MTA15Z

PowerMaster® Accessory

Product Manual

Revision 1.1

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General Information

Product Introduction

The MTA15Z is a self-contained accessory to the PowerMaster® analyzer. This accessory accommodates testing of any ANSI socket-based meter using a load provided by the PowerMaster®. The MTA15Z includes a zero-insertion force (ZIF) socket that is automatically configured by the PowerMaster®and requires no jumpers for testing. For mechanical meters, the user can pull the supplied pins for the lid, rotate the case upright, and test appropriately.

Currents are injected via the PowerMaster® by the 6mm terminated lead set. Voltages are injected using the standard voltage lead set, and are fused for each phase on the MTA15Z.

Once the service type is selected in the PowerMaster®, the user will select a Phantom Load Setup to provide the test. Results are saved as normal in the PowerMaster® and will be downloaded using the Meter Site Manager 2 software.

Included Accessories

Qty.	Part #	Description
1	10-340-3309	RS232 Communication Cable
1	10-340-0066	Power Cable
2	22-900-2022	Pull pin for lid
1	10-340-0068	AC power cable (N. America)
1	10-340-0069	AC power supply (100-240V)
1	10-340-4096G	Green safety ground lead
1	50-950-0006	Green alligator clip

Spare Parts

Qty.	Part #	Description
3	34-100-0144	KLKR Fuse 0.5A, 600V, slow acting
2	22-900-2022	Pull pin for lid

Safety

Operation of the PowerMaster® and the supplied accessories and adapters can present the user to potentially hazardous conditions. Please follow all required safety procedures set forth by the user's safety organization within the company. If no safety organization exists, please follow all applicable OSHA rules and standards for PPE (Person Protective Equipment) when working in high voltage and low voltage environments. This equipment should be used by trained and qualified personnel ONLY.

Tips for Testing:

1. Connect the green safety ground to a true earth ground before testing begins. Remove the green safety ground last after testing is complete.
2. Never disconnect the CURRENT or VOLTAGE leads from the PowerMaster® while driving a load into the MTA15Z.
3. Pressing the "ON" key on the PowerMaster® while driving a load can be used as an emergency shutoff. The auxiliary power switch on the front panel of the PowerMaster® will provide the same function as well.

Specifications

Supported PowerMaster® models	7332 and 7335
Supported meter forms	1S, 2S, 3S, 4S, 5S, 6S, 8S, 9S, 10S, 11S, 12S, 13S, 14S, 15S, 16S, 17S, 25S, 26S, 29S, 35S, 36S, 39S, 45S, 46S, 56S, 66S, 76S
Fuse (x3)	KLKR 0.5A, 600V; slow acting
Case	Pelican 1450
Dimensions	14.6" x 10" x 6"
Weight	14.8 lbs (6.7 kg)
Warranty	1 year (does not include fuses)

Technical Support

For technical support, please contact the factory at (865) 218-5838 (877-966-5851 toll free) and ask for "Powermetrix Technical Support." You may alternatively email Powermetrix at help@powermetrix.com. The support staff will answer questions about the operation and care of your equipment, assist you in troubleshooting a problem, and help you overcome common application difficulties whenever possible. If it becomes necessary for your equipment to be returned to us for any reason, you will be issued an RMA number during the technical support contact.

Feedback

Powermetrix depends on information from our customers to continue the attributes of quality, dependability, and simplicity associated with our products. We invite you to contact our Technical Support office.

1 Setting Up

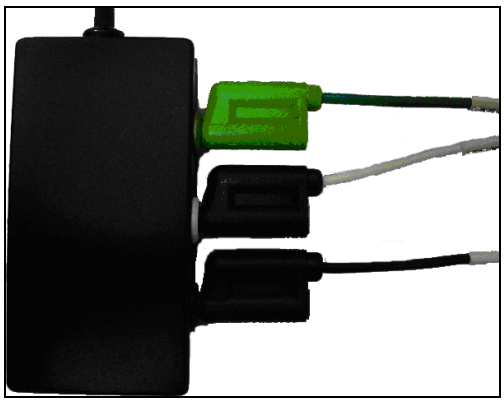
Grounding

For the PowerMaster® to properly stabilize and achieve the highest possible accuracy, the MTA15Z must be properly grounded. Using the greed safety ground lead, insert the cable into the green "VOLTAGE DRIVE" (BOTTOM) female receptacle. If using an alligator clip, connect to a known earth ground. When using in a laboratory application, Powermetrix recommends the AC Plug to Safety Banana Plug Adapter (part# 10-340-0045). This accessory allows the Auxiliary power, Auxiliary neutral, and ground to be easily terminated for a standard US three-prong AC wall outlet.

Voltage Lead Connections

1. Connect the Voltage Lead Set + Safety Ground + Aux Power cable to the PowerMaster®.
2. Remove all alligator clips from the ends.
3. Separate the "MEASURE" and "RETURN" from the stackable banana jacks.
4. Insert the cables labeled "MEASURE" into the "VOLTAGE MEASURE" receptacles according to their color code.
5. Insert the cables labeled "DRIVE" into the "VOLTAGE DRIVE" receptacles according to their color code.
6. Insert the green lead with alligator clip into the "VOLTAGE DRIVE" receptacle. Connect the alligator clip to a known earth ground.
7. Connect the AUX PWR and AUX NEU to a voltage source between 100-530VAC.

Voltage cables from PowerMaster®

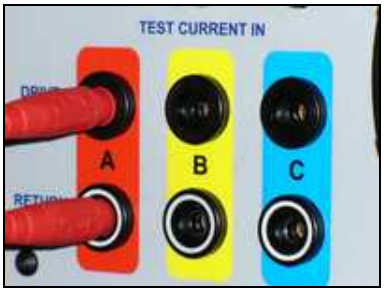


Auxiliary power connected to voltage source (100-530VAC)

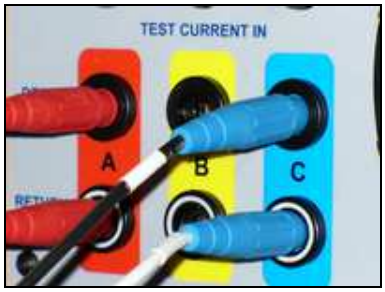
WARNING: Input voltage must be supplied from the Model 7332 or 7335 only. Any other source voltage from the service or another device will cause damage to the MTA15Z that is not covered under the 1-year warranty.

Current Lead Connections

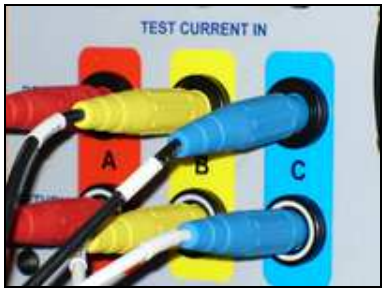
1. Connect the 3-Phase Current Direct Probes (terminated with 6mm plugs) to the PowerMaster®.
2. Insert the probes into the “TEST CURRENT IN”. According to the color code, plug the phase DRIVE into the blackfemale receptacle (DRIVE, BLACK) and the RTN into the white female receptacle (RETURN, WHITE) for each phase.



Forms 1,3



Forms 2, 4, 5, 12, 13, 25, 26, 35, 45, 56, 66,



Forms 6, 8, 9, 10, 11, 14, 15, 16, 17, 29, 36, 39, 46, 76

Removal

To remove the probes, push into the receptacle gently and now the probe will unlock for removal.

Communication and Power Connections

1. Connect the DB9 cable to “RS232” on the PowerMaster® and “CONTROL IN” on the MTA15Z.
2. Connect the gray power cable to “AUX ANALOG” on the PowerMaster® and “DC IN” on the MTA15Z.

Cables from PowerMaster®

Cables to MTA15Z

Alternate Power Connection (using the AC Power Supply and Cable)

1. Connect the AC Power Supply and AC Power Cable together.
2. Plug the cable into the “DC IN” on the MTA15Z.
3. Plug the AC Power Supply into an AC source between 100-240VAC.

Testing Mechanical Meters

1. Open the case and remove the pull pins located at the hinge of the lid.
2. Remove the lid and place aside.
3. Insert the meter into the appropriate socket.
4. Rotate the MTA15Z in a vertical position so the case stands upright.
5. For pulse detection, use a Manual Pushbutton Switch (10-100-3311) or a Photo Disk Detector with Flexible Arm Mount (10-100-3326).
6. Test as normal.

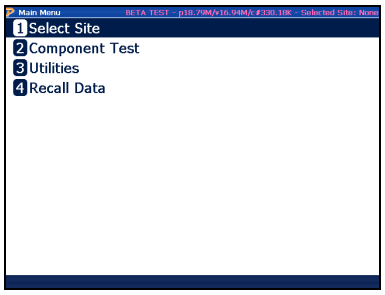
2 PowerMaster Procedure

NOTE on selecting Service Types

Some service type files are specific to the MTA15Z. These apply to forms 1, 2, 3, 4, 5, 12, and 56. When selecting these meter forms, select the Service Type that ends with “M”. Otherwise, the user will receive an error message when attempting to test.

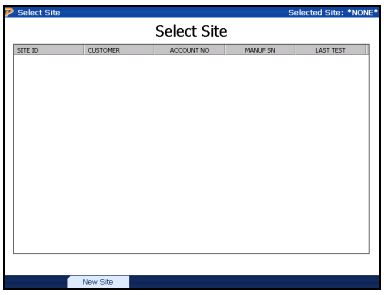
2.1 With Site Selected

STEP 1



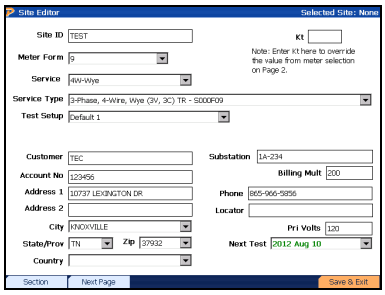
At the Main Menu, press “1” to Select Site.

STEP 2



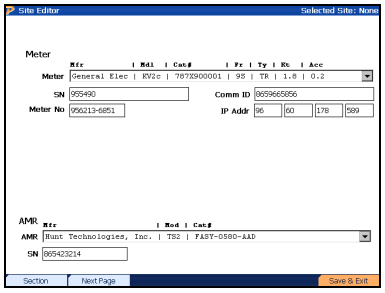
In the Site Editor, press F2 to create a new site.

STEP 3



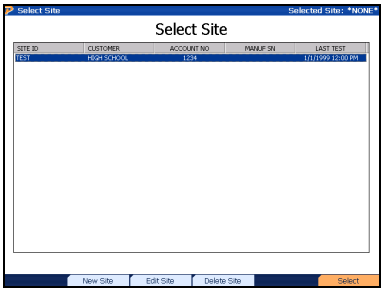
In the Site Editor screen, enter the Site ID, meter form, service, and service type according to the Jumper Configuration Diagram

STEP 4



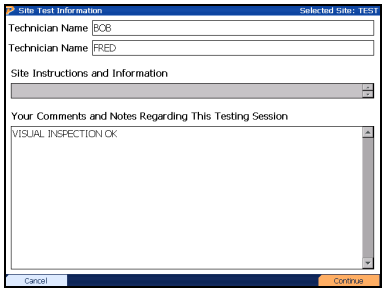
Press F2 to select a meter in the database, or enter a Kt on Page 1. Press F6 to save and exit.

STEP 5



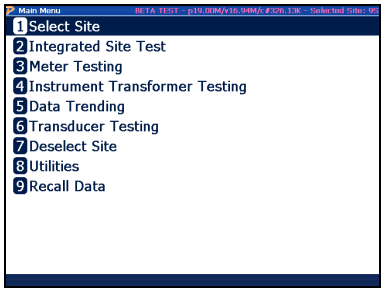
At the Site Editor, press F6 to select the site to be tested.

STEP 6



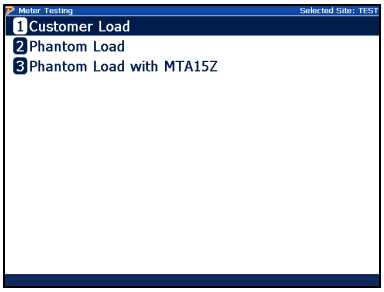
Optionally enter the user’s name(s) and any comments regarding the installation. Press F6 to continue.

STEP 7



At the Main Menu, press “3” to enter Meter Testing.

STEP 8

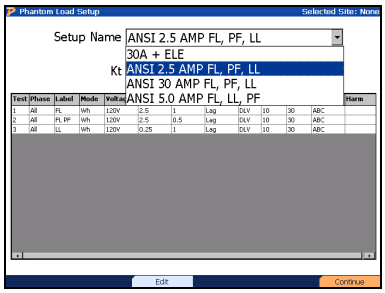


At the Meter Testing menu, press “3” to enter Phantom Load with MTA15Z

STEP 9

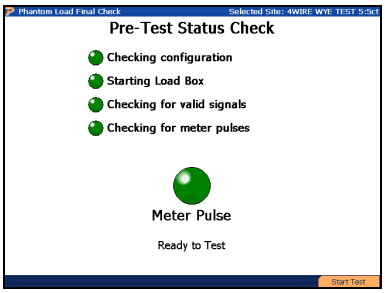
Hook up pulse pickup to meter (AUX DIG on PowerMaster).

STEP 10



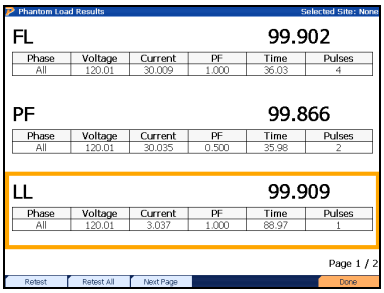
Select the setup, then press F6 to continue.

STEP 11



After stabilization is complete and pulses are detected, press F6 to continue.

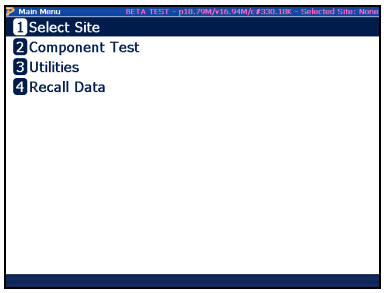
STEP 12



After the test is complete, press F6 to save and exit.

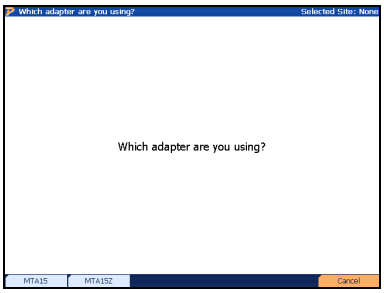
2.2 With No Site Selected (Component Test)

STEP 1



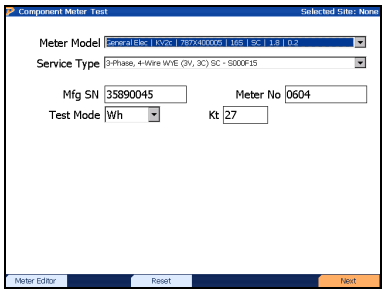
At the Main Menu, press “2” for Component Test.

STEP 2



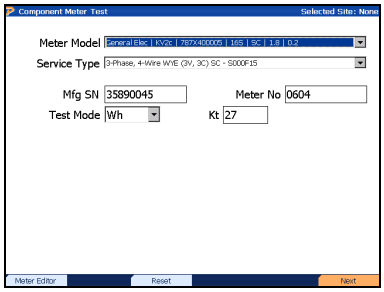
Press F2 to select “MTA15Z”.

STEP 3



In the Component Test screen, select the Meter Model and desired Service Type.

STEP 4

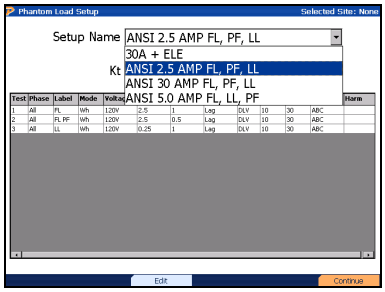


Enter the serial number (MFG SN) and alternatively the Kt value. Press F6 to continue.

STEP 5

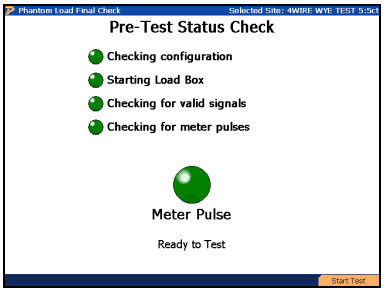
Hook up pulse pickup to meter (AUX DIG on PowerMaster).

STEP 6



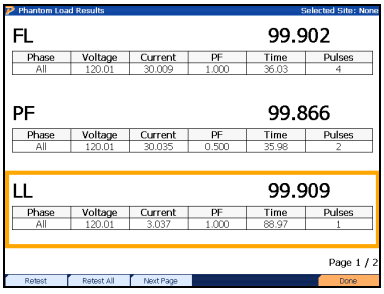
Select the setup, then press F6 to continue.

STEP 7



After stabilization is complete and pulses are detected, press F6 to continue

STEP 12

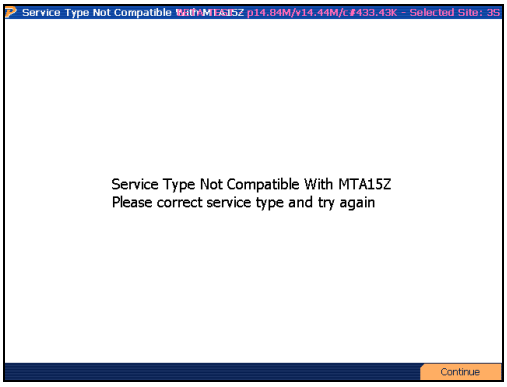


After the test is complete, press F6 to save and exit.

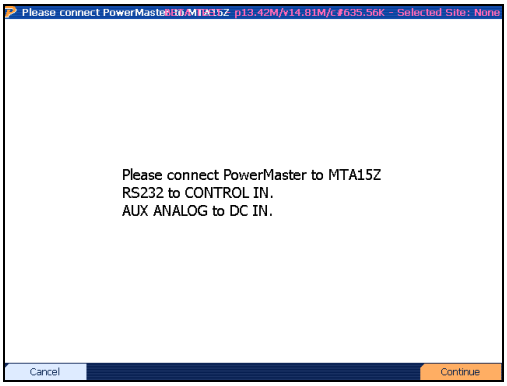
3 Error Messages

In some instances, error messages may display if a problem occurs. If the user encounters one or more of these error messages, please check the setup again.

Examples:



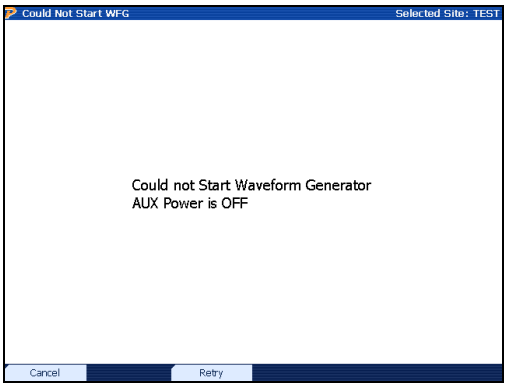
The service type selected is not compatible with the MTA15Z. Go back to the Site Editor (Main Menu, Select Site) and select a service type file that ends with “M”.



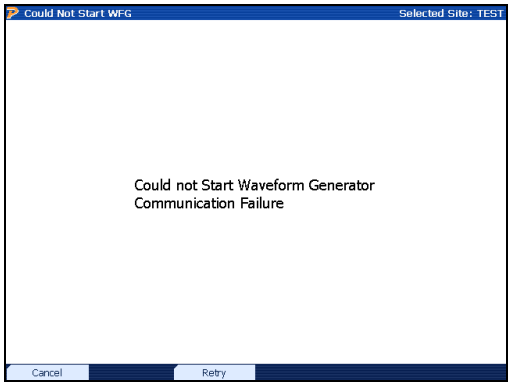
The PowerMaster® cannot communicate with the MTA15Z. Verify the following:

1. Verify cables are connected according to Section 1 Setting Up, Communication and Power Connections
2. Verify 24VDC output from gray power cable connected to AUX ANALOG on the PowerMaster®

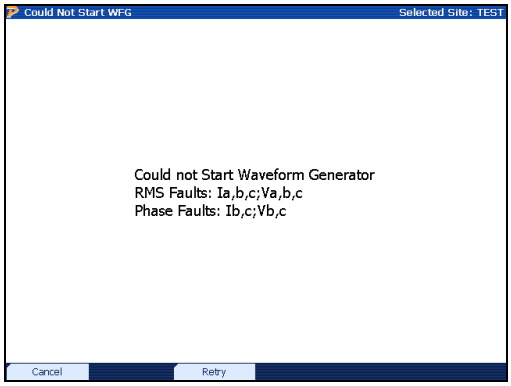
If the error continues, please contact Powermetrix Technical Support.



The PowerMaster® cannot detect an auxiliary power source between 100-530VAC. Check the connections and/or verify the Auxiliary Power switch is in the “on” position (- = on).



The PowerMaster® cannot communicate with the WFG board. Attempt to power off/on to fix the issue. If this is not successful, contact Technical Support.



The PowerMaster® cannot stabilize the currents and/or voltages. Attempt the following:

1. Verify the green safety ground lead is connected to true earth
2. Verify the current leads are connected according to Section 1 Setting Up, Current Lead Connections
3. Attempt moving auxiliary leads to a different AC source
4. Attempt to uncheck “Stabilize Load Box Phases” in User Preferences (see PowerMaster® user manual)