phx42 Quick-Start Guide

Revised: 8-13-2025



Scan here to download the full phx42 manual (if you need it).

→

Before You Start

Assumptions for phx42

1. Tech is familiar with the calibration process.
2. Tech has some VOC analyzer experience.
3. The H_2 Fill Adapter is installed.
4. The phx42 has been charged overnight (12 hours).
5. The phx42 has not been bled of H_2.

Assumptions for QR Code

1. Tech has a smartphone.
2. Tech knows how to open a QR code.

Assumptions for phxApp

1. The Tech has access to Wi-Fi.
2. phxApp is installed on the handheld.
3. The Tech is familiar with Android.

Internet Connect (Wi-Fi) and Login

1. Internet required the first time you connect to each phx42 in the phxApp.
2. Internet and login required for Self-check.

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Get Started

Generate Your Customer Support Login

1. Go to LDARtools.com.
2. Hover over Support.
3. Select Customer Portal Registration.
4. Fill in the requested information.
5. Click Save.

OR

1. Use Site Login provided with your phx42.

Install phxApp (for non-Juniper handhelds)

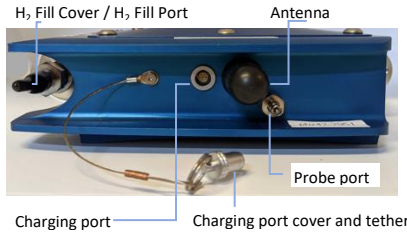
1. On your Android device.
2. Open Google Play Store.
3. Search for the phxApp.
4. Install the phxApp.

Scan here for Juniper handheld phxApp install procedures.

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phx42 External Parts





The H_2 Fill Cover and the Charging Port Cover must always be in place when working in a hazardous location.

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Charge the phx42

1. Grasp the tether between the Cover and the crimp.
2. PULL the Charging Port Cover straight out. Replace the cover if damaged or missing
3. Align the red line on the charger and the notch on the charger port.
4. Push gently until you feel a click.
5. Hold down the power button for 2 seconds to turn on the phx42; the light on the power button will breath/pulse.

If the phx42 will not power on; leave it on the charger for 90 minutes before trying again. If the problem persists, report an issue using a Self-check. In the event of an issue with either the phxApp or Self-check feature, contact support at support@ldartools.com.

For best battery performance, charge the phx42 whenever possible, including during daily calibration, lunch, drifts, etc.

You will need to connect the phx42 to the charger before starting the Self-check process (see the **Self-check** section on pg 11 of this guide).

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Connect/Disconnect the Probe

The probe with a probe tip filter must be connected to the phx42 before igniting the device. Never operate the phx42 pumps without a filter in place.



To connect:
Snap the quick disconnect onto the probe port.

To disconnect:
Pull the collar on the quick disconnect to release probe.

Probe care and routing

- Make sure the phx42 is oriented in the backpack so that the hose can run straight out of the analyzer and over your shoulder to avoid crimps and/or tears. Use the supplied D-rings to keep the hose in place.
- When moving from place to place, the probe handle should be attached to the backpack to avoid drops.
- Avoid snagging or pulling on the probe hose.
- Dropping the probe onto the filter could break the filter or cause leaks at the filter interface.

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H_2 Fill Procedure

1. Follow all safety guidelines outlined by your facility for high pressure cylinders.
2. Power on the phx42 (ignition not required).
3. Remove the H_2 Fill Cover and verify no dust/debris is present in the H_2 Fill Port or H_2 Fill Adapter, and that the H_2 Fill Cover isn't damaged/missing. Replace the cover if missing. (See H_2 Fill Adapter Maintenance and Installation Procedure–QR code, pg 8.)
4. Adjust output of H_2 Fill Adapter to ≤1800 psi.
5. Connect the H_2 Fill Adapter to the H_2 fill port, then verify the connection by slightly pulling on the 3-way valve.
6. Turn the red handle 180° toward the supply hose to open the valve and fill the unit.
7. After the needle on the gage stops moving, count to 10 seconds. If the unit was just received from shipping then wait 3 minutes.
8. Turn the handle 180° toward the relief valve to close it. There will be a slight hiss from the release of pressure.
9. Pull on the collar of the H_2 Fill Adapter to release it.
10. Replace the H_2 Fill Adapter Cover.
11. Replace the H_2 Fill Port Cover.

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H_2 Fill Photos





Scan here for further information on Fill Adapter maintenance and installation.

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Understand the Power Button

Turn on
Press and hold for 2 seconds.

Ignite
With the probe attached and a filter in place and with the unit turned on, triple tap.

Sleep Mode
With the unit ignited, quad tap (4x).

This is the typical end-of day procedure. This stops the flow of hydrogen, extinguishes the flame, and allows the pump to run for an additional 30 seconds to evacuate the moist air from the FID.

Power Off
Press and hold for 5-8 seconds.

This process should be performed only in these situations:

- If working more than 10 hours, power off when not in use.
- When putting aside to store (not plugged in to a charger) or for shipping.
- When you are having connection issues.

Connect phxApp to phx42

1. Open the phxApp.
2. Tap the applicable phx42 serial number.
3. Tap Connect.
4. If prompted, enable GPS location services.

You will need an internet connection the first time you connect to each phx42. Any values specific to the unit are only updated during the "initialization" when the unit first connects to the phxApp.

Home screen

- PPM reading (negative number means the unit is not ignited).
- LPH_2 (Ok = Ready to ignite, Standby = Pressure is stabilizing).
- H_2 (H_2 Tank Pressure).
- Battery status.
- Battery charge percentage.
- Ignite.

Igniting – two ways

1. With the phxApp, tap "Ignite."
2. Or triple-tap the power button.

Self-check

Self-check in the phxApp, flags any system failures and gives you an opportunity to comment and submit an issue to LDARtools support.

1. Make sure the phx42 is on the charger.
2. Launch phxApp.
3. Connect to the phx42.
4. Tap "Menu" (top-left of screen).
5. Select "Self-check."
6. Login.
7. Select Site ID.
8. Tap "Start Self-check."
9. Follow prompts.
   - Use fingertip to block air flow at probe tip.
   - Remove/replace filter upon instruction during the Filter Calibration step.
10. After completion:
    - If unit passes with nothing to report, click "OK."
    - If you have an issue to report, see the **Report an Issue** section.

Report an Issue

The preferred method for reporting an issue is by using a Self-check. If the unit fails a step, the phxApp will automatically create a Support Issue. To ensure a response from LDARtools support, you MUST PROVIDE DETAILS IN THE COMMENT FIELD. Support will analyze the Logs and your comments and respond.

Record a Helpful Comment, include:

1. The time.
2. The process that was being done when the issue occurred.

Sample Comments:

- 5:45 AM attempting to calibrate using SB5-998, unit failed calibration on 500 gas.
- 12:30 PM Tech reported filter error. Stacking filters did not resolve the issue.
- 4:15 Unit failed drift on SB5-999, passed Probe Integrity Inspection.

Manual Calibration

The phx42 must be ignited for at least 15 minutes prior to calibration, drift, as well as any monitoring that is going to be performed.

1. Confirm/install a clean probe tip filter.
2. Run the Self-check.
3. In the phxApp:
   a. Tap Menu.
   b. Tap Calibrate.
   c. Tap Cal All.
   d. Beginning with 0 PPM, type the actual PPM for the cylinder into the PPM field.
   e. Apply Gas.
   f. Tap Generate.
   g. The phx42 will sample the gas, then display "Calibration Complete".
   h. Repeat steps **d – f** for other PPM values.
   i. Tap done.

The phx42 should not be calibrated with On-Demand regulators (if you must use On-Demands, apply the gas 20 seconds before you tap Generate.) Even if you can calibrate, you may experience drift issues.

If during calibration you experience any problems, do a Self-check and report an issue.

phxApp Skills

- Where do you get the phxApp?
- When should you enable GPS location services?
- What does "initializing" mean?
- Explain the values on the Home Screen.
- What does negative PPM mean?
- Do a self-check.
- Demonstrate a Filter Calibration.
- When and how should you report an issue?
- Describe when comments are required when reporting an issue?
- What should a helpful comment include?
- How long should you apply the gas if you are using on-demand regulators?

Basic phx42 Skills (cont. on pg 12)

- ID the following:
  - Power Button.
  - Charging Port/Charging Port Cover and Tether.
- When should the phx42 be on a charger?
- Describe all functions of the Power Button. (press and hold, multiple taps).
- When is it appropriate to Quad Tap the Power Button?
- When should you power down the phx42?
- Describe proper care/carrying of the Probe.
- What must be attached prior to igniting the phx42?
- What is accomplished by grasping the Charging Port Cover cable correctly?
- Desrcibe the response to missing H_2 Fill Port Cover or Charging Port Cover.
- What two places must be checked for dust/debris prior to H_2 filling?
- How is the H_2 fill process different after shipping?
- Should the unit be powered on while filling?
- How often should the Probe Integrity Inspection be performed?
- Why is the Probe Integrity Inspection necessary if we block the Probe during self-check?

Basic phx42 Skills (cont. from pg 11)

- What could go wrong when mishandling the Probe Hose?
- What does the 400psi benchmark refer to?
- Describe how and when to service the O-ring on the H_2 Fill Adapter.
- How do you remove a broken Probe tip filter from the Luer Lock end of the Probe?
- If a problem occurs, what do you do?
- Demonstrate the following:
  - Connect to Charger
  - Turn unit ON
  - Fill with H_2
  - Ignite the phx42
  - Probe Integrity Inspection process

Special Conditions of Use and other Technical Specifications can be found in the phx42 User Manual (Scan the QR Code on pg 1 to download the manual.)