Information Manual **1C96944H01**

Effective September 2017
Supersedes July 2017

Panelboard and switchboard series rating information manual

Retain this manual in the directory card pocket located on the product for future reference.

See labels on product for additional information. Additional labels are provided with this booklet.

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Introduction

The purpose of this publication is to explain the proper application of series ratings in Eaton's panelboards and switchboards.

Industry standards and NFPA® 70—the National Electrical Code® (NEC®) require protection of the entire electrical distribution system from damage due to short-circuit faults. NEC Article 110.10 states "The overcurrent protective devices…shall be selected and coordinated to permit the circuit-protective devices used to clear a fault to do so without extensive damage to the electrical components of the circuit." The entire distribution system is required to meet this standard. Series rated systems have become an effective method of meeting these requirements.

There are three protection systems used to protect low voltage power distribution conductors and equipment. They are:

- Fully rated protection
- Fully rated, selectively coordinated protection
- Series rated protection

Fully Rated Protection: Where all overcurrent devices are rated for the full prospective short-circuit current at their line side terminals throughout the system.

Selectively Coordinated Protection: Is a fully rated system where the overcurrent device closest to the fault will open first, thus isolating the faulty circuit.

Series Rated Protection: A short-circuit interrupting rating assigned to a combination of two or more overcurrent protective devices that are connected in series and which the rating of the downstream device(s) in the combination is less than the series rating.

The short-circuit interrupting rating of the first device in the series must be equal to or greater than the available fault current. Downstream breakers, however, are not fully rated for the system's available fault current.

Series ratings are also known in the industry as integrated ratings, series combination ratings, and series connected ratings. The upstream overcurrent device in the series may be either internally or externally feeding downstream devices.

The latest revision of this document with up-to-date series ratings may be found at either of the following links:

- www.eaton.com/panelboards (>Instructions)
- www.eaton.com/switchboards (>Instructions)

UL Issues

In a series rated system, the overcurrent devices in series in the protective scheme must have been tested and listed by Underwriters Laboratories® (UL®), for series combination use in the system.

All of Eaton's series ratings are in full compliance with all applicable requirements of the latest editions of UL 489, 891, and 67.

The *UL Recognized Components Directory* (the *Yellow Book*) contains breaker manufacturers' series connected listings. These are intended only as a guideline for use by others who are responsible for their own testing, labeling, and listing. Therefore, the *UL Recognized Components Directory* cannot be used to interpret series-connected ratings in equipment.

Code Issues

Requirements of NFPA 70—the National Electrical Code for series ratings may be met by equipment marked with ratings adequate for the available fault current at the point of application in the electrical system. Eaton's panelboards and switchboards are marked consistent with NEC Article 240.86 for tested combinations.

NEC 240.86 Motor Contribution.
Series ratings shall not be used where:

1. Motors are connected on the load side of the higher-rated overcurrent device and on the line side of the lower-rated device.
2. The sum of the full-load currents exceeds 1% of the interrupting rating of the lower-rated breaker.

Note: NEC 240.86 is additive and both conditions must be met to apply.

Additionally, NEC Article 110.22 requires field marking on equipment where series ratings are used. This label is supplied standard with all Eaton panelboards and switchboards and reads "Caution—Series Combination System Rated _____ Amperes Available. Identified Replacement Component Required."

Note to Installing Electrician: NEC 110.22 requires the installer to properly apply and complete this label. Label(s) must be placed on all equipment where series ratings are used.

CAUTION: Do not apply fuses using the up-over-down method for sizing a current-limiting fuse that protects a downstream molded-case circuit breaker with a specified rms symmetrical interrupting rating. The method can lead to erroneous and unsafe conclusions and should not be used.

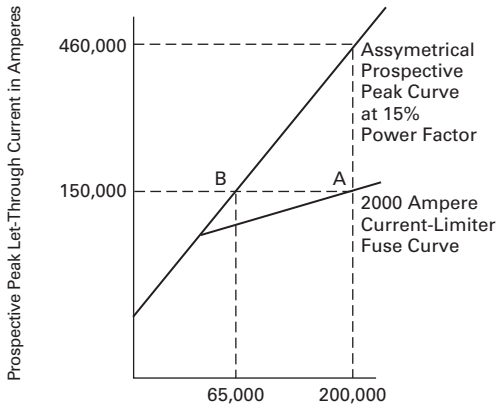

Figure 1.

Conclusion: This conclusion is wrong when the downstream service has a blow-open contact assembly, as does a molded-case circuit breaker or similar device. It may be valid when the current-limiting fuse is sized to protect a passive bus bar system.

The up-over-down method ignores dynamic impedance (the inherent current-limiting of the downstream molded-case circuit breaker). Such impedance is developed directly by the forces of the let-through current created when the contacts are blown open.

Some breakers rated 15 to 50 amperes, 120/240 volt maximum have been investigated and found suitable for use in panelboards from a different manufacturer. These are identified as "Classified" breakers. DO NOT USE SERIES RATINGS WITH "CLASSIFIED" BREAKERS! Series ratings apply ONLY to those Eaton breakers listed and published in this booklet.

DANGER: Use of other devices can cause explosion, severe injury, or death!

Applying Series Ratings

The following is provided to use the series rating tables on the following pages:

Step 1. Determine the available system voltage and fault current.

Step 2. Select the appropriate table using the system voltage.

Step 3. Use the appropriate "Series Equipment Rating" column equal to, or greater than, the available fault current, to determine the allowable UL recognized combinations of main (upstream) and branch (downstream) overcurrent devices. Main devices are shown in bold/shaded areas. Respective branch breakers are shown directly below their associated main device. **If a rating is not initially found in a column, first look to the columns to the right for higher "Series Equipment Ratings" within the same table. If still not found, use ratings from table of a higher system voltage (higher numbered table).**

Example 1:

208Y/120 volts, 3-phase, 4-wire, AC system with available fault current of 26,438 amperes. Main (upstream) device is a 3-pole, 225 ampere, EDS breaker. The branch (downstream) breakers are single- and 2-pole, 20, 30, and 60 amperes, 120 volt and 120/240 volt BAB breakers.

1. Go to the 120/240 volts table (**Table 1**).
2. Look down under the 22 kA column. This rating is not shown.
3. Look to the columns to the right. This combination rating is shown under the 42 kA column, and therefore is valid.

Example 2:

480Y/277 volt, 3-phase, 4-wire, AC system with available fault current of 62,097 amperes. Main (upstream) device is a 3-pole 250 ampere, HJD breaker. The branch (downstream) breakers are 2- and 3-pole, 60, 70, and 100 ampere EHD breakers.

1. Go to the 480Y/277 volts table (**Table 4**).
2. Look down under the 65 kA column. This rating is not shown.
3. Look to the columns to the right. This rating is not shown.
4. Look at the table with the next higher system voltage. (480 volts, **Table 5**).
5. This combination rating is shown under the 65 kA column, and therefore is valid.

Example 3:

480Y/277 volt, 3-phase, 4-wire, AC system with available fault current of 24,324 amperes. Main (upstream) device is a 3-pole, 225 ampere, FD breaker. The branch (downstream) breakers are single-pole, 20 ampere, GHQ; 2-pole, 30 ampere, GHB; and 3-pole, 50 ampere, GHB devices.

1. Go to the 480Y/277 volts table (**Table 4**).
2. Look under the 25 kA column. This rating is not shown. Look to the columns to the right. This rating is shown under the 35 kA column, and therefore is valid for combinations with the 2- and 3-pole GHB breakers.
3. Go to the 277 volts table (**Table 3**).
4. Look under the 25 kA column. This rating is not shown. Look to the columns to the right. This rating is shown under the 35 kA column, and therefore is valid for combinations with the single-pole GHQ breaker.

Other Applications of Series Ratings

Series ratings can also be applied under the following guidelines:

- Any FULLY RATED breaker can be applied upstream, downstream, or in the middle of any of the series ratings stated in the tables
- Any series rating stated in the tables may have additional series rated branch breakers of the EXACT SAME TYPE further downstream in that rating

COMBINING SERIES RATINGS are allowed under certain conditions. Main and branch ratings may be combined if:

- Breakers A, B, and C are in series respectively from main to branch. Breakers A and B series rate together. Breakers A and C series rate at the same interrupting level (or higher). It is allowable to use A, B, and C together at the A-B series rating

It is improper to combine series ratings under the following condition:

- Breakers A, B, and C are in series respectively from main to branch. Breakers A and B series rate together. Breakers B and C series rate at the Breaker B interrupting rating level. It is not allowable to use A, B, and C together at the A-B series rating. However, combining multiple overcurrent devices as in this example, can be accomplished if all devices in the series combination have been tested together and listed in triple rating **Table 13**.

Note: The information contained in this manual also applies to specifying the upstream overcurrent protective device for use with through-feed and sub-feed panelboards without an integral main.

Table 1. 120/240 Volts AC—Breaker/Breaker Series Ratings

Main devices shown in shaded area, centered at top. Respective branch devices shown directly below. For 240 Volts AC branch breakers, see Table 2.

Main Breaker Maximum Amperes	Series Equipment Rating—kA Symmetrical									
	18	22	42	65			100			200
100	**EHD** BAB BABRP BABRSP HQP QBGF QBAF QBAG QBGFT QBCAF	**QBHW** **QPHW** BAB HQP QBGF QPGF QBAF QBAG QBGFT QPGFT		**GB, GHB** BAB BABRP BABRSP HQP QBGF QPGF QBAF QBAG QBHW QPHW QBGFT QPGFT QBCAF			**FB-P** BAB BABRP BABRSP HQP QBGF QPGF QBAF QBAG QBHW QPHW EHD FD QBGFT QPGFT			**FCL** BAB BABRP BABRSP HQP QBGF QPGF QBAF QBAG QBHW QPHW GB, GHB GHQ EHD FD HFD QBGFT QPGFT QBCAF
125				**BRX** BAB (15–70 A) BAB (90–100 A) HQP (15–70 A) HQP (90–100 A)			**EGH** GHQ, GHB			

Table 1. 120/240 Volts AC—Breaker/Breaker Series Ratings (Continued)
Main devices shown in shaded area, centered at top. Respective branch devices shown directly below. For 240 Volts AC branch breakers, see Table 2.

Main Breaker Maximum Amperes	Series Equipment Rating—kA Symmetrical										
	18	22	42	65			100			200	
150	**FDB** BAB HQP QBGF QBAF QBAG QBGFT QBCAF			**FDE** BAB HQP QBHW QPHW			**HFDE** BAB HQP GHB EHD FD (15–150 A) QBHW QPHW				
200							**LA-P** BAB HQP QBHW QPHW EHD FD				

Table 1. 120/240 Volts AC—Breaker/Breaker Series Ratings (Continued)

Main devices shown in shaded area, centered at top. Respective branch devices shown directly below. For 240 Volts AC branch breakers, see Table 2.

Main Breaker Maximum Amperes	Series Equipment Rating—kA Symmetrical										
	18	22	42	65			100			200	
225		**EDB**	**EDS**	**ED, FD**			**EDH, EDC**	**HFD**	**FDC**		**FDC**
		BAB BABRP BABRSP HQP QBGF QPGF QBHGF QPHGF QBHW QPHW QBAF QBAG QBGFT QPGFT QBHGFT QPHGFT	BAB BABRP BABRSP HQP QBGF QPGF QBHGF QPHGF QBHW QPHW QBAF QBAG QBGFT QPGFT QBHGFT QPHGFT QBCAF	BAB BABRP BABRSP HQP QBGF QPGF QBAF QBAG QBHW QBHGF QBGFT QPGFT QBHGFT QBCAF			BAB ① BABRP BABRSP HQP ① QBGF QPGF QBAF QBAG QBGFT QBCAF ②	BAB HQP QBAF QBAG QBHW QPHW QBHGF GB, GHB GHQ, GHQRSP EHD FD, EGS QBGFT QBHGFT QBCAF	BAB HQP QBHW QPHW		GB, GHB GHQ GHQRSP EHD FD HFD EGS EGH

① Single-pole version is restricted to 15–70 A.

② Not valid with EDC.

Table 1. 120/240 Volts AC—Breaker/Breaker Series Ratings (Continued)

Main devices shown in shaded area, centered at top. Respective branch devices shown directly below. For 240 Volts AC branch breakers, see Table 2.

Main Breaker Maximum Amperes	Series Equipment Rating—kA Symmetrical										
	18	22	42	65			100			200	
225				**FDE** QBGF, QPGF QBAF, QBAG QBHGF QBGFT QPGFT QBHGFT QBCAF QPHGF QPHGFT **HFDE** BAB HQP QBHW QPHW			**CVH** BAB ① HQP ①	**HFDE** BAB, HQP QBGF, QBAF QBAG, QBHW QPHW QBHGF GHB, EHD FD ② QBGFT QBHGFT EGS FDE ② QPGF QPHGF QBCAF QPGFT QPHGFT QBCAF			
250				**JD, JDB** BAB ① HQP ① QBHW QPHW EHD	**HJD** BAB HQP QBHW QPHW	**JDC** QBGF QPGF QBAF QBAG QBGFT QPGFT QBCAF	**HJD** GB, GHB EHD FD EGS	**JDC** BAB HQP QBHW QPHW		**JDC** GB, GHB EHD FD HFD EGS EGH	

① 15–70 A.

② 15–150 A.

Table 1. 120/240 Volts AC—Breaker/Breaker Series Ratings (Continued)
Main devices shown in shaded area, centered at top. Respective branch devices shown directly below. For 240 Volts AC branch breakers, see Table 2.

Main Breaker Maximum Amperes	Series Equipment Rating—kA Symmetrical										
	18	22	42	65			100			200	
400		DK, KD KDB	DK, KD KDB, CKD	HKD, CHKD	DK, KD KDB, CKD	KDC	HKD CHKD	KDC		KDC	LCL
		BAB BABRP BABRSP HQP QBGF QPGF QBAF QBAG QBGFT QPGFT	BAB ① BABRP BABRSP HQP ① QBHW QPHW	BAB ① BABRP BABRSP HQP ① QBHW QPHW	EHD	BAB ① HQP ①	GB, GHB EHD FD EGS ②	QBHW QPHW		GB, GHB EHD FD HFD EGS EGH	BAB HQP QBGF QPGF QBAF QBAG QBHW QPHW GB, GHB EHD FD HFD QBGFT QPGFT QBCAF

① 15–70 A.
② Not valid with CHKD.

Table 1. 120/240 Volts AC—Breaker/Breaker Series Ratings (Continued)
Main devices shown in shaded area, centered at top. Respective branch devices shown directly below. For 240 Volts AC branch breakers, see Table 2.

Main Breaker Maximum Amperes	Series Equipment Rating—kA Symmetrical						
	18	22	42	65	100		200
600					**CHLD, HLD** EHD		
800					**HMDL** EHD		
1200					**HND, CHND NGH, NGH-C** EDB EDS ED EHD		

Table 2. 240 Volts AC—Breaker/Breaker Series Ratings

Main devices shown in shaded area, centered at top. Respective branch devices shown directly below.
For 120/240 Volts AC branch breakers, see Table 1.

Main Breaker Maximum Amperes	Series Equipment Rating—kA Symmetrical								
	18	22	42	65		100			200
100	**EHD** BAB_H HQP_H	**QBHW_H** **QPHW_H** BAB_H HQP_H		**GB, GHB** BAB_H HQP_H QBHW_H QPHW_H		**FB-P** BAB_H HQP_H EHD FDB FD			**FCL** BAB_H HQP_H QBHW_H QPHW_H GB, GHB EHD FD, FDE FDB HFD, HFDE
125						**EGH** GHB			
150	**FDB** BAB_H HQP_H								
200						**LA-P** BAB_H HQP_H QBHW_H QPHW_H EHD FDB FD JD, JDB			

Table 2. 240 Volts AC—Breaker/Breaker Series Ratings (Continued)
Main devices shown in shaded area, centered at top. Respective branch devices shown directly below.
For 120/240 Volts AC branch breakers, see Table 1.

Main Breaker Maximum Amperes	Series Equipment Rating—kA Symmetrical								
	22	42	65		100			200	
225	**EDB** HQP_H BAB_H QBHW QPHW	**EDS** HQP_H BAB_H QBHW QPHW	**ED** BAB_H HQP_H QBHW_H	**FD, FDE** BAB_H HQP_H QBHW_H QPHW_H EHD ① FDB	**EDH, EDC** BAB_H HQP_H **CVH** BAB HQP	**HFD, HFDE** BAB_H HQP_H QBHW_H QPHW_H GB, GHB EHD FDB FD, FDE	**FDC** BAB_H HQP_H QBHW_H QPHW_H	**FDC** GB, GHB EHD FDB FD, FDE HFD, HFDE	
250			**JD, JDB** BAB_H ② HQP_H ② QBHW_H QPHW_H EHD FDB	**HJD** BAB_H ② HQP_H ② QBHW_H QPHW_H	**HJD** GB, GHB EHD FD FDB ED JD, JDB EGS	**JDC** BAB_H HQP_H QBHW_H QPHW_H		**JDC** GB, GHB EHD FD, FDE FDB HFD, EDB, EDS ED, HFDE EDH JD, JDB HJD, EGS, EGH	

① Valid on 2- and 3-pole breakers only. Not valid for single-pole.
② 15–70 A.

Table 2. 240 Volts AC—Breaker/Breaker Series Ratings (Continued)
Main devices shown in shaded area, centered at top. Respective branch devices shown directly below.
For 120/240 Volts AC branch breakers, see Table 1.

Main Breaker Maximum Amperes	Series Equipment Rating—kA Symmetrical								
	22	42	65		100			200	
400			**DK, KD, KDB CKD** BAB_H HQP_H QBHW_H QPHW_H EHD FDB		**HKD, CHKD** QBHW_H ① QPHW_H ① GB, GHB EHD FDB FD, EDB, EDS, FDE ED JD, JDB DK, KD, KDB EGS ②	**KDC** QBHW_H QPHW_H		**KDC** GB, GHB EHD FDB FD, FDE HFD, EDB, EDS ED, HFDE EDH JD, JDB HJD DK, KD, KDB HKD	**LCL** BAB_H HQP_H QBHW_H QPHW_H GB, GHB EHD FDB FD, HFD, EDB, EDS ED, FDE, HFDE EDH JD, JDB HJD DK, KD, KDB HKD

① Valid on 2- and 3-pole breakers only. Not valid for single-pole.
② Not valid with CHKD.

Table 2. 240 Volts AC—Breaker/Breaker Series Ratings (Continued)
Main devices shown in shaded area, centered at top. Respective branch devices shown directly below.
For 120/240 Volts AC branch breakers, see Table 1.

Main Breaker Maximum Amperes	Series Equipment Rating—kA Symmetrical						
	18	22	65	100		200	
500				**NB-P** JD, JDB KD, KDB, DK CKD			
600				**HLD, HLDB, CHLD** GB ①, GHB ① FD, EDB, EDS ED, EHD JD, JDB KD, KDB, DK, CKD LD, LDB		**LDC** EDB, EDS, ED EDH	
800				**NB-P** KD, KDB, DK	**HMDL** EHD FD		
1200				**HND, CHND** EDB, EDS, ED EHD			**NDC, NGC** EDB, EDS, ED EDH
2500				**RD** EDB, EDS, ED			**RDC, RGC** EDB, EDS, ED EDH

① Valid on 2- and 3-pole breakers only. Not valid for single-pole.

Table 3. 277 Volts AC—Breaker/Breaker Series Ratings

Main devices shown in shaded area, centered at top. Respective branch devices shown directly below.
All ratings in this table apply to 1-pole branch devices only. For 277/480 Volts AC branch breakers, see Table 4.

Main Breaker Maximum Amperes	Series Equipment Rating—kA Symmetrical					
	22	25	35	65	100	150
100						**FCL** GHB GHQ, GHQRSP EHD FD HFD
125			**EGS** GHQ GHB	**EGH** GHQ GHB		
225			**FD, FDE** GHB GHQ GHQRSP GHBGFEP ①	**HFD, HFDE** GHB, GHQRSP GHQ EHD FD, GHBGFEP	**FDC** GHB EHD FD HFD	

① Not valid with FDE.

Table 3. 277 Volts AC—Breaker/Breaker Series Ratings (Continued)
Main devices shown in shaded area, centered at top. Respective branch devices shown directly below.
All ratings in this table apply to 1-pole branch devices only. For 277/480 Volts AC branch breakers, see Table 4.

Main Breaker Maximum Amperes	Series Equipment Rating—kA Symmetrical						
	22	25	35	65	100		150
250	**JD, JDB**		**JD, JDB**	**HJD**	**LCL**	**JDC**	
	GHB		GHB GHBGFEP ①	GHB EHD FD GHBGFEP	GHBS	GHB EHD FD HFD	
400	**KD, KDB CKD**	**HKD CHKD**	**KD, KDB CKD**	**HKD, CHKD**	**KDC**		**LCL**
	GHB	GHB	GHB EHD FD	GHB EHD FD	GHB EHD FD HFD		GHB EHD FD HFD
		KD		**HKD**			
		GHQ		GHQ			

① Not valid with JDB.

Table 4. 277/480 Volts AC—Breaker/Breaker Series Ratings

Main devices shown in shaded area, centered at top. Respective branch devices shown directly below. For 277 Volts AC branch breakers, see Table 3.

Main Breaker Maximum Amperes	Series Equipment Rating—kA Symmetrical					
	22	25	35	65	100	150
100						**FCL**
						GHB, GHQRSP
125			**EGS**	**EGH**		
			GHB	GHB		
225			**FD, FDE**	**HFD, HFDE**	**FDC**	
			GHB, GHQRSP	GHB, GHQRSP	GHB	
250	**JD, JDB**		**JD, JDB**	**HJD**	**JDC**	
	GHB		GHB ①	GHB ①	GHB	
400	**KD, KDB CKD**	**KD, HKD, KDC CKD, CHKD**	**KD, KDB CKD**	**HKD, CHKD**	**KDC**	**LCL**
	GHB	GHB	GHB ①	GHB ①	GHB	GHB

① 15–50 A.

Table 5. 480 Volts AC—Breaker/Breaker Series Ratings
Main devices shown in shaded area, centered at top. Respective branch devices shown directly below. All ratings in this table apply to 2- and 3-pole branch devices only. For 277/480 Volts AC branch breakers, see Table 4.

Main Breaker Maximum Amperes	Series Equipment Rating—kA Symmetrical					
	25	35	65	100		150
100				**FB-P** EHD FDB FD HFD		**FCL** EHD FDB FD, FDE HFD, HFDE
200				**LA-P** EHD FDB FD HFD JD, JDB HJD		

Table 5. 480 Volts AC—Breaker/Breaker Series Ratings (Continued)
Main devices shown in shaded area, centered at top. Respective branch devices shown directly below. All ratings in this table apply to 2- and 3-pole branch devices only. For 277/480 Volts AC branch breakers, see Table 4.

Main Breaker Maximum Amperes	Series Equipment Rating—kA Symmetrical					
	25	35	65	100		150
225		FD, FDE	HFD, HFDE	FDC		
		EHD FDB	EHD FDB FD, FDE EGS ①	EHD, EGS, EGH FDB FD, FDE HFD, HFDE		
250	JD, JDB		HJD	JDC		LCL
	EHD FDB		EHD FDB FD, FDE JD, JDB EGS	EHD, EGS, EGH FDB FD, FDE HFD, HFDE JD, JDB HJD		FDE, HFDE

① Not valid with HFDE.

Table 5. 480 Volts AC—Breaker/Breaker Series Ratings (Continued)

Main devices shown in shaded area, centered at top. Respective branch devices shown directly below. All ratings in this table apply to 2- and 3-pole branch devices only. For 277/480 Volts AC branch breakers, see Table 4.

Main Breaker Maximum Amperes	Series Equipment Rating—kA Symmetrical					
	25	35	65	100		150
400		**KD, KDB**	**HKD**	**KDC**	**LA-P**	**LCL**
		EHD FDB	EHD FDB FD, FDE JD, JDB KD, KDB EGS	EHD, EGS, EGH FDB FD, FDE HFD, HFDE JD, JDB HJD KD, KDB HKD	JD, JDB HJD KD, KDB HKD	EHD FDB FD, FDE HFD, HFDE FDC JD, JDB HJD KD, KDB HKD
500				**NB-P**		
				JD, JDB HJD KD, KDB HKD		
600		**LD, LDB** **CLD**	**HLD, HLDB** **CHLD**			
		JD, JDB	FD, FDE JD, JDB KD, KDB LD, LDB			

Table 6. 600 Volts AC—Breaker/Breaker Series Ratings

Main devices shown in shaded area, centered at top. Respective branch devices shown directly below.
All ratings in this table apply to 2- and 3-pole branch devices only.

Main Breaker Maximum Amperes	Series Equipment Rating—kA Symmetrical					
	18	25	35	42	50	100
225	**FD**	**HFD**	**FDC**			
	FDB	FDB FD	FDB FD, FDE HFD, HFDE			
250	**JD, JDB**	**HJD**	**JDC**			**LCL**
	FDB	FDB FD JD, JDB	FDB FD HFD JD, JDB HJD			FDE, HFDE

Table 6. 600 Volts AC—Breaker/Breaker Series Ratings (Continued)

Main devices shown in shaded area, centered at top. Respective branch devices shown directly below.
All ratings in this table apply to 2- and 3-pole branch devices only.

Main Breaker Maximum Amperes	Series Equipment Rating—kA Symmetrical					
	18	25	35	42	50	100
400		**KD, KDB** **CKD**	**HKD, CHKD**	**KDC**	**KDC**	**LCL**
		FDB FD JD, JDB	FDB FD, FDE HFD, HFDE JD, JDB HJD	FDB FD, FDE HFD, HFDE	JD, JDB HJD KD, KDB HKD	FDB FD, FDE HFD, HFDE FDC JD, JDB HJD JDC KD, KDB HKD KDC
600		**LD, LDB** **CLD**	**HLD, HLDB** **CHLD**			
		FD JD, JDB	KD, KDB LD, LDB			

Table 7. 120/240 Volts AC—Fuse/Breaker Series Ratings
Main fuse class shown in shaded area, centered at top. Respective branch devices shown directly below.

Main Fuse Maximum Amperes	Series Equipment Rating—kA Symmetrical															
	100						200									
100													R BAB HQP QBHW QPHW GB GHB			
200					R GB GHB			J BAB HQP QBHW QPHW			T BAB HQP QBHW QPHW					
400	J BAB HQP QBHW QPHW		T BAB HQP QBHW QPHW				J GB GHB				T GB GHB					

Table 8. 240 Volts AC—Fuse/Breaker Series Ratings

Main fuse class shown in shaded area, centered at top. Respective branch devices shown directly below.
For 120/240 Volts AC branch breakers, see Table 7.

Main Fuse Maximum Amperes	Series Equipment Rating—kA Symmetrical					
	100		200			
100						R BAB_H HQP_H QBHW_H QPHW_H GB GHB
200			R GB GHB	J BAB_H HQP_H QBHW_H QPHW_H	T BAB_H HQP_H QBHW_H QPHW_H	R GB ① GHB ①

① Valid on 2- and 3-pole breakers only. Not valid for single-pole.

Table 8. 240 Volts AC—Fuse/Breaker Series Ratings (Continued)
Main fuse class shown in shaded area, centered at top. Respective branch devices shown directly below.
For 120/240 Volts AC branch breakers, see Table 7.

Main Fuse Maximum Amperes	Series Equipment Rating—kA Symmetrical									
	100						200			
	J		T				J		T	
400	BAB_H HQP_H QBHW_H QPHW_H		BAB_H HQP_H QBHW_H QPHW_H				GB GHB		GB GHB	
4000					L					
					EHD FDB FD_FDE ED_JDB JD_JDB DK_KD_KDB					

Table 9. 277 Volts AC—Fuse/Breaker Series Ratings

Main fuse class shown in shaded area, centered at top. Respective branch devices shown directly below. All ratings in this table apply to single-pole branch breakers only. For 2- and 3-pole branch breakers, consult other tables.

Main Fuse Maximum Amperes	Series Equipment Rating—kA Symmetrical						
	65		100			200	
100			J GHBS GHQ GHQRSP	T GHBS GHQ GHQRSP		R GHB	
200	J GHBS GHQ GHQRSP	T GHBS GHQ GHQRSP	J EHD FD HFD	T EHD FD HFD	R GHB		
400						J GHB	T GHB

Table 10. 277/480 Volts AC—Fuse/Breaker Series Ratings

Main fuse class shown in shaded area, centered at top. Respective branch devices shown directly below. All ratings in this table apply to 2- and 3-pole branch devices only. For single-pole, 277 Volts AC branch breakers, see Table 9.

Main Fuse Maximum Amperes	Series Equipment Rating—kA Symmetrical						
	65		100		200		
100			J GHBS	T GHBS			R GHB
200	J GHBS	T GHBS		R GHB			
400					J GHB	T GHB	
600			J EHD FD, FDE HFD, HFDE FDC	T GHB EHD FD, FDE HFD, HFDE FDC JD HJD JDC			

Table 11. 480 Volts AC—Fuse/Breaker Series Ratings
Main fuse class shown in shaded area, centered at top. Respective branch devices shown directly below.
All ratings in this table apply to 2- and 3-pole branch breakers only. Not valid for single-pole branch breakers.

Main Fuse Maximum Amperes	Series Equipment Rating – kA Symmetrical											
	100								200			
100							R					
							EHD					
200		J			T							
		EHD FD HFD FDC			EHD FD HFD FDC							

Table 12. 600 Volts AC—Fuse/Breaker Series Ratings

Main fuse class shown in shaded area, centered at top. Respective branch devices shown directly below.
All ratings in this table apply to 2- and 3-pole branch devices only.

Main Fuse Maximum Amperes	Series Equipment Rating—kA Symmetrical					
	100			200		
100			R FD, FDE HFD, HFDE FDC			
200	J FD, FDE HFD, HFDE FDC	T FD, FDE HFD, HFDE FDC	R JD HJD JDC			
400	J JD HJD JDC	T JD HJD JDC	R KD HKD KDC			
600				J KD HKD KDC	T KD HKD KDC	

Table 13. Triple Series Ratings

Main Fuse Class and Maximum Amperes	Tenant Main Type	Branch Type	System Voltage	Short-Circuit Series Rating (kA, Symmetrical)
L6000	DK, KD, KDB	GB, GHB, EHD ①	240	100
L6000	DK, KD, KDB	GB, GHB	120/240	100
L6000	DK, KD, KDB	FD ①, FDB	240	100
L6000	DK, KD, KDB	JD, JDB	240	100
L6000	JD, JDB	GB, GHB	240	100
L6000	JD, JDB	GB, GHB	120/240	100
L6000	FD	GB, GHB	240	100
L6000	FD	GB, GHB	120/240	100
L6000	FD, FDB	BAB_H, HQP_H QBHW_H, QPHW_H	240	100
L6000	FD, FDB	BAB HQP (15–70 A)	120/240	100
L6000	EHD	BAB_H, HQP_H	240	100
L6000	EHD	BAB, HQP	120/240	100

① Valid on 2- and 3-pole breakers only. Not valid for single-pole.





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