

K-LINE GENERAL PURPOSE DC CIRCUIT BREAKERS

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DESCRIPTION

K-Line circuit breakers are available as general purpose DC power circuit breakers when equipped with electromechanical trip devices. Available in two pole and parallel pole constructions, the K-Line general purpose DC circuit breaker can be applied on direct current systems with voltages up to 500 volts DC. Featuring manually operated or electrically operated mechanisms identical to those of the AC K-Line breakers, these DC breakers are available in the same drawout and stationary configurations as the AC types. Other features like moving and stationary contacts and the arc chutes are the same as those of the AC K-Line. When utilized as DC circuit breakers, K-Lines are capable of extended continuous current ratings. Trip device calibration likewise reflects this extended continuous current capability. See Table 3 for the DC K-Line forms available.

TRIP SYSTEMS

The dependable, low maintenance OD electromechanical trip device with special DC calibration is used throughout the DC line of K-type breakers. The available OD types are shown in Table 1. All general purpose DC K-Line breakers utilize duo-directional trip devices. Table 2 details the maximum continuous coil ratings available.

FIELD DISCHARGE CIRCUIT BREAKERS

ABB offers a field discharge breaker for special applications. The field discharge circuit breaker is designed to protect the field of a generator or motor from damage due to high induced voltage surges. The contacts of the field discharge pole assembly short circuit the field through a remote mounted resistor (furnished by others) an instant before the contacts of the circuit breaker open. The field is disconnected from the short circuiting resistor an instant after the contacts of the circuit breaker close.

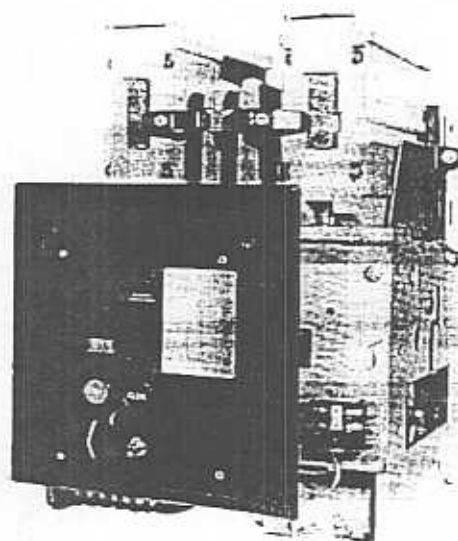
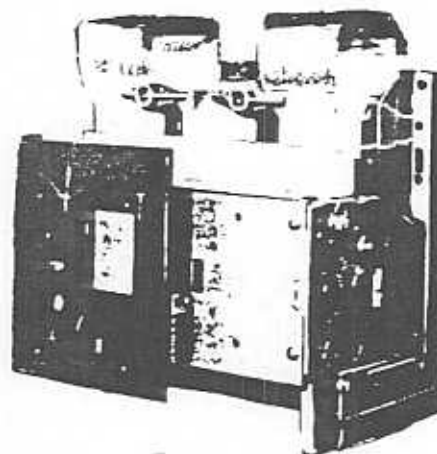


TABLE 1

	PICKUP POINTS		
	LONG TIME	SHORT TIME	INST
OD3/OD300	.5, .6, .7, .85, 1.0, 1.25x	-	5X*
OD4/OD400	.8, 1.0, 1.2, 1.4, 1.6x	4X, 7X, 10X	-
OD5/OD500	.8, 1.0, 1.2, 1.4, 1.6x	4X, 7X, 10X	5X, 10X, 15X
OD6/OD600	.8, 1.0, 1.2, 1.4, 1.6x	-	5X, 10X, 15X

* One pickup point available at 5 times maximum coil rating.

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Table I - 250V. D-C Systems

A. Single-Pole Circuit Applications

(Parallel-Pole Breaker Application)

CIRCUIT BREAKER	MAX. D-C CONT. CURRENT RATING	RATED VOLTAGE	RATED MAX. VOLTAGE	MAX. SHORT CIRCUIT CUR. RATING	PEAK MOMENTARY WITHSTAND RATING
K-600	1200	250	300	25,000	80,000
K-1600	3200	250	300	50,000	160,000
K-2000	4000	250	300	65,000	200,000
K-3000	6000	250	300	75,000	240,000
K-4000	10000	250	300	100,000	320,000

B. Two-Pole Circuit Applications

Standard two-pole K-Line circuit breaker application.

CIRCUIT BREAKER	MAX. D-C CONT. CURRENT RATING	RATED VOLTAGE	RATED MAX. VOLTAGE	MAX. SHORT CIRCUIT CUR. RATING	PEAK MOMENTARY WITHSTAND RATING
K-600	800	250	300	25,000	50,000
K-1600	2000	250	300	50,000	100,000
K-2000	2500	250	300	65,000	125,000
K-3000	4000	250	300	75,000	150,000
K-4000	6000	250	300	100,000	200,000

C. 500V. D-C Systems

Single-Pole Circuit Applications

(Series-Pole Breaker Application)

The two poles of the circuit breaker must be connected in series.

CIRCUIT BREAKER	MAX. D-C CONT. CURRENT RATING	RATED VOLTAGE	RATED MAX. VOLTAGE	MAX. SHORT CIRCUIT CUR. RATING	PEAK MOMENTARY WITHSTAND RATING
K-600	800	500	600	25,000	50,000
K-1600	2000	500	600	50,000	100,000
K-2000	2500	500	600	65,000	125,000
K-3000	4000	500	600	75,000	150,000
K-4000	6000	500	600	100,000	200,000

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TABLE 2
AVAILABLE DC TRIP DEVICE COIL RATINGS

CIRCUIT BREAKER FRAME SIZE	TRIP DEVICES	COIL RATINGS AVAILABLE
600	OD3	40, 70, 125, 225, 400, 600
	OD3*	40, 70, 125, 225, 500, 800
	OD4	150, 175, 200, 225, 250, 300, 350, 400, 450, 500, 600
	OD5	30, 40, 50, 70, 90, 100, 125, 150, 175, 200, 225, 250, 300, 350, 400, 450, 500, 600
	OD6	30, 40, 50, 70, 90, 100, 125, 150, 175, 200, 225, 250, 300, 350, 400, 450, 500, 600
1600	OD3	400, 600, 800, 1600
	OD3*	225, 500, 1000, 2000
	OD4	300, 350, 400, 450, 500, 600, 800, 1000, 1200, 1600
	OD5	150, 175, 200, 225, 250, 300, 350, 400, 450, 500, 600, 800, 1000, 1200, 1600
	OD6	150, 175, 200, 225, 250, 300, 350, 400, 450, 500, 600, 800, 1000, 1200, 1600
2000	OD3	400, 800, 1600, 2000
	OD3*	500, 1000, 2000, 2500
	OD4	800, 1000, 1200, 1600, 2000
	OD5	250, 300, 350, 400, 450, 500, 600, 800, 1000, 1200, 1600, 2000
	OD6	250, 300, 350, 400, 450, 500, 600, 800, 1000, 1200, 1600, 2000
3000	OD3	3000
	OD3*	4000
	OD4	2000, 2500, 3000
	OD5	2000, 2500, 3000
	OD6	2000, 2500, 3000
4000	OD3	4000
	OD3*	6000
	OD4	4000
	OD5	4000
	OD6	4000

OD3 TRIP DEVICES ARE AVAILABLE IN STANDARD AND UPDATED VERSIONS. THE UPDATED VERSIONS ARE SHOWN BY OD3*. THE OD4, OD5, AND OD6 ARE NOT AVAILABLE IN UPDATED VERSIONS.