



Application Note 51632
(Revision -, 5/2021)
Original Instructions

ProTech Settings File Load Failure: USB-to-Serial Converter Latency Timer issue

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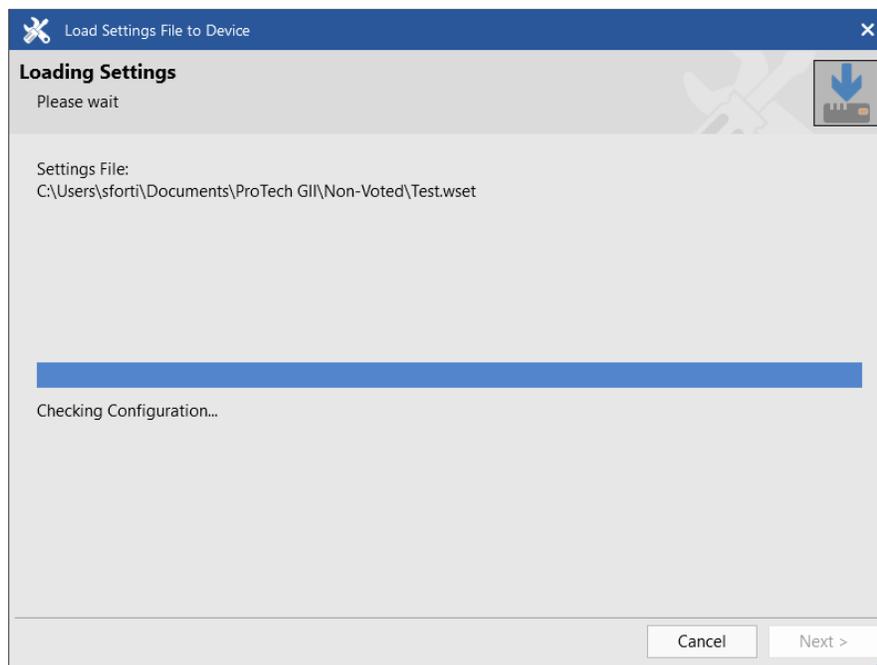
ProTech Settings File Load Failure USB-to-Serial Converter Latency Timer Issue

Problem

The issue is that a settings file load does not complete due to excessive loading time introduced by the USB-to-serial converter. While performing a settings file load from the ProTech service tool to the actual device, the primary requirement for the ProTech is that the settings load finishes prior to the 30 second timeout period. If the settings load does not complete prior to the 30 second timeout, the ProTech will error out internally and the service tool will appear to freeze or never fully complete the change. This can happen in two different ways:

1. Loading a Settings File (.wset) to the ProTech Device:

While loading a settings file to the ProTech device via the service tool, you will eventually come to the Loading Settings screen:

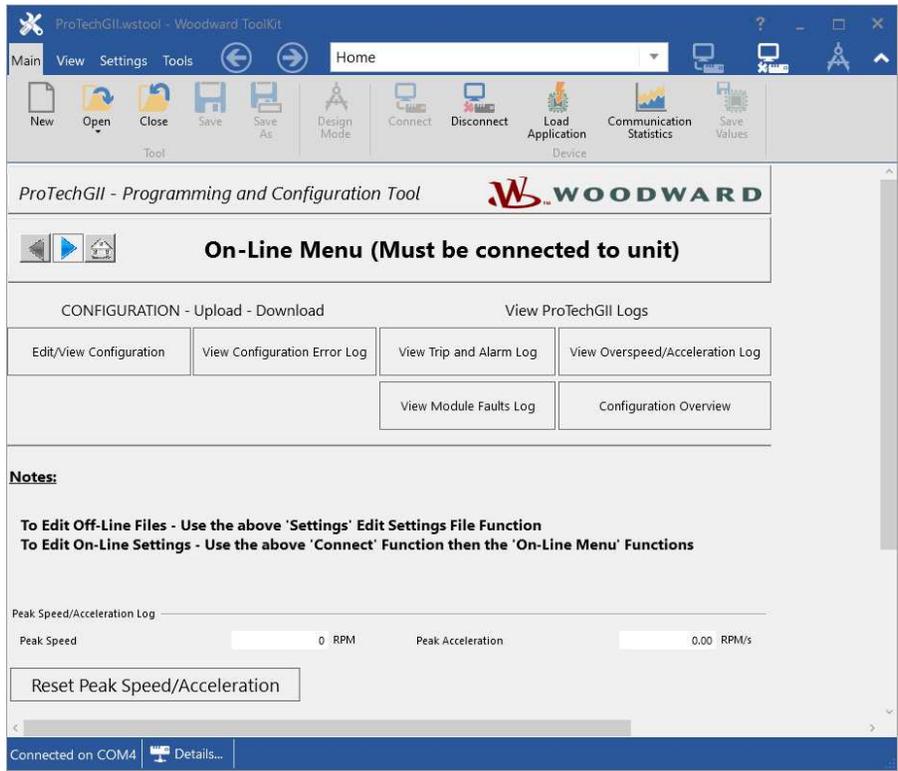


During a settings file load, you should give the device several minutes to complete loading the file to ensure you do not interrupt the process. However, if the Loading Settings screen appears to be stuck as pictured above for an extended period of time it is very likely your ProTech has an internal error.

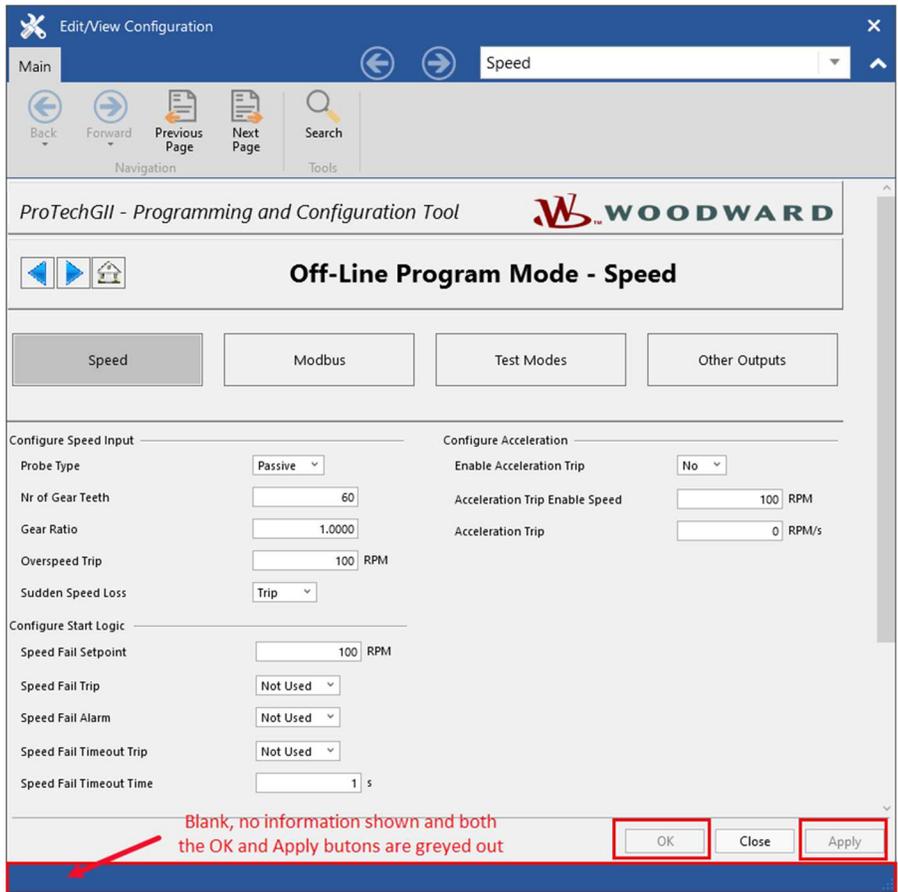
2. Changing Settings on the ProTech Using the Service Tool:

If using the service tool to alter settings on the ProTech, once complete and “OK” or “Apply” are selected, the service tool automatically writes all settings from the service tool to the device.

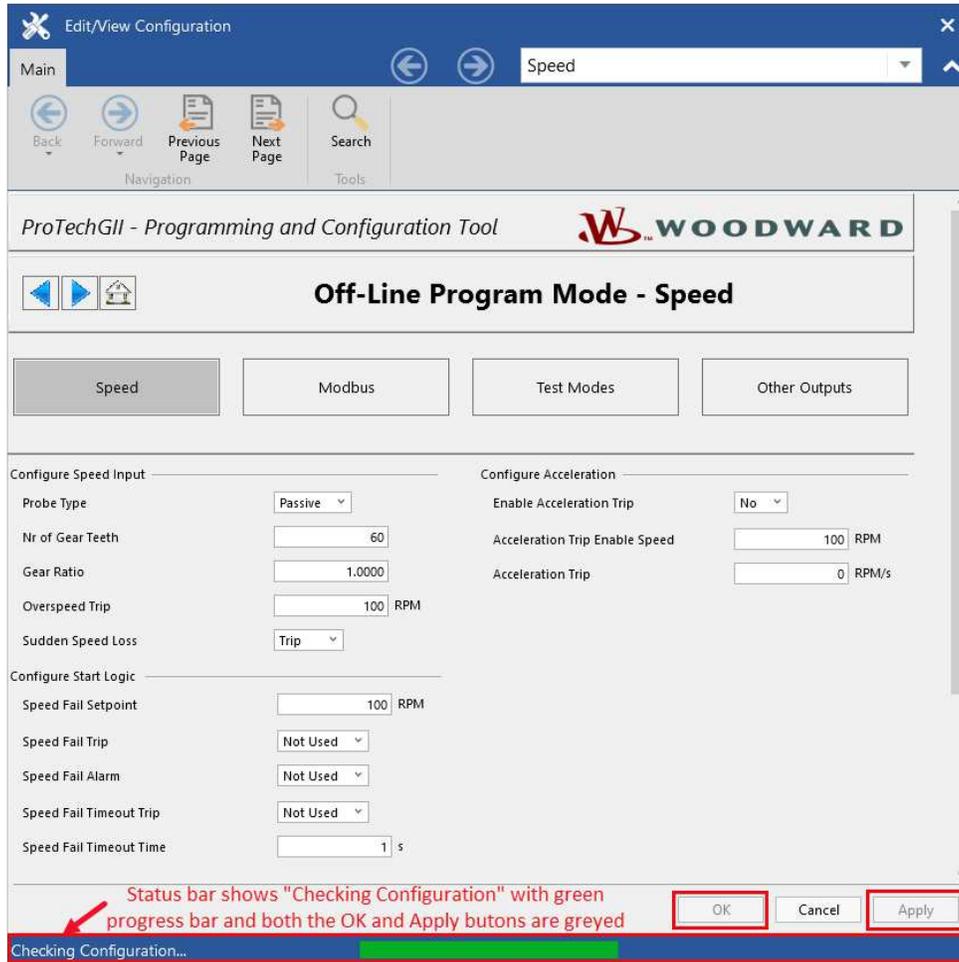
If “OK” is selected and the settings load is completed successfully, the Edit/View Configurations window will close, and you will end up back at the Home screen shown below:



If “Apply” is selected and the settings load is completed successfully, you will remain on the Edit/View Configuration window, but the status bar at the bottom will be blank and both the “OK” and “Apply” buttons will now be greyed out:



If either the “OK” or the “Apply” buttons are selected and the settings load was unsuccessful, you will remain on the Edit/View Configuration window, the status bar at the bottom will show “Checking Configuration....” with a green progress bar and both the “OK” and “Apply” buttons will be greyed out:



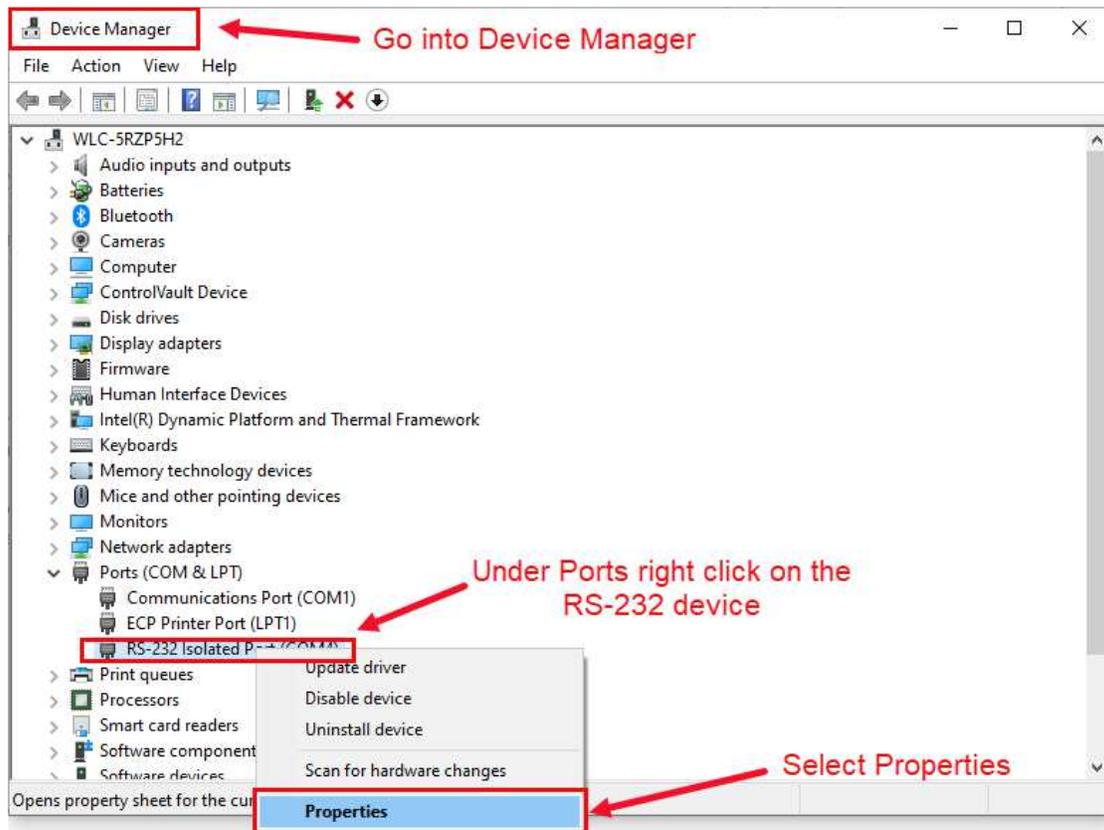
Note: you should allow the service tool several minutes to complete this operation to ensure you are not interrupting the settings load to the device. If the service tool appears to be frozen as pictured above for an extended period it is very likely your ProTech has an internal error.

Solution

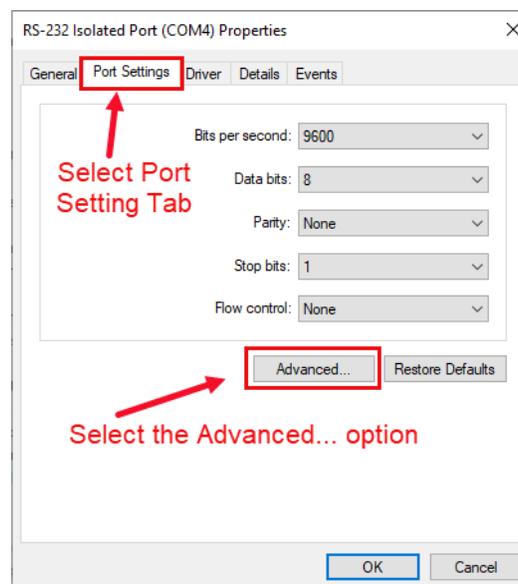
Using the USB-to-Serial converter introduces latency in the data transfer time that was not previously present in pure serial or RS-232 connections. This additional time can cause an issue when communicating to the ProTech. In the event of an internal error, the latency is not allowing the settings changes to load in the given 30 second timeout window. With some USB-to-Serial converters you can adjust the Latency Timer under Advanced Settings in Device Manager for the given adapter/converter. If your device does not allow you to adjust this Latency Timer, then you may need to get a different USB-to-Serial Converter and Driver software that will allow you to make this adjustment. There are some converters/adapters that do not allow you to make this adjustment, but also do not seem to have the same latency issue, so please keep that in mind as well.

On the devices investigated that allow for the Latency Timer to be adjusted, the Latency Timer was default set to 16ms. In order to maximize transfer speeds and remove the problem noted above, simply adjust the Latency Timer to 1ms (or lowest available setting). If there are any concerns with adjusting the Latency Timer to the lowest setting it is not completely necessary to do so. Alternate settings can be used. The primary goal is to ensure that the overall settings load time is under 30 seconds or the internal error is likely to occur. Here are the steps you can take to adjust the Latency Timer:

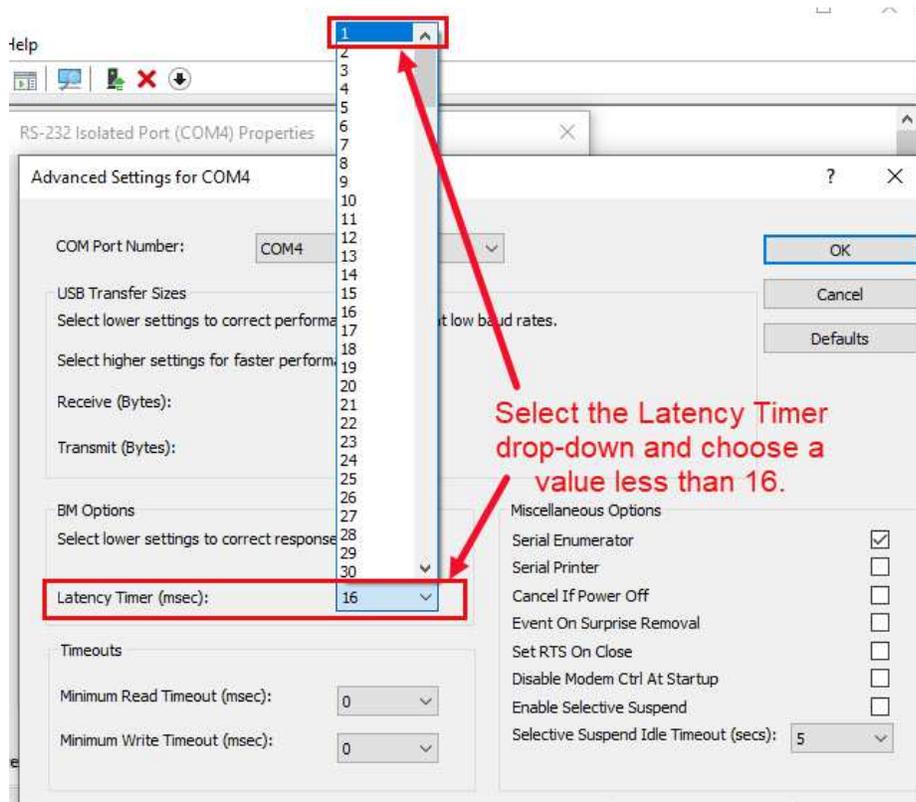
1. Go into Device Manager
2. Select the Ports (COM & LPT) drop down
3. Right-Click on the RS-232 Serial Port adapter
4. Select Properties



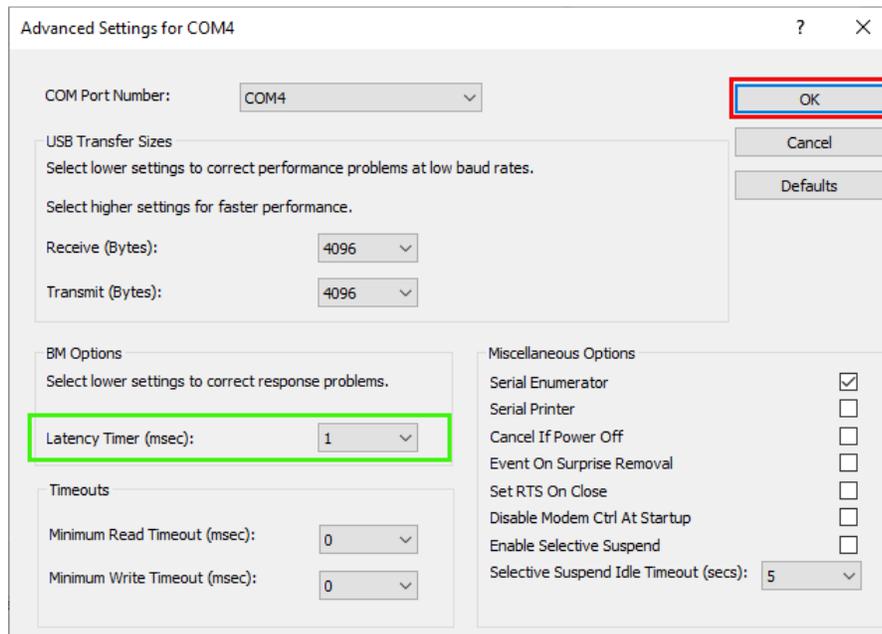
5. In the Properties window select the Port Settings tab
6. Select the Advanced... button.



7. In the Advanced Settings window select the Latency Timer drop-down and choose a time less than 16 msec. Make sure to choose a value that will allow settings load times under 30 seconds (may need to experiment with this).



8. Select OK to get out of the Advanced settings and OK to get out of Properties. You should see the Device Manager refresh. In some cases, making this change may require a PC reboot.



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