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10-020

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## T SERIES FIRMWARE UPDATE

### I. PURPOSE:

To give instruction on installing new operating firmware in a T Series instrument.

### II. TOOLS:

Computer with Ethernet communication or USB flashdrive  
USB keyboard

### III. PARTS:

Teledyne API Instrument Upgrade Utility  
Latest revision of Firmware from Teledyne API Customer Service



The electronics used in T-API analyzers are sensitive to Electrostatic Discharge (ESD). When working on any T-API device, please ensure that you are properly grounded prior to handling or touching any electronic circuitry in the analyzers! For more information on how to protect sensitive components from ESD during handling, please contact T-API customer service and ask for the ESD Service note number 03-022A.

### IV. PROCEDURE:

- The firmware update can be completed through Ethernet using the Instrument Upgrade Utility, or it can be done with a USB flash drive and the front panel USB ports.

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**Ethernet**

1. Locate the Instrument Upgrade Utility install file, **Setup.msi**, and double click. Follow the onscreen instructions. (Note: Must have the latest windows update of .net framework installed.)
2. Copy down the IP address of the instrument. The IP address can be found by pressing **SETUP** on the instrument's display, **MORE**, **COM** and **INET**. Enter **9-2-9** password and **ENTER**. Press **SET>** till **INST IP:** is displayed and note this number **\*\*\*.\*\*\*.\*\*\*.\*\*\***.
3. Click the **Start** menu at the lower left-hand of the screen: **All Programs, Teledyne API and Instrument Upgrade Utility**.
4. The Teledyne API Instrument Upgrade Utility will open on the screen. Click **Next, Instrument Application Firmware** and **Next**. Instrument Firmware Image page will appear. Click the square "...". This will allow you to search for the new firmware file from your desktop, or your saved file. Select the appropriate **.exe** file. The Select Target Instrument page will now appear. Type in the IP Address of the instrument, which you copied from step 4, and select **Next**. A confirmation page will show up, click **Next** and **Next** again. The Performing Update screen will appear showing the status of the update. When finished, click **Finish**, and at the next screen prompt click **OK**. Power cycle the instrument via the from panel switch.

**USB Flashdrive**

1. Before downloading new firmware, it is recommended to extract and save various important parameters from the instrument, refer to Service Note: 06-005 - Extracting Parameters, Readings, Settings, and Data using HyperTerminal.
2. Transfer the firmware file from your computer to the root directory of a USB flash device (thumbdrive, etc).
  - a. The firmware will be delivered to you via e-mail or CD
  - b. The filename will look something like this example: 041630901\_1.0.0 - T100 MODBUS.exe
3. Re-name the file on the flash device to: update.exe

**\*Do not add the .exe if the file is already an executable. Adding .exe is only necessary if the file was sent to you as a text or a word file in an e-mail. If this is the case, then you will need to open up windows folder options and uncheck the box labeled "hide known file extensions". After doing this, you will see .txt or .doc after the file name. If you see .txt or .doc, change this to .exe.\***

4. After the file is renamed, safely remove the USB device from your computer.
5. With the instrument booted up all of the way, plug the USB device into one of the USB receptacles on the front panel
  - a. Do NOT install the USB device and then turn on power to the analyzer
  - b. Do NOT leave a USB device in the receptacle and allow the analyzer to reboot
6. The instrument will scan the USB device and detect the update file and then give instruction for completion of the updating procedure
  - a. It will report "A software update is available"
  - b. The version that is you have on the USB device will be displayed
  - c. It will ask if you want to continue (to install the new firmware from the USB device).
7. Press "YES"
8. Type the password "929", and press "Enter"
9. It will report "Updating the Instrument Software"
10. If you wait long enough, it will report "Waiting for USB drive removal".
11. Remove the USB device
12. Then it will report "Now Restarting the Unit System"
13. After booting up it will report "The Instrument Software has Been Updated."