

J-Frame



Typical J-Frame Circuit Breaker

Product Description

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

Technical Data and Specifications

Table 12-153. UL 489 Interrupting Capacity Ratings

Circuit Breaker Type	Number of Poles	Interrupting Capacity (kA Symmetrical Amperes)				
		Volts ac (50/60 Hz)				Volts dc
		240	480	600	125	
JDB	2, 3	65	35	18	—	10
JD	2, 3, 4	65	35	18	—	10
HJD	2, 3, 4	100	65	25	—	22
JDC ③	2, 3, 4	200	100	35	—	22

- ① 2-pole circuit breaker or two outside poles of 3-pole circuit breaker.
- ② Time constant is 3 milliseconds minimum at 10 kA and 8 milliseconds minimum at 22 kA.
- ③ Current limiting.

Table 12-154. IEC 157-1 (P1) Interrupting Capacity Ratings

Circuit Breaker Type	Number of Poles	Interrupting Capacity (kA Symmetrical Amperes)					
		Volts ac (50/60 Hz)				Volts dc	
		240	380	415	600		125
JD	2, 3, 4	65	35	35	—	—	10
HJD	2, 3, 4	100	65	65	—	—	22
JDC	2, 3, 4	200	100	100	—	—	22

- ④ 2-pole circuit breaker or two outside poles of 3-pole circuit breaker.
- ⑤ Time constant is 3 milliseconds minimum at 10 kA and 8 milliseconds minimum at 22 kA.

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Dimensions/Weights

Table 12-155. Dimensions in Inches (mm)

Number of Poles	Width	Height	Depth
2, 3	4.13 (105.0)	10.00 (254.0)	4.06 (104.1)
4	5.50 (139.7)	10.00 (254.0)	4.06 (104.1)

Table 12-156. Approximate Shipping Weight in Lbs. (kg)

Breaker Type	Complete Breaker			Frame Only			Trip Unit		
	Number of Poles								
	2	3	4	2	3	4	2	3	4
JDB	11.25 (5.1)	12.50 (5.7)	—	—	—	—	—	—	—
JD	11.25 (5.1)	12.50 (5.7)	13.25 (6.0)	9.00 (4.1)	10.00 (4.5)	10.50 (4.8)	2.00 (.9)	2.00 (.9)	2.25 (1.0)
HJD	11.25 (5.1)	12.50 (5.7)	13.25 (6.0)	9.00 (4.1)	10.00 (4.5)	10.50 (4.8)	2.00 (.9)	2.00 (.9)	2.25 (1.0)
JDC	12.25 (5.6)	13.50 (6.1)	14.25 (6.5)	10.00 (4.5)	11.00 (5.0)	11.50 (5.2)	2.00 (.9)	2.00 (.9)	2.25 (1.0)

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 12-157. Circuit Breaker/Frame Catalog Numbering System

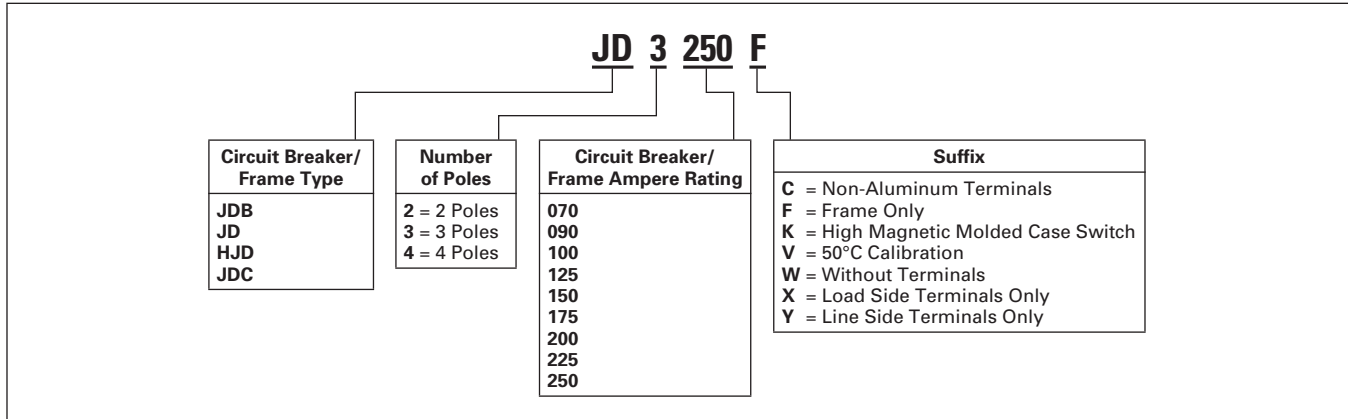
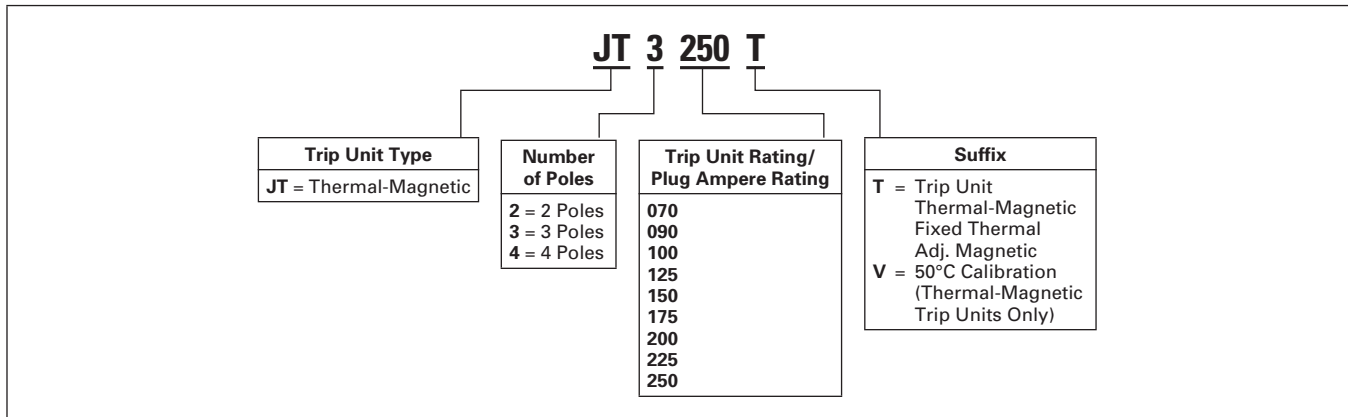


Table 12-158. Trip Unit Catalog Numbering System



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Product Selection

Table 12-159. Types JD, HJD and JDC Thermal-Magnetic Circuit Breakers with Interchangeable Trip Units

Max. Cont. Amp Rating at 40°C	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 ①		Standard Terminals Only	
	Factory Assembled Circuit Consisting of Frame, Trip Unit and Terminals ①		Factory Assembled Circuit Consisting of Frame, Trip Unit and Terminals ①		Factory Assembled Circuit Consisting of Frame, Trip Unit and Terminals ①		For Use with Standard or High or Ultra High Interrupting Frames		See Page 12-91 for Optional 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										
70	JD2070		HJD2070		JDC2070		JT2070T		TA250KB ②	
90	JD2090		HJD2090		JDC2090		JT2090T			
100	JD2100		HJD2100		JDC2100		JT2100T			
125	JD2125		HJD2125		JDC2125		JT2125T			
150	JD2150		HJD2150		JDC2150		JT2150T			
175	JD2175		HJD2175		JDC2175		JT2175T			
200	JD2200		HJD2200		JDC2200		JT2200T			
225	JD2225		HJD2225		JDC2225		JT2225T			
250	JD2250		HJD2250		JDC2250		JT2250T			
3-Pole										
70	JD3070		HJD3070		JDC3070		JT3070T		TA250KB ②	
90	JD3090		HJD3090		JDC3090		JT3090T			
100	JD3100		HJD3100		JDC3100		JT3100T			
125	JD3125		HJD3125		JDC3125		JT3125T			
150	JD3150		HJD3150		JDC3150		JT3150T			
175	JD3175		HJD3175		JDC3175		JT3175T			
200	JD3200		HJD3200		JDC3200		JT3200T			
225	JD3225		HJD3225		JDC3225		JT3225T			
250	JD3250		HJD3250		JDC3250		JT3250T			
4-Pole ③④										
125	JD4125		HJD4125		JDC4125		JT3125T		TA250KB ②	
150	JD4150		HJD4150		JDC4150		JT3150T			
175	JD4175		HJD4175		JDC4175		JT3175T			
200	JD4200		HJD4200		JDC4200		JT3200T			
225	JD4225		HJD4225		JDC4225		JT3225T			
250	JD4250		HJD4250		JDC4250		JT3250T			

- ① Magnetic trip adjustable 5 – 10 times continuous ampere rating.
- ② Individually packed.
- ③ Fully rated neutral pole with no protection.
- ④ Neutral is in right pole.

Table 12-160. Types JD, HJD and JDC 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					
JD2250F		HJD2250F		JDC2250F	
3-Pole					
JD3250F		HJD3250F		JDC3250F	
4-Pole					
JD4250F		HJD4250F		JDC4250F	

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Table 12-161. Type JDB Thermal-Magnetic Circuit Breakers with Non-Interchangeable Thermal-Magnetic Trip Units Suitable for Reverse Feed Application

Maximum Continuous Ampere Rating at 40°C	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

Maximum Continuous Ampere Rating at 40°C	Without Line and Load Terminals	Price U.S. \$	With Standard Line and Load Terminals Only	Price U.S. \$
70	JDB2070W		JDB2070	
90	JDB2090W		JDB2090	
100	JDB2100W		JDB2100	
125	JDB2125W		JDB2125	
150	JDB2150W		JDB2150	
175	JDB2175W		JDB2175	
200	JDB2200W		JDB2200	
225	JDB2225W		JDB2225	
250	JDB2250W		JDB2250	

3-Pole

Maximum Continuous Ampere Rating at 40°C	Without Line and Load Terminals	Price U.S. \$	With Standard Line and Load Terminals Only	Price U.S. \$
70	JDB3070W		JDB3070	
90	JDB3090W		JDB3090	
100	JDB3100W		JDB3100	
125	JDB3125W		JDB3125	
150	JDB3150W		JDB3150	
175	JDB3175W		JDB3175	
200	JDB3200W		JDB3200	
225	JDB3225W		JDB3225	
250	JDB3250W		JDB3250	

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 1087.

Table 12-162. Molded Case Switches

Maximum Continuous Ampere Rating at 40°C	600 Vac Maximum, 250 Vdc				Standard Terminals Only	
	Complete Circuit Breaker Only without Line and Load Terminals				See Page 12-91 for Optional Terminals	
	—		Suitable for Reverse Feed Use		—	
	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$

2-Pole

250	JD2250KW HJD2250KW		JDB2250KW HJDB2250KW		TA250KB ① —	
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3-Pole

250	JD3250KW HJD3250KW		JDB3250KW HJDB3250KW		TA250KB ① —	
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4-Pole

250	JD4250KW HJD4250KW		JDB4250KW HJDB4250KW		TA250KB ① —	
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① Individually packed.

Note: Molded case switches may open above 2500 amperes.

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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. 65, or Electrical Bulletin 1165. Unless otherwise specified, J-Frame circuit breaker line and load terminals are shipped separately for field installation.

The bottom of the standard TA250KB terminal contains a recess which is positioned over the J-Frame circuit breaker terminal conductor.

Ordering Information

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

Table 12-163. Line and Load Terminals

Maximum Breaker Amperes	Terminal Body Material	Wire Type	AWG Wire Range/ No. Conductors	Metric Wire Range mm ²	Catalog Number	Price U.S. \$
Standard Cu/Al Pressure Terminals						
250	Aluminum	Cu/Al	4 – 350 kcmil	25 – 185	TA250KB	
Optional Cu Pressure Terminals						
250	Stainless Steel	Cu	4 – 350 kcmil	25 – 185	T250KB	

Note: No dual lugs. See multiwire lugs **Page 12-259**.

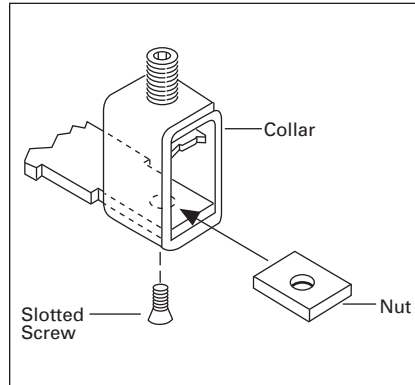


Figure 12-21. T250KB Terminal

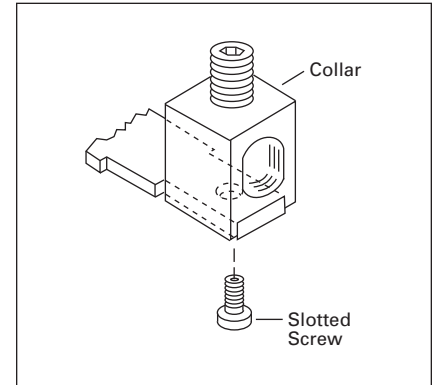


Figure 12-22. TA250KB Terminal (Standard)

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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 12-164. Accessories

Description	Reference Page	2-, 3-Pole			4-Pole			
		Left	Center	Right	Left	Center	Right	Neu.
Internal Accessories (Only One Internal Accessory Per Pole)								
Alarm Lockout (Make/Break)	12-231	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	
Auxiliary Switch (1A, 1B)	12-234	■		■	■		■	
Auxiliary Switch (2A, 2B)	12-234	■		■	■		■	
Auxiliary Switch and Alarm Switch Combination	12-237	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	
Shunt Trip — Standard	12-240	■		■	■		■	
Shunt Trip — Low Energy	12-245	■		■	■		■	
Undervoltage Release Mechanism	12-246	■		■	■		■	
External Accessories								
End Cap Kit	12-257		●			●		
Plug Nut	12-258		●			●		
Control Wire Terminal Kit	12-258		●			●		
Multewire Connectors	12-259		●			●		
Base Mounting Hardware	12-260		●			●		
Terminal Shields	12-262		●			●		
Interphase Barriers	12-263		●			●		
Non-Padlockable Handle Block	12-265		■			■		
Padlockable Handle Block	12-265		■			■		
Padlockable Handle Lock Hasp	12-266	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	
Cylinder Lock	12-266	<input type="checkbox"/>		<input type="checkbox"/>				
Key Interlock Kit	12-267	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	
Sliding Bar Interlock — Requires Two Breakers	12-268		●					
Electrical (Solenoid) 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		●			●		
IQ Energy Sentinel	12-282		●					
Modifications (Refer to Eaton)								
Special Calibration	—		●			●		
Moisture Fungus Treatment	12-205		●			●		
Freeze-Tested Circuit Breakers	—		●			●		
Marine/Naval Application	—		●			●		

■ Applicable in indicated pole position

May be mounted on left or right pole — not both

● Accessory available/Modification available