

L-Frame



Typical L-Frame Circuit Breaker

Product Description

- All Cutler-Hammer L-Frame Circuit Breakers by Eaton Corporation are HACR rated.
- L-Frame circuit breakers are available as individual components (Frame, Trip Unit, Terminals), or factory assembled complete breakers.
- L-Frame circuit breakers with non-interchangeable trip units are suitable for reverse feed use.
- CE marked.

Technical Data and Specifications

Table 12-188. UL 489 Interrupting Capacity Ratings ①

Circuit Breaker Type	Number of Poles	Interrupting Capacity (kA rms Symmetrical Amperes)					
		Volts ac (50/60 Hz)				Volts dc	
		240	277	480	600	125	250 ②③
LDB	2, 3	65	—	35	25	—	22
LD	2, 3, 4	65	—	35	25	—	22
CLD	2, 3, 4	65	—	35	25	—	—
HLD, HLDB	2, 3, 4	100	—	65	35	—	25
CHLD ④	2, 3, 4	100	—	65	35	—	—
LDC, LDCB ⑤	2, 3, 4	200	—	100	50	—	30
CLDC ④⑤	2, 3, 4	200	—	100	50	—	—

- ① Utilization category A circuit breakers.
- ② L/R = 8 milliseconds minimum.
- ③ 2-pole circuit breaker or two poles of 3-pole circuit breaker. Incorporating Thermal-Magnetic trip unit only.
- ④ 100% rated breakers.
- ⑤ Current limiting.

Table 12-189. IEC 947-2 Interrupting Capacity Ratings ⑥

Circuit Breaker Type	Number of Poles	Interrupting Capacity (kA Symmetrical Amperes)							
		Volts ac (50/60 Hz)						Volts dc	
		240		415		690		250 ⑦⑧	
		<i>I_{cu}</i>	<i>I_{cs}</i>	<i>I_{cu}</i>	<i>I_{cs}</i>	<i>I_{cu}</i>	<i>I_{cs}</i>	<i>I_{cu}</i>	<i>I_{cs}</i>
LDB	2, 3	85	85	45	45	20	10	20	10
LD	2, 3, 4	85	85	45	45	20	10	20	10
CLD ⑨	2, 3, 4	85	85	45	45	20	10	—	—
HLD, HLDB	2, 3, 4	100	100	70	70	25	13	20	10
CHLD ⑨	2, 3, 4	100	100	70	70	25	13	—	—
LDC, LDCB	2, 3, 4	200	100	100	75	35	18	20	10
CLDC ⑨	2, 3, 4	200	100	100	75	35	18	—	—

- ⑥ Utilization category A circuit breakers.
- ⑦ L/R = 8 milliseconds minimum.
- ⑧ 2-pole circuit breaker or two poles of 3-pole circuit breaker. Incorporating Thermal-Magnetic trip unit only.
- ⑨ 100% rated breakers.

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L-Frame Digitrip Specifications

Table 12-190. Specifications

Trip Unit Type	Digitrip RMS 310	Digitrip OPTIM 550	Digitrip OPTIM 1050	
rms Sensing	Yes	Yes	Yes	
Breaker Type				
Frame	L	L	L	
Ampere Range	300 – 600 A	200 – 600 A	200 – 600 A	
Interrupting Rating at 480 Volts	35, 65, 100 (kA)	35, 65, 100 (kA)	35, 65, 100 (kA)	
Protection				
Ordering Options	LS, LSG	LSI, LSIG	LSI, LSI(A), LSIG	LSI(A), LSIG
Fixed Rated Plug (I_N)	Yes	Yes	Yes	Yes
Overtemperature Trip	Yes	Yes	Yes	Yes
Long Delay Protection (L)				
Adjustable Rating Plug (I_N)	Yes	Yes	No	No
Long Delay Pickup	0.5 – 1.0 (I_N) ^①	0.5 – 1.0 (I_N) ^①	0.4 – 1.0 (I_N)	0.4 – 1.0 (I_N)
Long Delay Time I^2t	12 Seconds	12 Seconds	2 – 24 Seconds	2 – 24 Seconds
Long Delay Time I^4t	No	No	1 – 5 Seconds	1 – 5 Seconds
Long Delay Thermal Memory	Yes	Yes	Yes	Yes
High Load Alarm	No	No	0.5 – 1.0 $\times I_r$	0.5 – 1.0 $\times I_r$
Short Delay Protection (S)				
Short Delay Pickup	200 – 800% $\times (I_N)$	200 – 800% $\times (I_N)$	150 – 800% $\times (I_r)$	150 – 800% $\times (I_r)$
Short Delay Time I^2t	100 ms	No	100 – 500 ms	100 – 500 ms
Short Delay Time Flat	No	Inst – 300 ms	100 – 500 ms	100 – 500 ms
Short Delay Time Zone Selective Interlocking	No	No	Yes ^④	Yes
Instantaneous Protection (I)				
Instantaneous Pickup	No	200 – 800% $\times (I_N)$	200 – 800% $\times (I_N)$	200 – 800% $\times (I_N)$
Discriminator	No	No	Yes	Yes
Instantaneous Override	Yes	Yes	Yes	Yes
Ground Fault Protection (G)				
Ground Fault Alarm	No	No	20 – 100% $\times (I_S)$	20 – 100% $\times (I_S)$
Ground Fault Pickup	1 – 5 $\times I_G$ (120 A)	1 – 5 $\times I_G$ (120 A)	20 – 100% $\times (I_S)$	20 – 100% $\times (I_S)$
Ground Fault Delay I^2t	No	No	100 – 500 ms	100 – 500 ms
Ground Fault Delay Flat	Inst – 500 ms	Inst – 500 ms	100 – 500 ms	100 – 500 ms
Ground Fault Zone Selective Interlocking	No	No	Yes ^④	Yes
Ground Fault Thermal Memory	Yes	Yes	Yes	Yes
System Diagnostics				
Status LEDs	Yes	Yes	Yes	Yes
Cause of Trip LEDs	No	No	Yes	Yes
Magnitude of Trip Information	No	No	Yes	Yes
Remote Signal Contact — Ground Alarm	Yes ^⑤	Yes ^⑤	Yes ^④	Yes
Local Auxiliary and Bell Alarm Contact	Optional	Optional	Optional	Included
System Monitoring				
Digital Display	No	No	Yes ^②	Yes ^②
Current	No	No	Yes	Yes
Power and Energy	No	No	No	Yes
Power Quality — Harmonics	No	No	No	Yes
Power Factor	No	No	No	Yes
Communications				
Cutler-Hammer PowerNet	No	No	Yes ^③	Yes
Testing				
Testing Method	Test Set	OPTIMizer, BIM, Cutler-Hammer PowerNet		

① Adjust by rating plug.

② By OPTIMizer/BIM.

③ Eaton's Cutler-Hammer PowerNet kit.

④ Zone interlock kit.

⑤ With separate ground fault alarm unit (GFAU).

Legend: BIM = Breaker Interface Module

(A) = GF Alarm

 I_S = Sensor Rating I_N = Rating Plug I_r = Long Delay Pickup Setting

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Dimensions/Weights

Table 12-191. Dimensions in Inches (mm)

Number of Poles	Width	Height	Depth
2, 3	8.25 (209.6)	10.75 (273.1)	4.06 (103.1)
4	11.00 (279.4)	10.75 (273.1)	4.06 (103.1)

Table 12-192. Approximate Shipping Weight, Lbs. (kg)

Breaker Type	Complete Breaker			Frame Only			Trip Unit		
	Number of Poles								
	2	3	4	2	3	4	2	3	4
LD, HLD, LDC	18 (8.2)	20 (9.1)	25 (11.3)	14 (6.4)	15 (6.8)	20 (9.1)	3 (1.4)	4 (1.8)	5 (2.3)
LDB	18 (8.2)	20 (9.1)	25 (11.3)	—	—	—	—	—	—

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Product Selection

This information is presented only as an aid to understanding catalog numbers. It is not to be used to build catalog numbers for circuit breakers or trip units.

Table 12-193. Circuit Breaker/Frame Catalog Numbering System

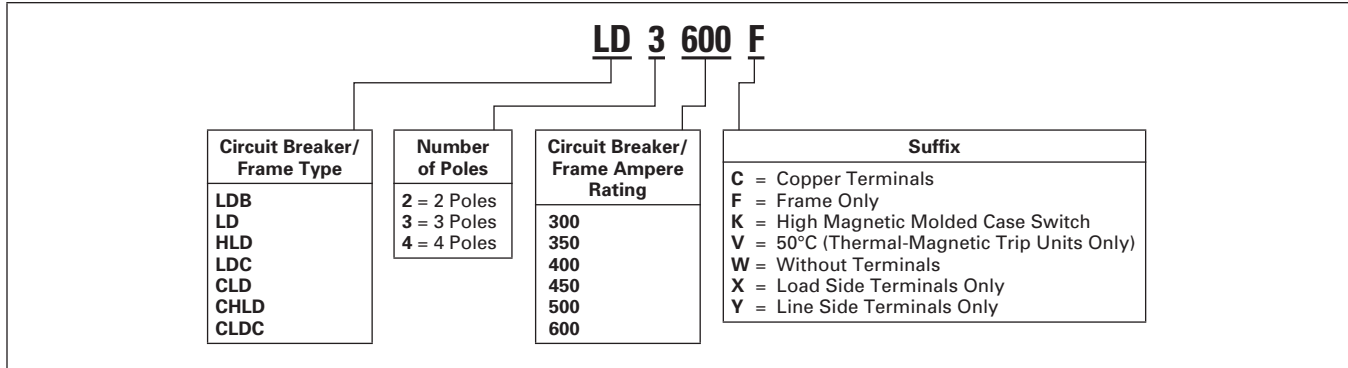
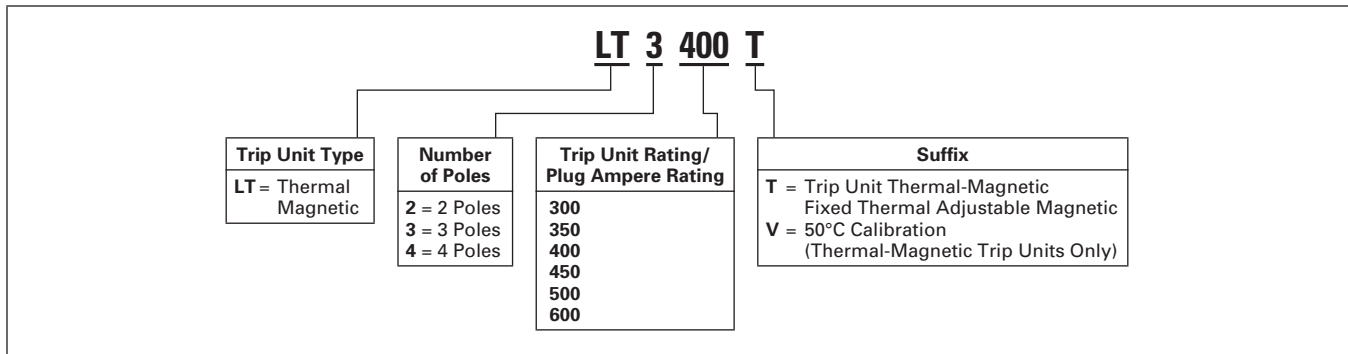


Table 12-194. Thermal-Magnetic Trip Unit Catalog Numbering System



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Table 12-195. OPTIM Circuit Breaker/Frame Catalog Numbering System

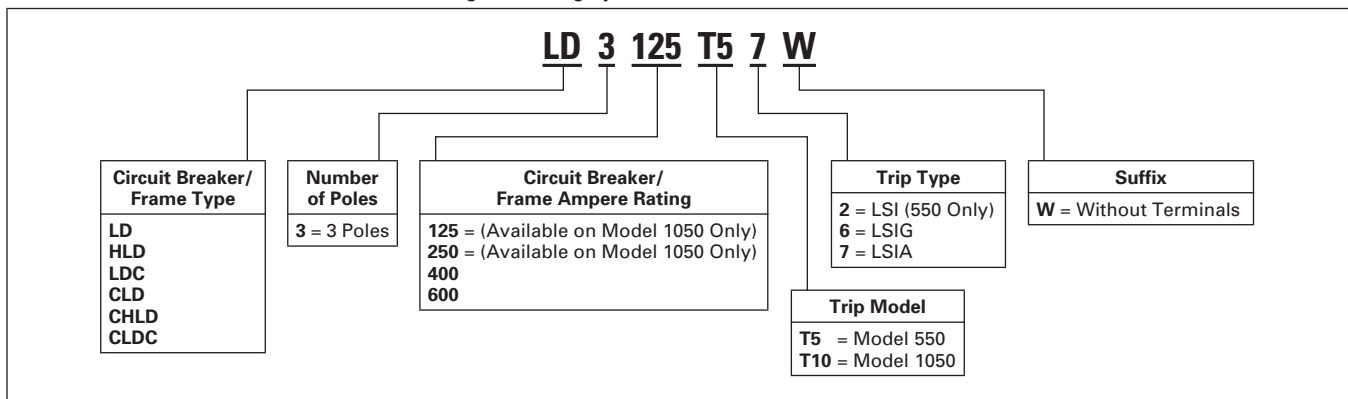
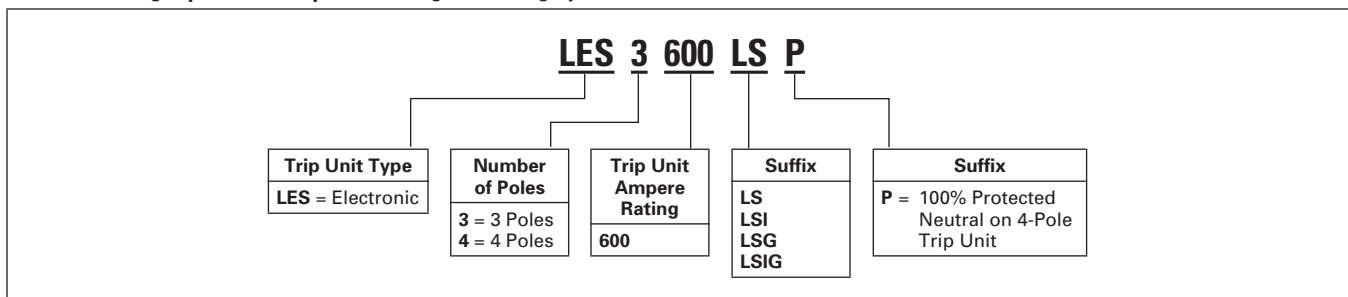


Table 12-196. Digitrip RMS 310 Trip Unit Catalog Numbering System



Product Selection

Table 12-197. Types LD, HLD and LDC Thermal-Magnetic Circuit Breakers with Interchangeable Trip Units

Maximum Continuous Ampere Rating at 40°C ①	Standard Interrupting Capacity 600 Vac Rated 35 kAIC at 480 Vac		High Interrupting Capacity 600 Vac Rated 65 kAIC at 480 Vac		Ultra High Interrupting Capacity Current Limiting 600 Vac Rated 100 kAIC at 480 Vac		Thermal-Magnetic Trip Unit Only For Use with Standard or High or Ultra High Interrupting Frames		Standard Terminals Only See Page 12-126 for Optional Terminals	
	Factory Assembled Circuit Consisting of Frame, Trip Unit and Terminals		Factory Assembled Circuit Consisting of Frame, Trip Unit and Terminals		Factory Assembled Circuit Consisting of Frame, Trip Unit and Terminals					
	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$

2-Pole

300	LD2300		HLD2300		LDC2300		LT2300T		TA602LD ②	
350	LD2350		HLD2350		LDC2350		LT2350T		TA602LD ②	
400	LD2400		HLD2400		LDC2400		LT2400T		TA602LD ②	
450	LD2450		HLD2450		LDC2450		LT2450T		TA602LD ②	
500	LD2500		HLD2500		LDC2500		LT2500T		TA602LD ②	
600	LD2600		HLD2600		LDC2600		LT2600T		2TA603LDK ③	

3-Pole

300	LD3300		HLD3300		LDC3300		LT3300T		TA602LD ②	
350	LD3350		HLD3350		LDC3350		LT3350T		TA602LD ②	
400	LD3400		HLD3400		LDC3400		LT3400T		TA602LD ②	
450	LD3450		HLD3450		LDC3450		LT3450T		TA602LD ②	
500	LD3500		HLD3500		LDC3500		LT3500T		TA602LD ②	
600	LD3600		HLD3600		LDC3600		LT3600T		3TA603LDK ③	

4-Pole ④

300	LD4300		HLD4300		LDC4300		LT4300T		TA602LD ②	
350	LD4350		HLD4350		LDC4350		LT4350T		TA602LD ②	
400	LD4400		HLD4400		LDC4400		LT4400T		TA602LD ②	
450	LD4450		HLD4450		LDC4450		LT4450T		TA602LD ②	
500	LD4500		HLD4500		LDC4500		LT4500T		TA602LD ②	
600	LD4600		HLD4600		LDC4600		LT4600T		4TA603LDK ③	

① Magnetic trip range 5 – 10 times continuous ampere rating.

② Individually packed.

③ Terminal kits contain one terminal for each pole and one terminal cover.

④ Neutral is in right pole.

Table 12-198. Types LD, HLD and LDC Thermal-Magnetic Circuit Breakers — Frame Only

Standard Interrupting Capacity 600 Vac Rated 35 kAIC at 480 Vac		High Interrupting Capacity 600 Vac Rated 65 kAIC at 480 Vac		Ultra High Interrupting Capacity Current Limiting 600 Vac Rated 100 kAIC at 480 Vac	
Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$

2-Pole

LD2600F		HLD2600F		LDC2600F	
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3-Pole

LD3600F		HLD3600F		LDC3600F	
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4-Pole

LD4600F		HLD4600F		LDC4600F	
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Types LD, HLD and LDC Electronic Circuit Breakers with Interchangeable Trip Units

Order as individual components: Breaker Frame, Trip Unit, Rating Plug, Terminals.

Table 12-199. Types LD, HLD and LDC Electronic Circuit Breakers with Interchangeable Trip Units ①

Maximum Continuous Ampere Rating at 40°C ②	Circuit Breaker Frame Only			Digitrip RMS 310 Trip Unit Only ③				Digitrip RMS 310 Rating Plug Only			Standard Terminals Only See Page 12-126 for Optional Terminals
	Standard Interrupting Capacity 600 Vac Rated 35 kAIC at 480 Vac	High Interrupting Capacity 600 Vac Rated 65 kAIC at 480 Vac	Ultra High Interrupting Capacity Current Limiting 600 Vac Rated 100 kAIC at 480 Vac	L – Adjustable Long Delay Pickup (By Adjustable Rating Plug)	S – Adjustable Short Delay Pickup with Fixed Short Delay Time (I ² t Response) or Adjustable Short Delay Time (Flat Response)	I – Adjustable Instantaneous Pickup by Setting Short Delay Time to Instantaneous	G – Adjustable Ground Fault Pickup with Adjustable Ground Fault Delay (Flat Response)	Ampere Rating	Fixed Rating Plug	Adjustable Rating Plug Ampere Rating	
	Catalog Number			Catalog Number				Catalog Number			

3-Pole ④

600	LD3600F	HLD3600F	LDC3600F	LES3600LS	LES3600LSI	LES3600LSG	LES3600LSIG	300 350 400 450 500 600	6LES300T 6LES350T 6LES400T 6LES450T 6LES500T 6LES600T	300/400/ 500/600 420/440/ 460/480 520/540/ 560/580	TA602LD ② TA602LD ② TA602LD ② 3TA603LDK ⑤ A6LES600T1 A6LES400T5 A6LES500T5
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4-Pole ④

600	LD4600F	HLD4600F	LDC4600F	LES4600LS	LES4600LSI	—	—	300 350 400 450 500 600	6LES300T 6LES350T 6LES400T 6LES450T 6LES500T 6LES600T	300/400/ 500/600 420/440/ 460/480 520/540/ 560/580	TA602LD ③ TA602LD ③ TA602LD ③ 4TA603LDK ⑤ A6LES600T1 A6LES400T5 A6LES500T5
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① See Table 12-200 below for prices.

② Individually packed.

③ For ac use only.

④ Neutral is in right pole.

⑤ Terminal kits contain one terminal for each pole and one terminal cover.

Table 12-200. Types LD, HLD and LDC Electronic Circuit Breakers with Interchangeable Trip Units Prices

Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$
A6LES600T1		LD3600F		LES3600LSIG		4TA603LDK		6LES600T	
HLD3600F		LD4600F		LES4600LS		6LES300T		—	
HLD4600F		LES3600LS		LES4600LSI		6LES350T		—	
LDC3600F		LES3600LSG		TA602LD		6LES400T		A6LES400T5	
LDC4600F		LES3600LSI		3TA603LDK		6LES450T		A6LES500T5	
—		—		—		6LES500T		—	

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Table 12-201. Types LDB, HLDB and LDCB Electronic Circuit Breakers with Non-Interchangeable Electronic Trip Units Suitable for Reverse Feed

Maximum Continuous Ampere Rating at 40°C ①	Number of Poles	Circuit Breaker Frame Including DigiTrip RMS 310 Electronic Trip Unit Less Terminals and Rating Plug				Digitrip RMS 310 Rating Plug (Order as Separate Items)	
		L – Adjustable Long Delay Pickup (By Adjustable Rating Plug) S – Adjustable Short Delay Pickup with Fixed Short Delay Time (I ² t Response) or Adjustable Short Time (Flat Response) I – Adjustable Instantaneous Pickup by Setting Short Time Delay Time to Instantaneous G – Adjustable Ground Fault Pickup with Adjustable Ground Fault Delay (Flat Response)				Fixed	Adjustable
		Catalog Number					
		LS	LSI	LSG	LSIG	Catalog Number	
Short Time Range		2 – 8 × I _n	2 – 8 × I _n	2 – 8 × I _n	2 – 8 × I _n		
Short Time Delay		—	0 – 300 ms	—	0 – 300 ms		
Ground Fault Pickup		—	—	Varies by Frame	Varies by Frame		
Ground Fault Delay		—	—	0 – 500 ms	0 – 500 ms		
Type LDB, HLDB and LDCB with DigiTrip 310 Non-Interchangeable Trip Unit							
600	3	LDB3600FT33W	LDB3600FT32W	LDB3600FT35W	LDB3600FT35W	6LES300T	300/400/500/600
						6LES350T	A6LES600T1
						6LES400T	420/440/460/480
						6LES450T	A6LES400T5
						6LES500T	520/540/560/580
						6LES600T	A6LES500T5
600	3	HLDB3600FT33W	HLDB3600FT32W	HLDB3600FT35W	HLDB3600FT36W	6LES300T	300/400/500/600
						6LES350T	A6LES600T1
						6LES400T	420/440/460/480
						6LES450T	A6LES400T5
						6LES500T	520/540/560/580
						6LES600T	A6LES500T5
600	3	LDCB3600FT33W	LDCB3600FT32W	LDCB3600FT35W	LDCB3600FT36W	6LES300T	300/400/500/600
						6LES350T	A6LES600T1
						6LES400T	420/440/460/480
						6LES450T	A6LES400T5
						6LES500T	520/540/560/580
						6LES600T	A6LES500T5

① For ac use only.

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100% Rated Types CLD, CHLD, and CLDC Electronic Circuit Breakers with Interchangeable Trip Units

The NEC allows the breaker to be rated at 100% of its frame size in an assembly, provided that 90°C wire is applied at the 75°C ampacity. All 100% rated circuit breakers have electronic trip units. Order as individual components: Breaker Frame, Trip Unit, Rating Plug and Terminals.

Table 12-202. 100% Rated Types CLD, CHLD, and CLDC Electronic Circuit Breakers with Interchangeable Trip Units ①

Maximum Continuous Ampere Rating at 40°C ②	Circuit Breaker Frame Only			Digitrip RMS 310 Trip Unit Only				Digitrip RMS 310 Rating Plug Only			Standard Terminals Only See Page 12-126 for Optional Terminals	
	Standard Interrupting Capacity 600 Vac Rated 35 kAIC at 480 Vac	High Interrupting Capacity 600 Vac Rated 65 kAIC at 480 Vac	Ultra High Interrupting Capacity 600 Vac Rated 100 kAIC at 480 Vac	Standard	Options				Ampere Rating	Fixed Rating Plug		Adjustable Rating Plug
				Adjustable Short Time Pickup with I ² t Short Delay Ramp	Independently Adjustable Short Time Pickup and Delay Ground Fault Protection	Adjustable Short Time Pickup with I ² t Short Delay and Ground Fault Protection	Independently Adjustable Short Time Pickup and Delay and Ground Fault Protection	Ampere Rating				
Catalog Number								Catalog Number				
3-Pole												
600	CLD3600F	CHLD3600F	CLDC3600F	LES3600LS	LES3600LSI	LES3600LSG	LES3600LSIG	300 350 400 450 500 600	6LES300T 6LES350T 6LES400T 6LES450T 6LES500T 6LES600T	300/400/ 500/600 A6LES600T1 420/440/460/480 A6LES400T5 520/540/560/580 A6LES500T5	TA602LD ③ TA602LD ③ TA602LD ③ TA602LD ③ 3TA603LDK ④	

- ① See Table 12-203 below for prices.
- ② Ampere rating is established by rating plug.
- ③ Individually packed.
- ④ 3TA603LDK terminal kit contains one terminal for each pole and one terminal cover.

Table 12-203. 100% Rated Types CLD, CHLD and CLDC Electronic Circuit Breakers with Interchangeable Trip Units Prices

Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$
A6LES600T1 CHLD3600F CLDC3600F CLD3600F LES3600LS —		LES3600LSG LES3600LSI LES3600LSIG TA602LD 3TA603LDK —		6LES300T 6LES350T 6LES400T 6LES450T 6LES500T 6LES600T	

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Table 12-204. Type LDB Thermal-Magnetic Circuit Breakers with Non-interchangeable Trip Units ①

Maximum Continuous Ampere Rating	600 Vac Rated, 250 Vdc			
	Complete Circuit Breaker			
	Without Line and Load Terminals		With Standard Line and Load Terminals Only	
	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$

2-Pole

300	LDB2300W		LDB2300	
350	LDB2350W		LDB2350	
400	LDB2400W		LDB2400	
450	LDB2450W		LDB2450	
500	LDB2500W		LDB2500	
600	LDB2600W		LDB2600	

3-Pole

300	LDB3300W		LDB3300	
350	LDB3350W		LDB3350	
400	LDB3400W		LDB3400	
450	LDB3450W		LDB3450	
500	LDB3500W		LDB3500	
600	LDB3600W		LDB3600	

① Factory sealed — suitable for reverse feed application.

Molded Case Switches

Eaton's Cutler-Hammer molded case switches are used as compact switches in applications requiring high current switching capabilities. Molded case switches are constructed of circuit breaker components and are of the high instantaneous automatic type. Molded case switches are listed in accordance with Underwriters Laboratories Standard UL 489.

Table 12-205. Molded Case Switches

Maximum Continuous Ampere Rating at 40°C	600 Vac Maximum, 250 Vdc		Standard Terminals Only	
	Circuit Breaker Only without Line and Load Terminals		See Page 12-126 for Optional Terminals	
	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$

2-Pole

600	LD2600WK		2TA603LDK	
600	LDB2600WK ②		2TA603LDK	
600	HLD2600WK		2TA603LDK	

3-Pole

600	LD3600WK		3TA603LDK	
600	LDB3600WK ②		3TA603LDK	
600	HLD3600WK		3TA603LDK	

4-Pole

600	LD4600WK		4TA603LDK	
600	LDB4600WK ②		4TA603LDK	
600	HLD4600WK		4TA603LDK	

② Factory sealed — suitable for reverse feed application.

Note: Molded case switch will trip above 6000 amperes.

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Digitrip OPTIM Electronic Circuit Breaker with Interchangeable Rating Plug

Order as individual components: Breaker Frame (which includes Trip Unit), Rating Plug, Terminals.

Table 12-206. Digitrip OPTIM 550 Electronic Circuit Breaker with Interchangeable Rating Plug

Maximum Continuous Ampere Rating at 40°C	Circuit Breaker Frame Only						Digitrip OPTIM Rating Plug Only	
	L – Adjustable Long Delay Pickup (I_L) with Adjustable Long Delay Time (I^2t or I^4t Response) ① S – Adjustable Short Delay Pickup with Adjustable Short Delay Time (I^2t or Flat Response) I – Adjustable Instantaneous Pickup G – Adjustable Ground Fault Pickup with Adjustable Ground Fault Time (I^2t or Flat Response) A – Adjustable Ground Fault Alarm with Adjustable Ground Fault Time (I^2t or Flat Response)						Ampere Rating	Fixed Rating Plug
	OPTIM 550 ②							
	LSI		LSIG		LSIA			
Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	

3-Pole Standard Interrupting Capacity 600 Vac Rated 35 kAIC at 480 Vac

125	LD3125T52W		LD3125T56W		LD3125T57W		— — — — —	ORPL125A070 ORPL125A090 ORPL125A100 ORPL125A110 ORPL125A125	
250	LD3250T52W		LD3250T56W		LD3250T57W		— — — — —	ORPL025A125 ORPL025A150 ORPL025A175 ORPL025A200 ORPL025A225 ORPL025A250	
400	LD3400T52W		LD3400T56W		LD3400T57W		200 225 250 300 350 400	ORPL40A200 ORPL40A225 ORPL40A250 ORPL40A300 ORPL40A350 ORPL40A400	
600	LD3600T52W		LD3600T56W		LD3600T57W		300 350 400 500 600	ORPL60A300 ORPL60A350 ORPL60A400 ORPL60A500 ORPL60A600	

3-Pole High Interrupting Capacity 600 Vac Rated 65 kAIC at 480 Vac

125	HLD3125T52W		HLD3125T56W		HLD3125T57W		70 90 100 110 125	ORPL125A070 ORPL125A090 ORPL125A100 ORPL125A110 ORPL125A125	
250	HLD3250T52W		HLD3250T56W		HLD3250T57W		125 150 175 200 225 250	ORPL025A125 ORPL025A150 ORPL025A175 ORPL025A200 ORPL025A225 ORPL025A250	
400	HLD3400T52W		HLD3400T56W		HLD3400T57W		200 225 250 300 350 400	ORPL40A200 ORPL40A225 ORPL40A250 ORPL40A300 ORPL40A350 ORPL40A400	
600	HLD3600T52W		HLD3600T56W		HLD3600T57W		300 350 400 500 600	ORPL60A300 ORPL60A350 ORPL60A400 ORPL60A500 ORPL60A600	

① Long delay I^4t response selection limits short delay time to flat response.

② Zone Interlocking, PowerNet, or both features can be added at the factory by adding Suffixes **ZG**, **PN** or **ZGP** respectively to above Catalog Number (refer to **Page 12-256** and take list price Adder x 1.25).

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Table 12-206. Digitrip OPTIM 550 Electronic Circuit Breaker with Interchangeable Rating Plug (Continued)

Maximum Continuous Ampere Rating at 40°C	Circuit Breaker Frame Only						Digitrip OPTIM Rating Plug Only		
	L – Adjustable Long Delay Pickup (I _r) with Adjustable Long Delay Time (I ² t or I ⁴ t Response) S – Adjustable Short Delay Pickup with Adjustable Short Delay Time (I ² t or Flat Response) I – Adjustable Instantaneous Pickup G – Adjustable Ground Fault Pickup with Adjustable Ground Fault Time (I ² t or Flat Response) A – Adjustable Ground Fault Alarm with Adjustable Ground Fault Time (I ² t or Flat Response)						Ampere Rating	Fixed Rating Plug	
	OPTIM 550 ②								
	LSI		LSIG		LSIA				
Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$		
3-Pole Ultra High Interrupting Capacity Current Limiting 600 Vac Rated 100 kAIC at 480 Vac									
125	LDC3125T52W		LDC3125T56W		LDC3125T57W		— — — — —	ORPL125A070 ORPL125A090 ORPL125A100 ORPL125A110 ORPL125A125	
250	LDC3250T52W		LDC3250T56W		LDC3250T57W		— — — — —	ORPL025A125 ORPL025A150 ORPL025A175 ORPL025A200 ORPL025A225 ORPL025A250	
400	LDC3400T52W		LDC3400T56W		LDC3400T57W		200 225 250 300 350 400	ORPL40A200 ORPL40A225 ORPL40A250 ORPL40A300 ORPL40A350 ORPL40A400	
600	LDC3600T52W		LDC3600T56W		LDC3600T57W		300 350 400 500 600	ORPL60A300 ORPL60A350 ORPL60A400 ORPL60A500 ORPL60A600	

① Long delay I⁴t response selection limits short delay time to flat response.

② Zone Interlocking, PowerNet, or both features can be added at the factory by adding Suffixes **ZG**, **PN** or **ZGP** respectively to above Catalog Number (refer to **Page 12-256** and take list price Adder x 1.25).

L-Frame

Digitrip OPTIM Electronic Circuit Breaker with Interchangeable Rating Plug

Order as individual components: Breaker Frame (which includes Trip Unit), Rating Plug, Terminals.

Table 12-207. Digitrip OPTIM 1050 Electronic Circuit Breaker with Interchangeable Rating Plug

Maximum Continuous Ampere Rating at 40°C	Circuit Breaker Frame Only				Digitrip OPTIM Rating Plug Only	
	L – Adjustable Long Delay Pickup (I_t) with Adjustable Long Delay Time (I^2t or I^4t Response) ① S – Adjustable Short Delay Pickup with Adjustable Short Delay Time (I^2t or Flat Response) I – Adjustable Instantaneous Pickup G – Adjustable Ground Fault Pickup with Adjustable Ground Fault Time (I^2t or Flat Response) A – Adjustable Ground Fault Alarm with Adjustable Ground Fault Time (I^2t or Flat Response)				Ampere Rating	Fixed Rating Plug
	OPTIM 1050 ②③					
	LSIG		LSIA			
Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	

3-Pole Standard Interrupting Capacity 600 Vac Rated 35 kAIC at 480 Vac

Frame Size	Frame Catalog Number	Price U.S. \$	Rating Plug Catalog Number	Price U.S. \$	Rating Plug Options
125	LD3125T106W		LD3125T107W		70 90 100 110 125 ORPL125A070 ORPL125A090 ORPL125A100 ORPL125A110 ORPL125A125
250	LD3250T106W		LD3250T107W		125 150 175 200 225 250 ORPL025A125 ORPL025A150 ORPL025A175 ORPL025A200 ORPL025A225 ORPL025A250
400	LD3400T106W		LD3400T107W		200 225 250 300 350 400 ORPL40A200 ORPL40A225 ORPL40A250 ORPL40A300 ORPL40A350 ORPL40A400
600	LD3600T106W		LD3600T107W		300 350 400 500 600 ORPL60A300 ORPL60A350 ORPL60A400 ORPL60A500 ORPL60A600

3-Pole High Interrupting Capacity 600 Vac Rated 65 kAIC at 480 Vac

Frame Size	Frame Catalog Number	Price U.S. \$	Rating Plug Catalog Number	Price U.S. \$	Rating Plug Options
125	HLD3125T106W		HLD3125T107W		70 90 100 110 125 ORPL125A070 ORPL125A090 ORPL125A100 ORPL125A110 ORPL125A125
250	HLD3250T106W		HLD3250T107W		125 150 175 200 225 250 ORPL025A125 ORPL025A150 ORPL025A175 ORPL025A200 ORPL025A225 ORPL025A250
400	HLD3400T106W		HLD3400T107W		200 225 250 300 350 400 ORPL40A200 ORPL40A225 ORPL40A250 ORPL40A300 ORPL40A350 ORPL40A400
600	HLD3600T106W		HLD3600T107W		300 350 400 500 600 ORPL60A300 ORPL60A350 ORPL60A400 ORPL60A500 ORPL60A600

① Long delay I^4t response selection limits short delay time to flat response.

② One Form C auxiliary switch and one Form C bell alarm switch supplied with breaker as standard.

③ Factory sealed.

L-Frame

Table 12-207. Digitrip OPTIM 1050 Electronic Circuit Breaker with Interchangeable Rating Plug (Continued)

Maximum Continuous Ampere Rating at 40°C	Circuit Breaker Frame Only				Digitrip OPTIM Rating Plug Only	
	L – Adjustable Long Delay Pickup (I_L) with Adjustable Long Delay Time (I^2t or I^4t Response) ① S – Adjustable Short Delay Pickup with Adjustable Short Delay Time (I^2t or Flat Response) I – Adjustable Instantaneous Pickup G – Adjustable Ground Fault Pickup with Adjustable Ground Fault Time (I^2t or Flat Response) A – Adjustable Ground Fault Alarm with Adjustable Ground Fault Time (I^2t or Flat Response)				Ampere Rating	Fixed Rating Plug
	OPTIM 1050 ②③					
	LSIG		LSIA			
Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	

3-Pole Ultra High Interrupting Capacity Current Limiting 600 Vac Rated 100 kAIC at 480 Vac

Frame Size	Frame Model	Price U.S. \$	Frame Model	Price U.S. \$	Rating Plug	Price U.S. \$
125	LDC3125T106W		LDC3125T107W		70	ORPL125A070
					90	ORPL125A090
					100	ORPL125A100
					110	ORPL125A110
					125	ORPL125A125
250	LDC3250T106W		LDC3250T107W		125	ORPL025A125
					150	ORPL025A150
					175	ORPL025A175
					200	ORPL025A200
					225	ORPL025A225
					250	ORPL025A250
400	LDC3400T106W		LDC3400T107W		200	ORPL40A200
					225	ORPL40A225
					250	ORPL40A250
					300	ORPL40A300
					350	ORPL40A350
					400	ORPL40A400
600	LDC3600T106W		LDC3600T107W		300	ORPL60A300
					350	ORPL60A350
					400	ORPL60A400
					500	ORPL60A500
					500	ORPL60A500
					600	ORPL60A600

① Long delay I^4t response selection limits short delay time to flat response.
 ② One Form C auxiliary switch and one Form C bell alarm switch supplied with breaker as standard.
 ③ Factory sealed.

L-Frame

100% Rated Digitrip OPTIM Circuit Breakers with Interchangeable Rating Plug

Order as individual components: Breaker Frame (which includes Trip Unit), Rating Plug, Terminals.

Table 12-208. 100% Rated Digitrip OPTIM 550 Circuit Breakers with Interchangeable Rating Plug

Maximum Continuous Ampere Rating at 40°C	Circuit Breaker Frame Only						Digitrip OPTIM Rating Plug Only	
	L – Adjustable Long Delay Pickup (I_L) with Adjustable Long Delay Time (I^2t or I^4t Response) ① S – Adjustable Short Delay Pickup with Adjustable Short Delay Time (I^2t or Flat Response) I – Adjustable Instantaneous Pickup G – Adjustable Ground Fault Pickup with Adjustable Ground Fault Time (I^2t or Flat Response) A – Adjustable Ground Fault Alarm with Adjustable Ground Fault Time (I^2t or Flat Response)						Ampere Rating	Fixed Rating Plug
	OPTIM 550 ②							
	LSI		LSIG		LSIA			
Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	

3-Pole Standard Interrupting Capacity 600 Vac Rated 35 kAIC at 480 Vac

Rating	LSI	LSIG	LSIA	Ampere Rating	Fixed Rating Plug
125	CLD3125T52W	CLD3125T56W	CLD3125T57W	70 90 100 110 125	ORPL125A070 ORPL125A090 ORPL125A100 ORPL125A110 ORPL125A125
250	CLD3250T52W	CLD3250T56W	CLD3250T57W	125 150 175 200 225 250	ORPL025A125 ORPL025A150 ORPL025A175 ORPL025A200 ORPL025A225 ORPL025A250
400	CLD3400T52W	CLD3400T56W	CLD3400T57W	200 225 250 300 350 400	ORPL40A200 ORPL40A225 ORPL40A250 ORPL40A300 ORPL40A350 ORPL40A400
600	CLD3600T52W	CLD3600T56W	CLD3600T57W	300 350 400 500 600	ORPL60A300 ORPL60A350 ORPL60A400 ORPL60A500 ORPL60A600

3-Pole High Interrupting Capacity 600 Vac Rated 65 kAIC at 480 Vac

Rating	CHLD	CHLD	CHLD	Ampere Rating	Fixed Rating Plug
125	CHLD3125T52W	CHLD3125T56W	CHLD3125T57W	70 90 100 110 125	ORPL125A070 ORPL125A090 ORPL125A100 ORPL125A110 ORPL125A125
250	CHLD3250T52W	CHLD3250T56W	CHLD3250T57W	125 150 175 200 225 250	ORPL025A125 ORPL025A150 ORPL025A175 ORPL025A200 ORPL025A225 ORPL025A250
400	CHLD3400T52W	CHLD3400T56W	CHLD3400T57W	200 225 250 300 350 400	ORPL40A200 ORPL40A225 ORPL40A250 ORPL40A300 ORPL40A350 ORPL40A400
600	CHLD3600T52W	CHLD3600T56W	CHLD3600T57W	300 350 400 500 600	ORPL60A300 ORPL60A350 ORPL60A400 ORPL60A500 ORPL60A600

① Long delay I^4t response selection limits short delay time to flat response.

② Zone Interlocking, PowerNet, or both features can be added at the factory by adding Suffixes **ZG**, **PN** or **ZGP** respectively to above Catalog Number (refer to **Page 12-256** and take list price Adder x 1.25).

Table 12-208. 100% Rated Digitrip OPTIM 550 Circuit Breakers with Interchangeable Rating Plug (Continued)

Maximum Continuous Ampere Rating at 40°C	Circuit Breaker Frame Only						Digitrip OPTIM Rating Plug Only		
	L – Adjustable Long Delay Pickup (I_L) with Adjustable Long Delay Time (I^2t or I^4t Response) ① S – Adjustable Short Delay Pickup with Adjustable Short Delay Time (I^2t or Flat Response) I – Adjustable Instantaneous Pickup G – Adjustable Ground Fault Pickup with Adjustable Ground Fault Time (I^2t or Flat Response) A – Adjustable Ground Fault Alarm with Adjustable Ground Fault Time (I^2t or Flat Response)						Ampere Rating	Fixed Rating Plug	
	OPTIM 550 ②								
	LSI		LSIG		LSIA				
Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$		
3-Pole Ultra High Interrupting Capacity Current Limiting 600 Vac Rated 100 kAIC at 480 Vac									
125	CLDC3125T52W		CLDC3125T56W		CLDC3125T57W		70 90 100 110 125	ORPL125A070 ORPL125A090 ORPL125A100 ORPL125A110 ORPL125A125	
250	CLDC3250T52W		CLDC3250T56W		CLDC3250T57W		125 150 175 200 225 250	ORPL025A125 ORPL025A150 ORPL025A175 ORPL025A200 ORPL025A225 ORPL025A250	
400	CLDC3400T52W		CLDC3400T56W		CLDC3400T57W		200 225 250 300 350 400	ORPL40A200 ORPL40A225 ORPL40A250 ORPL40A300 ORPL40A350 ORPL40A400	
600	CLDC3600T52W		CLDC3600T56W		CLDC3600T57W		300 350 400 500 600	ORPL60A300 ORPL60A350 ORPL60A400 ORPL60A500 ORPL60A600	

① Long delay I^4t response selection limits short delay time to flat response.

② Zone Interlocking, PowerNet, or both features can be added at the factory by adding Suffixes **ZG**, **PN** or **ZGP** respectively to above Catalog Number (refer to **Page 12-256** and take list price Adder x 1.25).

L-Frame

Table 12-209. 100% Rated Digitrip OPTIM 1050 Circuit Breakers with Interchangeable Rating Plug

Maximum Continuous Ampere Rating at 40°C	Circuit Breaker Frame Only				Digitrip OPTIM Rating Plug Only	
	L – Adjustable Long Delay Pickup (I_L) with Adjustable Long Delay Time (I^2t or I^4t Response) ① S – Adjustable Short Delay Pickup with Adjustable Short Delay Time (I^2t or Flat Response) I – Adjustable Instantaneous Pickup G – Adjustable Ground Fault Pickup with Adjustable Ground Fault Time (I^2t or Flat Response) A – Adjustable Ground Fault Alarm with Adjustable Ground Fault Time (I^2t or Flat Response)				Ampere Rating	Fixed Rating Plug
	OPTIM 1050 ②③					
	LSIG		LSIA			
Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	

3-Pole Standard Interrupting Capacity 600 Vac Rated 35 kAIC at 480 Vac

Rating	Frame	Price U.S. \$	Frame	Price U.S. \$	Rating	Plug	Price U.S. \$
125	CLD3125T106W		CLD3125T107W		70 90 100 110 125	ORPL125A07 ORPL125A09 ORPL125A10 ORPL125A11 ORPL125A125	
250	CLD3250T106W		CLD3250T107W		125 150 175 200 225 250	ORPL025A12 ORPL025A15 ORPL025A17 ORPL025A20 ORPL025A22 ORPL025A250	
400	CLD3400T106W		CLD3400T107W		200 225 250 300 350 400	ORPL40A200 ORPL40A225 ORPL40A250 ORPL40A300 ORPL40A350 ORPL40A400	
600	CLD3600T106W		CLD3600T107W		300 350 400 500 600	ORPL60A300 ORPL60A350 ORPL60A400 ORPL60A500 ORPL60A600	

3-Pole High Interrupting Capacity 600 Vac Rated 65 kAIC at 480 Vac

Rating	Frame	Price U.S. \$	Frame	Price U.S. \$	Rating	Plug	Price U.S. \$
125	CHLD3125T106W		CHLD3125T107W		70 90 100 110 125	ORPL125A070 ORPL125A090 ORPL125A100 ORPL125A110 ORPL125A125	
250	CHLD3250T106W		CHLD3250T107W		125 150 175 200 225 250	ORPL025A125 ORPL025A150 ORPL025A175 ORPL025A200 ORPL025A225 ORPL025A250	
400	CHLD3400T106W		CHLD3400T107W		200 225 250 300 350 400	ORPL40A200 ORPL40A225 ORPL40A250 ORPL40A300 ORPL40A350 ORPL40A400	
600	CHLD3600T106W		CHLD3600T107W		300 350 400 500 600	ORPL60A300 ORPL60A350 ORPL60A400 ORPL60A500 ORPL60A600	

① Long delay I^4t response selection limits short delay time to flat response.
 ② One Form C auxiliary switch and one Form C bell alarm switch supplied with breaker as standard.
 ③ Factory sealed.

Table 12-209. 100% Rated Digitrip OPTIM 1050 Electronic Circuit Breaker with Interchangeable Rating Plug (Continued)

Maximum Continuous Ampere Rating at 40°C	Circuit Breaker Frame Only				Digitrip OPTIM Rating Plug Only	
	L – Adjustable Long Delay Pickup (I_L) with Adjustable Long Delay Time (I^2t or I^4t Response) ① S – Adjustable Short Delay Pickup with Adjustable Short Delay Time (I^2t or Flat Response) I – Adjustable Instantaneous Pickup G – Adjustable Ground Fault Pickup with Adjustable Ground Fault Time (I^2t or Flat Response) A – Adjustable Ground Fault Alarm with Adjustable Ground Fault Time (I^2t or Flat Response)				Ampere Rating	Fixed Rating Plug
	OPTIM 1050 ②③					
	LSIG		LSIA			
Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	

3-Pole Ultra High Interrupting Capacity Current Limiting 600 Vac Rated 100 kAIC at 480 Vac

Rating	CLDC3125T106W	Price U.S. \$	CLDC3125T107W	Price U.S. \$	Rating	ORPL125A070 ORPL125A090 ORPL125A100 ORPL125A110 ORPL125A125	Price U.S. \$
125					70 90 100 110 125		
250					125 150 175 200 225 250		
400					200 225 250 300 350 400		
600					300 350 400 500 600		

- ① Long delay I^4t response selection limits short delay time to flat response.
- ② One Form C auxiliary switch and one Form C bell alarm switch supplied with breaker as standard.
- ③ Factory sealed.

L-Frame

Line and Load Terminals

Eaton's Cutler-Hammer line and load terminals provide wire connecting capabilities for specific ranges of continuous current ratings and wire types. All terminals comply with Underwriters Laboratories Standards UL 486A and UL 486B and CSA Standard C22.2 No. 65M. Unless otherwise specified, L-Frame circuit breaker line and load terminals are shipped separately for field installation.

The wire connecting terminal is secured with two pan-head, slotted screws and lockwashers which can be checked for the correct torque loading or retightened from the front of the circuit breaker before installation of the conductors. (Applies to all styles.) The circuit breaker line/load terminal conductors are positioned in the conducting holes in the wire connecting terminal and are secured with recessed

socket screws which are tightened to the correct torque loading from the front of the circuit breaker.

Ordering Information

L-Frame circuit breakers use Cu/Al terminals as standard. When optional copper terminals are required, order by Catalog Number. Specify if factory installation is required.

Table 12-210. Line and Load Terminals

Maximum Breaker Amperes	Terminal Body Material	Wire Type	AWG Wire Range/Number of Conductors	Metric Wire Range mm ²	Terminal			Terminals with Control Wire Termination	
					Poles	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$
Standard Cu/Al Pressure Terminals									
400	Aluminum	Cu/Al	4/0 – 600 (1)	120 – 300	2-Pole Kit ① 3-Pole Kit ① 4-Pole Kit ①	2TA401LDK 3TA401LDK 4TA401LDK		— — —	
450	Aluminum	Cu/Al	4 – 4/0 (2)	25 – 95	② ② 2-Pole Kit ① 3-Pole Kit ① 4-Pole Kit ①	TA450LD TA602LD 2TA603LDK 3TA603LDK 4TA603LDK		— TA602LDCW 2TA603LDKCW 3TA603LDKCW 4TA603LDKCW	
500	Aluminum	Cu/Al	3/0 – 350 (2)	95 – 150					
600	Aluminum	Cu/Al	400 – 500 (2)	185 – 240					
Optional Copper and Cu/Al Pressure Type Terminals									
600	Copper	Cu	250 – 350 (2)	120 – 250	②	T602LD		T602LDCW	

① Terminal kits contain one terminal for each pole and one terminal cover.

② Individually packed.

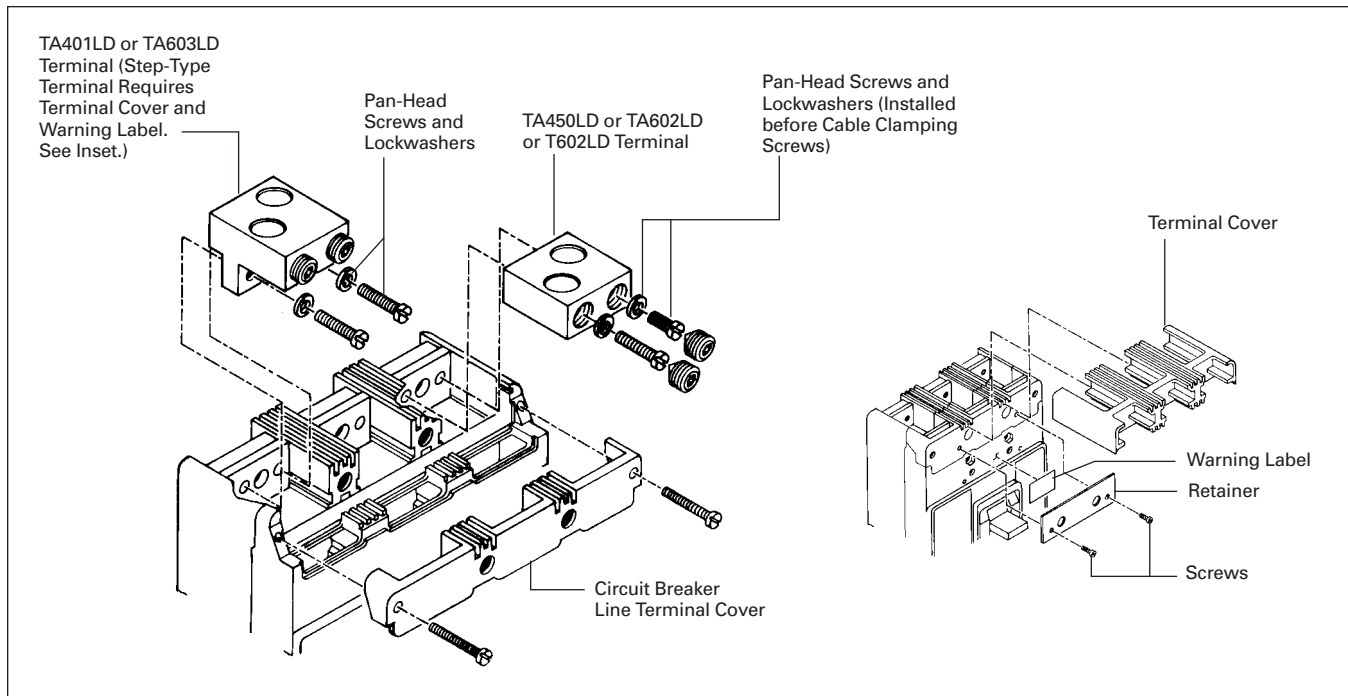


Figure 12-29. Terminals

Allowable Accessory Combinations

Different combinations of accessories can be supplied, depending on the types of accessories and the number of poles in the circuit breaker.

Table 12-211. Accessories

Description	Reference Page	2-Pole ^① , 3-Pole			4-Pole			
		Left	Center	Right	Left	Center	Right	Neu. ^②
Internal Accessories (Only One Internal Accessory Per Pole) ^③								
Alarm Lockout (Make/Break)	12-231	■		■	■		■	
Alarm Lockout (2Make/2Break)	12-231	■		■	■		■	
Auxiliary Switch (1A, 1B)	12-234	■		■	■		■	
Auxiliary Switch (2A, 2B)	12-234	■		■	■		■	
Auxiliary Switch (3A, 3B)	12-234	■		■	■		■	
Auxiliary Switch (1A, 1B) and Alarm Switch Combination	12-237	■		■	■		■	
Auxiliary Switch (2A, 2B) and Alarm Switch Combination	12-237	■		■	■		■	
Shunt Trip — Standard ^④	12-240	■		■	■		■	
Shunt Trip — Low Energy ^④	12-245	■		■	■		■	
Undervoltage Release Mechanism ^④	12-246	■		■	■		■	
Cutler-Hammer PowerNet Communications Kit (OPTIM 550)	12-256			■				
External Accessories								
End Cap Kit	12-257		●				●	
Control Wire Terminal Kit	12-258		●				●	
Base Mounting Hardware	12-260		●				●	
Terminal Shields	12-262		●				●	
Interphase Barriers	12-263		●				●	
Non-Padlockable Handle Block	12-265		■			■		
Padlockable Handle Lock Hasp	12-266	□		□	□		□	
Key Interlock Kit	12-267	□		□	□		□	
Sliding Bar Interlock — Requires Two Breakers	12-268		●				●	
Walking Beam Interlock — Requires Two Breakers	12-268		●				●	
Electrical (Motor) Operator	12-269		●				●	
Plug-in Adapters	12-271		●				●	
Rear Connecting Studs	12-272		●				●	
Panelboard Connecting Straps	12-275		●				●	
Handle Mechanisms	12-276		●				●	
Handle Extension	12-281		●				●	
Solid-State (Electronic) Portable Test Kit	12-282		●				●	
OPTIM System Components 3-Poles								
Ground Fault Alarm Unit	12-282							
Potential Transformer Module	12-282							
Breaker Interface Module (BIM)	12-283							
Digitrip OPTIMizer	12-283							
Auxiliary Power Module	12-283							
Modifications (Refer to Eaton)								
Special Calibration	—		●				●	
Moisture Fungus Treatment	12-205		●				●	
Freeze-Tested Circuit Breakers	—		●				●	
Marine Application	—		●				●	

■ Applicable in indicated pole position □ May be mounted on left or right pole — not both ● Accessory available/Modification available

① 2-pole breaker supplied in 3-pole frame. Current carrying parts omitted from center pole.
 ② Refer to Eaton for appropriate neutral pole accessory combinations.
 ③ OPTIM model 1050 is factory sealed and does not have the right pole space available for accessories.
 ④ Shunt trip and UVR cannot be mounted in right poles on LES or OPTIM trip units.