

DDBC120-DALI

DALI-2 Controller



Specification Sheet

Controllers > DALI Controllers



Full DALI-2 control with inbuilt DALI power supply and driver power management

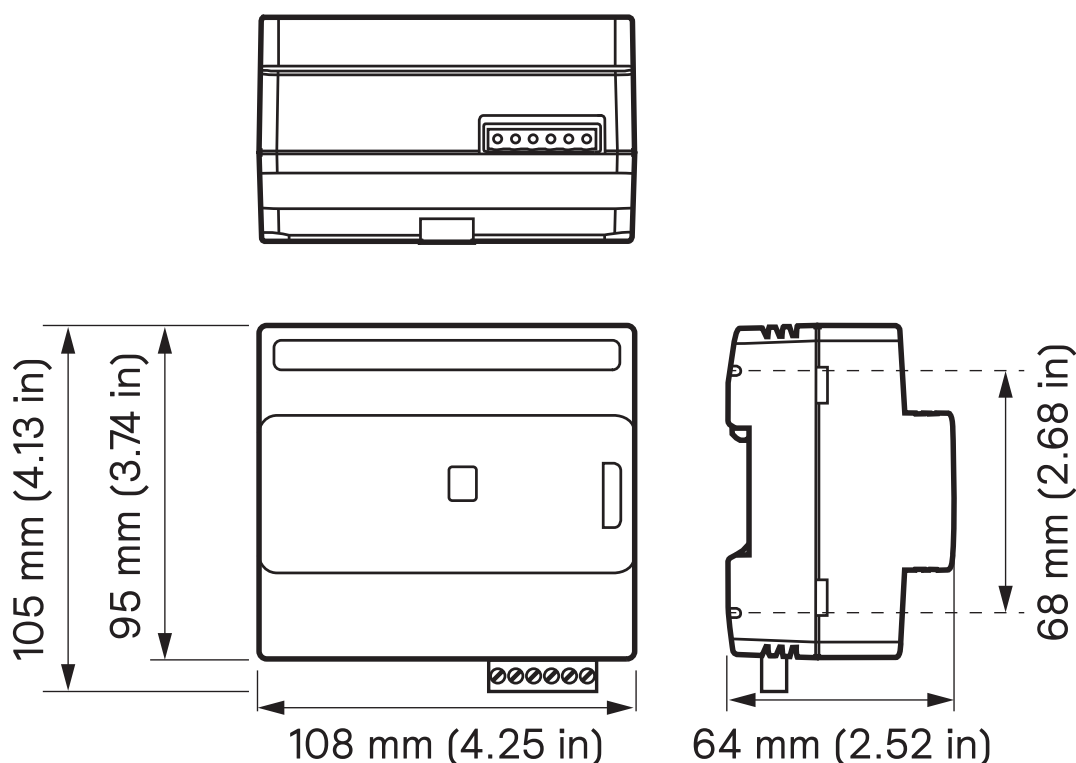
The Dynalite DDBC120-DALI is a single-line controller with an integrated switched relay output, ideal for small-scale projects looking for a compact, energy-efficient, all-in-one DALI control solution.

This controller operates seamlessly with all other Dynalite controllers, sensors, user interfaces, and head-end software.

Key Features

- **Full-featured DALI lighting solution** – Control a range of DALI fittings, including fluorescent drivers, electronic low-voltage transformers, LED fixtures, DALI 202 emergency lighting fixtures, and DALI 207/209 tunable white and RGBWAF luminaires.
- **Configurable for single-master or multi-master operation** – Compatible with the full range of Dynalite DALI and DALI-2 sensors and user interfaces (**Note:** third-party devices not supported).
- **Flexible mounting** – DIN rail mounting clips designed for installation into the distribution board supplying power to the controlled lighting circuit.
- **Fully scalable network solution** – Direct mapping from DALI to DyNet eliminates DALI-imposed limits such as maximum group size.
- **DALI port protection** – DALI port is protected by a self-resettable fuse, preventing damage to devices if exposed to prolonged excessive current from multiple DALI power supplies or accidental shorting to mains. Once fault conditions have been corrected, the device resumes normal operation.
- **Dual functionality** – Leverage advantages of a true DALI network solution, while still providing access to the DyNet feature set.
- **Eliminate lamp standby power consumption** – Internal switched relay automatically isolates the power circuit when all drivers are dimmed to 0%.
- **Integral DALI bus power supply** – Removes the need for provision of a separate external power supply and reduces distribution board wiring complexity.
- **Driver management tools** – Includes lamp and driver status reporting, driver run time tracking, and emergency test reporting.
- **Onboard DALI test function** – Use the controller's service switch to set all connected lamps to full brightness, or flash on/off for a 5-minute test window, without the need for software or additional input devices.

Dimensions



Specifications

Electrical	
Supply Type	Single-Phase
Supply Voltage	100-277 VAC
Supply Current	0.25 A
DyNet DC Output Voltage	12 VDC
DyNet DC Output Current	300 mA
Relay Outputs	1 x 20 A feed-through
DALI Protection	Electronic self-resettable fuse
IEC Overvoltage Category	III

Physical	
Dimensions	95 x 108 x 64 mm (3.74 x 4.25 x 2.52 in)
Packed Weight	0.45 kg (0.99 lb)
Construction	Polycarbonate DIN rail enclosure (6 unit)
Serial Ports	1 x RJ12 1 x 6-way pluggable screw terminal
Serial Port Conductor Size	0.3-2.5 mm² (#22-12 AWG)
Control Terminals	1 x 2-way screw terminal
Control Terminal Conductor Size	≤5 mm² (#10+ AWG)
Relay/Loop Terminals	4 x screw terminal
Relay/Loop Terminal Conductor Size	≤5 mm² (#10+ AWG)
Supply Terminals	3 x screw terminal
Supply Terminal Conductor Size	≤5 mm² (#10+ AWG)

Control	
Communication Ports	1 x RS-485
Supported Protocols	DyNet DMX Rx
DMX Rx Channels	64
Control Channel Outputs	1 x DALI-2 (DALI-2 certified and DALI registered drivers only) (Supports DALI 207 & DALI 209 Tunable White)
Dry Contact Inputs	1 (AUX)
User Controls	1 x service switch 1 x switched output channel toggle
Indicators	1 x diagnostic LED
Diagnostic Functions	Lamp failure reporting Driver failure reporting Driver runtime tracking Switched output runtime tracking Emergency test reporting Device online/offline status
Notes	Compatible with Dynalite DALI input devices only

Environment	
Operating Temperature	0° to 55°C ambient (-32° to 131°F)
Storage/Transport Temperature	-25° to 70°C ambient (-13° to 158°F)
Relative Humidity	≤90% non-condensing
IEC Pollution Degree	II
Installation Note	For indoor installation only

Compliance	
Certifications	CE, RCM, UL/cUL, FCC, ISED, UKCA, DALI-2
Sustainability	RoHS

Diagnostic Note

- Dynalite System Manager required for analysing diagnostic data.
- The availability of some diagnostics is dependent on driver type.



Output Channel Ratings

Load Type	UL/cUL
Electronic Driver	16 A, 277 VAC
Pilot Duty	6 A, 120 V 3 A, 240 V 2.6 A, 277 V
Load Type	CE
Electronic Driver	20 A, 240 VAC
Pilot Duty	6 A, 120 V 3 A, 240 V 2.6 A, 277 V
Inrush Current	500 A

Control Channel Ratings

DALI	
Output Voltage	16 VDC
Guaranteed Current	220 mA
Maximum Current	250 mA
Maximum Drivers/Channel	64
Insulation	Basic

Note: Auto restart on DALI output overload or short circuit

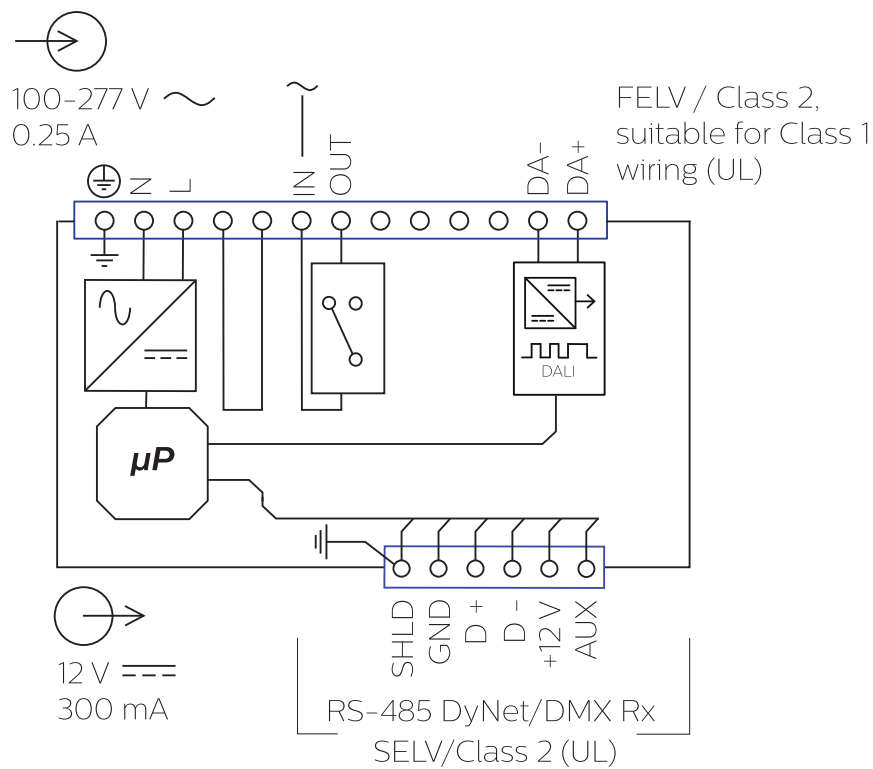
DALI Device Count

The table below shows the maximum number of DALI drivers and Dynalite DALI-2 devices that can be connected to the DALI-2 bus at the same time.

These devices include Dynalite DNS-DALI sensors and the DLLI5I-DALI dry contact interface.
Max. 16 x DLLI5I-DALI per universe.
For high-bay and directional sensor device counts, refer to <https://docs.dynalite.com/>

Dynalite DALI Devices	DALI Drivers
16	64
20	54
22	44
26	34
30	24
34	14
40	4

Electrical Drawing



Ordering Codes

Product	12NC
DDBC120-DALI	913703274209

Policies and Notices

Specific Data Notice

This Specific Data Notice applies to the Controllers as specified in this product specification sheet (the "**Controller**") that is part of or works with a Professional System offered by Signify for use in the European Union and supplements and/or corrects the Generic Data Notice For Professional Systems and Services that can be found at <https://www.signify.com/global/resources/policies-announcements> (the "**Generic Data Notice**") by providing additional and/or more specific details specific to this Controller.

Terms starting with a capital in this Specific Data Notice will have the meaning as attributed thereto in the Generic Data Notice, unless explicitly defined otherwise in this document.

When used in a Signify professional lighting system in combination with a Dynalite Gateway with either the Dynalite Switch App, Dynalite System Builder, Dynalite System Manager, or Dynalite Cloud, the Controller can generate the Data as specified below:

- Operational Data: Lighting control commands based on sensor events in the DALI network as configured in this Controller via the DyNet network.
- Sensor Data: Energy consumption, consumed power, driver temperature, burning hours, motion event count and lux level from capable devices in the DALI network, like DALI-2 compliant drivers/controls, by polling based on the configured interval.

The type and volume and format of Data that is generated depends on the actual devices used in the DALI network, the product and/or software configuration. For further details on data generation capabilities of such devices, please check the product specification sheets of such devices.

The Data generated in this combination is communicated via the network to the gateway and is stored on the gateway. If configured to do so, the gateway can forward the Data to Dynalite Cloud or to Dynalite System Manager. For applicable retention period and means of access to Data that is Readily Available Data, please refer to the Dynalite Cloud software specification sheet. Data cannot be accessed directly from the Controller. Data can be accessed from the Gateway using Dynalite System Builder or directly from any of the APIs of the Gateway. The Gateway will persist the Data for 28 days on a rolling basis.

This Specific Data Notice may be changed by Signify from time to time. The current version of this notice will apply and can be obtained at request via the point of contact as indicated in paragraph 7 of the Generic Data Notice.