the meter. Non-warranty repair or replacement charges should be remitted in the form of a check, a money order, credit card with expiration date, or a purchase order made payable to Meterman Test Tools.

In-Warranty Repairs and Replacement – All Countries

Please read the warranty statement located at the front of this manual and check your batteries and fuses before requesting repair. During the warranty period any defective test tool can be returned to your Meterman Test Tools distributor for an exchange for the same or like product. Please check the "Where to Buy" section on www.metermantesttools.com for a list of distributors near you. Additionally, in the United States and Canada In-Warranty repair and replacement units can also be sent to a Meterman Test Tools Service Center (see below for address).

Non-Warranty Repairs and Replacement – US and Canada

Non-warranty repairs in the United States and Canada should be sent to a Meterman Test Tools Service Center. Call Meterman Test Tools or inquire at your point of purchase for current repair and replacement rates.

In USA	**In Canada**
Meterman Test Tools	Meterman Test Tools
1420 75th Street SW	400 Britannia Rd. E. Unit #1
Everett, WA 98203	Mississauga, ON L4Z 1X9
Tel: 800-993-5853	Tel: 905-890-7600
Fax: 425-446-6390	Fax: 905-890-6866

Non-Warranty Repairs and Replacement – Europe

European non-warranty units can be replaced by your Meterman Test Tools distributor for a nominal charge. Please check the "Where to Buy" section on www.metermantesttools.com for a list of distributors near you.

European Correspondence Address*
Meterman Test Tools Europe
P.O. Box 1186
5602 BD Eindhoven
The Netherlands

** (Correspondence only – no repair or replacement available from this address. European customers please contact your distributor.)*

WARRANTY

This 34XR Digital Multimeter is warranted against any defects of material or workmanship within a period of three (3) years following the date of purchase of the multimeter by the original purchaser or original user. Any multimeter claimed to be defective during the warranty period should be returned with proof of purchase to an authorized Meterman Test Tools Service Center or to the local Meterman Test Tools dealer or distributor where your multimeter was purchased. See Repair section for details. Any implied warranties arising out of the sale of a Meterman Test Tools multimeter, including but not limited to implied warranties of merchantability and fitness for a particular purpose, are limited in duration to the above stated three (3) year period. Meterman Test Tools shall not be liable for loss of use of the multimeter or other incidental or consequential damages, expenses, or economical loss or for any claim or claims for such damage, expenses or economical loss. Some states do not allow limitations on how long implied warranties last or the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Specifications

General Specifications

Display: 3 ¾ digit liquid crystal display (LCD)(3999 count) with a 41-segment analog bar-graph.

Polarity: Automatic, positive implied, negative polarity indication. Overrange: (OL) or (-OL) is displayed.

Zero: Automatic.

Low battery indication: The is displayed when the battery voltage drops below the operating level.

Aut**o power off:** Approx. 30 minutes.

Measurement rate: 2 times per second, nominal.

Operating environment: 0 °C to 45 °C at <70 % R.H.

Storage temperature: -20 °C to 60 °C, 0 to 80 % R.H. with battery removed from meter.

Temperature Coefficient: 0.1 × (specified accuracy) per °C. (0 °C to 18 °C, 28 °C to 45 °C).

Altitude: 2000 m (6562 feet)

Power: Single standard 9-volt battery, NEDA 1604, JIS 006P, IEC 6F22.

Battery life: 100 hours typical with carbon-zinc. 200 hours typical with alkaline. Frequent use of the backlight will decrease battery life.

Dimensions: 196 mm (H) × 92 mm (W) × 60 mm (D).

Weight: Approximately 400 g including battery.

Box contents:

The 34XR includes the following items:

Test leads w/ alligator clips	1 set
Holster	1
Magnet Strap	1
Temperature Adapter	1
K-type thermocouple	1
Users Manual	1
9 V battery (installed)	1
mA fuse, 0.315 A/ 1000 V	1 spare

Approvals:

LISTED 950Z

Safety: Conforms to UL1244; EN61010-1: Cat II - 1000V / Cat III - 600V; Class 2, Pollution degree II.

EMC: Conforms to EN61326-1, criteria B This product complies with requirements of the following European Community Directives: 89/ 336/ EEC (Electromagnetic Compatibility) and 73/ 23/ EEC (Low Voltage) as amended by 93/ 68/ EEC (CE Marking). However, electrical noise or intense electromagnetic fields in the vicinity of the equipment may disturb the measurement circuit. Measuring instruments will also respond to unwanted signals that may be present within the measurement circuit. Users should exercise care and take appropriate precautions to avoid misleading results when making measurements in the presence of electronic interference.

Electrical Specifications

(Accuracy at 23 °C ±5 °C, <75 % relative humidity)

DC VOLTS

Ranges: 400mV, 4V, 40V, 400V, 1000V

Resolution: 100 µV in 400mV range

Accuracy: ±(0.5 % rdg + 1 dgt)

Input impedance:

400mV: >100 MΩ; 4V: 10 MΩ; 40V to 1000V: 9.1 MΩ

Overload protection: 1000 V dc / 750 Vac rms

AC VOLTS true rms (45Hz - 2kHz)

Ranges: 400m, 4V, 40V, 400V, 750V

Resolution: 100 µV

Accuracy:

±(1.2 % rdg +8 dgts) 45 Hz to 100 Hz on 400mV range

±(1.2 % rdg + 8 dgts) 45 Hz to 500 Hz

±(2.0 % rdg +8 dgts) 500 Hz to 2 kHz

±(2.0 % rdg + 8 dgts) 45 Hz to 1 kHz on 750 V range

Crest Factor: ≤ 3

Input impedance: 400mV: >100 MΩ; 4V: 10 MΩ; 40V to 1000V: 9.1 MΩ

AC coupled true rms specified from 5 % to 100 % of range

Overload protection: 1000 V dc or 750 V ac rms

DC CURRENT

Ranges: 400µA, 4000µA, 40mA, 300mA, 10A

Resolution: 0.1µA

Accuracy: ±(1.0 % rdg + 1 dgt) on 400µA to 300mA ranges

±(2.0 % rdg + 3 dgts) on 10A range

Burden voltage:

400 µA Range:	1 mV/ 1 µA
4 mA Range:	500 mV/ 1 mA
40 mA Range:	10 mV/ 1 mA
300 mA:	8 mV/ 1 mA
10A:	40 mV/ 1 A

Input protection: 0.315A/1000V fast blow ceramic fuse 6.3×32mm on µA/mA input 10A/1000V fast blow ceramic fuse 10×38mm on 10A input

10A input: 10 A for 4 minutes maximum followed by a 12 minute cooling period

AC CURRENT true rms (45Hz - 1kHz)

Ranges: 400µA, 4000µA, 40mA, 300mA, 10A

Resolution: 0.1 µA

Accuracy: ±(1.5 % rdg + 8 dgts) on 400µA to 300mA ranges

±(2.5 % rdg + 10 dgts) on 10A range

Crest Factor: ≤ 3

Burden Voltage: See DC Current

Input protection: 0.315A/1000V fast blow ceramic fuse 6.3×32mm on µA/mA input 10A/1000V fast blow ceramic fuse 10×38mm on 10A input

10A input: 10 A for 4 minutes maximum followed by a 12 minute cooling period

RESISTANCE

Ranges: 400Ω, 4kΩ, 40kΩ, 400kΩ, 4MΩ, 40MΩ

Resolution: 100 mΩ

Accuracy: ±(1.0 % rdg + 4 dgts) on 400Ω to 4MΩ ranges

±(2.0 % rdg + 5 dgts) on 40MΩ range

Open circuit volts: -0.45 V dc typical, (-1.2 V dc on 400Ω range)

Overload protection: 1000 V dc or 750 V ac rms

CAPACITANCE

Ranges: 4µF, 40µF, 400µF, 4000µF

Resolution: 1 nF

Accuracy:

±(5.0 % rdg + 10 dgts) on 4µF range

±(5.0 % rdg + 5 dgts) on 40µF to 400µF ranges

±(5.0 % rdg + 15 dgts) on 4000µF range

Test voltange: < 3.0 V

Test Frequency: 25Hz

Input protection: 0.315A/1000V fast blow ceramic fuse 6.3×32mm on µA/mA input

TEMPERATURE

Ranges: -20 °C to 1000 °C, -4 °F to 1832 °F

Resolution: 1 °C, 1 °F

Accuracy:

±(2.0 % rdg + 4 °C) -20 °C to 10 °C

±(1.0 % rdg + 3 °C) 10 °C to 200 °C

±(3.0 % rdg + 2 °C) 200 °C to 1000 °C

±(2.0 % rdg + 8 °F) -4 °F to 50 °F

±(1.0 % rdg + 6 °F) 50 °F to 400 °F

±(3.0 % rdg + 4 °F) 400 °F to 1832 °F

Overload protection: 1000 V dc or 750 V ac rms

FREQUENCY

Ranges: 4k, 40k, 400k, 4M, 40MHz

Resolution: 1 Hz

Accuracy: ±(0.1 % rdg + 3 dgts)

Sensitivity:

10 Hz to 4 MHz: >1.5 V ac rms;

4 MHz to 40 MHz: >2 V ac rms, <5 V ac rms

Minimum pulse width: > 25 ns

Duty cycle limits: > 30 % and < 70 %

Overload protection: 1000 V dc or 750 V ac rms

DUTY CYCLE

Ranges: 0 to 90 %

Resolution: 0.1 %

Pulse widh: >10 µs

Frequency range: 40 Hz to 20 kHz

Accuracy: (5V logic) ±(2.0% rdg + 5 dgts)

Overload protection: 1000 V dc or 750 V ac rms

CONTINUITY

Audible indication: < 35 Ω

Response time: 100 ms

Overload protection:1000 V dc or 750 V ac rms

DIODE TEST

Test current: approximately 1.2 mA

Accuracy: ±(1.5 % rdg + 3 dgts)

Resolution: 1 mV

Open circuit volts: 3.0 V dc typical

Overload protection: 1000 V dc or 750 V ac rms

ADDITIONAL FEATURES

µA mA, 10A Test Lead Connection: Beeps to warn test leads are connected to measure current while Function/Range Switch is not set to a measure current.

MIN MAX: Displays the minimum or maximum value detected while making a measurement.

HOLD: Holds the latest reading on the display.

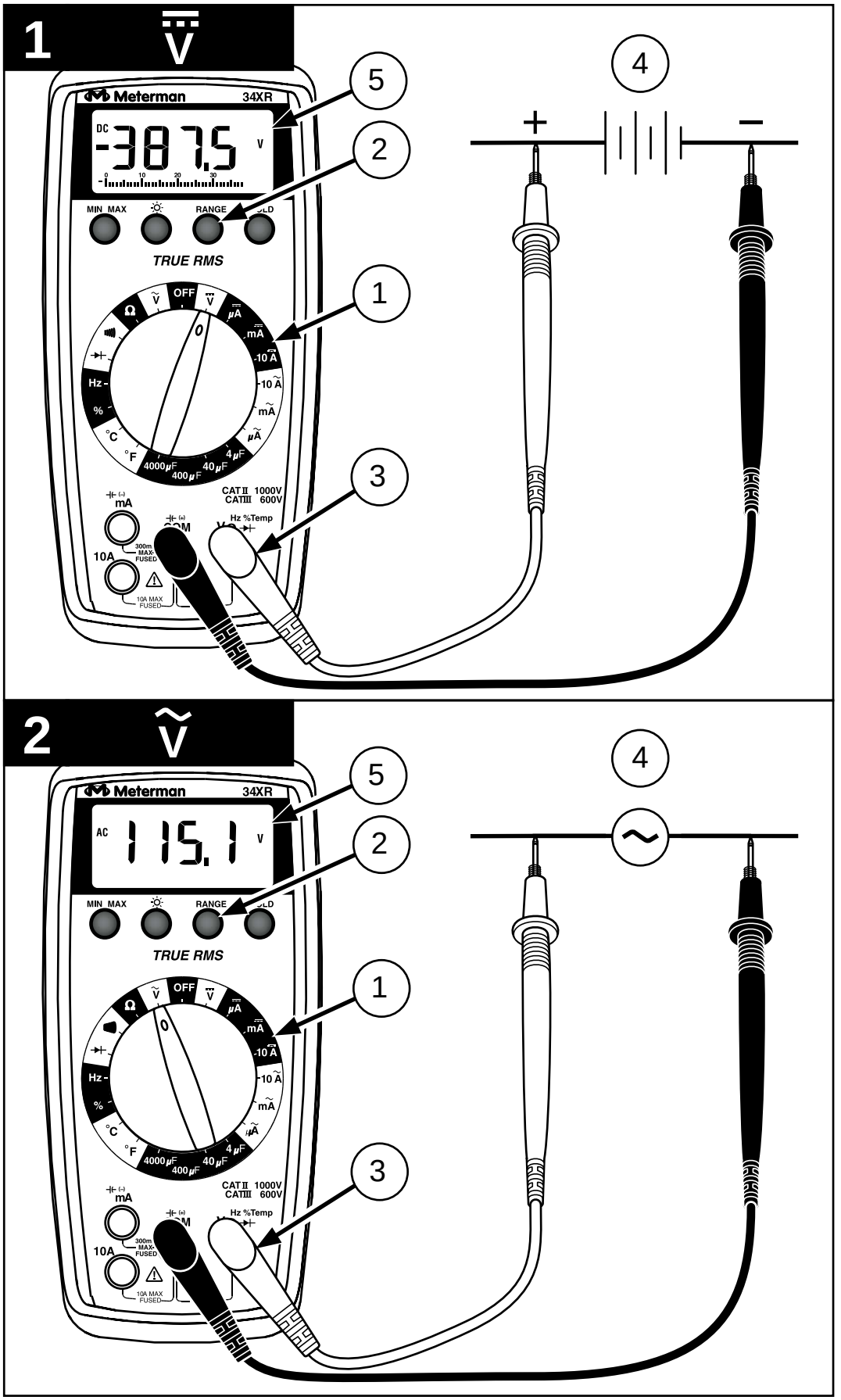
RANGE: Manual range mode.

Backlight: Backlight auto-off approximately 60 seconds

Auto Power off: 30 minutes, typical

REPLACEMENT PARTS

TL36	Test Lead Set with Alligator clips
FP300	mA fuse - Fuse Pack .315A/1000V (4 each)
FP100	10A fuse - Fuse Pack 10A/1000V (2 each)
XR-TA	Input Adapter for K-type thermocouple
TP255	K type thermocouple
XR-H2	Magne-Grip® Holster, clip, magnet, and strap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Meterman
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DC
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OFF
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10A MAX FUSED
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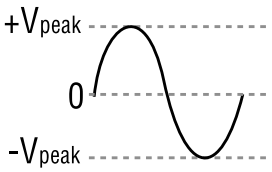
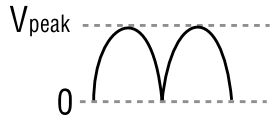
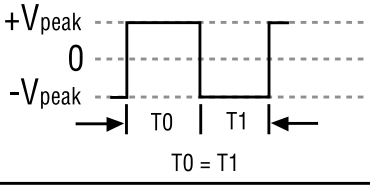
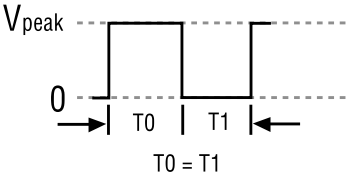
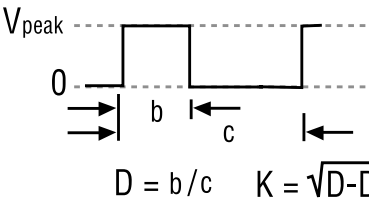
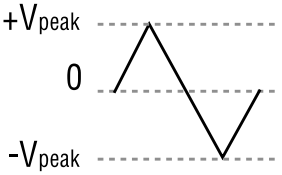
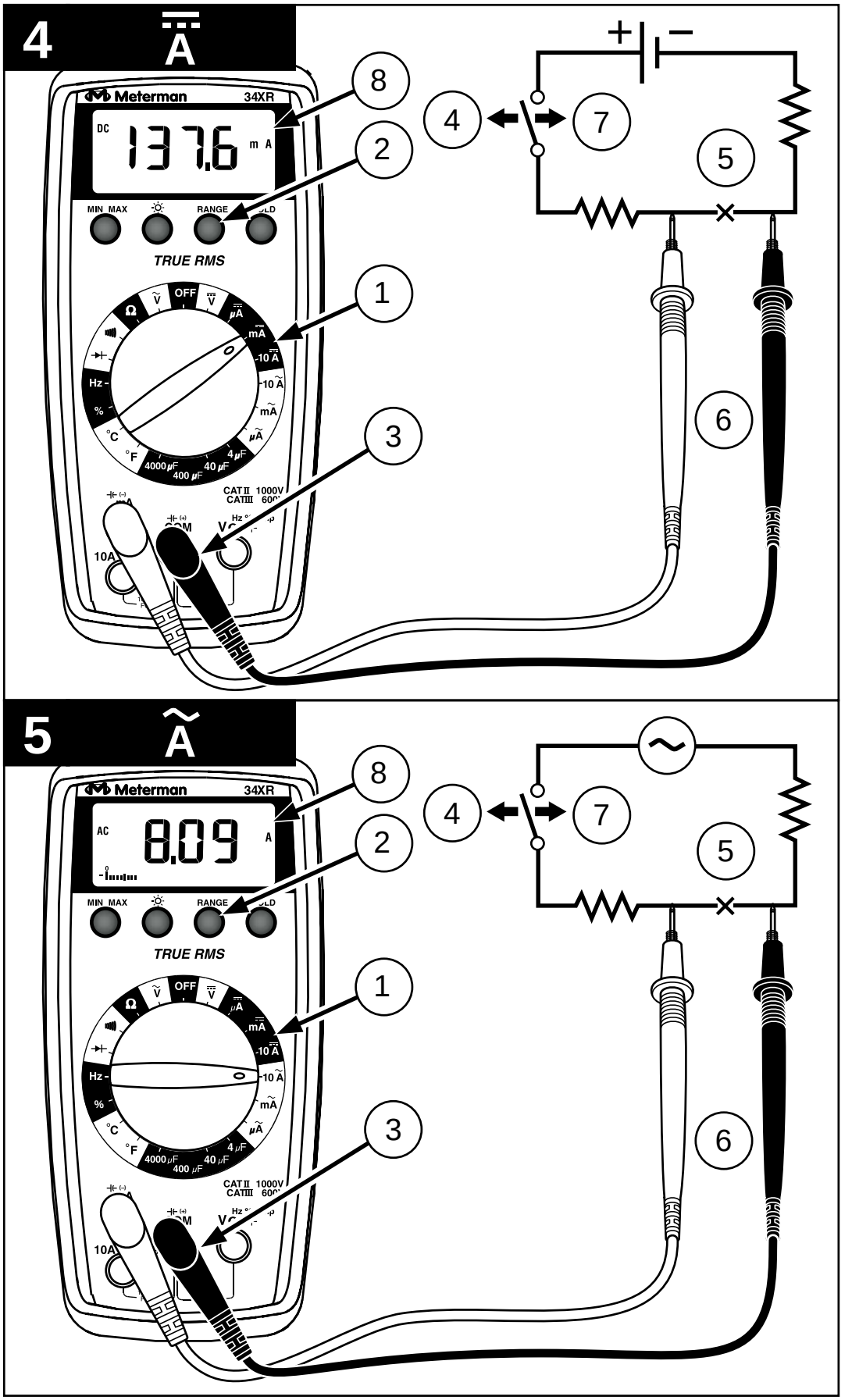
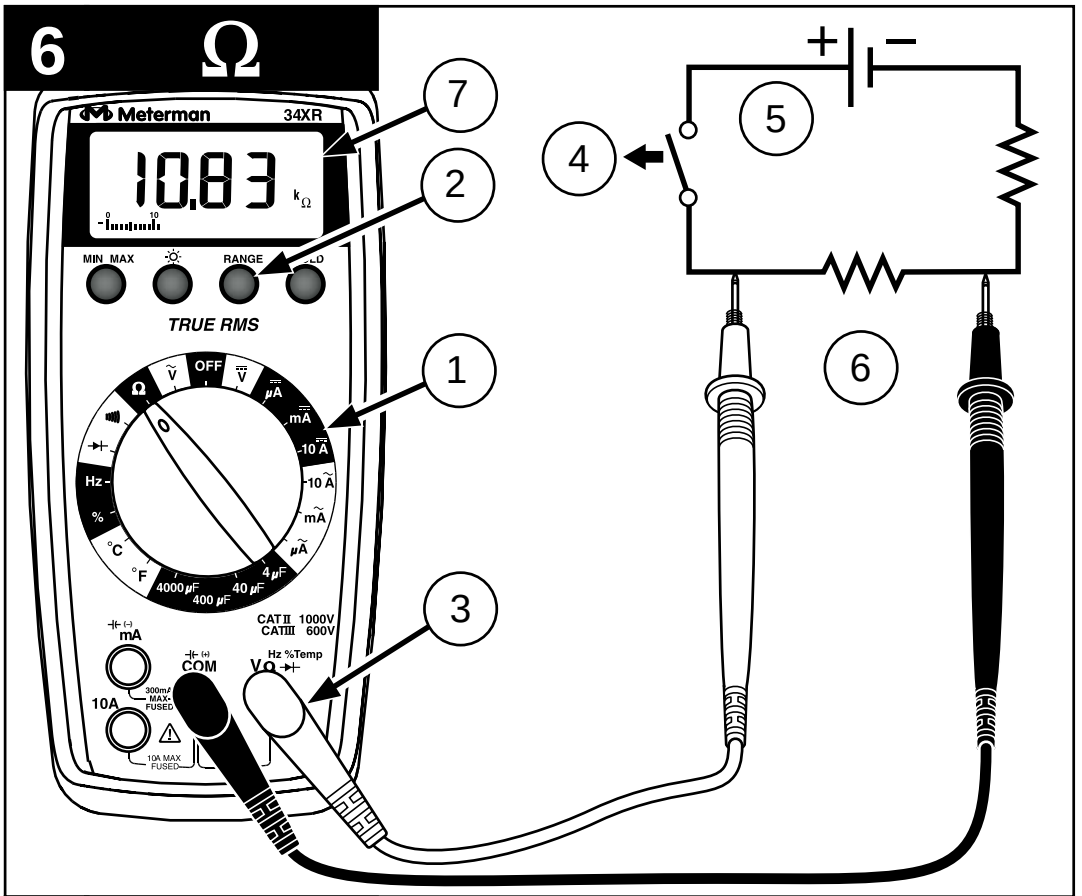
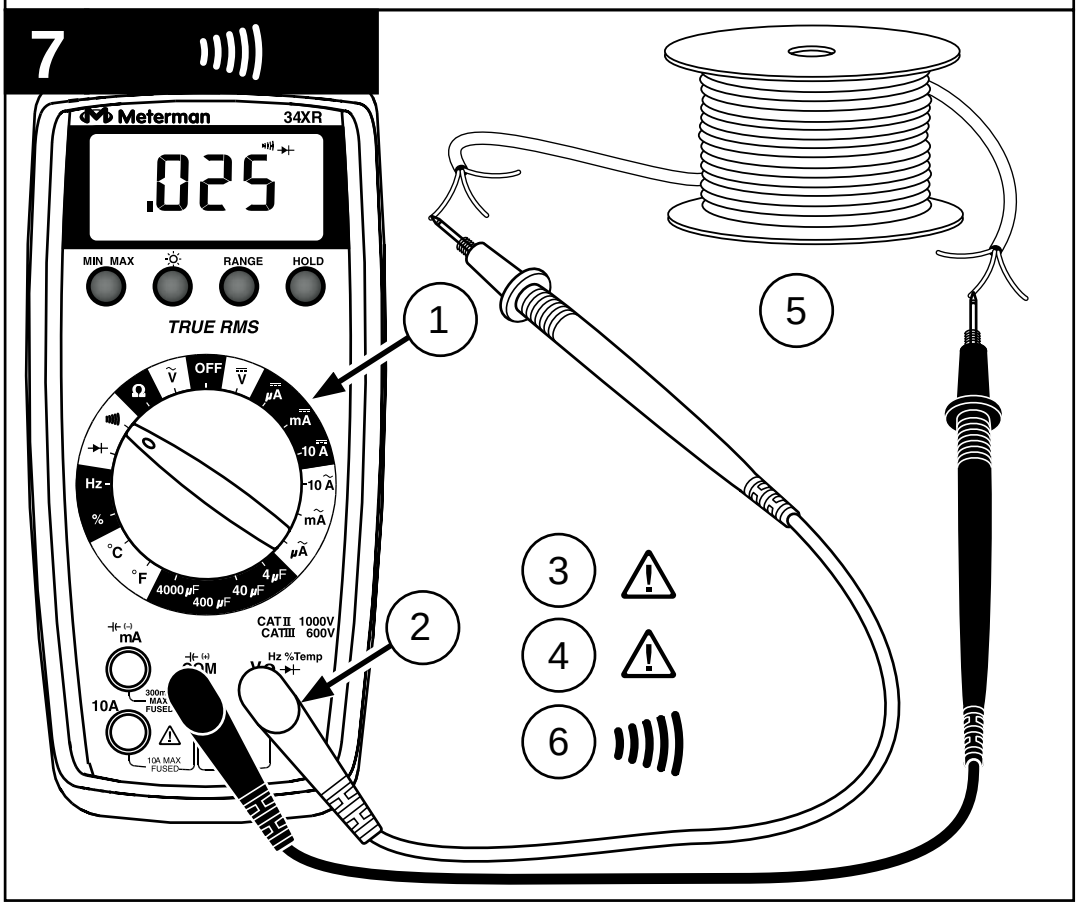
3 True rms

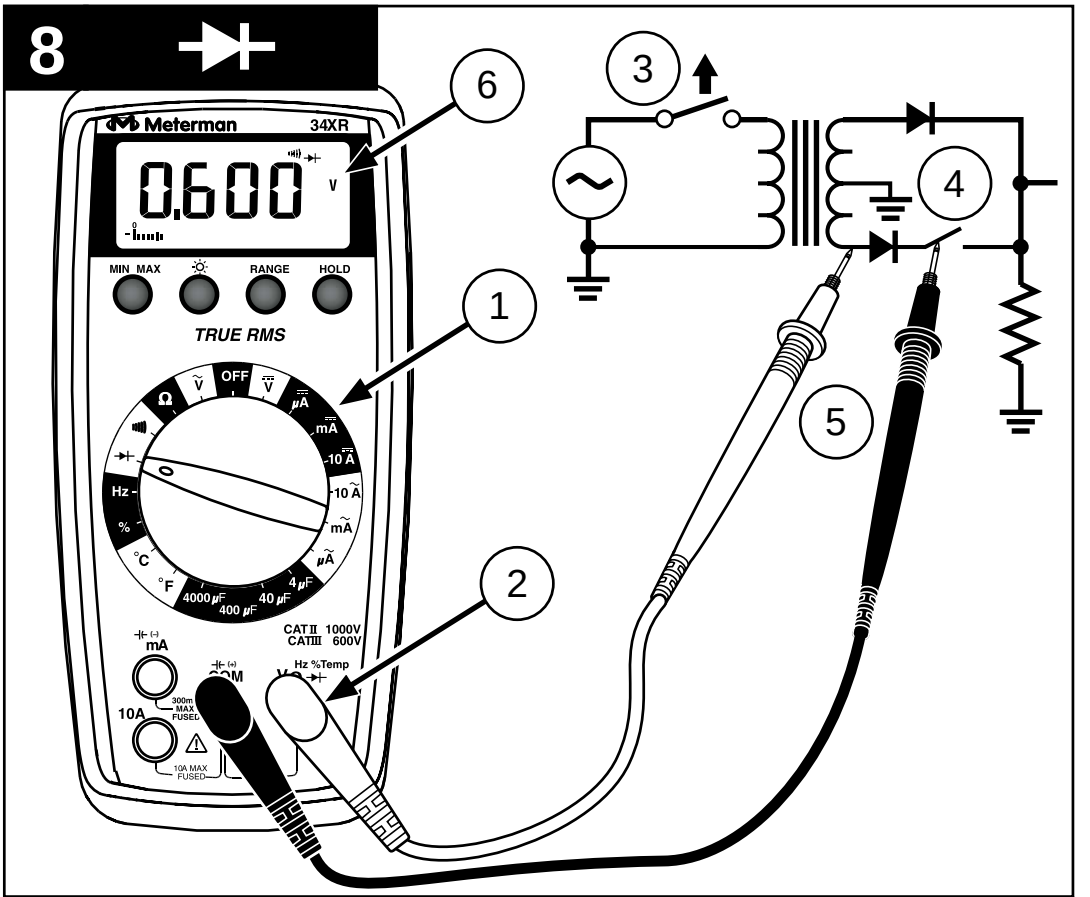
Input Waveform Signal d'entrØe Eingangsschwingungsform Forma d'onda d'ingresso Forma de onda de entrada		34XR AC True rms *
Sine Wave Sinuso dale Sinusschwingung Onda sinusoidale Onda sinusoidal		.707 x Vpeak CF = 1.414
Full Wave, Sine Wave Onde complŁte, Sinuso dale Volle Schwingung, Sinusschwingung Onda sinusoidale, onda intera Onda completa, Onda sinusoidal		0.308 x Vpeak CF = 3.247
Half-Wave, Sine Wave Demi-onde, sinuso dale Halbschwingung, Sinusschwingung Onda sinusoidale, semionda Media onda, onda sinusoidal		0.386 x Vpeak CF = 2.591
Square Wave Onde carrØe Rechteckschwingung Onda quadra Onda cuadrada		1.000 x Vpeak CF = 1.000
Square Wave Onde carrØe Rechteckschwingung Onda quadra Onda cuadrada		0.500 x Vpeak CF = 2.000
Pulse Wave Onde impulsionnelle Impulsschwingung Onda delI'impulso Onda de impulsos		Vpeak x K CF = 1 / K
Sawtooth Wave Onde en dent de scie S gezahnschwingung Onda a denti di sega Onda diente de sierra		0.577 x Vpeak CF = 1.733

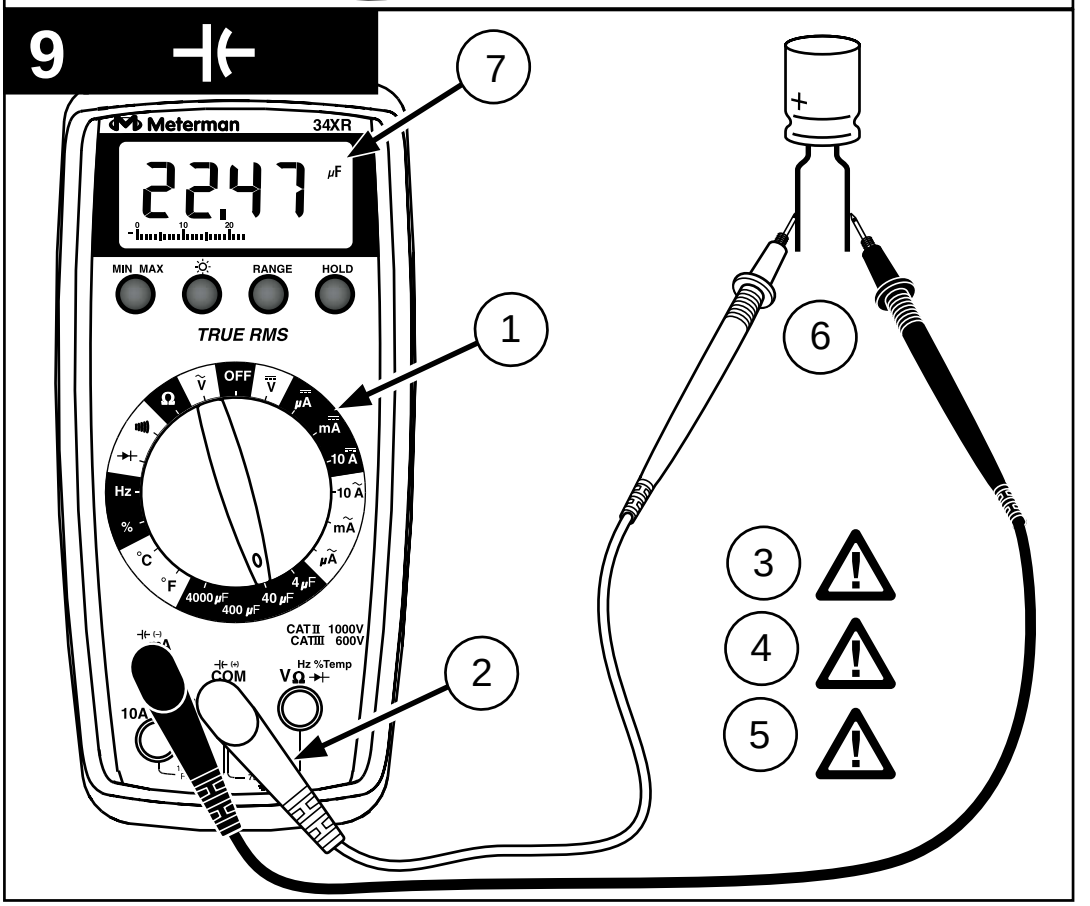
* CF = Crest Factor, Crest Factor = Vpeak / Vrms

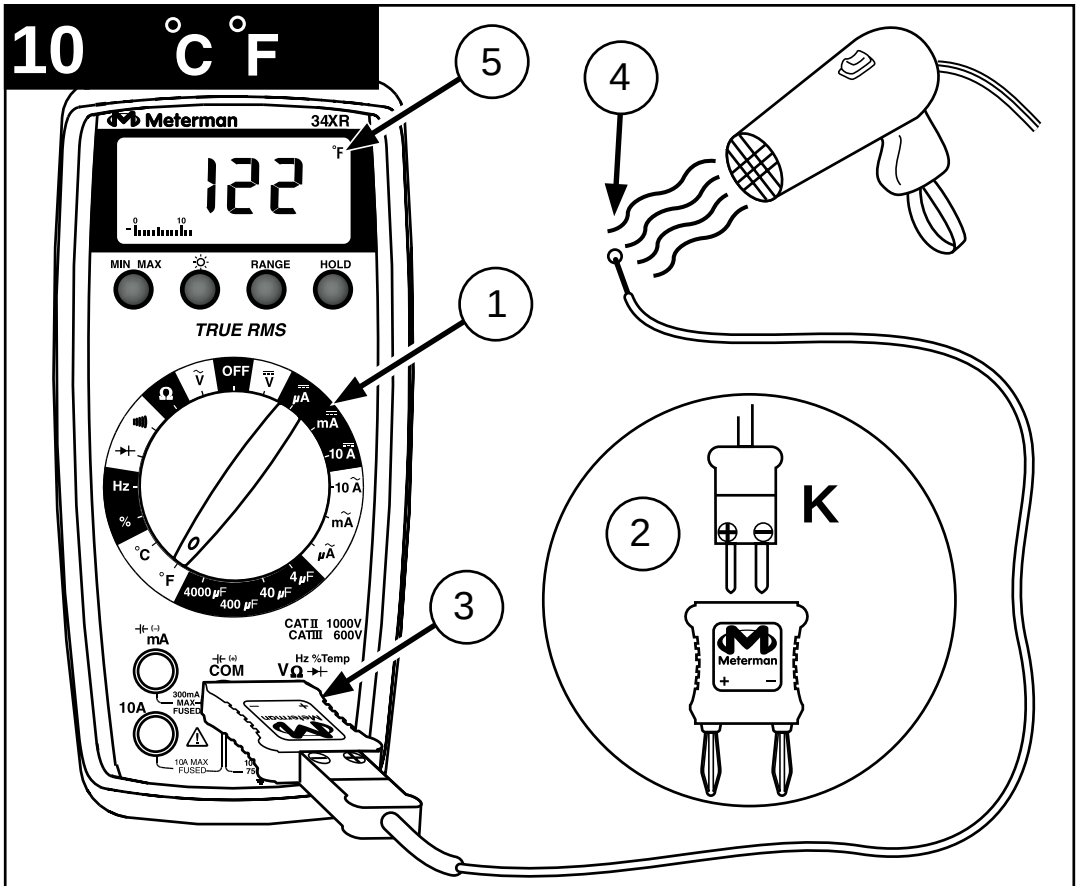

4
Meterman
34XR
DC
137.6
m A
MIN MAX
RANGE
TRUE RMS
OFF
mA
10 A
Hz
%
°C
°F
4000 µF
400 µF
40 µF
4 µF
CAT II 1000V
CAT III 60
10A
COM
8
2
1
3
4
7
5
6
5
Meterman
34XR
AC
8.09
A
MIN MAX
RANGE
TRUE RMS
OFF
mA
10 A
Hz
%
°C
°F
4000 µF
400 µF
40 µF
4 µF
CAT II 1000V
CAT III 60
10A
COM
8
2
1
3
4
7
5
6

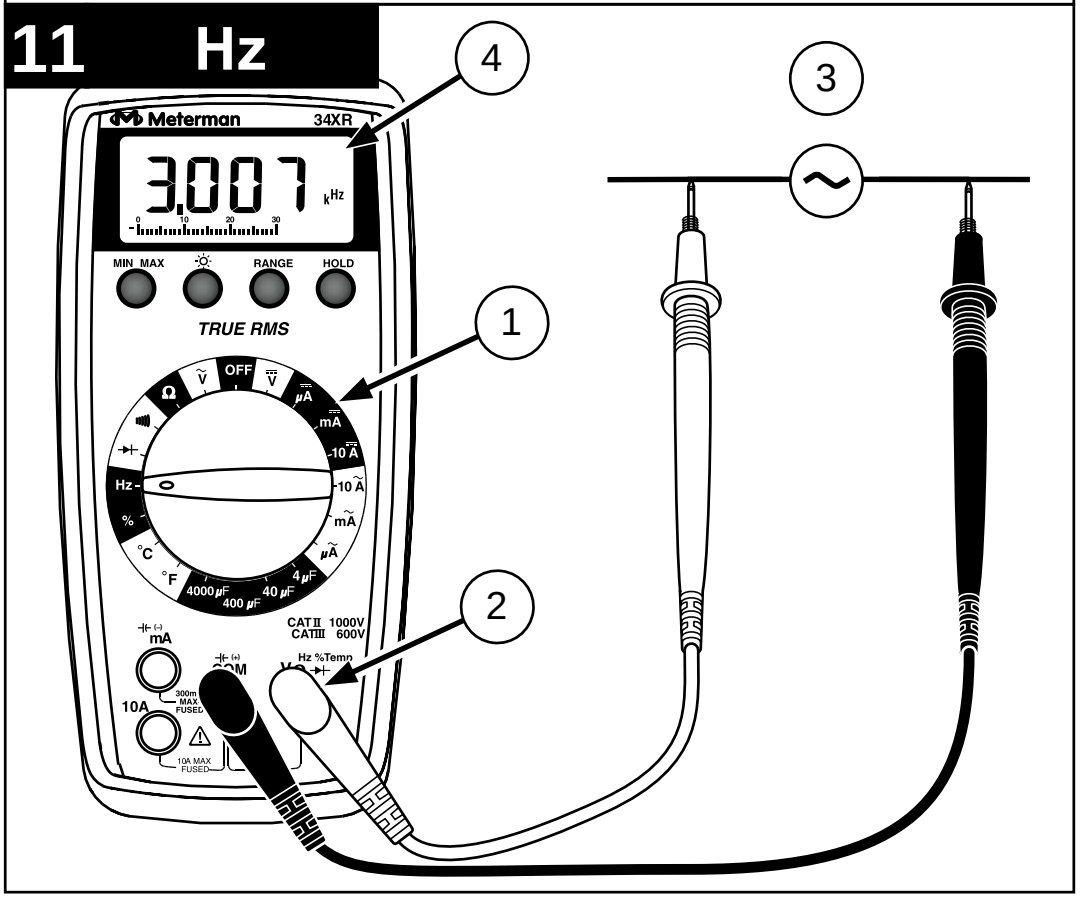

6 Ω
Meterman 34XR
10.83 kΩ
MIN MAX
RANGE
HOLD
TRUE RMS
OFF
CAT II 1000V
CAT III 600V
COM
10A
300mA MAX FUSED
10A MAX FUSED
7
2
1
3
4
5
6

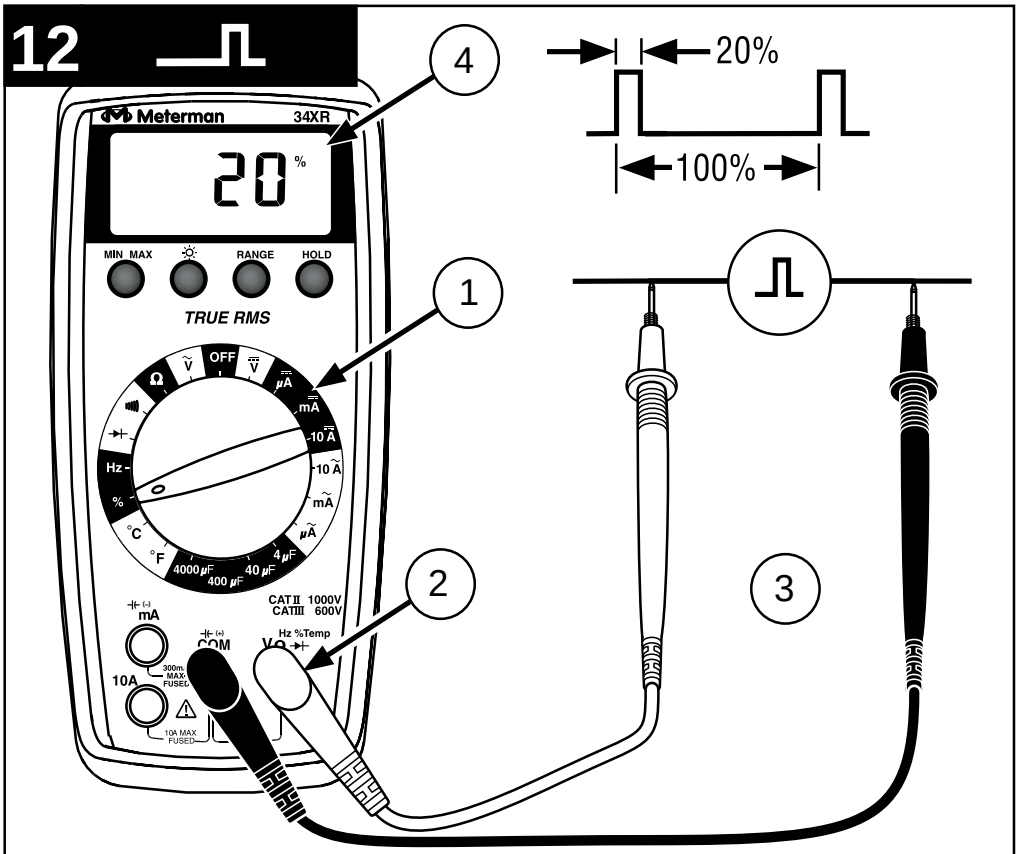

7
Meterman 34XR
.025
MIN MAX
RANGE
HOLD
TRUE RMS
OFF
CAT II 1000V
CAT III 600V
COM
10A
300mA MAX FUSED
10A MAX FUSED
1
2
3
4
5
6

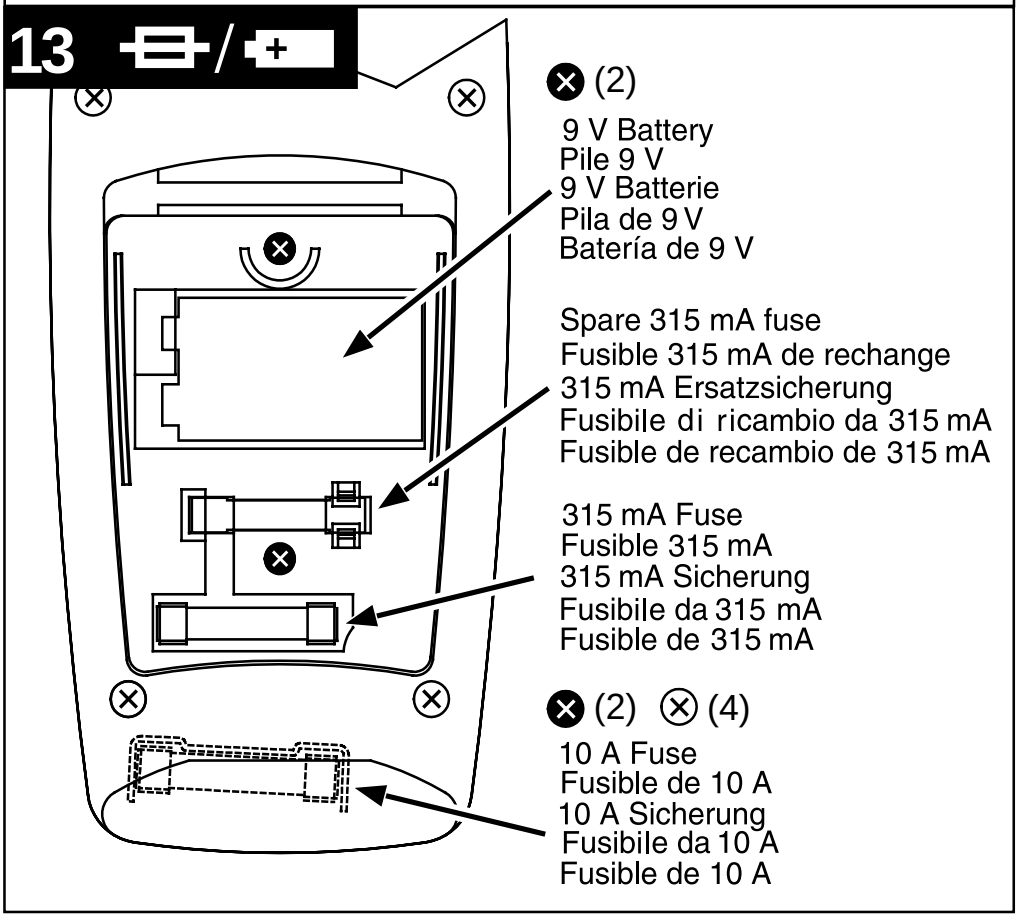

8
Meterman
34XR
0,600
V
MIN MAX
RANGE
HOLD
TRUE RMS
OFF
Ω
Hz
%
°C
°F
4000 µF
400 µF
40 µF
4 µF
10 A
mA
µA
CAT II 1000V
CAT III 600V
COM
Hz %Temp
10A MAX FUSED
1
2
3
4
5
6


9
Meterman
34XR
22,47
µF
MIN MAX
RANGE
HOLD
TRUE RMS
OFF
Ω
Hz
%
°C
°F
4000 µF
400 µF
40 µF
4 µF
10 A
mA
µA
CAT II 1000V
CAT III 600V
COM
Hz %Temp
10A MAX FUSED
1
2
3
4
5
6
7


10 °C °F
Meterman
34XR
122
°F
MIN MAX
RANGE
HOLD
TRUE RMS
OFF
Hz
%
°C
°F
4000 µF
400 µF
40 µF
4 µF
mA
10A
COM
Hz %Temp
CAT II 1000V
CAT III 600V
10A MAX FUSED
300mA MAX FUSED
1
2
3
4
5
K
Meterman


11 Hz
Meterman
34XR
3,007
kHz
MIN MAX
RANGE
HOLD
TRUE RMS
OFF
Hz
%
°C
°F
4000 µF
400 µF
40 µF
4 µF
mA
10A
CAT II 1000V
CAT III 600V
10A MAX FUSED
300m MAX FUSED
1
2
3
4


12
4
20%
100%
Meterman
34XR
20 %
MIN MAX
RANGE
HOLD
TRUE RMS
OFF
1
2
3
CAT II 1000V
CAT III 600V
mA
COM
10A
Hz %Temp
300m MAX FUSED
10A MAX FUSED


13
⊗ (2)
9 V Battery
Pile 9 V
9 V Batterie
Pila de 9 V
Batería de 9 V
Spare 315 mA fuse
Fusible 315 mA de rechange
315 mA Ersatzsicherung
Fusibile di ricambio da 315 mA
Fusible de recambio de 315 mA
315 mA Fuse
Fusible 315 mA
315 mA Sicherung
Fusibile da 315 mA
Fusible de 315 mA
⊗ (2) ⊗ (4)
10 A Fuse
Fusible de 10 A
10 A Sicherung
Fusibile da 10 A
Fusible de 10 A

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