



Description

The DIN-DALI-2 is a DALI-2™ certified DALI® interface for Crestron® systems that provides control of up to two individual DALI loops. Housed in a DIN-rail enclosure, the DIN-DALI-2 is a low-profile Cresnet® or Ethernet companion to most Crestron DIN rail processors or control systems. In addition to controlling the DALI data bus, it includes an integrated DALI power supply. Single-wire connectivity simplifies both new and retrofit installations, and Power-over-Ethernet (PoE) versatility assists in situations with existing CAT5 infrastructure.

Additional Resources

Visit the product page on the Crestron website (www.crestron.com) or scan the QR code to the right for additional information and the latest firmware updates.



Installation

WARNING: To avoid fire, shock, or death, turn off the power at the circuit breaker or fuse box and test that the power is off before wiring!

CAUTION: This equipment is for indoor use only. Mount it in a well-ventilated area. The ambient temperature must be 0° to 40°C (32° to 104°F). The relative humidity must be 10% to 90% (non-condensing).

NOTE: This product should be installed and used in accordance with appropriate electrical codes and regulations.

NOTE: This product should be installed by a qualified electrician.

NOTE: When installing in an enclosure, high-voltage devices should be grouped separately from low-voltage devices.

NOTE: Strip the ends of the wires approximately 1/4 in. (6 mm). Use care to avoid nicking the conductors. Twist together the ends of the wires that share a connection. Apply solder only to the ends of the twisted wires. Avoid tinning too far up the wires or the end becomes brittle.

NOTE: Before using the DIN-DALI-2, ensure the device is using the latest firmware. Check for the latest firmware for the DIN-DALI-2 at www.crestron.com/firmware. Firmware is loaded onto the device using Crestron Toolbox™ software.

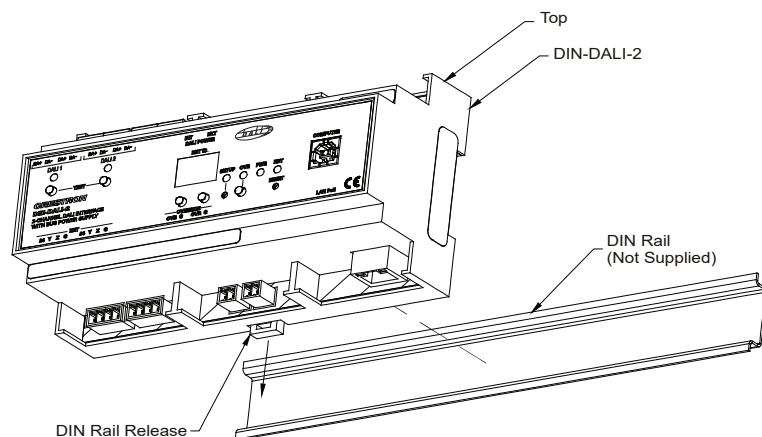
Install the DIN-DALI-2

The DIN-DALI-2 is designed for installation on a DIN rail. Refer to the illustration that follows.

1. Use a flat object (e.g., a flat-head screwdriver) to pull the DIN rail release downward.
2. With the top of the unit tilted down, place the DIN-DALI-2 against the bottom of the DIN rail.

NOTE: When mounting DIN rail products, it may be necessary to use a flat-head screwdriver to pull the DIN rail release tab down while snapping the device onto the DIN rail.

3. Tilt the top of the DIN-DALI-2 toward the DIN rail until it is secure on the top edge of the rail. Push the DIN rail release upward to lock the DIN-DALI-2 into place.



Remove the DIN-DALI-2

To remove the DIN-DALI-2 from the DIN rail, use a small, flat object (e.g., a flat-head screwdriver) to pull the DIN rail release tab downward and tilt the bottom of the DIN-DALI-2 away from the DIN rail.

NOTE: Certain third party DIN cabinets provide space for an informational label between each DIN rail row. Crestron's Engraver software (version 4.0 or later) can generate appropriate labels for all Crestron DIN rail products.

Hardware Hookup

Make the necessary connections as shown below. Apply power after all connections have been made.

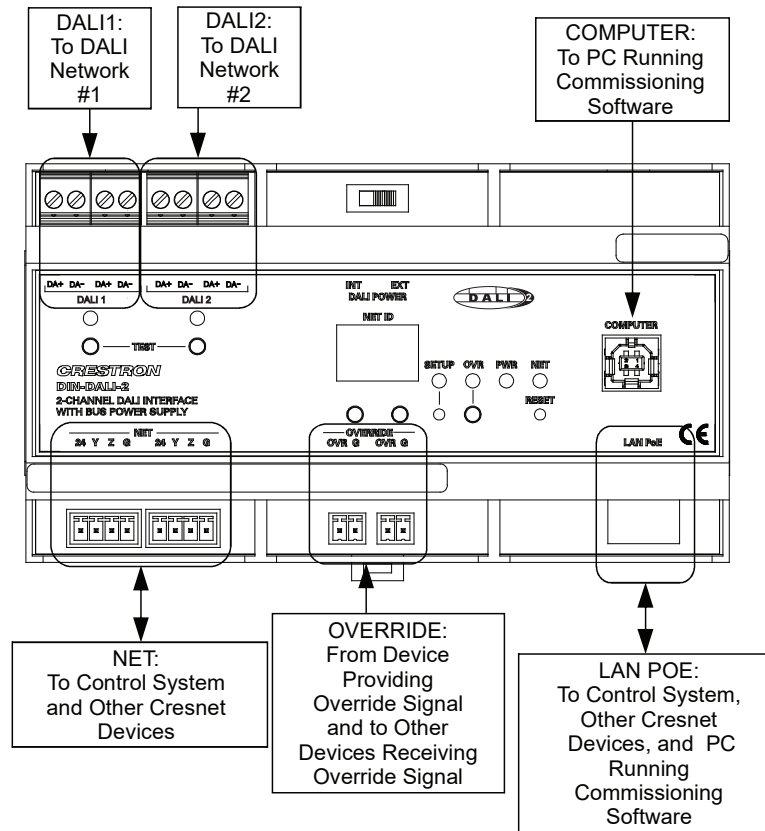
CAUTION: Connecting this device to the wrong type of load or short circuiting the load can cause severe product damage. Each load should be tested to identify a short circuit condition prior to wiring the load to the module.

NOTE: Use copper wire only. For high-voltage connections, use wire rated for at least 75°C (167°F).

NOTE: Ensure the unit is properly grounded by connecting the chassis ground lug to an earth ground (building steel).

NOTE: To prevent overheating, do not operate this product in an area that exceeds the environmental temperature range listed in the specifications table on the Crestron website.

When making connections to the DIN-DALI-2, use Crestron power supplies for Crestron equipment.



Operation

NOTE: During a DALI bus short-circuit or overload condition, the corresponding loop LED continuously blinks 1-2 seconds on followed by 1-2 seconds off. During this time, the DIN-DALI-2 is accessible through the Crestron Toolbox software. DALI loads on the short-circuited bus will not be controlled or polled. When the short-circuit condition or the overload condition is removed, the DIN-DALI-2 resumes DALI bus operation immediately without needing to reset or power cycle.

Enter Override Mode

The Override mode overrides the control system program and sets all ballasts on both networks to their preconfigured or factory default override values. To enable Override mode, press and release the **OVR** button. The OVR LED flashes slowly.

NOTE: If Override mode was enabled from an external device (e.g., a contact closure is present on the OVERRIDE terminals), the OVR LED flashes quickly. Pressing the **OVR** button has no effect.

To disable Override mode, press the **OVR** button again. The OVR LED extinguishes and the outputs return to the states set by the control system program.

Test the Ballasts

To verify that all ballasts have been properly wired, **DALI 1 TEST** and **DALI 2 TEST** buttons are provided for each network (DALI1 and DALI2). To toggle all ballasts on a network on or off, quickly tap the **DALI 1 TEST** or **DALI 2 TEST** button. To dim all ballasts on a network up or down, press and hold the **DALI 1 TEST** or **DALI 2 TEST** button.

Reboot the DIN-DALI-2

To reboot the DIN-DALI-2, press the **RESET** button. The outputs are set to the states currently specified by the control system program. If the control system does not provide any values, the outputs are set to their previously set values.

Set the Net ID

The Net ID is set using the front panel.

1. Press the **SETUP** button to enter the Setup mode. The SETUP LED illuminates.
2. Press the left button under the NET ID display to change the left digit of the Net ID or press the right button under the NET ID display to change the right digit of the Net ID.
3. When the desired Net ID is displayed, press the **SETUP** button to exit Setup mode. The SETUP LED extinguishes.

NOTE: If an invalid Net ID is set (00, 02, FF), "Er" appears on the NET ID display and the DIN-DALI-2 reverts to the previously set Net ID.

NOTE: The DIN-DALI-2 leaves Setup mode after 10 seconds of inactivity. The DIN-DALI-2 reverts to the previously set Net ID.

NOTE: A small label (with numbers and letters) is provided on the front panel of the DIN-DALI-2 to document the unit's Net ID in the case where power is not available. Apply a mark over the digits that correspond to the assigned Net ID.

NET ID Label ("3C" Shown)



Replace Failed Ballasts

Keep the following in mind when identifying and replacing failed ballasts.

- Each ballast in a system must have a unique address (0 to 63) and typically leaves the factory with a default, or unassigned, address of 255. In addition to its address, the ballast stores settings for group assignments, presets, and fade times that were programmed during commissioning.
- When replacing a failed ballast, the ballast settings need to be transferred to the new ballast for it to function correctly.

The following process allows one or more failed DALI ballasts to be replaced with new DALI ballasts. After the ballast is replaced, all addressing and programming is transferred to the new ballasts.

Replace the Failed Ballast

Use the following procedure to test the wiring, replace the ballast, and verify that the new ballast is operational.

NOTE: During the ballast replacement process, the NET ID display temporarily shows information other than the Net ID.

1. Test the wiring between the DIN-DALI-2 and the nonfunctioning ballast. Replace the failed ballast if there is no problem with the wiring.
2. Identify the loop to which the new ballast is connected.
3. Press the applicable **DALI 1 TEST** or **DALI 2 TEST** button to verify that the new ballast can be controlled. All ballasts connected to the loop turn on. Check the DALI wiring if the new ballast does not respond.

Transfer Addressing and Programming to a Single Replaced Ballast

Use the following procedure to transfer addressing and programming information to the ballast.

1. Press and hold the left and right buttons under the NET ID display until "br" is shown on the display (about 5 seconds).
2. Within 10 seconds, tap the **DALI 1 TEST** or **DALI 2 TEST** button that corresponds to the loop to which the new ballast is connected. The NET ID display flashes "br" while the device discovery process is running. This process may take a few minutes to complete. When discovery is complete, the display shows the address of the missing ballast in hex (i.e., 00 to 3F) and the new ballast starts flashing.
3. Press and hold the applicable **DALI 1 TEST** or **DALI 2 TEST** button for 3 seconds to initiate reprogramming of the new ballast. Once the new ballast has been programmed, the DIN-DALI-2 returns to normal operation and the NET ID display shows its Cresnet ID.

Transfer Addressing and Programming to Multiple Replaced Ballasts

Use the following procedure to transfer addressing and programming information to the ballasts.

1. Press and hold the left and right buttons under the NET ID display for 5 seconds until "br" is shown on the display.
2. Within 10 seconds, tap the **DALI 1 TEST** button. The NET ID display blinks "br" while the device discovery process is running. This may take a few minutes to complete. When discovery is complete, the first new ballast found on loop 1 begins flashing to indicate that it has been selected for addressing. The display shows the address of the first missing ballast (in hex, i.e., 00 to 3F). Use the left and right buttons under the NET ID display to assign the address to the flashing ballast. Refer to the "Hex to Decimal Lookup" table for more information.

Hex to Decimal Lookup

BALLAST ADDRESS	HEX ADDRESS	BALLAST ADDRESS	HEX ADDRESS
0	00	32	20
1	01	33	21
2	02	34	22
3	03	35	23
4	04	36	24
5	05	37	25
6	06	38	26
7	07	39	27
8	08	40	28
9	09	41	29
10	0A	42	2A
11	0B	43	2B
12	0C	44	2C
13	0D	45	2D
14	0E	46	2E
15	0F	47	2F
16	10	48	30
17	11	49	31
18	12	50	32
19	13	51	33
20	14	52	34
21	15	53	35
22	16	54	36
23	17	55	37
24	18	56	38
25	19	57	39
26	1A	58	3A
27	1B	59	3B
28	1C	60	3C
29	1D	61	3D
30	1E	62	3E
31	1F	63	3F

NOTE: Refer to floor maps created during initial commissioning to determine the correct address.

- Press and hold the **DALI 1 TEST** button for 3 seconds to initiate reprogramming of the selected ballast. The NET ID display shows the address of the next missing ballast (in hex) and the next new ballast begins flashing.
- Use the left and right buttons under the NET ID display to assign the address to the flashing ballast. Refer to the “Hex to Decimal Lookup” table.
- Press and hold the **DALI 1 TEST** button for three seconds to save the address of the selected ballast.
- Repeat this process for each new ballast on loop 1. After the final new ballast has been reprogrammed, the DIN-DALI-2 returns to normal operation and the NET ID display shows the DIN-DALI-2’s Cresnet ID.

Repeat the steps above to initiate device discovery and perform the ballast replacement process on loop 2.

Replace the DIN-DALI-2

If the DIN-DALI-2 needs to be replaced, the system information about ballast address, scene, and group can be extracted from the ballasts for use with the new DIN-DALI-2. The configuration can be run from the front panel by following the steps in the procedure below.

NOTE: The procedure outlined below can also be performed using the DALI Commissioning tool found in Crestron Toolbox.

NOTE: During the DIN-DALI-2 replacement process, the NET ID display temporarily shows information other than the Net ID.

- If using Cresnet communications, note the Cresnet ID of the existing DIN-DALI-2 unit if possible.
- Remove the old DIN-DALI-2 and install the new DIN-DALI-2 in its place. The original unit is not needed to perform this procedure.
- Press and hold the left and right buttons under the NET ID display for 5 seconds. The segment display shows “rc.”
- Press the **DALI 1 TEST** button within ten seconds of the display showing “rc.” The display blinks “rc” while the read configuration is running. When the reading is complete, the segment display switches back to its default mode and the NET ID display shows the Cresnet ID.
- Repeat steps 3 and 4 using the **DALI 2 TEST** button.

If using Cresnet communications, set the Cresnet ID of the new DIN-DALI-2 unit to the Cresnet ID noted in step 1.

Troubleshooting

The following table provides corrective action for possible trouble situations. If further assistance is required, please contact a Crestron customer service representative.

DIN-DALI-2 Troubleshooting

TROUBLE	POSSIBLE CAUSES	CORRECTIVE ACTION
The switch does not function.	The switch is not receiving line power.	Verify that the switch is properly connected to the power line and that the circuit breaker is closed.
	The load is not operational (e.g., the lamps are burned out).	Verify that the load is operational.
	The device is in Remote mode.	Check the SIMPL program to determine or change the operating mode.
	The switch is not connected to a neutral.	Add a connection to a neutral.

As of the date of manufacture, the product has been tested and found to comply with specifications for CE marking.



This product is Listed to applicable UL Standards and requirements by Underwriters Laboratories Inc.



Federal Communications Commission (FCC) Compliance Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following conditions: (1) This device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.

CAUTION: Changes or modifications not expressly approved by the manufacturer responsible for compliance could void the user’s authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital

device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

Industry Canada (IC) Compliance Statement

Operation is subject to the following two conditions:

- This device may not cause interference, and
- This device must accept any interference, including interference that may cause undesired operation of the device.

The product warranty can be found at www.crestron.com/warranty.

The specific patents that cover Crestron products are listed at patents.crestron.com.

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