

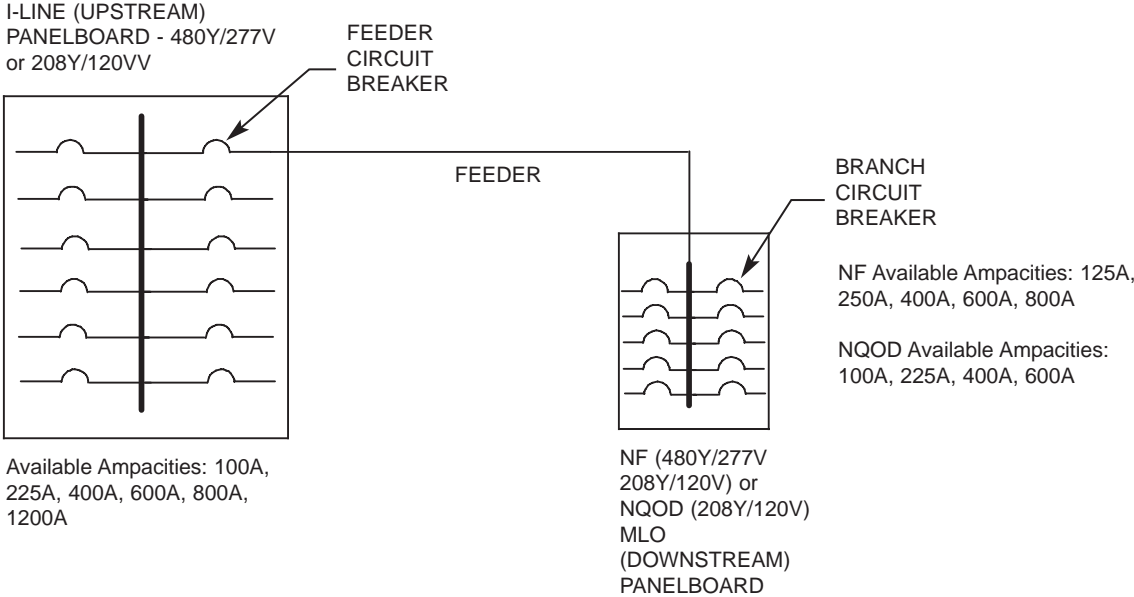
Selectivity Guidelines For Square D® Panelboards

Introduction

The natural advantages of circuit breakers make them the logical choice for overcurrent protection. New requirements in the National Electrical Code for emergency and legally required standby systems make it advantageous to consider selective coordination at the beginning of the design process. This guide is intended to facilitate the design of selectively coordinated systems when using Square D® I-Line®, NF and NQOD panelboards.

In this guide, the specific application of circuit breakers in Square D I-Line, NF, and NQOD panelboards at the 480V and 208V levels are considered. Information from Data Bulletin 0100DB0501 (Short Circuit Selective Coordination for Low Voltage Circuit Breakers) is utilized, along with TCC comparisons where necessary. The result is a set of tables which allow for easy and efficient selection of Square D panelboards and their overcurrent devices. Two specifications for "selective coordination" are considered: coordination from 0.1 – 1000s and coordination from 0.01 - 1000s. The specification that is used will depend upon the NEC and other code requirements of the installation and the interpretation of these requirements by the authority having jurisdiction.

The tables herein may be used to select feeder and branch circuit breakers that will be selectively coordinated when NF and NQOD panelboards are used in a configuration as illustrated below:



Alternatively, the upstream panelboard may be an I-Line section incorporated into a QED-2 switchboard.



Listing Of Tables

Downstream Panelboard Type ↓	Upstream Panelboard Type: I-Line®			
	208Y/120V		480Y/277V	
	0.1 - 1000s	0.01 - 1000s	0.1 - 1000s	0.01 - 1000s
NF	Table IIA	Table IIB	Table IA	Table IB
NQOD	Table IIIA	Table IIIB	N/A	N/A

To find the table which applies to your application: Select a downstream panelboard type in the left-hand column. Read across the row to find the table which is listed under the appropriate voltage level and selectivity specification. For example, if the downstream panelboard is an NF panelboard, the appropriate table for selectivity from 0.01 – 1000s at 480Y/277V is Table IB.

Assumptions

- All thermal-magnetic circuit breakers with adjustable instantaneous trip settings are assumed to have their instantaneous settings at maximum
- Electronic-trip circuit breakers are assumed to have the smallest sensor/rating plug size which meets or exceeds the ampacity requirements of the given circuit. The long-time trip/delay must be set to the appropriate level to give the breaker trip setting shown. The instantaneous function is assumed to be turned off, if possible for the breakers under consideration, or otherwise set to maximum. Electronic-trip circuit breakers are assumed to have a short-time function and the short-time pickup and delay settings are assumed to be set at maximum
- All circuit breakers are shown with their maximum available ampacity ranges. For most circuit breakers, these apply for 2- or 3-pole configurations, although this is not always the case. The availability of a given circuit breaker ampacity for a given model and configuration must be double-checked

How To Use The Tables

If feeder size is known:

1. **Locate Feeder Size/Upstream Panelboard Circuit Breaker Size** in leftmost column
2. **Required Downstream Panelboard Ampacity** is in next column to right
3. Follow row to right and select the closest **Maximum Available Fault Current at Upstream Panelboard** which is greater than or equal to the available fault current at upstream panelboard (adjust available fault current value if necessary due to system X/R ratio - see table explanatory notes)
4. Follow row to right and select an **Upstream Panelboard Feeder Circuit Breaker Type**
5. Follow row to right to obtain the **Downstream Panelboard Branch Circuit Breaker Type** and the **Largest Possible Branch Circuit Breaker**. For “total coordination” tables, the **Maximum Available Fault Current at Downstream Panelboard** is given also. As long as the circuit breaker type and maximum size are adhered to (and the available fault current at the downstream panelboard is less than or equal to the value shown for “total coordination” tables), selective coordination will be achieved as per the coordination parameters for the table

6. If results do not yield a branch circuit breaker size which is large enough, repeat steps 4 and 5 using a different **Upstream Panelboard Feeder Circuit Breaker Type**
7. If results do not yield a branch circuit breaker size which is large enough (or an acceptable level of fault current at the downstream panelboard), a larger feeder will be required. Go to the next larger **Feeder Size/Upstream Panelboard Circuit Breaker Size** and repeat steps 1 through 6
8. Repeat steps 1 through 7 until the desired branch circuit breaker size is obtained

If branch circuit size/branch circuit breaker size is known:

1. Starting at top of table, scan **Largest Possible Branch Circuit Breaker** sizes in rightmost column. Select the first one that is greater than or equal to the desired branch circuit size. For “total coordination” tables, **Maximum Available Fault Current at Downstream Panelboard** must be greater than or equal to the actual fault current at the downstream panelboard
2. When the desired branch circuit breaker is found, follow row to left. Make sure that the actual available fault current at the upstream panelboard is less than or equal to the **Maximum Available Fault Current at Upstream Panelboard** (adjust available fault current value if necessary due to system X/R ratio - see table explanatory notes)
3. The required **Downstream Panelboard Ampacity** and **Feeder Size/Upstream Panelboard Circuit Breaker Size** are as shown. This is the smallest feeder circuit breaker that will satisfy the coordination criteria for the table
4. Scan the rightmost column for other instances of the required branch circuit breaker size and follow steps 1 through 3 again. The feeder circuit/I-Line feeder circuit breaker size may be larger, but the I-Line circuit breaker may be less expensive

Table IA

I-Line®/NF Panelboard Selective Coordination At 480Y/277V
0.1s – 1000s

FEEDER SIZE / UPSTREAM (I-LINE) PANELBOARD CIRCUIT BREAKER SIZE (A)	REQUIRED DOWNSTREAM (NF) PANELBOARD AMPACITY (A)	MAXIMUM AVAILABLE FAULT CURRENT AT UPSTREAM (I-LINE) PANELBOARD (kA RMS Sym.) ¹	UPSTREAM (I-LINE) PANELBOARD FEEDER CIRCUIT BREAKER TYPE	DOWNSTREAM (NF) PANELBOARD BRANCH CIRCUIT BREAKER TYPE	LARGEST POSSIBLE BRANCH CIRCUIT BREAKER (A)
100	125	18	FA, HD, LX	ED	30
			PG	ED	50
		25	FH	EG	30
			HG	EG	30
		35	LX	EG	30
			PG	EG	50
65	HJ, LX	EJ	30		
	PJ	EJ	50		
110	125	18	HD	ED	30
		35	HG	EG	30
		65	HJ	EJ	30
125	125	18	HD, LA, LX	ED	30
			PG	ED	50
		30	LA	EG	30
		35	HG, LH, LX	EG	30
			PG	EG	50
		65	HJ, LX	EJ	30
150	250	18	HD	ED	30
			JD, LA	ED	35
			LX	ED	40
		30	PG	ED	70
			LA	EG	35
			HG	EG	30
		35	JG, LH	EG	35
			LX	EG	40
			PG	EG	70
		65	HJ	EJ	30
			JJ	EJ	35
			LX	EJ	40
175	250	18	JD, LA	ED	40
			LX, PG	ED	70
		30	LA	EG	40
		35	JG, LH	EG	40
			LX, PG	EG	70
		65	JJ	EJ	40
			LX, PJ	EJ	70
		200	250	18	JD, LA, LX,
PG	ED				80
30	LA-MC			ED	125
	LA			EG	70
35	LA-MC			EG	125
	JG, LH, LX			EG	70
65	PG			EG	80
	LH-MC			EG	125
65	JJ, LX			EJ	70
	PJ			EJ	80
225	250	18	JD, LA, LX	ED	70
			PG	ED	110
			LA-MC	ED	125
		30	LA	EG	70
			LA-MC	EG	125
		35	JG, LH, LX	EG	70
			PG	EG	110
		65	LH-MC	EG	125
			JJ, LX	EJ	70
		65	PJ	EJ	110
250	18		JD, LA	ED	70
		LA-MC	ED	125	
		LX, PG	ED	125	
	30	LA	EG	70	
		LA-MC	EG	125	
	35	JG, LH	EG	70	
		LH-MC	EG	125	
	65	LX, PG	EG	125	
		JJ	EJ	70	
	65	LX, PJ	EJ	125	

FEEDER SIZE / UPSTREAM (I-LINE) PANELBOARD CIRCUIT BREAKER SIZE (A)	REQUIRED DOWNSTREAM (NF) PANELBOARD AMPACITY (A)	MAXIMUM AVAILABLE FAULT CURRENT AT UPSTREAM (I-LINE) PANELBOARD (kA RMS Sym.) ¹	UPSTREAM (I-LINE) PANELBOARD FEEDER CIRCUIT BREAKER TYPE	DOWNSTREAM (NF) PANELBOARD BRANCH CIRCUIT BREAKER TYPE	LARGEST POSSIBLE BRANCH CIRCUIT BREAKER
300	400	18	LA, MG, LX, PG ³	ED	125
		30	LA	EG	125
		35	LH, MG, LX, PG ³	EG	125
		65	LC, MJ, LX, PJ ³	EJ	125
350	400	18	LA, MG, LX	ED	125
		30	LA	EG	125
		35	LH, MG, LX	EG	125
		65	LC, MJ, LX	EJ	125
400	400	18	LA, LA-MC, MG, LX, PG	ED	125
		30	LA, LA-MC	EG	125
		35	LH, LH-MC, MG, LX, PG	EG	125
		65	LC, MJ, LX, PJ	EJ	125
450	600	18	LC, MG, LX, PG ³	ED	125
		35	LC, MG, LX, PG ³	EG	125
		65	LC, MJ, LX, PJ ³	EJ	125
500	600	18	LC, MG, LX, PG ³	ED	125
		35	LC, MG, LX, PG ³	EG	125
		65	LC, MJ, LX, PJ ³	EJ	125
600	600	18	LC, MG, LX, PG (ET1.0) ² , PG ²	ED	125
		35	LC, MG, LX, PG (ET1.0) ² , PG ²	EG	125
		65	LC, MJ, LX, PJ (ET1.0) ² , PJ ²	EJ	125
700	800	18	MG, PG ^{2,3}	ED	125
		35	MG, PG ^{2,3}	EG	125
		65	MJ, PJ ^{2,3}	EJ	125
800	800	18	MG, PG (ET1.0) ² , PG ²	ED	125
		35	MG, PG (ET1.0) ² , PG ²	EG	125
		65	MJ, PJ (ET1.0) ² , PJ ²	EJ	125

- 1 Available fault currents are based upon system X/R ratios less than or equal to the circuit breaker test X/R ratio. See the explanatory note below for additional information
- 2 The P-Frame Powerpact® circuit breaker is available with ET1.0 or Micrologic 5.0/6.0 trip units in this size range
PG (ET1.0) = ET1.0 trip unit
PG = Micrologic 5.0/6.0 trip unit
- 3 Requires larger sensor size if standard rating plug is used (300A: 600A w/ LTPU=0.5, 450A: 1000A w/LTPU=0.45, 800A: 1000A w/LTPU=0.625, 700A: 1000A w/LTPU= 0.7)

X/R Ratio Adjustment:

All available fault currents are given in RMS symmetrical amperes. For a system X/R ratio larger than the test X/R ratio of the circuit breaker in question, the available fault current equivalent RMS symmetrical duty for comparison with the values in the tables must be adjusted by a multiplying factor. See IEEE Std. 242-2001 (Buff Book), IEEE Std. 1015-1997 (Blue Book) or NEMA AB 3-2001 for details.

Molded Case Circuit Breaker Interrupting Rating	Test X/R
Greater than 20kA	4.9
10kA - 20kA	3.2
Less than 10kA	1.7

Note that this is a consideration for breaker fault duty rather than for selective coordination.

Table IB

I-Line®/NF Panelboard Selective Coordination At 480Y/277V
0.01s – 1000s

FEEDER SIZE / UPSTREAM (I-LINE) PANELBOARD CIRCUIT BREAKER SIZE (A)	REQUIRED DOWNSTREAM (NF) PANELBOARD AMPACITY (A)	MAXIMUM AVAILABLE FAULT CURRENT AT UPSTREAM (I-LINE) PANELBOARD (kA RMS Sym.) ¹	UPSTREAM (I-LINE) PANELBOARD FEEDER CIRCUIT BREAKER TYPE	DOWNSTREAM (NF) PANELBOARD BRANCH CIRCUIT BREAKER TYPE	MAXIMUM AVAILABLE FAULT CURRENT AT DOWNSTREAM (NF) PANELBOARD (kA RMS Sym.) ³	LARGEST POSSIBLE BRANCH CIRCUIT BREAKER		
100	125	18	PG	ED	18	50		
		35	PG	EG	35	50		
		65	PJ	EJ	65	50		
125	125	18	PG	ED	18	50		
		35	PG	EG	35	50		
		65	PJ	EJ	65	50		
150	250	18	PG	ED	18	70		
		35	PG	EG	35	70		
		65	PJ	EJ	65	70		
175	250	18	PG	ED	18	70		
		35	PG	EG	35	70		
		65	PJ	EJ	65	70		
200	250	18	PG	ED	18	80		
			LA-MC	ED	18	15		
			LA-MC	ED	10	20		
		30	LA-MC	ED	6	100		
			LA-MC	EG	18	15		
			LA-MC	EG	10	20		
		35	LA-MC	EG	6	100		
			PG	EG	35	80		
			LH-MC	EG	18	15		
		65	LH-MC	EG	10	20		
			LH-MC	EG	6	100		
			PJ	EJ	65	80		
225	250	18	PG	ED	18	110		
			LA-MC	ED	18	15		
			LA-MC	ED	14	20		
			LA-MC	ED	8	30		
			LA-MC	ED	7	100		
			LA-MC	EG	18	15		
		30	LA-MC	EG	14	20		
			LA-MC	EG	8	30		
			LA-MC	EG	7	100		
		35	PG	EG	35	110		
			LH-MC	EG	18	15		
			LH-MC	EG	14	20		
			LH-MC	EG	8	30		
			LH-MC	EG	7	100		
			PJ	EJ	65	110		
		250	250	18	LA-MC	ED	18	30
					LA-MC	ED	10	40
					LA-MC	ED	8	100
30	PG			ED	18	125		
	LA-MC			EG	18	30		
	LA-MC			EG	10	40		
35	LA-MC			EG	8	100		
	LH-MC			EG	18	30		
	LH-MC			EG	10	40		
65	LH-MC			EG	8	100		
	PG			EG	35	125		
	PJ			EJ	65	125		
300	300	18	PG ⁴	ED	18	125		
		35	PG ⁴	EG	35	125		
		65	PJ ⁴	EJ	65	125		
400	400	18	LA-MC	ED	18	100		
			LA-MC	ED	6	125		
			PG	ED	18	125		
		30	LA-MC	EG	18	100		
			LA-MC	EG	6	125		
			LH-MC	EG	18	100		
		35	LH-MC	EG	6	125		
			PG	EG	35	125		
			PJ	EJ	65	125		
450	600	18	PG ⁴	ED	18	125		
		35	PG ⁴	EG	21.6	125		
		65	PJ ⁴	EJ	9	125		
500	600	18	PG ⁴	ED	18	125		
		35	PG ⁴	EG	21.6	125		
		65	PJ ⁴	EJ	9	125		
600	600	18	PG (ET1.0) ² , PG ²	ED	18	125		

FEEDER SIZE / UPSTREAM (I-LINE) PANELBOARD CIRCUIT BREAKER SIZE (A)	REQUIRED DOWNSTREAM (NF) PANELBOARD AMPACITY (A)	MAXIMUM AVAILABLE FAULT CURRENT AT UPSTREAM (I-LINE) PANELBOARD (kA RMS Sym.) ¹	UPSTREAM (I-LINE) PANELBOARD FEEDER CIRCUIT BREAKER TYPE	DOWNSTREAM (NF) PANELBOARD BRANCH CIRCUIT BREAKER TYPE	MAXIMUM AVAILABLE FAULT CURRENT AT DOWNSTREAM (NF) PANELBOARD (kA RMS Sym.) ^{1,3}	LARGEST POSSIBLE BRANCH CIRCUIT BREAKER (A)
700	800	35	PG (ET1.0) ² , PG ²	EG	35	125
		65	PJ (ET1.0) ² , PJ ²	EJ	65	125
		18	PG ^{2,4}	ED	18	125
		35	PG ^{2,4}	EG	21.6	125
		65	PJ ^{2,4}	EJ	9	125
800	800	18	PG (ET1.0) ² , PG ²	ED	18	125
		35	PG (ET1.0) ² , PG ²	EG	21.6	125
		65	PJ (ET1.0) ² , PJ ²	EJ	9	125

- 1 Available fault currents are based upon system X/R ratios less than or equal to the circuit breaker test X/R ratio. See the explanatory note below for additional information
- 2 The P-Frame Powerpac® circuit breaker is available with ET1.0 or Micrologic 5.0/6.0 trip units in this size range
PG (ET1.0) = ET1.0 trip unit
PG = Micrologic 5.0/6.0 trip unit
- 3 Values in red are taken from data bulletin 0100DB0501; all other values in this column generated via TCC comparison
- 4 Requires larger sensor size if standard rating plug is used (300A: 600A w/ LTPU=0.5, 450A: 1000A w/LTPU=0.45, 800A: 1000A w/LTPU=0.625, 700A: 1000A w/LTPU= 0.7)

X/R Ratio Adjustment:

All available fault currents are given in RMS symmetrical amperes. For a system X/R ratio larger than the test X/R ratio of the circuit breaker in question, the available fault current equivalent RMS symmetrical duty for comparison with the values in the tables must be adjusted by a multiplying factor. See IEEE Std. 242-2001 (Buff Book), IEEE Std. 1015-1997 (Blue Book) or NEMA AB 3-2001 for details.

Molded Case Circuit Breaker Interrupting Rating	Test X/R
Greater than 20kA	4.9
10kA - 20kA	3.2
Less than 10kA	1.7

Note that this is a consideration for breaker fault duty rather than for selective coordination.

Table IIA

I-Line®/NF Panelboard Selective Coordination At 208Y/120V
0.1s – 1000s

FEEDER SIZE / UPSTREAM (I-LINE) PANELBOARD CIRCUIT BREAKER SIZE (A)	REQUIRED DOWNSTREAM (NF) PANELBOARD AMPACITY (A)	MAXIMUM AVAILABLE FAULT CURRENT AT UPSTREAM (I-LINE) PANELBOARD (kA RMS Sym.) ¹	UPSTREAM (I-LINE) PANELBOARD FEEDER CIRCUIT BREAKER TYPE	DOWNSTREAM (NF) PANELBOARD BRANCH CIRCUIT BREAKER TYPE	LARGEST POSSIBLE BRANCH CIRCUIT BREAKER (A)
100	125	25	FA ² , HD, LX	ED	30
			PG	ED	50
		65	FH, HG, LX	EG ³	30
			PG	EG ³	50
		100	HJ, LX	EJ ³	30
PJ	EJ ³	50			
110	125	25	HD	ED	30
		65	HG	EG ³	30
		100	HJ	EJ ³	30
125	125	25	HD, LA, LX	ED	30
			PG	ED	50
		42	LA	EG ³	30
		65	HG, LH, LX	EG ³	30
			PG	EG ³	50
100	HJ, LX	EJ ³	30		
PJ	EJ ³	50			
150	250	25	HD	ED	30
			JD, LA	ED	35
			LX	ED	40
			PG	ED	70
		42	LA	EG ³	35
			HG	EG ³	30
		65	JG, LH	EG ³	35
			LX	EG ³	40
			PG	EG ³	70
		100	HJ	EJ ³	30
			JJ	EJ ³	35
			LX	EJ ³	40
			PJ	EJ ³	70
175	250	25	JD, LA	ED	40
		LX, PG	ED	70	
		42	LA	EG ³	40
		65	JG, LH	EG ³	40
			LX, PG	EG ³	70
100	JJ	EJ ³	40		
LX, PJ	EJ ³	70			
200	250	25	JD, LA, LX,	ED	70
			PG	ED	80
		42	LA-MC	ED	125
			LA	EG ³	70
			LA-MC	EG ³	125
		65	JG, LH, LX	EG ³	70
			PG	EG ³	80
		100	LH-MC	EG ³	125
			JJ, LX	EJ ³	70
			PJ	EJ ³	80
PJ	EJ ³		80		
225	250	25	JD, LA, LX	ED	70
			PG	ED	110
			LA-MC	ED	125
		42	LA	EG ³	70
			LA-MC	EG ³	125
		65	JG, LH, LX	EG ³	70
			PG	EG ³	110
			LH-MC	EG ³	125
		100	JJ, LX	EJ ³	70
			PJ	EJ ³	110
PJ	EJ ³		110		
PJ	EJ ³		110		
250	250	25	JD, LA	ED	70
			LA-MC	ED	125
		42	LX, PG	ED	125
			LA	EG ³	70
			LA-MC	EG ³	125
		65	JG, LH	EG ³	70
			LH-MC	EG ³	125
		100	LX, PG	EG ³	125
			JJ	EJ ³	70
			PJ	EJ ³	125
LX, PJ	EJ ³		125		
300	400	25	LA, MG, LX, PG ⁵	ED	125
		42	LA	EG ³	125
		65	LH, MG, LX, PG ⁵	EG ³	125

FEEDER SIZE / UPSTREAM (I-LINE) PANELBOARD CIRCUIT BREAKER SIZE (A)	REQUIRED DOWNSTREAM (NF) PANELBOARD AMPACITY (A)	MAXIMUM AVAILABLE FAULT CURRENT AT UPSTREAM (I-LINE) PANELBOARD (kA RMS Sym.) ¹	UPSTREAM (I-LINE) PANELBOARD FEEDER CIRCUIT BREAKER TYPE	DOWNSTREAM (NF) PANELBOARD BRANCH CIRCUIT BREAKER TYPE	LARGEST POSSIBLE BRANCH CIRCUIT BREAKER (A)
350	400	100	LC, MJ, LX, PJ ⁵	EJ ³	125
		25	LA, MG, LX	ED	125
		42	LA	EG ³	125
		65	LH, MG, LX	EG ³	125
		100	LC, MJ, LX	EJ ³	125
400	400	25	LA, LA-MC, MG, LX, PG	ED	125
		42	LA, LA-MC	EG ³	125
		65	LH, LH-MC, MG, LX, PG	EG ³	125
		100	LC, MJ, LX, PJ	EJ ³	125
450	600	25	LC, MG, LX, PG ⁵	ED	125
		65	LC, MG, LX, PG ⁵	EG ³	125
		100	LC, MJ, LX, PJ ⁵	EJ ³	125
		25	LC, MG, LX, PG ⁵	ED	125
500	600	65	LC, MG, LX, PG ⁵	EG ³	125
		100	LC, MJ, LX, PJ ⁵	EJ ³	125
		25	LC, MG, LX, PG (ET1.0) ⁴ , PG ⁴	ED	125
600	600	65	LC, MG, LX, PG (ET1.0) ⁴ , PG ⁴	EG ³	125
		100	LC, MJ, LX, PJ (ET1.0) ⁴ , PJ ⁴	EJ ³	125
		25	MG, PG ^{4,5}	ED	125
700	800	65	MG, PG ^{4,5}	EG ³	125
		100	MJ, PJ ^{4,5}	EJ ³	125
		25	MG, PG (ET1.0) ⁴ , PG ⁴	ED	125
800	800	65	MG, PG (ET1.0) ⁴ , PG ⁴	EG ³	125
		100	MJ, PJ (ET1.0) ⁴ , PJ ⁴	EJ ³	125

- 1 Available fault currents are based upon system X/R ratios less than or equal to the circuit breaker test X/R ratio. See the explanatory note below for additional information
- 2 480V-rated
- 3 2 Pole or 3 Pole 15 – 125A only. 1 Pole is available from 15 – 70A and has an AIR of 35kA for EG, 65kA for EJ
- 4 The P-Frame Powerpact® circuit breaker is available with ET1.0 or Micrologic 5.0/6.0 trip units in this size range
PG (ET1.0) = ET1.0 trip unit
PG = Micrologic 5.0/6.0 trip unit
- 5 Requires larger sensor size if standard rating plug is used (300A: 600A w/ LTPU=0.5, 450A: 1000A w/LTPU=0.45, 800A: 1000A w/LTPU=0.625, 700A: 1000A w/LTPU= 0.7)

X/R Ratio Adjustment:

All available fault currents are given in RMS symmetrical amperes. For a system X/R ratio larger than the test X/R ratio of the circuit breaker in question, the available fault current equivalent RMS symmetrical duty for comparison with the values in the tables must be adjusted by a multiplying factor. See IEEE Std. 242-2001 (Buff Book), IEEE Std. 1015-1997 (Blue Book) or NEMA AB 3-2001 for details.

Molded Case Circuit Breaker Interrupting Rating	Test X/R
Greater than 20kA	4.9
10kA - 20kA	3.2
Less than 10kA	1.7

Note that this is a consideration for breaker fault duty rather than for selective coordination.

TABLE IIB

I-Line®/NF Panelboard Selective Coordination At 208Y/120V
0.01s – 1000s

FEEDER SIZE / UPSTREAM (I-LINE) PANELBOARD CIRCUIT BREAKER SIZE (A)	REQUIRED DOWNSTREAM (NF) PANELBOARD AMPACITY (A)	MAXIMUM AVAILABLE FAULT CURRENT AT UPSTREAM (I-LINE) PANELBOARD (kA RMS Sym.) ¹	UPSTREAM (I-LINE) PANELBOARD FEEDER CIRCUIT BREAKER TYPE	DOWNSTREAM (NF) PANELBOARD BRANCH CIRCUIT BREAKER TYPE	MAXIMUM AVAILABLE FAULT CURRENT AT DOWNSTREAM (NF) PANELBOARD (kA RMS Sym.) ^{1,5}	LARGEST POSSIBLE BRANCH CIRCUIT BREAKER (A)		
100	125	25	PG	ED	21.6	50		
		65	PG	EG ³	65	50		
		100	PJ	EJ ³	100	50		
125	125	25	PG	ED	21.6	50		
		65	PG	EG ³	65	50		
		100	PJ	EJ ³	100	50		
150	250	25	PG	ED	21.6	70		
		65	PG	EG ³	65	70		
		100	PJ	EJ ³	100	70		
175	250	25	PG	ED	21.6	70		
		65	PG	EG ³	65	70		
		100	PJ	EJ ³	100	70		
200	250	25	PG	ED	21.6	80		
			LA-MC	ED	18	15		
			LA-MC	ED	10	20		
		42	LA-MC	ED	6	100		
			LA-MC	EG ³	18	15		
			LA-MC	EG ³	10	20		
		65	LA-MC	EG ³	6	100		
			PG	EG ³	65	80		
			LH-MC	EG ³	18	15		
		100	LH-MC	EG ³	10	20		
			LH-MC	EG ³	6	100		
			PJ	EJ ³	100	80		
225	250	25	PG	ED	21.6	110		
			LA-MC	ED	18	15		
			LA-MC	ED	14	20		
		42	LA-MC	ED	8	30		
			LA-MC	ED	7	100		
			LA-MC	EG ³	18	15		
		65	LA-MC	EG ³	14	20		
			LA-MC	EG ³	8	30		
			LA-MC	EG ³	7	100		
		100	PG	EG ³	65	110		
			LH-MC	EG ³	18	15		
			LH-MC	EG ³	14	20		
		250	250	25	LH-MC	EG ³	8	30
					LH-MC	EG ³	7	100
					PJ	EJ ³	100	110
				42	LA-MC	ED	18	30
					LA-MC	ED	10	40
					LA-MC	ED	8	100
65	PG			ED	21.6	125		
	LA-MC			EG ³	18	30		
	LA-MC			EG ³	10	40		
100	LA-MC			EG ³	8	100		
	LH-MC			EG ³	18	30		
	LH-MC			EG ³	10	40		
300	300	PG	EG ³	65	125			
		PG	EG ³	65	125			
		PJ ⁶	EJ ³	100	125			
400	400	25	LA-MC	ED	18	100		
			LA-MC	ED	6	125		
			PG	ED	21.6	125		
		42	LA-MC	EG ³	18	100		
			LA-MC	EG ³	6	125		
			LH-MC	EG ³	18	100		
		65	LH-MC	EG ³	6	125		
			LH-MC	EG ³	6	125		
			PG	EG ³	65	125		
		100	PJ	EJ ³	100	125		
			PG ⁶	ED	21.6	125		
			PG ⁶	EG ³	21.6	125		
450	600	100	PJ ⁶	EJ ³	9	125		
		PG ⁶	ED	21.6	125			
		PG ⁶	EG ³	21.6	125			
500	600	25	PG ⁶	ED	21.6	125		
		65	PG ⁶	EG ³	65	125		
		100	PJ ⁶	EJ ³	100	125		
600	600	25	PG (ET1.0) ⁴ , PG ⁴	ED	21.6	125		

FEEDER SIZE / UPSTREAM (I-LINE) PANELBOARD CIRCUIT BREAKER SIZE (A)	REQUIRED DOWNSTREAM (NF) PANELBOARD AMPACITY (A)	MAXIMUM AVAILABLE FAULT CURRENT AT UPSTREAM (I-LINE) PANELBOARD (kA RMS Sym.) ¹	UPSTREAM (I-LINE) PANELBOARD FEEDER CIRCUIT BREAKER TYPE	DOWNSTREAM (NF) PANELBOARD BRANCH CIRCUIT BREAKER TYPE	MAXIMUM AVAILABLE FAULT CURRENT AT DOWNSTREAM (NF) PANELBOARD (kA RMS Sym.) ^{1,5}	LARGEST POSSIBLE BRANCH CIRCUIT BREAKER (A)
700	800	65	PG (ET1.0) ⁴ , PG ⁴	EG ³	65	125
		100	PJ (ET1.0) ⁴ , PJ ⁴	EJ ³	100	125
		25	PG ^{4,6}	ED	21.6	125
		65	PG ^{4,6}	EG ³	21.6	125
			MG	EG ³	65	125
		100	PJ ^{4,6}	EJ ³	9	125
800	800		MJ	EJ ³	100	125
		25	PG (ET1.0) ⁴ , PG ⁴	ED	21.6	125
		65	MG, PG (ET1.0) ⁴ , PG ⁴	EG ³	65	125
		100	MJ, PJ (ET1.0) ⁴ , PJ ⁴	EJ ³	100	125

- Available fault currents are based upon system X/R ratios less than or equal to the circuit breaker test X/R ratio. See the explanatory notes below for additional information
- 480V-rated
- 2 Pole or 3 Pole 15 – 125A only. 1 Pole is available from 15 – 70A and has an AIR of 35kA for EG, 65kA for EJ
- The P-Frame Powerpact® circuit breaker is available with ET1.0 or Micrologic 5.0/6.0 trip units in this size range
PG (ET1.0) = ET1.0 trip unit
PG = Micrologic 5.0/6.0 trip unit
- Values in red are taken from data bulletin 0100DB0501; all other values in this column generated via TCC comparison
- Requires larger sensor size if standard rating plug is used (300A: 600A w/ LTPU=0.5, 450A: 1000A w/LTPU=0.45, 800A: 1000A w/LTPU=0.625, 700A: 1000A w/LTPU= 0.7)

X/R Ratio Adjustment:

All available fault currents are given in RMS symmetrical amperes. For a system X/R ratio larger than the test X/R ratio of the circuit breaker in question, the available fault current equivalent RMS symmetrical duty for comparison with the values in the tables must be adjusted by a multiplying factor. See IEEE Std. 242-2001 (Buff Book), IEEE Std. 1015-1997 (Blue Book) or NEMA AB 3-2001 for details.

Molded Case Circuit Breaker Interrupting Rating	Test X/R
Greater than 20kA	4.9
10kA - 20kA	3.2
Less than 10kA	1.7

Note that this is a consideration for breaker fault duty rather than for selective coordination.

TABLE IIIA

I-Line®/NQOD Panelboard Selective Coordination At 208Y/120V
0.1s – 1000s

FEEDER SIZE / UPSTREAM (I-LINE) PANELBOARD CIRCUIT BREAKER SIZE (A)	REQUIRED DOWNSTREAM (NF) PANELBOARD AMPACITY (A)	MAXIMUM AVAILABLE FAULT CURRENT AT UPSTREAM (I-LINE) PANELBOARD (kA RMS Sym.) ¹	UPSTREAM (I-LINE) PANELBOARD FEEDER CIRCUIT BREAKER TYPE	DOWNSTREAM (NF) PANELBOARD BRANCH CIRCUIT BREAKER TYPE	LARGEST POSSIBLE BRANCH CIRCUIT BREAKER (A)		
100	100	10	HD	QO	20		
			FA, LX	QO	25		
			PG	QO	40		
		22	HD	QO-VH	20		
			FA2, LX	QO-VH	25		
			PG	QO-VH	40 ³		
			HG	QH	20		
			FH, LX	QH	25		
			PG	QH	30		
65	HD	QO	25				
	HD, LA	QO	25				
	LX	QO	40				
110	225	10	HD	QO	25		
		22	HD	QO-VH	25		
		65	HG	QH	25		
125	225	10	HD, LA	QO	25		
			LX	QO	40		
			PG	QO	70		
		22	HD, LA	QO-VH	25		
			LX	QO-VH	30		
			PG	QO-VH	60 ³		
		42	LA	QH	25		
			65	HG, LH	QH	25	
			LX, PG	QH	30		
		150	225	10	HD	QO	25
					JD, LA, LX, PG	QO	70
				22	HD	QO-VH	25
JD, LA	QO-VH				30		
LX	QO-VH				40 ³		
42	LA			QH	30		
	65			HG	QH	25	
	JG, LH, LX, PG			QH	30		
175	225			10	JD, LA, LX, PG	QO	70
				22	JD, LA	QO-VH	40 ³
					LX	QO-VH	50 ³
					PG	QO-VH	70 ³
		42	LA	QH	30		
			65	JG, LH, LX, PG	QH	30	
10	JD, LA		QO	70			
200	225	10	JD, LA	QO	70		
			LX	QO	80 ⁶		
			LA-MC, PG	QO	100 ⁶		
		22	JD, LA, LX,	QO-VH	50 ³		
			PG	QO-VH	80 ³		
			LA-MC	QO-VH	100 ³		
		42	LA, LA-MC	QH	30		
			65	JG, LH, LH-MC, LX, PG	QH	30	
			10	JD, LA, LX, PG	QO	100 ⁶	
225	225	10	LA-MC	QO	125 ⁷		
			JD, LA	QO-VH	50 ³		
			LX	QO-VH	60 ³		
		22	PG	QO-VH	80 ³		
			LA-MC	QO-VH	125 ³		
			42	LA, LA-MC	QH	30	
		65	JG, LH, LH-MC, LX, PG	QH	30		
			10	JD, LA, LX, PG	QO	100 ⁶	
			250	400	10	LA-MC	QO
JD, LA	QO-VH	60 ³					
22	LX	QO-VH			80 ³		
	PG	QO-VH			110 ³		
	LA-MC	QO-VH			150 ³		
42	LA, LA-MC	QH			30		
	65	JG, LH, LH-MC, LX, PG	QH	30			
	10	LA, MG, LX	QO	100 ⁶			
300	400	10	PG ⁵	QO	125 ⁷		
			LA	QO-VH	90 ³		
		22	MG, LX	QO-VH	100 ³		
			PG ⁵	QO-VH	125 ³		
			42	LA	QH	30	
65	LH, MG, LX, PG ⁵	QH	30				
350	400	10	LA	QO	100 ⁶		

FEEDER SIZE / UPSTREAM (I-LINE) PANELBOARD CIRCUIT BREAKER SIZE (A)	REQUIRED DOWNSTREAM (NQOD) PANELBOARD AMPACITY (A)	MAXIMUM AVAILABLE FAULT CURRENT AT UPSTREAM (I-LINE) PANELBOARD (kA RMS Sym.) ¹	UPSTREAM (I-LINE) PANELBOARD FEEDER CIRCUIT BREAKER TYPE	DOWNSTREAM (NQOD) PANELBOARD BRANCH CIRCUIT BREAKER TYPE	LARGEST POSSIBLE BRANCH CIRCUIT BREAKER (A)
350	400	22	MG, LX	QO	125 ⁷
		42	LA, MG, LX	QO-VH	150 ³
		65	LA	QH	30
		65	LH, MG, LX	QH	30
400	400	10	LA, LA-MC, MG, LX, PG	QO	125 ⁷
		22	LA, LA-MC, MG, LX, PG	QO-VH	150 ³
		42	LA, LA-MC	QH	30
		65	LH, LH-MC, MG, LX, PG	QH	30
450	600	10	LC, MG, LX, PG ²	QO	125 ⁷
		22	LC, MG, LX, PG ²	QO-VH	150 ³
		65	LC, MG, LX, PG ²	QH	30
		10	LC, MG, LX, PG ²	QO	125 ⁷
500	600	22	LC, MG, LX, PG ²	QO-VH	150 ³
		65	LC, MG, LX, PG ²	QH	30
		10	LC, MG, LX, PG (ET1.0) ⁴ , PG ⁴	QO	125 ⁷
		22	LC, MG, LX, PG (ET1.0) ⁴ , PG ⁴	QO-VH	150 ³
600	600	65	LC, MG, LX, PG (ET1.0) ⁴ , PG ⁴	QH	30
		10	LC, MG, LX, PG (ET1.0) ⁴ , PG ⁴	QO	125 ⁷
		22	LC, MG, LX, PG (ET1.0) ⁴ , PG ⁴	QO-VH	150 ³
		65	LC, MG, LX, PG (ET1.0) ⁴ , PG ⁴	QH	30

- 1 Available fault currents are based upon system X/R ratios less than or equal to the circuit breaker test X/R ratio. See the explanatory note below for additional information
- 2 480V-rated
- 3 2 Pole or 3 Pole only. QO-VH 1 Pole is available up to 30A (and coordinates up to 30A)
- 4 The P-Frame Powerpact® circuit breaker is available with ET1.0 or Micrologic 5.0/6.0 trip units in this size range
PG (ET1.0) = ET1.0 trip unit
PG = Micrologic 5.0/6.0 trip unit
- 5 Requires larger sensor size if standard rating plug is used (300A: 600A w/ LTPU=0.5, 450A: 1000A w/LTPU=0.45, 800A: 1000A w/LTPU=0.625)
- 6 2 Pole or 3 Pole only. QO 1 Pole is available up to 70A (and coordinates up to 70A)
- 7 2p only. QO 1P is available up to 70A (and coordinates up to 70A), QO 3 Pole is available up to 100A (and coordinates up to 100A)

X/R Ratio Adjustment:

All available fault currents are given in RMS symmetrical amperes. For a system X/R ratio larger than the test X/R ratio of the circuit breaker in question, the available fault current equivalent RMS symmetrical duty for comparison with the values in the tables must be adjusted by a multiplying factor. See IEEE Std. 242-2001 (Buff Book), IEEE Std. 1015-1997 (Blue Book) or NEMA AB 3-2001 for details.

Molded Case Circuit Breaker Interrupting Rating	Test X/R
Greater than 20kA	4.9
10kA - 20kA	3.2
Less than 10kA	1.7

Note that this is a consideration for breaker fault duty rather than for selective coordination.

Table IIIB

I-Line®/NQOD Panelboard Selective Coordination At 208Y/120V
0.01s – 1000s

FEEDER SIZE / UPSTREAM (I-LINE) PANELBOARD CIRCUIT BREAKER SIZE (A)	REQUIRED DOWNSTREAM (NQOD) PANELBOARD AMPACITY (A)	MAXIMUM AVAILABLE FAULT CURRENT AT UPSTREAM (I-LINE) PANELBOARD (KA RMS Sym.) ¹	UPSTREAM (I-LINE) PANELBOARD FEEDER CIRCUIT BREAKER TYPE	DOWNSTREAM (NQOD) PANELBOARD BRANCH CIRCUIT BREAKER TYPE	MAXIMUM AVAILABLE FAULT CURRENT AT DOWNSTREAM (NQOD) PANELBOARD ^{1,8}	LARGEST POSSIBLE BRANCH CIRCUIT BREAKER (A)		
100	100	10	HD	QO	1.3	20		
			PG	QO	10	40		
			HD	QO-VH	1.3	20		
		22	PG	QO-VH	21.6	40 ³		
			PJ	QO-VH	22	40 ³		
			HG	QH	1.3	20		
		65	FH	QH	0.9	25		
			PG	QH	65	30		
			HD	QO	1.3	25		
110	225	10	HD	QO	1.3	25		
		22	HD	QO-VH	1.3	25		
		65	HG	QH	1.3	25		
125	225	10	HD	QO	1.3	25		
			PG	QO	10	70		
			HD	QO-VH	1.3	25		
		22	LA	QO-VH	3.2 (2P ONLY)	25		
			PG	QO-VH	21.6	60 ³		
			PJ	QO-VH	22	60 ³		
		65	HG	QH	1.3	25		
			LH	QH	65 (1P), 3.2 (2P, 3P)	25		
			PG	QH	65	30		
		150	225	10	HD	QO	1.3	25
					JD	QO	2.3	70
					PG	QO	10	70
22	HD			QO-VH	1.3	25		
	JD			QO-VH	2.3	30		
	LA			QO-VH	3.2 (2P ONLY)	30		
65	PG			QO-VH	21.6	70 ³		
	PJ			QO-VH	22	70 ³		
	HG			QH	1.3	25		
175	225			10	JG	QH	2.4	30
					LH	QH	65 (1P), 3.2 (2P, 3P)	30
					PG	QH	65	30
				22	JD	QO	2.3	70
					PG	QO	10	70
					JD	QO-VH	2.3	40 ³
				65	LA	QO-VH	3.2 (2P ONLY)	40 ³
					PG	QO-VH	21.6	70 ³
					PJ	QO-VH	22	70 ³
200	225	10	JG	QH	2.4	30		
			LH	QH	65 (1P), 3.2 (2P, 3P)	30		
			PG	QH	65	30		
			JD	QO	2.3	70		
			LA-MC	QO	18 (1P, 2P), 16 (3P)	15		
			LA-MC	QO	18 (1P, 2P), 10 (3P)	20		
			LA-MC	QO	7 (1P), 10 (2P), 6.5 (3P)	30		
			LA-MC	QO	7 (1P, 2P), 6 (3P)	40		
			LA-MC	QO	6 (1P, 2P), 5.5 (3P)	50		
		22	LA-MC	QO	5 (1P, 3P), 6 (2P)	70		
			LA-MC	QO	5	100 ⁶		
			PG	QO	10	100 ⁶		
			JD	QO-VH	2.3	50 ³		
			LA	QO-VH	3.2 (2P ONLY)	50 ³		
			PG	QO-VH	21.6	80 ³		
			PJ	QO-VH	22	80 ³		
			LA-MC	QO-VH	22 (1P, 2P), 16 (3P)	15		
			LA-MC	QO-VH	22 (1P, 2P), 10 (3P)	20		
		42	LA-MC	QO-VH	7 (1P), 10 (2P), 6.5 (3P)	30		
			LA-MC	QO-VH	7 (2P), 6 (3P)	40 ³		
			LA-MC	QO-VH	6 (2P), 5.5 (3P)	50 ³		
			LA-MC	QO-VH	6 (2P), 5 (3P)	70 ³		
			LA-MC	QO-VH	5	100 ³		
			LA-MC	QH	3.4	30		
		65	JG	QH	2.4	30		
			LH	QH	65 (1P), 3.2 (2P, 3P)	30		
			LH-MC	QH	3.4	30		
225	225	10	PG	QH	65	30		
			JD	QO	2.3	100 ⁶		

FEEDER SIZE / UPSTREAM (I-LINE) PANELBOARD CIRCUIT BREAKER SIZE (A)	REQUIRED DOWNSTREAM (NQOD) PANELBOARD AMPACITY (A)	MAXIMUM AVAILABLE FAULT CURRENT AT UPSTREAM (I-LINE) PANELBOARD (kA RMS Sym.) ¹	UPSTREAM (I-LINE) PANELBOARD FEEDER CIRCUIT BREAKER TYPE	DOWNSTREAM (NQOD) PANELBOARD BRANCH CIRCUIT BREAKER TYPE	MAXIMUM AVAILABLE FAULT CURRENT AT DOWNSTREAM (NQOD) PANELBOARD ¹⁸	LARGEST POSSIBLE BRANCH CIRCUIT BREAKER (A)		
225	225	10	PG	QO	10	100 ⁶		
			LA-MC	QO	18	15		
			LA-MC	QO	18 (1P, 2P), 16 (3P)	20		
			LA-MC	QO	11 (1P), 18 (2P), 8 (3P)	30		
			LA-MC	QO	10 (1P, 2P), 7.5 (3P)	40		
			LA-MC	QO	10 (1P, 2P), 7 (3P)	50		
			LA-MC	QO	8 (1P), 10 (2P), 6.5 (3P)	60		
			LA-MC	QO	7 (1P), 10 (2P), 6 (3P)	70		
			LA-MC	QO	8 (2P), 6 (3P)	80 ⁹		
			LA-MC	QO	6	100 ⁶		
		LA-MC	QO	3.825	125 ⁷			
		22	22	JD	QO-VH	2.3	50 ⁹	
				LA	QO-VH	3.2 (2P ONLY)	50 ⁹	
				PG	QO-VH	21.6	80 ⁹	
				PJ	QO-VH	22	80 ⁹	
				LA-MC	QO-VH	22 (1P, 2P), 18 (3P)	15	
				LA-MC	QO-VH	22 (1P, 2P), 16 (3P)	20	
				LA-MC	QO-VH	11 (1P), 22 (2P), 8 (3P)	30	
				LA-MC	QO-VH	18 (2P), 7.5 (3P)	40 ⁹	
				LA-MC	QO-VH	18 (2P), 7 (3P)	50 ⁹	
				LA-MC	QO-VH	13 (2P), 6.5 (3P)	60 ⁹	
				LA-MC	QO-VH	10 (2P), 6 (3P)	70 ⁹	
				LA-MC	QO-VH	8 (2P), 6 (3P)	80 ⁹	
		42	42	LA-MC	QO-VH	6	100 ³	
				LA-MC	QO-VH	3.825	125 ³	
				LA-MC	QH	3.825	30	
				JG	QH	2.4	30	
		65	65	LH	QH	65 (1P), 3.2 (2P, 3P)	30	
				LH-MC	QH	3.825	30	
				PG	QH	65	30	
				JD	QO	2.3	100 ⁶	
		250	400	10	PG	QO	10	100 ⁶
LA-MC	QO				18	20		
LA-MC	QO				18 (1P, 2P), 14 (3P)	30		
LA-MC	QO				10	40		
LA-MC	QO				10 (1P, 2P), 9 (3P)	50		
LA-MC	QO				10 (1P, 2P), 8 (3P)	60		
LA-MC	QO				10 (1P, 2P), 7.5 (3P)	70		
LA-MC	QO				10 (2P), 7.5 (3P)	100 ⁶		
LA-MC	QO				4.25	125 ⁷		
22	22				JD	QO-VH	2.3	60 ⁹
				LA	QO-VH	3.2 (2P ONLY)	60 ⁹	
				PG	QO-VH	21.6	110 ³	
				PJ	QO-VH	22	110 ³	
				LA-MC	QO-VH	22 (1P, 2P), 18 (3P)	20	
				LA-MC	QO-VH	22 (1P, 2P), 14 (3P)	30	
				LA-MC	QO-VH	18 (2P), 10 (3P)	40 ⁹	
				LA-MC	QO-VH	18 (2P), 9 (3P)	50 ⁹	
				LA-MC	QO-VH	13 (2P), 8 (3P)	60 ⁹	
				LA-MC	QO-VH	11 (2P), 7.5 (3P)	80 ⁹	
				LA-MC	QO-VH	10 (2P), 7.5 (3P)	100 ³	
				LA-MC	QO-VH	4.25	150 ³	
42	42			LA-MC	QH	4.25	30	
				JG	QH	2.4	30	
				LH	QH	65 (1P), 3.2 (2P, 3P)	30	
				LH-MC	QH	4.25	30	
65	65			PG	QH	65	30	
				PG	QH	65	30	
				LA-MC	QO	10	125 ⁷	
				LA	QO-VH	3.2 (2P ONLY)	90 ⁹	
300	400			22	MG	QO-VH	3.6 (3P ONLY)	100 ³
					PG ⁵	QO-VH	21.6	125 ³
				65	LH	QH	65 (1P), 3.2 (2P, 3P)	30
		MG	QH		65 (1P), 3.6 (2P, 3P)	30		
350	400	22	PG ⁵	QH	65	30		
			LA	QO-VH	3.2 (2P ONLY)	150 ³		
		65	MG	QO-VH	3.6 (3P ONLY)	150 ³		
			LH	QH	65 (1P), 3.2 (2P, 3P)	30		
400	400	10	MG	QH	65 (1P), 3.6 (2P, 3P)	30		
			LA-MC	QO	18	30		
		10	LA-MC	QO	10	100 ⁶		
			LA-MC	QO	6	125 ⁷		
PG	QO	10	125 ⁷					

FEEDER SIZE / UPSTREAM (I-LINE) PANELBOARD CIRCUIT BREAKER SIZE (A)	REQUIRED DOWNSTREAM (NQOD) PANELBOARD AMPACITY (A)	MAXIMUM AVAILABLE FAULT CURRENT AT UPSTREAM (I-LINE) PANELBOARD (kA RMS Sym.) ¹	UPSTREAM (I-LINE) PANELBOARD FEEDER CIRCUIT BREAKER TYPE	DOWNSTREAM (NQOD) PANELBOARD BRANCH CIRCUIT BREAKER TYPE	MAXIMUM AVAILABLE FAULT CURRENT AT DOWNSTREAM (NQOD) PANELBOARD (kA RMS Sym.) ^{1,8}	LARGEST POSSIBLE BRANCH CIRCUIT BREAKER (A)		
400	400	22	LA	QO-VH	3.2 (2P ONLY)	150 ³		
			LA-MC	QO-VH	22 (1P, 2P), 18 (3P)	30		
			LA-MC	QO-VH	22 (2P), 18 (3P)	100 ³		
			LA-MC	QO-VH	6	150 ³		
			MG	QO-VH	3.6 (3P ONLY)	150 ³		
		42	65	PG	QO-VH	21.6	150 ³	
				LA-MC	QH	6	30	
				LH	QH	65 (1P), 3.2 (2P, 3P)	30	
				LH-MC	QH	6	30	
				MG	QH	65 (1P), 3.6 (2P, 3P)	30	
450	600	10	PG ⁵	QO	10	125 ⁷		
			MG	QO-VH	3.6 (3P ONLY)	150 ³		
		22	PG ⁵	QO-VH	21.6	150 ³		
			MG	QH	65 (1P), 3.6 (2P, 3P)	30		
		65	PG ⁵	QH	65	30		
			PG ⁵	QO	10	125 ⁷		
		500	500	10	MG	QO-VH	3.6 (3P ONLY)	150 ³
					PG ⁵	QO-VH	21.6	150 ³
				22	MG	QH	65 (1P), 3.6 (2P, 3P)	30
					PG ⁵	QH	65	30
65	PG ⁵			QH	65	30		
	PG ⁵			QO	10	125 ⁷		
600	600			10	PG (ET1.0) ⁴ , PG ⁴	QO	10	125 ⁷
					MG	QO-VH	5.4 (3P ONLY)	150 ³
				22	PG (ET1.0) ⁴ , PG ⁴	QO-VH	21.6	150 ³
					MG	QH	65 (1P), 5.4 (2P, 3P)	30
		65	PG (ET1.0) ⁴ , PG ⁴	QH	65	30		
			PG (ET1.0) ⁴ , PG ⁴	QH	65	30		

- 1 Available fault currents are based upon system X/R ratios less than or equal to the circuit breaker test X/R ratio. See the explanatory note below for additional information
- 2 480V-rated
- 3 2 Pole or 3 Pole only. QO-VH 1 Pole is available up to 30A (and coordinates up to 30A)
- 4 The P-Frame Powerpact® circuit breaker is available with ET1.0 or Micrologic 5.0/6.0 trip units in this size range
PG (ET1.0) = ET1.0 trip unit
PG = Micrologic 5.0/6.0 trip unit
- 5 Requires larger sensor size if standard rating plug is used (300A: 600A w/ LTPU=0.5, 450A: 1000A w/LTPU=0.45, 800A: 1000A w/LTPU=0.625)
- 6 2 Pole or 3 Pole only. QO 1 Pole is available up to 70A (and coordinates up to 70A)
- 7 2 Pole only. QO 1 Pole is available up to 70A (and coordinates up to 70A), QO 3 Pole is available up to 100A (and coordinates up to 100A)
- 8 Values in red are taken from data bulletin 0100DB0501; all other values in this column generated via TCC comparison

X/R Ratio Adjustment:

All available fault currents are given in RMS symmetrical amperes. For a system X/R ratio larger than the test X/R ratio of the circuit breaker in question, the available fault current equivalent RMS symmetrical duty for comparison with the values in the tables must be adjusted by a multiplying factor. See IEEE Std. 242-2001 (Buff Book), IEEE Std. 1015-1997 (Blue Book) or NEMA AB 3-2001 for details.

Molded Case Circuit Breaker Interrupting Rating	Test X/R
Greater than 20kA	4.9
10kA - 20kA	3.2
Less than 10kA	1.7

Note that this is a consideration for breaker fault duty rather than for selective coordination.