

F1760 Firmware Installation Instructions on Devices with Firmware prior to V 1.3.17

Introduction

Due to a parameter error in F1760 firmware versions prior to 1.3.16 are unable to get an IP address if the instrument to DHCP and no DHCP server is available and the internal date is January 12th, 2010 or before. This document describes how to update the firmware of such devices to version 1.3.17 or younger.

Terms

“**F1760**” is a Fluke 1760 Power Quality Recorder.

“**Topas 2000**” is the predecessor of F1760. It is 100% hardware compatible to F1760, only the labeling is different.

“**Firmware**” is the software that is installed on an F1760 device.

“**PQ-Analyze**” is the software installed on a PC that is used to configure an F1760, read data from such a device and analyze it.

Software and Firmware Versions

Versions of PQ-Analyze software and F1760 firmware are numbered independently but each software version has a corresponding firmware. The firmware of an F1760 can only be configured by its corresponding software but every software version can readout measurement data from on older firmware.

Some software and firmware versions:

- SW 1.8.8, FW 1.3.17: current versions at time of this writing (January 22nd, 2010)
- SW 1.8.7, FW 1.3.16: previous versions
- SW 1.7.12, FW 1.3.10: commonly used versions

Details

DHCP Auto Configuration

The Ethernet interface of an F1760 can be configured in 3 ways:

- Fixed IP address
- DHCP
- Disabled

The DHCP configuration works in this way: if the Ethernet interface of an F1760 device detects a network connection (either a real network or a direct connection to a PC) then it sends a DHCPDISCOVER broadcast message to the network. If a DHCP server is available then it assigns an IP address to the device. If no DHCP server is available then

the F1760 automatically selects an IP address from the range 169.254.x.x after a timeout of 1 minute. Due to a parameter error this algorithm only works until January 12th, 2010, 00:00:01. This time now has been extended to the almost highest possible date: January 1st, 2038, 00:00:01.

Error Conditions

The error occurs only if all of these conditions are met:

- The firmware version is less than or equal 1.3.16.
- The F1760 ethernet interface is configured to DHCP.
- No DHCP server is available.
- The internal time of the F1760 is January 12th, 2010, 00:00:01 or later.

Affected Functionality

Only the ethernet communication between a PC and the F1760 under the above-mentioned conditions is affected. Everything else works:

- Communication in a DHCP managed network
- Communication with fixed IP address
- Communication via a USB link cable (optional)
- Communication via serial line
- Measurement
- Data readout on a CF card and memory stick
- ...

How to Install a New Firmware

If at least one of the above mentioned error conditions are not met or can be avoided then you can do the firmware update as usual and described in the F1760 manuals.

Preparation

- Download the current PQ-Analyze software from <http://www.fluke.com>.
- Install it on a PC.
- If a measurement is running on the F1760 then insert an USB stick or a CF card into the device to get the measurement data stored.

One of these methods can be used to enable the successful update of the instrument:

Method 1: Connect the F1760 to a DHCP Managed Network

Connect the F1760 and the PC to a network with a DHCP server then both get an IP address. Start PQ-Analyze, connect to the device ("Search devices" dialog) and perform the firmware update.

Method 2: Connect the F1760 and the PC via a USB Link Cable

Some F1760 instruments were delivered with a USB link cable. This simulates a network connection between the F1760 and the PC. You need to install a special driver (contained on the CD delivered with the F1760) for this cable on the PC.

Connect the F1760 and the PC with this cable, Start PQ-Analyze, connect to the device ("Search devices" dialog) and do the firmware update.

Method 3: Connect via Serial Interface and Configure a Fixed IP Address

The serial interface of the F1760 can be configured in 2 ways:

- Direct connection
- Modem connection

The standard configuration is "direct, 57600Bd, no parity, 8 databits, 1 stopbit"

If you have different configuration then this should be considered.

If it is set to "modem" then start PQ-Analyze, connect to the device via modem, go to "service" → "Advanced Settings" and configure as described below.

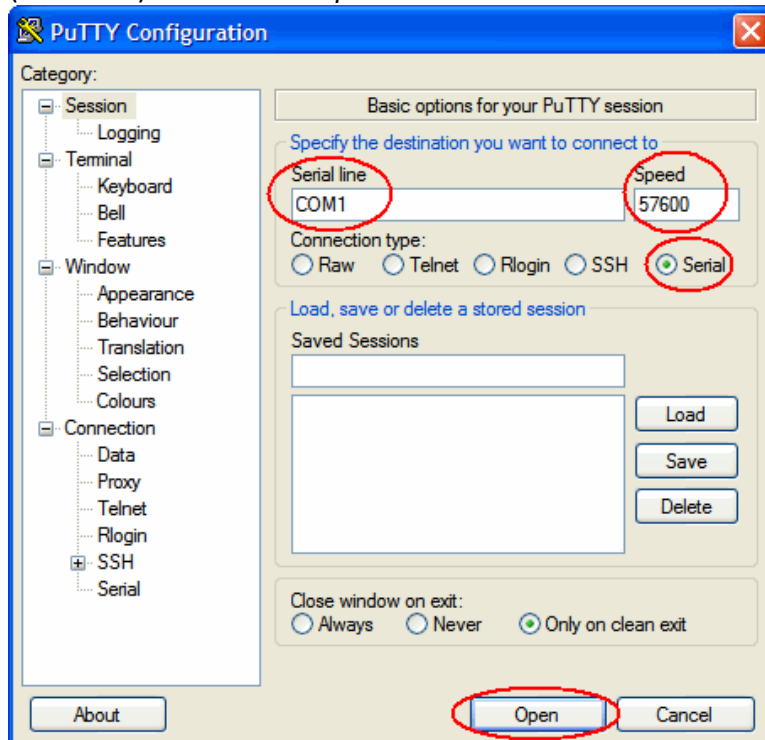
If the serial interface is set to "direct" you have 2 possibilities:

- Proceed as described for "modem"
- Connect via putty

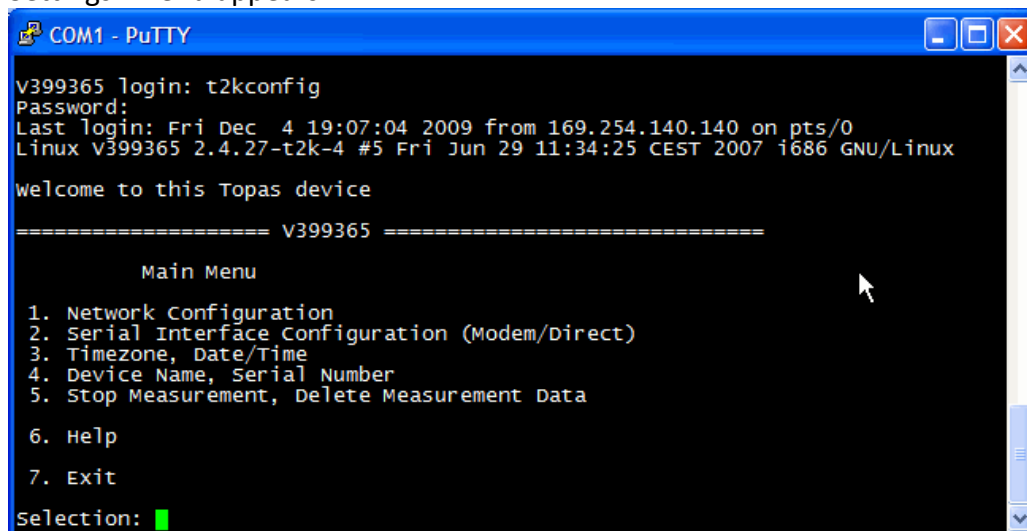
Steps for putty connection:

- Connect the F1760 and the PC with the read serial cable
- Download PuTTY from <http://the.earth.li/~sgtatham/putty/latest/x86/putty.exe> and store it on the Desktop or wherever you like.

- Start PuTTY, select *Serial Connection type*, *Serial line*, the correct *Speed* (baudrate) and click on *Open*:



- A PuTTY window pops up. Press <ENTER>. If a login prompt doesn't appear within 3 seconds retry (if it still doesn't appear maybe the F1760 and the PC are not connected correctly or you selected the wrong serial interface or baudrate). Enter "t2kconfig" as login name and press <ENTER>. Enter again "t2kconfig" as Password (not displayed) and press <ENTER> again. Now the "Advanced Settings" menu appears:

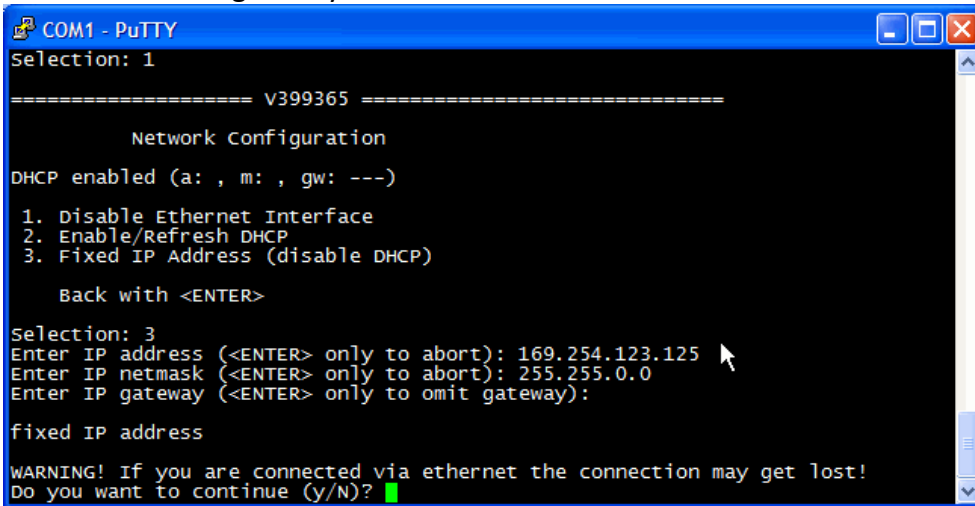


“Advanced Settings” Configuration

In the “Advanced Settings” menu navigate to “Network Configuration” and “Fixed IP Address”. If your PC’s Ethernet interface has a fixed IP address then assign a different IP address of the same network class (ask your system administrator if unsure) and the corresponding netmask.

If your PC is configured to “Obtain an IP address automatically” (this is the usual configuration) enter IP address 169.254.123.125 and netmask 255.255.0.0.

You can omit the gateway address in both cases.



Type “Y” to store and activate the fixed IP address. Press <ENTER> until you reach the Main Menu and Exit. Close the PuTTY window.

Now you are able to communicate with the F1760 via Ethernet and perform the firmware update.

Do not forget to reconfigure the Ethernet interface of the F1760 as required and delete the PuTTY executable from your PC if you no longer need it.