



POWER INSTRUMENTS

Service and Aftermarket Support Department

255 North Union Street, Rochester, NY 14605 U.S.A.

Telephone: 585-238-(4058 or 4949)

E-mail: power.sales@ametek.com

Procedure to upgrade JEMStar II Meter Firmware/Software

Latest Firmware and Software:

Firmware	Version	Software	Version
Metrology	1.N	JEMWare II	2.06.01
Service	5.06.01		
Register	6.06.01		
Power Quality	9.D		
FPGA	F.4.9.7		

The following files can be used to upgrade the JEMStarII meter –

Component	Applicability
RegisterV6_6_1.tar	All meters
SERV_V_5_6_1.tar	All meters
METR_V_14_0_0.tar	All meters
FPGA_V100_9_7	All meters
PQ_V_9_D.tar	PQ meters
MET1.N_SERV5.6.1_REG6.6.1.tar	Non-PQ meters
MET1.N_SERV5.6.1_PQ9.D_REG6.6.1.tar	PQ meters (PQ, PQ1, PQ2, PQ3)

The PQ options referenced above will be included in the model number of the meter. You can also verify these options after connecting to the meter using JEMWare II. The Connection Status screen will list all options provided in the meter.

Hardware Compatibility

Meters with the PQ Option:

This new firmware and software upgrade is compatible with meter serial numbers 15 38 00339 and higher. Meters with serial numbers 14 32 00001 through 15 37 00338 should be returned to the factory to update the Metrology/PQ board with the latest hardware.

Meters without the PQ Option:

This new firmware and software upgrade is compatible with meter serial numbers 15 17 00178 and higher. Meters with serial numbers 14 32 00001 through 15 17 00177 should be returned to the factory to update the Metrology board to update the FPGA.

Upgrade Process

Uninstall the current version of JEMWare II & install the latest version, presently 2.6.1. The firmware upgrade process will reset the display registers. The values must be backed up prior to the update, if required.

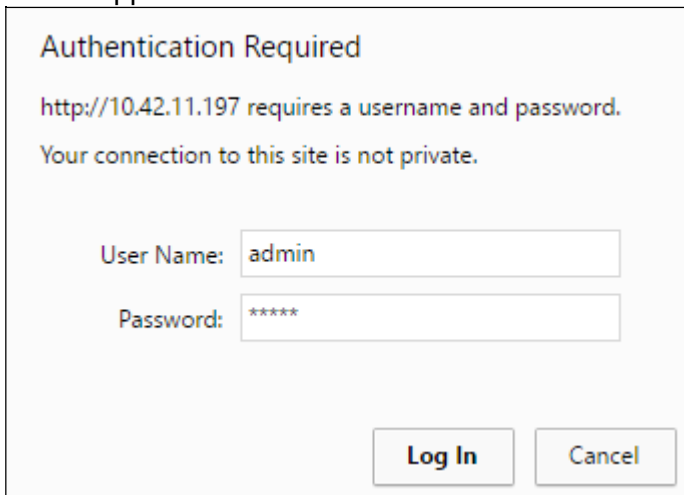
The recommended method to upload this new firmware to the meter is via the Ethernet port



using a web browser or JEMWare II. Make sure the Ethernet port IP address assigned to the meter will work with your web browser. If the meter IP Address needs to be changed, you can do this through the meter's Optical Port or through the meter front panel menu.

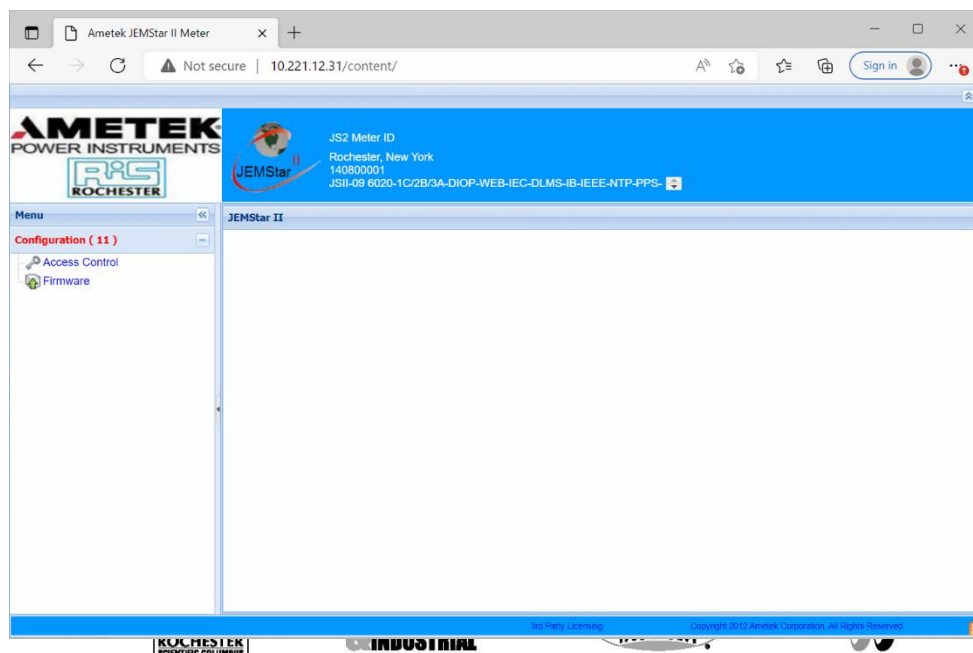
Update Instructions

- 1) Power the meter up and wait for about four minutes. Open the JEMWare II software.
- 2) Connect a LAN cable to the meter's Ethernet port. The switchboard meter will have a connector in the rear to plug into. The S base meter will have an Ethernet cable coming out of it. If it does not, you will need to remove globe and plug your own cable to the meter's Ethernet port. (The port closest to the top of meter.)
- 3) Connect to the meter using the latest version of JEMWare II. Download and save the meter's register values if you wish to restore them after the update.
- 4) Open a web browser and connect to the meter's IP address. The following should appear:

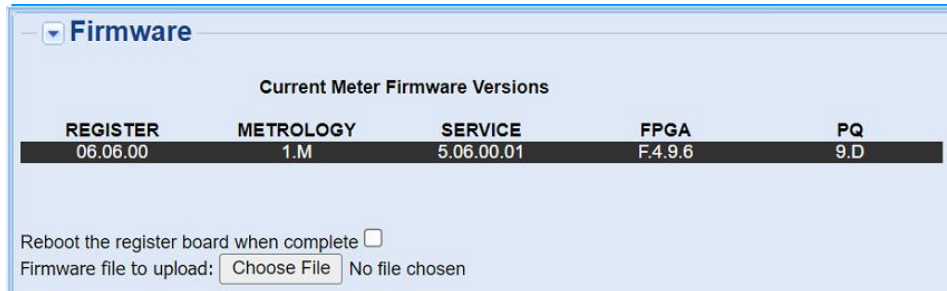


Type in the current username and password and select "Log In".

Note: The default, if never changed, is admin for both username & password. The below home screen should appear:



5) Select "Firmware" from the left side. The below screen should appear:



The firmware update can be performed either with the firmware combo files (METx.x_SERVx.x.x_PQx.x.REGx.x.x.tar / METx.x_SERVx.x.x_REGx.x.x.tar) or with the individual files.

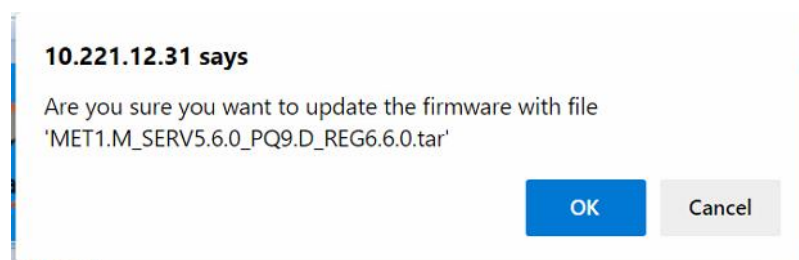
- 6) If updating the FPGA, click on "Choose File" and select the file. The FPGA image is not part of the combo file and must be uploaded individually. A pop up will appear similar to the one in step 7. Select OK & allow the update to complete.
- 7) If using a combo file, follow the instructions in this step to select the right firmware file. If using the individual files, skip to step 9.

Select the "Reboot the register board when complete" checkbox to automatically reboot the register board once the update is complete. Alternatively, the meter itself can be power cycled at the end (recommended).

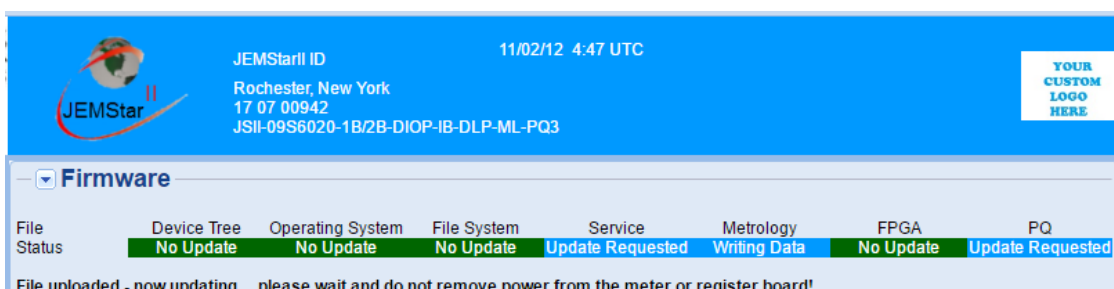
If the meter has Power Quality options PQ, PQ1, PQ2 or PQ3 installed, load the file:
METx.x_SERVx.x.x_PQx.x.REGx.x.x.tar

If the meter does not have a PQ option installed, load the file:
METx.x_SERVx.x.x_REGx.x.x.tar

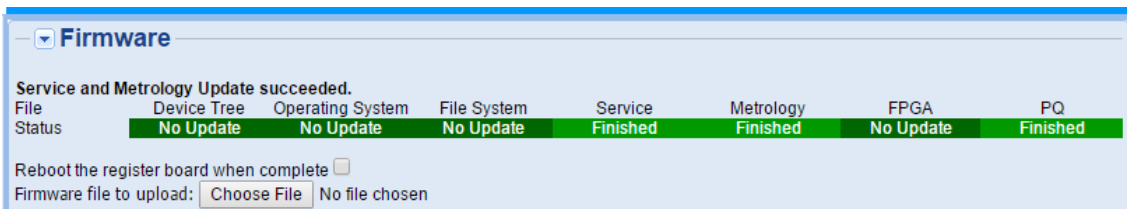
You will see a pop up like the one below:



Select OK to begin the update process. The status indicators will flash while the update is in progress.



- 8) Once the upgrade completes successfully, the indicators will stop flashing & display “Finished”.



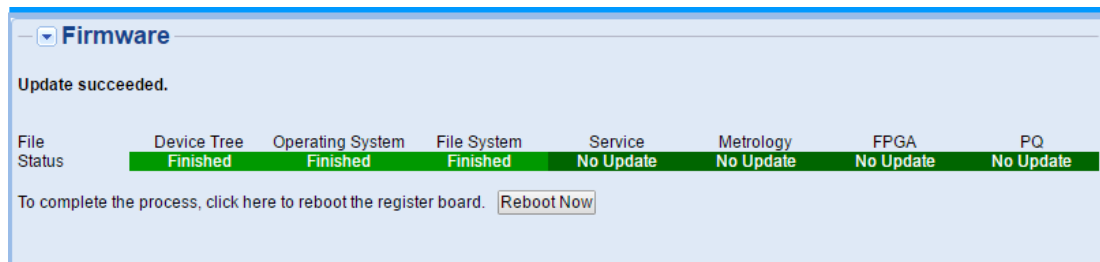
- 9) If using individual files, click on “Choose File” and load in the following sequence one file at a time –

- Metrology – METR_V_x_x_x.tar
- PQ – PQ_V_x_x_x.tar (Only if the meter has Power Quality options PQ, PQ1, PQ2 or PQ3)
- Service – SERV_V_x_x_x.tar
- Register – RegisterVx_x_x_x.tar

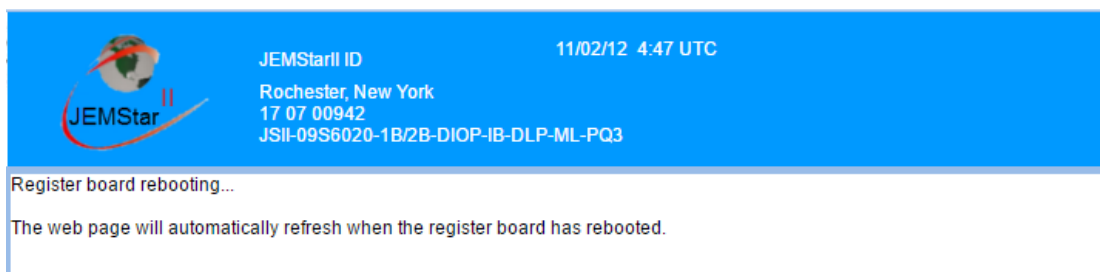
The status indicators will flash as each component is being upgraded.

Note: It is essential that the upgrade be carried out in this order to ensure compatibility among the firmware components.

- 10) If the “Reboot the register board when complete” option was selected & the register firmware was updated, the register board will proceed to reboot automatically. If not, you will see the following screen:



Select “Reboot Now” to reboot manually. Alternatively, you may also power cycle the meter. You will see the following screen -



If you see “Queue Empty” or other alerts, just select OK and wait for a reconnection.



11) After the meter has fully booted up, connect to it via JEMWare II and verify that all the FW version numbers are listed correctly.

If required, reload the configuration for modules such as display registers and load profile.

Downgrade Instructions

The procedure to downgrade the meter firmware follows the same steps as the upgrade process. However, the following points need to be taken into consideration –

- 1) All firmware components in the meter must be downgraded to compatible versions to ensure proper operation. Mixing firmware versions which are not designated to be compatible with each other can cause the meter to malfunction.
- 2) Combo firmware files must not be used when downgrading firmware. Each firmware component must be updated individually using the appropriate tar file.
- 3) The firmware components must be downgraded in the following order –
 - a. FPGA
 - b. Metrology
 - c. PQ
 - d. Register
 - e. Service

