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](http://www.LynTec.com) for model specific design and submittal PDFs

**LOAD CENTERS**

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Part# Suffix</th>
<th>Available Models</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCLC 326-xx-Mxxx</td>
<td>RS-232 Controlled Load Center</td>
<td>-Mxxx</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MODEL NUMBERS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCLC 326-10-Mxxx</td>
<td>(Up to 10 RS-232 controlled circuits)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCLC 326-20-Mxxx</td>
<td>(Up to 20 RS-232 controlled circuits)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCLC 326-30-Mxxx</td>
<td>(Up to 30 RS-232 controlled circuits)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Main Breaker options
- Part# suffix — **Bold face** = Amps
- 
  - M3030, M3040: [10kAIR]
  - Square D # QO30xx
  - M3050, M3060, M3070 or M3090
- Wire Sizes
  - #4 - 2/0 Cu

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

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Part# Suffix</th>
<th>Available Models</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCLC 341-xx-Mxxx</td>
<td>RS-232 Controlled Load Center</td>
<td>-Mxxx</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MODEL NUMBERS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCLC 341-10-Mxxx</td>
<td>(Up to 10 RS-232 controlled circuits)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCLC 341-20-Mxxx</td>
<td>(Up to 20 RS-232 controlled circuits)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCLC 341-30-Mxxx</td>
<td>(Up to 30 RS-232 controlled circuits)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCLC 341-40-Mxxx</td>
<td>(Up to 40 RS-232 controlled circuits)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Main Breaker options
- Part# suffix — **Bold face** = Amps
- 
  - M3150 or M3200
- Wire Sizes
  - #4 - 2/0 Cu

Outside dimensions: 20.9” w., 29.3” h., 3.9” d.

**PANELBOARDS**

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Part# Suffix</th>
<th>Available Models</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCP 341-xx-Mxxx</td>
<td>RS-232 Controlled Panelboard</td>
<td>-Mxxx</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MODEL NUMBERS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCP 341-10-Mxxx</td>
<td>(Up to 10 RS-232 controlled circuits)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCP 341-20-Mxxx</td>
<td>(Up to 20 RS-232 controlled circuits)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCP 341-30-Mxxx</td>
<td>(Up to 30 RS-232 controlled circuits)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCP 341-40-Mxxx</td>
<td>(Up to 40 RS-232 controlled circuits)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Main Breaker options
- Part# suffix — **Bold face** = Amps
- 
  - MHG3125, MJG3150, MJG3175 or MJG3200
- Wire Sizes
  - Main Breaker: 3/0 - 350 kcmil Al/Cu
  - 200% Neutral has one feed lug that accepts 2 - 250 kcmil Cu wires

Outside dimensions: 20.06” w., 20.9” h., 6.13” d.

Knockout panels supplied in both ends
Optional isolated technical ground sidecar not shown

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Part# Suffix</th>
<th>Available Models</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCP 341-xx-M400</td>
<td>RS-232 Controlled Panelboard</td>
<td>-M400</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MODEL NUMBERS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCP 341-10-M400</td>
<td>(Up to 10 RS-232 controlled circuits)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCP 341-20-M400</td>
<td>(Up to 20 RS-232 controlled circuits)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCP 341-30-M400</td>
<td>(Up to 30 RS-232 controlled circuits)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCP 341-40-M400</td>
<td>(Up to 40 RS-232 controlled circuits)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Main Breaker options
- Part# suffix — **Bold face** = Amps
- 
  - 400A Main Breaker: 400 Amp - 10k AIR - LA36400
    - [Amps Interrupt Rating]
- Wire Sizes
  - Main Breaker: 1 #1 - 600 kcmil Cu or 2 #1-250 kcmil Cu (per NEC)
  - 100% Neutral has one feed lug
  - Accepts one #1-750 kcmil Cu or two #1-300 kcmil Cu wires

Outside dimensions: 20.06” w., 55.2” h., 6.13” d.

Optional isolated technical ground sidecar not shown
ARCHITECT’S and ENGINEER’S SPECIFICATIONS
SCP Series Serial Controlled Panelboard

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.

Three phase panelboards shall have 200% neutrals.

Single phase panelboards shall have a single neutral.

Panelboards shall have a separate and attached isolated technical ground section.

All branch circuit breakers shall be bolt-on.

The Serial Controlled Panelboard system shall be the LynTec model SCP xxx series Panelboard.

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, 65k AIR: SCP 141-12, SCP 141-24, SCP 141-36, SCP 141-48, SCP 141-60

Balanced Power, 60v-0-60v, 65k AIR: SCP 119-12, SCP 119-24

Three Phase, 65k AIR: SCP 341-12, SCP 341-24, SCP 341-36, SCP 341-48, SCP 341-60

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

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

139-0578-00_SCP_A&E_Spec 10/5/11
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

139-0573-00 SC-10 Program Card
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
SCP 338-xx - RS-232 Controlled Panelboard
Breaker types, sizes, positions and connections

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

Available as PDF download
www.lyntec.com/139-0577_SCP338_Plnr.pdf

SCP 338-xx
(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. 90” h. 6.13” d.
 Knockout panels supplied in both ends.

Square D NOOD-NL Panel
with LynTec sidecars.
Standard back-fed Main Breaker:
QO3100VH. 100A,
(VH = 22k AIR),
(Amps Interrupt Rating)
Main Options:
-M3030, -M3035, 10kAIR
QO3xx
-M3050, -M3060,
-M3070 or -M3090 Amps
QO3xxVH (all 22k AIR)
Wire: #4 - 2/0 kcmil Cu.

SC-10 circuit boards in left-hand, low-voltage cabinet:

RS-232 Control Power
RS-232 Input
RS-232 Output

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.
Fill in [ ] box to indicate which control board this breaker is connected to.

Un-motorized.
Motorized

RS-232 Input

RS-232 Output

RS-232 # ______

Job______________________________
Panel_____________________________
Comments________________________
by_______________________________
Date______________________________

Low-voltage cabinet.

24 VAC input

20A un-motorized breaker supplied installed.

234VAC input

200A un-motorized breaker supplied installed.
LynTec SCP 338-xx

30, 208Y/120 Vac, 4 wire, ≤ 100 Amp back-fed Main, (all 22k AIR)
Surface mount only

Square D NQOD-NL Panel with LynTec sidecars.

Standard back-fed Main Breaker:
QO3100VH. 100A, (VH = 22k AIR).
[Amps Interrupt Rating]

Main Options:
-M3030, -M3035: 10kAIR
QO30xx
-M3050, -M3060,
-M3070 or -M3090 Amps
QO3xxVH (all 22k AIR)
Wire: #4 - 2/0 kcmil Cu.

Outside Dimensions
36" w., 50" h., 6.13" d.

High voltage interior may be field inverted for top feed

Enclosure ground bar. 23 position, 14-4 ga.

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

28.06"
Outline Drawing with optional ITG sidecar

LynTec
SCP 338-xx

3Ø, 208Y/120 Vac, 4 wire.
≤ 100 Amp back-fed Main, (all 22k AIR)
Surface mount only

Square D NQOD-NL Panel with LynTec sidecars.

Standard back-fed Main Breaker:
QO3100VH. 100A,
(VH = 22k AIR).
[Amps Interrupt Rating]

Main Options:
-M3030, -M3035: 10kAIR
QO3xx
-M3050, -M3060,
-M3070 or -M3090 Amps
QO3xxVH (all 22k AIR)
Wire: #4 - 2/0 kcmil Cu.

Outside Dimensions
36" w., 50" h., 6.13" d.
### Selection Information

**H- and J-frame Thermal-magnetic Molded Case**

150 and 250 Ampere Frame — Class 611

### 150 A H-frame

<table>
<thead>
<tr>
<th>Circuit Breaker Type</th>
<th>HD</th>
<th>HG</th>
<th>HJ</th>
<th>HL</th>
<th>JD</th>
<th>JG</th>
<th>JJ</th>
<th>JL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Poles</td>
<td>2,3</td>
<td>2,3</td>
<td>2,3</td>
<td>2,3</td>
<td>2,3</td>
<td>2,3</td>
<td>2,3</td>
<td>2,3</td>
</tr>
</tbody>
</table>

#### Interrupting Ratings

<table>
<thead>
<tr>
<th>UL/CSA/NOM 50/60 Hz</th>
<th>240 V</th>
<th>480V/277 Vac</th>
<th>480 Vac</th>
<th>600V/347 Vac</th>
<th>600 Vac</th>
<th>DC Ratings</th>
<th>250/250 Vac</th>
<th>500 Vac</th>
<th>600Y/347 Vac</th>
<th>600 Vac</th>
<th>480 Vac</th>
<th>500/525 Vac</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>25</td>
<td>65</td>
<td>100</td>
<td>125</td>
<td>25</td>
<td>65</td>
<td>100</td>
<td>125</td>
<td>25</td>
<td>65</td>
<td>100</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>65</td>
<td>100</td>
<td>125</td>
<td>25</td>
<td>65</td>
<td>100</td>
<td>125</td>
<td>25</td>
<td>65</td>
<td>100</td>
<td>125</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>100</td>
<td>125</td>
<td>25</td>
<td>65</td>
<td>100</td>
<td>125</td>
<td>25</td>
<td>65</td>
<td>100</td>
<td>125</td>
<td>25</td>
<td>65</td>
</tr>
</tbody>
</table>

#### DC Ratings

<table>
<thead>
<tr>
<th>IEC 947-2</th>
<th>220/240 Vac</th>
<th>25/25</th>
<th>65/65</th>
<th>100/100</th>
<th>125/125</th>
<th>25/25</th>
<th>65/65</th>
<th>100/100</th>
<th>125/125</th>
</tr>
</thead>
<tbody>
<tr>
<td>380/415 Vac</td>
<td>18/18</td>
<td>35/35</td>
<td>65/65</td>
<td>100/100</td>
<td>18/18</td>
<td>35/35</td>
<td>65/65</td>
<td>100/100</td>
<td></td>
</tr>
<tr>
<td>500/525 Vac</td>
<td>14/14</td>
<td>18/18</td>
<td>25/25</td>
<td>50/50</td>
<td>14/14</td>
<td>18/18</td>
<td>25/25</td>
<td>50/50</td>
<td></td>
</tr>
</tbody>
</table>

#### Special Ratings

- Fed. Spec W-C-375B/GEN
- HACR (2, 3-pole)

### Connections/Terminations

- Unit Mount
- I-Line®
- Rear Connection
- Drawout
- Optional Lugs
- Unit Mount

### Accessories and Modifications

- Shunt Trip
- Undervoltage Trip
- Auxiliary Switches
- Alarm Switch
- Motor Operator
- Handle Operators
- Handle Padlock Attachment
- Handle Mechanical Interlocks
- Optional GF Protection

### Trip System Type

- Thermal-magnetic
- Instantaneous-only (MCP)
- Molded Case Switch (Automatic)
- Electronic

### Dimensions

<table>
<thead>
<tr>
<th>Dimensions (3P Unit Mount)</th>
<th>Height IN (mm)</th>
<th>6.4 (163)</th>
<th>7.5 (191)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Width IN (mm)</td>
<td>4.1 (104)</td>
<td>4.1 (104)</td>
</tr>
<tr>
<td></td>
<td>Depth IN (mm)</td>
<td>3.4 (86)</td>
<td>3.4 (86)</td>
</tr>
</tbody>
</table>

▲ Not available in HD and HG two-pole rating (2-pole module)
■ 2-pole in a 3-pole module.

For **Branch Breaker Series Ratings**

See [http://www.lyntec.com/139-0407_Series_Ratings.pdf](http://www.lyntec.com/139-0407_Series_Ratings.pdf)
### NEC Series Ratings

#### Branch Circuit Breaker Designations and Allowable Amperes Ranges

<table>
<thead>
<tr>
<th>Type</th>
<th>1-pole</th>
<th>2-pole</th>
<th>3-pole</th>
</tr>
</thead>
<tbody>
<tr>
<td>32A-1</td>
<td>12-30 A</td>
<td>15-40 A</td>
<td>20-50 A</td>
</tr>
<tr>
<td>32A-2</td>
<td>12-40 A</td>
<td>15-60 A</td>
<td>20-80 A</td>
</tr>
<tr>
<td>32A-3</td>
<td>12-80 A</td>
<td>15-120 A</td>
<td>20-150 A</td>
</tr>
</tbody>
</table>

#### Maximum Overload Circuit Current Rating (M.O.C.R.)

<table>
<thead>
<tr>
<th>Type</th>
<th>DC</th>
<th>AC</th>
</tr>
</thead>
<tbody>
<tr>
<td>32A-1</td>
<td>150 A</td>
<td>120 A</td>
</tr>
<tr>
<td>32A-2</td>
<td>200 A</td>
<td>150 A</td>
</tr>
<tr>
<td>32A-3</td>
<td>250 A</td>
<td>200 A</td>
</tr>
</tbody>
</table>

#### Maximum System Voltage AC

<table>
<thead>
<tr>
<th>Type</th>
<th>DC</th>
<th>AC</th>
</tr>
</thead>
<tbody>
<tr>
<td>32A-1</td>
<td>600 V</td>
<td>120 V</td>
</tr>
<tr>
<td>32A-2</td>
<td>1000 V</td>
<td>200 V</td>
</tr>
<tr>
<td>32A-3</td>
<td>1500 V</td>
<td>300 V</td>
</tr>
</tbody>
</table>

#### Maximum Short Circuit Current Rating (RMS Symmetrical)

<table>
<thead>
<tr>
<th>Type</th>
<th>DC</th>
<th>AC</th>
</tr>
</thead>
<tbody>
<tr>
<td>32A-1</td>
<td>50 k</td>
<td>22 k</td>
</tr>
<tr>
<td>32A-2</td>
<td>75 k</td>
<td>20 k</td>
</tr>
<tr>
<td>32A-3</td>
<td>100 k</td>
<td>15 k</td>
</tr>
</tbody>
</table>

#### Maximum Fuses

<table>
<thead>
<tr>
<th>Type</th>
<th>DC</th>
<th>AC</th>
</tr>
</thead>
<tbody>
<tr>
<td>32A-1</td>
<td>700 A</td>
<td>500 A</td>
</tr>
<tr>
<td>32A-2</td>
<td>1000 A</td>
<td>750 A</td>
</tr>
<tr>
<td>32A-3</td>
<td>1500 A</td>
<td>1000 A</td>
</tr>
</tbody>
</table>

#### Main Circuit Breakers

<table>
<thead>
<tr>
<th>Type</th>
<th>DC</th>
<th>AC</th>
</tr>
</thead>
<tbody>
<tr>
<td>32A-1</td>
<td>100 A</td>
<td>70 A</td>
</tr>
<tr>
<td>32A-2</td>
<td>150 A</td>
<td>100 A</td>
</tr>
<tr>
<td>32A-3</td>
<td>200 A</td>
<td>150 A</td>
</tr>
</tbody>
</table>

#### Remote Main Fuses

<table>
<thead>
<tr>
<th>Type</th>
<th>DC</th>
<th>AC</th>
</tr>
</thead>
<tbody>
<tr>
<td>32A-1</td>
<td>70 A</td>
<td>50 A</td>
</tr>
<tr>
<td>32A-2</td>
<td>100 A</td>
<td>70 A</td>
</tr>
<tr>
<td>32A-3</td>
<td>150 A</td>
<td>100 A</td>
</tr>
</tbody>
</table>

---

*For the most up-to-date information, see www.SquareD.com*

---

**QOBPxxxx (B) = BUMB series Bolt-on, Motorized. (REMOTE OPERATED)**

- **x = poles.**  
  - **x = trip current.** -393 suffix denotes special 60" control wires.

  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**

- **x = poles.**  
  - **x = 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

**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.

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."

See page 2 for LynTec part number explanation
**CIRCUIT BREAKER INSTALLATION**

**CAUTION**

HAZARD OF CIRCUIT BREAKER DAMAGE.

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

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

---

**LynTec**

part numbers

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.

** = Stocked items

**MB-15 = 15 Amp. Square D QO-115PL-5393  
**MB-15 = 15 Amp. Square D QO-115PL-5393  
**MB-20 = 20 Amp. Square D QO-120PL-5393  
**MB-20 = 20 Amp. Square D QO-120PL-5393  
**MB-30 = 30 Amp. Square D QO-130PL-5393  
**MB-30 = 30 Amp. Square D QO-130PL-5393  
Two pole motorized - call for pricing & delivery

**MB-215 = 15 Amp. Square D QO-215PL-5393  
**MB-215 = 15 Amp. Square D QO-215PL-5393  
**MB-220 = 20 Amp. Square D QO-220PL-5393  
**MB-220 = 20 Amp. Square D QO-220PL-5393  
**MB-330 = 30 Amp. Square D QO-330PL-5393  
**MB-330 = 30 Amp. Square D QO-330PL-5393  
MB-315 = 15 Amp. Square D QOPL-5393  
MB-315 = 15 Amp. Square D QOPL-5393  
**MB-320 = 20 Amp. Square D QO-320PL-5393  
**MB-320 = 20 Amp. Square D QO-320PL-5393  
**MB-330 = 30 Amp. Square D QO-330PL-5393  
**MB-330 = 30 Amp. Square D QO-330PL-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 QO-315PL-5393  
**MB-320 = 20 Amp. Square D QO-320PL-5393  
**MB-320 = 20 Amp. Square D QO-320PL-5393  
**MB-330 = 30 Amp. Square D QO-330PL-5393  
**MB-330 = 30 Amp. Square D QO-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

LynTec • www.LynTec.com

8401 Melrose Dr., Lenexa, KS 66214, USA
Voice 913-529-2234 • Fax 888-722-4157 or 913-529-4157

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

---

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

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

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

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

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

**Installation of the trim and operational checks**

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

11. Turn power to panelboard on.

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

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

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

**Splice not normally required with LynTec supplied breakers with 60" leads.**

---

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

---

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