

DDBC320-DALI

DALI-2 Driver Controller



Specification Sheet

Controllers > DALI Controllers



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

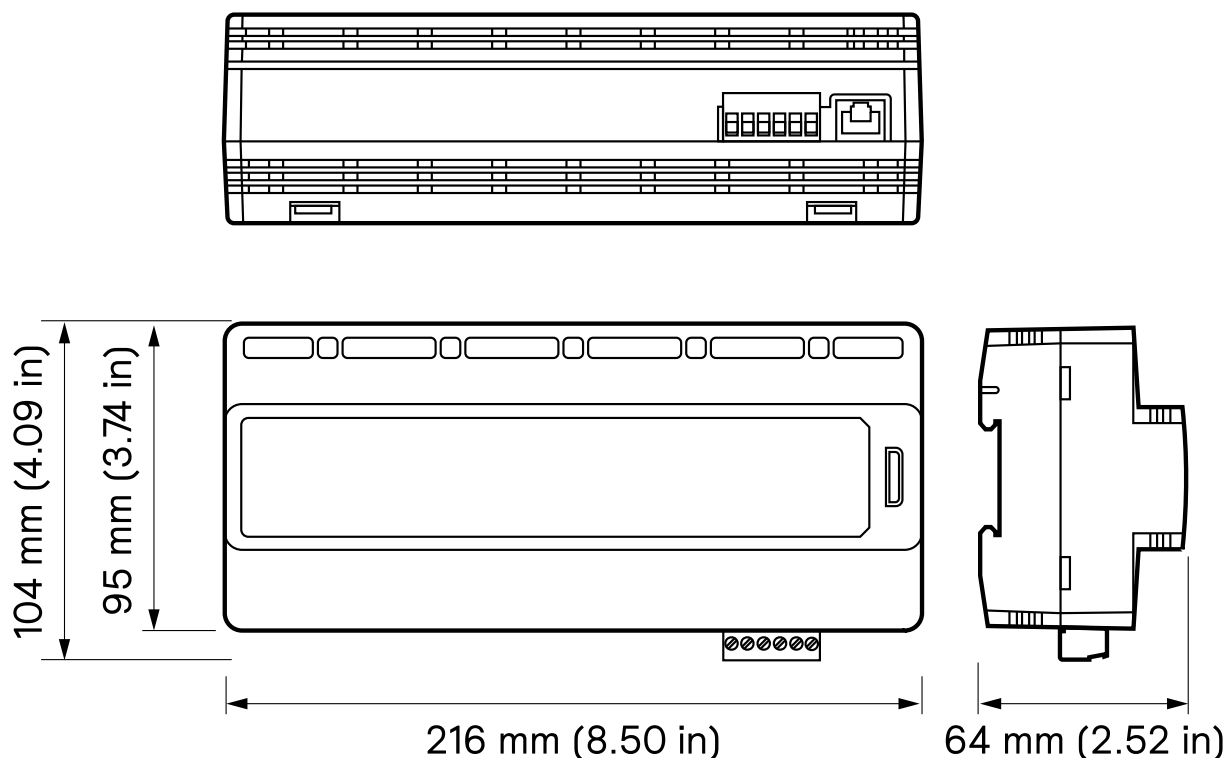
The Dynalite DDBC320-DALI is a three-line controller with integrated switched relay outputs, ideal for large-scale projects that need to combine a powerful, energy-efficient, all-in-one DALI control solution with the full DyNet feature set.

This controller operates seamlessly with all other Dynalite controllers, sensors, user interfaces, and head-end software, and includes a secured Ethernet port for network communication.

Key Features

- **Multi-master solution** – Compatible with a range of DALI fittings and devices, including fluorescent drivers, electronic low voltage transformers, LED fixtures, emergency lighting fixtures, and Dynalite DALI-2 sensors and user interfaces.
- **Compatible with DALI 207 and DALI 209** – Provides control of tunable white and RGBWAF luminaires.
- **Driver standby power elimination** – Internal switched relay automatically isolates the power circuit when all drivers are dimmed to 0%.
- **DALI auto-enumeration** – Provides automatic enumeration of DALI drivers when powered on and enables self repair of the network system if a DALI driver fails.
- **Silent enumeration** – Constantly checks the DALI bus for changes, automatically enumerating individual driver replacements with no disruption to lighting performance.
- **UL 924 input** – Integrates seamlessly with compatible emergency systems.
- **Fully scalable network solution** – Direct mapping from DALI to DyNet eliminates DALI-imposed limits such as maximum group size.
- **Inbuilt Ethernet port** – Directly connecting to a site's LAN, the device can securely report its status and pass network messages via the Dynalite PDDEG-S (max 25 controllers per PDDEG-S).
- **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 additional software or input devices.
- **Onboard line override switch** – Set each DALI line's connected drivers to 100% or 0% brightness without additional software or input devices.

Dimensions



Specifications

Electrical		Physical	
Supply Type	Single-Phase	Dimensions	95 x 216 x 64 mm (3.74 x 8.50 x 2.52 in)
Supply Voltage	100-277 VAC	Packed Weight	0.6 kg (1.32 lb)
Supply Current	0.5 A	Construction	Polycarbonate DIN rail enclosure (12 unit)
DyNet DC Output Voltage	12 VDC	Serial Ports	1 x RJ45 1 x 6-way pluggable screw terminal
DyNet DC Output Current	300 mA	Serial Port Conductor Size	0.3-2.5 mm² (#22-12 AWG)
Relay Outputs	3 x feed-through	DALI Terminals	1 x 6-way screw terminal
Maximum CH-CH Voltage	500 VAC	DALI Terminal Conductor Size	0.2-5 mm² (#24-10 AWG)
IEC Overvoltage Category	III	Switched Terminals	1 x 8-way screw terminal (6 used, see Installation Instructions)
		Switched Terminal Conductor Size	0.2-5 mm² (#24-10 AWG)
		Supply Terminals	1 x 3-way screw terminal
		Supply Terminal Conductor Size	0.2-5 mm² (#24-10 AWG)
Control		Environment	
Communication Ports	1 x RS-485 1 x Ethernet (10/100 baseT)	Operating Temperature	-20° to 50°C ambient (-4° to 122°F)
Supported Protocols	DyNet TCP/IP (TCP, UDP) IPv4 IPv6	Storage/Transport Temperature	-25° to 70°C ambient (-13° to 158°F)
Network Security Layer	TLS 1.2	Relative Humidity	≤90% non-condensing
Control Channel Outputs	3 x DALI-2 (DALI-2 certified and DALI registered drivers only) (Supports DALI 207 & DALI 209 Tunable White / RGBWAF)	IEC Pollution Degree	II
Dry Contact Inputs	1 (AUX / UL 924)	Installation Note	For indoor installation only
User Controls	1 x service switch 3 x DALI line override switch 3 x DALI line test button	Compliance	
Indicators	1 x diagnostic LED 3 x DALI bus status LED 1 x Ethernet activity LED	Certifications	DALI-2, CE, RCM, UL/cUL, FCC, ISED, UKCA, RoHS
Diagnostic Functions	Lamp failure reporting Driver failure reporting Driver runtime tracking Switched output runtime tracking Emergency test reporting Device online/offline status		

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 (per channel)
Electronic Driver	16 A, 277 VAC
Pilot Duty	6 A, 120 VAC 3 A, 240 VAC 2.6 A, 277 VAC
Inrush Current	500 A
Load Type	CE (per channel)
Electronic Driver	20 A, 240 VAC
Inrush Current	500 A
Total Device Load	
≤60 A	

Control Channel Ratings

DALI	
Guaranteed Current	220 mA
Maximum Current	250 mA
Maximum Drivers/Channel	64
Maximum Drivers/Device	192
Insulation	Basic

Note: Auto restart on DALI output overload or short circuit

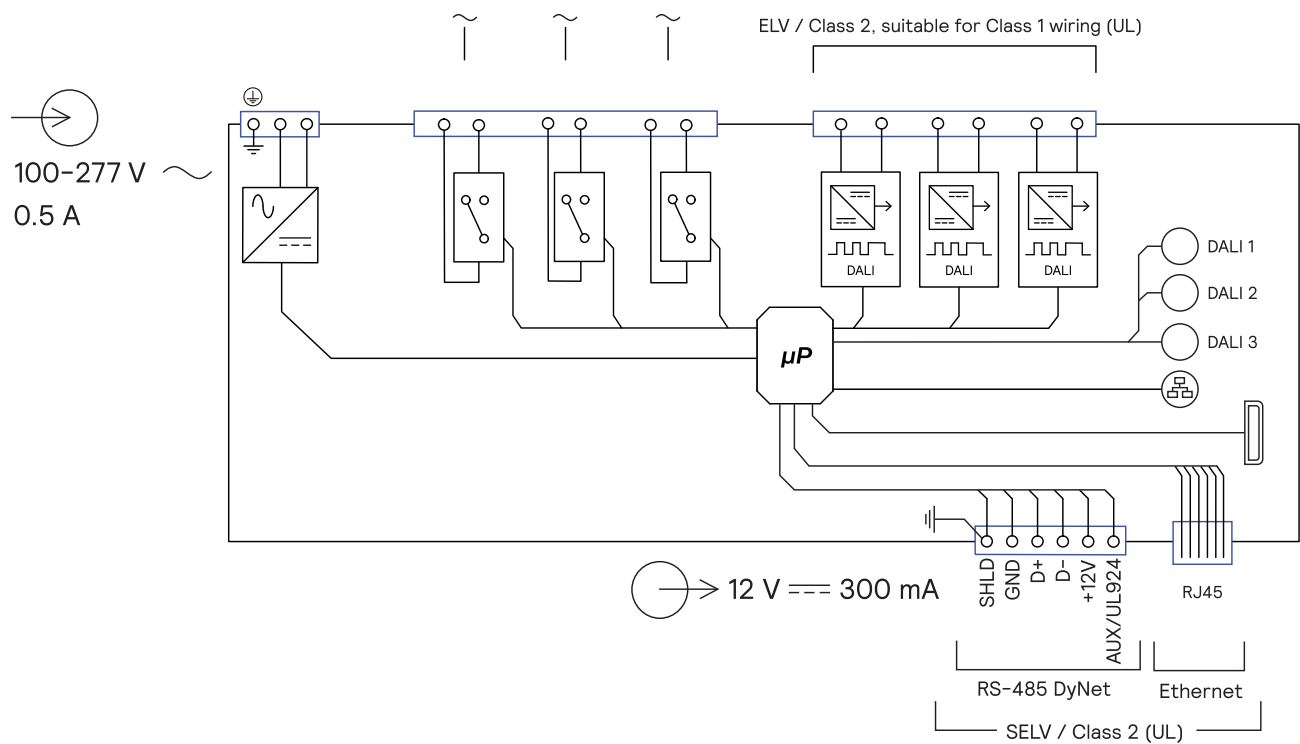
DALI Device Count

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
DDBC320-DALI	913703079709

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.