All non-dimmed lights need a power panel.
Now have as many DMX512 controlled circuits as you need in the same panel.
You can mix DMX controlled, motorized branch breakers with standard QO breakers for a one-panel solution. LynTec DMX panels are modular and field expandable.


## BENEFITS of LYnTec LC Lighting Control series Power Panels

## ( $)$ Reduced installation labor - electrician friendly

- One wall-mounted, DMX controlled power panel feeds AC power to all un-dimmed circuits.


## $\checkmark$ Low power consumption

- BMB (Bolt-on) and MB (Clip-on) series motorized circuit breakers require no holding current (like DC relays) or heat sinks (like solid state relays).
Runs cool - lasts long.
- Motorized breakers available in 15, 20 or 30 Amp - 1, 2 or 3 poles.


## - Multiple universe control

- Optional control of up to 5 universes depending on model.


## LynTec

LC series Lighting Control panels add DMX addressable branch circuit control to the functions normally found in a Load Center or Panelboard.

## New!! Simplified Control Protocol

A simple jumper system allows the user to select the address of the first breaker and additional breakers are addressed consecutively.

The system uses only as many addreses as there are breakers.

Once addressed, individual breakers may be turned ON, OFF, or set to a NO CHANGE status.

## All

## (1) sQUARE D

Panels

## Who is LynTec?

Ask any sound contractor. Chances are, they'll tell you that LynTec pretty much wrote the book on remote controlled, sequencing power systems for the installed sound industry.
LynTec sequencing can be found in high-profile venues where reliable power control is mission critical. Stadiums, arenas and performing arts centers hosting national exposure events have been sequenced on and off by LynTec power panels for over 15 years.
Now, LynTec brings that same expertise to non-dimmed DMX power control.
Using the same proven panels and motorized circuit breakers, LynTec now offers a broad product line with a new DMX512 control system for lighting.

## LynTec - AVAILABLE MODELS - LynTec

Panel electrical specifications and configurations - Outline dimensions See at LynTec.com for model specfic Design or Submittal PDFs.

## LOADCENTERS

LCLC 326-xx-Mxxx Lighting Control Load Center 3Ø, 208Y/120 Vac, 4 wire. - 100 Amp Main Breaker Standard

## LynTec

Lighting Control Load Center model numbers
LCLC 326-10-Mxxx (Up to 10 DMX controlled circuits)
LCLC 326-20-Mxxx
(Up to 20 DMX controlled circuits)
LCLC 326-30-Mxxx
(Up to 26 DMX controlled circuits)
Square D QO327M100 Load Center with LynTec low-voltage sidecar.
Standard back-fed Main Breaker:
Squared D\# QO3100VH. 100A, (VH = 22k AIR)
[Amps Interrupt Rating]
Back-fed Main Breaker options Part\# suffix - Bold face=Amps -M3030, -M3035: (10kAIR) Square D\# QO30xx
-M3050, -M3060, -M3070 or -M3090 Squared D\# QO3xxVH (all VH = 22k AIR) Wire Sizes \#4-2/0 Cu
Outside dimensions 20.9" w., 29.8" h., 3.9" d.


Main Lug Only -MLO option
Remove Back fed main and top feed as a MLO to gain 3 circuits. Feed from a protected disconnect. Provides access to branch breaker positions $1,3, \& 5$.
Model number becomes a LCLC 329-10-MLO (10 DMX controlled circuits) LCLC 329-20-MLO (20 DMX controlled circuits) LCLC 329-30-MLO (Up to 29 DMX controlled circuits) (Holds up to 29 one pole breakers) 125 Amp. Panel Bus Rating Wire size: \#6-2/0 Cu

LCLC 341-xx-Mxxx Lighting Control Load Center
3Ø, 208Y/120 Vac, 4 wire. - 225 Amp Main Breaker Standard

## LynTec

Lighting Control Load Center model numbers
LCLC 341-10-Mxxx (Up to 10 DMX controlled circuits) LCLC 341-20-Mxxx (Up to 20 DMX controlled circuits) LCLC 341-30-Mxxx (Up to 30 DMX controlled circuits) LCLC 341-40-Mxxx (Up to 40 DMX controlled circuits) Square D QO342MQ225 Load Center with LynTec low-voltage sidecar. Standard Main Breaker: Square D\# QDL32225. 225 Amp Main Breaker options Part\# suffix - Bold face=Amps -M3150, -M3175 or -M3200 Square D\# QDL32xxx series (all 25 k AIR) [Amps Interrupt Rating]
LCLCH option for 65k AIR Main Breaker Square D\# QGL32xxx series

## Wire Sizes

Main Breaker :
350 kcmil Al or 250 kcmil Cu .
$100 \%$ Neutral has one feed lug
1-350 kcmil Al or $1-250 \mathrm{kcmil} \mathrm{Cu}$
Outside dimensions
20.9" w., 39.3" h., 3.9" d


## PANELBDARDS

LCP 341-xx-Mxxx Lighting Control Panelboard
30, 208Y/120 Vac, 4 wire. - 225 Amp Main Breaker Standard

## LynTec

Lighting Control Panelboard

## MODEL NUMBERS

LCP 341-10-Mxxx (Up to 10 DMX controlled circuits)
LCP 341-20-Mxxx (Up to 20 DMX controlled circuits)

LCP 341-30-Mxxx (Up to 30 DMX controlled circuits)
LCP 341-40-Mxxx
(Up to 40 DMX controlled circuits) LCP 341-50-Mxxx
(Up to 41 DMX controlled circuits limited by 42 circuit code rule)
Square D NQOD-NL MB Panel with LynTec low-voltage sidecar.
Standard LCP-225A Main Breaker: 225 Amp. - 65k AIR - MJG36225

Square D MJG36xxx or MHG36xxx series (all 65k AIR) [Amps Interrupt Rating] Main Breaker options
Part\# suffix - Bold face $=$ Amps
-MHG3125, -MJG3150, -MJG3175 or -MJG3200

Wire Sizes
Main Breaker: 3/0-350 kcmil Al/Cu $200 \%$ Neutral has one feed lug that accepts 2-250 kcmil Cu wires


Outside dimensions 28.06" w., 50" h., 6.13" d. Knockout panels supplied in both ends PDF

LCP 341-xx-M400 Lighting Control Panelboard 3Ø, 208Y/120 Vac, 4 wire. - 400 Amp Main Breaker Standard

## LynTec

Lighting Control Panelboard

## MODEL NUMBERS

LCP 341-10-M400
(Up to 10 DMX controlled circuits)
LCP 341-20-M400
(Up to 20 DMX controlled circuits)
LCP 341-30-M400
(Up to 30 DMX controlled circuits)
LCP 341-40-M400
(Up to 40 DMX controlled circuits)
LCP 341-50-M400
(Up to 41 DMX controlled circuits limited by 42 circuit code rule)

Square D NQOD MB Panel with LynTec low-voltage sidecar.
Standard LCP 400A Main Breaker: 400 Amp. - 10k AIR - LA36400 [Amps Interrupt Rating] Wire Sizes
Main Breaker: 1 \#1-600 kcmil Cu or 2-\#1-250 kcmil Cu (per NEC)
$100 \%$ Neutral has one feed lug that accepts one \#1-750 kcmil or two \#1-300 kcmil Cu wires. Outside dimensions: 28.06" w., 68.2" h., 6.13" d.


# Typical Panel Planner and Layout Worksheet - As-built door label See ar at LynTec.com for model specific Panel Planners for submittals 

Planning and Layout Worksheet — As-built door label LynTec LCLC 326-xx Lighting Control Load Center

DMX controlled, AC power remote control for lighting circuits
Breaker types, sizes, positions and connections

Job
Panel
Comments

Each motorized breaker is actuated by a command from a DMX control device. As-built door label example
The DMX \# is the DMX address of this breaker
The board jumpers set the DMX address of the \#1 position of the board.
Positions 2 to 10 are subsequent addresses. Example: $\# 1=201$, \#2 to $\# 10=202$ to 210 . Bold line around box $\square$ = suggested control board: \#1 (Top), \#2 or \#3.

Transfer as-built information to the door.

Keep this sheet for as-built documentation.


Available as PDF download www.lyntec.com/139-0376_LCLC326PInr.pdf

## LynTec Lighting Control

 Load Center LCLC 326-xx -xx = Maximum numbe of controlled breakers. See right side of page for model number for explanation.

Square D Q0327M100 Load Center with LynTec low-voltage sidecar Standard back-fed Main Breaker QO3100VH. 100A, [VH = 22kAIR] Main options - Part\# suffix

BOLD FACE $=$ Amps -M3030, -M3035 QO3xx [all 10kAIR
-M3050, -M3060, -3070, or -M3090 QO3xxVH [all 22kAIR] [Amps Interrrupt Rating
Wire: \#4-2/0 kcmil Cu
Outside Dimensions 20.9" w., 29.8" h., 3.9" d Surface mount only.

## How it works <br> The DMX CONTROL POWER circuit breaker powers the circuit boards via a 24 volt transformer. <br> Motorized circuit breakers <br> (face-marked REMOTELY OPERATED) are individually actuated by a command from a remote DMX control device. <br> Each numbered LED idicates the status of that addressed breaker. Lit = ON, Unlit = OFF <br> Flashing = command execution in progress. <br> Each circuit board controls up to ten 1, 2 or 3 pole motorized circuit breakers <br> Master and Slave boards are used depending upon the number of DMX universes served. (Slaves have no DMX input or output components) DMX signals are fed to the Master board of each DMX universe system.

Power and DMX data are daisy-chain fed board-to board by the yellow jumper connectors.
The STARTING DMX address is set for each board by jumpers.
The DMX Output is an optoisolated, Buffered, Loop-Thru for driving other DMX devices. Output data availability is indicated by a flickering LED.

MANUAL CONTROL
The circuit breakers may be manually controlled by the TEST switches on each board.
The test switches work in the absence of a DMX signal. A valid DMX signal, indicated by a flashing Receiving DMX LED overrides the test switches
www.LYnTeC.com 800-724-4047
8.5 Central Time

| DMX PROTOCOL for LYnTec LC series <br> Code Range <br> 8 ( bit) |  | C Circuit Function |
| :--- | :--- | :--- |$|$| $0-63$ | $0-24$ | Turns breaker <br> off. When applied <br> to all breakers <br> simultaneously, <br> they turn OFF at <br> a . 25 second step <br> rate. |
| :--- | :--- | :--- |
| $64-191$ | $25-74$ | No change |
| $192-255$ | $75-100$ | Turns breaker <br> on. When applied <br> to all breakers <br> simultaneously, <br> they turn ON at a <br> .25 second step <br> rate. |

## LC-10 DMX LIGHTING CONTROLLER boards



LCP 341-30 20/20 10/220 -M225 Lighting Control Panelboard


Square D NQOD-NL Panelboard

Model shown
LCLC 326-10
Lighting Control Load Center

For illustration, photos show branch breakers installed.

For full field
flexibility, the branch breakers are supplied boxed, uninstalled.

10 - Lever-latch breaker plugs for the breaker-to-board connection are supplied, installed in each board.


Low Voltage DMX control sidecar

Furnished 10 Amp unmotorized breaker supplies DMX CONTROL POWER to transformer.

RBLC-10 or RBLC-20
Remote Breaker Lighting Controller
DMX controls up to 10 or 20
1, 2 or 3 pole Motorized Circuit Breakers.

\section*{| PDF |
| :---: |
| Ad | <br> Adobe}



Any QO series Square D Load Center or Panelboard.

## Add BMB or MB

series
Motorized Breakers
for
Controlled circuits.

# Specifier's Guide for LynTec Lighting Control Panels 

## Load Center and Panelboard part number explanation

Load Center - Panelboard - What's the difference?
Panelboards are the electrician's choice because they have 3 times the wiring space.
Panelboards are used when bolt-on breakers, 200\% neutrals or high circuit counts are required.
Load Centers are typically used where the circuit count isn't high, offering the lowest cost.


LynTec Lighting Control panels have the option of multiple universe control. All LC-10 boards service up to $\mathbf{1 0}$ - one, two or three pole motorized breakers. The first/top control board is always a LC-10M Master board. The Master board has the opto-isolated DMX512 input and opto-isolated, buffered, feed-thru output components.

In a standard one-universe system, the subsequent boards are slaves. The lower-cost, LC-10S Slave boards have their own starting address, but derive their opto-isolated DMX data from the Master board above.
When multiple universes are desired, two or more LC-10M Master boards are supplied.
Each universe requires a Master board. Any Master may have one or more subsequent slaves. See page 3 for possible board counts in each type panel.

## Multiple DMX512 Universe Option

 LC-10 boards service up to 10 - one, two or three pole motorized breakers.

Panelboard
A\&E Specs PDF format LA36400, 3 pole, 400 Amp main breaker ( 115 kVA ). 10kAIR [Amps Interrupt Rating]. Optional main breakers - call for price and delivery. -MLO (Main Lug Only) is an option.

225 A Panelboard


The standard LCP 341-xx has a JGP36225, 3 pole, 225 Amp main breaker ( 65 kVA ). 65k AIR [Amps Interrupt Rating]. Optional main breakers [All 65kAIR]
125A ..... -MHG3125 (36 kVA transformer)
150A ..... -MJG3150 (45 kVA)
175A ..... -MJG3175 (50 kVA)
200A ..... -MJG3200 ( 60 kVA)
-MLO (Main Lug Only) is an option


Please include Branch Breakers to complete your specification.

## 

## Load Center Main

 Breaker OptionsLarge 3 Phase Load Center
The standard LCLC 341-xx has a factory installed, 3 pole, 225 Amp main breaker ( 65 kVA transformer) [25kAIR Amps Interrupt Rating].
Optional main breakers [All 65kAIR]
150A ..... -MQD3150 (45 kVA)
175A ..... -MQD3175 (50 kVA)
200A ..... -MQD3200 (60 kVA)
-MLO (Main Lug Only) option:
We only stock LCLC panels with main breakers. If your specification requires a
-MLO we will provide it at the same price as the standard panel.
Higher Interrupt Current Option LoadCenter: QGL32xxx series 65 k AIR main breaker- $150,175,200$ or 225A
Add the H to the model type. Example: LCLCH 341.

## Small 3 Phase Load Center

The standard LCLC 326-xx has a bracketretained, clip-on, back-fed, 3 pole, 100 Amp main breaker.
Optional main breaker sizes available:

- 30A .......-M3030 (7.5 kVA transformer)
- 35A ........-M3035 (10 kVA)
+50A ......-M3050 (15 kVA)
+ 70A .......-M3070 (20 kVA)
+90A .......-M3090 (25 kVA)
. 30A \& 35A: 10kAIR
+50A up: 22kAIR (Amps Interrupt Rating)


# The UL listed heart of the LynTec Lighting Control and Sound Sequencing Panels 



Field installed, UL \& CSA listed, motorized circuit breakers are required to complete the Lighting Control Panel or Sequencing Panel package.
bLUE TYPE = Bolt-on breakers for Panelboards ONLY - Clip-on breakers fit Load Centers or Panelboards


BMB-15 ....... Bolt-on Motorized Breaker, Square D \#QOB115PL-5393
MB-15 ......... Clip-on Motorized Breaker, Square D \#QO115PL-5393
One pole, 15 Amps. Special 60" leads. Square D trip curve: 730-4
BMB-20 $\qquad$ Bolt-on Motorized Breaker, Square D \#QOB120PL-5393 MB-20 ......... Clip-on Motorized Breaker, Square D \#QO120PL-5393 One pole, 20 Amps. Special 60" leads. Square D trip curve: 730-4 15 and 20 Amp breakers have a HM, (High Magnetic) rating. HM reduces nuisance breaker trips on high inrush loads.

BMB-220 ...... Bolt-on Motorized Breaker, Square D \#QOB220PL-5393 MB-220 ........ Clip-on Motorized Breaker, Square D \#QO220PL-5393 Two pole, 20 Amps. Special 60" leads. Square D trip curve: 730-4 15 and 20 Amp breakers have a HM, (High Magnetic) rating. HM reduces nuisance breaker trips on high inrush loads.

BMB-30 ....... Bolt-on Motorized Breaker, Square D \#QOB130PL-5393 MB-30 ......... Clip-on Motorized Breaker, Square D \#QO130PL-5393 One pole, 30 Amps. Special 60" leads. Square D trip curve: 730-5

BMB-230 ...... Bolt-on Motorized Breaker, Square D \#QOB230PL-5393
MB-230 ........ Clip-on Motorized Breaker, Square D \#QO230PL-5393 Two pole, 30 Amps. Special 60" leads. Square D trip curve: 730-5

2 pole 30A, 40A and 60A and 3 pole Bolt-on and Clip-on Motorized Breakers are also available on special order. - Call 800-724-4047 for price and delivery.


UnMotorized circuit breakers for un-controlled circuits
BUMB-10, -15, -20 or $\mathbf{- 3 0}$ are Bolt-on, 10, 15, 20 or 30 amp single pole.
Square D QOB110, QOB115HM, QOB120HM or QOB130. - 15s \& 20s are High Magnetic.
UMB-10, -15, -20 or -30 are Clip-on, 10, 15, 20 or 30 amp single pole.
Square D QO110, QO115HM, QO120HM or QO130. - 15s \& 20s are High Magnetic.

Circuits controlled by one or more LC-10 Lighting Control boards
Each LC-10 board has 10 drivers capable of driving one 1, 2 or 3 pole BMB or MB series motorized circuit breakers. Each breaker has its own individual DMX512 address. The motorized breakers may be located in any open slot in the panel.
Bold face type = legends printed on LC-10 boards.
STARTING address
The STARTING address is field programmed by installing push-on jumpers.
Each board has a starting DMX address which is typically set between 1 and 503. Subsequent addresses are automatically assigned as needed, determined by how many breakers are attached to the board.

## ADDRESS SAVER

To conserve DMX addresses, the LC-10 board only assigns subsequent addresses for breakers it locates at power-up. At power-up, the board scans and pulses all breaker connectors from 1 to 10. Each breaker load found is assigned the next subsequent address regardless of its numerical position.
Empty connectors are skipped to save addresses.

## EXAMPLE

If the STARTING address were set at 301, the number 1 position would be DMX address 301.

If the second connector had no breaker connected, it wouldn't draw any control current during the power-up scan. It would be skipped and wouldn't be assigned a DMX address.
The third and fourth connectors have breakers and would be assigned DMX addresses 302 and 303.
To avoid confusion, we would suggest that you not leave spaces except after the last connected breaker. Then your existing breaker DMX addresses won't change if you add a breaker. In the above example, if you were to plug a breaker into the empty \#2 position and re-scan, those breakers that had addresses 302 and 303, would be reassigned new addresses of 303 and 304 for your convenience and amazement.

## NOTE

If a breaker is plugged into a connector after power-up it will be ignored until a new power-up scan is run by cycling the DMX CONTROL POWER breaker off for at least 3 seconds.

## Indicator LEDs

## Amber POWER LED

Power to each LC-10 circuit board is indicated by the amber POWER LED.

## Numbered Green LEDs, 1-10

Green numbered LEDs, adjacent to each breaker connector, light when the circuit breaker motor has been pulsed on. When a "delayed Off command" is executing, the breaker's LED will flash.

## Red warning LED

Low Voltage, INVALID address or No Breakers Attached
Low Voltage $=$ A fast red flash indicates AC line voltage is below 105 VAC - No DMX reception or execution.
INVALID address $=$ A slow ( 1 Hz ) red flash indicates an invalid address setting
totaling of more than 512.
Example: With a STARTING address set at 504 and 10 breakers attached, the total would be 513, exceeding DMX512's capacity.
No Breakers Attached = A continuously lit red LED indicates no breakers were found at the time of the power-up scan.

## Green Receiving DMX LED

When the Receiving DMX LED is flashing, the system is active and ready to execute DMX commands. The Receiving DMX LED stays lit during command execution.
Green DMX Output LED
Flickering LED indicates data presence at the Buffered DMX Output.

## Brown-out protection

Five seconds after power stabilizes above 105 volts, the board begins receiving DMX signals indicated by a flashing green Receiving DMX LED. When the Receiving DMX LED is flashing, the system is ready to execute DMX commands. A fast flashing red LED indicates the power hasn't been above 105 volts for the last 5 seconds and the controller is waiting for the power to stabilize before resuming DMX reception.
Motorized Circuit Breaker Low Voltage Connections
Each motorized breaker derives its control power through a 60" - 3 conductor wire. This low voltage, 600 volt insulated, cable is field connected to the Lever-latch 3 pin plugs. The Lever-latch plugs fit into numbered receptacles on the circuit board/s.

## DMX CONTROL POWER

The DMX CONTROL POWER circuit breaker, mounted in the lower right position in the high voltage section of the panel, is connected to a UL listed 120 v to $24 \mathrm{v}, 40$ VA transformer mounted inside the low voltage cabinet.
This 10 amp un-motorized breaker should be left on continuously. This circuit breaker is used as an approved, switchable connection method to the high voltage. The $\mathbf{U L} \& \mathrm{UL}_{\mathrm{c}}$ listed transformer is impedance protected with an internal thermal fuse.
Each sequencer board is protected by an on-board $3 A G 3 / 4 \mathrm{amp}$ fuse.
Power required: $50 / 60 \mathrm{~Hz}, 6.5$ watts per board with 10 breakers in the on condition. 33 watts maximum per panel.

## DMX PROTOCOL for LynTec LC series

| Code Range <br> (8 bit) |  | Circuit Function |
| :--- | :--- | :--- |$|$| $0-63$ | $0-24$ | Turns breaker off. When applied to <br> all breakers simultaneously, they turn <br> OFF at a .25 second step rate. |
| :--- | :--- | :--- |
| $64-191$ | $25-74$ | No change |
| $192-255$ | $75-100$ | Turns breaker on. When applied to <br> all breakers simultaneously, they turn <br> ON at a .25 second step rate. |

## ARCHITECTS \& ENGINEERS SPECIFICATIONS

for PDF and Word file links
see http://www.lyntec.com/139-0378_LC_Brkr_A\&E_Specs.pdf

