Control Panel Lamp Test

How To Guides

Control Panel Lamp Test

Figure 1. Typical ECE air handling unit.

Video Duration: 3 minutes 42 seconds
Applies to: AHU control panels fitted with indicator lamps and a dedicated Lamp Test push button
Document Status: Controlled technical instruction

1. Purpose

This booklet accompanies the video demonstrating how to perform a Control Panel Lamp Test. The lamp test allows maintenance personnel to verify that all indicator lamps on the control panel are operational.

Indicator lamps are used to show important system conditions such as:

- Power status
- Fan operation
- Fault indication
- System alarms

A lamp test ensures that failed lamps are identified and replaced before they are required to indicate a real system condition.

The lamp test function temporarily energizes all indicator lamps on the control panel to confirm that each lamp is operational.

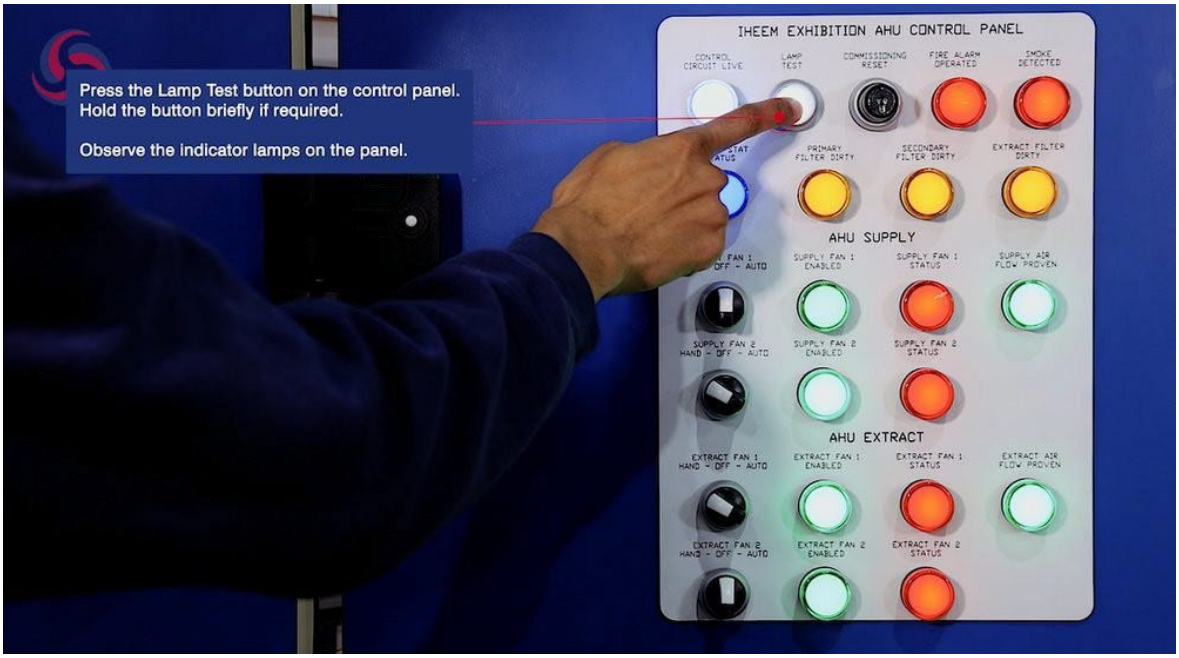

Figure 2. AHU control panel during a lamp test — all indicator lamps illuminate simultaneously, confirming the lamps and their wiring circuits are functioning.

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 AHU identity, asset tag and document revision before opening any access door.

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.

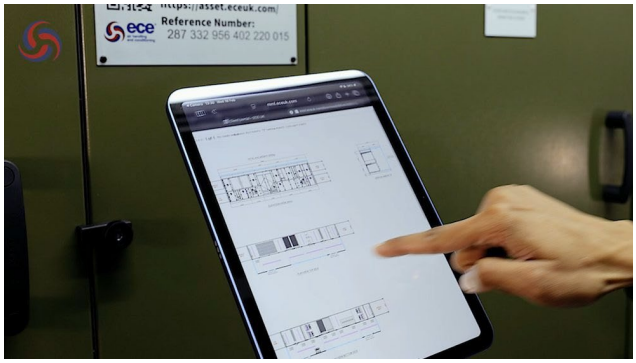

Figure 4b. AHU technical information opened on a device via the Asset Tag link, used to confirm AHU reference, drawing revision and fan information before starting work.

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

Performing this test helps ensure:

- All visual indicators are working correctly
- Faults and system status will be clearly visible during operation
- Failed lamps are identified during routine maintenance

6.1 Preparation

Before performing the lamp test:

- Confirm that the AHU control panel is powered on.
- Ensure the control system is operating normally.
- Confirm that all indicator lamps are visible and unobstructed.

6.2 Locating the Lamp Test Button

Locate the Control Panel Lamp Test button on the front of the control panel.

Figure 5. Locate the Control Panel Lamp Test button.

The lamp test button is typically labelled:

“Lamp Test”

This push button is used to energise all indicator lamps simultaneously.

6.3 Performing the Lamp Test

- Press the Lamp Test button on the control panel.
- Hold the button briefly if required.
- Observe the indicator lamps on the panel.

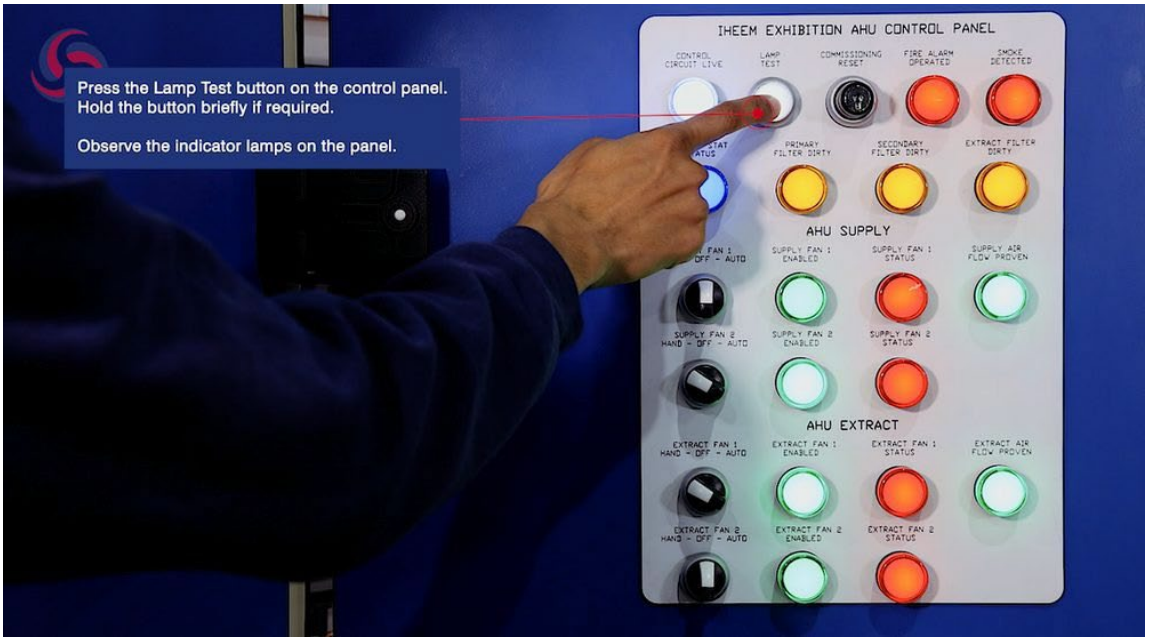

Figure 6. Pressing the Lamp Test button on the control panel and observing the indicator lamps.

When the lamp test is activated:

- All panel indicator lamps should illuminate simultaneously.
- This confirms the lamps and associated wiring circuits are functioning.

Figure 7. Lamp test active — all indicator lamps illuminated simultaneously, confirming the lamps and wiring circuits are functioning.

6.4 Inspecting the Indicator Lamps

While the lamp test is active:

- Visually check each lamp on the control panel.
- Confirm which lamps illuminate.
- Identify any lamps that do not illuminate.

Typical lamps to observe may include:

- Power indicator
- Fan run indicator
- Fault indicator
- Alarm indicator

6.5 Identifying Faulty Lamps

If a lamp does not illuminate during the lamp test, this indicates:

- The lamp has failed, or
- The lamp circuit requires attention.

Make a note of the lamp that has failed to illuminate.

6.6 Repair or Replacement

Once a faulty lamp has been identified:

- Isolate the control panel if required for safe maintenance.
- Access the lamp holder.
- Remove the faulty lamp.
- Install a suitable replacement lamp of the correct type and rating.
- Re-secure the lamp assembly.

Follow electrical safety procedures when carrying out replacement.

After replacing the lamp:

- Restore power to the control panel if it was isolated.
- Press the Lamp Test button again.
- Confirm that all lamps now illuminate correctly.

If the lamp still does not illuminate, further investigation of the wiring or lamp holder may be required.

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.
- All lamps/LEDs/indications illuminate during test and return to normal status afterwards.

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.
- A lamp, LED or HMI indication fails to illuminate and the alarm/status indication cannot be trusted.

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

Additional Record Notes

Record:

- Lamp location
- Lamp function
- Panel label

This information will help ensure the correct lamp is replaced.

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

[ ] Control panel powered on
[ ] Lamp test button located
[ ] Lamp test performed
[ ] All lamps visually checked
[ ] Non-illuminating lamps identified
[ ] Faulty lamp recorded
[ ] Lamp repaired or replaced
[ ] Lamp test repeated to confirm repair

13. Learning Outcome

After completing this procedure, viewers will understand:

- How to locate the control panel lamp test button
- How to perform a lamp test correctly
- How to identify failed indicator lamps
- How to ensure all control panel indicators remain operational

This ensures that the control panel continues to provide clear and reliable visual system status indications.