Motorized Breakers Make Control Easy!

All relay based systems **MUST** be electrically protected by a circuit breaker. Motorized breakers eliminate the need for wall or rack mounted relay based systems...

- Saves Space
- Saves redundant installation and hardware costs!
- UL listed circuit breaker with built-in internal switching capability manufactured by [SQUARE D](#)
- Time tested, in service over 20 years
- Available in 15A, 20A and 30A - 1, 2 or 3 poles for remote control of all electrical loads
- Robust - rated for 60k on, off, on cycles
- Energy efficient - NO holding current or heat sinks required to maintain state - Runs cool, lasts long!
- Automatic load shedding and brownout protection in every panel.
- Emergency override function standard on every panel.

**Specifying in 5 easy steps**

1. Choose the control method: **SC**=RS-232
2. Choose the cabinet style: **LC** for load center and **P** for panelboard
3. Choose three phase (**3**) or single phase (**1**) 
4. Choose the number of circuits: **26** or **41**. Panelboards are only available in 41 circuits.
5. Choose the maximum number of controlled circuits: **10,20, 30, 40, or 50**.

EX: **SCLC 326-20** = a 3 phase load center with 26 circuits (24 max controlled)

**SCP 341-30** = a 3 phase panel board with 41 circuits (30 max controlled)

All panels and load centers
**AVAILABLE MODELS**

See www.LynTec.com for model specific design and submittal PDFs

### LOAD CENTERS

**SCLC 326-xx-Mxxx RS-232 Controlled Load Center**
- 30, 208Y/120 Vac, 4 wire. — 100 Amp Main Breaker Standard

**SCLC 326-10-Mxxx**
- (Up to 10 RS-232 controlled circuits)

**SCLC 326-20-Mxxx**
- (Up to 20 RS-232 controlled circuits)

**SCLC 326-30-Mxxx**
- (Up to 30 RS-232 controlled circuits)

Square D QO327M100 Load Center with LynTec low-voltage sidecar.

Standard back-fed Main Breaker:
- Squared D# QO3
- Part# suffix — (Up to 26 RS-232 controlled circuits)

Back-fed Main Breaker options
- SCP 341-xx-Mxxx
- 3Ø, 208Y/120 Vac, 4 wire. — 225 Amp Main Breaker Standard

**SCLC 341-xx-Mxxx RS-232 Controlled Load Center**
- 30, 208Y/120 Vac, 4 wire. — 225 Amp Main Breaker Standard

**SCLC 341-10-Mxxx**
- (Up to 10 RS-232 controlled circuits)

**SCLC 341-20-Mxxx**
- (Up to 20 RS-232 controlled circuits)

**SCLC 341-30-Mxxx**
- (Up to 30 RS-232 controlled circuits)

Square D QO327M225 Load Center with LynTec low-voltage sidecar.

Standard Main Breaker:
- Squared D# QDL32225. 225 Amp Main Breaker options
- Part# suffix — Bold face = Amps
- -M3450
- -M3460
- -M3470 or -M3480

Squared D# QO32
- (all 25k AIR) [Amps Interrupt Rating]

<table>
<thead>
<tr>
<th>Wire Sizes</th>
<th>Model number becomes a</th>
</tr>
</thead>
<tbody>
<tr>
<td>3Ø, 208Y/120 Vac, 4 wire.</td>
<td>225 Amp Interrupt Rating</td>
</tr>
<tr>
<td>100% Neutral</td>
<td>3Ø, 208Y/120 Vac, 4 wire.</td>
</tr>
<tr>
<td>125 Amp. Panel Bus Rating</td>
<td>3Ø, 208Y/120 Vac, 4 wire.</td>
</tr>
<tr>
<td>28.06” w., 50” h., 6.13” d.</td>
<td>3Ø, 208Y/120 Vac, 4 wire.</td>
</tr>
</tbody>
</table>

**SCP 341-xx-Mxxx RS-232 Controlled Panelboard**
- 30, 208Y/120 Vac, 4 wire. — 225 Amp Main Breaker Standard

**SCP 341-10-Mxxx**
- (Up to 10 RS-232 controlled circuits)

**SCP 341-20-Mxxx**
- (Up to 20 RS-232 controlled circuits)

**SCP 341-30-Mxxx**
- (Up to 30 RS-232 controlled circuits)

**SCP 341-40-Mxxx**
- (Up to 40 RS-232 controlled circuits)

Square D NQOD-MB Panel with LynTec low-voltage sidecar.

Standard SCP 225A Main Breaker:
- 225A Copper - 65k AIR - MJG36225

Main Breaker options
- Part# suffix — Bold face = Amps
- -MHG3125, -MG3150, -MG3175 or -MG3200

Square D NQOD-NL MB Panel with LynTec low-voltage sidecar.

Standard SCP 400A Main Breaker:
- 400 AMP. - 10k AIR - LA36400

Main Breaker options
- Part# suffix — Bold face = Amps
- -HMG3125, -MG3150, -MG3175 or -MG3200

<table>
<thead>
<tr>
<th>Wire Sizes</th>
<th>Model number becomes a</th>
</tr>
</thead>
<tbody>
<tr>
<td>3Ø, 208Y/120 Vac, 4 wire.</td>
<td>225 Amp Interrupt Rating</td>
</tr>
<tr>
<td>100% Neutral</td>
<td>3Ø, 208Y/120 Vac, 4 wire.</td>
</tr>
<tr>
<td>125 Amp. Panel Bus Rating</td>
<td>3Ø, 208Y/120 Vac, 4 wire.</td>
</tr>
<tr>
<td>28.06” w., 50” h., 6.13” d.</td>
<td>3Ø, 208Y/120 Vac, 4 wire.</td>
</tr>
</tbody>
</table>

**PANELBOARDS**

**SCP 341-xx-Mxxx RS-232 Controlled Panelboard**
- 30, 208Y/120 Vac, 4 wire. — 225 Amp Main Breaker Standard

**SCP 341-10-Mxxx**
- (Up to 10 RS-232 controlled circuits)

**SCP 341-20-Mxxx**
- (Up to 20 RS-232 controlled circuits)

**SCP 341-30-Mxxx**
- (Up to 30 RS-232 controlled circuits)

**SCP 341-40-Mxxx**
- (Up to 40 RS-232 controlled circuits)

Square D NQOD-NL MB Panel with LynTec low-voltage sidecar.

Standard SCP 225A Main Breaker:
- 225 Amp - 65k AIR - MJG36225

Main Breaker options
- Part# suffix — Bold face = Amps
- -MHG3125, -MG3150, -MG3175 or -MG3200

Square D NQOD-NL MB Panel with LynTec low-voltage sidecar.

Standard SCP 400A Main Breaker:
- 400 AMP. - 10k AIR - LA36400

Main Breaker options
- Part# suffix — Bold face = Amps
- -HMG3125, -MG3150, -MG3175 or -MG3200

<table>
<thead>
<tr>
<th>Wire Sizes</th>
<th>Model number becomes a</th>
</tr>
</thead>
<tbody>
<tr>
<td>3Ø, 208Y/120 Vac, 4 wire.</td>
<td>225 Amp Interrupt Rating</td>
</tr>
<tr>
<td>100% Neutral</td>
<td>3Ø, 208Y/120 Vac, 4 wire.</td>
</tr>
<tr>
<td>125 Amp. Panel Bus Rating</td>
<td>3Ø, 208Y/120 Vac, 4 wire.</td>
</tr>
<tr>
<td>28.06” w., 50” h., 6.13” d.</td>
<td>3Ø, 208Y/120 Vac, 4 wire.</td>
</tr>
</tbody>
</table>
Architect's and Engineer's Specifications
SCLC Series Serial Controlled Load Center

All A.C. power for the A/V system shall be supplied from a source capable of being remote controlled via RS-232 control protocol.

Circuits shall be individually addressable providing on and off control via RS232 protocol.

A means of visual operator feedback shall provide an indication of circuit on/off status locally via LEDs.

The system shall have brownout (undervoltage) protection; monitoring the line voltage and triggering an automatic shutdown if the line voltage drops below 95 volts for more than 2 seconds. The system shall automatically return circuits to on state when power resumes and remains above 105 volts for more than 2 seconds without operator intervention.

The system shall have emergency shutdown capability triggered by external contacts or the system operator.

Un-motorized circuits, as required, shall be supplied from the same A.C. source so that a single lever main circuit breaker is dedicated to the system.

All Load Centers shall have an isolated technical ground bar.

All branch circuit breakers shall be snap-in.

The Serial Controlled Panelboard system shall be the LynTec model SCLC xxx series Load Center.

Manufacturer shall warrant specified equipment to be free from defects in materials and workmanship as follows: at least (15) months from date of purchase for line voltage equipment; at least (5) years from the date of purchase for control electronics.

LynTec — 800-724-4047 — www.LynTec.com

Models:

Single Phase, 22k AIR: SCLC 129-12, SCLC 129-24, SCLC 129-36

Balanced Power, 60v — 0 — 60v, 22k AIR: SCLC 119-12, SCLC 119-24

Three Phase, 10k AIR: SCLC 326-12, SCLC 326-24, SCLC 326-36

Three Phase, 25k AIR: SCLC 341-12, SCLC 341-24, SCLC 341-36, SCLC 341-48

This document available in Word format: http://www.lyntec.com/139-0578_SCLC_A&E_Spec.docx

Most recent version pdf: http://www.lyntec.com/139-0578_SCLC_A&E_Spec.pdf

139-0578-00_SCP_A&E_Spec 10/10/11
SC-10 RS232 PROTOCOL

Commands set

<table>
<thead>
<tr>
<th>Command</th>
<th>Decimal</th>
<th>Hexadecimal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start byte</td>
<td>176</td>
<td>0xB0</td>
</tr>
<tr>
<td>Stop byte</td>
<td>240</td>
<td>0xF0</td>
</tr>
<tr>
<td>Board address</td>
<td>1 - 99</td>
<td>0x01 - 0x63</td>
</tr>
<tr>
<td>Output address</td>
<td>1 - 10</td>
<td>0x01 - 0x0A</td>
</tr>
<tr>
<td>Output ON</td>
<td>180</td>
<td>0xB4</td>
</tr>
<tr>
<td>Output OFF</td>
<td>181</td>
<td>0xB5</td>
</tr>
<tr>
<td>Output status</td>
<td>182</td>
<td>0xB6</td>
</tr>
<tr>
<td>Status of all outputs</td>
<td>189</td>
<td>0xBD</td>
</tr>
<tr>
<td>All ON</td>
<td>186</td>
<td>0xBA</td>
</tr>
<tr>
<td>All OFF</td>
<td>187</td>
<td>0xBB</td>
</tr>
<tr>
<td>Set/clear output verification status*</td>
<td>190</td>
<td>0xBE</td>
</tr>
</tbody>
</table>

*Not be implemented - autoscan can distinguish between RR7 and RR9

2. Commands description

2.1 Outputs ON command

0xB0, board_address, 0xB4, output_address_1, ..., output_address_m, 0xF0
m<=10 (0x0A)

Example: B0 01 B4 04 0A F0, turns on outputs at 4 and 10, on 1st card

2.2 Outputs OFF command

0xB0, board_address, 0xB5, output_address_1, ..., output_address_n, 0xF0
n<=10 (0x0A)

Example: B0 02 B5 09 F0, turns off output at 9, on 2nd card

2.3 Outputs ON/OFF command

0xB0, board_address, 0xB4, output_address_1, ..., output_address_m, 0xB5, output_address_1, ..., output_address_n, 0xF0
m and n<=10 (0x0A)

Example: B0 01 B4 04 0A B5 09 F0, turns on output at 4 and 10, and turns off output at 9, on 1st card

2.4 Outputs status

0xB0, board_address, 0xB6, output_address_1, ..., output_address_m, 0xF0
m<=10 (0x0A)

Example: B0 03 B6 04 0A F0, status of outputs at 4 and 10, on 3rd card

2.5 Status of all outputs

0xB0, board_address, 0xBD, 0xF0

2.6 All ON - turn on all available outputs

0xB0, board_address, 0xBA, 0xF0
2.7 All OFF - turn off all available outputs

0xB0, board_address, 0xBB, 0xF0

2.8 Set/clear output verification status (NOT IMPLEMENTED)

0xB0, board_address, 0xBE, output_address_i, output_ver_status_i, output_address_j, output_ver_status_j, ...
output_address_n, output_ver_status_n, 0xF0

output_address_i, output_ver_status_i, output_address_j, output_ver_status_j, ...
output_address_n - addresses and status of outputs, n<=10

Output_ver_status coding

<table>
<thead>
<tr>
<th>Status</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disable</td>
<td>0x01</td>
</tr>
<tr>
<td>Enable</td>
<td>0x02</td>
</tr>
</tbody>
</table>

When verification status of the output is disabled, the board will always respond with “no verification” status for
this output. Verification status shall be disabled for all outputs driving RR7 relays.

3. Responses

3.1 Output status codes

<table>
<thead>
<tr>
<th>Status</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off</td>
<td>0x01</td>
</tr>
<tr>
<td>On</td>
<td>0x02</td>
</tr>
<tr>
<td>Fault</td>
<td>0x03</td>
</tr>
<tr>
<td>No verification, expected off</td>
<td>0x04</td>
</tr>
<tr>
<td>No verification, expected on</td>
<td>0x05</td>
</tr>
<tr>
<td>Empty</td>
<td>0x06</td>
</tr>
</tbody>
</table>

3.2 Output status change response

This response is transmitted when output(s) change(s) status for ANY reason (RS232 command, button push,
brown out, recover from brown out, emergency override, recover from emergency override).

0xB0, board_address, 0xB6, output_address_i, output_status_i, ...
output_address_n, output_status_n, 0xF0

n<=10 (0x0A)

Example: B0 01 B6 04 01 05 02 0A 06 F0, output at 4 is off, at 5 is on, and at 10 is empty, on 1st card

3.3 Status of all ten outputs (transmitted only in reply to status of all outputs command)

0xB0, board_address, 0xBD, byte_1, ..., byte_10, 0xF0

Example: B0 02 BD 01 01 01 01 01 02 02 02 06 F0, outputs 1 thru 5 are off, 6 thru 9 are on, and 10 is empty,
on 2nd card

4. AMX Device Discovery

Beacon request: “AMX\r”

Beacon: “AMXB<-SDKClass=Utility><-Make=Lyntec><-Model=SC10><-Revision=1.0.0>\r”
Planning and Layout Worksheet — As-built door label

LynTec SCLC 329-xx Lighting Control Load Center
RS-232 controlled, AC power remote control for un-dimmed lighting circuits

Breaker types, sizes, positions and connections

Each motorized breaker is actuated by a command from a RS-232 control device.

As-built door label example:
The RS-232 # _______ is the RS-232 address of this breaker.
The board jumpers set the RS-232 address of the board. Each breaker has a sub-address of 1-10
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.

CONTROL POWER
10A un-motorized breaker supplied installed.

How it works
The 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 RS-232 control device.
Each numbered LED indicates 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.
RS-232 signals are fed to the first board of each RS-232 panel.
Power and RS-232 data are daisy-chain fed board to board by the yellow jumper connectors.

The Board RS-232 address is set for each board by jumpers.
The RS-232 output is an optoisolated, buffered, loop-thru device for driving other RS-232 devices.
Output data availability is indicated by a flickering LED

MANUAL CONTROL
The circuit breakers may be manually controlled by the TEST switches on each board.
The test switches work in the absence of a RS-232 signal. A valid RS-232 signal, indicated by a flashing LED, overrides the test switches.

RS-232 Output

RS-232 Input

Board 1
1 board model
SCLC 329-10
Lighting Control Load Center

Board 2
2 board model
SCLC 329-20
Lighting Control Load Center

Board 3
3 board model
SCLC 329-30
Lighting Control Load Center

29-10 circuit boards in left-hand, low-voltage cabinet.
### Mechanical Dimensions and Knockouts

**LynTec** MSLC 113-xx, MSLC 127-xx, MSLC 129-xx, MSLC 326-xx, MSLC 329-xx (MLO),
LCLC 326-xx, LCLC 329-xx (MLO) SCLC 127-xx, SCLC 129-xx,
SCLC 326-xx or SCLC 329-xx (MLO)

**Surface Mount ONLY**

<table>
<thead>
<tr>
<th>SYMBOL</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>IN</td>
<td>.50</td>
<td>.75</td>
<td>1.00</td>
<td>1.25</td>
<td>1.50</td>
<td>2.00</td>
<td>2.50</td>
</tr>
<tr>
<td>MM</td>
<td>13</td>
<td>19</td>
<td>25</td>
<td>32</td>
<td>38</td>
<td>51</td>
<td>64</td>
</tr>
</tbody>
</table>

**Knockouts**

- **Sequencer 1**
  - B, C, D, E, F, G

- **Sequencer 2**
  - A
  - B, C
  - D, E, F

- **Sequencer 3**
  - A
  - B, C
  - D, E

**Load center bottom end panel hole pattern is same as top except flipped end-to-end.**

**Table:**

<table>
<thead>
<tr>
<th>Single Phase Load Centers</th>
<th>EX: MSLC 127 or SCLC 129</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Catalog Number</strong></td>
<td>QQ130M200</td>
</tr>
<tr>
<td><strong>Maximum System Voltage</strong></td>
<td>120/240Vac 1Ø, 3W</td>
</tr>
<tr>
<td><strong>Main Ampere Rating</strong></td>
<td>200</td>
</tr>
<tr>
<td><strong>Spaces</strong></td>
<td>30</td>
</tr>
<tr>
<td><strong>Maximum Number of Single Pole Circuits</strong></td>
<td>30</td>
</tr>
<tr>
<td><strong>Main Wire Size AWG</strong></td>
<td>#4-250</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Three Phase Load Centers</th>
<th>EX: MSLC 326 or LCLC 329</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Catalog Number</strong></td>
<td>QQ327M100</td>
</tr>
<tr>
<td><strong>Maximum System Voltage</strong></td>
<td>208Y/120Vac 3Ø, 4W</td>
</tr>
<tr>
<td><strong>Main Ampere Rating</strong></td>
<td>100</td>
</tr>
<tr>
<td><strong>Spaces</strong></td>
<td>27</td>
</tr>
<tr>
<td><strong>Maximum Number of Single Pole Circuits</strong></td>
<td>27</td>
</tr>
<tr>
<td><strong>Main Wire Size AWG</strong></td>
<td>#4-2/0</td>
</tr>
</tbody>
</table>

**Figure 1:**

- LynTec Low Voltage Sequencer Sidecar
- Wall mounting surface

**Figure 2:**

- LynTec Load center bottom end panel hole pattern is same as top except flipped end-to-end.

---

139-0269-05 Small Panel Mech. 06/11/2010
Thermal-magnetic Molded Case Circuit Breakers
250 Ampere Frame
Class 734

QDL & QGL
2 and 3-pole
70–250 Amperes

POWERPACT Q-frame — 250 A, Thermal-magnetic (240 Vac)

<table>
<thead>
<tr>
<th>Current Rating @ 40°C</th>
<th>AC Magnetic Trip Settings</th>
<th>D Interrupting</th>
<th>G Interrupting</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hold</td>
<td>Trip</td>
<td>Catalog Number</td>
</tr>
<tr>
<td>LynTec</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MSP 139</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCP 139</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use a 2 pole, back-fed main breaker, rated at 100 AMPS or less.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| LynTec                |      |        |                |                |
| MSP 119, MSP 141      |      |        |                |                |
| SCP 141               |      |        |                |                |
| All models            |      |        |                |                |
| 70–225A               |      |        |                |                |
| Special order, NCNR   |      |        |                |                |
| Non Cancellable       |      |        |                |                |
| Non Returnable        |      |        |                |                |

| LynTec                |      |        |                |                |
| LCLC 326              |      |        |                |                |
| MSLC 326              |      |        |                |                |
| MSLC 338              |      |        |                |                |
| MSP 338               |      |        |                |                |
| SCLC 326              |      |        |                |                |
| SCLC 338              |      |        |                |                |
| SCP338                |      |        |                |                |
| Use a 3 pole, back-fed main breaker, rated at 100 AMPS or less. |

QO3xxxVH Series

Interrupting Ratings (kA)

<table>
<thead>
<tr>
<th>QD</th>
<th>GG</th>
</tr>
</thead>
<tbody>
<tr>
<td>240 V</td>
<td>25</td>
</tr>
</tbody>
</table>
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

<table>
<thead>
<tr>
<th>Maximum System Voltage AC</th>
<th>Maximum Short Circuit Current Rating (RMS Symmetrical)</th>
</tr>
</thead>
<tbody>
<tr>
<td>208Y/120</td>
<td>100k EJ, FJ</td>
</tr>
<tr>
<td>240</td>
<td>120k EJ, FJ</td>
</tr>
<tr>
<td>480Y/277, 600Y/347</td>
<td>200,000 200 Ampere Maximum</td>
</tr>
</tbody>
</table>

#### Branch Circuit Breaker Designations

- **QO:** GFI 15–30 A 15–60 A 15–30 A
- **QO-B:** VH 15–30 A 15–125 A 15–100 A
- **QO-B-VH:** 150 A 35–150 A
- **QO-VH:** 15–125 A 15–100 A 15–70 A 15–125 A
- **QO-GFI:** 15–60 A 15–30 A 15–60 A
- **QO-B-GFI:** 15–60 A 15–30 A 15–60 A
- **QO-B-VH-GFI:** 150 A 35–150 A
- **QO-VH-GFI:** 15–125 A 15–100 A 15–70 A 15–125 A

#### Models

- **UMB-215, UMB-220, UMB-230**
- **BMB-215, BMB-220, BMB-230, BMB-240, BMB-250, BMB-260**
- **UMB-15, UMB-20, UMB-30**
- **BMB-15, BMB-20, BMB-30**

**QO(B) GFI circuit breakers are shown above, QO(B) EGB may also be used.**

**QO(B) VH circuit breakers may be used when the LC circuit breaker is rated 450, 500 or 600 A.**

**QO(B) GFI circuit breakers are shown above, except suffix SWN may be used in combination with LC main circuit breakers.**

**QO(B) EGB 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), EGB circuit breakers may also be used.**

**Maximum System Voltage AC**

<table>
<thead>
<tr>
<th>208Y/120</th>
<th>600V Class J or T (600V)</th>
<th>1, 2, 3</th>
<th>1, 2, 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>240</td>
<td>1, 2 &amp; 3</td>
<td></td>
<td>1, 2 &amp; 3</td>
</tr>
</tbody>
</table>

**Main Type**

<table>
<thead>
<tr>
<th>480Y/277</th>
<th>1, 2, 3</th>
</tr>
</thead>
</table>

**Branch Type**

<table>
<thead>
<tr>
<th>480Y/277</th>
<th>1, 2, 3</th>
</tr>
</thead>
</table>

**Poles**

<table>
<thead>
<tr>
<th>480Y/277</th>
<th>1, 2, 3</th>
</tr>
</thead>
</table>

**Rating**

<table>
<thead>
<tr>
<th>480Y/277</th>
<th>1, 2, 3</th>
</tr>
</thead>
</table>

**Voltage**

<table>
<thead>
<tr>
<th>480Y/277</th>
<th>1, 2, 3</th>
</tr>
</thead>
</table>

**Additional Models**

- **UMB-215, UMB-220, UMB-230**
- **BMB-215, BMB-220, BMB-230, BMB-240, BMB-250, BMB-260**
- **UMB-15, UMB-20, UMB-30**
- **BMB-15, BMB-20, BMB-30**

**QO(B)x = BUMB series Bolt-on, UnMotorized Breaker**

- **xxx = poles, xxx = trip current, -5939 suffix denotes special 60" control wires.**

**QOPLxxx-5393 = BMB series Bolt-on, Motorized. (REMOTE OPERATED)**

- **xxx = poles, xxx = trip current, -5939 suffix denotes special 60" control wires.**

**QOQxxx-5393 = MB series clip-on, UnMotorized Breaker**

- **xxx = poles, xxx = trip current.**

**QOBxxx (B) = BUMB series Bolt-on, UnMotorized Breaker**

- **xxx = poles, xxx = 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, UnMotorized Breaker**

- **xxx = poles, xxx = 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).
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

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

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.

---

**Note:**

- MB series motorized circuit breakers (Snap-On)
- May be used in LCLC, LCP, 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.

**Bolded:**

- **MB-15** = 15 Amp. Square D QO-115PL-5393
- **MB-20** = 20 Amp. Square D QO-120PL-5393

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.

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) or 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 remotely 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).

---

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

**Notice:**

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.

© 1991-2003 Schneider Electric All Rights Reserved