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ELEMENTAL MACHINES ED1 Element-D IoT Device Installation Guide

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Contents

Applicable Asset Models

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Parameters Monitored

- Liquid Nitrogen (LN2) Level*

Note: LN2 data is collected from the CryoPlus every 2 hours. This is a limitation of the CryroPlus itself and cannot be changed. If you would like to monitor other parameters/conditions of the Thermo CryoPlus, please contact **sales@elementalmachines.com** or your Elemental Machines representative.

Package Contents

- Element-D
- Power Supply
- Connection Cable

Note: You may receive multiple types of cables if you are connecting Element-Ds to different types of assets.

Safety Information

⚠️ Review and abide by the safety information found in the Element-D and Asset user manuals. Ensure compliance with your company safety best practices, which may include de-energizing equipment before working with electrical connections. Tidy connection cable to prevent tripping hazards.

Installation Instructions

Receiving the Shipment

1. If this is your first time setting up the Elemental Machines system, you will receive an email for your dashboard account verification. Save this email for when the devices arrive.
2. When devices are shipped, they will be added to your Elemental Insights™ Dashboard with default names.
3. When devices arrive, carefully remove the contents from the packaging. If any of the contents look damaged, please send a picture to **help@elementalmachines.com**.
4. Confirm the Element-Ds in your package are labeled with the assets to which they are to connect. If the labels do not match the intended assets for connection, please contact **help@elementalmachines.com**.
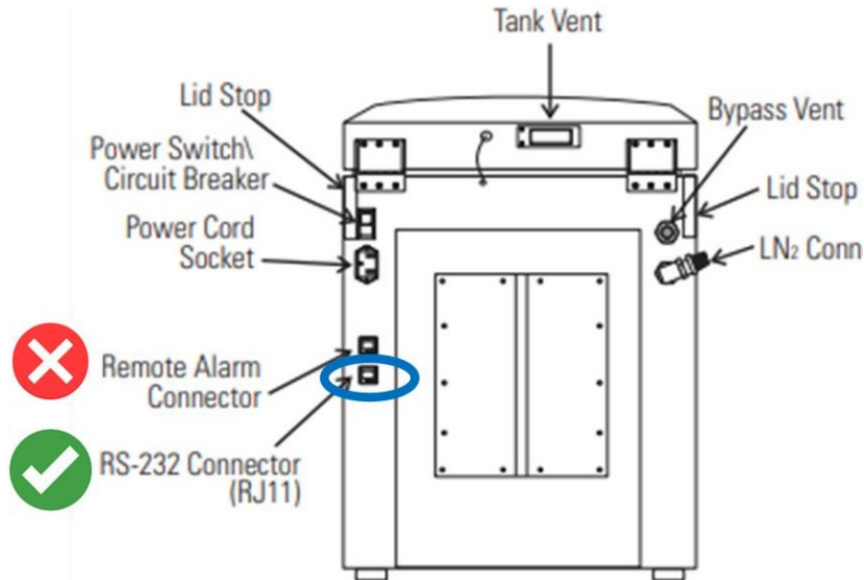   ### Element-D Initial Power-up
5. Move the Element-D for the asset into a dashboard group on the Elemental Insights™ Dashboard. The device status on the dashboard will be listed as 'disconnected'.

6. Plug the Element-D in using the provided power supply.
7. Complete Wi-Fi Connection outlined in 771-00010 Wi-Fi Connection Guide – Gateway GW2/3, ElementC/D.
    - 771-00010 is included with your Element-D as a printed copy. Digital versions of this are available in the Support section of the Elemental Insights™ Dashboard.

    Attaching Connection Cable to Asset
8. Locate the data port on the cryo tank (shown in Figure 1) to which the Element-D will connect.
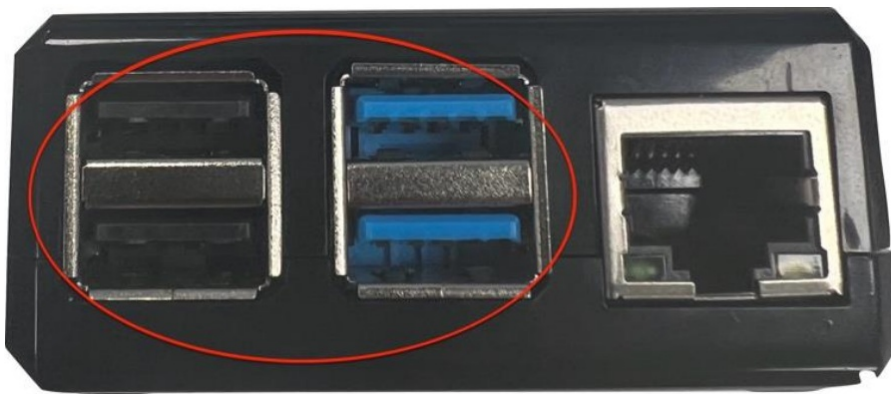
Figure 1 RS-232 connector on cryo tank

9. Plug the corresponding end of the Connection Cable into the data port on the asset.

Attaching Connection Cable to Element
10. Plug the other end of the Connection Cable into the data port on the Element-D. Use any USB port.

Figure 2 Data ports on Element-D

Positioning the Element-D
11. Determine where the Element-D should be placed to allow for power access and a tidy connection cable.
12. Securely position the Element-D in the chosen location. The Element-D has magnets which make it easily mountable to magnetic surfaces.
    - **Note:** If applicable, an adhesive metal mounting plate available from EM may be used.

    Programming Alerts (as required)
13. Check the Elemental Insights™ Dashboard to confirm that data values are populating.
14. Set up alert rules on the Elemental Insights™ Dashboard for the Element-D:

⚠️ **Due to the frequency of data capture from the Thermo CryoPlus, the following settings are strongly recommended:**

- Threshold alert delay set to 1 min
- Connection alert delay set to 4+ hours
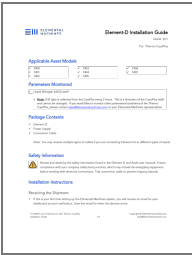- Local temperature & level alarms set to desired values

For **threshold alerting** (i.e. low LN2 level) the Elemental Insights™ Dashboard requires two or more data points exceeding the threshold before sending out an alert. This means that there can be up to a 4 hour delay in receiving these alerts, although if the local alarm is triggered you will receive alerts sooner.

772-00073 rev 01 Element-D, ED1 Thermo CryoPlus

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Documents / Resources

ELEMENTAL MACHINES ED1 Element-D IoT Device [pdf] Installation Guide
ED1, ED1 Element-D IoT Device, Element-D IoT Device, IoT Device, Device

References

- **User Manual**