



ABSTRACT

This user's guide describes the general function and operation of the TI-PD-ANALYZER. A brief overview of the capabilities and features of the tool, steps to download and install the TI-PD-ANALYZER-GUI, and a quick start guide for new users to get the TI-PD-ANALYZER up and running are included.

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1 Introduction

Use the TI-PD-ANALYZER to monitor and log USB Type-C® Power Delivery (PD) data on the Configuration Channels (CC1 & CC2) through a USB-C® connection enabling users to analyze and debug PD communication between a Source and Sink. The TI-PD-ANALYZER is capable of decoding all PD messages per *USB PD Specification Revision 3.2 Version 1.1*. Display and save the PD communication data recorded by the tool using the accompanying GUI, TI-PD-ANALYZER-GUI.

2 Hardware Overview

The diagram in [Figure 2-1](#) shows the fundamental parts of the TI-PD-ANALYZER:

1. **USB Micro-B Receptacle** - Connects the TI-PD-ANALYZER to a PC using a Micro-B to Type-A USB cable.
2. **LED Indicator** - Blinking power-on indicator.
3. **USB Type-C Plug** - Connect to a DUT's Type-C receptacle.. The TI-PD-ANALYZER is bidirectional, so connect to a Source if a Sink is connected to the TI-PD-ANALYZER's Type-C Receptacle, or vice versa.
4. **USB Type-C Receptacle** - Connect to a DUT's Type-C plug. The TI-PD-ANALYZER is bidirectional, so connect to a Sink using a USB-C PD cable if a Source is connected to the TI-PD-ANALYZER's Type-C Plug, or vice versa.

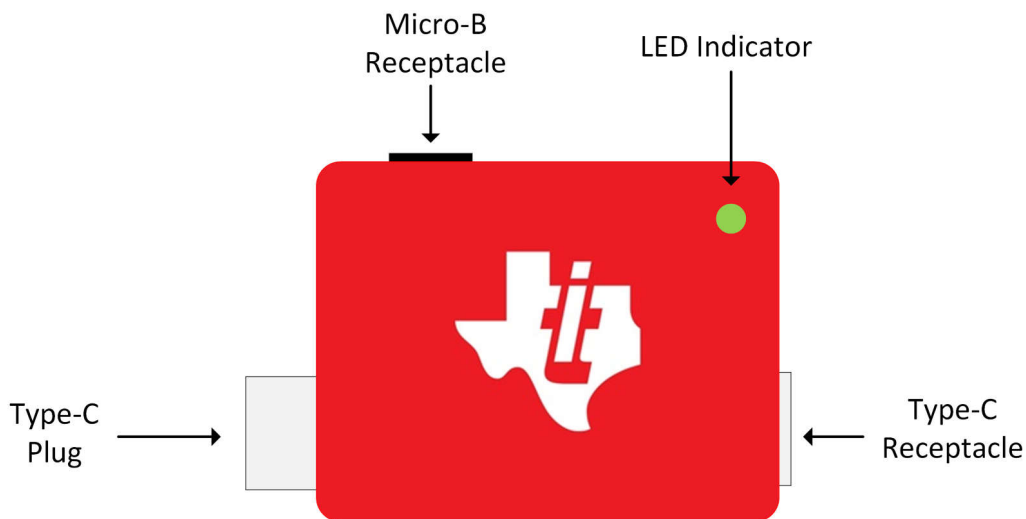


Figure 2-1. TI-PD-ANALYZER Diagram

3 Installing the GUI

Gaining access to the TI-PD-ANALYZER-GUI requires an active myTI account. After logging in with a myTI account, go to the TI-PD-ANALYZER tool page [here](#). Clicking the *Download* button under the "Order & start development" section opens the Windows installer. After downloading the installer, follow these steps:

1. Run the installer and read the license agreement. If the terms are acceptable, click the *I accept the agreement* radio button and the *Next* button. The next pop-up shows a default installation path, but allows an alternative path to be entered.

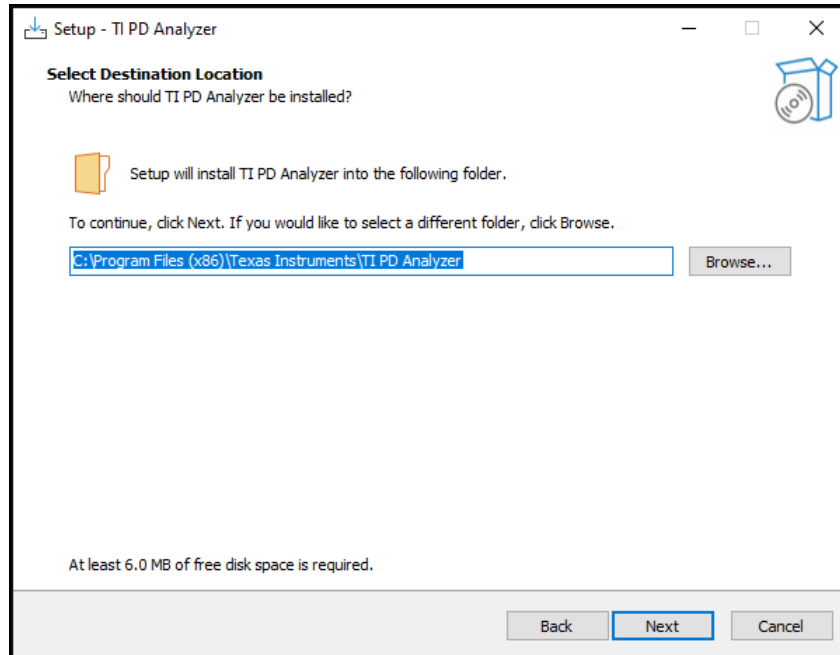


Figure 3-1. Directory Path for Tool Installer and Setup

2. Once the installation path is entered, click *Next*. The next pop-up prompts a choice to create a desktop shortcut.

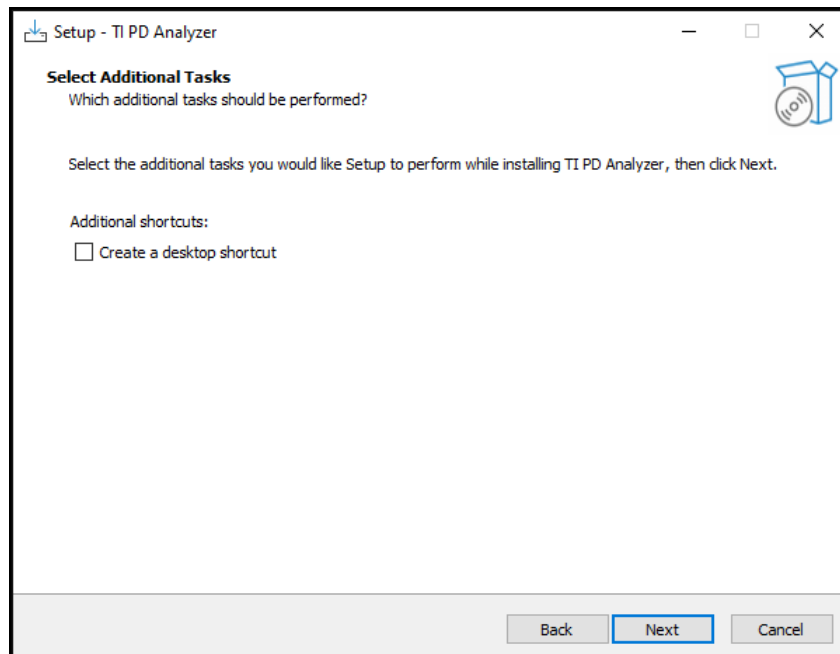


Figure 3-2. Create GUI Shortcut

- Once the choice has been made, click the *Next* button and a status window shows the setup is ready to install.

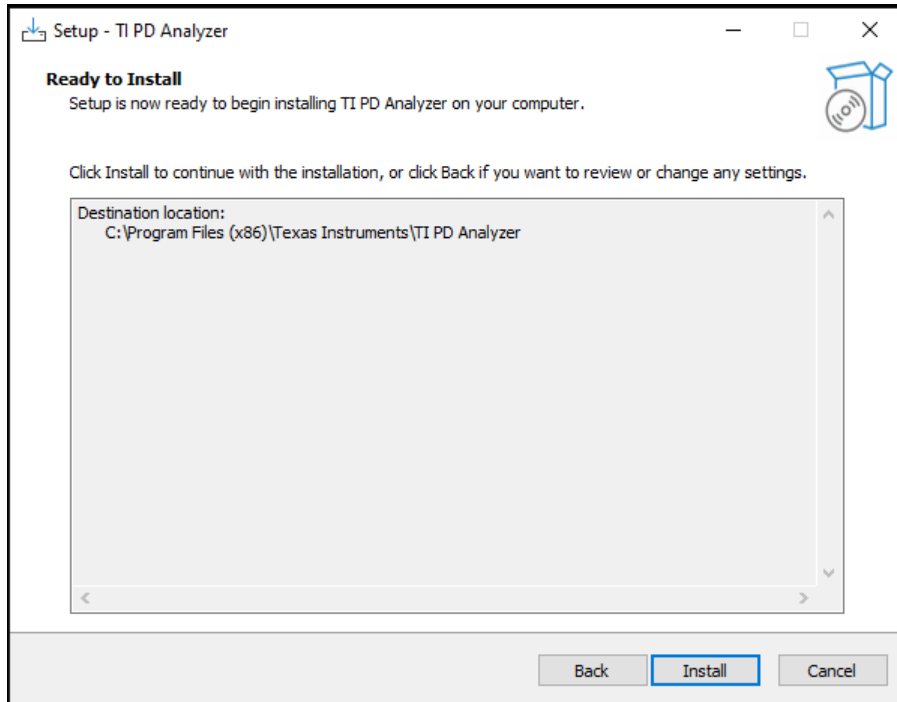


Figure 3-3. Ready to Download Installer Status Window

- Click *Install* to begin the setup and file unpacking. When the setup and unpacking are complete, a final pop-up appears. Select the *Launch TI PD Analyzer* radio button and click *Finish* to open the GUI.

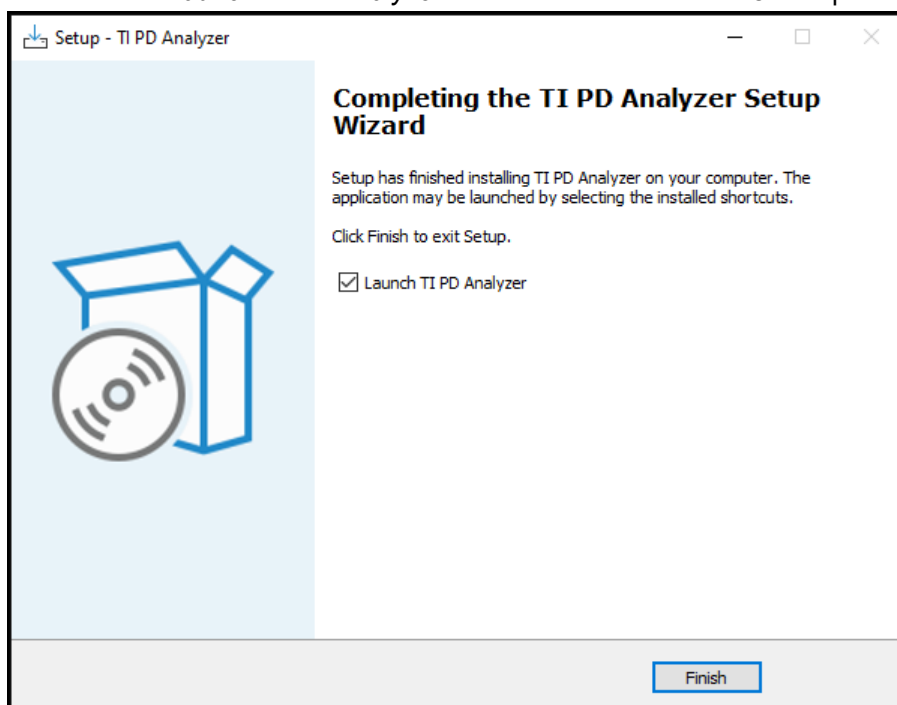


Figure 3-4. Installation Completed

4 GUI Overview

The TI-PD-ANALYZER-GUI interface is shown in Figure 4-1.

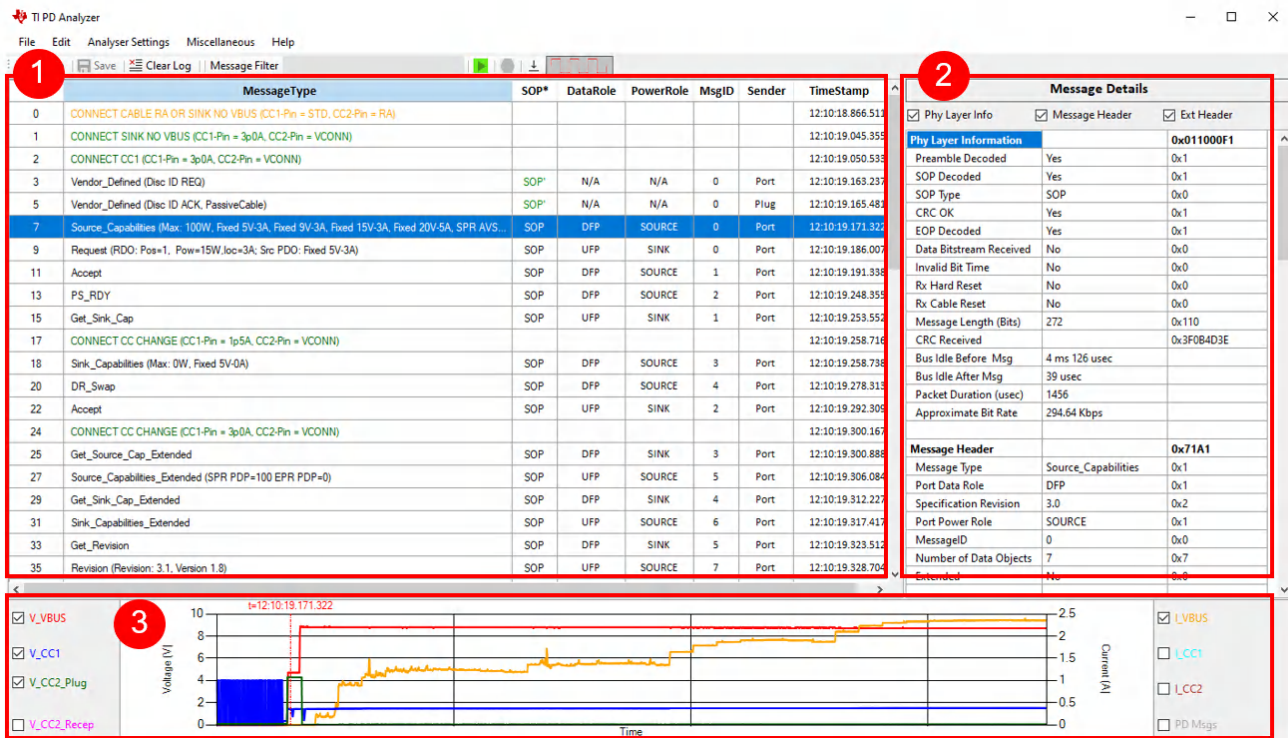


Figure 4-1. TI-PD-ANALYZER-GUI Interface

- **Event Display Window** - This window shows the USB Type-C and USB PD message events between Source, Sink, and USB cable.
- **Message Details** - This window analyzes and displays the details of the PD message selected from the Event Display Window.
- **Voltage/Current Monitor** - This window displays the VBUS, CC1/2 pin voltages, and current readings.

5 Quick Start Guide

1. Connect the TI-PD-ANALYZER to a PC using a Micro-B USB cable.
2. Open the GUI.
3. Connect the GUI to the TI-PD-ANALYZER by selecting *Analyzer Settings* → *Connect to Analyzer*.
 - a. When the PD analyzer first connects to the GUI, the GUI checks the firmware version of the PD analyzer. If the GUI detects that the firmware is not up-to-date, the *Update Analyzer Firmware* menu is prompted. If this step is initially skipped and the update is later desired, select *Miscellaneous* → *Update Analyzer Firmware*.

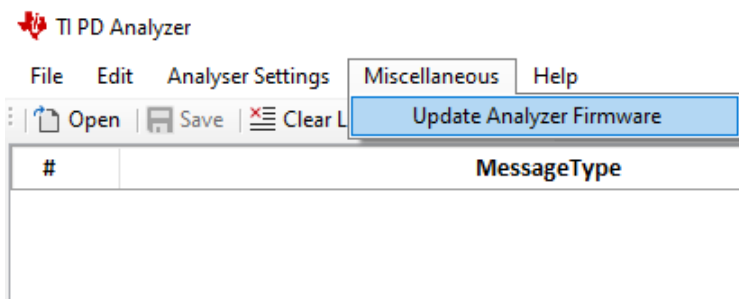


Figure 5-1. Updating Analyzer Firmware

4. (Optional) To measure the power usage of the Sink device, select *Analyzer Settings* → *Collect Voltage/Current Measurements* before the TI-PD-ANALYZER begins recording and logging the PD communication.

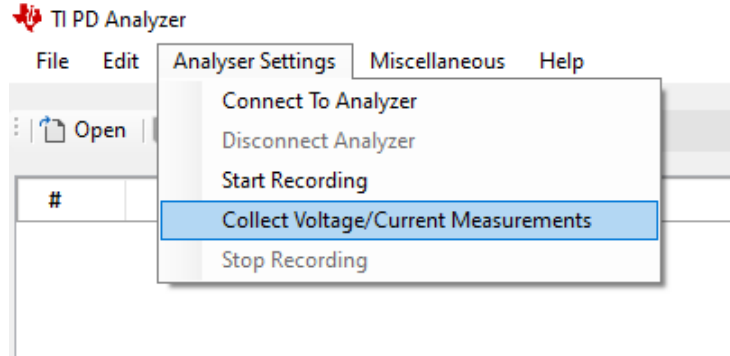


Figure 5-2. Enabling Voltage/Current Measurements

- a. To open the Voltage/Current Monitor window, right-click anywhere in the Event Display Window and select *Show Measurements*.

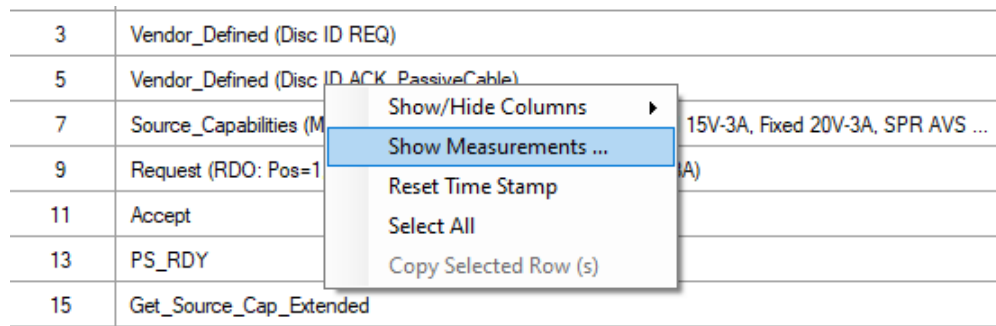






Figure 5-3. Opening the Voltage/Current Monitor Window

- b. To refresh the Voltage/Current Monitor Window, toggle any one of the trace options (for example *V_VBUS*, *I_VBUS*, *V_CC1*, *V_CC2_Plug*, and so on).

5. Click the  button or select *Analyzer Settings* → *Start Recording* to begin recording and logging the PD communication.
6. Connect the USB Type-C plug and receptacle of the TI-PD-ANALYZER to the Source and Sink devices. Observe the PD communication between the devices in the Event Display Window.
7. Click the  button or select *Analyzer Settings* → *Stop Recording* when finished.
8. Click the  button or select *File* → *Save Log File* to save the captured PD log.
9. To open a saved PD log, click the  button or select *File* → *Open Log File*.

6 Revision History

NOTE: Page numbers for previous revisions may differ from page numbers in the current version.

Changes from Revision * (May 2025) to Revision A (July 2025)	Page
• Updated the steps to download and install the GUI in Section 3	3

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