

ESSPI

DNOC User Guide

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Contents

About This Guide	3
1. Product Overview	4
1.1 What the DNOC Does	4
1.2 What It Measures	4
1.3 Controls and Indicators	4
2. Installation and Commissioning	5
2.1 Switching On	5
2.2 Connecting to Wi-Fi	5
2.3 Account, Activation, and Subscription	6
2.4 Confirming It Is Running	6
3. Operation	7
3.1 Normal Operation	7
3.2 Lights and Alarm	7
3.3 Risk Levels	7
3.4 Responding to an Alarm	8
3.5 Alert Notifications	8
3.6 Switching Off and On	9
3.7 Users and Ownership	9
3.8 The Engineering Dashboard	12
3.9 Changing Alert Thresholds	13
3.10 Downloading Data	14
3.11 Thermal Camera Units	14
3.12 Cloud Subscription and Billing	15
4. Care and Maintenance	16
5. Troubleshooting and Support	17

About This Guide

The DNOC is an early-warning device for lithium-ion battery hazards. This guide describes the device, how it is set up, how it behaves in normal operation and in an alarm, how to manage who has access, and what to do if something looks wrong.

For a short walk-through of the ESSPI Customer Portal, refer to the **DNOC Quick Start Guide (DNOC-QSG-001)**.

The portal and its emails also call the product the **Li-Ion Locker**. The DNOC is the monitoring unit inside it.

WARNING: The DNOC is an early-warning aid. It does not suppress fires or prevent battery failure, and it is not a substitute for code-required fire detection or suppression systems. Always follow your facility's emergency response plan.

1. Product Overview

1.1 What the DNOC Does

A DNOC system has three parts:

- **The device**, installed wherever lithium-ion batteries are stored, charged, or in use
- **The ESSPI cloud**, which judges every reading against alert thresholds and sends alerts
- **The ESSPI Customer Portal**, where you see your devices from any computer, tablet, or phone

The device has its own alarm, which works even when the internet connection is lost.

1.2 What It Measures

Each device has one or more sensor modules, depending on its model, shown in the portal as S1, S2, and so on. Each module measures:

Measurement	Shown as	Why it matters
Temperature	°F	Rising cell temperature is a classic precursor to thermal runaway
Gas, as a CO ₂ equivalent	ppm	Off-gassing is often the earliest sign, before heat or smoke
Pressure	psi	Detects venting and pressure changes in the monitored space

1.3 Controls and Indicators

The device has two controls you may use:

- **The on/off switch**
- **The Wi-Fi setup button**, used only to connect the device to a new Wi-Fi network (Section 2.2)

It has two indicator lights, a warning light on top of the unit, and a horn. Section 3.2 explains what each one shows.



Figure 1. The DNOC device, with the warning light on top

2. Installation and Commissioning

ESSPI installs the device. To put it into service:

1. Switch it on (Section 2.1).
2. Connect it to your Wi-Fi network (Section 2.2).
3. Create your account, activate the device, and start its Cloud Subscription in the portal (Section 2.3).
4. Confirm it is running (Section 2.4).

2.1 Switching On

1. Switch the device on.
2. Confirm that it starts. Flashing blue light from the sensor modules (not the power light) is normal at this stage.
3. Within a few minutes the power light is green and the status light settles to solid green.

2.2 Connecting to Wi-Fi

The device connects to your Wi-Fi network through its own setup page. During setup it creates a temporary Wi-Fi network that you join from a phone or laptop.

You need: your Wi-Fi network name and password, and a phone or laptop with Wi-Fi.

1. Press and hold the **Wi-Fi setup button** until the device restarts.
2. Wait for the **power light to turn blue**. The device is now in setup mode.
3. On your phone or laptop, open your Wi-Fi settings and join the network named **DNOC-Setup-XXXX**, where XXXX is the last four characters of the device's MAC address.
4. Enter the password **dnoc-setup** (all lowercase). If you are warned that the network is unsecured or private, continue and join.
5. In a web browser, go to **http://10.0.0.1**. The **ESSPI Network Setup** page opens.
6. Under **Connect using**, leave **WiFi** selected. Do not select **Cellular**.
7. Enter your **WiFi network name (SSID)** exactly as it appears, including capital letters, and your **WiFi password**. Leave the password blank only if your network has no password.
8. Select **Save & Reboot**.

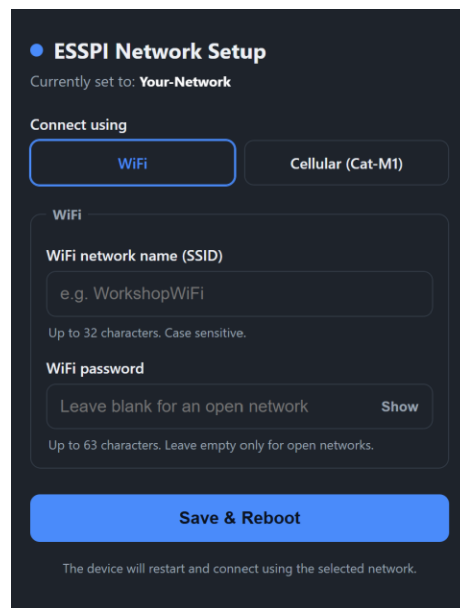


Figure 2. The ESSPI Network Setup page at <http://10.0.0.1>

The device restarts and connects to your network. When the **power light is green** again, it is connected. Your phone or laptop returns to its usual network.

NOTE: The device remembers these details. Repeat this only if your network name or password changes, or if the device moves to a different network.

2.3 Account, Activation, and Subscription

These steps are done in the ESSPI Customer Portal. The **DNOC Quick Start Guide**, Section 1, walks through them with screenshots:

1. Scan the QR code on the device label. The portal opens with the device's serial number filled in.
2. Create an account (or sign in), then enter the 6-digit activation code from the label and a nickname for the device.
3. Start the device's Cloud Subscription (Quick Start Guide, Section 1.3).

NOTE: If the activation code is rejected, check that you entered six digits with no space. If it is still rejected, contact ESSPI support (Section 5).

2.4 Confirming It Is Running

The system is running correctly when:

- The device's power light is green and its status light is solid green
- The portal shows the device as **OK**
- The dashboard shows current readings with a recent **Last seen** time

If any of these is not true, refer to Section 5.

3. Operation

3.1 Normal Operation

The device measures continuously and reports to the ESSPI cloud at every risk level, including normal. No routine interaction is needed. Check the portal at the start of each monitoring shift, or as your facility's procedures require.

NOTICE: Do not switch off, move, or cover the device during normal operation. Contact ESSPI before making any change to an installed device.

3.2 Lights and Alarm

Status light (the risk level):

Status light	Risk level	Portal status
Solid green	Normal	OK
Yellow, flashing (1 second on, 1 second off)	Low risk	Low
Solid yellow	Medium risk	Medium
Solid red	High risk	High

Power light:

Power light	Meaning
Green	On and running
Blue	Wi-Fi setup mode (Section 2.2)

The **local alarm** works even if the internet connection is lost:

- At **Medium** risk, the warning light on top of the unit flashes: on for 10 seconds, off for 10 seconds, repeating.
- At **High** risk, the horn sounds and the warning light stays on. It stays on until the readings have cleared **and** an Owner or Admin has selected **Acknowledge** (Section 3.4).

3.3 Risk Levels

The ESSPI cloud judges each reading against three thresholds (Low, Medium, High) and gives the device one of four levels: Normal, Low, Medium, or High.

- The level rises immediately** when any reading crosses a threshold.
- The portal follows the readings.** When they drop back below the threshold, the portal returns to normal, and if an alarm had been notified, everyone receives the **All clear**.
- The unit's own alarm stays on until it is acknowledged.** After Medium or High, the device keeps its lights and horn on until an Owner or Admin selects **Acknowledge** (Section 3.4), so that someone on site has confirmed the alarm.
- Low is not an alarm.** It is shown, but not notified, and it clears on its own.

3.4 Responding to an Alarm

When the unit reaches Medium or High:

1. If you see smoke, fire, or venting, or hear the horn and cannot safely confirm the cause, **evacuate the area and call emergency services**. Do not approach the unit to investigate a suspected thermal runaway.
2. Follow your facility's emergency response plan for lithium-ion battery incidents.
3. When it is safe to do so, check the readings and their trend on the dashboard.
4. To silence the horn, an Owner or Admin opens the dashboard, selects **Engineering Dashboard**, and selects **Horn Mute**.
5. When the readings are back below the alarm level, an Owner or Admin acknowledges the alarm: open the dashboard, select **Engineering Dashboard**, and select **Acknowledge**. The unit's lights and horn return to normal.

NOTE: Horn Mute silences the horn only. It does not change the risk level, and it does not stop the warning light, monitoring, or notifications.

Site-specific response procedures, evacuation routes, and call lists belong in your facility's emergency response plan.

3.5 Alert Notifications

Alerts reach you by email, as phone or computer notifications if you turn them on, and in the portal's **Recent Alerts** list, which is the complete record. The Quick Start Guide, Section 4, shows how to turn them on.

Event	Alert sent
The unit enters Medium or High, including Medium to High	Yes
The unit has stopped reporting for 15 minutes	Yes
The unit reports again after being offline	Yes
The unit returns to normal after Medium or High (All clear)	Yes
Normal to Low, or Low back to Normal	No. Low is not an alarm.
High to Medium	No. The unit is still in alarm.

- **Timing.** A change must last about 40 seconds before an alert is sent, so a brief flicker does not alert.
- **The All clear** names the level that ended, for example "Warehouse Unit 1 is back to normal after a HIGH reading". You receive it even if the readings passed through Low on the way down.
- **Who receives alerts:** everyone with access to the device (Owner, Admins, and Viewers). Access levels control what someone may change, not what they are told. Each person can turn email or push off, choose High only, turn off connection alerts, or mute one device for themselves (Quick Start Guide, Section 4.2); the device's Owner always receives High alarms regardless.

WARNING: Notifications are a convenience, not a safety system. Delivery depends on your network, email, and phone. The unit's own alarm works independently of the internet. Never rely on a notification to learn about an alarm.

3.6 Switching Off and On

To switch off:

1. Check that no alert is active. The status light should be solid green, and the portal should show **OK**.
2. Tell the people who monitor the device that it is going off.
3. Switch the device off.

NOTICE: While the device is off, it does not monitor and cannot raise an alarm. The portal shows it as **Offline**, and after 15 minutes everyone with access receives an "offline" alert. Switch it back on as soon as possible.

To switch on: follow Section 2.1. The device reconnects to its network and resumes monitoring; no setup is needed.

3.7 Users and Ownership

Each device has exactly one **Owner**, normally the person who activated it. **Admins** manage the device day to day. **Viewers** can see everything but change nothing.

Capability	Owner	Admin	Viewer
See status, readings, the dashboard, and alerts	Yes	Yes	Yes
Receive email and phone alerts	Yes	Yes	Yes
Acknowledge alarms and mute the horn from the portal	Yes	Yes	No
Rename the device and edit its location	Yes	Yes	No
Start or manage the Cloud Subscription	Yes	Yes	No
See who has access	Yes	Yes	No
Invite or remove Viewers	Yes	Yes	No
Invite or remove Admins	Yes	No	No
Change someone's access level	Yes	No	No
Transfer ownership	Yes	No	No

Opening Manage Users. On the device card, select , then **Manage users**. The window lists everyone with access and their access level; your own entry is marked **(you)**.

Manage Users ×

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Jake Nichols ADMIN	ACCESS: Admin
Matt Shaeffer (you) OWNER	Remove Access Only removable when no active subscription and no other users are assigned. To hand over ownership, make another user the Owner first.
Linda Birkoff VIEWER	ACCESS: Viewer

Save User Changes

INVITE A NEW USER

EMAIL ADDRESS
colleague@company.com

ACCESS LEVEL
Viewer

Send Invite

Figure 3. Manage Users, as seen by the Owner. The invite form is at the bottom

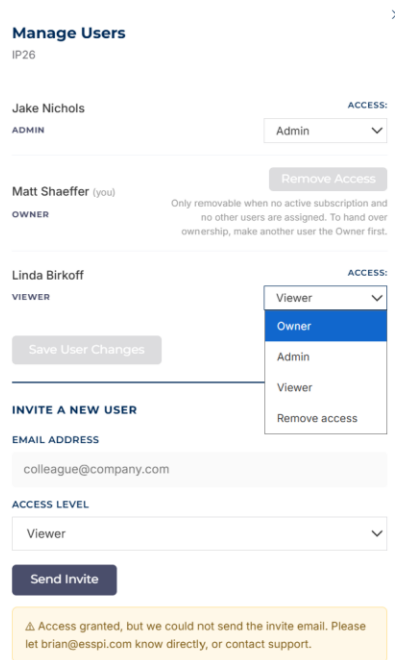
Inviting someone:

1. Under **Invite a New User**, enter the person's email address.
2. Under **Access Level**, select **Viewer** or **Admin**. Only the Owner can invite an Admin.
3. Select **Send Invite**.
4. Ask the person to sign in to **esspi.com/portal** with that same email address, or to select **Create Account** with it if they are new. A new account must first select the verification link in the email from ESSPI. The device appears when they sign in, or within a couple of minutes of verifying.

NOTE: If a message says the invite email could not be sent, access has still been granted. Tell the person yourself.

Changing someone's access level (Owner only):

1. Open the **Access** list beside the person's name, and select the new level.
2. Select **Save User Changes**.



Manage Users ×

IP26

Jake Nichols
ADMIN ACCESS: Admin

Matt Shaeffer (you)
OWNER Remove Access

Linda Birkoff
VIEWER ACCESS: Viewer, **Owner**, Admin, Viewer, Remove access

Save User Changes

INVITE A NEW USER

EMAIL ADDRESS
colleague@company.com

ACCESS LEVEL
Viewer

Send Invite

⚠ Access granted, but we could not send the invite email. Please let brian@esspi.com know directly, or contact support.

Figure 4. The Access list, as seen by the Owner

An Admin sees an Access list only beside Viewers, and the only change it offers is **Remove access**.

Removing someone:

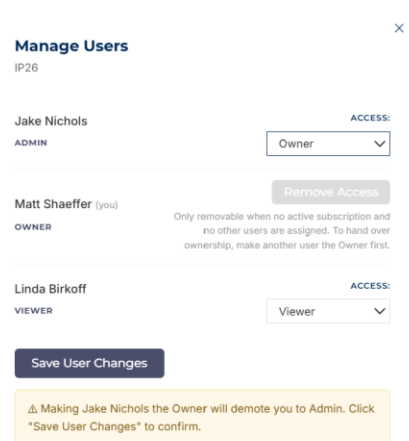
1. In the **Access** list beside the person's name, select **Remove access**.
2. Select **Save User Changes**.

The Owner can remove anyone. An Admin can remove Viewers only.

CAUTION: There is no separate confirmation. Selecting **Save User Changes** removes the person's access immediately. To restore it, invite them again.

Transferring ownership. Hand over ownership before you leave the company or stop managing the device. The new Owner must already have access; invite them first if needed.

1. In the **Access** list beside the new Owner's name, select **Owner**. A warning says that your own access will change to Admin.
2. Select **Save User Changes**.



Manage Users ×

IP26

User	Role	Access	Actions
Jake Nichols	ADMIN	Owner	
Matt Shaeffer (you)	OWNER		Remove Access
Linda Birkoff	VIEWER	Viewer	

Save User Changes

⚠ Making Jake Nichols the Owner will demote you to Admin. Click "Save User Changes" to confirm.

Figure 5. Choosing a new Owner. Nothing changes until you select Save User Changes

After the transfer you are an Admin, and only the new Owner can transfer ownership again.

Removing your own access. Your own entry has no Access list. To leave a device you own, either transfer ownership and ask the new Owner to remove you, or cancel the Cloud Subscription, remove every other user, and select **Remove Access** once the period already paid for has ended (Section 3.12). An Admin or Viewer asks the Owner (or, for a Viewer, an Admin) to remove them.

If the Owner has left without transferring ownership, contact ESSPI support to assign a new Owner.

Retiring, moving, or replacing a device. Removing everyone's access does not take a device out of service. Contact ESSPI support to retire, move, or transfer a device.

3.8 The Engineering Dashboard

On the device's dashboard, select **Engineering Dashboard** for the detailed view:

- **System State:** the device's current risk level, and its network signal out of 5
- **Alarm Controls:** **Acknowledge** and **Horn Mute** (Owners and Admins; Section 3.4)
- **A card for each reading,** with its trend over 15 days, 7 days, 1 day, 1 hour, or live. Select **View chart** for a larger chart.
- **Download data** (Section 3.10) and the **Threshold Configuration** table (Section 3.9)

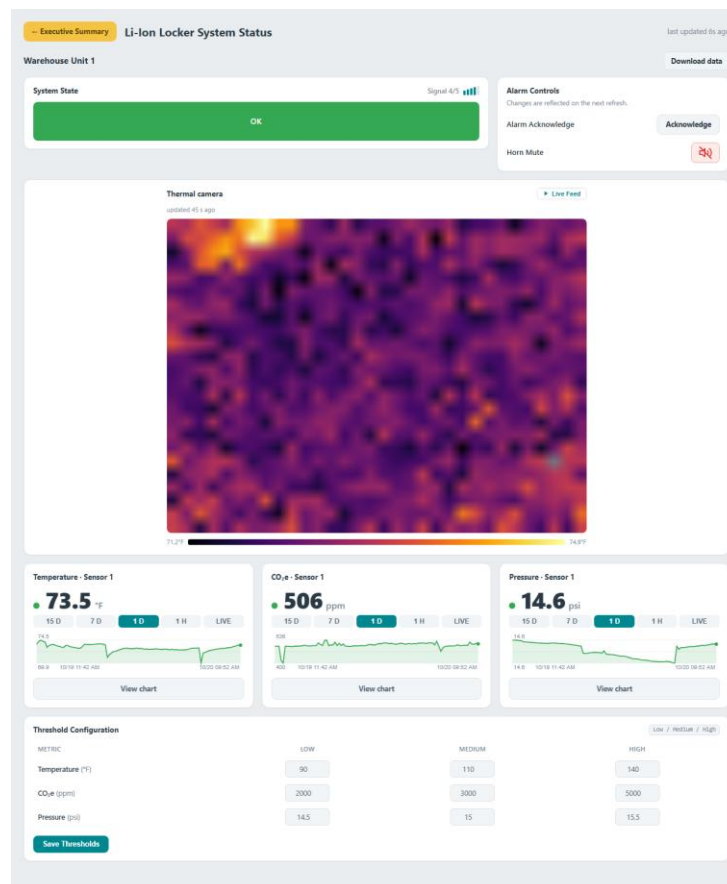


Figure 6. The Engineering Dashboard of a thermal camera unit

Naming sensors. Owners and Admins can give a sensor a name, such as "Left bay". On the dashboard, select the pencil beside the sensor's name, type a name of up to 24 characters, and select **Save**. Everyone with access sees the new name. Clear the name to go back to "Sensor 1".

3.9 Changing Alert Thresholds

Each device judges its readings against its own thresholds: a **Low**, **Medium**, and **High** value for temperature, CO₂e, and pressure. Owners and Admins can change them in the **Threshold Configuration** table on the Engineering Dashboard.

1. Type the new values. For each reading, Low must be below Medium, and Medium below High.
2. Select **Save Thresholds**.
3. Check the message: **Thresholds saved to device** means every value reached the unit.

Threshold Configuration			
	Low / Medium / High		
METRIC	LOW	MEDIUM	HIGH
Temperature (°F)	90	110	140
CO ₂ e (ppm)	2000	3000	5000
Pressure (psi)	14.5	15	15.5
Save Thresholds			

Figure 7. The Threshold Configuration table, set to ESSPI's standard values

If the message says **Partially saved**, it names the values that did not reach the unit, and the table reloads to show what the unit now holds. Select **Save Thresholds** again.

ESSPI's standard thresholds are:

Reading	Low	Medium	High
Temperature (°F)	90	110	140
CO ₂ e (ppm)	2000	3000	5000
Pressure (psi)	14.5	15.0	15.5

CAUTION: A threshold set too high silently delays or prevents an alarm: nothing looks wrong, and the unit simply does not alert. Change thresholds only for a clear reason, keep a record of what you changed, and contact ESSPI if you are unsure.

3.10 Downloading Data

Owners and Admins can download a device's readings as a spreadsheet.

1. On the Engineering Dashboard, select **Download data**.
2. Choose the **From** and **To** times. One download can cover up to 7 days.
3. Select **Email me the data**.

Download data · Warehouse Unit 1

The readings shown on this page, one per second, emailed to you as a zipped CSV.
Up to 7 days at a time.

From: 10/19/2026 09:54 AM To: 10/20/2026 09:54 AM

Email me the data

Figure 8. The Download data window

The data is emailed to the address you sign in with, as a zip of CSV files: one per sensor and reading, one value per second, with times in your local time zone. A short range usually arrives within minutes; a long one can take up to half an hour and may arrive as several emails. Each person can run one download at a time, and up to 10 a day.

3.11 Thermal Camera Units

On a device with a thermal camera, the Engineering Dashboard shows a **Thermal camera** panel above the readings: a heat map of the area the camera watches, with a colour scale from the coolest to the warmest point.

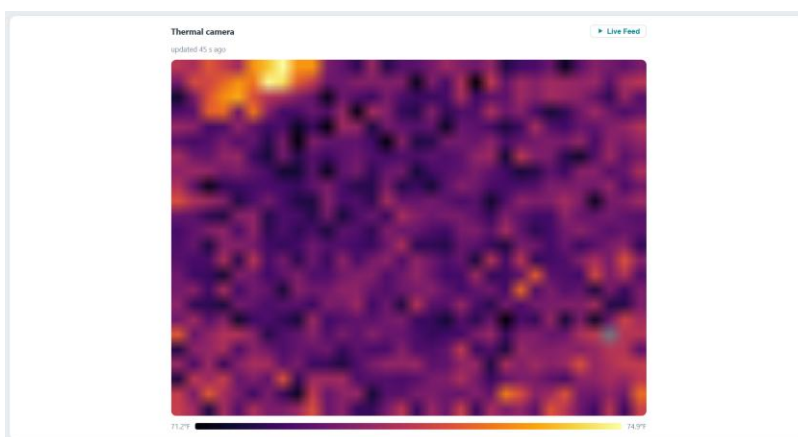


Figure 9. The thermal camera panel, with its colour scale from coolest to warmest

- **Normally** the heat map updates about once a minute.
- **Live Feed** (Owners and Admins): select it to update the heat map every few seconds for about two minutes. It then returns to normal on its own.
- **Hover** over the heat map to see the temperature at that point.

3.12 Cloud Subscription and Billing

Each device needs its own **Cloud Subscription**, billed monthly by Zoho, ESSPI's billing provider. The **DNOC Quick Start Guide**, Sections 1.3 and 2.1, walks through each step with screenshots.

Capability	Owner	Admin	Viewer
Start a subscription (Subscribe)	Yes	Yes	No
Update the payment card, cancel, or resume	Yes	Yes	No

Only the person who pays sees the last four digits of the card.

Paying. Payment is taken on Zoho's secure page; card details never pass through the portal. The person who pays receives an invoice by email for every payment, and can see all of them under **Invoices & receipts** in the **Manage subscription** window (Zoho's customer portal, signed in with that email address).

Status on the device card	Meaning	What to do
OK (or another risk level)	Subscribed and reporting	Nothing
PENDING	Payment is being processed	Wait; it updates on its own
PAYMENT DUE	The last payment did not go through	An Owner or Admin selects Fix payment , then Update payment card
CANCELLED	The subscription has ended	An Owner or Admin selects Subscribe to start a new one
INACTIVE	No subscription yet	An Owner or Admin selects Subscribe

Cancelling. A cancellation takes effect at the end of the period already paid for. Until then the device stays active, with its dashboard, and nothing more is charged; **Resume subscription** undoes the cancellation at any time before that date. Afterwards the card shows **CANCELLED**; subscribing again brings the dashboard back.

4. Care and Maintenance

The DNOC needs little routine maintenance from you. To keep it working well:

- **Check the portal** at the start of each shift: the device should show **OK** with a recent **Last seen** time.
- **Keep the device unobstructed.** Do not cover it, block its sensor openings, or stack items against it.
- **Keep it clean and dry.** Do not spray cleaners or water into the device.
- **Keep it powered and connected.** If your Wi-Fi network changes, follow Section 2.2.
- **Report anything unusual** to ESSPI: damage, a light pattern you do not recognise, or readings that look wrong.

NOTICE: Do not open, move, or modify the device. Contact ESSPI for any change to an installation.

5. Troubleshooting and Support

Situation	What to do
Smoke, fire, or venting	Evacuate and call emergency services. Then contact ESSPI.
Medium or High alarm	Follow Section 3.4 and your emergency response plan.
Portal shows OFFLINE , and the device was not switched off	Check that the device has power and is switched on, and that its power light is green. If it is blue, it is in Wi-Fi setup mode: follow Section 2.2. Then contact ESSPI.
Portal shows NO SENSOR DATA	The device is online but a sensor has stopped reporting. Contact ESSPI.
No alert emails	Check your spam folder, add support@esspi.com to your safe senders, and check that email is on in your Notifications settings and the device is not muted.
No phone notifications	Turn them on again (Quick Start Guide, Section 4.4). On iPhone, open the portal from the ESSPI icon.
The portal does not show your device	Sign in with the email address you were invited with, or ask your Owner to invite you. If your account is new, select the verification link in the email from ESSPI, then refresh the portal after a couple of minutes.
Your Wi-Fi network name or password changed	Follow Section 2.2.
CO ₂ e holds at a steady 500 ppm, or jumps around, just after the device was switched on	Normal while the gas sensor settles, which can take up to an hour. Leave the device on. If the portal shows MEDIUM or HIGH , treat it as a real alarm (Section 3.4). If the reading has not settled after a few hours, contact ESSPI.
Saving thresholds says Partially saved	Some values did not reach the unit. The table now shows what the unit holds; select Save Thresholds again (Section 3.9).
An invited person did not get the invite email	Access is granted anyway. Ask them to sign in at esspi.com/portal with the email address you invited, and to check their spam folder.
The Download data email did not arrive	Wait a few minutes and check your spam folder. One download runs at a time, so try again later if another is running.
Any change to the installation (moving, removing, or replacing the device)	Contact ESSPI first.

Contacting ESSPI. Email support@esspi.com, or use the support form at the bottom of the portal. You can also reply to any alert email. Please include the device name and serial number (shown under **> View device info** in the portal), what you see in the portal and on the device (status, lights, horn), and when it started.