

# SYSTEMS DATA SHEET

Electric Power Division    October 2007

## U.L. Withstand and Closing Ratings for CTS/CTG Series Automatic Transfer Switches (ATS)

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### SECTION 1 – THE PURPOSE OF TESTING AND UNIT RATINGS

#### 1. Introduction

Caterpillar automatic transfer switches have been subjected to an extensive test program to show that they comply with and exceed UL 1008 standards as well as the various performance specifications used by most government agencies and major electrical engineers throughout the world. The primary test to assure the dependability of an automatic transfer switch is its ability to close into and withstand high fault currents. The purpose of this publication is to provide basic information on withstand ratings and to document the ratings the CTS, CTX and CTG Series ATS's hold under UL 1008.

NFPA No. 110 (emergency and standby power systems) requires that the capacity and rating of automatic transfer switches be adequate to withstand the thermal and electromagnetic effects of short circuit currents that may arise in the electrical system. It is important to be able to compare properly the withstand current rating (WCR) of the switch to the available short circuit (fault) current of the system until the protective device clears the fault.

The information contained in this publication may be considered confidential. Use discretion when distributing.

If a transfer switch does not have adequate withstand capability – system failure, fire, injury to personnel or equipment damage may result. A clear understanding of the interrelationship between protective device, transfer switch and system needs is necessary for a well designed installation. Some basic information on withstand rating terms and calculations follows the enclosed rating charts.

Underwriters Laboratories (UL) is the independent testing body that has developed the standard UL 1008 which all major transfer switch manufacturers test to. UL lists products which have successfully passed a battery of witnessed tests including the withstand and close into fault tests described herein. Manufacturers that complete these tests are then permitted to label their products with the UL mark.

UL made significant changes in April of 1989 regarding the labeling requirements of transfer switches. Prior to that date there had been concern over coordination with some protective devices. UL clarified the labeling procedure and now allows for three rating categories.

- Current limiting fuse
- Specific class (trip time) of molded case breaker
- “Umbrella” or “Any Breaker” ratings that take into account all types of molded and insulated case circuit breakers; these tests are performed for a duration of 3 cycles on units 225 amps and greater, and for 1.5 cycles on 40-150 amp units (with an optional 3 cycle duration for units up to 150 amps; note the three cycle rating on 150 amp and below units is optional as UL has determined that all breakers in this size clear in less than 1.5 cycles). The “Umbrella” or “Any Breaker” rating is therefore the actual UL requirement and definition of the ATS industry 3 cycle (or 1.5 as noted) withstand and closing rating, and should not to be confused with additional, non UL 1008 labeled “withstand only” tests.

## 2. Caterpillar ATS Product Ratings

The Caterpillar family of transfer switches has maintained an industry-leading role in ratings from the time of its introduction. Today all Caterpillar products are labeled with an “umbrella” (any molded case breaker) rating as well as some higher specific breaker levels giving the consultant a free hand with system design.

The Caterpillar ATS switch family includes:

- CTS Automatic Transfer Switches 40-4,000 amps
- CTSD Delayed Transition Switches 40-4,000 amps
- CTSCT Closed Transition Switches 100-4,000 amps
- CBTS Transfer/Bypass Switches 100-4,000 amps
- CBTSD Delayed Transfer/Bypass Switches 100-4,000 amps
- CBTST Closed Transition Transfer/Bypass Switches 100-4,000 amps
- CTX Automatic Transfer Switches 40-400 amps
- CTG Automatic Transfer Switches 40-3,000 amps
- CTGD Delayed Transition Switches 40-3,000 amps

The following pages include the UL certified ratings and specific breaker coordination charts, withstand rating data and additional specific information.

The consulting engineer must keep in mind that unless a transfer switch bears an umbrella breaker approval for use with any molded case breaker, care must be taken to assure that the breaker specified for the installation have an equal or shorter trip time when compared to the listed devices. This would limit the application of the switch to projects within the scope of its specific breaker listing.

In addition to this factor, many transfer switch manufacturers perform additional withstand tests on selected products. These additional tests may be either for a higher current value or a longer duration than their standard UL Listed ratings. The consultant must determine the applicability of these tests and take careful note of the fact that these levels are normally not UL labeled ratings.

## SECTION 2 – DEFINITIONS AND CALCULATIONS

### 1. Purpose

Many questions arise when comparing WCR to the system fault current rating. Too often a switch is rated by a manufacturer in one set of WCR terms and the available system fault currents described with a different set of terms. The purpose of this paper is to outline the different ways switches may be rated (WCR) and systems are measured.

### 2. Basic Definitions

- a. **RMS Current** – The Root Mean Square which is the effective value of an alternating current. It is equal to 0.707 of the peak current for a sine wave. This is the value referred to when people say “current.”
- b. **Peak Current** – The instantaneous maximum value of current – the peak current of a sine wave is 1.414 times its RMS value.
- c. **Symmetrical Current** – The alternating current which is symmetrical around the zero axis of the sine wave.
- d. **Asymmetrical Current** – The alternating current which is not symmetrical around the zero axis.
- e. **Peak Fault Current** – The instantaneous maximum current value that occurs after the start of a fault in any phase.
- f. **Available Peak Current** – Maximum possible short circuit current that may exist in a system without protective devices.
- g. **Peak Let Through Current** – Maximum instantaneous current through the protective device during the total clearing time.

- h. **Withstand Current Rating** – The rating that defines the ability of the switch to withstand the thermal and electromagnetic effects of short circuit currents for a set period of time.
- i. **Withstand and Closing Rating** – UL 1008 test for a transfer switch’s ability to close into and withstand a fault current. These are the ratings which will actually appear on the UL label of the product.

**Note:** For diagrams of typical current wave forms, see **Figure 1** and **Figure 2**.

### 3. Available Fault Current

Available fault current information can often be supplied by the utility company. If this information is not available, approximate fault current can be calculated by knowing the transformer impedance (usually 2 to 5% of full load ampere rating of the transformer).

For a single phase system, transformer let through current is:

$$I = \frac{\text{kVA (of trans)} \times 1000}{Z \times \text{Line Volts}}$$

Where *Z* is transformer impedance in percent divided by 100.

For three phase systems:

$$I = \frac{\text{kVA} \times 1000}{1.73 Z \times \text{Line Volts}}$$

**Example:** 500 kVA transformer

2.5% Impedance

480 Volts, 3 phase

$$\frac{500 \times 1000}{1.73 (.025) (480)} = 24,085 \text{ amps}$$

This figure is somewhat lower if a long run of cable introduces a substantial additional impedance. Available fault current determine the rating that a transfer must meet.

## 4. Comparison of Terms

The following values have all been used to describe identical circuit conditions:

a. Available short circuit current RMS	120,000 amps
b. Peak Let Through Current (1/2 cycle)	30,000 amps
c. Peak Asymmetrical Current	56,000 amps
d. Peak Symmetrical Current	40,000 amps
e. Withstand Rating 3 cycles RMS	28,000 amps

What do these numbers mean? They mean that a switch was tested at 28,000 amps RMS Sym for 3 cycles; the switch also had a projected peak symmetrical current of 40,000 amps for less than 1/2 cycle and a peak asymmetrical current of 56,000 amps for less than 1/2 cycle. The switch has been tested in a system that has an available capacity of 120,000 amps RMS.

How should a manufacturer rate a switch? Preferably by submitting test data which is reported as outlined by UL 1008 specifications. This data calls for RMS symmetrical readings based on specific test parameters. Other figures may be misleading.

## 5. Test Documents

As fault currents can occur at any level, a transfer switch must be capable of withstanding any fault current up to its maximum rating. This rating is based on the rating of the protective device in front of the unit and must be considered on that basis.

Tests show that results based on various current values and time durations, and include additional high current tests with fuses. By considering this range of values, it is possible to predict performance with different fuse characteristics or specific circuit breaker current-time curves with a given available short circuit current.

## 6. Interrupting Ratings

Some manufacturers of circuit breaker type automatic transfer switches list interrupting current (IC) ratings in lieu of WCR. These switches will then open on faults instead of withstanding the fault until the external protective device clears. As the transfer switch is then used to open the fault current in place of a protective device – this may leave the transfer switch with both normal and emergency open which then requires manual resetting of the breakers within the transfer switch enclosure. The circuit breakers may require factory inspection after high current interruption in accordance with common circuit breaker procedures.

WCR ratings, as opposed to IC ratings appear to offer a better choice to the system designer as he attempts to coordinate the protection of the entire system. Knowing the maximum amount and duration of fault current a switch will withstand gives the designer the information necessary for complete coordinated system design.

## 7. Advantage of RMS Symmetrical Ratings

- Date is consistently reported based on UL test procedures.
- Where time beyond the first 1/2 cycle is given, suitable decisions can be made to use circuit breakers or fuses.
- “Trick” reporting is eliminated.

## 8. Blow-On Effects of Short Circuit Currents on Contacts

Some switch designers analyze “blow-on” and “blow-off” effects and force vectors (due to electromagnetic repulsion) to claim increased WCR capability of their product. Such calculations are very rough approximations because of inherent errors in estimating “domain” size and number, current “pinch” effect and the problem of complex geometry of actual contact structures when compared to idealized models.

The only proof of a successful design are tests, uniformly performed and consistently reported all to the same criterion such as UL 1008.

Figure 1 – Waves – Symmetrical and Asymmetrical

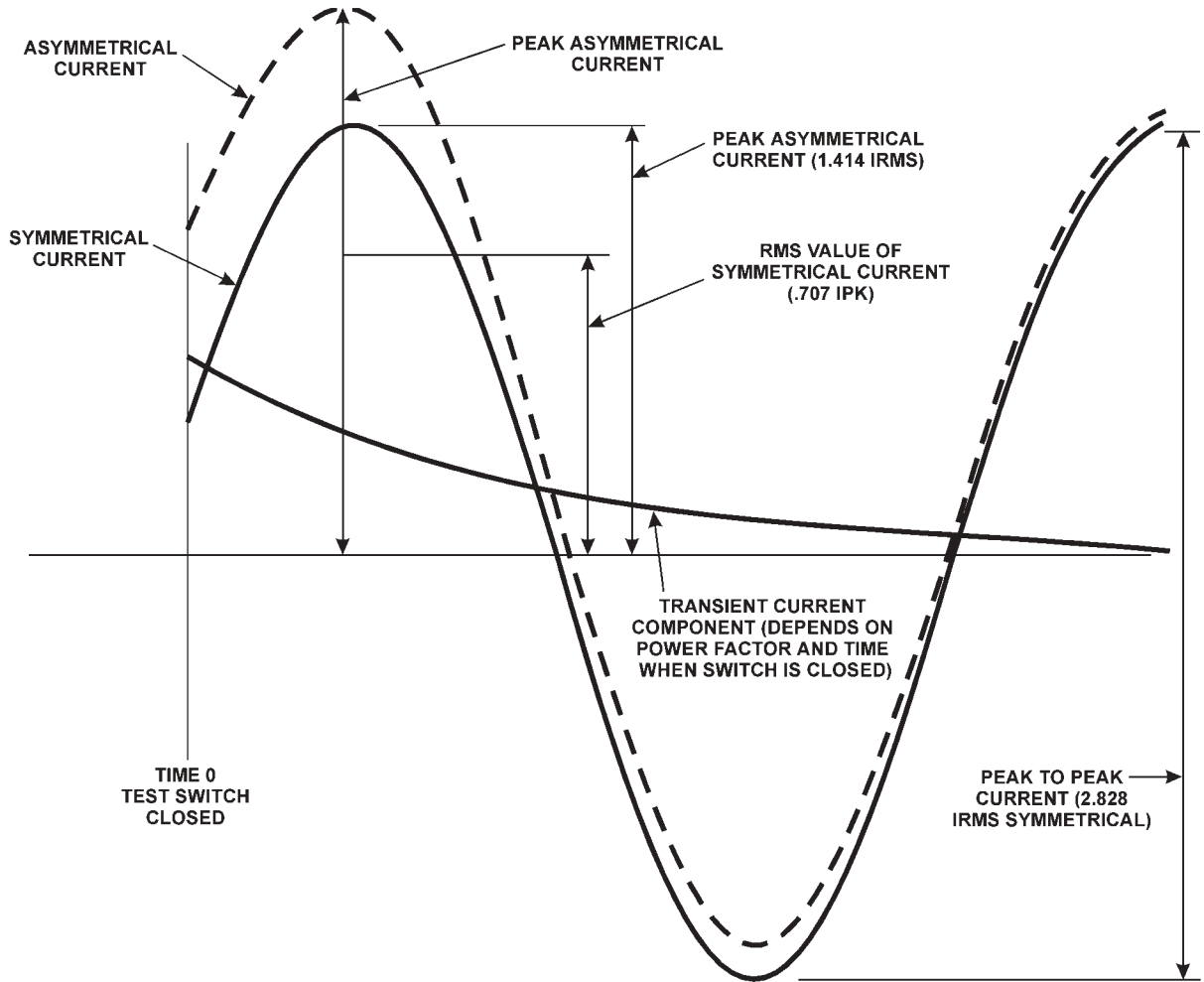
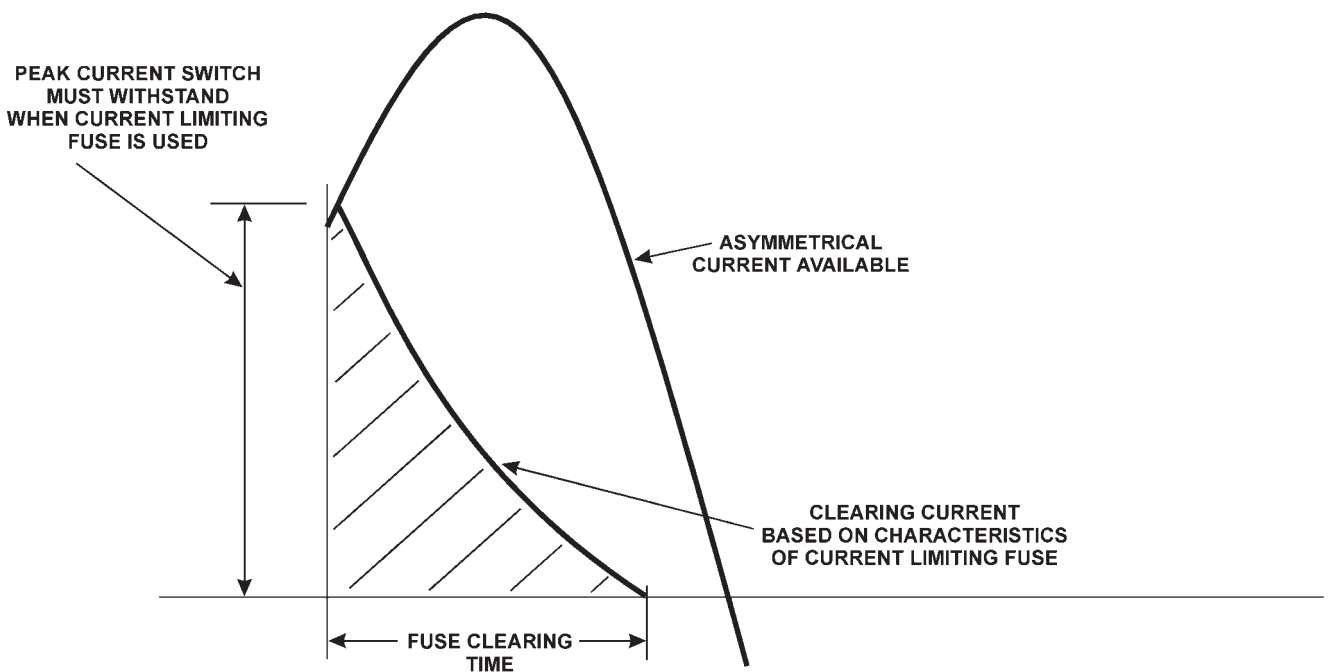


Figure 2 – Current Limiting Fuse Effects



## Rating Summary Chart

### UL 1008 Withstand & Closing Ratings in Symmetrical RMS Amperes at 480 Volts AC

Model	UL 1008 Switch Rating	Current Limiting Fuse			Specific Coordinated Breaker Rating			Any Molded Case Breaker Rating		Minimum UL 1008 Ratings (Table 34.1)
		Maximum Fuse Size, Amps	Maximum Circuit Amps at 480 VAC (UL)	Maximum Circuit Amps at 600 VAC (CSA)	Maximum Circuit Breaker Size, Amps	Maximum Circuit Amps at 480 VAC (UL)	Maximum Circuit Amps at 600 VAC (CSA)	Maximum Circuit Amps at 480 VAC (UL)	Maximum Circuit Amps at 600 VAC (CSA)	
CTX	40	50	200,000	#N/A	400	30,000	#N/A	#N/A	#N/A	5,000
CTX	80	100	200,000	#N/A	400	30,000	#N/A	#N/A	#N/A	5,000
CTX	100	125	200,000	#N/A	400	30,000	#N/A	#N/A	#N/A	5,000
CTX	150	200	200,000	#N/A	400	30,000	#N/A	#N/A	#N/A	10,000
CTX	200	300	200,000	#N/A	400	30,000	#N/A	#N/A	#N/A	10,000
CTX	225	300	200,000	#N/A	400	30,000	#N/A	#N/A	#N/A	10,000
CTX	300	400	200,000	#N/A	800	50,000	#N/A	#N/A	#N/A	10,000
CTX	400	500	200,000	#N/A	800	50,000	#N/A	#N/A	#N/A	10,000
CTG	40	50	200,000	200,000	400	30,000	22,000	#N/A	#N/A	5,000
CTG	80	100	200,000	200,000	400	30,000	22,000	#N/A	#N/A	5,000
CTG	100	125	200,000	200,000	400	30,000	22,000	#N/A	#N/A	5,000
CTG	150	200	200,000	200,000	400	30,000	22,000	#N/A	#N/A	10,000
CTG	225	300	200,000	200,000	800	30,000	22,000	#N/A	#N/A	10,000
CTG	260	350	200,000	200,000	800	50,000	42,000	#N/A	#N/A	10,000
CTG	400	600	200,000	200,000	800	50,000	42,000	#N/A	#N/A	10,000
CTG	600	#N/A	#N/A	#N/A	800	50,000	#N/A	#N/A	#N/A	12,000
CTG	800	1,000	200,000	#N/A	1,200	65,000	50,000	#N/A	#N/A	16,000
CTG	1,000	1,250	200,000	150,000	1,600	85,000	65,000	#N/A	#N/A	20,000
CTG	1,200	1,500	200,000	150,000	1,600	85,000	65,000	#N/A	#N/A	24,000
CTG	1,600	2,000	200,000	150,000	2,500	100,000	85,000	#N/A	#N/A	32,000
CTG	2,000	2,500	200,000	150,000	2,500	100,000	85,000	#N/A	#N/A	40,000
CTG	3,000	4,000	200,000	150,000	4,000	100,000	85,000	#N/A	#N/A	60,000
CTGD	40	50	200,000	200,000	800	50,000	42,000	#N/A	#N/A	5,000
CTGD	80	100	200,000	200,000	800	50,000	42,000	#N/A	#N/A	5,000
CTGD	100	125	200,000	200,000	800	50,000	42,000	#N/A	#N/A	5,000
CTGD	150	200	200,000	200,000	800	50,000	42,000	#N/A	#N/A	10,000
CTGD	225	300	200,000	200,000	800	50,000	42,000	#N/A	#N/A	10,000
CTGD	260	350	200,000	200,000	800	50,000	42,000	#N/A	#N/A	10,000
CTGD	400	600	200,000	200,000	800	50,000	42,000	#N/A	#N/A	10,000
CTGD	600	#N/A	#N/A	#N/A	800	50,000	#N/A	#N/A	#N/A	12,000
CTGD	800	1,000	200,000	#N/A	1,200	65,000	#N/A	#N/A	#N/A	16,000
CTGD	1,000	1,250	200,000	150,000	1,600	85,000	65,000	#N/A	#N/A	20,000
CTGD	1,200	1,500	200,000	150,000	1,600	85,000	65,000	#N/A	#N/A	24,000
CTGD	1,600	2,000	200,000	150,000	2,500	100,000	85,000	#N/A	#N/A	32,000
CTGD	2,000	2,500	200,000	150,000	2,500	100,000	85,000	#N/A	#N/A	40,000
CTGD	3,000	4,000	200,000	150,000	4,000	100,000	85,000	#N/A	#N/A	60,000
CTS	40	50	200,000	200,000	400	30,000	22,000	10,000	10,000	5,000
CTS	80	100	200,000	200,000	400	30,000	22,000	10,000	10,000	5,000
CTS	100	125	200,000	200,000	400	30,000	22,000	10,000	10,000	5,000
CTS	150	200	200,000	200,000	400	30,000	22,000	10,000	10,000	10,000
CTS	225	300	200,000	200,000	800	50,000	42,000	35,000	35,000	10,000
CTS	260	350	200,000	200,000	800	50,000	42,000	35,000	35,000	10,000
CTS	400	600	200,000	200,000	800	50,000	42,000	35,000	35,000	10,000
CTS	600	750	200,000	150,000	800	65,000	50,000	50,000	42,000	12,000
CTS	800	1,000	200,000	#N/A	1,600	65,000	#N/A	50,000	#N/A	16,000
CTS	1,000	1,250	200,000	150,000	1,600	85,000	65,000	50,000	42,000	20,000
CTS	1,200	1,500	200,000	150,000	1,600	85,000	65,000	50,000	42,000	24,000
CTS	1,600	2,000	200,000	150,000	2,500	100,000	85,000	100,000	85,000	32,000
CTS	2,000	2,500	200,000	150,000	2,500	100,000	85,000	100,000	85,000	40,000
CTS	3,000	4,000	200,000	150,000	4,000	100,000	85,000	100,000	85,000	60,000
CTS	4,000	6,000	200,000	150,000	5,000	100,000	85,000	100,000	85,000	80,000

U.L. Withstand and Closing Ratings for CTS/CTG Series Automatic Transfer Switches (ATS)

Model	UL 1008 Switch Rating	Current Limiting Fuse			Specific Coordinated Breaker Rating			Any Molded Case Breaker Rating		Minimum UL 1008 Ratings (Table 34.1)
		Maximum Fuse Size, Amps	Maximum Circuit Amps at 480 VAC (UL)	Maximum Circuit Amps at 600 VAC (CSA)	Maximum Circuit Breaker Size, Amps	Maximum Circuit Amps at 480 VAC (UL)	Maximum Circuit Amps at 600 VAC (CSA)	Maximum Circuit Amps at 480 VAC (UL)	Maximum Circuit Amps at 600 VAC (CSA)	
CTSD	40	50	200,000	200,000	800	50,000	42,000	35,000	35,000	5,000
CTSD	80	100	200,000	200,000	800	50,000	42,000	35,000	35,000	5,000
CTSD	100	125	200,000	200,000	800	50,000	42,000	35,000	35,000	5,000
CTSD	150	200	200,000	200,000	800	50,000	42,000	35,000	35,000	10,000
CTSD	225	300	200,000	200,000	800	50,000	42,000	35,000	35,000	10,000
CTSD	260	350	200,000	200,000	800	50,000	42,000	35,000	35,000	10,000
CTSD	400	600	200,000	200,000	800	50,000	42,000	35,000	35,000	10,000
CTSD	600	750	200,000	200,000	800	65,000	50,000	50,000	42,000	16,000
CTSD	800	1,000	200,000	#N/A	1,200	65,000	#N/A	50,000	#N/A	16,000
CTSD	1,000	1,250	200,000	200,000	1,600	85,000	65,000	50,000	42,000	20,000
CTSD	1,200	1,500	200,000	200,000	1,600	85,000	65,000	50,000	42,000	24,000
CTSD	1,600	2,000	200,000	200,000	2,500	100,000	85,000	100,000	85,000	32,000
CTSD	2,000	2,500	200,000	200,000	2,500	100,000	85,000	100,000	85,000	40,000
CTSD	3,000	4,000	200,000	200,000	4,000	100,000	85,000	100,000	85,000	60,000
CTSD	4,000	6,000	200,000	200,000	5,000	100,000	85,000	100,000	85,000	80,000
CBTS (D)	100	125	200,000	200,000	800	50,000	42,000	35,000	35,000	5,000
CBTS (D)	150	200	200,000	200,000	800	50,000	42,000	35,000	35,000	10,000
CBTS (D)	225	300	200,000	200,000	800	50,000	42,000	35,000	35,000	10,000
CBTS (D)	260	350	200,000	200,000	800	50,000	42,000	35,000	35,000	10,000
CBTS (D)	400	600	200,000	200,000	800	50,000	42,000	35,000	35,000	10,000
CBTS (D)	600	750	200,000	150,000	800	65,000	50,000	50,000	42,000	12,000
CBTS (D)	800	1,000	200,000	150,000	1,600	85,000	65,000	50,000	42,000	16,000
CBTS (D)	1,000	1,250	200,000	150,000	1,600	85,000	65,000	50,000	42,000	20,000
CBTS (D)	1,200	1,500	200,000	150,000	1,600	85,000	65,000	50,000	42,000	24,000
CBTS (D)	1,600	2,000	200,000	150,000	2,500	100,000	85,000	100,000	85,000	32,000
CBTS (D)	2,000	2,500	200,000	150,000	2,500	100,000	85,000	100,000	85,000	40,000
CBTS (D)	3,000	4,000	200,000	150,000	4,000	100,000	85,000	100,000	85,000	60,000
CBTS (D)	4,000	6,000	200,000	150,000	5,000	100,000	85,000	100,000	85,000	80,000
CTSCT	40									
CTSCT	80									
CTSCT	100									
CTSCT	150									
CTSCT	225									
CTSCT	260									
CTSCT	400									
CTSCT	600	750	200,000	150,000	800	65,000	50,000	50,000	42,000	16,000
CTSCT	800	1,000	200,000	#N/A	1,200	65,000	#N/A	50,000	#N/A	16,000
CTSCT	1,000	1,250	200,000	150,000	1,600	85,000	65,000	50,000	42,000	20,000
CTSCT	1,200	1,500	200,000	150,000	1,600	85,000	65,000	50,000	42,000	24,000
CTSCT	1,600	2,000	200,000	150,000	2,500	100,000	85,000	100,000	85,000	32,000
CTSCT	2,000	2,500	200,000	150,000	2,500	100,000	85,000	100,000	85,000	40,000
CTSCT	3,000	4,000	200,000	150,000	4,000	100,000	85,000	100,000	85,000	60,000
CTSCT	4,000	6,000	200,000	150,000	5,000	100,000	85,000	100,000	85,000	80,000
CBTSCT	100									
CBTSCT	150									
CBTSCT	225									
CBTSCT	260									
CBTSCT	400									
CBTSCT	600	750	200,000	150,000	800	65,000	50,000	50,000	42,000	12,000
CBTSCT	800	1,000	200,000	150,000	1,600	85,000	65,000	50,000	42,000	16,000
CBTSCT	1,000	1,250	200,000	150,000	1,600	85,000	65,000	50,000	42,000	20,000
CBTSCT	1,200	1,500	200,000	150,000	1,600	85,000	65,000	50,000	42,000	24,000
CBTSCT	1,600	2,000	200,000	150,000	2,500	100,000	85,000	100,000	85,000	32,000
CBTSCT	2,000	2,500	200,000	150,000	2,500	100,000	85,000	100,000	85,000	40,000
CBTSCT	3,000	4,000	200,000	150,000	4,000	100,000	85,000	100,000	85,000	60,000
CBTSCT	4,000	6,000	200,000	150,000	5,000	100,000	85,000	100,000	85,000	80,000

## CTX Series

Amp	Any Breaker	Maximum Coordinated Breaker Rating	Coordinated Breaker Model Types	Maximum MCCB Breaker Ampere Size	Current Limiting Fuse Rating	Fuse Class	Maximum Fuse Size [A]
<b>40-225A, 480V</b>							
40	#N/A	30,000	150A FDC, HFD	#N/A	200,000	J	400
80			250A HJD, JDC				
100			400A HKD, KD, KDB, KDC, LA Tripac, LCL				
150			100A TB1				
200			150A SEL, SEP, TEL, THLC1				
225			225A TFL, THLC2				
			250A SFL, SFP				
			400A SGL4, SGP4, TB4, THJK4, THLC4, TJJ, TJK4, TLB4				
			125A CED6, HED4, HED6				
			250A CFD6, FD6, FXD6, HFD6				
			400A CJD6, HHJD6, HHJXD6, HJD6, JD6, JXD6, SCJD6, SHJD6, SJD6				
			150A FC, FI				
			250A KC, KH, KI				
			400A LA, LC, LE, LH, LI, LX, LXI				
<b>300-400A, 480V</b>							
300	#N/A	50,000	250A HJD, JDC	#N/A	200,000	J	600
400			400A CHKD, HKD, KDC, LA Tripac, LCL		100,000	RK5	600
			600A CHLD, CLDC, HLD, LDC		100,000	RK1	600
			800A NB Tripac				
			250A SFL, SFP, TFL, THLC2				
			400A SGL4, SGP4, TB4, THLC4, TLB4				
			600A SGL6, SGP6, TB6, TJLTS-6S, TJJ4V, TKL4V				
			800A SKH8, SKL8, SKP8, TB8				
			250A CF250H, CF250L				
			400A CJ400H, CJ400L, CK400H, CK400N				
			600A CJ600H				
			800A CK800H, CK800N				
			250A CFD6, HFD6				
			400A CJD6, HHJD6, HHJXD6, HJD6, SCJD6, SHJD6				
			600A CLD6, HHLXD6, HHLXD6, HLD6, SCLD6, SHLD6				
			800A CMD6, HMD6, HMXD6, MD6, MXD6, SCMD6, SHMD6, SMD6				
			250A KC, KI				
			400A —				
			600A LC, LE, LI, LX, LXI				
			800A ME, MH, MX				

# CTG Series

Amp	Any Breaker	Maximum Coordinated Breaker Rating	Coordinated Breaker Model Types	Maximum MCCB Breaker Ampere Size	Current Limiting Fuse Rating	Fuse Class	Maximum Fuse Size [A]
<b>40-225A, 480V</b>							
40	#N/A	30,000	Cutler-Hammer	#N/A	200,000	J	400
80							
100							
150							
200							
225							
<b>40-225A, 600V</b>							
40	#N/A	22,000	Cutler-Hammer	#N/A	200,000	J	400
80							
100							
150							
200							
225							

## CTG Series (cont'd)

Amp	Any Breaker	Maximum Coordinated Breaker Rating	Coordinated Breaker Model Types	Maximum MCCB Breaker Ampere Size	Current Limiting Fuse Rating	Fuse Class	Maximum Fuse Size [A]
<b>260-400A, 480V</b>							
260	#N/A	50,000	Cutler-Hammer	#N/A	200,000	J	600
400					100,000	RK5	600
					100,000	RK1	600
			General Electric				
			250A SFL, SFP, TFL, THLC2				
			400A SGL4, SGP4, TB4, THLC4, TLB4				
			600A SGL6, SGP6, TB6, TLLTS-6S, TLL4V, TKL4V				
			800A SKH8, SKL8, SKP8, TB8				
			Mertin Gerin				
			250A CF250H, CF250L				
			400A CJ400H, CJ400L, CK400H, CK400N				
			600A CJ600H				
			800A CK800H, CK800N				
			Siemens				
			250A CFD6, HFD6				
			400A CJD6, HHJD6, HHJXD6, HJD6, SCJD6, SHJD6				
			600A CLD6, HHLD6, HHLXD6, HLD6, SCLD6, SHLD6				
			800A CMD6, HMD6, HMXD6, MD6, MXD6, SCMD6, SHMD6, SMD6				
			Square D				
			250A KC, KI				
			400A —				
			600A LC, LE, LJ, LX, LXI				
			800A ME, MH, MX				
<b>260-400A, 600V</b>							
260	#N/A	42,000	Cutler-Hammer	#N/A	200,000	J	600
400							
			General Electric				
			250A THLC2				
			400A SGL4, SGP4, TB4, THLC4				
			600A SGL6, SGP6, TB6				
			800A SKL8, SKP8, TB8				
			Mertin Gerin				
			250A CF250L				
			400A CJ400L, CK400H				
			600A —				
			800A CK800H				
			Siemens				
			250A CFD6				
			400A CJD6, HHJD6, HHJXD6, SCJD6				
			600A CLD6, HHLD6, HHLXD6, SCLD6				
			800A CMD6, HMD6, HMXD6, SCMD6, SHMD6				
			Square D				
			250A KI				
			400A —				
			600A LJ, LXI				
			800A —				

# CTG Series (cont'd)

Amp	Any Breaker	Maximum Coordinated Breaker Rating	Coordinated Breaker Model Types	Maximum MCCB Breaker Ampere Size	Current Limiting Fuse Rating	Fuse Class	Maximum Fuse Size [A]
<b>600A, 480V</b>							
600	#N/A	50,000	ABB	#N/A	#N/A	#N/A	#N/A
			150A — 250A — 400A JHB 600A — 800A — 150A FDC, HFD 250A HJD, JDC 400A CHKD, HKD, KDC, LA Tripac, LCL 600A CHLD, CLDC, HLD, LDC 800A NB Tripac				
	General Electric		150A SEL, SEP, THLC1 250A SFP, SFP, TFL, THLC2 400A SGL4, SGP4, TB4, THLC4, TJL, TLB4 600A SGL6, SGP6, TB6, TJL1S-6S, TJL4V, TKL4V 800A SKL8, SKH8, SKP8, TB8				
	Merlin Gerin		150A — 250A CF250H, CF250L 400A CJ400H, CJ400L, CK400H, CK400N 600A CJ600H 800A CK800H, CK800N				
	Siemens		150A — 250A CFD6, HFD6 400A CJD6, HJD6, HHJD6, HHJXD6, SCJD6, SHJD6 600A CLD6, HLD6, HHLD6, HHLXD6, SCLD6, SHLD6 800A CMD6, HMD6, HMXD6, MD6, MXD6, SCMD6, SHMD6, SMD6				
	Square D		150A — 250A KI, KC 400A LC, LE, LI, LX, LXI 600A LC, LE, LI, LX, LXI 800A ME, MH, MX				
<b>800A, 480V</b>							
800	#N/A	65,000	Cutler-Hammer	#N/A	200,000	L	1,200
	General Electric		800A CHMDL, HMDL, NB Tripac 1,200A CHND, CNDC, HND, NDC 800A TB8, TC, THC, THP, TKL85, TP, SKL8, SKP8 1,200A TKL12S, SKL12, SKP12				
	Siemens		800A CMD6, HMD6, SCMD6, SHMD6 1,200A CND6, HND6, SCND6, SHND6				
	Merlin Gerin		800A — 1,200A CK1000L				
	Square D		800A ME, MH, MX 1,200A NC, NE, NX				

## CTG Series (cont'd)

Amp	Any Breaker	Maximum Coordinated Breaker Rating	Coordinated Breaker Model Types	Maximum MCCB Breaker Ampere Size	Current Limiting Fuse Rating	Fuse Class	Maximum Fuse Size [A]
<b>800A, 600V</b>							
Consult factory							
1,000 1,200	#N/A	85,000	800A NB Tripac 1,200A CND6, NDC 1,600A CRDC, PB Tripac, PC, PCC, RDC  800A SKP8, TB8, THC, THP 1,200A SKP12 1,600A THC, THP, TRP  800A — 1,200A CK1000L 1,600A CM1600  800A CMD6, SCMD6 1,200A CND6, SCND6 1,600A CPD6  800A — 1,200A NC, NE, NX 1,600A PCF, PEF, PHF, PXF	#N/A	200,000	L	3,000
<b>1,000-1,200A, 480V</b>							
<b>800A, 600V</b>							
1,000 1,200	#N/A	65,000	800A NB Tripac 1,200A — 1,600A CRDC, PB Tripac, PC, PCC, RDC  800A SKP8, TB8, THC, THP 1,200A SKP12 1,600A THC, THP, TRP  800A — 1,200A — 1,600A MC16H1, MP16H1, MP16H2  800A CMD6, SCMD6 1,200A CND6, SCND6 1,600A CPD6, HPD6, HRD6  800A — 1,200A NC, NE, NX 1,600A PCF, PEF, PHF, PXF	#N/A	150,000	L	3,000
<b>1,000-1,200A, 600V</b>							
1,600 2,000	#N/A	100,000	Any	#N/A	200,000	L	2,500
<b>1,600-2,000A, 480V</b>							

## CTG Series (cont'd)

Amp	Any Breaker	Maximum Coordinated Breaker Rating	Coordinated Breaker Model Types	Maximum MCCB Breaker Ampere Size	Current Limiting Fuse Rating	Fuse Class	Maximum Fuse Size [A]
1,600 2,000	#N/A	85,000	Any 1,600-2,000A, 600V	#N/A	150,000	L	2,500
2,600 3,000	#N/A	100,000	Any 2,600-3,000A, 480V	#N/A	200,000	L	4,000
2,600 3,000	#N/A	85,000	Any 2,600-3,000A, 600V	#N/A	150,000	L	4,000

## CTGD Series

Amp	Any Breaker	Maximum Coordinated Breaker Rating	Coordinated Breaker Model Types	Maximum MCCB Breaker Ampere Size	Current Limiting Fuse Rating	Fuse Class	Maximum Fuse Size [A]
<b>40-400A, 480V</b>							
40	35,000	50,000	ABB	150A — 250A — 400A JHB 600A — 800A —	200,000 100,000 100,000	J RK1 RK5	600 600 600
80			Cutler-Hammer	150A FDC, HFD 250A HJD, JDC 400A CHKD, HKD, KDC, LA Tripac, LCL 600A CHLD, CLDC, HLD, LDC 800A NB Tripac			
100			General Electric	150A THLC1, SEL, SEP 250A SFL, SFP, TFL, THLC2 400A SGL4, SGP4, TB4, THLC4, T, JL, TLB4 600A SGL6, SGP6, TB6, T, JLS-6S, T, JLV, TKL4V 800A SKH8, SKL8, SKP8, TB8			
150			Merlin Gerin	150A — 250A CF250H, CF250L 400A CJ400L, CJ400H, CK400H, CK400N 600A CJ600H 800A CK800H, CK800N			
225			Siemens	150A — 250A CFD6, HFD6 400A CJD6, HHJD6, HHJXD6, HJD6, SCJD6, SHJD6 600A CLD6, HHLD6, HHLXD6, HLD6, SCLD6, SHLD6 800A CMD6, HMD6, HMXD6, MD6, MXD6, SCMD6, SHMD6, SMD6			
260			Square D	150A — 250A KC, KI 400A LC, LE, LI, LX, LXI 600A LC, LE, LI, LX, LXI 800A ME, MH, MX			
400							

# CTGD Series (cont'd)

Amp	Any Breaker	Maximum Coordinated Breaker Rating	Coordinated Breaker Model Types	Maximum MCCB Breaker Ampere Size	Current Limiting Fuse Rating	Fuse Class	Maximum Fuse Size [A]
40	35,000	42,000	40-400A, 600V	800	200,000	J	600
80			ABB				
100			150A —				
150			250A —				
225			400A JHB, MHB				
260			600A —				
400			800A —				
			Cutler-Hammer				
			150A FDC				
			250A JDC				
			400A HKD, KDC, LA Tripac, LCL				
			600A CLDC, LDC				
			800A NB Tripac				
			General Electric				
			150A THLC1				
			250A THLC2				
			400A SGL4, SGP4, TB4, THLC4				
			600A SGL6, SGP6, TB6				
			800A SKL8, SKP8, TB8				
			Merlin Gerin				
			150A —				
			250A CF250L				
			400A CJ400L, CK400H, CK400L, CK400N, CK400NN				
			600A —				
			800A CK800H				
			Siemens				
			150A —				
			250A CFD6				
			400A CJD6, HHJD6, HHJXD6, HJD6, HLD6, SCJD6				
			600A CLD6, HHLD6, HHLXD6, SCLD6				
			800A CMD6, HMD6, HMXD6, SCMD6, SHMD6				
			Square D				
			150A —				
			250A KI				
			400A LC, LE, LI, LX, LXI				
			600A LI, LXI				
			800A —				

## CTGD Series (cont'd)

Amp	Any Breaker	Maximum Coordinated Breaker Rating	Coordinated Breaker Model Types	Maximum MCCB Breaker Ampere Size	Current Limiting Fuse Rating	Fuse Class	Maximum Fuse Size [A]
600	#N/A	50,000	<b>600A, 480V</b>	#N/A	#N/A	#N/A	#N/A
	ABB		150A — 250A — 400A JHB 600A — 800A —				
	Cutler-Hammer		150A FDC, HFD 250A HJD, JDC 400A CHKD, HKD, KDC, LA Tripac, LCL 600A CHLD, CLDC, HLD, LDC 800A NB Tripac				
	General Electric		150A SEL, SEP, THLC1 250A SFP, SFP, TFL, THLC2 400A SGL4, SGP4, TB4, THLC4, TJL, TLB4 600A SGL6, SGP6, TB6, TJLTS-6S, TJL4V, TKL4V 800A SKL8, SKH8, SKP8, TB8				
	Merlin Gerin		150A — 250A CF250H, CF250L 400A CJ400H, CJ400L, CK400H, CK400N 600A CJ600H 800A CK800H, CK800N				
	Siemens		150A — 250A CFD6, HFD6 400A CJD6, HJD6, HHJD6, HHXD6, SCJD6, SHJD6 600A CLD6, HLD6, HHLD6, HHLXD6, SCLD6, SHLD6 800A CMD6, HMD6, HMXD6, MD6, MXD6, SCMD6, SHMD6, SMD6				
	Square D		150A — 250A KC, KI 400A LC, LE, LI, LX, LXI 600A LC, LE, LI, LX, LXI 800A ME, MH, MX				
			<b>600A, 600V</b>				
			Consult factory				

# CTGD Series (cont'd)

Amp	Any Breaker	Maximum Coordinated Breaker Rating	Coordinated Breaker Model Types	Maximum MCCB Breaker Ampere Size	Current Limiting Fuse Rating	Fuse Class	Maximum Fuse Size [A]
<b>800A, 480V</b>							
800	#N/A	65,000	Cutler-Hammer 800A CHMDL, HMDL, NB Tripac 1,200A CHND, CND6, HND, NDC General Electric 800A TB8, TC, THC, THP, TKL85, TP, SKL8, SKP8 1,200A TKL12S, SKL12, SKP12 Siemens 800A CMD6, HMD6, SCMD6, SHMD6 1,200A CND6, HND6, SCND6, SHND6 Merlin Gerin 800A — 1,200A CK1000L Square D 800A ME, MH, MX 1,200A NC, NE, NX	#N/A	200,000	L	1,200
<b>800A, 600V</b>							
Consult factory							
<b>1,000-1,200A, 480V</b>							
1,000 1,200	#N/A	85,000	Cutler-Hammer 800A NB Tripac 1,200A CND6, NDC 1,600A CRDC, PB Tripac, PC, PCC, RDC General Electric 800A SKP8, TB8, THC, THP 1,200A SKP12 1,600A THC, THP, TRP Merlin Gerin 800A — 1,200A CK1000L 1,600A CM1600 Siemens 800A CMD6, SCMD6 1,200A CND6, SCND6 1,600A CPD6 Square D 800A — 1,200A NC, NE, NX 1,600A PCF, PEF, PHF, PXF	#N/A	200,000	L	3,000

## CTGD Series (cont'd)

Amp	Any Breaker	Maximum Coordinated Breaker Rating	Coordinated Breaker Model Types	Maximum MCCB Breaker Ampere Size	Current Limiting Fuse Rating	Fuse Class	Maximum Fuse Size [A]
<b>1,000-1,200A, 600V</b>							
1,000	#N/A	65,000	800A NB Tripac	#N/A	150,000	L	3,000
1,200			1,200A — 1,600A CRDC, PB Tripac, PC, PCC, RDC				
			General Electric 800A SKP8, TB8, THC, THP 1,200A SKP12 1,600A THC, THP, TRP				
			Merlin Gerin 800A — 1,200A — 1,600A MC16H1, MP16H1, MP16H2				
			Siemens 800A CMD6, SCMD6 1,200A CND6, SCND6 1,600A CPD6, HPD6, HRD6				
			Square D 800A — 1,200A NC, NE, NX 1,600A PCF, PEF, PHF, PXF				
<b>1,600-2,000A, 480V</b>							
1,600	#N/A	100,000	Any	#N/A	200,000	L	2,500
2,000							
<b>1,600-2,000A, 600V</b>							
1,600	#N/A	85,000	Any	#N/A	150,000	L	2,500
2,000							
<b>2,600-3,000A, 480V</b>							
2,600	#N/A	100,000	Any	#N/A	200,000	L	4,000
3,000							
<b>2,600-3,000A, 600V</b>							
2,600	#N/A	85,000	Any	#N/A	150,000	L	4,000
3,000							

# CTS Series

Amp	Any Breaker	Maximum Coordinated Breaker Rating	Coordinated Breaker Model Types	Maximum MCCB Breaker Ampere Size	Current Limiting Fuse Rating	Fuse Class	Maximum Fuse Size [A]
<b>40-150A, 480V</b>							
40	10,000	30,000	Cutler-Hammer	400	200,000	J	400
80							
100							
150							
			General Electric				
			100A TB1				
			150A SEL, SEP, TEL, THLC1				
			225A TFL, THLC2				
			250A SFL, SFP				
			400A SGL4, SGP4, TB4, THJK4, THLC4, TJJ, TJK4, TLB4				
			Siemens				
			125A CED6, HED4, HED6				
			250A CFD6, FD6, FXD6, HFD6				
			400A CJD6, HHJD6, HHJXD6, HJD6, JD6, JXD6, SCJD6				
			SHJD6, SJD6				
			Square D				
			150A FC, FI				
			250A KC, KH, KI				
			400A LA, LC, LE, LH, LI, LX, LXI				
<b>40-150A, 600V</b>							
40	10,000	22,000	Cutler-Hammer	400	200,000	J	400
80							
100							
150							
			General Electric				
			100A TB1				
			150A SEL, SEP, TEL, THLC1				
			225A TFL, THLC2				
			250A SFL, SFP				
			400A SGL4, SGP4, TB4, THJK4, THLC4, TJJ, TJK4				
			Siemens				
			125A CED6				
			250A CFD6, HFD6				
			400A CJD6, HHJD6, HHJXD6, HJD6, JD6, JXD6, SCJD6, SHJD6, SJD6				
			Square D				
			150A FI				
			250A KA, KH, KI				
			400A LA, LC, LE, LH, LI, LX, LXI				

## CTS Series (cont'd)

Amp	Any Breaker	Maximum Coordinated Breaker Rating	Coordinated Breaker Model Types	Maximum MCCB Breaker Ampere Size	Current Limiting Fuse Rating	Fuse Class	Maximum Fuse Size [A]
<b>225-400A, 480V</b>							
225	35,000	50,000	Cutler-Hammer	800	200,000	J	600
250					100,000	RK5	600
400					100,000	RK1	600
			General Electric				
			250A SFL, SFP, TFL, THLC2				
			400A SGL4, SGP4, TB4, THLC4, TLB4				
			600A SGL6, SGP6, TB6, TLLTS-6S, TJL4V, TKL4V				
			800A SKH8, SKL8, SKP8, TB8				
			Mertin Gerin				
			250A CF250H, CF250L				
			400A CJ400H, CJ400L, CK400H, CK400N				
			600A CJ600H				
			800A CK800H, CK800N				
			Siemens				
			250A CFD6, HFD6				
			400A CJD6, HHJD6, HHJXD6, HJD6, SCJD6, SHJD6				
			600A CLD6, HHLD6, HHLXD6, HLD6, SCLD6, SHLD6				
			800A CMD6, HMD6, HMXD6, MD6, MXD6, SCMD6, SHMD6, SMD6				
			Square D				
			250A KC, KI				
			400A —				
			600A LC, LE, LJ, LX, LXI				
			800A ME, MH, MX				
<b>225-400A, 600V</b>							
225	35,000	42,000	Cutler-Hammer	800	200,000	J	600
250							
400							
			General Electric				
			250A THLC2				
			400A SGL4, SGP4, TB4, THLC4				
			600A SGL6, SGP6, TB6				
			800A SKL8, SKP8, TB8				
			Mertin Gerin				
			250A CF250L				
			400A CJ400L, CK400H				
			600A —				
			800A CK800H				
			Siemens				
			250A CFD6				
			400A CJD6, HHJD6, HHJXD6, SCJD6				
			600A CLD6, HHLD6, HHLXD6, SCLD6				
			800A CMD6, HMD6, HMXD6, SCMD6, SHMD6				
			Square D				
			250A KI				
			400A —				
			600A LJ, LXI				
			800A —				

# CTS Series (cont'd)

Amp	Any Breaker	Maximum Coordinated Breaker Rating	Coordinated Breaker Model Types	Maximum MCCB Breaker Ampere Size	Current Limiting Fuse Rating	Fuse Class	Maximum Fuse Size [A]
<b>600A, 480V</b>							
600	50,000	65,000	Cutler-Hammer General Electric Siemens Square D	800	200,000 200,000 200,000 200,000	L J RK5 RK1	750 750 750 750
<b>600A, 600V</b>							
600	42,000	50,000	Cutler-Hammer General Electric Siemens Square D	800	150,000 150,000 150,000 150,000	L J RK5 RK1	750 750 750 750
<b>800A, 480V</b>							
800	50,000	65,000	Cutler-Hammer General Electric Siemens Merlin Gerin Square D	1,200	200,000	L	1,200
<b>800A, 600V</b>							
Consult factory							

## CTS Series (cont'd)

Amp	Any Breaker	Maximum Coordinated Breaker Rating	Coordinated Breaker Model Types	Maximum MCCB Breaker Ampere Size	Current Limiting Fuse Rating	Fuse Class	Maximum Fuse Size [A]
<b>1,000-1,200A, 480V</b>							
1,000	50,000	85,000	Cutler-Hammer	1,600	200,000	L	3,000
1,200			800A NB Tripac 1,200A CND6, NDC 1,600A CRDC, PB Tripac, PC, PCC, RDC				
			General Electric				
			800A SKP8, TB8, THC, THP 1,200A SKP12 1,600A THC, THP, TRP				
			Merlin Gerin				
			800A — 1,200A CK1000L 1,600A CM1600				
			Siemens				
			800A CMD6, SCMD6 1,200A CND6, SCND6 1,600A CPD6				
			Square D				
			800A — 1,200A NC, NE, NX 1,600A PCF, PEF, PHF, PXF				
<b>1,000-1,200A, 600V</b>							
1,000	42,000	65,000	Cutler-Hammer	1,600	150,000	L	3,000
1,200			800A NB Tripac 1,200A — 1,600A CRDC, PB Tripac, PC, PCC, RDC				
			General Electric				
			800A SKP8, TB8, THC, THP 1,200A SKP12 1,600A THC, THP, TRP				
			Merlin Gerin				
			800A — 1,200A — 1,600A MC16H1, MP16H1, MP16H2				
			Siemens				
			800A CMD6, SCMD6 1,200A CND6, SCND6 1,600A CPD6, HPD6, HRD6				
			Square D				
			800A — 1,200A NC, NE, NX 1,600A PCF, PEF, PHF, PXF				
<b>1,600-2,000A, 480V</b>							
1,600	100,000	100,000	Any	4,000	200,000	L	2,500
2,000							
<b>1,600-2,000A, 600V</b>							
1,600	85,000	85,000	Any	4,000	150,000	L	2,500
2,000							

## CTS Series (cont'd)

Amp	Any Breaker	Maximum Coordinated Breaker Rating	Coordinated Breaker Model Types	Maximum MCCB Breaker Ampere Size	Current Limiting Fuse Rating	Fuse Class	Maximum Fuse Size [A]
2,600 3,000	100,000	100,000	Any 2,600-3,000A, 480V	4,000	200,000	L	4,000
2,600 3,000	85,000	85,000	Any 2,600-3,000A, 600V	4,000	150,000	L	4,000
4,000	100,000	100,000	Any 4,000A, 480V	5,000	200,000	L	6,000
4,000	85,000	85,000	Any 4,000A, 600V	5,000	200,000	L	6,000

## CTSD Series

Amp	Any Breaker	Maximum Coordinated Breaker Rating	Coordinated Breaker Model Types	Maximum MCCB Breaker Ampere Size	Current Limiting Fuse Rating	Fuse Class	Maximum Fuse Size [A]
<b>40-400A, 480V</b>							
40	35,000	50,000	ABB	150A — 250A — 400A JHB 600A — 800A —	200,000 100,000 100,000	J RK1 RK5	600 600 600
80			Cutler-Hammer	150A FDC, HFD 250A HJD, JDC 400A CHKD, HKD, KDC, LA Tripac, LCL 600A CHLD, CLDC, HLD, LDC 800A NB Tripac			
100			General Electric	150A THLC1, SEL, SEP 250A SFL, SFP, TFL, THLC2 400A SGL4, SGP4, TB4, THLC4, T, JL, TLB4 600A SGL6, SGP6, TB6, T, JLS-6S, T, JLV, TKL4V 800A SKH8, SKL8, SKP8, TB8			
150			Merlin Gerin	150A — 250A CF250H, CF250L 400A CJ400L, CJ400H, CK400H, CK400N 600A CJ600H 800A CK800H, CK800N			
225			Siemens	150A — 250A CFD6, HFD6 400A CJD6, HHJD6, HHJXD6, HJD6, SCJD6, SHJD6 600A CLD6, HHLD6, HHLXD6, HLD6, SCLD6, SHLD6 800A CMD6, HMD6, HMXD6, MD6, MXD6, SCMD6, SHMD6, SMD6			
260			Square D	150A — 250A KC, KI 400A LC, LE, LI, LX, LXI 600A LC, LE, LI, LX, LXI 800A ME, MH, MX			
400							

# CTSD Series (cont'd)

Amp	Any Breaker	Maximum Coordinated Breaker Rating	Coordinated Breaker Model Types	Maximum MCCB Breaker Ampere Size	Current Limiting Fuse Rating	Fuse Class	Maximum Fuse Size [A]
<b>40-400A, 600V</b>							
40	35,000	42,000	ABB	150A — 250A — 400A JHB, MHB 600A — 800A —	200,000	J	600
80							
100							
150							
225							
260							
400							
			Cutler-Hammer	150A FDC 250A JDC 400A HKD, KDC, LA Tripac, LCL 600A CLDC, LDC 800A NB Tripac			
			General Electric	150A THLC1 250A THLC2 400A SGL4, SGP4, TB4, THLC4 600A SGL6, SGP6, TB6 800A SKL8, SKP8, TB8			
			Merlin Gerin	150A — 250A CF250L 400A CJ400L, CK400H, CK400L, CK400N, CK400NN 600A — 800A CK800H			
			Siemens	150A — 250A CFD6 400A CJD6, HHJD6, HHJXD6, HJD6, HLD6, SCJD6 600A CLD6, HHLXD6, HHLXD6, SCLD6 800A CMD6, HMD6, HMXD6, SCMD6, SHMD6			
			Square D	150A — 250A KI 400A LC, LE, LI, LX, LXI 600A LI, LXI 800A —			
<b>600A, 480V</b>							
600	50,000	65,000	Cutler-Hammer	600A CHDC, CLDC, HLD, LDC 800A CHMDL, DSL206, HMDL, NB Tripac	200,000	L	750
			General Electric	600A TB6, TJL, SGL6, SGP6 800A TB8, TC, THC, THP, TP, SKL8, SKP8	200,000	J	750
			Siemens	600A CLD6, HLD6, SCLD6, SHLD6 800A CMD6, HMD6, SCMD6, SHMD6	200,000	RK1	750
			Square D	600A LC, LE, LI, LX, LXI 800A ME, MH, MX, NC, NE, NX	200,000	RK5	750

## CTSD Series (cont'd)

Amp	Any Breaker	Maximum Coordinated Breaker Rating	Coordinated Breaker Model Types	Maximum MCCB Breaker Ampere Size	Current Limiting Fuse Rating	Fuse Class	Maximum Fuse Size [A]
<b>600A, 600V</b>							
600	42,000	50,000	Cutler-Hammer 600A CLDC, LDC 800A DSL206, NB Tripac General Electric 600A TB6, SGL6, SGP6 800A TB8, THC, THP, SKP8 Siemens 600A CLD6, SCLD6 800A CMD6, HMD6, SCMD6, SHMD6 Square D 600A LI, LXI 800A NC, NE, NX	800	150,000 150,000 150,000 150,000	L J RK5 RK1	750 750 750 750
<b>800A, 480V</b>							
800	50,000	65,000	Cutler-Hammer 800A CHMDL, HMDL, NB Tripac 1,200A CHND, CND6, HND, NDC General Electric 800A TB8, TC, THC, THP, TKL85, TP, SKL8, SKP8 1,200A TKL12S, SKL12, SKP12 Siemens 800A CMD6, HMD6, SCMD6, SHMD6 1,200A CND6, HND6, SCND6, SHND6 Merlin Gerin 800A — 1,200A CK1000L Square D 800A ME, MH, MX 1,200A NC, NE, NX	1,200	200,000	L	1,200
<b>800A, 600V</b>							
<b>1,000-1,200A, 480V</b>							
1,000 1,200	50,000	85,000	Consult factory Cutler-Hammer 800A NB Tripac 1,200A CND6, NDC 1,600A CRDC, PB Tripac, PC, PCC, RDC General Electric 800A SKP8, TB8, THC, THP 1,200A SKP12 1,600A THC, THP, TRP Merlin Gerin 800A — 1,200A CK1000L 1,600A CM1600 Siemens 800A CMD6, SCMD6 1,200A CND6, SCND6 1,600A CPD6 Square D 800A — 1,200A NC, NE, NX 1,600A PCF, PEF, PHF, PXF	1,600	200,000	L	3,000

# CTSD Series (cont'd)

Amp	Any Breaker	Maximum Coordinated Breaker Rating	Coordinated Breaker Model Types	Maximum MCCB Breaker Ampere Size	Current Limiting Fuse Rating	Fuse Class	Maximum Fuse Size [A]
1,000 1,200	42,000	65,000	1,000-1,200A, 600V Cutler-Hammer 800A NB Tripac 1,200A — 1,600A CRDC, PB Tripac, PC, PCC, RDC General Electric 800A SKP8, TB8, THC, THP 1,200A SKP12 1,600A THC, THP, TRP Merlin Gerin 800A — 1,200A — 1,600A MC16H1, MP16H1, MP16H2 Siemens 800A CMD6, SCMD6 1,200A CND6, SCND6 1,600A CPD6, HPD6, HRD6 Square D 800A — 1,200A NC, NE, NX 1,600A PCF, PEF, PHF, PXF	1,600	150,000	L	3,000
1,600 2,000	100,000	100,000	1,600-2,000A, 480V Any	4,000	200,000	L	2,500
1,600 2,000	85,000	85,000	1,600-2,000A, 600V Any	4,000	150,000	L	2,500
2,600 3,000	100,000	100,000	2,600-3,000A, 480V Any	4,000	200,000	L	4,000
2,600 3,000	85,000	85,000	2,600-3,000A, 600V Any	4,000	150,000	L	4,000
4,000	100,000	100,000	4,000A, 480V Any	5,000	200,000	L	6,000
4,000	85,000	85,000	4,000A, 600V Any	5,000	200,000	L	6,000

## CTSCT Series

LEXE7264-00

Amp	Any Breaker	Maximum Coordinated Breaker Rating	Coordinated Breaker Model Types	Maximum MCCB Breaker Ampere Size	Current Limiting Fuse Rating	Fuse Class	Maximum Fuse Size [A]
<b>100-400A, 480V &amp; 600V</b>							
Consult factory							
<b>600A, 480V</b>							
600	50,000	65,000	600A CHDC, CLDC, HLD, LDC 800A CHMDL, HMDL, DSL206, NB Tripac	800	200,000	L	750
			General Electric		200,000	J	750
			Siemens		200,000	RK5	750
			Square D		200,000	RK1	750
<b>600A, 600V</b>							
600	42,000	50,000	600A CLDC, LDC 800A DSL206, NB Tripac	800	150,000	L	750
			General Electric		150,000	J	750
			Siemens		150,000	RK5	750
			Square D		150,000	RK1	750
<b>800A, 480V</b>							
800	50,000	65,000	800A CHMDL, HMDL, NB Tripac 1,200A CHND, CND6, HND, NDC	1,200	200,000	L	1,200
			General Electric				
			Siemens				
			Merlin Gerin				
			Square D				
<b>800A, 600V</b>							
Consult factory							

# CTSCT Series (cont'd)

Amp	Any Breaker	Maximum Coordinated Breaker Rating	Coordinated Breaker Model Types	Maximum MCCB Breaker Ampere Size	Current Limiting Fuse Rating	Fuse Class	Maximum Fuse Size [A]
<b>1,000-1,200A, 480V</b>							
1,000	50,000	85,000	Cutler-Hammer	1,600	200,000	L	3,000
1,200			800A NB Tripac 1,200A CND6, NDC 1,600A CRDC, PB Tripac, PC, PCC, RDC				
			General Electric				
			800A SKP8, TB8, THC, THP 1,200A SKP12 1,600A THC, THP, TRP				
			Merlin Gerin				
			800A — 1,200A CK1000L 1,600A CM1600				
			Siemens				
			800A CMD6, SCMD6 1,200A CND6, SCND6 1,600A CPD6				
			Square D				
			800A — 1,200A NC, NE, NX 1,600A PCF, PEF, PHF, PXF				
<b>1,000-1,200A, 600V</b>							
1,000	42,000	65,000	Cutler-Hammer	1,600	150,000	L	3,000
1,200			800A NB Tripac 1,200A — 1,600A CRDC, PB Tripac, PC, PCC, RDC				
			General Electric				
			800A SKP8, TB8, THC, THP 1,200A SKP12 1,600A THC, THP, TRP				
			Merlin Gerin				
			800A — 1,200A — 1,600A MC16H1, MP16H1, MP16H2				
			Siemens				
			800A CMD6, SCMD6 1,200A CND6, SCND6 1,600A CPD6, HPD6, HRD6				
			Square D				
			800A — 1,200A NC, NE, NX 1,600A PCF, PEF, PHF, PXF				
<b>1,600-2,000A, 480V</b>							
1,600	100,000	100,000	Any	4,000	200,000	L	2,500
2,000							
<b>1,600-2,000A, 600V</b>							
1,600	85,000	85,000	Any	4,000	150,000	L	2,500
2,000							

**CTSCT Series (cont'd)**

Amp	Any Breaker	Maximum Coordinated Breaker Rating	Coordinated Breaker Model Types	Maximum MCCB Breaker Ampere Size	Current Limiting Fuse Rating	Fuse Class	Maximum Fuse Size [A]
2,600 3,000	100,000	100,000	Any 2,600-3,000A, 480V	4,000	200,000	L	4,000
2,600 3,000	85,000	85,000	Any 2,600-3,000A, 600V	4,000	150,000	L	4,000
4,000	100,000	100,000	Any 4,000A, 480V	5,000	200,000	L	6,000
4,000	85,000	85,000	Any 4,000A, 600V	5,000	200,000	L	6,000

# CBTS, CBTSD Series

Amp	Any Breaker	Maximum Coordinated Breaker Rating	Coordinated Breaker Model Types	Maximum MCCB Breaker Ampere Size	Current Limiting Fuse Rating	Fuse Class	Maximum Fuse Size [A]																																																																																																																																
<b>100-400A, 480V (For ZBTSCT series, consult factory)</b>																																																																																																																																							
100	35,000	50,000	Cutler-Hammer	800	200,000	J	600																																																																																																																																
150					100,000	RK1	600																																																																																																																																
225					100,000	RK5	600																																																																																																																																
260																																																																																																																																							
400																																																																																																																																							
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100	35,000	42,000	Cutler-Hammer	800	200,000	J	600																																																																																																																																
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## CBTS, CBTSD, CBTSCT Series

Amp	Any Breaker	Maximum Coordinated Breaker Rating	Coordinated Breaker Model Types	Maximum MCCB Breaker Ampere Size	Current Limiting Fuse Rating	Fuse Class	Maximum Fuse Size [A]
<b>600A, 480V</b>							
600	50,000	65,000	Cutler-Hammer General Electric Siemens Square D	800	200,000 200,000 200,000 200,000	L J RK5 RK1	750 750 750 750
<b>600A, 600V</b>							
600	42,000	50,000	Cutler-Hammer General Electric Siemens Square D	800	150,000 150,000 150,000 150,000	L J RK5 RK1	750 750 750 750
<b>800-1,200A, 480V</b>							
800 1,000 1,200	50,000	85,000	Cutler-Hammer General Electric Merlin Gerin Siemens Square D	1,600	200,000	L	3,000

# CBTS, CBTSD, CBTSCT Series (cont'd)

Amp	Any Breaker	Maximum Coordinated Breaker Rating	Coordinated Breaker Model Types	Maximum MCCB Breaker Ampere Size	Current Limiting Fuse Rating	Fuse Class	Maximum Fuse Size [A]
800 1,000 1,200	42,000	65,000	800A NB Tripac 1,200A — 1,600A CRDC, PB Tripac, PC, PCC, RDC General Electric 800A SKP8, TB8, THC, THP 1,200A SKP12 1,600A THC, THP, TRP Merlin Gerin 800A — 1,200A — 1,600A MC16H1, MP16H1, MP16H2 Siemens 800A CMD6, SCMD6 1,200A CND6, SCND6 1,600A CPD6, HPD6, HRD6 Square D 800A — 1,200A NC, NE, NX 1,600A PCF, PEF, PHF, PXF	1,600	150,000	L	3,000
1,600 2,000	100,000	100,000	Any	4,000	200,000	L	2,500
1,600 2,000	85,000	85,000	Any	4,000	150,000	L	2,500
2,600 3,000	100,000	100,000	Any	4,000	200,000	L	4,000
2,600 3,000	85,000	85,000	Any	4,000	150,000	L	4,000
4,000	100,000	100,000	Any	5,000	200,000	L	6,000
4,000	85,000	85,000	Any	5,000	200,000	L	6,000

## Application Worksheet

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Item Number	Available Fault Current	Ampere Rating	Circuit Protection Type	Caterpillar Transfer Switch Rating
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

Notes:

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