### DMX CONTROL POWER

#### Code Range

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<td>25-74</td>
</tr>
<tr>
<td>192-255</td>
<td>75-100</td>
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#### Circuit Function

- **0-24**: Turns breaker off. When applied to all breakers simultaneously, they turn OFF at a .25 second step rate.
- **25-74**: No change.
- **75-100**: Turns breaker on. When applied to all breakers simultaneously, they turn ON at a .25 second step rate.

### LCP 341-xx-M400 Lighting Control Panelboard

- **(10k A/M main) - 400A bus**
- **xx**: Number of controller circuits 10, 20, 30, 40 or 50.
- **Cabinet outline - Surface mount only**
- **Outside dimensions**: 28.00" w. x 88.2" h. x 6.13" d.
- **Knockout panels supplied in both ends.**

### DMX PROTOCOL for LynTec LC series

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- **75-100**: Turns breaker on. When applied to all breakers simultaneously, they turn ON at a .25 second step rate.
**LynTec**

**Lighting Control Panelboard**

**LCP 341-10-M400**  
Up to 10 DMX controllable circuits

**LCP 341-20-M400**  
Up to 20 DMX controllable circuits

**LCP 341-30-M400**  
Up to 30 DMX controllable circuits

**LCP 341-40-M400**  
Up to 40 DMX controllable circuits

**LCP 341-50-M400**  
Up to 50 DMX controllable circuits  
(limited by 42 circuit code rule)

Square D NQOD MB Panel  
with LynTec sidecar.

**Standard LCP Main Breaker:**  
400 Amp. - 10k AIR - LA36400  
(Amps Interrupt Rating)

Main Breaker wire:  
#1-600 kcmil Cu or  
2-#1-250 kcmil Cu (per NEC)  
100% Neutral has one feed lug that accepts 1-#1-750 kcmil  
or 2-#1-300 kcmil Cu wires.

Surface Mount  
Outside dimensions  
28.06” w., 68.2” h., 6.13” d.
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 = 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
800-724-4047
8-5 Central Time

139-0377-09f LC 341 Program Card 12/15/08 — Download and print current revision: http://www.lyntec.com/139-0377_LC341_ProgramCard.pdf
### DMX PROTOCOL for LynTec LCRP series

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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 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. 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.

✔ 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).
  • 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.

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Using the same proven panels and motorized circuit breakers, LynTec now offers a broad product line with new DMX512 control system for lighting.
LynTec — AVAILABLE MODELS — LynTec
Panel electrical specifications and configurations — Outline dimensions
See LynTec.com for model specific Design or Submittal PDFs.

LOAD CENTERS

LCLC 326-xx-Mxxx Lighting Control Load Center
30, 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 30 DMX controlled circuits)
LCLC 326-40-Mxxx
(Up to 40 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
-M3050, -M3070 or -M3090
Squared D# QO3xxV
(all VH = 22k AIR)
Wire Sizes
#4 - 2/0 Cu
Outside dimensions
20.9" w., 29.8" h., 3.9" d.

Main Breaker: 3Ø, 208Y/120 Vac, 4 wire — 225 Amp Main Breaker Standard

LCLC 341-xx-Mxxx Lighting Control Load Center
30, 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 QO342M225 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 25k AIR) [Amps Interrupt Rating]
LCLCM option for 65k AIR Main Breaker
Square D# QDL32xxx 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

PANELBOARDS

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)

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 MJH36xxx series
(all 65k AIR) [Amps Interrupt Rating]
Main Breaker options
Part# suffix — Bold face=Amps
-MH2125, -MJG3750, -MJG3780 or -MJG3200
Wire Sizes
Main Breaker: 3Ø - 350 kcmil Al/Cu
200% Neutral has one feed lug
accepts 2 - 250 kcmil Cu wires
Outside dimensions
28.06" w., 50" h., 6.13" d.

Knockout panels supplied in both ends

LCP 341-xx-M400 Lighting Control Panelboard
30, 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)

Square D NQOD MB Panel with LynTec low-voltage sidecar.
Standard LCP 400A Main Breaker:
400 Amp, - 10k AIR - LA36400
[All VH = 22k AIR] [Amps Interrupt Rating]
All VH = 22k AIR 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
28.06" w., 68.2" h., 6.13" d.

Knockout panels supplied in both ends
LC-10 DMX LIGHTING CONTROLLER boards

Numbered circuit LED
Indicates status of breaker.
Flashes during timed command countdown.

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.

120 Ohm
Input Termination
resistor

Receiving DMX LED
Flashes when a valid
DMX signal is received.

MTA .156”
DMX Input
Test plug

Wago Cage-Clamp
Input Terminals
Press white levers toward
board to insert stripped wire.

DMX Input
Terminated

Buffered DMX Output
Flickering LED indicates
data presence.

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

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.

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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.

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

Any QO series Square D Load Center or Panelboard.
Add BMB or MB series Motorized Breakers for Controlled circuits.
Specifiers 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.

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 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

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]

- QO326-xx (50 kVA transformer) [10kAIR]
- QO323-xx (25 kVA transformer) [5kAIR]
- QO320-xx (15 kVA transformer) [3kAIR]
- QO315-xx (10 kVA transformer) [1kAIR]

- 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

Load Center: QGL32xxx series 65k 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 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)

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

### Motorized Circuit Breakers

**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.

---

Handle functions as a normal circuit breaker.
When switched off or tripped due to overload, the remote control will not turn on power.
When in the normal ON position, the motorized remote control will turn it off and on.
The motor does not move the handle... it only opens or closes the high current contacts.
Snap on clip with heavy steel force spring.
Contact is held tightly in place on panel bus feeder finger.
Under high current stress, magnetic forces actually increase contact pressure.
Also available in Bolt-on versions for Panelboards only.

Red flag snaps into window when circuit breaker is tripped.
Microswitch, behind Actuator arm, opens motor circuit at end of transition.

AC POWER IN

Spring used as a worm gear drive

Low voltage motor.
Life expectancy: 30,000 On-Off operations.

Controlled AC POWER OUT

3 wire, low-voltage, 60" pigtail with 600 volt insulation.
Connects to Lighting Controller in low voltage cabinet.

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!

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

3 wire, low-voltage, 60" pigtail with 600 volt insulation.
Connects to Lighting Controller in low voltage cabinet.

---

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 package.

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

### Motorized Circuit Breakers

**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.

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### DMX PROTOCOL for LynTec LC series

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<th>Circuit Function</th>
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<td>Turns breaker off. When applied to all breakers simultaneously, they turn OFF at a .25 second step rate.</td>
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<td>64-191</td>
<td>25-74</td>
<td>No change</td>
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<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>
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### 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)

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In the interest of product improvement, specifications are subject to change without notice — see web site for the most current data.

www.LynTec.com

LynTec, Inc. • 8401 Melrose Drive • Lenexa, KS 66214 (a Kansas City suburb)

Voice 800-724-4047 • 913-529-2233 • Fax 888-722-4157 • 913-529-4157

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139-0370-04.8
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.

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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."
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.

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**LynTec**

part numbers

MB series motorized circuit breakers (Snap-On)

May be used in LGC, LCP, MSiLC, MSP, SLC or SP series panels.

BMB series motorized circuit breakers (Bolt-On)

Use only in LCP, MSP or SP Panelboards.

All BMB & MB series breakers have Square D part number suffix of -5393 indicating a special 60 inch lead length for remote control wires required to connect to LynTec control boards in low voltage cabinet.

** = Stocked items

- **MB-15 = 15 Amp. Square D QO-15PL-5393**
- **MB-20 = 20 Amp. Square D QO-20PL-5393**
- **MB-30 = 30 Amp. Square D QO-30PL-5393**
- **MB-15 = 15 Amp. Square D QOB-15PL-5393**
- **MB-20 = 20 Amp. Square D QOB-20PL-5393**
- **MB-30 = 30 Amp. Square D QOB-30PL-5393**

Two pole motorized - call for pricing & delivery

- **MB-215 = 15 Amp. Square D QO-215PL-5393**
- **MB-215 = 15 Amp. Square D QOB-215PL-5393**
- **MB-220 = 20 Amp. Square D QO-220PL-5393**
- **MB-220 = 20 Amp. Square D QOB-220PL-5393**
- **MB-230 = 30 Amp. Square D QO-230PL-5393**
- **MB-230 = 30 Amp. Square D QOB-230PL-5393**

40A, 50A or 60A, Two pole also available on Special Order

Three pole motorized - call for pricing & delivery

- **MB-315 = 15 Amp. Square D QO-315PL-5393**
- **MB-315 = 15 Amp. Square D QOB-315PL-5393**
- **MB-320 = 20 Amp. Square D QO-320PL-5393**
- **MB-320 = 20 Amp. Square D QOB-320PL-5393**
- **MB-330 = 30 Amp. Square D QO-330PL-5393**
- **MB-330 = 30 Amp. Square D QOB-330PL-5393**

LynTec also stocks UMB & BUMB (un-motorized) QO series circuit breakers including HM (High Magnetic). Recommended for eliminating nuisance trips in high inrush applications. [All BMB & MB x15’s and BMB & MB x20’s are HM breakers.]

800-724-4047

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6. All wiring and splicing must comply with applicable code requirements for Class I 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).

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

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Square D Company

3700 Sixth Street SW

Cedar Rapids IA 52404 USA

1-888-SquareD (1-888-778-2733)

www.SquareD.com

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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.

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.

Three 9 volt alkaline batteries snapped together in series.

Touch Black wire (— battery) to Black to latch RR7 OFF

or

Touch Black wire (— battery) to Red to latch RR7 ON

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

Emergency RR7 relay activation for LCRP or PDS-8 series

POWER SUPPLY for Emergency actuation of RR7 Latching Relays

RR7 P3 Latching Relay

LynTec

800-724-4047