



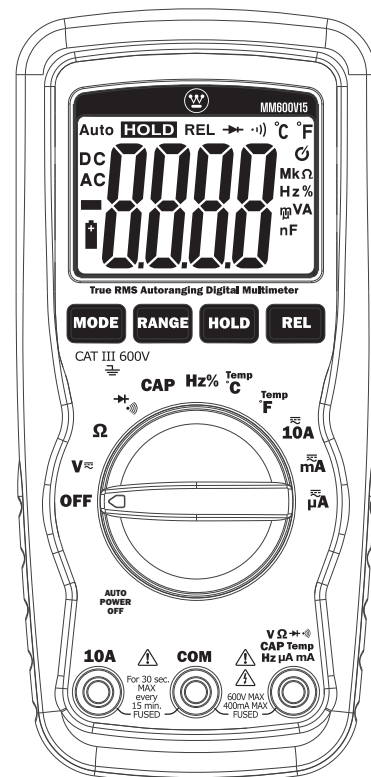
User Manual

Product:

600V True RMS Autoranging
Multimeter With Large Screen
WPMDMM600V15

DO NOT RETURN THIS PRODUCT TO THE STORE

If you have questions
or need assistance, please call
customer service at 888-230-4260.



Safety

International Safety Symbols



This symbol adjacent to another symbol, terminal or operating device indicates that the operator must refer to an explanation in the operating instructions to avoid personal injury or damage to the meter.



This symbol adjacent to one or more terminals identifies them as being associated with ranges that may, in normal use, be subjected to particularly hazardous voltages, for maximum safety, the meter and its test leads should not be handled when these terminals are energized.



Double insulation.



Indicates the terminal (s) so marked must not be connected to a circuit where the voltage with respect to earth ground exceeds the maximum safety rating of the meter.

WARNINGS

- Read, understand and follow safety rules and operating instructions in this manual before using this meter.
- The meter's safety features may not protect the user if not used in accordance with the manufacturer's instructions.
- Keep fingers away from the metal probe tips when taking measurements.
- Before changing functions using the selector switch, always disconnect the test leads from the circuit under test.
- Comply with all applicable safety codes, use approved personal protective equipment when working near live electrical circuits - particularly with regard to arc-flash potential.
- Use caution on live circuits, voltages above 30V AC rms, 42V AC peak, or 60V DC pose a shock hazard.
- Do not use if the meter or test leads appear damaged.
- Verify operation before using meter by measuring a known live voltage.
- Do not use the meter in wet or damp environments or during electrical storms.
- Do not use the meter or near explosive vapors, dust or gasses.
- Do not use the meter if it operates incorrectly, protection may be compromised.
- Do not operate meter while Low Battery warning is on, replace batteries immediately.
- Do not apply voltage or current that exceeds the meter's maximum rated input limits.

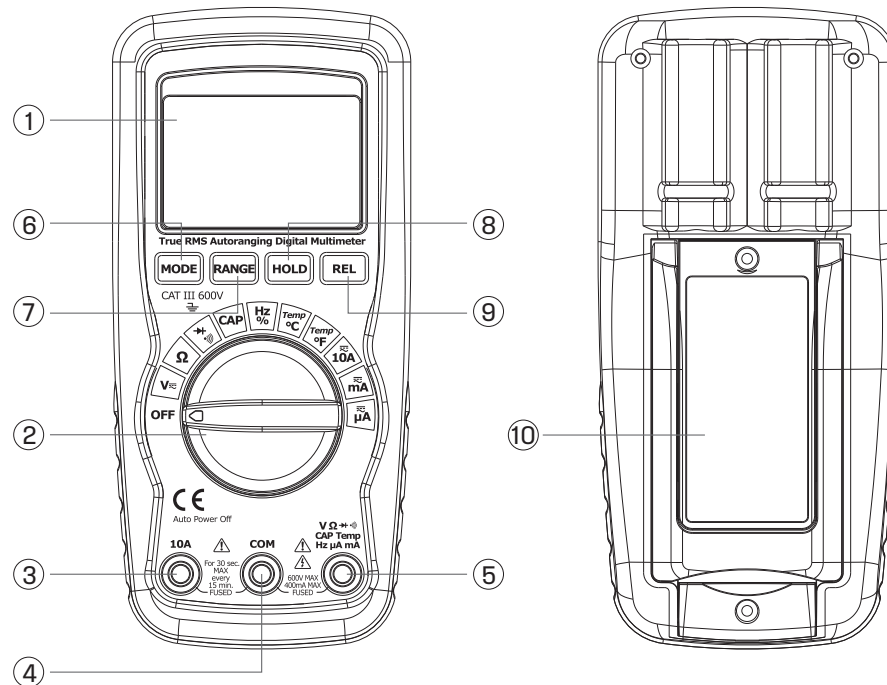
Input Limits

Function	Maximum Input
Voltage AC or DC	600V AC/DC
Frequency	600V AC/DC
Resistance, Capacitance, Continuity, Diode Test, Temperature	250V AC/DC
10A Current AC or DC	10A/600V fast acting Fuse
mA Current AC or DC	500mA/600V fast acting Fuse

Description

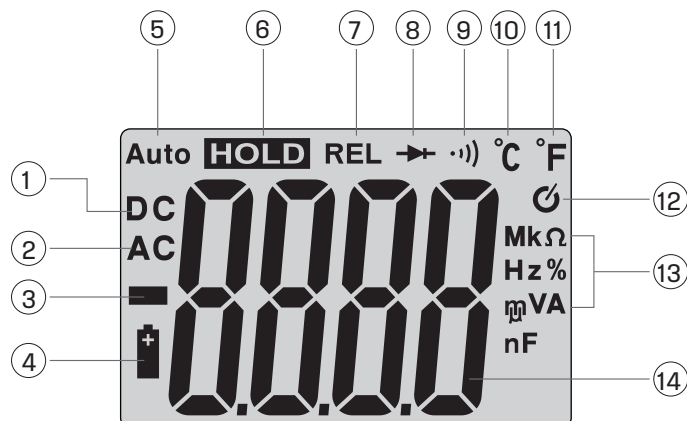
Meter Description

- | | | |
|--------------------|------------------------|---------------------|
| 1. LCD Display | 5. Positive Input Jack | 8. DATA HOLD Button |
| 2. Function Switch | 6. MODE Button | 9. RELATIVE Button |
| 3. 10A Input Jack | 7. RANGE Button | 10. Battery Cover |
| 4. COM Input Jack | | |



Symbols Used on LCD Display

- | | | |
|------------------------|-----------------------|---------------------------|
| 1. Direct Current | 6. Data Hold | 11. Degrees Fahrenheit |
| 2. Alternating Current | 7. Relative Mode | 12. Auto Power Off |
| 3. Minus Sign | 8. Diode Test | 13. Units of Measure List |
| 4. Low Battery | 9. Audible Continuity | 14. Measurement Reading |
| 5. Auto Ranging Mode | 10. Degrees Celsius | |



Button

MODE Button

To select Diode/Continuity, DC/AC, Hz/%Duty

RANGE Button

When the meter is first turned on, it automatically goes into Autoranging. This automatically selects the best range for the measurements being made and is generally the best mode for most measurements. For measurement situations requiring that a range be manually selected, perform the following:

1. Press the **RANGE** button. The “**AUTO**” display indicator will turn off.
2. Press the **RANGE** button to step through the available ranges until the desired test ranges is selected.
3. Press and hold the **RANGE** button for 2 seconds to exit the Manual Ranging mode and return to Auto-Ranging mode.

Data Hold Button

The Data Hold function allows the meter to “freeze” a measurement for later reference.

1. Press the **Data Hold** button to “freeze” the reading on the display. the indicator “**HOLD**” will be appear in the display.
2. Press the **Data Hold** button to return to normal operation.

RELATIVE Button

The relative measurement feature allows you to make measurements relative to a stored reference value. A reference voltage, current, etc. can be stored and measurements made in comparison to that value. The displayed value is the difference between the reference value and the measured value.

1. Perform any measurement as described in the operating instructions.
2. Press the **RELATIVE button** to store the reading in the display and the “**REL**” indicator will appear on the display.
3. The display will now indicate the difference between the stored value and the measured value.
4. Press the **RELATIVE button** to return to normal operation.

Operation

WARNING: Risk of electrocution. High-voltage circuits, both AC and DC, are very dangerous and should be measured with great care.

- ALWAYS turn the function switch to the OFF position when the meter is not in use. This meter has Auto OFF that automatically shuts the meter OFF if 15 minutes elapse between uses.
- If “OL” appears in the display during a measurement, the value exceeds the range you have selected. Change to a higher range.

NOTE: On some low AC and DC voltage ranges, with the test leads not connected to a device, the display may show a random, changing reading. This is normal and is caused by the high-input sensitivity. The reading will stabilize and give a proper measurement when connected to a circuit.

DC Voltage Measurements

CAUTION: Do not measure DC voltages if a motor on the circuit is being switched ON or OFF. Large voltage surges may occur that can damage the meter.

1. Set the function switch to the **VDC** position ("**mV**" will appear in the display).
2. Insert the black test lead banana plug into the negative (**COM**) jack and the red test lead banana plug into the positive (**V**) jack.
3. Touch the test probe tips to the circuit under test. Be sure to observe the correct polarity (red lead to positive, black lead to negative).
4. Read the voltage in the display. The display will indicate the proper decimal point and value. If the polarity is reversed, the display will show (-) minus before the value.

AC Voltage Measurements

WARNING: Risk of Electrocution. The probe tips may not be long enough to contact the live parts inside some 240V outlets for appliances because the contacts are recessed deep in the outlets. As a result, the reading may show 0 volts when the outlet actually has voltage on it. Make sure the probe tips are touching the metal contacts inside the outlet before assuming that no voltage is present.

CAUTION: Do not measure AC voltages if a motor on the circuit is being switched ON or OFF. Large voltage surges may occur that can damage the meter.

1. Set the function switch to the **VAC** position.
2. Insert the black test lead banana plug into the negative (**COM**) jack and the red test lead banana plug into the positive (**V**) jack.
3. Touch the test probe tips to the circuit under test.
4. Read the voltage in the display. The display will indicate the proper decimal point, value and symbol (AC, V, etc.).

DC Current Measurements

CAUTION: Do not make current measurements on the 10A scale for longer than 30 seconds. Exceeding 30 seconds may cause damage to the meter and/or the test leads.

1. Insert the black test lead banana plug into the negative (**COM**) jack.
2. For current measurements up to 400 μ A DC, set the function switch to the **μ A** position and insert the red test lead banana plug into the (**mA/ μ A**) jack.
3. For current measurements up to 400mA DC, set the function switch to the **mA** range and insert the red test lead banana plug into the (**mA/ μ A**) jack.
4. For current measurements up to 10A DC, set the function switch to the **10A** position and insert the red test lead banana plug into the (**10A**) jack.
5. Press the **MODE Button** until "**DC**" appears in the display.

6. Remove power from the circuit under test, then open up the circuit at the point where you wish to measure current.
7. Touch the black test probe tip to the negative side of the circuit. Touch the red test probe tip to the positive side of the circuit.
8. Apply power to the circuit.
9. Read the current in the display. The display will indicate the proper decimal point, value and symbol.

Current Measurements

WARNING: To avoid electric shock, do not measure AC current on any circuit whose voltage exceeds 250V AC.

CAUTION: Do not make current measurements on the 10A scale for longer than 30 seconds. Exceeding 30 seconds may cause damage to the meter and/or the test leads.

1. Insert the black test lead banana plug into the negative (**COM**) jack.
2. For current measurements up to 4000 μ A AC, set the function switch to the **μ A** position and insert the red test lead banana plug into the (**mA/ μ A**) jack.
3. For current measurements up to 400mA AC, set the function switch to the **mA** range and insert the red test lead banana plug into the (**mA/ μ A**) jack.
4. For current measurements up to 10A AC, set the function switch to the **10A** position and insert the red test lead banana plug into the **10A** jack.
5. Press the **MODE Button** until "**AC**" appears in the display.
6. Remove power from the circuit under test, then open up the circuit at the point where you wish to measure current.
7. Touch the black test probe tip to the negative side of the circuit. And touch the red test probe tip to the positive side of the circuit.
8. Apply power to the circuit.
9. Read the current in the display. The display will indicate the proper decimal point, value and symbol.

Resistance Measurements

WARNING: To avoid electric shock, disconnect power to the unit under test and discharge all capacitors before taking any resistance measurements. Remove the batteries and unplug the line cords.

1. Set the function switch to the Ω position.
2. Insert the black test lead banana plug into the negative (**COM**) jack and the red test lead banana plug into the positive (Ω) jack.
3. Touch the test probe tips across the circuit or part under test. It is best to disconnect one side of the part under test so the rest of the circuit will not interfere with the resistance reading.
4. Read the resistance in the display. The display will indicate the proper decimal point, value and symbol.

Frequency Measurement

1. Set the function switch to the **FREQ** position.
2. Insert the black test lead banana plug into the negative (**COM**) jack and the red test lead banana plug into the positive (**Hz**) jack.
3. Touch the test probe tips to the circuit under test.
4. Read the frequency in the display. The digital reading will indicate the proper decimal point, symbols (Hz, kHz) and value.

Capacitance Measurements

WARNING: To avoid electric shock, disconnect power to the unit under test and discharge all capacitors before taking any capacitance measurements. Remove the batteries and unplug the line cords.

1. Set the function switch to the **CAP** position. ("nF" and a small value will appear in the display).
2. Insert the black test lead banana plug into the negative (**COM**) jack and the red test lead banana plug into the positive (**CAP**) jack.
3. Touch the test leads to the capacitor to be tested. The display will indicate the proper decimal point, value and symbol.

Temperature Measurements

WARNING: To avoid electric shock, disconnect both test probes from any source of voltage before making a temperature measurement.

1. If you wish to measure temperature in **°C**, set the function switch to the **°C** range. If you wish to measure temperature in **°F**, set the function switch to the **°F** range.
2. Insert the type K thermocouple probe black test lead banana plug into the negative **COM** jack and the red test lead banana plug into the positive **Temp** jack.
3. Touch the Temperature Probe head to the part whose temperature you wish to measure. Keep the probe touching the part under test until the reading stabilizes (about 30 seconds).
4. Read the temperature in the display. The digital reading will indicate the proper decimal point and value.

WARNING: To avoid electric shock, be sure the thermocouple has been removed before changing to another measurement function.

Continuity Check

WARNING: To avoid electric shock, never measure continuity on circuits or wires that have voltage on them.

1. Set the function switch to the $\rightarrow \nabla \bullet$ position.
2. Insert the black lead banana plug into the negative (**COM**) jack and the red test lead banana plug into the positive (Ω) jack.
3. Press the **MODE Button** until the symbol $\bullet$ appears in the display.
4. Touch the test probe tips to the circuit or wire you wish to check. If the resistance is less than approximately 50Ω , the audible signal will sound. The display will also show the actual resistance.

Diode Test

WARNING: To avoid electric shock, do not test any diode that has voltage on it.

1. Set the function switch to $\rightarrow \nabla \bullet$ position.
2. Press the **MODE Button** until the $\rightarrow \nabla$ symbol appears in the display.
3. Insert the black test lead banana plug into the negative (**COM**) jack and the red test lead banana plug into the positive (Ω) jack.
4. Touch the test probe tips to the diode or semiconductor junction you wish to test. Note the meter reading.
5. Reverse the probe polarity by switching probe position. Note this reading.
6. The diode or junction can be evaluated as follows:
 - A. If one reading shows a value and the other reading shows OL, the diode is good.
 - B. If both readings show OL, the device is open.
 - C. If both readings are very small or 0, the device is shorted.

NOTE: The value indicated in the display during the diode check is the forward voltage.

Replacing the Battery

WARNING: To avoid electric shock, disconnect the test leads from any source of voltage before removing the battery door.

1. Disconnect the test leads from the meter.
2. Open the battery cover by loosening the screw using a Phillips head screwdriver.
3. Insert the battery into battery holder, observing the correct polarity.
4. Put the battery cover back in place. Secure with the two screws.

WARNING: To avoid electric shock, do not operate the meter until the battery door is in place and fastened securely.

NOTE: If your meter does not work properly, check the fuses and battery to make sure that they are still good and that they are properly inserted.

Replacing The Fuses

WARNING: To avoid electric shock, disconnect the test leads from any source of voltage before removing the fuse cover.

1. Loosen the Phillips screws on the fuse cover.
2. Carefully remove the old fuse using a non-metallic tool to avoid damage or accidental contact.
3. Gently remove the old fuse and install the new fuse into the holder.
4. Insert the new fuse into the holder, ensuring it is securely in place and matches the specified type and rating.
5. Replace and secure the fuse cover.

WARNING: To avoid electric shock, do not operate your meter until the fuse cover is in place and fastened securely.

Care and Maintenance

- Do not immerse the instrument in water.
- Ensure the multimeter is powered off, then clean it gently using a dry, lint-free cloth
- Do not use aggressive cleaning agents or solutions.
- Do not mix different types of batteries such as alkaline, carbon-zinc, or rechargeable batteries.
- Handle the instrument with care.
- Please take out the battery when the instrument is not used for a long time.
- * Keep it away from high temperatures and humidity. If the meter has been stored in extreme conditions beyond the limits specified in the General Specifications section, allow it to stabilize under normal operating conditions before use.

Specifications

Technical Specifications

Accuracy is given at 18 to 28°C (65 to 83°F), Less than 70 % RH.

Function	Range	Resolution	Accuracy ± (% of reading)
DC Voltage Auto-ranging	400.0mV	0.1mV	±(0.5% + 2 digits)
	4.000V	1mV	±(1.2% + 2 digits)
	40.00V	10mV	
	400.0V	100mV	
	600V	1V	±(1.5% + 2 digits)

Input Impedance: 10MΩ. Maximum Input: 600V DC or 600V AC RMS.

Function	Range	Resolution	Accuracy ± (% of reading)
AC Voltage Auto-ranging except 400mV	400.0mV	0.1mV	±(1.5% + 15 digits)
	4.000V	1mV	±(1.2% + 3 digits)
	40.00V	10mV	±(1.5% + 3 digits)
	400.0V	100mV	
	600V	1V	±(2.0% + 4 digits)

Input Impedance: 10MΩ. Frequency Range: 50 to 60Hz.

Maximum Input: 600V DC or 600V AC RMS.

All AC voltage ranges are specified from 5% of range to 100% of range;

AC voltage bandwidth: 50 to 400Hz(sine), 50 to 60Hz (all wave).

Function	Range	Resolution	Accuracy ± (% of reading)
DC Current Auto-ranging for μA and mA	400.0μA	0.1μA	±(1.0% + 3 digits)
	4000μA	1μA	±(1.5% + 3 digits)
	40.00mA	10μA	
	400.0mA	100μA	
	10A	10mA	±(2.5% + 5 digits)

Overload Protection: 0.5A / 250V and 10A / 250V Fuse.

Maximum Input: 400mA DC or 400mA AC RMS on μA/mA ranges.

10A DC or AC RMS on 10A range.

Function	Range	Resolution	Accuracy $\pm$ (% of reading)
AC Current Auto-ranging for μA and mA	400.0 μ A	0.1 μ A	$\pm(1.5\% + 5 \text{ digits})$
	4000 μ A	1 μ A	$\pm(1.8\% + 5 \text{ digits})$
	40.00mA	10 μ A	
	400.0mA	100 μ A	
	10A	10mA	$\pm(3.0\% + 7 \text{ digits})$

Overload Protection: 0.5A / 250V and 10A / 250V Fuse.

Frequency Ranges: 50 to 400Hz.

Maximum Input: 400mA DC or 400mA AC RMS on μ A/mA ranges.

10A DC or AC RMS on 10A range.

All AC Current ranges are specified from 5% of range to 100% of range;

AC Current bandwidth: 50 to 400Hz(sine), 50 to 60Hz (all wave).

Function	Range	Resolution	Accuracy $\pm$ (% of reading)
Resistance Auto-ranging	400.0 Ω	0.1 Ω	$\pm(1.2\% + 4 \text{ digits})$
	4.000k Ω	1 Ω	$\pm(1.0\% + 2 \text{ digits})$
	40.00k Ω	10 Ω	$\pm(1.2\% + 2 \text{ digits})$
	400.0k Ω	100 Ω	
	4.000M Ω	1k Ω	
	40.00M Ω	10k Ω	$\pm(2.0\% + 3 \text{ digits})$

Input Protection: 250V DC or 250V AC RMS.

Function	Range	Resolution	Accuracy $\pm$ (% of reading)
Capacitance Auto-ranging	40.00nF	0.01nF	$\pm(5.0\% + 20 \text{ digits})$
	400.0nF	0.1nF	$\pm(3.0\% + 5 \text{ digits})$
	4.000 μ F	1nF	
	40.00 μ F	10nF	
	4.000mF	0.001mF	$\pm(5.0\% + 5 \text{ digits})$

Input Protection: 250V DC or 250V AC RMS.

Function	Range	Resolution	Accuracy $\pm$ (% of reading)
Frequency Auto-ranging	9.999Hz	0.001Hz	$\pm(1.5\% + 5 \text{ digits})$
	99.99Hz	0.01Hz	
	999.9Hz	0.1Hz	$\pm(1.2\% + 3 \text{ digits})$
	9.999kHz	1Hz	
	99.99kHz	10Hz	
	999.9kHz	100Hz	
	9.999MHz	1kHz	$\pm(1.5\% + 4 \text{ digits})$

Sensitivity: >0.5V RMS while $\leq 1\text{MHz}$;
Sensitivity: >3V RMS while $> 1\text{MHz}$;
Overload Protection: 250V DC or AC RMS.

Function	Range	Resolution	Accuracy
Duty Cycle	0.1% to 99.9%	0.1%	$\pm(1.2\% + 2 \text{ digits})$

Pulse width: $>100\mu\text{s}$, $<100\text{ms}$
Frequency width: 5Hz to 150kHz
Sensitivity: >0.5V RMS
Overload Protection: 250V DC or AC RMS.

Function	Range	Resolution	Accuracy
Temperature	-20 to 760°C	1°C	$\pm(3\% + 5^\circ\text{C})$
	-4 to 1400°F	1°F	$\pm(3\% + 9^\circ\text{F})$

Sensor: Type K Thermocouple
Overload Protection: 250V DC or AC RMS.

Function	Range	Resolution	Accuracy
Diode Test	0.3mA Typical	1mV	$\pm(10\% + 5 \text{ digits})$

Open Circuit Voltage: 3.2V DC typical;
Overload Protection: 250V DC or AC RMS.

Audible Continuity

Audible threshold: Less than 50Ω, Test current: $<0.35\text{mA}$
Overload Protection: 250V DC or AC RMS.

General Specifications

Instrument Complies with:	UL 61010-1 & CSA C22.2 No 61010-1 Safety Requirements For Electrical Equipment For Measurement, Control, And Laboratory.
Insulation:	Class2, Double insulation.
Overvoltage Category:	CAT III 600V.
Display:	4000 counts LCD display with function indication.
Polarity:	Automatic, (-) negative polarity indication.
Overrange:	"OL" mark indication.
Low Battery Indication:	The "🔋" is displayed when the battery voltage drops below the operating level.
Measurement Rate:	2 times per second, nominal.
AC Response:	True RMS
Auto Power Off:	Meter automatically shuts down after approx. 15 minutes of inactivity.
Operating Environment:	0 to 50°C (32 to 122°F) at < 70% relative humidity.
Storage Temperature:	-20 to 60°C (-4 to 140°F) at < 80% relative humidity.
Operating Altitude:	2000m
Pollution Degree:	2
Power:	One 9V battery, NEDA 1604, IEC 6F22.

2-Year Warranty

If your product fails due to defects in materials or workmanship, we will replace it. This warranty is valid only for the original end-user purchaser of the product.

Exclusions:

- The warranty is non-transferable.
- For details, contact Customer Care at (888) 230-4260 or send us a mail at support@pmd.westinghouse.com
- This warranty applies exclusively to products purchased directly from us or our authorized sellers. Products bought from unauthorized sellers, including unapproved online platforms, may not be covered unless prohibited by law.
- We reserve the right to deny warranty claims for items purchased from unauthorized sellers.

Legal Rights:

This warranty provides you with specific legal rights, and you may have additional rights that vary by state or country. Proof of purchase indicating the date and place of purchase may be required.

Limitations:

This limited warranty replaces all other express warranties. Any implied warranties, including merchantability or fitness for a particular purpose, are limited to the duration of this warranty. We are not liable for incidental or consequential damages.

Note: Some states or countries do not allow limitations on the duration of implied warranties or exclusions of certain damages, so these limitations may not apply to you.

This guarantee applies only to products purchased from us or authorized sellers unless prohibited by law. We may reject claims for items bought from unauthorized sellers, including unapproved online platforms.

For more details or to confirm if a seller is authorized, contact Customer Care at (888) 230-4260 or email us at support@pmd.westinghouse.com

Disposal / Recycle

Do not dispose of the equipment and its accessories in the trash. Ensure proper disposal in compliance with local regulations. For more information, visit www.epa.gov/recycle.



www.westinghouse.com
Service Number 888-230-4260

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