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_____

_____

by_____ Date_____

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 ☐= ***suggested*** control board: #1 (Top), #2 or #3.
Fill in ▮ box to indicate which control board this breaker is connected to.

Transfer as-built information to the door.

Keep this sheet for as-built documentation.

Available as PDF download
www.lyntec.com/139-0376_LCLC326Plnr.pdf

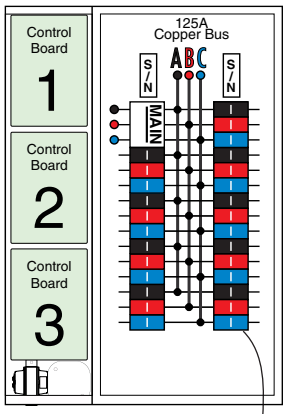
LynTec

Lighting Control Load Center

LCLC 326-xx

-xx = Maximum number of controlled breakers.
See right side of page for model number for explanation.

Cabinet Outline — Surface mount only



1	Phase A	2		201
3	Phase B	4		202
5	Phase C	6		203
7	A	8		204
9	B	10		205
11	C	12		207
13	A	14		
15	B	16		
17	C	18		
19	A	20		
21	B	22		
23	C	24		
25	A	26		
27	B	28		
29	C	DMX CONTROL POWER	30	

Each: ____Amp. ☐ Un-motorized. ☐ Motorized-DMX # _____

10A un-motorized breaker supplied installed.

LC-10M Master & LC-10S Slave circuit boards in left-hand, low-voltage cabinet.

Which board ?

DMX Input

DMX Output

LC-10M Master board has DMX I/O components.

Board 1
1 board model
LCLC 326-10 Lighting Control Load Center
326-10 model holds up to 26 poles.
Controls up to 10 1, 2, or 3 pole breakers.
DMX Starting address: _____

LC-10S Slave board has no DMX I/O components.

Multiple Universe Option replaces Slave board with additional Master board/s.

Board 2
2 board model
LCLC 326-20 Lighting Control Load Center
326-20 model holds up to 26 poles.
Controls up to 20 1, 2, or 3 pole breakers.
DMX Starting address: _____

Board 3
3 board model
LCLC 326-30 Lighting Control Load Center
326-30 model holds up to 26 poles.
Controls up to 30 1, 2, or 3 pole breakers.
DMX Starting address: _____

Square D QO327M100 Load Center with LynTec low-voltage sidecar

Standard back-fed Main Breaker QO3**100VH**. **100**A, [VH = 22kAIR].
Main options — Part# suffix

BOLD FACE = Amps

-M30**30**, -M30**35**
QO3**xx** [all 10kAIR]

-M30**50**, -M30**60**, -30**70**, or -M30**90**
QO3**xx**VH [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

The **DMX CONTROL POWER** circuit breaker powers the circuit boards via a 24 volt transformer.

Motorized circuit breakers (face-marked **REMOTELY OPERATED**) are individually actuated by a command from a remote DMX control device.

Each numbered LED idicates the status of that addressed breaker.
Lit = ON, Unlit = OFF
Flashing = command execution in progress.

Each circuit board controls up to ten 1, 2 or 3 pole motorized circuit breakers.

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 availablility 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

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

Document # 139-0376-04 LCLC 326 Planner 12/29/08

Mechanical Dimensions and Knockouts

LynTec MSLC 113-xx, MSLC 127-xx or MSLC 129-xx Modular Sequencing Load Center

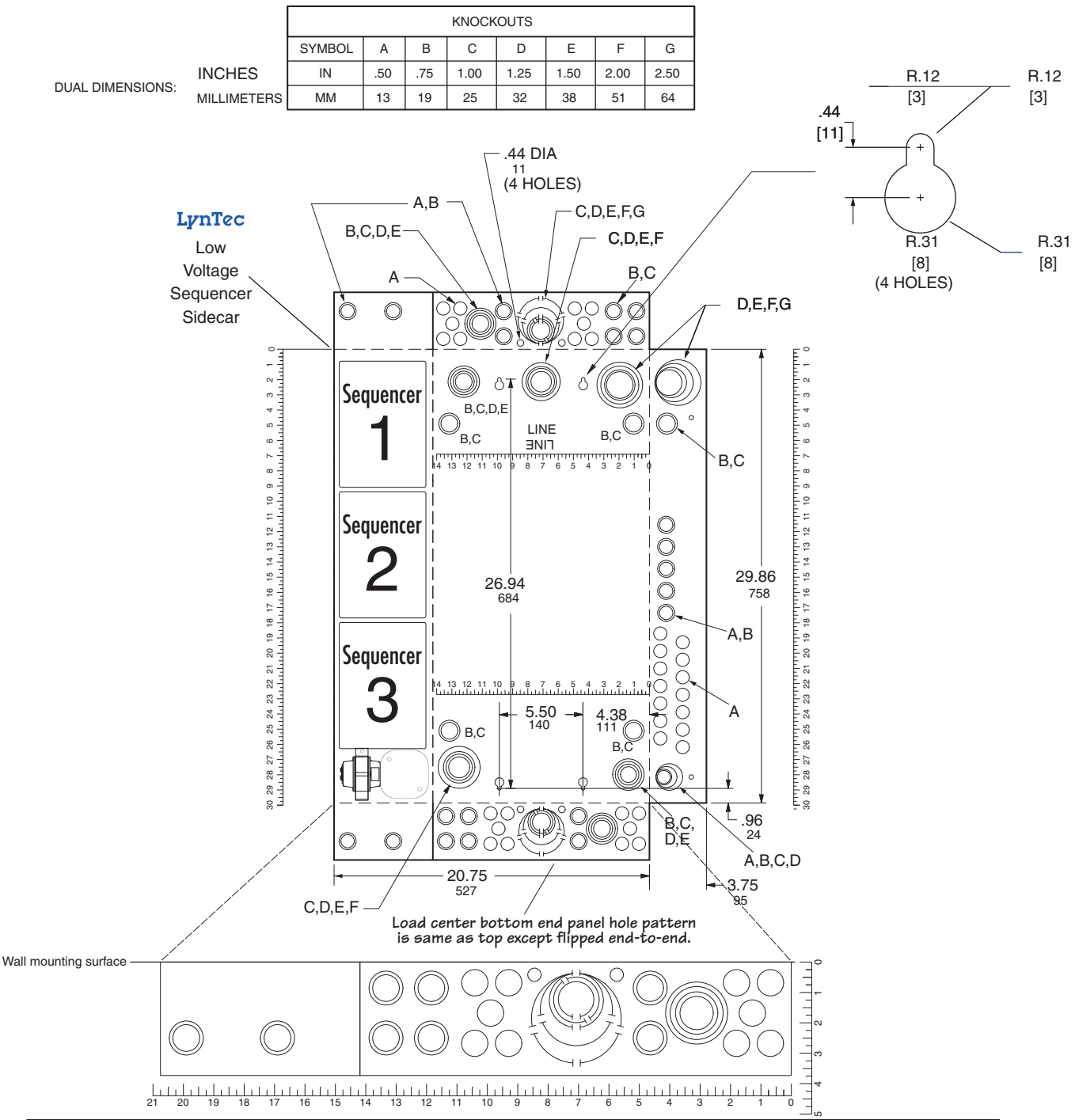
LynTec LCLC 326-xx or LCLC 329-xx (MLO) Lighting Control Load Center

LynTec MSLC 326-xx or MSLC 329-xx (MLO) Modular Sequencing Load Center

Surface Mount **ONLY**

DUAL DIMENSIONS:

	KNOCKOUTS							
	SYMBOL	A	B	C	D	E	F	G
INCHES	IN	.50	.75	1.00	1.25	1.50	2.00	2.50
MILLIMETERS	MM	13	19	25	32	38	51	64



LynTec	SQUARE D CATALOG NUMBER	MAXIMUM SYSTEM VOLTAGE	MAINS AMPERE RATING	SPACES	MAXIMUM NUMBER OF SINGLE POLE CIRCUITS	MAIN WIRE SIZE AWG AL/CU
MSLC 113-xx, MSLC 127-xx or MSLC 129-xx	QO130M200	120/240Vac 1Ø, 3W	200	30	30	#4-250
LCLC 326-xx, MSLC 326-xx or (MLO) LCLC 329-xx, MSLC 329-xx	QO327M100	208Y/120Vac 3Ø, 4W	100	27	27	#4-2/0

Program Card — As-built record
***LynTec* LCLC 326** DMX controlled circuit breaker panel.

see reverse side for DMX PROTOCOL

Panel _____ Location _____

Revision _____ Date_____ By_____

As-built **EDO** field programming record.
Indicate if a stored **on** condition was programmed for each breaker by filling corresponding circle.

Bold line around box is ***suggested*** control board: #1 (Top), #2, #3 or #4. Fill in box to indicate which control board this breaker is connected to.

Post EDO **on** EDO **on**

1	Phase A	2	
3	Phase B	4	
5	Phase C	6	
MAIN			
7	A	8	
9	B	10	
11	C	12	
13	A	14	
15	B	16	
17	C	18	
19	A	20	
21	B	22	
23	C	24	
25	A	26	
27	B	28	
29	C	30	

Amp. ☐ Un-motorized. ☐ Motorized-DMX # _____ universe _____

DMX CONTROL POWER
10A un-motorized breaker supplied installed.

EDO **on** Post EDO **on**

EDO Programming
Emergency **D**MX **O**verride

For egress or emergency lighting triggered by an external contact.

Connecting **EDO** to **Com**mon with an external contact overrides the incoming DMX signal and forces all breakers to the pre-programmed **EDO** state.

How to program **EDO**

A. Turn the **DMX CONTROL POWER** off.

B. Note the DMX Starting Address _____.

C. Move jumpers to reset the **DMX STARTING** Address to 555.

D. Turn the **DMX CONTROL POWER** on. The board will scan through the breakers 1 thru 10 and display the previous EDO settings if there are any stored in memory. All numbered LEDs that were on when the EDO setting was stored will light.

E. Press the green **EDO ON-OFF Toggle** button once. The #1 breaker LED will flash; Fast for ON — Slow for OFF. **Toggle** the same green button to the desired state of the #1 breaker.

F. Advance to breaker #2 with the red **EDO Advance** button. (#1 now indicates the condition you left it in. Lit = ON)

G. Set the rest of the positions, having breakers connected, to your desired EDO condition. Finish your settings with one more **EDO Advance** keystroke. All breaker LEDs will indicate their EDO state. If you change your mind, you can loop back to 1 with another **Advance** keystroke. #1 will begin flashing again to indicate it's ready to edit.

H. To store your EDO settings, turn **DMX CONTROL POWER** off and wait until the large red LED extinguishes.

I. Reset the DMX Starting Address jumpers to the one remembered in step B.

J. Turn on DMX CONTROL POWER. Now whenever you connect the EDO terminal to common, the red EDO LED will light and your stored EDO settings will *override* any DMX commands until the emergency contact is opened.

If you have programmed Post EDO, all circuits will go to that scenario when the emergency contact is opened.

With no Post EDO program all breakers default to off and will require another DMX command to actuate.

You have the option to program the Post EDO condition to reset the breakers to a different condition when the EDO contacts are reopened.

How to program **Post EDO**

K. With power off, move jumpers to reset the DMX Starting Address to 599.

Return to step D. to program **Post EDO.**

How it works

The **DMX CONTROL POWER** circuit breaker powers the control circuit boards via a 24 volt transformer.

Motorized circuit breakers (face-marked **REMOTELY OPERATED**) are individually actuated by a low-voltage command from a remote DMX control device. (light board)

Each of the *numbered* LEDs, 1 thru 10, indicate the status of the attached breaker.

Lit = ON — Unlit = OFF

Flashing = A command execution is in progress.

Each circuit board controls up to ten 1, 2 or 3 pole motorized circuit breakers.

Each motorized breaker acts as a circuit protection device as well as a remotely operated switch. The breaker handle moves only when over-current-tripped or manually turned off.

Master and Slave control 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/s from the appropriate DMX universe.

Power, DMX and EDO data are daisy-chain fed board-to-board by the yellow jumper connectors.
(**EDO** = **E**mergency **D**MX **O**verride)

The **STARTING DMX** address is set for each board by jumpers. Depending on the results of a power-up-scan, consecutive DMX addresses are only used for the headers with breakers attached.

The DMX Output is an optoisolated, buffered, loop-thru for driving other DMX devices.

Output data availability is indicated by a small-green flickering **DMX Output** LED.

MANUAL TEST 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 large-green **Receiving DMX** LED, overrides the test switches.

Emergency DMX Override
see above right

www.LynTec.com
800-724-4047
8-5 Central Time

DMX PROTOCOL for **LynTec LCLC** series		
Code Range (8 bit)	%	Circuit Function
0-63	0-24	Turns breaker off. When applied to all breakers simultaneously, they turn OFF at a .25 second step rate.
64-191	25-74	No change
192-255	75-100	Turns breaker on. When applied to all breakers simultaneously, they turn ON at a .25 second step rate.

NOTES

LynTec — AVAILABLE MODELS — LynTec

Panel electrical specifications and configurations — Outline dimensions

See SUBMITTALS at **LynTec**.com for ***model specfic*** Design or Submittal PDFs.

LOAD CENTERS

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# QO3**100**VH. **100**A,
(VH = 22k AIR)
[Amps Interrupt Rating]

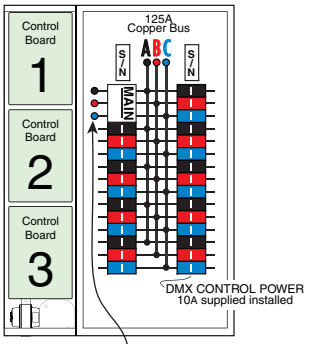
Back-fed Main Breaker options
Part# suffix — **Bold face**=Amps
-M30**30**, -M30**35**: (10kAIR)
Square D# QO30**xx**

-M30**50**, -M30**60,** -M30**70** or -M30**90**
Squared D# QO3**xx**VH
(all VH = 22k AIR)

Wire Sizes
#4 - 2/0 Cu

Outside dimensions
20.9" w., 29.8" h., 3.9" d.

Cabinet Outline — Surface mount only



Main **L**ug **O**nly **-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# QDL32**225**. **225** Amp

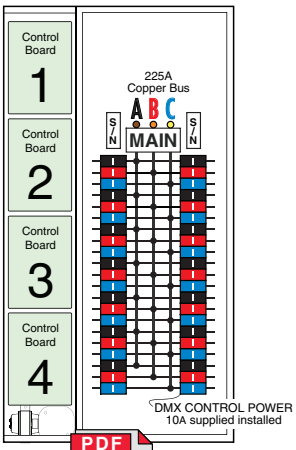
Main Breaker options
Part# suffix — **Bold face**=Amps
-M3**150,** -M3**175** or -M3**200**
Square D# QDL32**xxx** series
(all 25k AIR) [Amps Interrupt Rating]

LCLCH option for 65k AIR Main Breaker
Square D# QGL32**xxx** 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 kcmil Cu

Outside dimensions
20.9" w., 39.3" h., 3.9" d

Cabinet Outline — Surface mount only



All SQUARE D Panels

PANELBOARDS

LCP 341-xx-Mxxx Lighting Control Panelboard

3Ø, 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.

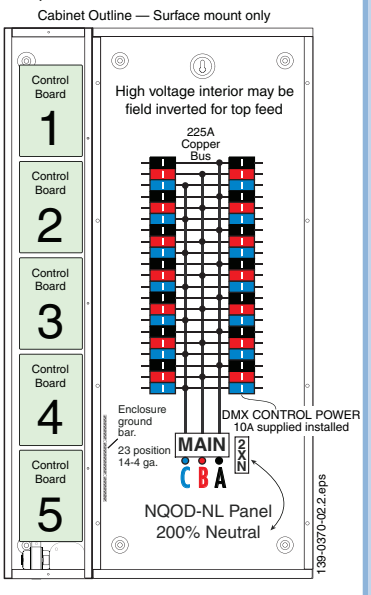
Standard **LCP-225A** Main Breaker:
225 Amp. - 65k AIR - MJG36**225**

Square D MJG36**xxx** or MHG36xxx series
(all 65k AIR) [Amps Interrupt Rating]

Main Breaker options
Part# suffix — **Bold face** = Amps
-MHG3**125**, -MJG3**150**, -MJG3**175** or -MJG3**200**

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

Cabinet Outline — Surface mount only



Outside dimensions
28.06" w., 50" h., 6.13" d.

Knockout panels supplied in both ends

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]

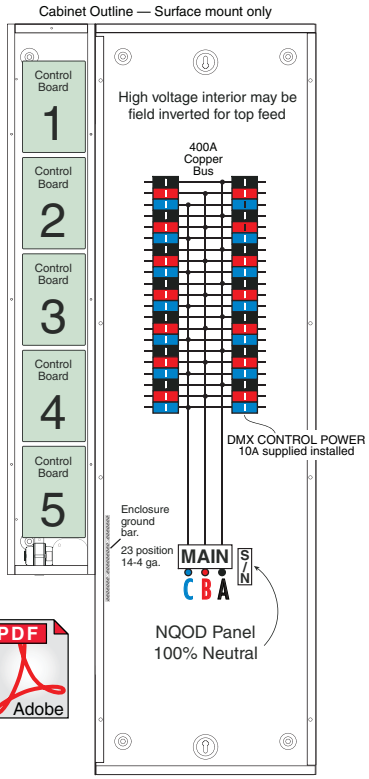
Wire Sizes
Main Breaker: 1 #1- 600 kcmil Cu or 2 - #1-250 kcmil Cu (per NEC)

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.

Knockout panels supplied in both ends

Cabinet Outline — Surface mount only



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.

Lighting Control Panelboards

LCP 341- 30 -2U -MJG3200

- **3** = 3 phase 208/120v, 4 wire
- **41** Number of available single pole circuit breaker spaces
- **10 20 30 40 50** Control board capacity— will drive up to this **number** of 1, 2 or 3 pole motorized breakers
- **1U 2U 3U 4U 5U** **number** of DMX512 **U**niverses
- **-M**ain breaker & **-M**ain **L**ug **O**nly options **SEE BELOW**

3 Phase Panelboards

400 A Panelboard

The standard LCP 341-xx-M400 has a LA36**400**, 3 pole, 400 Amp main breaker (115 kVA). 10kAIR [Amps Interrupt Rating].

Optional main breakers — call for price and delivery.

-MLO (**M**ain **L**ug **O**nly) is an option.

225 A Panelboard

The standard LCP 341-xx has a JGP36**225**, 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 (**M**ain **L**ug **O**nly) is an option.

Multiple DMX512 Universe Option

LynTec Lighting Control panels have the option of multiple universe control. All **LC-10** boards service up to **10** - one, two or three pole motorized breakers. The first/top control board is always a LC-10**M** **M**aster 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-10**S** **S**lave 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-10**M** **M**aster boards are supplied.
Each universe requires a **M**aster board. Any **M**aster may have one or more subsequent slaves. See page 3 for possible board counts in each type panel.

Please include Branch Breakers to complete your specification.

Lighting Control Load Centers

LCLC**H** 341- 30 -2U -MQD3200

- ▲ **H option** 65k AIR Main Breaker. Amps Interrupt Rating (Available only on **341**)
- **326** **341** Number of available single pole circuit breaker spaces
- **3** = 3 phase 208/120v, 4 wire
- **10 20 30 40** Control board capacity– will drive up to this **number** of 1, 2 or 3 pole motorized breakers
- **1U 2U 3U 4U** **number** of DMX512 **U**niverses
- **-M**ain breaker & **-M**ain **L**ug **O**nly options >>>>>>>

Load Center Main Breaker Options

Large 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 (**M**ain **L**ug **O**nly) 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 65k AIR main breaker— 150,175, 200 or 225A

Add the **H** to the model type. Example: LCLC**H** 341.

Small 3 Phase Load Center

The standard **LCLC 326-xx** has a bracket-retained, clip-on, back-fed, 3 pole, 100 Amp main breaker.

Optional main breaker sizes available:

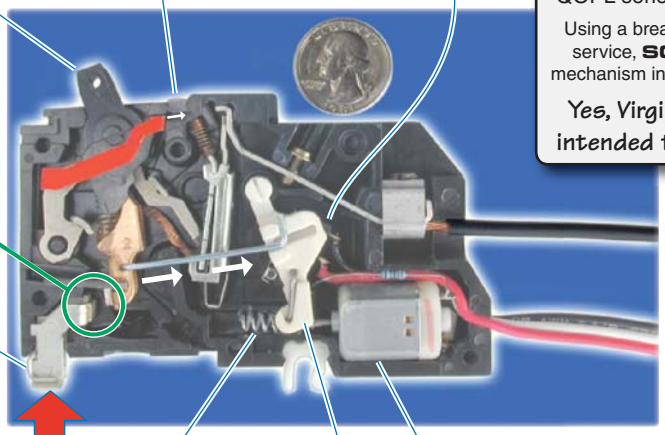
❂ 30A .....**-M3030** (7.5 kVA transformer)
❂ 35A .....**-M3035** (10 kVA)
✚ 50A .....**-M3050** (15 kVA)
✚ 70A .....**-M3070** (20 kVA)
✚ 90A .....**-M3090** (25 kVA)

❂ 30A & 35A: 10kAIR
✚ 50A up: 22kAIR (Amps Interrupt Rating)

RBLC-10 or RBLC-20
10 or 20 circuit
Remote Breaker Lighting Controller

Provides DMX control for any Square D QO panel by using **BMB** or **MB** breakers.

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



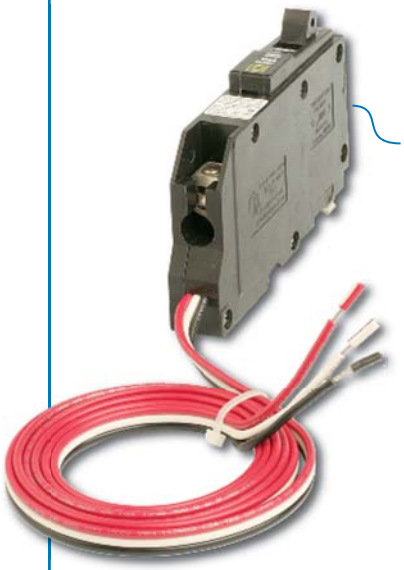
The time-proven **SQUARE D** QOPL series motorized circuit breaker.

Using a breaker proven in over 20 years of service, **SQUARE D** added a motor mechanism in 1986 to provide remote control.

Yes, Virginia, some breakers are intended to be used as switches!

Field installed, UL & CSA listed, motorized circuit breakers are required to complete the Lighting Control Panel package.

BLUE TYPE = **Bolt-on breakers for Panelboards ONLY — Clip-on breakers fit Load Centers or Panelboards**



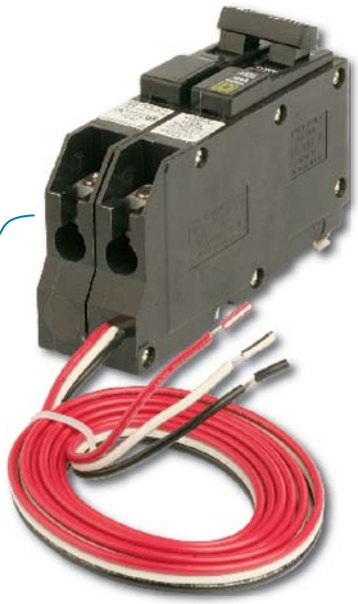
BMB-15 ..... **B**olt-on **M**otorized **B**reaker, Square D #QOB115PL-5393
MB-15 ..... Clip-on **M**otorized **B**reaker, Square D #QO115PL-5393
One pole, 15 Amps. Special 60" leads. Square D trip curve: 730-4

BMB-20 ..... **B**olt-on **M**otorized **B**reaker, Square D #QOB120PL-5393
MB-20 ..... Clip-on **M**otorized **B**reaker, 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 ..... **B**olt-on **M**otorized **B**reaker, Square D #QOB220PL-5393
MB-220 ..... Clip-on **M**otorized **B**reaker, 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 ..... **B**olt-on **M**otorized **B**reaker, Square D #QOB130PL-5393
MB-30 ..... Clip-on **M**otorized **B**reaker, Square D #QO130PL-5393
One pole, 30 Amps. Special 60" leads. Square D trip curve: 730-5

BMB-230 ..... **B**olt-on **M**otorized **B**reaker, Square D #QOB230PL-5393
MB-230 ..... Clip-on **M**otorized **B**reaker, Square D #QO230PL-5393
Two pole, 30 Amps. Special 60" leads. Square D trip curve: 730-5



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 **-30** 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.

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11/2003
Cedar Rapids, IA, USA

Instruction Bulletin

ECN N353

QO-PL (Plug-on), QOB-PL (Bolt-on) Powerlink® Remotely Operated Circuit Breakers

(Use in Type QO Load Centers and Type NQO, NQOB, and NQOD Panelboards)

Retain for future use.

REQUIREMENTS

Remotely Operated Circuit Requirements

⚠ DANGER

HAZARD OF ELECTRIC SHOCK, BURN, OR EXPLOSION.

When servicing a branch circuit fed by a remotely operated circuit breaker, move handle of remotely operated circuit breaker to OFF position. Do not rely on remote operation to open circuit breaker.

Failure to follow these instructions will result in personal injury or death.

POWERLINK® QO(B)-PL Remotely Operated Circuit Breakers require a power supply capable of delivering at least two amperes at 24 Vdc for a minimum of 50 milliseconds. One-, two-, and three-pole circuit breakers all have one internal motor, and power requirements are the same regardless of the number of poles and ampere ratings.

The required power supply ampacity and control device contact rating are determined by the number of circuit breakers to be switched simultaneously (i.e., four circuit breakers switched simultaneously require a power supply and a control device contact rated 8 amperes minimum). The control device may be either a normally-open (NO)/ normally-closed (NC) contact; a single-pole, double-throw switch (SPDT); or other three-wire control device.

CIRCUIT BREAKER INSTALLATION

⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

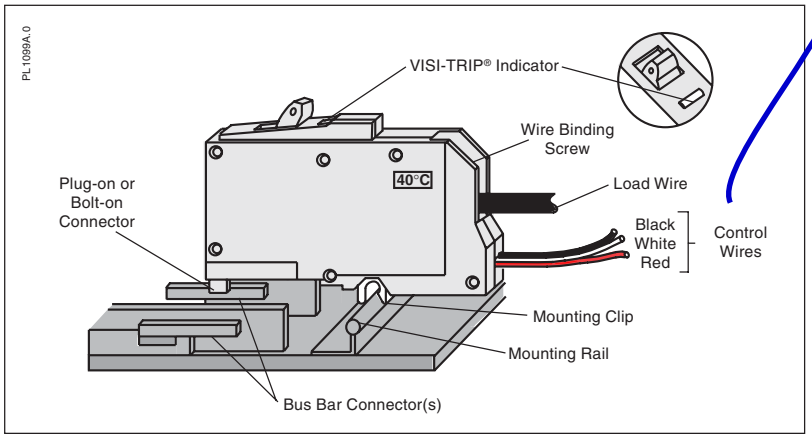
- Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices. See NFPA 70E.
- This equipment must be installed and serviced only by qualified electrical personnel.
- Turn off all power supplying this equipment before working on or inside equipment.
- Always use a properly rated voltage sensing device to confirm power is off.
- Replace all devices, doors, and covers before turning on power to this equipment.

Failure to follow these instructions will result in death, or serious injury.

1. Turn off all power supplying this equipment before working on or inside equipment.
2. Before installing circuit breaker turn circuit breaker handle to OFF position.
3. Remove panelboard cover and deadfront. Verify power is off with voltage meter before proceeding.

All LynTec supplied breakers have special 60” control wires. (Square D standards are 18”.)

Installation of circuit breaker into panelboard/load center (refer to figure below)



4. Except for remotely operated connections, QO(B)-PL remotely operated circuit breakers are installed in a panelboard/load center the same as conventional QO(B) circuit breakers.

Connection of remotely operated circuit (refer to the figure on next page)

5. Assure that power supply and control device meet requirements listed under "Remotely Operated Circuit Requirements."

See page 2 for LynTec part number explanation

CIRCUIT BREAKER INSTALLATION

CAUTION

HAZARD OF CIRCUIT BREAKER DAMAGE.

Connect the 24 Vdc remote control wiring as shown on this page.

Failure to follow these instructions can permanently damage the remotely operated circuit breaker.

6. All wiring and splicing must comply with applicable code requirements for Class 1 circuits. Refer to paragraph 373-8 and article 725 of the National Electrical Code.

7. Three #18 AWG control wires are attached to the remotely operated circuit breaker for connection to the power supply and remote control device and should be cut to the required length to reach the splice connections. Use #18 AWG or larger conductors with 600 V insulation and approved wire connectors for splices.

8. Connect the black lead of the remotely operated circuit breaker to the negative (-) terminal of the 24 Vdc power supply. Connect the red lead of the remotely operated circuit breaker to the positive (+) terminal of the 24 Vdc power supply. Connect the white lead of the remote control device. The remote control device provides connections between either positive or negative potential of the power supply and the white wire of the remotely operated circuit breaker, as appropriate.

9. Applying the positive potential of the power supply to the white wire (contact closure between the red wire and white wire) will operate the remote mechanism of the circuit breaker to the OFF position. Applying the negative potential of the power supply to the white wire (contact closure between the black wire and the white wire) will operate the remote mechanism of the circuit breaker to the ON position. A control circuit utilizing a normally open (NO)/normally closed (NC) contact is illustrated below.

NOTE: The remote mechanism will not move the circuit breaker handle. Also, the remote mechanism cannot turn power ON when the circuit breaker is tripped (VISI-TRIP® flag indicator showing) or when the circuit breaker handle is in the OFF position.

Installation of the trim and operational checks

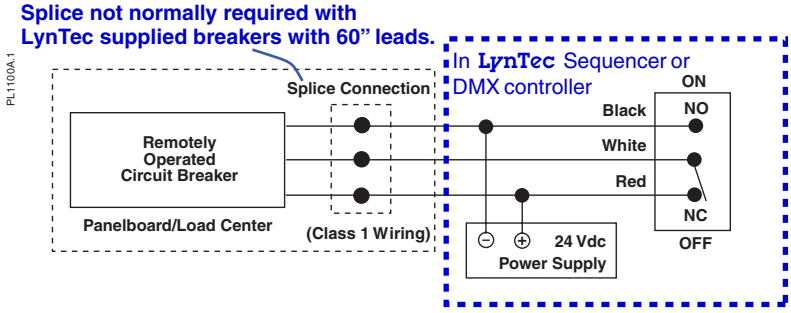
10. Remove corresponding twist-out from panelboard trim and replace trim.

11. Turn power to panelboard on.

12. Turn remotely operated circuit breaker handle to the ON position.

13. Turn power to the remotely operated circuit on and test this circuit, turning remotely operated circuit breaker off remotely, then on remotely. If power to remote controlled circuit breaker load does not switch off and on, turn off power to remotely operated circuit and panelboard and check wiring.

NOTE: A power supply is available from Square D Company, Cat. No. QOPLPS (plug-on) or QOBPLPS (bolt-on).



Square D Company
3700 Sixth Street SW
Cedar Rapids IA 52404 USA
1-888-SquareD (1-888-778-2733)
www.SquareD.com

Series Ratings

For NQOD and NF Panelboards
Class 1630, 1670

SQUARE D
www.SquareD.com
For the most up-to-date information

This page contains UL Tested and Certified series combination ratings for panelboards. These ratings apply to either an integral main located in the same enclosure or a remote main located in a separate enclosure.

NQOD Series Ratings

Maximum System Voltage AC c	Maximum Short Circuit Current Rating (RMS Symmetrical)	Integral or Remote Main Circuit Breakers and Remote Main Fuses	Branch Circuit Breaker Designations and Allowable Ampere Ranges ab — Type	1-pole	2-pole	3-pole
120/240 1Ø	22k	MG	QO (B)	15–30 A	...	...
	42k	HD, JD	QO (B) PL	15–30 A	15–60 A	15–30 A
	65k	HG, JG	QO (B) PL	15–30 A	15–60 A	15–30 A
	100k	HJ, JJ	QO (B) PL	15–30 A	15–60 A	15–30 A
	125k	HL, JL	QO (B) PL	15–30 A	15–60 A	15–30 A
120/240 1Ø	100k	DJ 400 A	QO (B) QO (B) GFI QO (B) VH QO (B) AFI	15–70 A 15–30 A ... 15–20 A	15–125 A 40–60 A 150 A ...	... ... 15–150 A ...
208Y/120		QJ	QO (B) QO (B) AS QO (B) GFI QO (B) PL QO (B) VH QO (B) AFI	15–70 A 15–30 A 15–30 A 15–30 A ... 15–20 A	15–125 A 15–30 A 15–60 A 15–60 A 150 A ...	15–30 A 15–30 A ... 15–30 A 35–150 A ...
208Y/120	18k	LA/LH (L) 34200MC LA/LH (L) 34225MC LA/LH (L) 34250MC LA/LH (L) 34400MC	QO (B)	15–30 A	15–30 A	15–30 A
LynTec models LCLC 326 MSLC 326 MSLC 338 MSP 338 MSP139	22k	UMB-xx QO (B) VH MB-xx	QO (B) QO (B) AS QO (B) GFI QO (B) PL QO (B) AFI	15–70 A 15–30 A 15–30 A 15–30 A 15–20 A	15–125 A 15–30 A 15–60 A 15–30 A ...	15–100 A 15–30 A ... ...
	22k	Q2-Hf	QO (B) QO (B) GFI QO (B) AFI	15–70 A 15–30 A 15–20 A	15–100 A 15–30 A ...	15–30 A ... ...
LynTec models LCLC 341 MSLC 341	25k	UMB-xx QD MB-xx	QO (B) QO (B) AS QO (B) GFI QO (B) PL QO (B) VH QO (B) AFI	15–70 A 15–30 A 15–30 A 15–30 A ... 15–20 A	15–125 A 15–30 A 15–60 A 15–60 A 150 A ...	15–30 A 15–30 A ... 15–30 A 35–150 A ...
LynTec models MSLC 127 MSLC 129 are series rated 22k AIR. see QO130Mxx on pg 1-3 of Digest 173.	25k	ED, FDf	QO (B) QO (B) GFI QO (B) AFI	15–70 A 15–30 A 15–20 A	15–125 A 15–60 A ...	15–100 A ... ...
	25k	KDf	QO (B) QO (B) AS QO (B) GFI QO (B) AFI	15–70 A 15–30 A 15–30 A 15–20 A	15–125 A 15–30 A 15–60 A ...	15–100 A 15–30 A ... ...
	25k	HD, JD	QO (B) QO (B) VH QO (B) GFI QO (B) AFI QO (B) H QOB2150VH	15–70 A ... 15–30 A 15–20 A	15–125 A ... 15–60 A ... 15–100 A 150 A	15–100 A 35–150 A ... ...
240	42k	LA, MA	Q2L-Hf QDL	... ...	110–225 A 70–225 A	110–225 A 70–225 A
		MG	QO (B) VH	15–30 A	15–30 A	15–30 A
		HD, JD	QO (B) PL	15–30 A	15–60 A	15–30 A
	42k	LC 600 A Maximum	QO (B) QO (B) VH QO (B) GFI QO (B) AFI	15–70 Ad 15–30 A 15–30 Ae 15–20 A	... 15–125 A 15–60 A ...	... 15–100 A (3P 208 V Max.) ... ...
	65k		QO (B) VH QO (B) GFI QO (B) AFI	15–30 A 15–30 Ae 15–20 A	15–125 A	15–100 A (3P 208 V Max.) ... ...
	65k	DJ 400 A	QO (B) QO (B) VH QO (B) H	15–70 A	15–125 A 150 A 15–100 A	... 15–150 A ...
	65k	EG, FGf , KGf	QO (B) QO (B) GFI QO (B) AFI	15–70 A 15–30 A 15–20 A	15–125 A 15–60 A ...	15–100 A ... ...
	65k	QG	QO (B) QO (B) AS QO (B) VH	15–70 A 15–30 A ...	15–125 A 15–30 A ...	15–30 A 15–30 A 35–150 A
		BMB-xx QG, HG, JG	QO (B) GFI QO (B) PL QO (B) AFI	15–30 A 15–30 A 15–30 A	15–60 A 15–60 A ...	... 15–30 A ...
LynTec models MSLCH 341 MSP 141 LCP 341 MSP 341	65k	BUMB-xx HG, JG	QO (B) QO (B) VH QO (B) H QOB2150VH	15–70 A	15–125 A ... 15–100 A 150 A	15–100 A 35–150 A ... ...
	65k	FCL22___ KCL22___ FCL32___ KCL32___	QO (B) QO (B) AS QO (B) GFI QO (B) AFI	15–70 A 15–30 A 15–30 A 15–20 A	15–100 A 15–30 A 15–30 A ...	15–100 A 15–30 A ... ...
	65k	400 A Max. Class J or T6 Fuses	QO (B) VH QOB-VH QO (B) AFI	15–30 A ... 15–20 A	15–125 A 150 A ...	15–100 A ... ...
	100k	FCL24___ KCL24___ FCL34___ KCL34___	QO (B) QO (B) AS QO (B) GFI QO (B) AFI	15–70 A 15–30 A 15–30 A 15–20 A	15–100 A 15–30 A 15–30 A ...	15–100 A 15–30 A ... ...
	100k	200 A Max. Class T3 Fuses	QO (B) AFI	15–20 A	...	...
	100k	EJ, FJf	QO (B) QO (B) GFI QO (B) AFI	15–70 A 15–30 A 15–20 A	15–125 A 15–60 A ...	15–100 A ... ...

QOBxxx (B) = BUMB series **B**olt-on, **U**n**M**otorized **B**reaker
-**x**xx = poles. x**xx** = trip current.
[1 pole] **BUMB-15, BUMB-20, BUMB-30**
[2 pole] **BUMB-215, BUMB-220, BUMB-230**
[3 pole] **BUMB-315, BUMB-320, BUMB-330**

QOxxx = UMB series clip-on, **U**n**M**otorized **B**reaker
-**x**xx = poles. x**xx** = trip current.
[1 pole] **UMB-15, UMB-20, UMB-30**
[2 pole] **UMB-215, UMB-220, UMB-230**
[3 pole] **UMB-315, UMB-320, UMB-330**
All 15 & 20 A breakers are **HM** (High Magnetic)

NQOD Series Ratings (Continued)

Maximum System Voltage AC c	Maximum Short Circuit Current Rating (RMS Symmetrical)	Integral or Remote Main Circuit Breakers and Remote Main Fuses	Branch Circuit Breaker Designations and Allowable Ampere Ranges ab — Type	1-pole	2-pole	3-pole
240	100k	HJ, JJ	QO (B) QO (B) VH QO (B) GFI	15–70 A ... 15–30 A	15–125 A ... 15–60 A	15–100 A 35–150 A ...
	125k	HL. JL	QO (B) PL QO (B) AFI QO (B) H QOB2150VH	15–30 A 15–20 A	15–60 A ... 15–100 A 150 A	15–30 A ... ...
	200k	FI, KI	QO (B) QO (B) AS QO (B) GFI QO (B) AFI	15–70 A 15–30 A 15–30 A 15–20 A	15–125 A 15–30 A 15–60 A ...	15–100 A 15–30 A ... ...
	200k	Maximum Fuses 200 A Class J or T6 400 A Class T3	QO (B) QO (B) AS QO (B) GFI	15–70 A 15–30 A 15–30 A	15–125 A 15–30 A 15–60 A	15–100 A 15–30 A ...

▲ Suffixes HID, SWD and SWN may also be applied to the applicable branch circuit breakers shown above, except suffix SWN may **NOT** be applied in combination with LC main circuit breakers.
■ Where QO (B) circuit breakers are shown above, QO (B) H, QO (B) VH, and QH (B) circuit breakers may also be used.
◆ For shown circuit breakers rated less than this maximum voltage, the indicated short circuit current rating also applies, but at the voltage rating of the circuit breaker.
★ Only 15–30 A circuit breakers may be used when the LC circuit breaker is rated 450, 500 or 600 A.
▼ Circuit breakers may not be used when the LC circuit breaker is rated 450, 500 or 600 A.
△ Obsolescent. Contact your nearest Square D/Schneider Electric sales office for replacement circuit breaker. One-pole FJ circuit breakers are still available.
Where QO(B) GFI circuit breakers are shown above, QO(B), EPD circuit breakers may also be used.

NF Series Ratings

Maximum System Voltage AC	Maximum Short Circuit Current Rating (RMS Symmetrical)	Main Type	Branch Type	Poles
240	65,000	EG, FH, FGf , KH, LH, MH, MX, HG, JG	EDB, EDB-EPD	1, 2 & 3
		EG	ECB-G3	
	100,000	EJ, FC, FJf , KC, LC, LX, HJ, JJ	EDB, EDB-EPD, EGB	
		EJ, FC, KC, HJ, JJ	ECB-G3	
	125,000	HL, JL	EDB, EDB-EPD, EGB, ECB-G3	
	200,000	FI, KI, LI, LXI	EDB, EDB-EPD, EGB, EJB	
		FI, KI	ECB-G3	
480Y/277	35,000	EG, FGf , KH, LH, HG, JG	EDB, EDB-EPD	1, 2 & 3
		EG, HG, JG	ECB-G3	
	65,000	EJ, FC, FJf , KC, LC, LX, HJ, JJ	EDB, EDB-EPD, EGB	
		EJ, FC, KC, HJ, JJ	ECB-G3	
	100,000	HL,JL	EDB, EDB-EPD, EGB	
	200,000	FI, KI, LI, LXI	EDB, EDB-EPD, EGB, EJB	
		FI, KI	ECB-G3	
600Y/347	18,000	HG, JG, MG	EDB, EDB-EPD	1, 2, 3
	25,000	EJ, FI, KH, KL, LC,. LE, LX, LI, LXI, HJ, JJ	EDB, EDB-EPD, EGB	
		LH	EDB(15–70 A), EGB	
	35,000	LC, LE	EDB, EDB-EPD, EGB, EJB	
	50,000	HL, JL	EDB, EDB-EPD, EGB	
	65,000	FI, KI	EDB, EDB-EPD, EGB, EJB	
		LI, XI	EJB	
		Remote Main Fuse		
240	200,000	200 Ampere Maximum Class J or T (600V)	ECB-G3	1, 2 & 3
480Y/277	100,000	400 Ampere Maximum Class J or T (600V)	EDB, EDB-EPD, EGB, EJB	1, 2 & 3
	200,000	200 Ampere Maximum Class J or T (600V)	EDB, EDB-EPD, EGB, EJB	
	200,000	200 Ampere Maximum Class J or T (600V)	ECB-G3	
600Y/347	200,000	200 Ampere Maximum Class J or T (600V)	EDB, EDB-EPD, EGB, EJB	1, 2 & 3

QOBPLxxx-5393 = BMB series **B**olt-on, **M**otorized. (REMOTELY OPERATED)
-**x**xx = poles. x**xx** = trip current. **-5393** suffix denotes special 60" control wires.
[1 pole] **BMB-15, BMB-20, BMB-30**
[2 pole] **BMB-215, BMB-220, BMB-230, BMB-240, BMB-250, BMB-260**
[3 pole] **BMB-315, BMB-320, BMB-330**

QOPLxxx-5393 = MB series clip-on, **M**otorized. (REMOTELY OPERATED)
-**x**xx = poles. x**xx** = trip current. **-5393** suffix denotes special 60" control wires.
[1 pole] **MB-15, MB-20, MB-30**
[2 pole] **MB-215, MB-220, MB-230, MB-240, MB-250, MB-260**
[3 pole] **MB-315, MB-320, MB-330**

LynTec overprint: 139-0407-01 Series Ratings 9/23/06
For most current version see http://www.lyntec.com/139-0407_Series_Ratings.pdf