ULCx

Preassembled UL-rated Multipurpose Control Cabinets

Specification Sheet

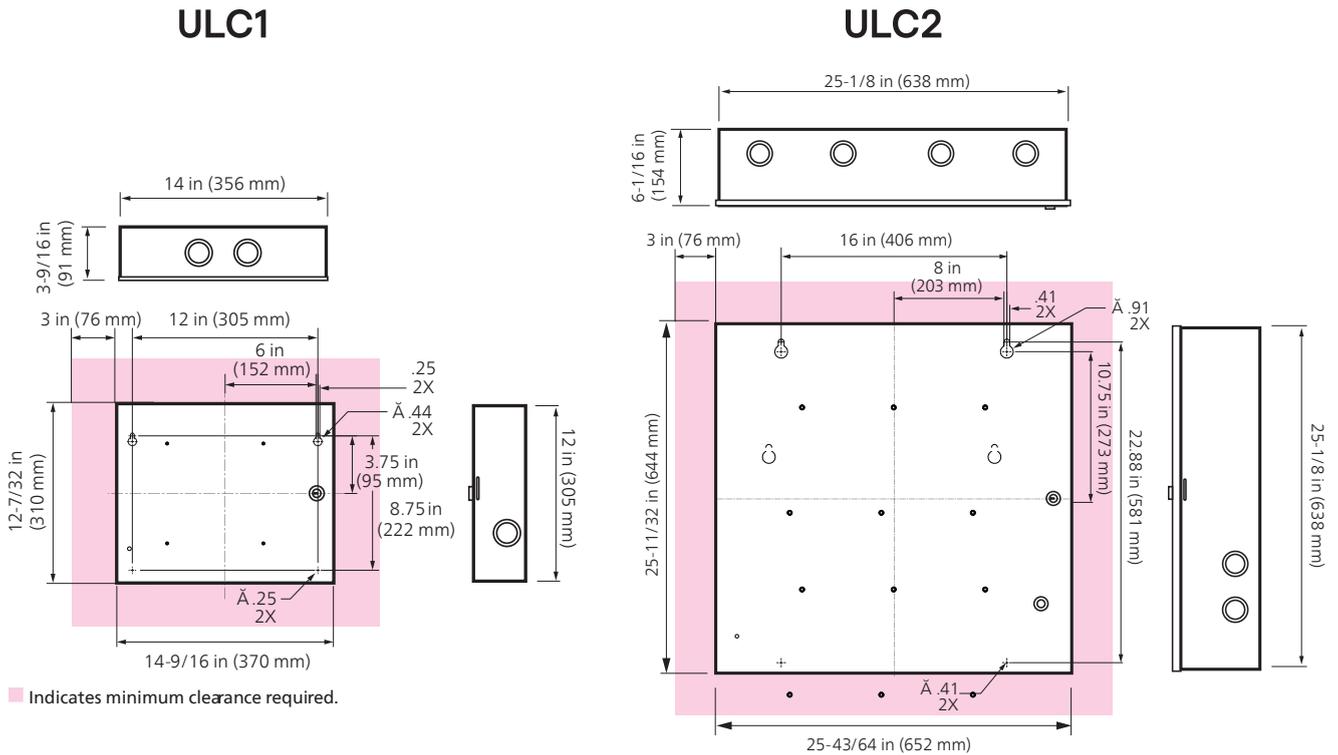## A comprehensive range of lighting control solutions

This range of ready-to-deploy control solutions include a variety of Dynalite DIN rail devices, installed and wired together inside a robust, wall-mountable steel cabinet.

Control options include 0-10V, DALI, forward/reverse-phase dimming, and relay switching. The addition of one or more network gateway cabinets provides powerful, secure connectivity and integration capabilities.

Key Features

- **Ready for immediate installation** – Eliminate the hassle of assembling cabinets in the field and save on installation and commissioning costs.

- **Made in the USA** – Assembled, programmed, and tested in the factory to provide complete out-of-the-box functionality in a NEMA 1 rated enclosure.

- **Fully scalable** – Connect any combination of cabinets to meet the requirements of even the most demanding projects in a single networked control system.

- **0-10V/DALI Broadcast control** – Up to 24 control outputs per per cabinet, individually configurable to 0-10V or DALI Broadcast.

- **DALI-2 control** – Up to 3 DALI lines per cabinet with full support for addressing, RGBWAF (DDBC320-DALI only), and tunable white, as well as an inbuilt DALI power supply and driver power management.

- **Phase dimming control** – Up to 16 forward- or reverse-phase channels per cabinet.

- **Relay switching control** – Up to 24 relay outputs per cabinet

- **Modular multipurpose control** – Populate up to 8 module bays per cabinet with any combination of forward/reverse-phase dimming, 1-10V, DALI Broadcast, relay switching, and motorized curtain/blind control.

- **RS-485 network gateway** – Connect optically isolated network spurs and enable a range of third-party integration options including AV systems, building automation, Modbus power meters, and DMX512 lighting.

- **Ethernet gateway** – Enable LAN connectivity for commissioning and system management, an integrated web server for browser-based control and monitoring, and a huge range of enhanced functionality and integration options.

Dimensions

ULC1

Indicates minimum clearance required.

ULC2

Due to continuous improvements and innovations, specifications may change without notice.

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Specifications

Electrical

Cabinet Supply	**DBC320-DALI-ENC, PDEG-S-ENC:** 100-277 VAC @ 0.5 A
	All Others: 100-240 VAC @ 0.5 A
DyNet DC Output Voltage	12/24 VDC SELV/Class 2 (UL)
IEC Overvoltage Category	III

Physical

ULC1 Dimensions (H x W x D)	12 $^7/_{32}$ x 14 $^9/_{16}$ x 3 $^9/_{16}$ in 310 x 370 x 91 mm
ULC2 Dimensions (H x W x D)	25 $^1/_{32}$ x 25 $^{43}/_{64}$ x 6 $^1/_{16}$ in 644 x 652 x 154 mm
Construction	Steel wall-mount enclosure with textured powder coat finish
Color	Raven Black (Cardinal Paint BK59)
DALI Terminal Conductor Size	#16 AWG (1.5 mm²) (-DALI cabinets only)
Relay Terminal Conductor Size	**ULC1:** #10+ AWG (≤5 mm²) **ULC2:** #12+ AWG (≤3 mm²)
Supply Terminals	3 x screw terminal
Supply Terminal Conductor Size	#12-10 AWG (3-5 mm²) (Solid/stranded copper only)

Packed Weight

DRC1220FR-GL-ENC	11.89 lb (5.39 kg)
DRC2420FR-GL-ENC	13.46 lb (6.11 kg)
DBC1220-GL-ENC	13.72 lb (6.22 kg)
DBC2420-GL-ENC	43.40 lb (19.69 kg)
DBC516FR-ENC	11.41 lb (5.18 kg)
DBC120-DALI-ENC	11.27 lb (5.11 kg)
DBC320-DALI-ENC	11.27 lb (5.11 kg)
DRPC802-ENC	11.65 lb (5.28 kg)
DRPC1602-ENC	13.50 lb (6.12 kg)
DFPC802-ENC	11.98 lb (5.43 kg)
DFPC1602-ENC	14.16 lb (6.42 kg)
DMPC802-ENC	11.40 lb (5.17 kg)
DMPC1602-ENC	13.01 lb (5.90 kg)
DNG485-ENC	10.90 lb (4.94 kg)
PDEG-ENC	10.87 lb (4.93 kg)
PDEG-S-ENC	11.22 lb (5.09 kg)

Environment

Operating Temperature	**DRC1220/2420FR-GL-ENC, DNG485-ENC, PDEG-S-ENC:** 32° to 122°F ambient (0° to 50°C)
	DBC1220/2420-GL-ENC, DBC516FR-ENC, DxPC802/1602-ENC: 32° to 104°F ambient (0° to 40°C)
	DBC120-DALI-ENC, PDEG-ENC: -4° to 122°F ambient (-20° to 50°C)
	DBC320-DALI-ENC: -13° to 122°F ambient (-25° to 50°C)
Storage/Transport Temperature	13° to 158°F ambient (-25° to 70°C)
Relative Humidity	≤90% non-condensing
IEC Pollution Degree	II
Installation Note	Indoor installation only

Compliance

Certifications	UL/cUL, FCC, RoHS
Building Codes	T24, IECC, and ASHRAE compliant
	It is the responsibility of the local authority under jurisdiction to validate compliance against building codes.
NEMA Rating	NEMA 1 Type 1

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ULCx Specification Sheet

Available Variants

Product	Cabinet type	Included Devices	Output Description	Derated Total Box Load
DRC1220FR-GL-ENC	ULC 1	DDRC1220FR-GL	12 x 20 A Relay	130 A
DRC2420FR-GL-ENC	ULC 1	2 x DDRC1220FR-GL	24 x 20 A Relay	130 A per DDRC1220FR-GL
DBC1220-GL-ENC	ULC 1	DDBC1200 DDRC1220FR-GL	12 x 1–10 V/DALI Broadcast (12 x DALI Lines) 12 x 20 A Relay	420 mA (driver) 130 A (relay)
DBC2420-GL-ENC	ULC 2	2 x DDBC1200 2 x DDRC1220FR-GL	12 x 1–10 V/DALI Broadcast (12 x DALI Lines) 24 x 20 A Relay	420 mA per DDBC1200 130 A per DDRC1220FR-GL
DBC516FR-ENC	ULC 1	DDBC516FR	5 x 16 A Relay 5 x 1–10 V/DALI (1 x DALI Line)	11 A per relay output 160 mA per driver output
DBC120-DALI-ENC	ULC 1	DDBC120-DALI	1 x 16 A Relay 1 x DALI Addressable Output	11 A per relay output 160 mA per driver output
DBC320-DALI-ENC	ULC 1	DDBC320-DALI	3 x 16 A Relay 3 x DALI Addressable Outputs	11 A per relay output 160 mA per driver output
DRPC802-ENC	ULC 1	DDMC802 Modular Controller 2 x DGTM402 modules	8 x 2 A Reverse-Phase	10 A
DRPC1602-ENC	ULC 1	2 x DDMC802 Modular Controllers 4 x DGTM402 modules	16 x 2 A Reverse-Phase	10 A per DDMC802
DFPC802-ENC	ULC 1	DDMC802 Modular Controller 2 x DGLM402 modules	8 x 2 A Forward-Phase	10 A
DFPC1602-ENC	ULC 1	2 x DDMC802 Modular Controllers 4 x DGLM402 modules	16 x 2 A Forward-Phase	10 A per DDMC802
DMPC802-ENC	ULC 1	DDMC802 (No modules fitted)	Up to 4 selectable modules	10 A
DMPC1602-ENC	ULC 1	2 x DDMC802 (No modules fitted)	Up to 8 selectable modules	10 A per DDMC802
DNG485-ENC	ULC 1	DDNG485 DSP10-15	1 x RS-485 DyNet (12 VDC) 1 x RS-485 DyNet/DMX512 (12 VDC)	200 mA (Port 2 output) 670 mA (PSU)
PDEG-ENC	ULC 1	PDEG DSP10-15	1 x Ethernet (10/100 BaseT) 1 x RS-485 DyNet (12 V)	200 mA (RS-485 output) 670 mA (PSU)
PDEG-S-ENC	ULC 1	PDDEG-S (BACnet Gateway)	1 x Ethernet (10/100 BaseT) BACnet 1 x RS-485 DyNet (12 VDC)	300 mA (RS-485 output)

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Output Channel Ratings

Load Type	DDRC1220FR-GL CH1-CH12 (per channel)
General Use	16 A, 277 VAC
Incandescent	16 A, 277 VAC
Standard Driver	16 A, 277 VAC
Electronic Driver	16 A, 277 VAC
Motor	16 FLA (1 HP) @ 120 VAC, 14.5 FLA (2½ HP) @ 240 VAC, 14.1 FLA (3 HP) @ 277 VAC
Inrush Current	500 A

If CH–CH voltage = 277/480 V, you must leave a one channel gap between channels when they are on different phases.

Therefore, to use Channel 1 it must be on the same phase as the supply terminals.

Load Type	DDBC516FR CH1-CH5 (per channel)
General Use	16 A, 277 VAC
Incandescent	16 A, 277 VAC
Standard Driver	16 A, 277 VAC
Electronic Driver	16 A, 277 VAC
Motor	16 FLA (1 HP), 120 VAC, 14.5 FLA (2½ HP), 240 VAC, 14.1 FLA (3 HP), 277 VAC
Pilot Duty	6 A, 120 VAC, 3 A, 240 VAC, 2.6 A, 277 VAC
Inrush Current	500 A

Load Type	DDBC120-DALI
Electronic Driver	16 A, 277 VAC
Inrush Current	500 A

Load Type	DDBC320-DALI CH1-CH3 (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	DDMC802 DGTM402 (4 x 2 A Reverse-phase dimmer module) OUT1-OUT4 (per channel)
Incandescent	2 A, 120(UL)
Electronic Driver	2 A, 120(UL)

Not compatible with magnetic transformers.
Apply derating for electronic and LED loads.

Load Type	DDMC802 DGLM402 (4 x 2 A Forward-phase dimmer module) OUT1-OUT4 (per channel)
Incandescent	2 A, 120
Standard Driver	2 A, 120
Electronic Driver	2 A, 120*

*Can be limited by load capacitance.
Apply derating for electronic and LED loads.

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Control Channel Ratings

"ALI-2

Parameter	DDBC120-DALI	DDBC320-DALI
Output Voltage	16 VDC	16 VDC
Guaranteed Current	220 mA	220 mA
Maximum Current	250 mA	250 mA
Maximum Drivers/Channel	64	64
Maximum Drivers/Device	64	192
Insulation	Basic	Basic
Overload Protection	Auto restart on DALI output overload or short circuit	

"ALI Broadcast / DSI / 0-10 V / 1- 10 V

Parameter	DDBC516FR	DDBC1200
Guaranteed Current	20 mA	160 mA
Maximum Current	250 mA	250 mA
Maximum Drivers/Channel	10	80
Maximum Drivers/Device	50	300
Insulation	Basic	Basic
DSI Max Drivers/Channel	10	
DSI Max Drivers/Device	50	
0-10 V Sink/Source		**CH1-12:** 50 mA / 50 mA **CH 2,4,6,8,10,12 ONLY:** 100 mA / 100 mA (if CH 1,3,5,7,9,11 not used)
1-10 V Sink/Source	10 mA / 10mA	

DALI Device Count

DDBC120- DALI / DDBC320-DALI
The table below shows the maximum number of DALI drivers and Dynalite DALI devices that can be connected to the DALI bus at the same time.

These devices include Dynalite DALI occupancy sensors and the DPMI940-D dry contact interface.

Dynalite DALI Devices	DALI Drivers
10	64
11	59
12	54
13	49
14	44
15	39
16	34

Ordering Codes

Product	12NC
DRC1220FR-GL-ENC	913703376209
DRC2420FR-GL-ENC	913703376309
DBC1220-GL-ENC	913703376009
DBC2420-GL-ENC	913703376109
DBC516FR-ENC	913703375909
DBC120-DALI-ENC	913703375709
DBC320-DALI-ENC	913703375809
DRPC802-ENC	913703378709
DRPC1602-ENC	913703378909
DFPC802-ENC	913703378809
DFPC1602-ENC	913703379009
DMPC802-ENC	913703375309
DMPC1602-ENC	913703375409
DNG485-ENC	913703376409
PDEG-ENC	913703379109
PDEG-S-ENC	913703376509