

Changing Scale Factors in a Power Meter series 800

SITUATION: Customer wants to adjust the Scale Factors used for the Voltmeter, Ammeter, or Wattmeter Values of a Power Meter 800.

SOLUTION: The scale factors for the Voltmeter, Ammeter, or Wattmeter can be adjusted in a Power Meter 800. This can be done by using the Protected Command Interface in the Power Meter. You can use System Manager software or make the change from the front panel. You will find instructions for reading and writing registers in Appendix A of your POWERLOGIC Power Meter series 800 Reference Manual. Changes may be made to one or multiple scale factor values.

PROCEDURES:

- 1.) Write the value 9020 to register 8000 to enter the setup mode.
- 2.) Write the desired scale factor value to the appropriate register. See Table 1 below. Repeating this step for each subsequent scale factor change can change multiple scale factors.

Scale Group	Range	Scale Factor Register
A – Ammeter per phase	-2 to 1	3209
B – Ammeter Neutral	-2 to 1	3210
C – Ammeter Ground	-2 to 1	3211
D – Voltmeter	-1 to 2	3212
E – Voltmeter Neutral	-1 to 2	3213
F – Wattmeter	-3 to 3	3214

TABLE 1

Scale Factor Definition	
-3	SCALE BY 0.001
-2	SCALE BY 0.01
-1	SCALE BY 0.1
0	SCALE BY 1.0 (DEFAULT)
1	SCALE BY 10.0
2	SCALE BY 100
3	SCALE BY 1000

Table 2

- 3.) Write the value 1 to register 8001 to save the changes made in Step 2.
- 4.) Write the value 9021 to register 8000 to exit the setup mode.

The power meter will reset. The power values will now be displayed on the Display of power meter with the new scale.

NOTE: The above 5-step procedure can be accomplished with a single Write statement from Control>Diagnositcs>Read/Write register window. Example below show how to change the Ammeter and Voltmeter scale factor simultaneously.

The 'Read/Write Registers' window is shown with the 'Read / Write Registers' tab selected. On the left, under 'Devices:', a tree view shows 'All Devices' expanded, listing 'cm2', 'my ecc', 'pm6', and 'pm8'. On the right, the 'Protocol' is set to 'ModBus w/ PowerLogic Extensio'. The 'Data Type' is set to 'Holding Register (R03/w16/w06)'. Below this is a table with columns 'Register' and 'Value'. The table contains the following data:

Register	Value
40 8000	9020
40 3209	-1
40 3212	-1
40 8001	1
40 8000	9021
40	
40	
40	
40	
40	

To the right of the table are buttons for 'Read', 'Write', and 'Clear'. Below the table is a 'Format' section with radio buttons for 'Dec' (selected), 'Hex', and 'Bin'. At the bottom of the window are 'Close' and 'Help' buttons.

The Scale factor for voltmeter can be changed from the front display as well. Go to: MAINT > SETUP > PASSWORD 0000 > PT and change the scale factor 1,10,100 or – (minus) for no PT.