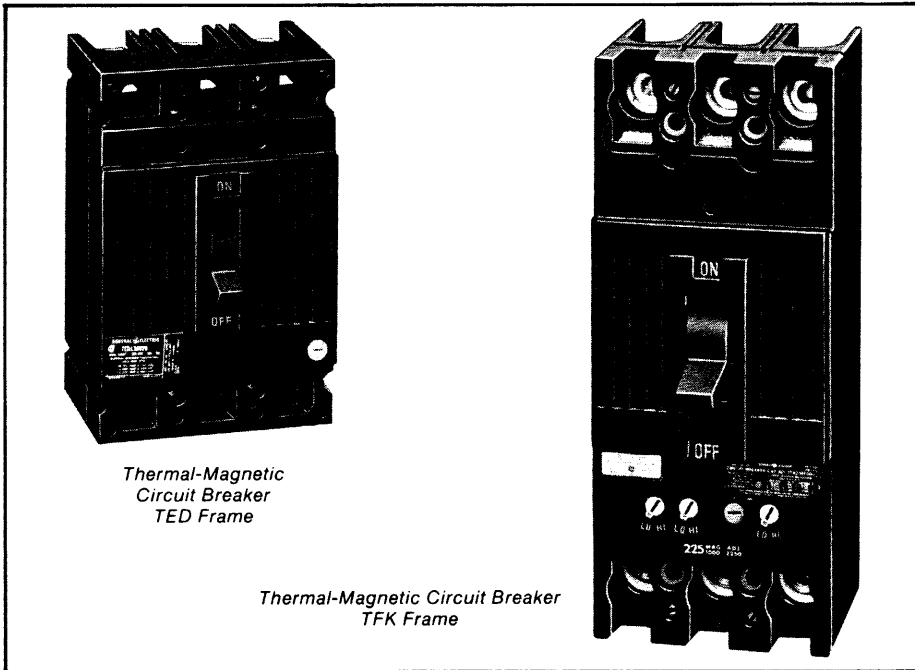




RATINGS OF GENERAL ELECTRIC CIRCUIT BREAKERS Thermal-Magnetic (Inverse Time) Type Used in Circuit Breaker Type Combination Starters



*Thermal-Magnetic
Circuit Breaker
TED Frame*

*Thermal-Magnetic Circuit Breaker
TFK Frame*

DESCRIPTION— General Electric thermal-magnetic circuit breakers may be supplied by Allen-Bradley Company in Size 5 and larger Bulletin 500 Line combination starters, Size 0 and larger combination contactors and as optional equipment (instead of the standard instantaneous breakers) in Size 0 thru 4 combination starters. The particular circuit breaker supplied with a unit depends on the horsepower and voltage that was specified when the unit was ordered. The table (on reverse side) lists the various combinations of circuit breakers and starter sizes. When using the table, be sure to refer to the line that applies to your equipment.

IMPORTANT: The ratings in this publication do not apply to instantaneous type circuit breakers (motor circuit protectors).

OPERATION— Each thermal-magnetic circuit breaker is designed to trip between 100% to 125% of its continuous current rating and also on an inverse time basis at overcurrents up to the magnetic trip current setting of the circuit breaker.

The Type TED, 150A Frame size circuit breakers, are factory set by General Electric to trip magnetically when the current reaches a trip point within the magnetic trip range found on the table on the reverse side. An adjustable magnetic trip is provided on all other frame sizes; it allows the current value for magnetic trip operation to be set to the desired level.

HORSEPOWER RATINGS— The assigned horsepower ratings for the combination starters specified in the table (on reverse side), are related to the motor full-load currents as specified in the National Electrical Code.

Acceptable performance can be expected to occur when the motor full-load current is within $\pm 15\%$ of the value corresponding to the horsepower and voltage as listed in the National Electrical Code. Consult the factory if the motor full-load current is not within these limits.

CIRCUIT BREAKER MAGNETIC TRIP ADJUSTMENT — Field adjustment of the circuit breaker is dependent upon the selection of the appropriate magnetic trip setting expressed in amps in

the table (on reverse side). Select the trip setting at approximately 10 times the motor nameplate full-load current.

- Manually place the circuit breaker operating handle in the "OFF" position.
- Use a screwdriver and turn each of the three magnetic trip adjustments to the appropriate setting as determined above.

All three adjustment knobs should be set to the same position. Verify that the circuit breaker will not trip during motor starting. If the circuit breaker trips on starting, turn each adjustment to successively higher positions until the circuit breaker does not trip when starting. In no cases shall the magnetic trip setting of the circuit breaker exceed 13 times the motor full-load current. Refer to the National Electrical Code.

CAUTION: The horsepower ratings and corresponding trip settings for each circuit breaker in the tables (on reverse side) are only valid when the motor running overcurrent protective device (overload relay) in the combination starter is an Allen-Bradley Bulletin 592 or Bulletin 593 overload relay with properly selected heater elements. When correctly selected, this combination of equipment will permit coordinated overcurrent protection in the motor branch circuit for motors rated for continuous duty and can provide protection against damage due to short circuits and ground faults as defined in the National Electric Code.

The tripping of the circuit breaker may indicate the interruption of a high fault current. In order to maintain protection against fire and/or shock hazard, the current carrying parts of the combination starter should be examined and replaced if damaged. (Refer to NEMA Standards Publication No. ICS 2.2 titled: "Maintenance of Motor Controllers After a Fault Condition" — also published as NEMA Standard Publication No. ICS 2, Part ICS 2-302).

TED FRAME (Non-Adjustable Magnetic Trip)

Frame Size	Continuous Current Rating (Amps)	Starter Size	Horsepower Rating					Magnetic Trip Range (Fixed) (Multiples of Current Rating)		General Electric Part Number	Allen-Bradley Part Number
			200 Volts	230 Volts	380 Volts	460 Volts	575 Volts	Minimum	Maximum		
TED (150A)	15	0-1	0-1	0-1½	0-2	0-3	0-3	12.5	50	TED136015WL	25105-256-02
	20	0-1	1½	2	3	—	5	12.5	50	TED136020WL	25105-256-03
	25	0-1	2	—	—	5	—	12.5	50	TED136025WL	25105-256-04
	30	0 1	—	3 3	5 5	— —	7½	12.5	50	TED136030WL	25105-256-05
	35	1	3	—	—	7½	10	12.5	50	TED136035CL	25105-256-06
	40	1	—	5	7½	10	—	12.5	50	TED136040CL	25105-256-07
	50	1 2	5 5	— —	10 10-15	— —	15	12.5	50	TED136050CL	25105-256-09
	60	2	7½	7½-10	—	15-25	20-25	9.0	40	TED136060CL	25105-256-10
	80	2 3	10 10	15 15	20-25 —	— 30	30-40	9.0	40	TED136080CL	25105-256-12
	100	3	15-20	20	25-30	40-50	50	7.5	20	TED136100CL	25105-256-14
	125	3 4	25 25	25 25	40 —	— 60	60-75	7.5	20	TED136125CL	25105-256-16
150	3 4	— 30	30 30	50 60	— 75	100	7.5	20	TED136150CL	25105-256-17	

TFK, TJK & TKM FRAME (Adjustable Magnetic Trip)

Frame Size	Continuous Current Rating (Amps)	Starter Size	Horsepower Rating					Magnetic Trip Settings (Adjustable) (Amps)					General Electric Part Number	Allen-Bradley Part Number
			200 Volts	230 Volts	380 Volts	460 Volts	575 Volts	LO	1	2	3	HI		
TFK (225A)	100	4	—	—	—	40	40-50	600	762	925	1092	1250	TFK236100CL	25104-301-04
	110	4	—	—	—	50	60	600	762	925	1092	1250	TFK236110CL	25104-301-05
	150	4	25	30	50	60	75	700	900	1100	1300	1500	TFK236150CL	25104-301-07
	175	4	30	40	60	75	100	800	1037	1275	1512	1750	TFK236175CL	25104-301-08
	225	4	40	50	75	100	—	1000	1312	1625	1939	2250	TFK236225CL	25104-301-10
TJK (400A)	250	5	40	50	75	100	100-125	750	1187	1625	2062	2500	TJK436250LL 1	25104-356-06 1
	400	5	50-75	60-100	100-150	125-200	150-200	1200	1900	2600	3300	4000	TJK436400LL 1	25105-356-09 1
TKM (800A)	600	6	75-100	100	150-200	200-250	250-300	1800	2850	3900	4950	6000	TKMA836600LL 1	25104-451-06 1
	800	6	125-150	125-200	250-300	300-400	350-400	2400	3400	4400	5400	6400	TKMA836800LL 1	25104-451-08 1
TKM (1200A)	800	7	—	200	—	400	400-450	2400	3400	4400	5400	6400	TKMA30800LL 1	25104-501-03 1
	1200	7	—	250-300	—	450-600	500-600	3600	5200	6800	8400	10,000	TKMA31200LL 1	25104-501-05 1

1 Part number does not include any line or load lugs. Use the ones taken from the circuit breaker being replaced, or contact Allen-Bradley if new lugs are required.



ALLEN-BRADLEY