FIELD NOTES 04 / CONTROLS & COMMISSIONING

DALI dimming: from specification to handover

A practical checklist for compatibility, low-level performance and useful scene control.



A dimming system should be specified as a complete chain: the user interface, controller, control gear and light source must work together. A DALI label alone does not establish the performance of every component in that chain, especially when a decorative fitting uses replaceable lamps.

Verify the product, not just the logo

DALI-2 certification includes independently verified testing and is intended to improve interoperability. Check the exact product in the DALI Alliance database. Match the relevant identity and version details to the supplied component; do not assume that a similar model name has the same certification. [1, 2]

Separate communication from lamp compatibility

A DALI controller sends commands, but the final dimming performance depends on the driver or interface and its load. A replaceable mains lamp may be dimmed through an intermediate phase-cut interface. Confirm the interface manufacturer's approved lamp combinations and load limits. Do not assume that a DALI system makes every replacement LED lamp dimmable.

Define acceptance before procurement

Record the required minimum stable output, fade behaviour, scene recall, power-restoration behaviour and local override. Agree how the system should behave if a sensor or integration is unavailable. Specify the acceptance tests with the controls contractor and review the proposed complete assembly in a sample installation before ordering the full quantity.

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An organised test sequence

Stage	Test	Record
Full output	Observe all loads after warm-up	Flicker, noise, output consistency and unusual behaviour.
Dimming range	Step down and back up through the usable range	Stable minimum, drop-out and start-up differences.
Scenes and sensors	Recall scenes and test occupancy/daylight response	Group mapping, fade times and override behaviour.
Handover	Restore power and verify the agreed recovery state	As-built addresses, backups and user instructions.

Worked example: a chandelier switches off too early

If a chandelier stays bright through much of a slider range and drops out near its lower end, first identify the lamp, interface and controller models. Compare the installed load with the interface's approved range. Test an approved lamp combination before changing the controller. Separate a user-interface mapping issue from actual instability at the lamp. This symptom has several possible causes; it does not by itself prove a defective DALI bus.

Project checklist

- Confirm the exact controller, driver/interface and lamp combination.

- Check product certification and manufacturer compatibility information.

- Test low levels after warm-up and when returning from off.

- Keep group names, scenes and user controls understandable.

- Hand over the configuration backup, address schedule and approved spares list.

Electrical inspection, wiring checks and equipment replacement must be carried out by a qualified person using the manufacturer's instructions. A phone video may reveal banding, but it is not a substitute for a suitable flicker measurement when the project requires quantified temporal-light performance.

Sources & further reading

[1] DALI Alliance, DALI-2 versus DALI version-1

[2] DALI Alliance, Product Database and certification identity requirements

Sources checked 2 November 2026. Original practical guidance by OMEGALUX Studio; examples are illustrative. Confirm project criteria against the governing standards and approved product information.