

## Executing a Demand Test with the RB-10 Bantam Lite Portable Meter Test System

### *Hardware Requirements*

- 1) RB-10 Bantam Lite Portable Meter Test System
- 2) Watthour Meter with Demand Funcionality (DUT)

Any work with the RB-10 Bantam Lite Portable Meter Test System, associated accessories, energized standards, and energized meters can present the danger of electrical shock. The RB-10 and its accessories should be operated by qualified personnel. The information provided in this instruction set is intended to serve as a guide for properly qualified electric utility personnel. This instruction set is not intended to replace existing electric utility safety procedures and those listed in the Handbook for Electricity Metering.

Operation of the RB-10 should not be conducted if the work area is wet or damp. Operation should also not be conducted if flammable gases or fumes are present in the work area. When using the RB-10 never make voltage and current connections/disconnections when the system is live. For service or repairs to the RB-10 contact Radian Research, Inc. Do not attempt to service or make modifications to the RB-10 due to the risk of electrical shock.

Radian Research, Inc. assumes no liability for failure to comply with existing applicable safety precautions as well as those listed in this warning statement.

## *Hardware Setup*

1. Ensure that the RB-10's top panel LINE VOLTAGE switch is set to the OFF position.
1. Following the general instructions included in the RB-10 Bantam Lite Operations Manual, make all appropriate test cable connections to the meter installation.
2. Make the following settings to the top panel of the RB-10:
  - a) LINE VOLTAGE – OFF
  - b) SUPPLY VOLTAGE – SERVICE VOLTAGE
  - c) TEST CURRENT ADJUSTMENT – FULLY COUNTER CLOCK-WISE
  - d) ON/OFF ROCKER SWITCH – OFF
  - e) TEST CURRENT TAP – SET TO THE TEST AMPERAGE (TA) AS NOTED ON THE METER'S FACEPLATE
  - f) ELEMENTS – ABC
3. Following all applicable meter test and safety procedures, apply service voltage to the RB-10.
4. Turn the LINE VOLTAGE switch to the ON position.
5. Wait 30 seconds for device initialization and start-up.

## Test Procedure

### Creating a Test:

1. Power up the handheld by pressing the ON key.
2. Select 3 TEST SETUPS
3. Select 1 METER TEST
4. Select 2 Create
5. Enter the following values into the test parameters:
  - a) Test Name: User Choice
  - b) PriKh: Set to Kh value as listed on the meter's faceplate
  - c) Test by: User Choice – Revs or Energy
  - d) Function: User Choice – Watthour or VARhour
  - e) Mode: 1-Phase Average
  - f) Ref Type: Radian
  - g) #Inputs: 3
  - h) SER#1: Optional – You may enter the embedded standard's serial number
  - i) SER#2: Leave Blank
  - j) SER#3: Leave Blank
  - k) Elements: Set to the number of elements of the meter form
  - l) FL Revs: Enter the desired number of revolutions for the Full Load test\*
  - m) PF Revs: Enter the desired number of revolutions for the Power Factor test\*
  - n) LL Revs: Enter the desired number of revolutions for the Light Load test\*
  - o) FL WAVG: optional – You may enter the FL weight factor for the weighted average calculation
  - p) PF WAVG: optional – You may enter the PF weight factor for the weighted average calculation
  - q) LL WAVG: optional – You may enter the LL weight factor for the weighted average calculation
  - r) Demand: Enter the desired duration (in minutes) for the demand test
  - s) Pulses/Rev: Enter the number of output pulses expected per equivalent revolution of the meter. Typically, this is 1.
  - t) Creep Mins: Optional – Enter the desired duration (in minutes) for the creep test.\*
6. Press the ENTER key to save the test setup
7. Press the CANCEL key twice to return to the main menu

\*To configure the test to only execute the demand test, set these fields to "0"

## Test Procedure

### Running a Test:

1. Select 1 RUN TESTS
2. Select 1 Test Meter
3. Select the appropriate test – The handheld will prompt you to connect the pulse sensor to either the PICKUP or PORT A connectors
4. Press the ENTER key - The handheld will display the internal standard's serial number, the service voltage, the current, and the phase angle.
5. Press the ENTER key – The handheld will prompt you to ensure the pulse sensor is correctly aligned.
6. Press the ENTER key – If the test is configured to run the FL, PF, and/or LL tests, the RB-10 will execute these steps, prompting the user to change the current settings at the proper times. If the test is configured only for the demand test, the handheld will prompt you to clear the meter's demand register.
7. Once the meter's demand register is cleared, press the ENTER key. The handheld will count to the pre-set duration, and the reading from the embedded reference standard will be displayed.
8. After the duration has been reached, when prompted, press the ENTER key .
9. Enter the KW reading from the meter's demand register and press the ENTER key.