

Project		Catalog #		Type	
Prepared by		Notes		Date	



Fifth Light

Lighting Control Panel (LCP)

Used to control and operate all lighting devices using Digital Addressable Lighting Interface (DALI) and low-voltage analog signals

Typical Applications

Office • Education • Healthcare • Hospitality • Retail • Industrial • Manufacturing

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Product Certification



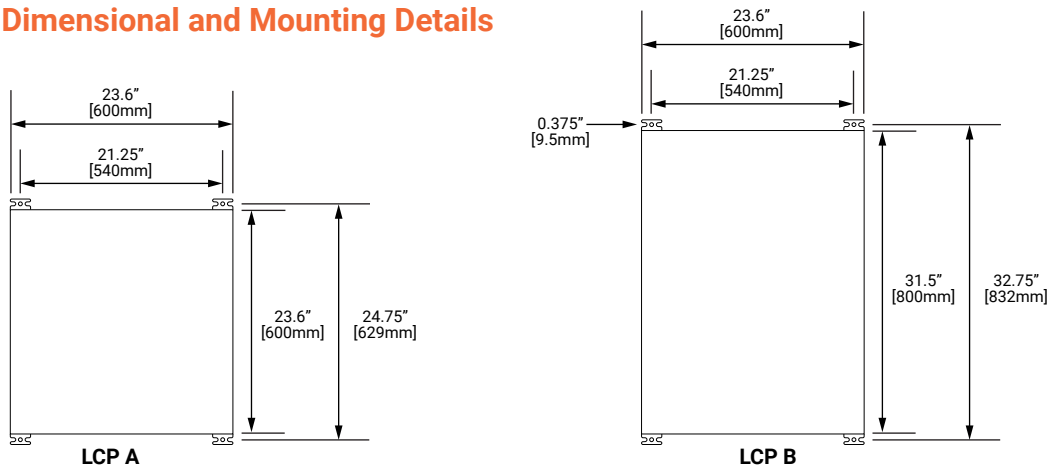
Product Features



Top Product Features

- Modular design capable to support up to 32 DALI Bus Cards, 48 digital input devices and 8 analog input interfaces hence providing lighting engineers and contractors the flexibility and scalability needed to support all sizes and types of lighting applications, i.e. from small or large facilities, fluorescent to LED, local to networked architecture.
- Intuitive web-based user interface allowing users to manage their lighting system from different computing platforms (desktops, laptops, smart phones, tablets) with access to the lighting network.
- Factory assembled and pre-wired Lighting Control Panel ready to be installed by the electrical contractor with minimal wiring and eliminating non-valued added on-site panel assembly and wire termination work.
- LED diagnostics indicators and built-in Commissioning Mode allowing contractors to easily test and commission the DALI Bus hence reducing the overall commissioning time of a DALI based lighting management system.
- Built to operate as a local Lighting Control Panel or as part of a distributed lighting control network with multiple lighting control panels and a Central Server Unit for a centralized management of large lighting control system.
- External PoE equipped commissioning port for use with commissioning access point.

Dimensional and Mounting Details



Order Information

SAMPLE ORDER NUMBER: **LCPA-16DALI-08DI08AI-EX**

The following ordering configuration is for standard Lighting Control Panels that will meet the needs of typical installations. The number of DALI Buses and the number of digital and analog inputs. An LCP and Local Controller feature list can be found on page 3 of this specification sheet.

Catalog Number

Panel Size	Number of DALI Buses	Digital/Analog Input Options	Pre-Wiring
LCPA = Supports 8 or 16 DALI Buses LCPB = Supports 8, 16, 24 or 32 DALI Buses	Each DALI Bus supports and powers 64 DALI devices 08 = (LCPA or LCPB) 16 = (LCPA or LCPB) 24 = (LCPB) 32 = (LCPB)	00DI00AI 08DI00AI = (Can be installed in an LCPA with 8 DALI Buses or an LCPB with up to 24 Buses) 08DI08AI = (Can be installed in an LCPA with 8 DALI Buses or an LCPB with up to 24 Buses) 16DI00AI = (can be installed in a LCPB with 16 and 24 Buses) 16DI08AI = (can be installed in a LCPB with 16 and 24 Buses) 24DI00AI = (can be installed in a LCPB with 16 and 24 Buses) 24DI08AI = (can be installed in a LCPB with 16 and 24 Buses) 48DI00AI = (Can be installed in an LCPB with up to 16 Buses) 48DI08AI = (Can be installed in an LCPB with up to 16 Buses)	ST = Standard with no pre-wiring EX = Expandable with pre-wiring

Notes

1. LCPB with 32 DALI Cards can only be ordered with the 00DI0AI option. Expandable option includes all wiring and terminated blocks required to allow the electrical contractor to easily add a new DBC.
2. A dedicated digital input channel is required per LCP for systems requiring integration with a fire alarm system contact closure.
3. All third party DALI ballasts and drivers shall be IEC 62386/DALI Ed 1 compliant and must not respond in any way to frames other than the 16-bit frames as defined in the published standards (IEC 62386 parts 101, 102, etc...). The DALI frame used by these devices must be encapsulated by the IEC 62386 defined start bit and the defined two stop bits to be considered a valid frame. To reduce project risks, Cooper Lighting Solutions recommends using the third party DALI ballasts and driver listed on the "Fifth Light verified ballasts and drivers" application note which can be found on www.cooperlighting.com.

Additional Options

Catalog Number

Catalog Number	Description
FLT-LCPA-PS	10A power supply for LCPA panel, 24 VDC, 120-240V
FLT-LCPB-PS	20A power supply for LCPB panel, 24 VDC, 120-240V
FLT-DBC001	DALI Bus Chassis for LCP
FLT-CTL004	Local Controller
FLT-LVDIKT	Fifth Light DI Input Card, 8 Terminal Blocks, Wiring
FLT-LVAIKT	Fifth Light AI Input Card, 8 Terminal Blocks, Wiring
FLT-LVBCKT	Fifth Light Bus Coupler, End Card, Wiring
FLT-LVPIKT	Fifth Light Partitioning Input Card, 4 Terminal Blocks, Wiring

Product Specifications

Key Features

Fifth Light's Lighting Control Panel (LCP) is used to control and operate all lighting devices using Digital Addressable Lighting Interface (DALI) and low voltage analog signals. It houses the local controller, lighting management software and various types of lighting interface modules.

- The Local Controller is an embedded computing device that runs the Lighting Management Software (LMS) and hosts the network and communication interfaces required to interact with third party systems such as Building Automation Systems and shade systems.
- The LMS is used to create lighting scenes for individual lighting or groups of lighting, define time-based, daylight-based, sensor-based, and manual lighting control strategies and monitor the health of DALI devices connected to the panel.
- The DALI Bus Chassis (DBC) houses 8 DALI Bus cards, 1 USB communication card and 1 power supply card. Each DALI Bus card can support up to 64 DALI devices. The DALI Bus card allows data exchange between the connected DALI devices and the USB communication card. Each DALI Bus card includes LED diagnostics indicators and commissioning DIP Switch. The USB communication card allows data exchanges between the DALI devices connected to all 8 DALI Bus cards and the Local Controller. The power supply card provides power to all the cards housed in the DBC. Each DALI Bus card can be interfaced to a Class 1 DALI Bus.
- The Bus Coupler allows data exchange between the connected digital input cards and/or analog input cards. The digital input cards receive data from digital devices such as digital sensors and wallstations. The analog input cards receive data from analog devices such as daylight sensors. The Bus Coupler sends the data to the Local Controller via Modbus TCP.
- 24 VDC power supply to power the automation components hosted in the panel and external devices (ex: Touchscreens).
- Network switch allows LCPs to interconnect and form a lighting control network with a centralized lighting management system.

Mechanical

Enclosure Size:

- **LCPA:** 23.6"H x 23.6"W x 9.8"D (600mm x 600mm x 250mm)
- **LCPB:** 31.5"H x 23.6"W x 9.8"D (800mm x 600mm x 250mm)

Environment:

- **Operating temperature:** 32°F to 104°F (0°C to 40°C)
- **Relative humidity:** 10% to 90% (non-condensing)
- For indoor use only

Mounting:

NEMA 1 surface mount

Electrical

Input Requirements:

- Input voltage: 120 VAC +/- 10%
- Input frequency: 50/60 Hz

Maximum Load:

- LCPA: 5 Amps
- LCPB: 6 Amps

Power:

- Wire-trap connections, use 12 AWG to 16 AWG solid/stranded wire

DALI:

- Wire-trap connections, use 12 AWG to 20 AWG solid/stranded wire

Digital and Analog Input:

- Wire-trap connections, use 12 AWG to 20 AWG solid/stranded wire

Network:

- Ethernet (RJ45, CAT 5/5e/6 wire types)

Grounding:

- Ground terminal must be connected to earth ground

Communication Protocol

- BACNet, DALI, Modbus TCP/IP, XML

Control Specification

DALI Bus Chassis:

- Power Supply Card(s): 1
- Communication Card(s): 1
- DALI Bus Card(s): 8
- Input Voltage: 24 VDC
- Maximum Input Current: 3 Amps (24V input)

DALI Bus Card:

- Communication Interface: Digital Addressable Lighting Interface (DALI)
- DALI Output Voltage: 18V (14V - 20V, depending on DALI Bus load)
- DALI Output Current: 160 mA
- DALI Addresses: Up to 64
- LED Indicators: 7 (Power, USB link, USB activity, DALI power, DALI activity, Status, Mode)

Designed for Class 1 DALI wiring

Modbus Coupler: Up to 48 Digital Input devices and 8 Analog Input devices with 30 ms read/write capability

Ethernet

- **Ports:** 5
- **Mode:** Unmanaged
- **Input Voltage:** 24 VDC
- **Data Transfer Rate:** 10BaseT/100BaseTX

Standards/Ratings

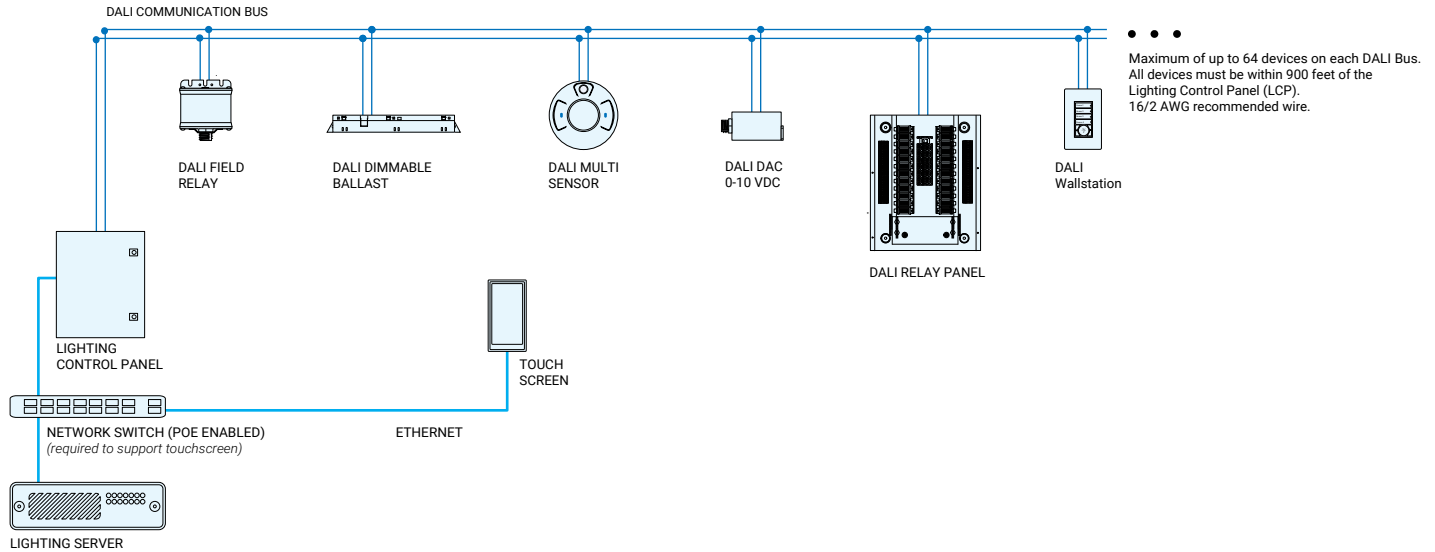
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Warranty

Consult website for warranty information

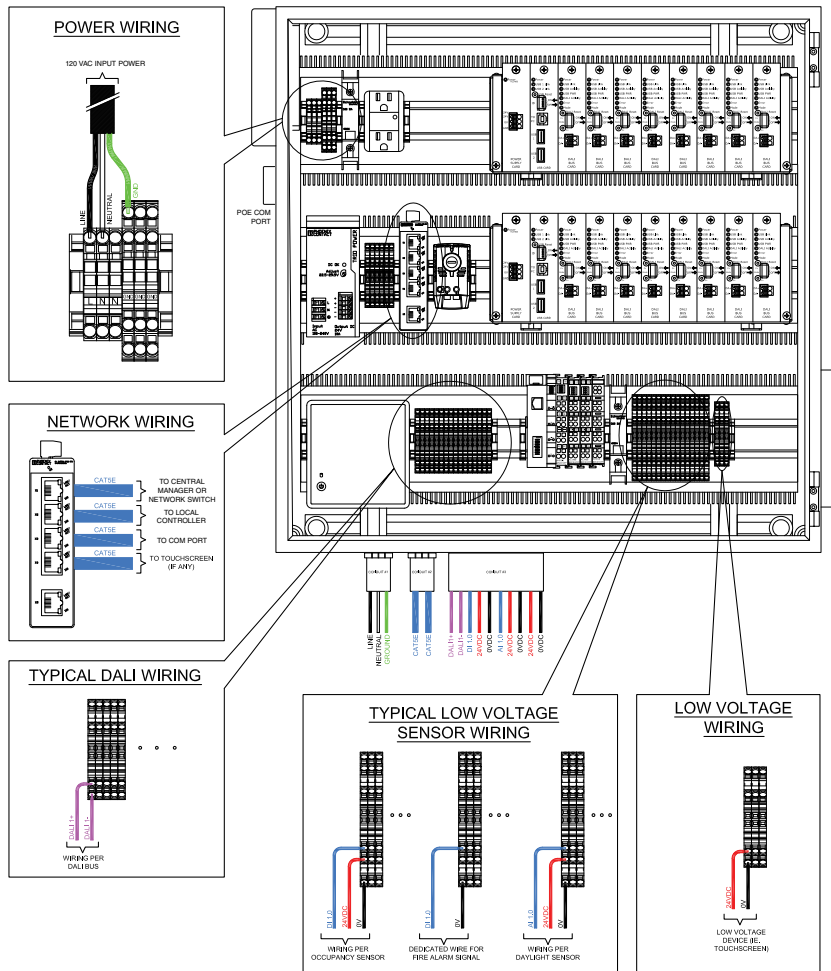
System Architecture

This diagram illustrates the main components of the Fifth Light system. The DALI wallstations, DALI multi-sensors, DALI field relay, DALI DAC and DALI dimmable drivers/ballasts communicate with the Lighting Control Panel over the DALI bus while the touchscreen communicates with the Central Manager via ethernet.



Wiring Diagrams

Sample wiring diagram for a LCPA model



Notes:

1. Refer to Electrical Contractor Testing Protocol document for detailed information with regards to the DIP Switches and LED indicators located on the DALI Cards.
2. Drilling should be done on the removable gland plate at the bottom of the panel. Avoid drilling top/sides of the panel as metal shavings will damage internals.