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environmental control equipment

Fault Reset Controls

How To Guides

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Fault Reset Controls

Figure 1. Typical ECE air handling unit with 5-inch HMI display on the AHU control panel.

Video Duration: 4 minutes 47 seconds

Applies to: AHUs fitted with a Trend control system and 5-inch HMI display

Document Status: Controlled technical instruction

1. Purpose

This booklet accompanies the video demonstrating how to identify and reset common AHU fault conditions such as:

- Frost protection alarm
- Smoke stat trip
- Fire alarm input
- Low temperature alarm

The procedure shows how to identify the alarm via the HMI display, carry out the required checks, reset the fault, and confirm that the alarm clears.

The AHU control system continuously monitors safety devices and operating conditions.

If a fault condition is detected, the system will:

- Shut down affected equipment
- Generate a fault alarm on the controller
- Display the alarm on the HMI

Resetting the fault must only be carried out after the underlying cause has been investigated and resolved.

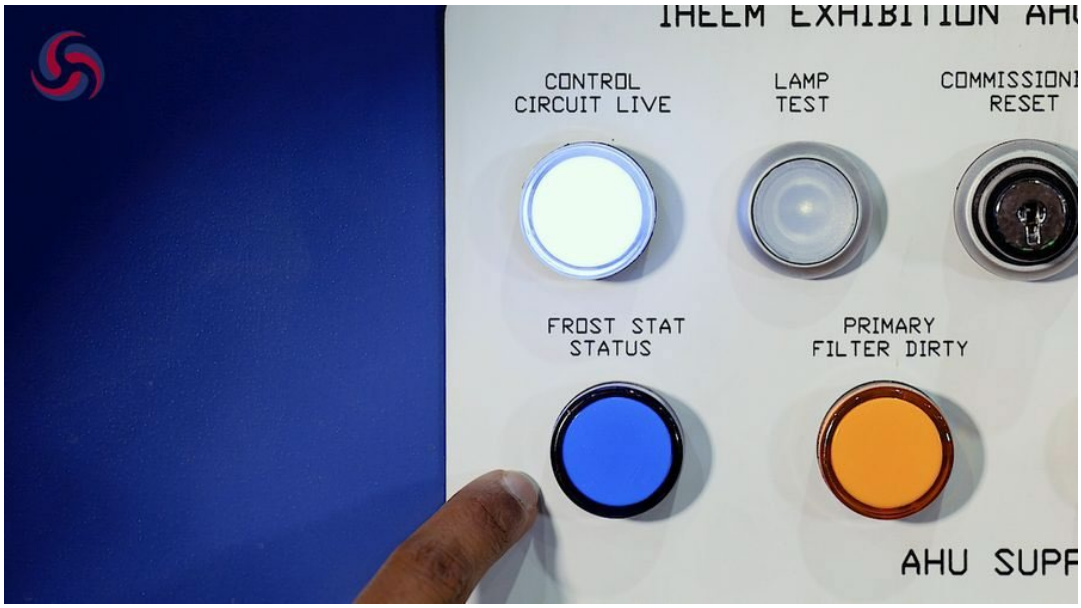

Figure 2. AHU control panel showing Frost Stat Status indicator illuminated alongside Control Circuit Live, Lamp Test and Commissioning Reset push-buttons.

2. Important AHU Information

- ECE AHUs are bespoke. Do not assume that information, access arrangements, terminal numbers, wiring colours, component selections or controls logic from another AHU applies to the AHU being reviewed or worked on.
- The certified drawing and current project-specific documentation are the primary sources for the AHU arrangement and component technical information.
- Where component technical information is checked, it must be checked against the certified drawing and related manufacturer data for the exact AHU.

IMPORTANT: Always use the project-specific asset information, certified drawing, relevant ECE product-range IOM, quotation scope and component information for the exact AHU being reviewed or worked on.

3. Safety and Competency Requirements

- Only competent and authorised personnel should carry out this procedure. The required competency depends on the task being undertaken.
- Before starting, confirm the correct AHU, asset tag, certified drawing, relevant ECE product-range IOM and any applicable wiring diagram, controls description, component technical information or manufacturer data sheet.
- Follow all site-specific RAMS, permits, PPE, isolation and access requirements.
- Where the task requires physical access to the AHU, do not open access doors, remove panels or work inside the AHU unless fans and relevant equipment are isolated, stationary and safe to access.
- Do not bypass safety devices, interlocks, alarms or controls.
- Stop and escalate if the AHU identity, current technical information, safe isolation, access condition or required competency cannot be confirmed.

Figure 3. Site personnel in PPE reviewing the certified drawing. Confirm fan type, airflow direction and wiring before any rotation check.

Task-specific requirements:

- Only competent and authorised personnel should operate, reset, test or adjust AHU controls.
- Do not reset alarms, faults or maintenance warnings until the underlying cause has been investigated and corrected.
- Do not use hand mode, manual overrides or resets to bypass safety controls, interlocks, airflow proving, fire/smoke inputs or protective functions.
- Confirm the correct AHU, controls description, wiring diagram and HMI/control panel before making changes or carrying out a test.
- Stop and escalate if the fault cause is unknown, the alarm returns after reset, the control strategy is unclear, or the system does not operate as described.

4. Before You Begin

- Access the AHU asset information via the ECE Client Portal using the asset tag or 18-digit reference number where available.
- Confirm the AHU reference, project name, location and latest document revision.
- Review the certified drawing, relevant ECE product-range IOM, quotation scope, component schedule and manufacturer data sheets where applicable.
- Review the wiring diagram, controls description and commissioning information where the task involves electrical, controls or BMS interfaces.
- Confirm the required personnel, tools, PPE, access equipment, permits and isolation method before starting work.

Figure 4. Asset Tag plate carrying the unique 18-digit reference number used to retrieve AHU technical information from the ECE Client Portal.

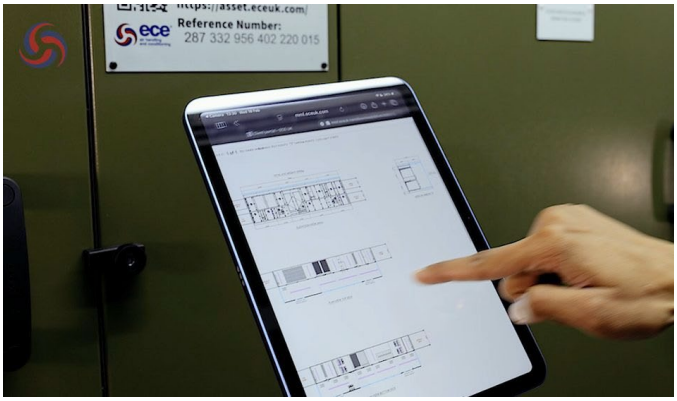

Figure 4b. AHU technical information opened on a device via the Asset Tag link, used to confirm AHU reference, drawing revision and fan information before starting work.

5. Required Tools, Equipment, PPE and Information

- Project-specific controls description
- Wiring diagram or interface drawing
- HMI/control panel access credentials where required
- Commissioning report or points list where available
- Fault/alarm log or maintenance record

6. Procedure

6.1 Accessing the Alarm Information

- Locate the 5-inch HMI display on the AHU control panel.
- Navigate to the Alarms Browser.
- Open the alarms page.

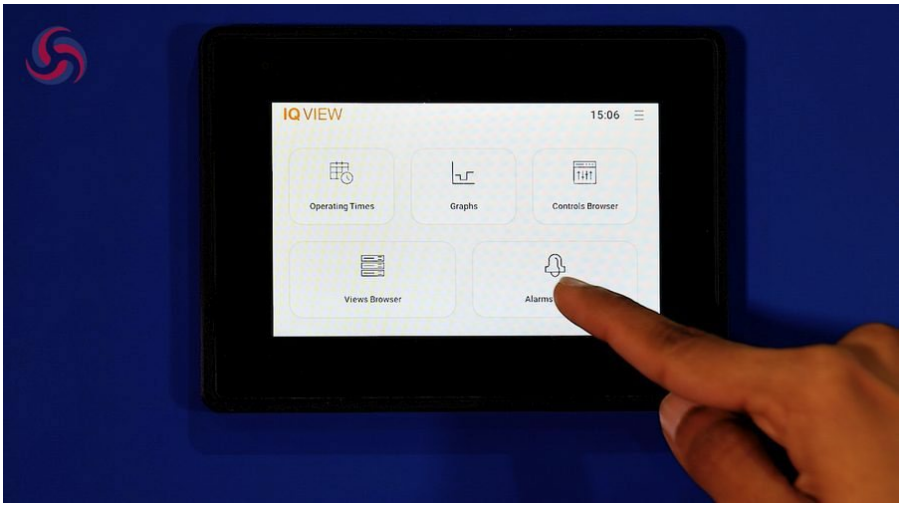

Figure 5. HMI IQ View home screen — select the Alarms Browser to open the alarms page.

The alarms screen will show:

- Active alarms
- Alarm descriptions
- Associated equipment

6.2 Identifying the Fault

On the alarms page, identify the active alarm.

Example shown in the video:

“Frost Alarm”

This alarm indicates that the frost protection device has been triggered to protect the coil from freezing.

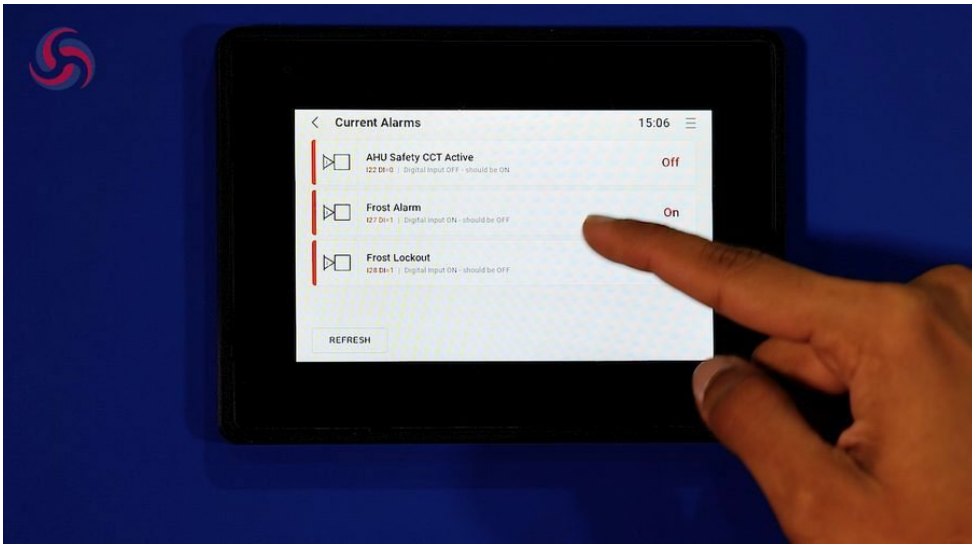

Figure 6. Current Alarms page showing the active Frost Alarm and associated equipment.

Other common alarms may include:

- Smoke Stat Trip
- Fire Alarm Input
- Low Temperature Alarm

Each alarm must be investigated before reset.

6.3 Performing the Necessary Checks

Before resetting the fault, carry out appropriate checks.

For a Frost Alarm, typical checks may include:

- Confirm heating coil is operational
- Check water flow through coil
- Inspect frost thermostat condition
- Confirm sensor positioning
- Replace frost stat if faulty

The system must be safe to restart before performing a reset.

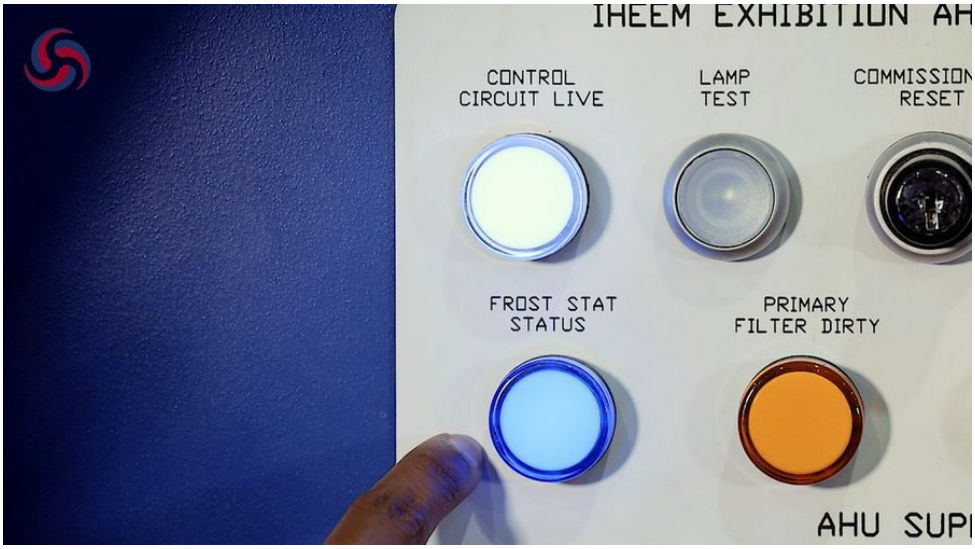

Figure 7. Checking the Frost Stat Status indicator on the control panel — verify the frost protection device condition before reset.

6.4 Navigating to the Fault Reset Function

Once the issue has been resolved:

- Return to the HMI main menu.
- Navigate to the Views Browser.
- Locate the option labelled “Fault Reset.”

The Fault Reset command allows the controller to clear safety lockouts once the fault condition has been resolved.

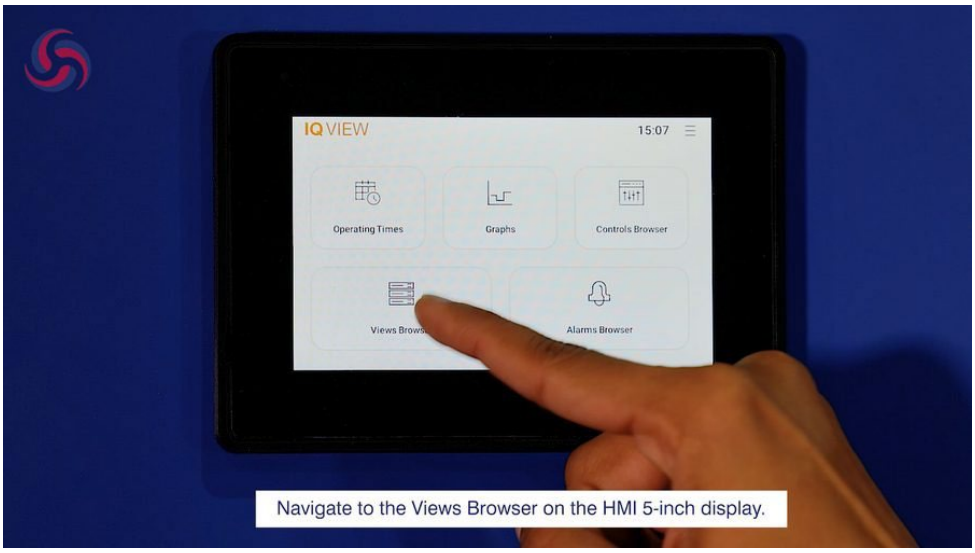

Figure 8. Returning to the HMI home screen and navigating to the Views Browser.

6.5 Resetting the Fault

- Select Fault Reset.
- Press the Reset button on the HMI display.
- Allow the controller to process the reset command.

The control system will now check whether the fault condition is still present.

If the fault has been corrected, the alarm will clear.

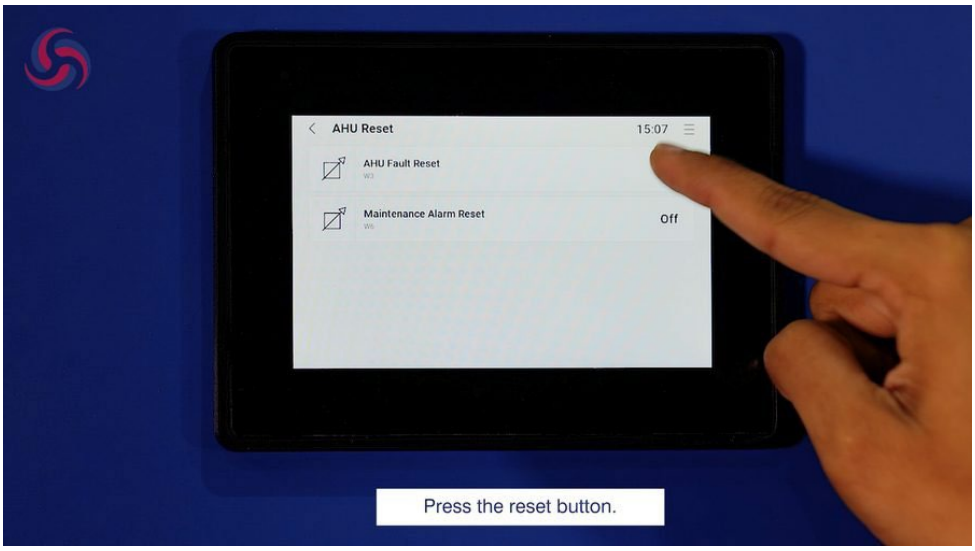

Figure 9. AHU Reset menu showing the “AHU Fault Reset” option — press the reset button to clear the fault.

6.6 Confirming Alarm Clearance

- Return to the Alarms Browser.
- Review the alarm list.

The Frost Alarm should no longer be displayed, confirming that the fault condition has been cleared.

If the alarm remains active, further investigation may be required.

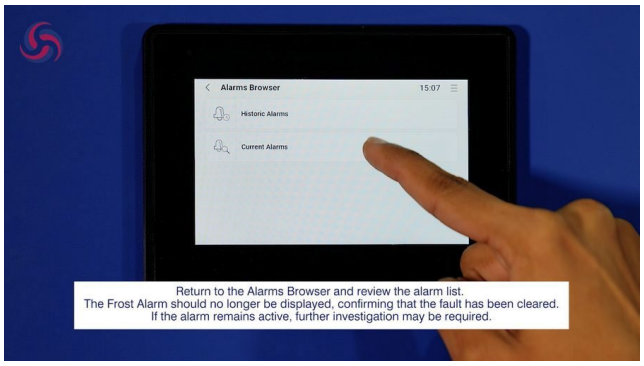

Figure 10. Returning to the Alarms Browser to review the alarm list after reset.

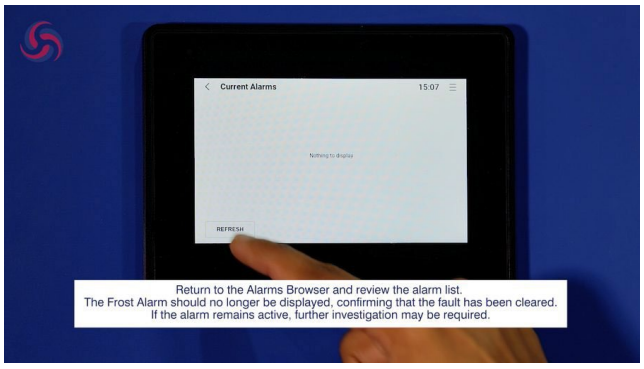

Figure 11. Current Alarms list empty after successful reset — Frost Alarm has been cleared.

Once the alarm has cleared:

- Confirm the AHU returns to normal operation
- Check fan operation
- Confirm dampers and heating systems respond correctly
- Ensure no additional alarms are generated

6.7 Good Practice When Resetting Faults

- Always investigate the root cause before resetting.
- Never bypass safety devices.
- Record the fault and corrective action in the maintenance log.
- Monitor system operation after reset.

7. Verification / Functional Test

- Control action produces the expected status on the HMI, controller or BMS.
- No active safety, fault or maintenance alarm remains unless it has been intentionally left recorded for follow-up.
- The underlying cause of any alarm or fault has been investigated before reset.
- The system returns to the intended automatic mode after the test or reset.
- Fault cause is corrected, reset is completed and the fault does not immediately return.

Additional Verification Notes

8. Stop-and-Escalate Conditions

STOP: Stop work or stop the review and escalate to the responsible ECE/project technical contact if any of the following apply:

- The AHU reference, asset tag, certified drawing or document revision cannot be confirmed.
- The information found does not match the physical AHU, installed component or project scope.
- Safe access, safe isolation or required site permits cannot be confirmed.
- A required component technical detail, wiring detail, control signal or manufacturer data sheet is missing.
- The task would block or compromise AHU maintenance access, withdrawal routes, isolators, terminal boxes or emergency access.
- The underlying cause of a fault or alarm has not been investigated.
- The reset or test would bypass a protective function.
- The displayed control strategy does not match the project-specific controls description.
- The user is not authorised to make the control change.
- Fault recurs after reset or the root cause has not been corrected.

9. Final Checks

- Confirm the AHU, component, wiring, control function or approval item has been left in the intended safe and complete condition.
- Confirm access doors, panels, terminal boxes, covers, guards, isolators and labels are secure where applicable.
- Confirm no tools, temporary materials, loose items, debris or packaging remain in or around the AHU.
- Confirm any alarms, faults, abnormal indications or unresolved comments have been recorded and escalated.

10. Records to Complete

Record enough evidence to prove that the task, review or test has been completed using the correct AHU information and by competent personnel.

- Alarm/fault/control action identified
- Cause investigated
- Reset/test result recorded
- Automatic operation restored
- Outstanding actions recorded

Evidence item	Required entry
AHU reference / asset tag	To be completed
Certified drawing revision / document revision	To be completed
Person completing task / review	To be completed
Date completed	To be completed
Result / status	Pass / fail / comment / not applicable
Outstanding actions	To be completed or marked none

11. Completion Checklist

[ ] Correct AHU and guide number confirmed.
[ ] Latest asset information and certified drawing checked.
[ ] Relevant IOM, wiring diagram, controls description or manufacturer data checked where applicable.
[ ] Safety and competency requirements confirmed.
[ ] Procedure completed or approval review completed.
[ ] Verification / functional test completed.
[ ] Stop-and-escalate conditions checked and no unresolved stop condition remains.
[ ] Records to Complete section completed.
[ ] AHU returned to safe condition or review status recorded.

12. Task-Specific Completion Checks

[ ] HMI accessed
[ ] Alarms Browser opened
[ ] Fault identified
[ ] Cause investigated
[ ] Fault corrected or component replaced
[ ] Views Browser opened
[ ] Fault Reset selected
[ ] Alarm cleared from display
[ ] AHU operation verified

13. Learning Outcome

After completing this procedure, viewers will understand:

- How to locate and identify AHU fault alarms
- How to investigate common safety trips
- How to safely reset faults via the HMI controller
- How to confirm that the system has returned to normal operation

This ensures faults are handled safely while maintaining the protection functions of the AHU control system.