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, #3 or #4. Fill in □ box to indicate which control board this breaker is connected to.

LCP 341-xx-M125 to -M225
(65k AIR main) - 225A bus
xx = Number of controller circuits 10, 20, 30, 40 or 50.

Cabinet outline - Surface mount only
Outside dimensions: 28.06” w., 50” h., 6.13” d.
Knockout panels supplied in both ends.

DMX PROTOCOL for LynTec LC series

<table>
<thead>
<tr>
<th>Code Range (8 bit)</th>
<th>% Circuit Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-63</td>
<td>0-24 Turns breaker off. When applied to all relays simultaneously, they turn OFF at a .25 second step rate.</td>
</tr>
<tr>
<td>64-191</td>
<td>25-74 No change</td>
</tr>
<tr>
<td>192-255</td>
<td>75-100 Turns breaker on. When applied to all relays simultaneously, they turn ON at a .25 second step rate.</td>
</tr>
</tbody>
</table>

Square D NQO-D-NL MB Panel with LynTec sidecar.
Standard LCP Main Breaker: 225 Amp. - 65k AIR - M225
Square D MGP360225
Main Breaker options — Part # suffix Bold = Amps - M125, M150, -M175 or -3/200 (all 65k AIR) [Amps Interrupt Rating]
Main Breaker wire: 3/0-350 kcmil Al/Cu.
200% Neutral has one feed lug that accepts two 250 kcmil Cu wires.

Transfer as-built information to the door label upon completion.
Keep this sheet for as-built documentation

Available as PDF download

Job____________________
Panel__________________
Comments________________

Date ____________________
125-225 Amp Lighting Panelboard Outline Drawing

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 - MJG32225
Square D MJG32xxx or MHG32xxx 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.

Surface Mount
Outside Dimensions:
28.06" w., 50.2" h., 6.13" d.

High voltage interior may be field inverted for top feed

1.5" I.D. wiring access nipples between sidecar & Panelboard

Enclosure ground bar,
23 position 14-4 ga.


139-0389-00 LCP 341-M225 Outline Drawing 1/17/06
# Program Card — As-built record

**LynTec LCLC or LCP 341 series DMX controlled circuit breaker panel.**

**see reverse side for DMX PROTOCOL**

<table>
<thead>
<tr>
<th>Panel</th>
<th>Location</th>
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**Revision _____________________ Date______________________ By____________________**

<table>
<thead>
<tr>
<th>Amp.</th>
<th>Un-motorized</th>
<th>Motorized</th>
<th>DMX #</th>
<th>Universe</th>
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### EDO Programming

**Emergency DMX Override**

For egress or emergency lighting triggered by an external contact.

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

**How to program EDO**

1. **A.** Turn the **DMX CONTROL POWER** off.
2. **B.** Note the DMX Starting Address _____.
3. **C.** Move jumpers to reset the DMX **STARTING DMX ADDRESS** to 555.
4. **D.** Turn the **DMX CONTROL POWER** on. The board will scan through the breakers 1 thru 10 and display the previous EDO settings if any are stored in memory. All numbered LEDs that were on when the EDO setting was stored will light.
5. **E.** Press the green **DMX 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.
6. **F.** Advance to breaker #2 with the red **EDO Advance** button. (#1 now indicates the condition you left it in. Lit = ON)
7. **G.** Set the rest of the positions, having breakers connected, to your desired EDO condition. Finish your settings with one more **EDO Advance** keystroke.
8. **H.** 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.
9. **I.** To store your EDO settings, turn **DMX CONTROL POWER** off and wait until the large red LED extinguishes.
10. **J.** Reset the DMX Starting Address jumpers to the one remembered in step B.
11. **K.** 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.
12. **L.** If you have programmed Post EDO, all circuits will go to that scenario when the emergency contact is opened.
13. **M.** With no Post EDO program all breakers default to off and will require another DMX command to actuate.
14. **N.** You have the option to program the Post EDO condition to reset the breakers to a different condition when the EDO contacts are reopened.
15. **O.** 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

Flash = A command execution is in progress.

Each circuit board controls up to 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 = Emergency DMX Override)

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](http://www.LynTec.com) 800-724-4047 8-5 Central Time
### DMX PROTOCOL for LynTec LCRP series

<table>
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<td>75-100</td>
<td>Turns breaker on. When applied to all relays simultaneously, they turn ON at a .25 second step rate.</td>
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</table>
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.

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.

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.

✔ 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.

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 addresses as there are breakers.

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

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.
LOAD CENTERS

LCLC 326-xx-Mxxx Lighting Control Load Center
30, 208Y/120 Vac, 4 wire. — 100 Amp Main Breaker Standard

Main Breaker: 3/0 - 350 kcmil Al/Cu
Feed from a protected disconnect.
Square D QO327M100 Load Center with LynTec low-voltage sidecar.
Standard back-fed Main Breaker: Squared Di# QO3100VH. 100A,

Part# suffix —

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

Main Breaker: 3/0 - 350 kcmil Al/Cu
Feed as a MLO to gain 3 circuits.
Remove Back fed main and top feed as a MLO to gain 3 circuits.
Provides access to branch breaker positions 1, 3, & 5.

Model number becomes a
LCLC 326-10-Mxxx
(Luminous controlled circuits)
LCLC 326-20-Mxxx
(20 DMX controlled circuits)
LCLC 326-30-Mxxx
(Up to 20 DMX controlled circuits)
LCLC 326-40-Mxxx
(Up to 40 DMX controlled circuits)

Part# suffix —

LCP 341-xx-M400 Lighting Control Panelboard
30, 208Y/120 Vac, 4 wire. — 400 Amp Main Breaker Standard

Main Breaker: 3/0 - 350 kcmil Al/Cu
Feed as a MLO to gain 3 circuits.
Provides access to branch breaker positions 1, 3, & 5.

Outside dimensions: 28.06” w., 50” h., 6.13” d.

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 30 DMX controlled circuits)
LCLC 326-40-Mxxx
(Up to 40 DMX controlled circuits)

Outside dimensions:
20.9” w., 29.8” h., 3.9” d.

Main Breaker: 3/0 - 250 kcmil Al/Cu

Outside dimensions:
20.9” w., 29.8” h., 3.9” d.

Main Breaker: 3/0 - 250 kcmil Al/Cu

Outside dimensions:
20.9” w., 29.8” h., 3.9” d.

Main Breaker: 3/0 - 250 kcmil Al/Cu

Outside dimensions:
20.9” w., 29.8” h., 3.9” d.
LC-10 DMX LIGHTING CONTROLLER boards

**DMX ADDRESS SAVER**
At power-up, each board scans for connected breakers and uses only as many addresses as there are breakers attached. If the breaker configuration is changed by adding, deleting or moving breakers, update the breaker status with a re-scan. Cycle the DMX CONTROL POWER breaker off for at least 3 sec. to re-scan.

**Movable circuit jumpers set the DMX STARTING address.**
It may be set to any address from 1 to 503.
Why 503? See INVALID Address example below.

**DMX ADDRESS SAVER**
At power-up, each board scans for connected breakers and uses only as many addresses as there are breakers attached. If the breaker configuration is changed by adding, deleting or moving breakers, update the breaker status with a re-scan. Cycle the DMX CONTROL POWER breaker off for at least 3 sec. to re-scan.

**Example:** With a STARTING address set at 504 and 10 breakers attached, the total would be 513, exceeding DMX512's capacity.

**Lit Continuously = No breakers attached.**

**Warning LED**
- **Fast flash = Low line voltage**
- **Slow flash = Invalid Address** (Set to total above 512).

**DMX ADDRESS SAVER**
At power-up, each board scans for connected breakers and uses only as many addresses as there are breakers attached. If the breaker configuration is changed by adding, deleting or moving breakers, update the breaker status with a re-scan. Cycle the DMX CONTROL POWER breaker off for at least 3 sec. to re-scan.

**Example:** With a STARTING address set at 504 and 10 breakers attached, the total would be 513, exceeding DMX512's capacity.

**Lit Continuously = No breakers attached.**

**Lever-latch breaker plug**
- Open lever — Insert twisted wire.
- Snap lever closed.
- Spring tension clamps wire securely.

**DMX ADDRESS SAVER**
At power-up, each board scans for connected breakers and uses only as many addresses as there are breakers attached. If the breaker configuration is changed by adding, deleting or moving breakers, update the breaker status with a re-scan. Cycle the DMX CONTROL POWER breaker off for at least 3 sec. to re-scan.

**Example:** With a STARTING address set at 504 and 10 breakers attached, the total would be 513, exceeding DMX512's capacity.

**Lit Continuously = No breakers attached.**
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.
**Specifier's Guide for LynTec Lighting Control Panels**

**Load Center and Panelboard part number explanation**

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-**

- **Multiple DMX512 Universe Option**
  LynTec Lighting Control panels have the option of multiple universe control. All LC-10 boards service up to 8 - one, two or three pole motorized breakers. The first/top control board is always a LC-10 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-10 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-10 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.

---

**Load Center Main Breaker Options**

**3 Phase Panelboards**

- **400 A Panelboard**
  The standard LCP 341-xx-M400 has a LA36400, 3 pole, 400 Amp main breaker (115 kVA). 10kAIR (Amps Interrupt Rating). Optional main breakers — call for price and delivery.

- **225 A Panelboard**
  The standard LCP 341-xx has a JG3225, 3 pole, 225 Amp main breaker (65 kVA). 65k AIR (Amps Interrupt Rating).

- **Optional main breaker sizes available:**
  - M400:
    - 125A — M3125 (36 kVA transformer)
    - 150A — M3150 (45 kVA)
    - 175A — M3175 (50 kVA)
    - 200A — M3200 (60 kVA)
    - MLO (Main Lug Only) is an option.

---

**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]
  - 125A — M3125 (36 kVA transformer)
  - 150A — M3150 (45 kVA)
  - 175A — M3175 (50 kVA)
  - 200A — M3200 (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.

---

**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 or 35A: 10kAIR
  - 50A up: 22kAIR (Amps Interrupt Rating)

---

**Please include Branch Breakers to complete your specification.**
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** ....... 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** ....... 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

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.
Circuits controlled by one or more LC-10 Lighting Control boards
Each LC-10 board has 10 drivers capable of driving one, 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 120V to 24V, 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 UL & UL listed transformer is impedance protected with an internal thermal fuse.

Each sequencer board is protected by an on-board 3AG 3/4 amp fuse.

Power required: 50/60 Hz, 6.5 watts per board with 10 breakers in the on condition. 33 watts maximum per panel.

**DMX PROTOCOL for LynTec LC series**

<table>
<thead>
<tr>
<th>Code Range</th>
<th>%</th>
<th>Circuit Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-63</td>
<td>0-24</td>
<td>Turns breaker off. When applied to all breakers simultaneously, they turn OFF at a .25 second step rate.</td>
</tr>
<tr>
<td>64-191</td>
<td>25-74</td>
<td>No change</td>
</tr>
<tr>
<td>192-255</td>
<td>75-100</td>
<td>Turns breaker on. When applied to all breakers simultaneously, they turn ON at a .25 second step rate.</td>
</tr>
</tbody>
</table>

**ARCHITECTS & ENGINEERS SPECIFICATIONS**

see [http://www.lyntec.com/139-0378_LC_Brkr_A&E_Specs.pdf](http://www.lyntec.com/139-0378_LC_Brkr_A&E_Specs.pdf)
Instruction Bulletin

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.

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.

See page 2 for LynTec part number explanation

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.

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.

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.”

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

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.

**CAUTION**

All BMB & MB required to connect to LynTec control boards in low voltage cabinet.

- **MB-15 = 15 Amp. Square D QO-115PL-5393**
- **MBM-15 = 15 Amp. Square D QOB-115PL-5393**
- **MBM-20 = 20 Amp. Square D QOB-20PL-5393**
- **MBM-30 = 30 Amp. Square D QOB-30PL-5393**
- **MBM-40 = 40 Amp. Square D QOB-40PL-5393**
- **MBM-50 = 50 Amp. Square D QOB-50PL-5393**
- **MBM-60 = 60 Amp. Square D QOB-60PL-5393**
- **MBM-70 = 70 Amp. Square D QOB-70PL-5393**
- **MBM-80 = 80 Amp. Square D QOB-80PL-5393**
- **MBM-90 = 90 Amp. Square D QOB-90PL-5393**
- **MBM-100 = 100 Amp. Square D QOB-100PL-5393**
- **MBM-150 = 150 Amp. Square D QOB-150PL-5393**
- **MBM-200 = 200 Amp. Square D QOB-200PL-5393**
- **MBM-250 = 250 Amp. Square D QOB-250PL-5393**
- **MBM-300 = 300 Amp. Square D QOB-300PL-5393**
- **MBM-400 = 400 Amp. Square D QOB-400PL-5393**
- **MBM-500 = 500 Amp. Square D QOB-500PL-5393**
- **MBM-600 = 600 Amp. Square D QOB-600PL-5393**
- **MBM-700 = 700 Amp. Square D QOB-700PL-5393**
- **MBM-800 = 800 Amp. Square D QOB-800PL-5393**

- **MB-15 = 15 Amp. Square D QO-115PL-5393**
- **MB-20 = 20 Amp. Square D QO-20PL-5393**
- **MB-30 = 30 Amp. Square D QO-30PL-5393**
- **MB-40 = 40 Amp. Square D QO-40PL-5393**
- **MB-50 = 50 Amp. Square D QO-50PL-5393**
- **MB-60 = 60 Amp. Square D QO-60PL-5393**
- **MB-70 = 70 Amp. Square D QO-70PL-5393**
- **MB-80 = 80 Amp. Square D QO-80PL-5393**
- **MB-90 = 90 Amp. Square D QO-90PL-5393**
- **MB-100 = 100 Amp. Square D QO-100PL-5393**
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- **MB-800 = 800 Amp. Square D QO-800PL-5393**

LynTec also stocks UM, BUMB (un-motorized) QO series circuit breakers including HM (High Magnetic). Recommended for eliminating nuisance trips in high inrush applications.

LynTec overprint 139-0216-08.2 9/23/06

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. QO1LPS (plug-on) or QOB1LPS (bolt-on).

Splice not normally required with LynTec supplied breakers with 60” leads.

Electrical equipment should be installed, operated, serviced and maintained only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

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### Series Ratings

For NQD and NF Panelboards

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>100</th>
<th>125</th>
<th>150</th>
<th>200</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSLC 326</td>
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**Maximum System Voltage AC**

100Y/60V 200A Class T3

**Main Circuit Breaker Designations and Allowable Amperes Ranges**

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<th>3-pole</th>
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</tr>
</tbody>
</table>

**Remote Fuses**

- QP-150, QP-200, QP-250, QP-300
- QP-150, QP-200, QP-250, QP-300
- QP-150, QP-200, QP-250, QP-300
- QP-150, QP-200, QP-250, QP-300

**Type of Branch Circuit Breaker**

- BUMB-xx
- MB-xx
- MB-xx
- MB-xx

**Main Line Fuses**

- QF, QP
- QF, QP
- QF, QP
- QF, QP

### QNPQ Series Ratings (Continued)

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**Remote Fuses**

- QP-150, QP-200, QP-250, QP-300
- QP-150, QP-200, QP-250, QP-300
- QP-150, QP-200, QP-250, QP-300
- QP-150, QP-200, QP-250, QP-300

**Type of Branch Circuit Breaker**

- BUMB-xx
- MB-xx
- MB-xx
- MB-xx

**Main Line Fuses**

- QF, QP
- QF, QP
- QF, QP
- QF, QP

### QOBPLxxxx-5393 BMB series Bolt-on, Motorized. (REMOTE OPERATED)

- **xxxx** = poles, **trip current** = -5393 suffix denotes special 60" control wires.

- **1 pole** BMB-15, BMB-20, BMB-30
- **2 pole** BMB-20, BMB-25, BMB-30, BMB-240, BMB-250, BMB-260
- **3 pole** BMB-315, BMB-320, BMB-330

### QOPLxxxx-5393 MB series clip-on, Motorized. (REMOTE OPERATED)

- **xxxx** = poles, **trip current** = -5393 suffix denotes special 60" control wires.

- **1 pole** BMB-15, BMB-20, BMB-30
- **2 pole** BMB-20, BMB-25, BMB-260, BMB-240, BMB-250, BMB-260
- **3 pole** BMB-315, BMB-320, BMB-330

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**For more current version see [http://www.lyntec.com/139-0407-Series_Ratings.pdf](http://www.lyntec.com/139-0407-Series_Ratings.pdf)**
Emergency circuit breaker activation

for
MSLC or MSP systems using motorized circuit breakers.

OR

for all systems using motorized circuit breakers.

NOTE
The motor inside the REMOTELY OPERATED breaker only opens the circuit if the handle is in the ON position. The breaker handle is not moved by the motor. The breaker handle only moves when tripped due to overload.

POWER SUPPLY for Emergency actuation of motorized circuit breakers
Connect Red and Black wires as shown.
Touch WHITE wire to BLACK to cycle breaker motor ON
or
Touch WHITE wire to RED to cycle breaker motor OFF

NOTE
DO NOT connect batteries to screw terminal strips. Wires MUST be disconnected from sequencer screw terminal strips or control relays will be damaged.

POWER SUPPLY for Emergency actuation of RR7 Latching Relays
Three 9 volt alkaline batteries snapped together in series.

NOTE
DO NOT connect batteries to sequencer board. Yellow Plugs MUST be disconnected from sequencer or control ICs will be damaged.

Touch BLACK wire ( battery) to BLACK to latch RR7 OFF
or
Touch BLACK wire ( battery) to RED to latch RR7 ON

LynTec
800-724-4047

Emergency RR7 relay activation for LCRP or PDS-8 series