


LynTec RS-232 Controlled Panels and Load Centers

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 
- ❑ 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

Planning and Layout Worksheet — As-built door label

SCLC 341-xx-M150 to -M225 Serial Control Load Center

Breaker types, sizes, positions, and connections

Job _____

Panel _____

Comments _____

by _____ Date _____

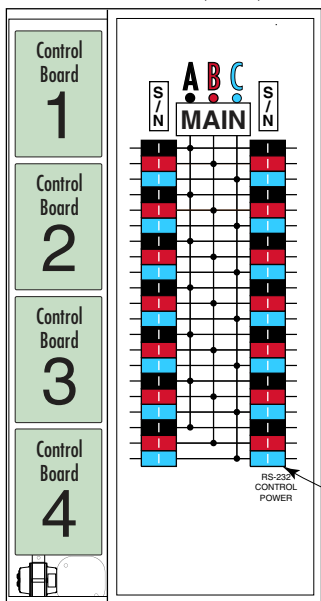
SC-10 circuit boards in left-hand, low-voltage cabinet.

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.

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

Available as PDF download
www.lyntec.com/139-0547_SCLC341_Plnr.pdf

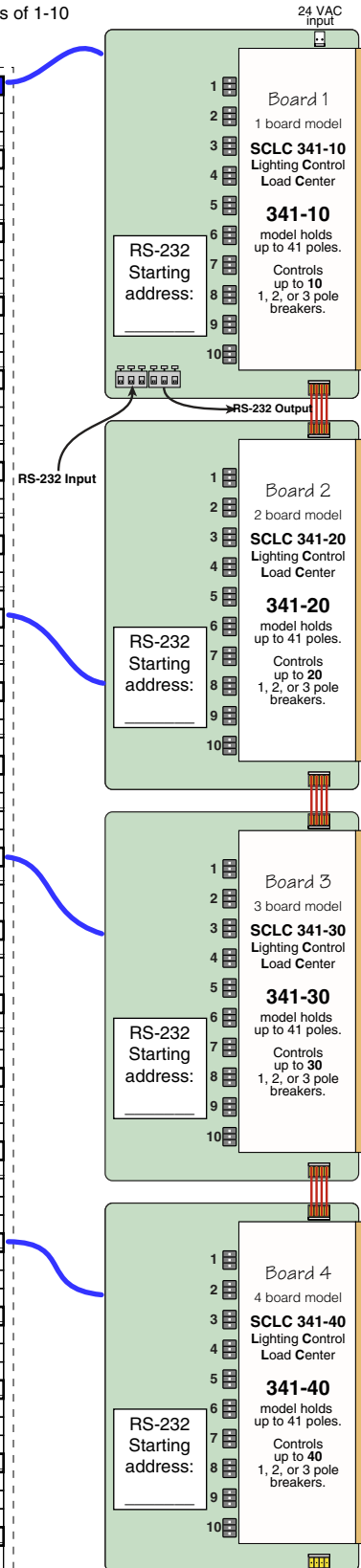
SCLC 341-xx
 (25k AIR main) - 225A bus
xx = Number of controller circuits
10, 20, 30, or 40.
 See right side of page for model number explanation.
 Cabinet outline - Surface mount only
 Outside dimensions: 20.9" w., 39.3" h., 3.9" d.



Square D QO342MQ225 Load Center with LynTec low-voltage sidecar.
 Standard Main Breaker: QDL32225. 225 Amp
 Main Breaker options
 Part# suffix -M3150 or -M3200 Amps, QDL32xxx series (all 25k AIR) (Amps Interrupt Rating)
 If 200% neutrals or bolt-on breakers are required, use SCP 341-xx Panelboard.

| | | |
|---|---------|----|
| 1 | Phase A | 2 |
| Amp. <input type="checkbox"/> Un-motorized. <input type="checkbox"/> Motorized-RS-232 # _____ Amp. <input type="checkbox"/> Un-motorized. <input type="checkbox"/> Motorized-RS-232 # _____ | | |
| 3 | Phase B | 4 |
| Amp. <input type="checkbox"/> Un-motorized. <input type="checkbox"/> Motorized-RS-232 # _____ Amp. <input type="checkbox"/> Un-motorized. <input type="checkbox"/> Motorized-RS-232 # _____ | | |
| 5 | Phase C | 6 |
| Amp. <input type="checkbox"/> Un-motorized. <input type="checkbox"/> Motorized-RS-232 # _____ Amp. <input type="checkbox"/> Un-motorized. <input type="checkbox"/> Motorized-RS-232 # _____ | | |
| 7 | A | 8 |
| Amp. <input type="checkbox"/> Un-motorized. <input type="checkbox"/> Motorized-RS-232 # _____ Amp. <input type="checkbox"/> Un-motorized. <input type="checkbox"/> Motorized-RS-232 # _____ | | |
| 9 | B | 10 |
| Amp. <input type="checkbox"/> Un-motorized. <input type="checkbox"/> Motorized-RS-232 # _____ Amp. <input type="checkbox"/> Un-motorized. <input type="checkbox"/> Motorized-RS-232 # _____ | | |
| 11 | C | 12 |
| Amp. <input type="checkbox"/> Un-motorized. <input type="checkbox"/> Motorized-RS-232 # _____ Amp. <input type="checkbox"/> Un-motorized. <input type="checkbox"/> Motorized-RS-232 # _____ | | |
| 13 | A | 14 |
| Amp. <input type="checkbox"/> Un-motorized. <input type="checkbox"/> Motorized-RS-232 # _____ Amp. <input type="checkbox"/> Un-motorized. <input type="checkbox"/> Motorized-RS-232 # _____ | | |
| 15 | B | 16 |
| Amp. <input type="checkbox"/> Un-motorized. <input type="checkbox"/> Motorized-RS-232 # _____ Amp. <input type="checkbox"/> Un-motorized. <input type="checkbox"/> Motorized-RS-232 # _____ | | |
| 17 | C | 18 |
| Amp. <input type="checkbox"/> Un-motorized. <input type="checkbox"/> Motorized-RS-232 # _____ Amp. <input type="checkbox"/> Un-motorized. <input type="checkbox"/> Motorized-RS-232 # _____ | | |
| 19 | A | 20 |
| Amp. <input type="checkbox"/> Un-motorized. <input type="checkbox"/> Motorized-RS-232 # _____ Amp. <input type="checkbox"/> Un-motorized. <input type="checkbox"/> Motorized-RS-232 # _____ | | |
| 21 | B | 22 |
| Amp. <input type="checkbox"/> Un-motorized. <input type="checkbox"/> Motorized-RS-232 # _____ Amp. <input type="checkbox"/> Un-motorized. <input type="checkbox"/> Motorized-RS-232 # _____ | | |
| 23 | C | 24 |
| Amp. <input type="checkbox"/> Un-motorized. <input type="checkbox"/> Motorized-RS-232 # _____ Amp. <input type="checkbox"/> Un-motorized. <input type="checkbox"/> Motorized-RS-232 # _____ | | |
| 25 | A | 26 |
| Amp. <input type="checkbox"/> Un-motorized. <input type="checkbox"/> Motorized-RS-232 # _____ Amp. <input type="checkbox"/> Un-motorized. <input type="checkbox"/> Motorized-RS-232 # _____ | | |
| 27 | B | 28 |
| Amp. <input type="checkbox"/> Un-motorized. <input type="checkbox"/> Motorized-RS-232 # _____ Amp. <input type="checkbox"/> Un-motorized. <input type="checkbox"/> Motorized-RS-232 # _____ | | |
| 29 | C | 30 |
| Amp. <input type="checkbox"/> Un-motorized. <input type="checkbox"/> Motorized-RS-232 # _____ Amp. <input type="checkbox"/> Un-motorized. <input type="checkbox"/> Motorized-RS-232 # _____ | | |
| 31 | A | 32 |
| Amp. <input type="checkbox"/> Un-motorized. <input type="checkbox"/> Motorized-RS-232 # _____ Amp. <input type="checkbox"/> Un-motorized. <input type="checkbox"/> Motorized-RS-232 # _____ | | |
| 33 | B | 34 |
| Amp. <input type="checkbox"/> Un-motorized. <input type="checkbox"/> Motorized-RS-232 # _____ Amp. <input type="checkbox"/> Un-motorized. <input type="checkbox"/> Motorized-RS-232 # _____ | | |
| 35 | C | 36 |
| Amp. <input type="checkbox"/> Un-motorized. <input type="checkbox"/> Motorized-RS-232 # _____ Amp. <input type="checkbox"/> Un-motorized. <input type="checkbox"/> Motorized-RS-232 # _____ | | |
| 37 | A | 38 |
| Amp. <input type="checkbox"/> Un-motorized. <input type="checkbox"/> Motorized-RS-232 # _____ Amp. <input type="checkbox"/> Un-motorized. <input type="checkbox"/> Motorized-RS-232 # _____ | | |
| 39 | B | 40 |
| Amp. <input type="checkbox"/> Un-motorized. <input type="checkbox"/> Motorized-RS-232 # _____ Amp. <input type="checkbox"/> Un-motorized. <input type="checkbox"/> Motorized-RS-232 # _____ | | |
| 41 | C | |
| Amp. <input type="checkbox"/> Un-motorized. <input type="checkbox"/> Motorized-RS-232 # _____ | | |

CONTROL POWER
 10A un-motorized breaker supplied installed.



www.LynTec.com
800-724-4047
 M-F 8-5 Central time

SC-10 RS232 PROTOCOL

Commands set

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

*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, output_ver_status_n - addresses and status of outputs, n<=10

Output_ver_status coding

| Status | Code |
|---------|------|
| Disable | 0x01 |
| Enable | 0x02 |

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

| Status | Code |
|-------------------------------|------|
| Off | 0x01 |
| On | 0x02 |
| Fault | 0x03 |
| No verification, expected off | 0x04 |
| No verification, expected on | 0x05 |
| Empty | 0x06 |

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 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"

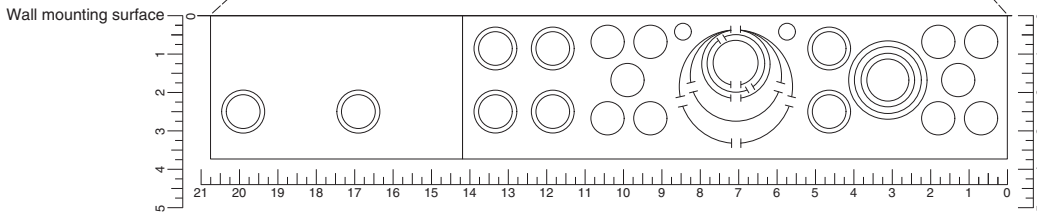
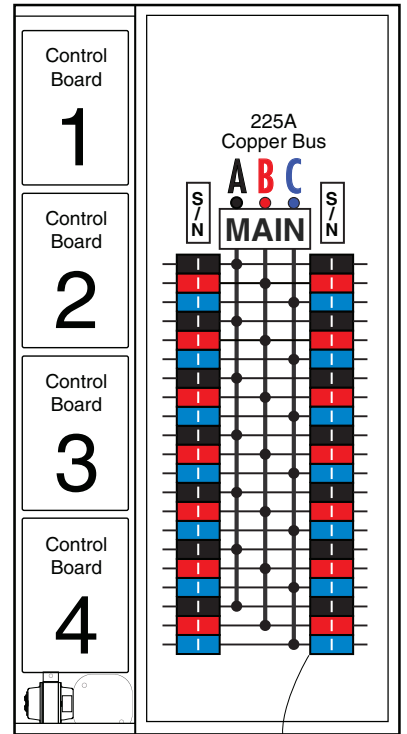
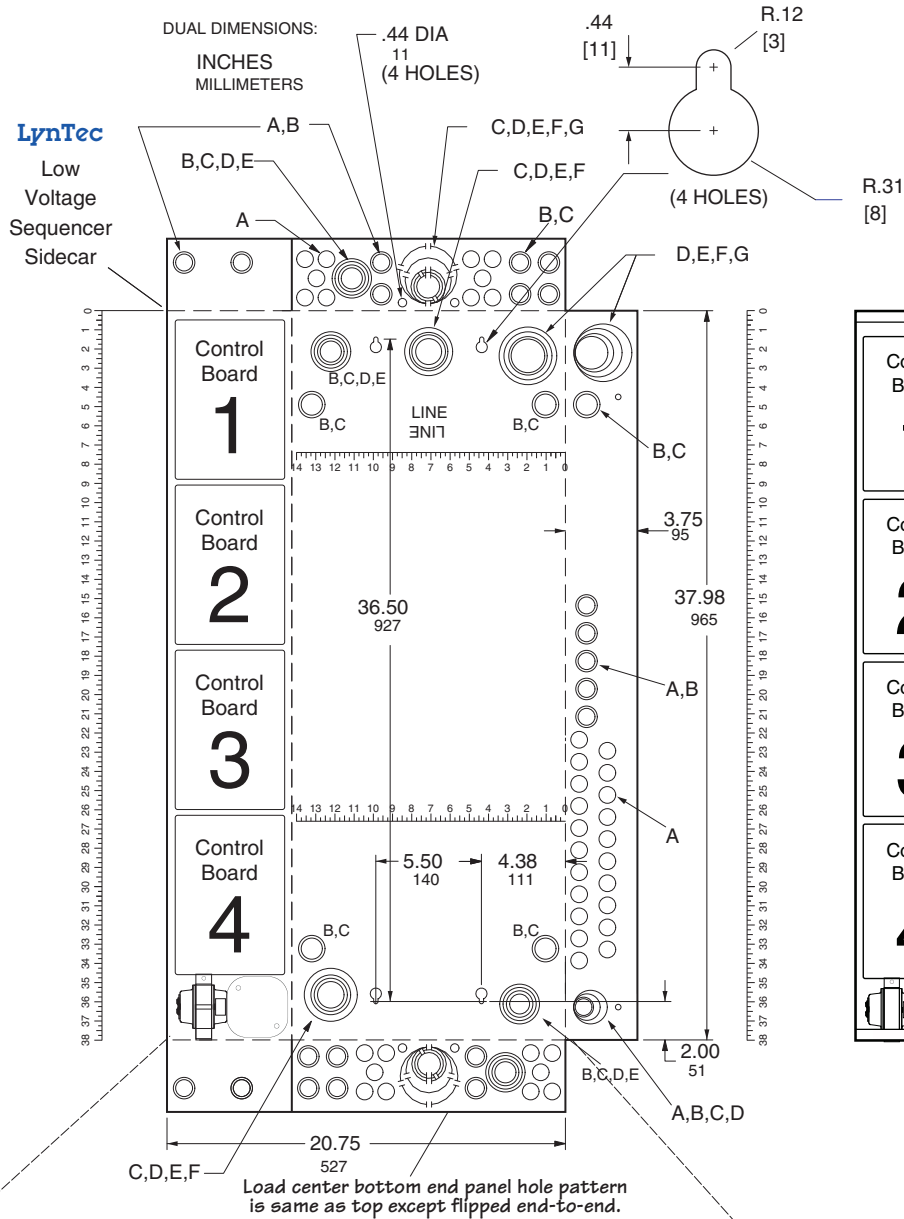
Beacon: "AMXB<-SDKClass=Utility><-Make=Lyntec><-Model=SC10><-Revision=1.0.0>\r"

Mechanical Dimensions and Knockouts

LynTec Models: LCLC 338-xx, LCLC 341-xx, MSLC 338-xx, MSLC 341-xx, SCLC 338-xx, or SCLC 341-xx

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

Surface Mount ONLY



| SQUARE D CATALOG NUMBER | MAXIMUM SYSTEM VOLTAGE | MAINS AMPERE RATING | SPACES | MAXIMUM NUMBER OF AVAILABLE SINGLE POLE CIRCUITS | MAIN WIRE SIZE AWG AL/CU |
|-------------------------|------------------------|---------------------|--------|--|--------------------------|
| QO342MQ225 | 208Y/120 Vac 3Ø, 4W | 225 | 42 | 38 41 | #4-250 |



QDL & QGL
2 and 3-pole
70-250 Amperes

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

| Current Rating @ 40°C | AC Magnetic Trip Settings | | D Interrupting | G Interrupting |
|------------------------|---------------------------|------|----------------|----------------|
| | Hold | Trip | Catalog Number | Catalog Number |
| 2-pole, 240 Vac | | | | |
| 70 | 1000 | 1800 | QDL22070 | QGL22070 ++ |
| 80 | 1000 | 1800 | QDL22080 | QGL22080 ++ |
| 90 | 1000 | 1800 | QDL22090 | QGL22090 ++ |
| 100 | 1200 | 2400 | QDL22100 | QGL22100 ++ |
| 110 | 1200 | 2400 | QDL22110 | QGL22110 ++ |
| 125 | 1200 | 2400 | QDL22125 | QGL22125 ++ |
| 150 | 1200 | 2400 | QDL22150 | QGL22150 ++ |
| 175 | 1200 | 2400 | QDL22175 | QGL22175 ++ |
| 200 | 1200 | 2400 | QDL22200 | QGL22200 ++ |
| 225 | 1200 | 2400 | QDL22225 | QGL22225 ++ |
| 250 | 1200 | 2400 | | |

LynTec
MSP 139
SCP 139
Use a 2 pole, back-fed main breaker, rated at 100 AMPS or less.

LynTec
MSP 119, MSP 141
SCP 141
++ All models 70-225A
Special order. NCNR
Non Cancelable
Non Returnable

| Current Rating @ 40°C | AC Magnetic Trip Settings | | D Interrupting | G Interrupting |
|------------------------|---------------------------|------|----------------|----------------|
| | Hold | Trip | Catalog Number | Catalog Number |
| 3-pole, 240 Vac | | | | |
| 70 | 1000 | 1800 | | QGL32070 |
| 80 | 1000 | 1800 | | QGL32080 |
| 90 | 1000 | 1800 | | QGL32090 |
| 100 | 1200 | 2400 | | QGL32100 |
| 110 | 1200 | 2400 | | QGL32110 |
| 125 | 1200 | 2400 | | QGL32125 |
| 150 | 1200 | 2400 | QDL32150 + | QGL32150 |
| 175 | 1200 | 2400 | QDL32175 | QGL32175 |
| 200 | 1200 | 2400 | QDL32200 + | QGL32200 |
| 225 | 1200 | 2400 | QDL32225 | QGL32225 |
| 250 | 1200 | 2400 | | |

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

LynTec
LCLC 341
MSLC 341
SCLC 341
Standard
+ Optional from stock

▲ Replacement lugs are not available for POWERPACT Q-frame circuit breakers. Lugs for the POWERPACT Q-frame circuit breakers accept (1) #4-300 kcmil.

Interrupting Ratings (kA)

| | QD | QG |
|-------|----|----|
| 240 V | 25 | 65 |

For **Branch Breaker Series Ratings**
see http://www.lyntec.com/139-0407_Series_Ratings.pdf

Accessories pages 6-36-6-38
Optional Lugs pages 6-43, 6-44
Dimensions pages 6-49, 6-50
Enclosures pages 6-51-6-54

Series Ratings

For NQOD and NF Panelboards
Class 1630, 1670

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

NQOD Series Ratings

| Maximum System Voltage AC ^c | Maximum Short Circuit Current Rating (RMS Symmetrical) | Integral or Remote Main Circuit Breakers and Remote Main Fuses | Branch Circuit Breaker Designations and Allowable Ampere Ranges ^{ab} | | | |
|--|--|--|---|--|--|--|
| | | | Type | 1-pole | 2-pole | 3-pole |
| 120/240 1Ø | 22k | MG | QO (B) | 15-30 A | ... | ... |
| | 42k | HD, JD | QO (B) PL | 15-30 A | 15-60 A | 15-30 A |
| | 65k | HG, JG | QO (B) PL | 15-30 A | 15-60 A | 15-30 A |
| | 100k | HJ, JJ | QO (B) PL | 15-30 A | 15-60 A | 15-30 A |
| | 125k | HL, JL | QO (B) PL | 15-30 A | 15-60 A | 15-30 A |
| 120/240 1Ø 208Y/120 | 100k | DJ 400 A | QO (B) QO (B) GFI QO (B) VH QO (B) PL QO (B) AFI | 15-70 A 15-30 A ... 15-30 A 15-20 A | 15-125 A 40-60 A 150 A ... | ... 15-150 A ... |
| | | QJ | QO (B) QO (B) AS QO (B) GFI QO (B) PL QO (B) VH QO (B) AFI | 15-70 A 15-30 A 15-30 A 15-30 A 15-30 A 15-20 A | 15-125 A 15-30 A 15-60 A 15-60 A 150 A ... | 15-30 A 15-30 A 15-30 A 15-30 A 35-150 A ... |
| | 18k | LAL/LH (L) 34200MC LAL/LH (L) 34225MC LAL/LH (L) 34250MC LAL/LH (L) 34400MC | QO (B) | 15-30 A | 15-30 A | 15-30 A |
| | | | QO (B) VH | 15-70 A 15-30 A 15-30 A 15-30 A 15-20 A | 15-125 A 15-30 A 15-60 A 15-30 A ... | 15-100 A 15-30 A ... |
| | 22k | Q2-Hf | QO (B) | 15-70 A 15-30 A 15-20 A | 15-100 A 15-30 A ... | 15-30 A ... |
| | | | QO (B) GFI QO (B) AFI | 15-70 A 15-30 A 15-20 A | 15-125 A 15-30 A 15-60 A 15-30 A 150 A ... | 15-30 A 15-30 A 15-30 A 15-30 A 35-150 A ... |
| | 25k | ED, FDF | QO (B) | 15-70 A 15-30 A 15-20 A | 15-125 A 15-60 A ... | 15-100 A ... |
| | | | QO (B) GFI QO (B) AFI | 15-70 A 15-30 A 15-20 A | 15-125 A 15-30 A 15-60 A 15-30 A 150 A ... | 15-30 A 15-30 A 15-30 A 15-30 A 35-150 A ... |
| | 25k | KDF | QO (B) | 15-70 A 15-30 A 15-20 A | 15-125 A 15-60 A ... | 15-100 A 15-30 A ... |
| | | | QO (B) AS QO (B) GFI QO (B) AFI | 15-70 A 15-30 A 15-20 A | 15-125 A 15-30 A 15-60 A 15-30 A 150 A ... | 15-100 A 15-30 A 15-30 A 15-30 A 35-150 A ... |
| 25k | HD, JD | QO (B) | 15-70 A 15-30 A 15-20 A | 15-125 A 15-60 A ... | 15-100 A 15-30 A ... | |
| | | QO (B) VH QO (B) GFI QO (B) AFI QO (B) H QO (B) PL QO (B) AFI | 15-70 A 15-30 A 15-30 A 15-30 A 15-20 A 15-20 A | 15-125 A 15-30 A 15-60 A 15-60 A 150 A ... | 15-100 A 15-30 A 15-30 A 15-30 A 35-150 A ... | |
| 42k | LA, MA | Q2L-Hf | ... | 110-225 A 70-225 A | 110-225 A 70-225 A | |
| | | QDL | ... | 110-225 A 70-225 A | 110-225 A 70-225 A | |
| 42k | MG | QO (B) VH | 15-30 A | 15-30 A | 15-30 A | |
| | | QO (B) PL | 15-30 A | 15-60 A | 15-30 A | |
| 42k | LC 600 A Maximum | QO (B) | 15-70 Ad | ... | ... | |
| | | QO (B) VH | 15-30 A | 15-125 A | 15-100 A (3P 208 V Max.) | |
| 65k | DJ 400 A | QO (B) GFI QO (B) AFI | 15-30 Ae 15-20 A | 15-60 A ... | ... | |
| | | QO (B) VH | 15-30 A | 15-125 A | 15-100 A (3P 208 V Max.) | |
| 65k | EG, FGf, KGf | QO (B) GFI QO (B) AFI | 15-30 Ae 15-20 A | ... | ... | |
| | | QO (B) VH | 15-30 A | 15-125 A | 15-100 A | |
| 65k | QG | QO (B) AS QO (B) VH | 15-70 A 15-30 A | 15-125 A 15-30 A | 15-30 A 15-30 A 35-150 A | |
| | | QO (B) GFI QO (B) PL QO (B) AFI | 15-30 A 15-30 A 15-30 A | 15-60 A 15-60 A 15-30 A | ... | |
| 65k | HG, JG | QO (B) | 15-70 A | 15-125 A | 15-100 A | |
| | | QO (B) VH QO (B) H QO (B) PL QO (B) AFI | 15-70 A 15-30 A 15-30 A 15-20 A | 15-125 A 150 A 150 A 150 A | 35-150 A ... | |
| 65k | FCL22 KCL22 FCL32 KCL32 | QO (B) | 15-70 A | 15-100 A | 15-100 A | |
| | | QO (B) AS QO (B) GFI QO (B) AFI | 15-30 A 15-30 A 15-20 A | 15-30 A 15-30 A 15-30 A | 15-30 A ... | |
| 65k | 400 A Max. Class J or T6 Fuses | QO (B) VH QO (B) AFI | 15-30 A 15-20 A | 15-125 A 150 A | 15-100 A ... | |
| | | QO (B) GFI QO (B) PL QO (B) AFI | 15-30 A 15-30 A 15-20 A | 15-60 A 15-60 A 15-30 A | ... | |
| 100k | FCL24 KCL24 FCL34 KCL34 | QO (B) | 15-70 A | 15-100 A | 15-100 A | |
| | | QO (B) AS QO (B) GFI QO (B) AFI | 15-30 A 15-30 A 15-20 A | 15-30 A 15-30 A 15-30 A | 15-30 A ... | |
| 100k | 200 A Max. Class T3 Fuses | QO (B) AFI | 15-20 A | ... | ... | |
| 100k | EJ, FJf | QO (B) GFI QO (B) AFI | 15-70 A 15-20 A | 15-125 A 15-60 A | 15-100 A ... | |

LynTec models
LCLC 326
MSLC 326
SCLC 326
MSLC 338
SCLC 338
MSP 338
SCP 338
MSP139

LynTec models
LCLC 341
MSLC 341
SCLC 341

LynTec models
MSLC 113
MSLC 127
MSLC 129
are series rated 22k AIR.
see QO130Mxx on pg 1-3 of Digest

8 PANELBOARDS

LynTec models
MSP 119
MSP 141
SCP 141
LCP 341
MSP 341
SCP 341

QOxxx (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)

NQOD Series Ratings (Continued)

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

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

NF Series Ratings

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

QOPLxxx-5393 = BMB series Bolt-on, Motorized. (REMOTELY OPERATED)
-xxx = poles. xxx = trip current. -5393 suffix denotes special 60" control wires.

[1 pole] BMB-15, BMB-20, BMB-30
[2 pole] BMB-215, BMB-220, BMB-230, BMB-240, BMB-250, BMB-260
[3 pole] BMB-315, BMB-320, BMB-330

QOPLxxx-5393 = MB series clip-on, Motorized. (REMOTELY OPERATED)
-xxx = poles. xxx = trip current. -5393 suffix denotes special 60" control wires.

[1 pole] MB-15, MB-20, MB-30
[2 pole] MB-215, MB-220, MB-230, MB-240, MB-250, MB-260
[3 pole] MB-315, MB-320, MB-330

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.

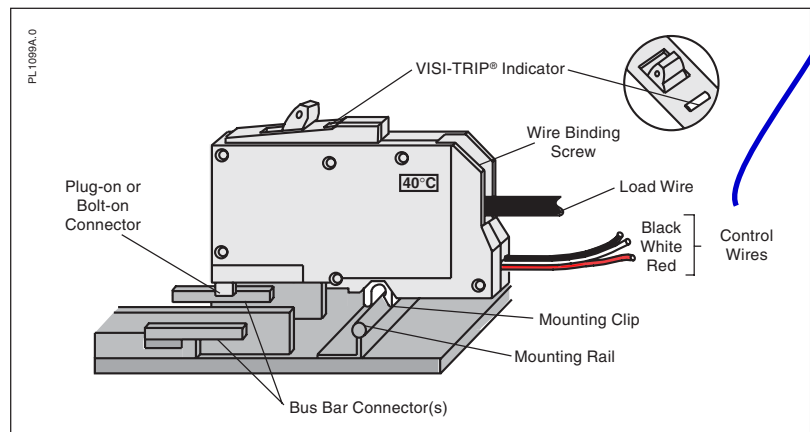
See page 2 for
LynTec
part number explanation

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

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, MSLC, 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

****BMB-15** = 15 Amp. Square D QOB-115PL-5393

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

****BMB-20** = 20 Amp. Square D QOB-120PL-5393

****MB-30** = 30 Amp. Square D QO-130PL-5393

****BMB-30** = 30 Amp. Square D QOB-130PL-5393

Two pole motorized - call for pricing & delivery

MB-215 = 15 Amp. Square D QO-215PL-5393

BMB-215 = 15 Amp. Square D QOB-215PL-5393

****MB-220** = 20 Amp. Square D QO-220PL-5393

****BMB-220** = 20 Amp. Square D QOB-220PL-5393

MB-230 = 30 Amp. Square D QO-230PL-5393

BMB-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

BMB-315 = 15 Amp. Square D QOB-315PL-5393

MB-320 = 20 Amp. Square D QO-320PL-5393

BMB-320 = 20 Amp. Square D QOB-320PL-5393

MB-330 = 30 Amp. Square D QO-330PL-5393

BMB-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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- 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.
- 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.
- 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.
- 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.

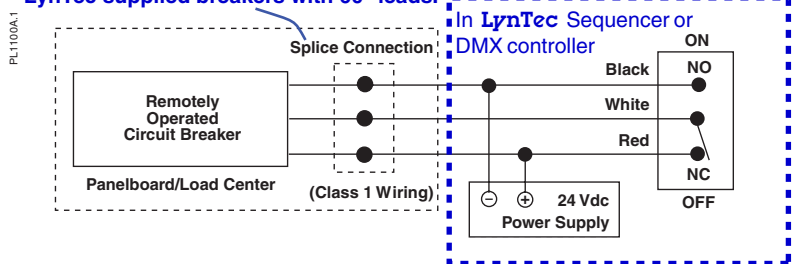
NOTE: The remote mechanism will not move the circuit breaker handle. Also, the remote mechanism cannot turn power ON when the circuit breaker is tripped (VISI-TRIP® flag indicator showing) or when the circuit breaker handle is in the OFF position.

Installation of the trim and operational checks

- Remove corresponding twist-out from panelboard trim and replace trim.
- Turn power to panelboard on.
- Turn remotely operated circuit breaker handle to the ON position.
- 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.



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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