

I-Line™ Special Terminal Connectors

Bolt-On I-Line Circuit Breakers

NOTE: Bolt-on I-Line connectors are not available on Powerpact™ circuit breakers.

The standard I-Line circuit breaker is designed to provide a high quality, secure connection between the distribution bus and circuit breaker. I-Line circuit breakers use plug-on type line-side connectors. The parallel line-side connectors “clamp” around the bus bars. In case of a short circuit, the increased magnetic flux causes the connectors to grasp the bus bars even tighter. I-Line circuit breakers with bolted connections have clamp-on jaws that are bolted around the main bus, as shown. The bolt-on I-Line design is offered as an alternative in order to meet specifications requiring a bolted connection. Bolt-on I-Line construction is available on FY, QB, QD, QG, QJ, Q4, LA, and LH frame circuit breakers and molded case switches, and SL225 and SL400 sub-feed lugs.

To order on all products except QB, QD, QG and QJ, simply add the letter “B” in the catalog number prefix of the circuit breaker, e.g., LA36100 becomes LAB36100. For QB, QD, QG and QJ, insert the letter “E” in the third position, e.g., QBE, QDE, etc.

Top-Feed I-Line Circuit Breakers

I-Line panelboards may require the use of a top-feed I-Line circuit breaker in applications where a top-feed main circuit breaker is required. This involves having the I-Line jaw connectors on the OFF end of the circuit breaker, as opposed to the standard location on the ON end of the circuit breaker. To designate this construction, simply place the suffix “MT” at the end of the circuit breaker catalog number, e.g., FA36100 becomes FA36100MT. On LA or LH top-feed I-Line circuit breakers, accessories must be factory installed. This option is available in PowerPact™ H and J-frame by placing a “K” in the 4th position (termination indicator) of the circuit breaker catalog number, e.g., HGA36125 becomes HGA36125K. This option is not available on 600 A LA or LH circuit breakers, or Powerpact M-, P- and R-frame circuit breakers.

“CBA” I-Line Jaw Configuration (Non-PowerPact Circuit Breaker)

Standard 1- and 2-pole I-Line circuit breakers are ordered by designating the required phase connection letters as a suffix to the circuit breaker catalog number. 3-pole circuit breakers do not require this phase designation and are supplied with an “ABC” phase jaw configuration as standard. In most applications this is acceptable since the phase loading is evenly distributed. In applications where the phases must be reversed it is possible to order a “CBA” jaw configuration by simply placing the letters “CBA” at the end of the standard catalog number, e.g., LA36100 becomes LA36100CBA.

Control Wire Tap Lugs

Control wire tap lugs are used in applications requiring connection to a small wire (22-14 AWG) for control circuits. This is accomplished by crimping the wire to a standard wire crimp terminal (not included) and fastening the terminal to the circuit breaker lug. On LA lugs, the lug is drilled to accept a 6-32 screw (included) to secure the crimp connector. On FA lugs, a flat slip-on crimp connector is used to attach to a shim-like connector placed under the circuit breaker lug.

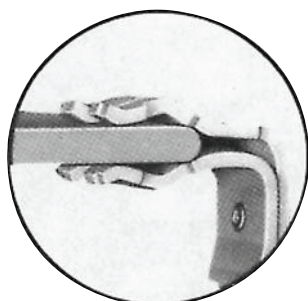
Note: To order as a factory-installed device on Q4, LA, or LH circuit breakers, add suffix number 8041 to circuit breaker catalog number, e.g., LAL364008041. To order as a factory-installed device on MG, MJ, PG, PJ, PL RG, RJ and RL use the product selector or the respective PowerPact catalog. Tapped lugs will be installed on the “ON” and “OFF” ends of the circuit breaker.

Table 3.24: Control Wire Terminations for Circuit Breakers

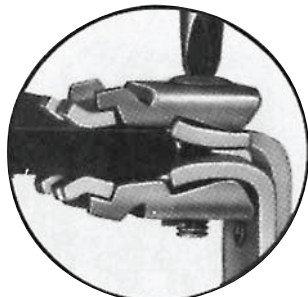
Circuit Breaker	Cat. No.	Standard Package Qty.
Q4, LA, LH	AL400LAT	1

Table 3.25: Tapped Lugs for PowerPact™ Circuit Breakers

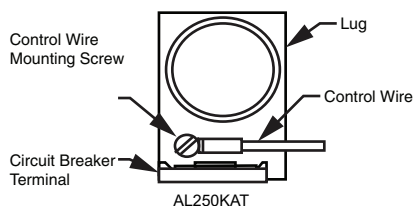
Circuit Breaker	Amperes Max.	Kit Cat. No.	Standard Package Qty.
MG, MJ, PG, PJ, PL	800 A	AL800M23TK	3
		AL800P6TK	3
		AL800M23TK4	4
PG, PJ, PL	800 A	AL800P6TK4	4
		AL1200P24TK	1
	1200 A	AL1200P25TK	3
		AL1200P25TK4	4
RG, RJ, RL	1200 A	AL1200R53TK [1]	1



Plug-On Connector



Bolted Connector



[1] I-Line only.

Mechanical Lug Kits

Table 3.43: Mechanical Lug Kit Information

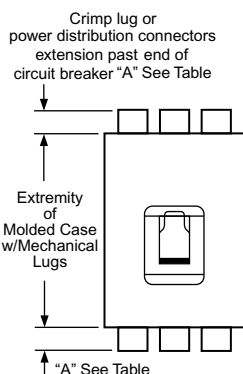
Circuit Breaker Application				(Number of Wires Per Lug) Wire Range [4]	Cat. No.	Lugs Per Kit
Standard	Ampere Rating	Optional	Ampere Rating			
Al Lugs for Use with Al or Cu Wire						
Q4, LA, LH	125–400 A	—	—	(1) 1 AWG–600 kcmil or (2) 1 AWG–250 kcmil	AL400LA	1
—	—	Q4, LA, LH	125–400 A	(1) 350–750 kcmil	AL400LH7	1
Cu Lugs for Use with Cu Wire Only [5]						
—	—	Q4, LA, LH	125–400 A	(1) 1 AWG–600 kcmil Cu or (2) 1 AWG–250 kcmil Cu	CU400LA	1



Compression Lug Kits

Table 3.44: Field-installable Compression Lug Kits [6]

Circuit Breaker Type	Wire Range [4]	Dimension A (in)	Max. Lugs Per Terminal	Cat. No.	Lug Qty. Per Kit
Aluminum Compression Lug Kits					
LA, LH, Q4	250–350 kcmil	1.25	2	VC400LA35	2
	4 AWG–300 kcmil	1.0	2	VC400LA3	2
	2/0 AWG–500 kcmil	2.2	1	VC400LA5	1
	500–750 kcmil	2.5	1	VC400LA7	1
Copper Compression Lug Kits					
LA, LH, Q4	2/0 AWG–300 kcmil Cu	1.3	2	CVC400LA3	2
	250–500 kcmil Cu	2.3	1	CVC400LA5	1



Power Distribution Connectors (PDC) for Circuit Breakers—for Field Replacement of Mechanical Lugs

Can be used for multiple load connections on one circuit breaker. Use in place of standard distribution blocks to save space and time.

Field-installable kits, including tin-plated aluminum connectors and all necessary mounting hardware are available for Square D LA and Q4-frame molded case circuit breakers.

Connectors are UL Listed:

- For use on load end of circuit breaker only
- For use in UL508 Industrial Control applications only
- For use in UL 1995/CSA C22.2 No. 236 heating and cooling equipment
- For copper wire only

Table 3.45: Power Distribution Connectors for LAL, LHL, and Q4L Circuit Breakers

Use With Circuit Breaker [7]	Circuit Breaker Ampere Rating	Wires Per Terminal & Wire Range [8] Cu	Cat. No.	Lug Quantity Per Kit	Dimension A (in.)
LAL, LHL, Q4L	125–400 A	(6) 12–2/0 AWG	PDC6LA20	1	2.25
		(12) 14–4 AWG	PDC12LA4	1	1.25
		(3) 14–2 AWG (1) 2 AWG–250 kcmil	PDC4LA250	1	2.0

[4] Unless otherwise specified, wire sizes apply to both aluminum and copper conductors.

[5] Use suffix 8002 for factory-installed Cu lugs.

[6] See instruction bulletins for recommended tools.

[7] Not for use with I-Line circuit breakers.

[8] When using fine stranded wire, increased cross sectional area may cause maximum wire size to be reduced.