

## Selectivity Guidelines for Square D™ Panelboards

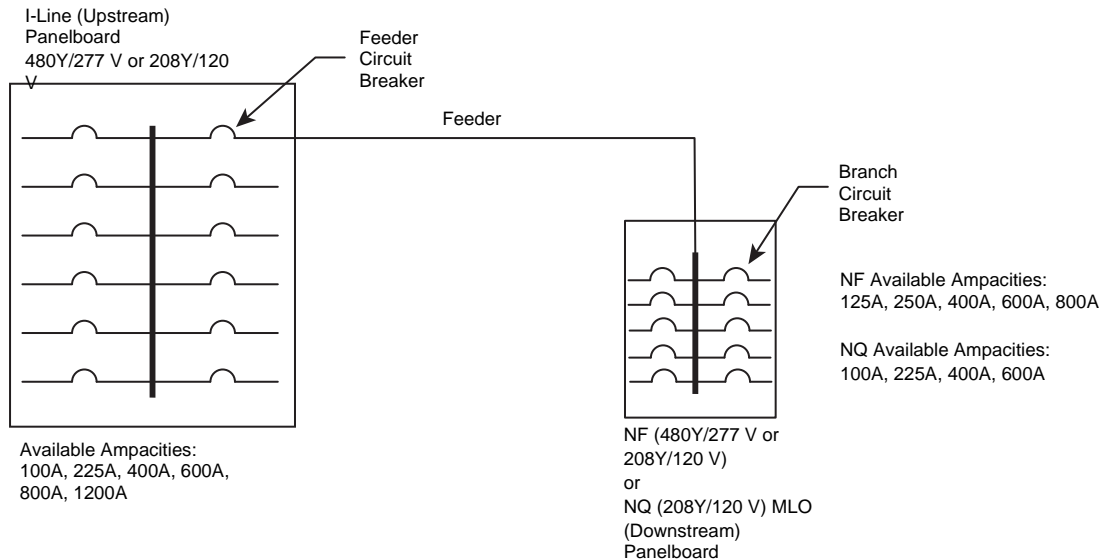
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### Introduction

The natural advantages of circuit breakers make them the logical choice for overcurrent protection. Requirements in the National Electrical Code™ 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 NQ panelboards.

In this guide, the specific application of circuit breakers in Square D I-Line, NF, and NQ panelboards at the 480 V and 208 V 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 0.1s–1000s, and total selective coordination. 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 NQ 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.

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## Listing of Tables

Downstream Panelboard Type:	Upstream Panelboard Type: I-Line			
	480Y/277 V		208Y/120 V	
	0.1s - 1000s	Total Selectivity	0.1s - 1000s	Total Selectivity
NF	Table 1	Table 2	Table 3	Table 4
NQ	N/A	N/A	Table 5	Table 6

### 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 a NF panelboard, the appropriate table for total selectivity at 480Y/277 V is Table 2.

## 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 (exceptions in each table are noted with a footnote). The long-time trip/delay must be set to the appropriate level to give the circuit breaker trip setting shown. The instantaneous function is assumed to be turned off, if possible for the circuit breakers under consideration, or otherwise set to its maximum available setting. 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 also given. 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.

X/R Ratio Adjustment

All **Available Fault Currents** in the tables are given in RMS symmetrical amperes. For a system X/R ratio greater 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 circuit breaker fault duty rather than for selective coordination.

Table 1: I-Line/NF Panelboard Selective Coordination at 480Y/277 V — 0.1s to 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.) <sup>1</sup>	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, BD	ED	30		
			HDU <sup>2</sup>	ED	40		
			JDU <sup>4</sup> , JD-W <sup>3</sup> , PG <sup>4, 5</sup>	ED	50		
		25	FH	EG	30		
			35	HG, BG	EG	30	
				HGU <sup>2</sup>	EG	40	
		65	JGU <sup>2</sup> , JG-W <sup>3</sup> , PG <sup>4, 5</sup>	EG	50		
			HJ, BJ	EJ	30		
			HJU <sup>2</sup>	EJ	40		
		110	125	18	JJU <sup>2</sup> , JJ-W <sup>3</sup> , PJ	EJ	50
					HD, BD	ED	30
				HDU <sup>2</sup>	ED	50	
125	125	35	HG, BG	EG	30		
			HGU <sup>2</sup>	EG	50		
		65	HJ, BJ	EJ	30		
125	125	18	HJU <sup>2</sup>	EJ	50		
			25	HD, LA, BD	ED	30	
				PG <sup>4, 5</sup>	ED	50	
		HDU <sup>2</sup> , JDU <sup>2</sup> , JD-W <sup>3</sup> , LDU <sup>2</sup> , LD-W <sup>5</sup>		ED	60		
		35	LA	EG	30		
			HG, LH, BG	EG	30		
			PG <sup>4, 5</sup>	EG	50		
		65	JGU <sup>2</sup> , JG-W <sup>3</sup> , HGU <sup>2</sup> , LGU <sup>2</sup> , LG-W <sup>3</sup>	EG	60		
			HJ, BJ	EJ	30		
			PJ	EJ	50		
		150	250	18	JJU <sup>4</sup> , JJ-W <sup>3</sup> , HJU <sup>4</sup> , LJU <sup>4</sup> , LJ-W <sup>3</sup>	EJ	60
					HD	ED	30
JD, LA	ED				35		
30	HDU <sup>2</sup> , JDU <sup>2</sup> , JD-W <sup>3</sup> , LDU <sup>2</sup> , LD-W <sup>3</sup> , PG <sup>4, 5</sup>			ED	70		
	LA			EG	35		
	HG			EG	30		
35	JG, LH			EG	35		
	HGU <sup>2</sup> , JGU <sup>2</sup> , JG-W <sup>3</sup> , LGU <sup>2</sup> , LG-W <sup>3</sup> , PG <sup>4, 5</sup>			EG	70		
	65			HJ	EJ	30	
JJ				EJ	35		
HJU <sup>2</sup> , JJU <sup>2</sup> , JJ-W <sup>3</sup> , LJU <sup>2</sup> , LJ-W <sup>3</sup> , PJ				EJ	70		
175	250			18	JD, LA	ED	50
		JDU <sup>2</sup> , JD-W <sup>3</sup> , PG <sup>4, 5</sup> , LDU <sup>2</sup> , LD-W <sup>3</sup>	ED		70		
		30	LA	EG	50		
			JG, LH	EG	50		
		35	JGU <sup>2</sup> , JG-W <sup>3</sup> , PG <sup>4, 5</sup> , LGU <sup>2</sup> , LG-W <sup>3</sup>	EG	70		
			JJ	EJ	50		
225	250	18	JJU <sup>2</sup> , JJ-W <sup>3</sup> , PJ, LJU <sup>4</sup> , LJ-W <sup>3</sup>	EJ	70		
			JD, LA	ED	70		
		30	JDU <sup>2</sup> , JD-W <sup>3</sup> , LDU <sup>2</sup> , LD-W <sup>5</sup> , PG <sup>5</sup> , LA-MC	ED	125		
			LA	EG	70		
		35	LA-MC		125		
			JG, LH	EG	70		
65	JGU <sup>2</sup> , JG-W <sup>3</sup> , PG <sup>5</sup> , LH-MC, LGU <sup>2</sup> , LG-W <sup>3</sup>	EG	125				
225	250	65	JJ	EJ	70		
			JJU <sup>2</sup> , JJ-W <sup>3</sup> , PJ, LJU <sup>2</sup> , LJ-W <sup>3</sup>	EJ	125		

Table 1: I-Line/NF Panelboard Selective Coordination at 480Y/277 V — 0.1s to 1000s (continued)

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.) <sup>1</sup>	Upstream (I-Line) Panelboard Feeder Circuit Breaker Type	Downstream (NF) Panelboard Branch Circuit Breaker Type	Largest Possible Branch Circuit Breaker (A)
250	250	18	JD, JDU <sup>2</sup> , JD-W <sup>3</sup> , LA, LA-MC, LDU <sup>2</sup> , LD-W <sup>3</sup> , PG (ET1.0) <sup>5, 6</sup> , PG <sup>5, 6</sup>	ED	125
		30	LA, LA-MC	EG	125
		35	JG, LH, LH-MC, LGU <sup>4</sup> , LG-W <sup>3</sup> , JGU <sup>2</sup> , JG-W <sup>3</sup> , PG (ET1.0) <sup>5, 6</sup> , PG <sup>5, 6</sup>	EG	125
		65	JJ, JJU <sup>2</sup> , JJ-W <sup>3</sup> , LJU <sup>2</sup> , LJ-W <sup>3</sup> , PJ (ET1.0) <sup>6</sup> , PJ <sup>6</sup>	EJ	125
300	400	18	LA, LA-MC, LDU <sup>2</sup> , LD-W <sup>3</sup> , MG, PG (ET1.0) <sup>5, 6</sup> , PG <sup>5, 6</sup>	ED	125
		30	LA, LA-MC	EG	125
		35	LH, LH-MC, LGU <sup>2</sup> , LG-W <sup>3</sup> , MG, PG (ET1.0) <sup>5, 6</sup> , PG <sup>5, 6</sup>	EG	125
		65	LC, LJU <sup>2</sup> , LJ-W <sup>3</sup> , MJ, PJ (ET1.0) <sup>6</sup> , PJ <sup>6</sup>	EJ	125
350	400	18	LA, LDU <sup>2</sup> , LD-W <sup>3</sup> , MG	ED	125
		30	LA, LA-MC	EG	125
		35	LA	EG	125
		65	LC, LJU <sup>2</sup> , LJ-W <sup>3</sup> , MJ	EJ	125
400	400	18	LA, LA-MC, LDU <sup>2</sup> , LD-W <sup>3</sup> , MG, PG (ET1.0) <sup>5, 6</sup> , PG <sup>5, 6</sup>	ED	125
		30	LA, LA-MC	EG	125
		35	LH, LH-MC, LGU <sup>2</sup> , LG-W <sup>3</sup> , MG, PG (ET1.0) <sup>5, 6</sup> , PG <sup>6</sup> , MG, PG (ET1.0) <sup>5, 6</sup> , PG <sup>5, 6</sup>	EG	125
		65	LC, LJU <sup>2</sup> , LJ-W <sup>3</sup> , MJ, PJ (ET1.0) <sup>6</sup> , PJ <sup>6</sup>	EJ	125
450	600	18	LC, LDU <sup>2</sup> , LD-W <sup>3</sup> , MG, PG <sup>5, 6</sup>	ED	125
		35	LC, LGU <sup>2</sup> , LG-W <sup>3</sup> , MG, PG <sup>5, 6</sup>	EG	125
		65	LC, LJU <sup>2</sup> , LJ-W <sup>3</sup> , MJ, PJ <sup>5</sup>	EJ	125
500	600	18	LC, LDU <sup>2</sup> , LD-W <sup>3</sup> , MG, PG <sup>5, 6</sup>	ED	125
		35	LC, LGU <sup>2</sup> , LG-W <sup>3</sup> , MG, PG <sup>5, 6</sup>	EG	125
		65	LC, LJU <sup>2</sup> , LJ-W <sup>3</sup> , MJ, PJ <sup>6</sup>	EJ	125
600	600	18	LC, LDU <sup>2</sup> , LD-W <sup>3</sup> , MG, PG (ET1.0) <sup>5, 6</sup> , PG <sup>5, 6</sup>	ED	125
		35	LC, LGU <sup>2</sup> , LG-W <sup>3</sup> , MG, PG (ET1.0) <sup>5, 6</sup> , PG <sup>5, 6</sup>	EG	125
		65	LC, LGU <sup>2</sup> , LG-W <sup>3</sup> , MG, PG (ET1.0) <sup>5</sup> , PG <sup>5, 6</sup>	EJ	125
700	800	18	LC, LGU <sup>2</sup> , LG-W <sup>3</sup> , MG, PG (ET1.0) <sup>6, 5</sup> , PG <sup>5, 6</sup>	ED	125
		35	LC, LJU <sup>2</sup> , LJ-W <sup>3</sup> , MJ, PJ (ET1.0) <sup>6</sup> , PJ <sup>6</sup>	EG	125
		65	MG, PG <sup>5, 6</sup>	EJ	125
800	800	18	MG, PG <sup>5, 6</sup>	ED	125
		35	MJ, PJ <sup>6</sup>	EG	125
		65	MG, PG (ET1.0) <sup>5, 6</sup> , PG <sup>5, 6</sup>	EJ	125

<sup>1</sup> 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 for X/R Ratio Adjustment on Page 3 for additional information.

<sup>2</sup> The PowerPact™ H-, J- and L-frame circuit breakers with Micrologic™ trip units (3.2/3.3 L,I and 5.2/5.3 L,S,I only) are denoted with the "U" character in the third position.

<sup>3</sup> The PowerPact J- and L-frame Mission Critical circuit breakers are denoted as J\_-W and L\_-W.

<sup>4</sup> PowerPact PG and PK circuit breakers smaller than 200 A cannot accept wires smaller than #3/0 AWG.

<sup>5</sup> PowerPact PK circuit breakers can be used wherever PG circuit breakers are mentioned in the table.

<sup>6</sup> The PowerPact P-Frame circuit breaker is available with ET1.0 or Micrologic™ 3.0/5.0/6.0 trip units in this size range:  
PG (ET1.0) = ET1.0 trip unit  
PG = Micrologic 3.0/5.0/6.0 trip unit

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Table 2: I-Line/NF Panelboard Selective Coordination at 480Y/277 V — Total Selective Coordination

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.) <sup>1</sup>	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.) <sup>1,2</sup>	Largest Possible Branch Circuit Breaker (A)		
100	125	18	PG <sup>3, 4</sup>	ED	18	50		
			JD-W <sup>5</sup>	ED	10	50		
		35	PG <sup>3, 4</sup>	EG	35	50		
			JG-W <sup>5</sup>	EG	10	50		
		65	PJ	EJ	6.3	50		
			JJ-W	EJ	10	50		
125	125	18	PG <sup>3, 4</sup>	ED	18	50		
			JD-W <sup>5</sup>	ED	10	60		
			LD-W <sup>5</sup>	ED	30	60		
		35	PG <sup>3, 4</sup>	EG	35	50		
			JG-W <sup>5</sup>	EG	10	60		
			LG-W <sup>5</sup>	EG	30	60		
		65	PJ	EJ	6.3	50		
			JJ-W <sup>5</sup>	EJ	10	60		
			LJ-W <sup>5</sup>	EJ	30	60		
		150	250	18	PG <sup>3, 4</sup>	ED	18	70
					JD-W <sup>5</sup>	ED	10	60
					JD-W <sup>5</sup>	ED	7	70
LD-W <sup>5</sup>	ED				30	70		
35	PG <sup>3, 4</sup>			EG	35	70		
	JG-W <sup>5</sup>			EG	10	60		
	JG-W <sup>5</sup>			EG	7	70		
65	LG-W <sup>5</sup>			EG	30	70		
	PJ			EJ	6.3	70		
	JJ-W <sup>5</sup>			EJ	10	60		
175	250			18	PG <sup>3, 4</sup>	ED	18	70
					JD-W <sup>5</sup>	ED	10	60
		JD-W <sup>5</sup>	ED		7	70		
		LD-W <sup>5</sup>	ED		30	70		
		35	PG <sup>6, 7</sup>	EG	35	70		
			JG-W <sup>5</sup>	EG	10	60		
			JG-W <sup>5</sup>	EG	7	70		
		65	LG-W <sup>5</sup>	EG	30	70		
			PJ	EJ	6.3	70		
			JJ-W <sup>5</sup>	EJ	10	60		
		200	250	18	JJ-W <sup>5</sup>	EJ	7	70
					LJ-W <sup>5</sup>	EJ	30	70
PG <sup>4</sup>	ED				18	80		
LA-MC	ED				18	15		
LA-MC	ED				10	20		
LA-MC	ED				6	100		
LA-MC	ED				3.5	125		
LD-W <sup>5</sup>	ED				30	80		
18	JD-W <sup>5</sup>			ED	10	60		
	JD-W <sup>5</sup>			ED	7	80		

Table 2: I-Line/NF Panelboard Selective Coordination at 480Y/277 V — Total Selective Coordination (continued)

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.) <sup>1</sup>	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.) <sup>1,2</sup>	Largest Possible Branch Circuit Breaker (A)
200	250	30	LA-MC	EG	18	15
			LA-MC	EG	10	20
			LA	EG	6	100
			LA-MC	EG	3.5	125
		35	PG <sup>4</sup>	EG	35	80
			LH-MC	EG	18	15
			LH-MC	EG	10	20
			LH-MC	EG	6	100
			LH-MC	EG	3.5	125
			JG-W <sup>5</sup>	EG	10	60
			JG-W <sup>5</sup>	EG	7	80
			JG-W <sup>5</sup>	EG	30	80
		65	PJ	EJ	6.3	80
			JJ-W <sup>5</sup>	EJ	10	60
			JJ-W <sup>5</sup>	EJ	7	80
			LJ-W <sup>5</sup>	EJ	30	80
225	250	18	PG <sup>4</sup>	ED	18	125
			LA-MC	ED	18	15
			LA-MC	ED	14	20
			LA-MC	ED	8	30
			LA-MC	ED	7	100
			LA-MC	ED	3.9	125
			JD-W <sup>5</sup>	ED	10	60
			JD-W <sup>5</sup>	ED	7	110
			JD-W <sup>5</sup>	ED	7	125
			LD-W <sup>5</sup>	ED	30	110
		LD-W <sup>5</sup>	ED	30	125	
		30	LA-MC	EG	18	15
			LA-MC	EG	14	20
			LA-MC	EG	8	30
			LA-MC	EG	7	100
			LA-MC	EG	3.9	125
		35	PG <sup>4</sup>	EG	35	125
			LH-MC	EG	18	15
			LH-MC	EG	14	20
			LH-MC	EG	8	30
			LH-MC	EG	7	100
			LH-MC	EG	3.9	125
			JG-W <sup>5</sup>	EG	10	60
			JG-W <sup>5</sup>	EG	7	110
			JG-W <sup>5</sup>	EG	7	125
			LG-W <sup>5</sup>	EG	30	110
		LG-W <sup>5</sup>	EG	30	125	
		65	PJ	EJ	6.3	125
			JJ-W <sup>5</sup>	EJ	10	60
			JJ-W <sup>5</sup>	EJ	7	110
			JJ-W <sup>5</sup>	EJ	7	125
			LJ-W <sup>5</sup>	EJ	30	110
LJ-W <sup>5</sup>	EJ	30	125			

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Table 2: I-Line/NF Panelboard Selective Coordination at 480Y/277 V — Total Selective Coordination (continued)

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.) <sup>1</sup>	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.) <sup>1,2</sup>	Largest Possible Branch Circuit Breaker (A)		
250	250	18	LA-MC	ED	18	30		
			LA-MC	ED	10	40		
			LA-MC	ED	8	100		
			LA-MC	ED	4.38	125		
			JD-W <sup>5</sup>	ED	10	60		
			JD-W <sup>5</sup>	ED	7	125		
			PG (ET1.0) <sup>6, 4</sup> , PG <sup>6, 4</sup>	ED	18	125		
		LD-W <sup>5</sup>	ED	30	125			
		30	LA-MC	EG	18	30		
			LA-MC	EG	10	40		
			LA-MC	EG	8	100		
			LA-MC	EG	4.38	125		
		35	LH-MC	EG	18	30		
			LH-MC	EG	10	40		
			LH-MC	EG	8	100		
			LH-MC	EG	4.38	125		
			JG-W <sup>5</sup>	EG	10	60		
			JG-W <sup>5</sup>	EG	7	125		
			PG (ET1.0) <sup>6, 4</sup> , PG <sup>6, 4</sup>	EG	35	125		
		LG-W <sup>5</sup>	EG	30	125			
		65	PJ (ET1.0) <sup>6</sup> , PJ <sup>6</sup>	EJ	6.3	125		
			JJ-W <sup>5</sup>	EJ	10	60		
			JJ-W <sup>5</sup>	EJ	7	125		
			LJ-W <sup>5</sup>	EJ	30	125		
		300	400	18	PG <sup>6, 4</sup> , MG	ED	18	125
					LD-W <sup>5</sup>	ED	30	125
				35	PG <sup>6, 4</sup> , MG	EG	35	125
					LD-W <sup>5</sup>	EG	30	125
65	PJ <sup>6</sup>			EJ	9	125		
	LJ-W <sup>5</sup>			EJ	30	125		
350	400	18	LD-W <sup>5</sup>	ED	30	125		
			MG	ED	18	125		
		35	LG-W <sup>5</sup>	EG	30	125		
			MG	EG	35	125		
		65	LJ-W <sup>5</sup>	EJ	30	125		
			MJ	EJ	65	125		
400	400	18	LA-MC	ED	18	125		
			LA-MC	ED	7	125		
			PG (ET1.0) <sup>6, 4</sup> , PG <sup>6, 7</sup> , MG	ED	18	125		
			LD-W <sup>5</sup>	ED	30	125		
		30	LA-MC	EG	18	125		
			LA-MC	EG	7	125		
		35	LH-MC	EG	18	125		
			LH-MC	EG	7	125		
			PG (ET1.0) <sup>6, 4</sup> , PG <sup>6, 7</sup> , MG	EG	35	125		
		65	LG-W <sup>5</sup>	EG	30	125		
			PJ (ET1.0) <sup>6</sup> , PJ <sup>6</sup>	EJ	9	125		
			MJ	EJ	65	125		
			LJ-W <sup>5</sup>	EJ	30	125		



**Table 2: I-Line/NF Panelboard Selective Coordination at 480Y/277 V — Total Selective Coordination (continued)**

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.) <sup>1</sup>	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.) <sup>1,2</sup>	Largest Possible Branch Circuit Breaker (A)		
450	600	18	PG <sup>6,7</sup> , MG	ED	18	125		
			LD-W <sup>5</sup>	ED	30	125		
		35	PG <sup>6,7</sup> , MG	EG	35	125		
			LG-W <sup>5</sup>	EG	30	125		
			65	PJ <sup>6</sup>	EJ	9	125	
		LJ-W <sup>5</sup>		EJ	30	125		
		MJ		EJ	65	125		
		500	600	18	PG <sup>6,7</sup> , MG	ED	18	125
					LD-W <sup>5</sup>	ED	30	125
35	PG <sup>6,7</sup> , MG			EG	35	125		
	LG-W <sup>5</sup>			EG	30	125		
	65			PJ <sup>6</sup>	EJ	9	125	
LJ-W <sup>5</sup>				EJ	30	125		
MJ				EJ	65	125		
600	600			18	PG (ET1.0) <sup>6,4</sup> , PG <sup>6,7</sup> , MG	ED	18	125
					LD-W <sup>5</sup>	ED	30	125
		35	PG (ET1.0) <sup>6,4</sup> , PG <sup>6,7</sup> , MG	EG	35	125		
			LG-W <sup>5</sup>	EG	30	125		
			65	PJ (ET1.0) <sup>6</sup> , PJ <sup>6</sup>	EJ	9	125	
		LJ-W <sup>5</sup>		EJ	30	125		
		MJ		EJ	65	125		
		700	800	18	PG <sup>6,4</sup> , MG	EG	18	125
					PG <sup>6,4</sup> , MG	EJ	35	125
35	PJ <sup>6</sup>			ED	9	125		
	MJ			ED	35	125		
65	PG (ET1.0) <sup>6,4</sup>			EG	18	125		
	PG (ET1.0) <sup>6,4</sup>			EJ	35	125		
800	800	18	PG (ET1.0) <sup>6,4</sup>	EG	18	125		
			PG (ET1.0) <sup>6,4</sup>	EJ	35	125		
		35	PJ (ET1.0) <sup>6</sup> , PJ <sup>6</sup>	ED	9	125		
			MJ	ED	65	125		

<sup>1</sup> 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 for X/R Ratio Adjustment on Page 3 for additional information.

<sup>2</sup> Values in red are taken from data bulletin 0100DB0501; all other values in this column are generated via TCC comparison.

<sup>3</sup> PowerPact PG and PK circuit breakers smaller than 200 A cannot accept wires smaller than #3/0 AWG.

<sup>4</sup> PowerPact PK circuit breakers can be used wherever PG circuit breakers are mentioned in the table.

<sup>5</sup> The PowerPact J- and L-frame Mission Critical circuit breakers are denoted as J\_-W and L\_-W.

<sup>6</sup> The PowerPact P-frame circuit breaker is available with ET1.0 or Micrologic 3.0/5.0/6.0 trip units in this size range:  
PG (ET1.0) = ET1.0 trip unit  
PG = Micrologic 3.0/5.0/6.0 trip unit

<sup>7</sup> Requires larger sensor size if standard rating plug is used (300 A: 600 A w/ LTPU=0.5, 450 A: 1000 A w/LTPU=0.45, 500 A: 800 A w/LTPU=0.625, 700 A: 1000 A w/LTPU= 0.7).

Table 3: I-Line/NF Panelboard Selective Coordination at 208Y/120 V — 0.1s to 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.) <sup>1</sup>	Upstream (I-Line) Panelboard Feeder Circuit Breaker Type	Downstream (NF) Panelboard Branch Circuit Breaker Type <sup>2</sup>	Largest Possible Branch Circuit Breaker (A)		
100	125	25	FA <sup>3</sup> , HD, BD	ED	30		
			HDU <sup>4</sup>	ED	40		
			JDU <sup>4</sup> , JD-W <sup>5</sup> , PG <sup>6,7</sup>	ED	50		
		65	FH, HG, BG	EG	30		
			HGU <sup>4</sup>	EG	40		
			JGU <sup>4</sup> , JG-W <sup>5</sup> , PG <sup>6,7</sup>	EG	50		
		100	HJ, BJ	EJ	30		
			HJU <sup>4</sup>	EJ	40		
			JJU <sup>4</sup> , JJ-W <sup>5</sup> , PJ	EJ	50		
110	125	18	HD, BD	ED	30		
			HDU <sup>4</sup>	ED	50		
		35	HG, BG	EG	30		
			HGU <sup>4</sup>	EG	50		
		65	HJ, BJ	EJ	30		
			HJU <sup>4</sup>	EJ	50		
125	125	25	HD, LA, BD	ED	30		
			PG <sup>6,7</sup>	ED	50		
			JDU <sup>4</sup> , JD-W <sup>5</sup> , HDU <sup>4</sup> , LDU <sup>4</sup> , LD-W <sup>5</sup>	ED	60		
		42	LA	EG	30		
		65	HG, LH, BG	EG	30		
			PG <sup>6,7</sup>	EG	50		
			JGU <sup>4</sup> , JG-W <sup>5</sup> , HGU <sup>4</sup> , LGU <sup>4</sup> , LG-W <sup>5</sup>	EG	60		
		100	HJ, BJ	EJ	30		
			PJ	EJ	50		
			JJU <sup>4</sup> , JJ-W <sup>5</sup> , HJU <sup>4</sup> , LJU <sup>4</sup> , LJ-W <sup>5</sup>	EJ	60		
		150	250	25	HD	ED	50
					JD, LA	ED	70
JDU <sup>4</sup> , JD-W <sup>5</sup> , HDU <sup>4</sup> , LDU <sup>4</sup> , LD-W <sup>5</sup> , PG <sup>6,7</sup>	ED				50		
42	LA			EG	50		
65	HG			EG	70		
	JG, LH			EG	50		
	JGU <sup>4</sup> , JG-W <sup>5</sup> , HGU <sup>4</sup> , LGU <sup>4</sup> , LG-W <sup>5</sup> , PG <sup>6,97</sup>			EG	50		
100	HJ			EJ	70		
	JJ			EJ	50		
	JJU <sup>4</sup> , JJ-W <sup>5</sup> , HJU <sup>4</sup> , LJU <sup>4</sup> , LJ-W <sup>5</sup> , PJ			EJ	70		
175	250			25	JD, LA	ED	50
					JDU <sup>4</sup> , JD-W <sup>5</sup> , PG <sup>6,7</sup> , LDU <sup>4</sup> , LD-W <sup>5</sup>	ED	70
		42	LA	EG	50		
		65	JG, LH	EG	50		
			JGU <sup>4</sup> , JG-W <sup>5</sup> , PG <sup>6,7</sup> , LGU <sup>4</sup> , LG-W <sup>5</sup>	EG	70		
		100	JJ	EJ	50		
			JJU <sup>4</sup> , JJ-W <sup>5</sup> , PJ, LJU <sup>4</sup> , LJ-W <sup>5</sup>	EJ	70		

Table 3: I-Line/NF Panelboard Selective Coordination at 208Y/120 V — 0.1s to 1000s (continued)

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.) <sup>1</sup>	Upstream (I-Line) Panelboard Feeder Circuit Breaker Type	Downstream (NF) Panelboard Branch Circuit Breaker Type <sup>2</sup>	Largest Possible Branch Circuit Breaker (A)		
200	250	25	JD, LA	ED	70		
			JDU <sup>4</sup> , JD-W <sup>5</sup> , PG <sup>6, 7</sup> , LDU <sup>4</sup> , LD-W <sup>5</sup>	ED	80		
			LA-MC	ED	125		
		42	LA	EG	70		
			LA-MC	EG	125		
		65	JG, LH	EG	70		
			JGU <sup>4</sup> , JG-W <sup>5</sup> , PG <sup>7</sup> , LGU <sup>6</sup> , LG-W <sup>5</sup>	EG	80		
			LH-MC	EG	125		
		100	JJ	EJ	70		
			JJU <sup>4</sup> , JJ-W <sup>5</sup> , PJ, LJU <sup>4</sup> , LJ-W <sup>5</sup>	EJ	80		
		225	250	25	JD, LA	ED	70
					JDU <sup>4</sup> , JD-W <sup>5</sup> , PG <sup>9</sup> , LA-MC, LDU <sup>4</sup> , LD-W <sup>5</sup>	ED	125
42	LA			EG	70		
	LA-MC			EG	125		
65	JG, LH			EG	70		
	JGU <sup>4</sup> , JG-W <sup>5</sup> , PG <sup>8</sup> , LH-MC, LGU <sup>4</sup> , LG-W <sup>5</sup>			EG	125		
100	JJ			EJ	70		
	JJU <sup>4</sup> , JJ-W <sup>5</sup> , PJ, LJU <sup>4</sup> , LJ-W <sup>5</sup>			EJ	125		
250	250			25	JD, JDU <sup>4</sup> , JD-W <sup>5</sup> , LA, LA-MC, LDU <sup>4</sup> , LD-W <sup>5</sup> , PG (ET1.0) <sup>9, 7</sup> , PG <sup>9, 7</sup>	ED	125
					LA, LA-MC	EG	125
				65	JG, JGU <sup>4</sup> , JG-W <sup>5</sup> , LH, LH-MC, LGU <sup>4</sup> , LG-W <sup>5</sup> , PG (ET1.0) <sup>9, 7</sup> , PG <sup>9, 7</sup>	EG	125
					PG (ET1.0) <sup>8, 4</sup> , PG <sup>8, 4</sup>		
100	JJ, JJU <sup>4</sup> , JJ-W <sup>5</sup> , LJU <sup>4</sup> , LJ-W <sup>5</sup> , PJ (ET1.0) <sup>9</sup> , PJ <sup>9</sup>	EJ	125				
300	400	25	LA, LDU <sup>4</sup> , LD-W <sup>5</sup> , MG, PG <sup>8, 7</sup>	ED	125		
			LA	EG	125		
			LH, LGU <sup>4</sup> , LG-W <sup>5</sup> , MG, PG <sup>8, 7</sup>	EG	125		
			LC, LJU <sup>4</sup> , LJ-W <sup>5</sup> , MJ, PJ <sup>8</sup>	EJ	125		
350	400	25	LA, LDU <sup>4</sup> , LD-W <sup>5</sup> , MG	ED	125		
			LA	EG	125		
			LH, LGU <sup>4</sup> , LG-W <sup>5</sup> , MG	EG	125		
			LC, LJU <sup>4</sup> , LJ-W <sup>5</sup> , MJ	EJ	125		
400	400	25	LA, LDU <sup>4</sup> , LD-W <sup>5</sup> , LA-MC, MG, PG (ET1.0) <sup>9, 7</sup> , PG <sup>9, 7</sup>	ED	125		
			LA, LA-MC	EG	125		
		65	LH, LGU <sup>4</sup> , LG-W <sup>5</sup> , LH-MC, MG, PG (ET1.0) <sup>4, 7</sup> , PG <sup>9, 7</sup>	EG	125		
			LC, LJU <sup>4</sup> , LJ-W <sup>5</sup> , MJ, PJ (ET1.0) <sup>9</sup> , PJ <sup>9</sup>	EJ	125		
450	600	25	LC, LDU <sup>4</sup> , LD-W <sup>5</sup> , MG, PG <sup>8, 7</sup>	ED	125		
			LC, LGU <sup>4</sup> , LG-W <sup>5</sup> , MG, PG <sup>8, 7</sup>	EG	125		
			LC, LJU <sup>4</sup> , LJ-W <sup>5</sup> , MJ, PJ <sup>8</sup>	EJ	125		
500	600	25	LC, LDU <sup>4</sup> , LD-W <sup>5</sup> , MG, PG <sup>8, 7</sup>	ED	125		
			LC, LGU <sup>4</sup> , LG-W <sup>5</sup> , MG, PG <sup>58, 7</sup>	EG	125		
			LC, LJU <sup>4</sup> , LJ-W <sup>5</sup> , MJ, PJ <sup>8</sup>	EJ	125		
600	600	25	LC, LDU <sup>4</sup> , LD-W <sup>5</sup> , MG, PG (ET1.0) <sup>9, 7</sup> , PG <sup>9, 7</sup>	ED	125		
			LC, LDU <sup>4</sup> , LD-W <sup>5</sup> , MG, PG (ET1.0) <sup>9, 7</sup> , PG <sup>9, 7</sup>	EG	125		
			LC, LJU <sup>4</sup> , LJ-W <sup>5</sup> , MJ, PJ (ET1.0) <sup>9</sup> , PJ <sup>9</sup>	EJ	125		
700	800	25	MG, PG <sup>8, 7</sup>	ED	125		
			MG, PG <sup>8, 7</sup>	EG	125		
			MJ, PJ <sup>8, 7</sup>	EJ	125		

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**Table 3: I-Line/NF Panelboard Selective Coordination at 208Y/120 V — 0.1s to 1000s** *(continued)*

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.) <sup>1</sup>	Upstream (I-Line) Panelboard Feeder Circuit Breaker Type	Downstream (NF) Panelboard Branch Circuit Breaker Type <sup>2</sup>	Largest Possible Branch Circuit Breaker (A)
800	800	25	MG, PG (ET1.0) <sup>9, 7</sup> , PG <sup>9, 7</sup>	ED	125
		65	MG, PG (ET1.0) <sup>9, 7</sup> , PG <sup>9, 7</sup>	EG	125
		100	MJ, PJ (ET1.0) <sup>9</sup> , PJ <sup>9</sup>	EJ	125

<sup>1</sup> 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 for X/R Ratio Adjustment on Page 3 for additional information.

<sup>2</sup> 2 Pole or 3 Pole 15–125 A only. 1 Pole is available from 15–70 A and has an AIR of 18 kA for ED, 35 kA for EG, and 65 kA for EJ.

<sup>3</sup> 480 V-rated.

<sup>4</sup> The PowerPact H-, J- and L-frame circuit breakers with Micrologic trip units (3.2/3.3 L,I and 5.2/5.3 L,S,I only) are denoted with the “U” character in the third position.

<sup>5</sup> The PowerPact J- and L-frame Mission Critical circuit breakers are denoted as J\_-W and L\_-W.

<sup>6</sup> PowerPact PG and PK circuit breakers smaller than 200 A cannot accept wires smaller than #3/0 AWG.

<sup>7</sup> PowerPact PK circuit breakers can be used wherever PG circuit breakers are mentioned in the table.

<sup>8</sup> Requires larger sensor size if standard rating plug is used (300 A: 600 A w/ LTPU=0.5, 450 A: 1000 A w/LTPU=0.45, 500 A: 800 A w/LTPU=0.625, 700 A: 1000 A w/LTPU= 0.7).

<sup>9</sup> The PowerPact P-frame circuit breaker is available with ET1.0 or Micrologic 3.0/5.0/6.0 trip units in this size range:

PG (ET1.0) = ET1.0 trip unit

PG = Micrologic 3.0/5.0/6.0 trip unit

Table 4: I-Line/NF Panelboard Selective Coordination at 208Y/120 V — Total Selective Coordination

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.) <sup>1</sup>	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.) <sup>1,2</sup>	Largest Possible Branch Circuit Breaker (A)
100	125	25	PG <sup>3,4</sup>	ED <sup>3</sup>	25	50
			JD-W <sup>7</sup>	ED	18	50
			LD-W <sup>7</sup>	ED	30	60
		65	PG <sup>3,4</sup>	EG <sup>3</sup>	65	50
			JD-W <sup>7</sup>	EG	18	50
			LD-W <sup>7</sup>	EG	30	60
125	125	25	PG <sup>3,4</sup>	ED	25	50
			JD-W <sup>7</sup>	ED	18	60
			LD-W <sup>7</sup>	ED	30	60
		65	PG <sup>3,4</sup>	EG	65	50
			JG-W <sup>7</sup>	EG	18	60
			LG-W <sup>7</sup>	EG	30	60
150	250	25	PJ	EJ	6.3	50
			JJ-W <sup>7</sup>	EJ	18	60
			LJ-W <sup>7</sup>	EJ	30	60
		65	PG <sup>3,4</sup>	ED	25	70
			JD-W <sup>7</sup>	ED	18	70
			LD-W <sup>7</sup>	ED	30	70
175	250	25	PG <sup>3,4</sup>	EG	65	70
			JG-W <sup>7</sup>	EG	18	70
			LG-W <sup>7</sup>	EG	30	70
		65	PJ	EJ	6.3	70
			JJ-W <sup>7</sup>	EJ	18	70
			LJ-W <sup>7</sup>	EJ	30	70
200	250	25	PG <sup>4</sup>	ED	25	80
			JD-W <sup>7</sup>	ED	18	80
			LD-W <sup>7</sup>	ED	30	80
		42	LA-MC	ED	3.5	125
			LA-MC	EG	3.5	125
			LA-MC	EG	3.5	125
200	250	65	PG <sup>4</sup>	EG	65	80
			JG-W <sup>7</sup>	EG	18	80
			LG-W <sup>7</sup>	EG	30	80
		100	LH-MC	EG	3.5	125
			PJ	EJ	6.3	80
			JJ-W <sup>7</sup>	EJ	18	80
200	250	100	LJ-W <sup>7</sup>	EJ	30	80

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Table 4: I-Line/NF Panelboard Selective Coordination at 208Y/120 V — Total Selective Coordination (continued)

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.) <sup>1</sup>	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.) <sup>1,2</sup>	Largest Possible Branch Circuit Breaker (A)		
225	250	25	PG <sup>4</sup>	ED	25	125		
			JD-W <sup>7</sup>	ED	18	110		
			JD-W <sup>7</sup>	ED	18	125		
			LA-MC	ED	3.9	125		
			LD-W <sup>7</sup>	ED	30	110		
			LD-W <sup>7</sup>	ED	30	125		
		42	LA-MC	EG	3.9	125		
			65	PG <sup>4</sup>	EG	65	125	
		JG-W <sup>7</sup>		EG	18	110		
		JG-W <sup>7</sup>		EG	18	125		
		LH-MC		EG	3.9	125		
		LG-W <sup>7</sup>		EG	30	110		
		LG-W <sup>7</sup>		EG	30	125		
		100	PJ	EJ	6.3	125		
			JJ-W <sup>7</sup>	EJ	18	110		
			JJ-W <sup>7</sup>	EJ	18	125		
			LJ-W <sup>7</sup>	EJ	30	110		
			LJ-W <sup>7</sup>	EJ	30	125		
250	250	25	LA-MC	ED	4.38	125		
			PG (ET1.0) <sup>5, 4</sup> , PG <sup>5, 4</sup>	ED	25	125		
			JD-W <sup>7</sup>	ED	18	125		
			LD-W <sup>7</sup>	ED	30	125		
		42	LA-MC	EG	4.38	125		
			65	LH-MC	EG	4.38	125	
		PG (ET1.0) <sup>5, 4</sup> , PG <sup>5, 4</sup>		EG	65	125		
		JG-W <sup>7</sup>		EG	18	125		
		LG-W <sup>7</sup>		EG	30	125		
		100	PJ (ET1.0) <sup>5</sup> , PJ <sup>5</sup>	EJ	6.3	125		
			JJ-W <sup>7</sup>	EJ	18	125		
			LJ-W <sup>7</sup>	EJ	30	125		
		300	400	25	PG <sup>6, 4</sup> , MG	ED	25	125
					LD-W <sup>7</sup>	ED	30	125
				65	PG <sup>6, 4</sup> , MG	EG	65	125
LG-W <sup>7</sup>	EG				30	125		
100	PJ <sup>6</sup> , MJ			EJ	100	125		
	LJ-W <sup>7</sup>			EJ	30	125		
350	400	25	LD-W <sup>7</sup>	ED	30	125		
			MG	ED	25	125		
		65	LG-W <sup>7</sup>	EG	30	125		
			MG	EG	65	125		
		100	LJ-W <sup>7</sup>	EJ	30	125		
			MJ	EJ	100	125		
400	400	25	LA-MC	ED	7	125		
			PG (ET1.0) <sup>5, 4</sup> , PG <sup>5, 4</sup> , MG	ED	25	125		
			LD-W <sup>7</sup>	ED	30	125		
		42	LA-MC	EG	7	125		
			65	LH-MC	EG	7	125	
		PG (ET1.0) <sup>5, 4</sup> , PG <sup>5, 4</sup> , MG		EG	65	125		
		LG-W <sup>7</sup>		EG	30	125		
		100	PJ (ET1.0) <sup>5</sup> , PJ <sup>5</sup> , MJ	EJ	100	125		
			LJ-W <sup>7</sup>	EJ	30	125		

**Table 4: I-Line/NF Panelboard Selective Coordination at 208Y/120 V — Total Selective Coordination (continued)**

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.) <sup>1</sup>	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.) <sup>1,2</sup>	Largest Possible Branch Circuit Breaker (A)
450	600	25	PG <sup>6, 4</sup> , MG	ED	25	125
			LD-W <sup>7</sup>	ED	30	125
		65	PG <sup>6, 4</sup> , MG	EG	65	125
			LG-W <sup>7</sup>	EG	30	125
		100	PJ <sup>6</sup> , MJ	EJ	100	125
			LJ-W <sup>7</sup>	EJ	30	125
500	600	25	PG <sup>6, 4</sup> , MG	ED	25	125
			LD-W <sup>7</sup>	ED	30	125
		65	PG <sup>6, 4</sup> , MG	EG	65	125
			LG-W <sup>7</sup>	EG	30	125
		100	PJ <sup>6</sup> , MJ	EJ	100	125
			LJ-W <sup>7</sup>	EJ	30	125
600	600	25	PG (ET1.0) <sup>5, 4</sup> , PG <sup>5, 4</sup> , MG	ED	25	125
			LD-W <sup>7</sup>	ED	30	125
		65	PG (ET1.0) <sup>5, 4</sup> , PG <sup>5, 4</sup> , MG	EG	65	125
			LG-W <sup>7</sup>	EG	30	125
		100	PJ (ET1.0) <sup>5</sup> , PJ <sup>5</sup> MJ	EJ	100	125
			LJ-W <sup>7</sup>	EJ	30	125
700	800	25	PG <sup>6, 4</sup> , MG	EG	25	125
		65	PG <sup>6, 4</sup> , MG	EJ	65	125
		100	PJ <sup>6, 4</sup> , MJ	ED	100	125
800	800	25	PG (ET1.0) <sup>5, 4</sup> , PG <sup>5, 4</sup> , MG	EG	25	125
		65	MG, PG (ET1.0) <sup>5, 4</sup> , PG <sup>5, 4</sup>	EJ	65	125
		100	MJ, PJ (ET1.0) <sup>5</sup> , PJ <sup>5</sup>	ED	100	125

<sup>1</sup> 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 for X/R Ratio Adjustment on Page 3 for additional information.

<sup>2</sup> 2 Pole or 3 Pole 15–125 A only. 1 Pole is available from 15–70 A and has an AIR of 18 kA for ED, 35 kA for EG, and 65 kA for EJ.

<sup>3</sup> PowerPact PG and PK circuit breakers smaller than 200 A cannot accept wires smaller than #3/0 AWG.

<sup>4</sup> PowerPact PK circuit breakers can be used wherever PG circuit breakers are mentioned in the table.

<sup>5</sup> The PowerPact P-frame circuit breaker is available with ET1.0 or Micrologic 3.0/5.0/6.0 trip units in this size range:  
PG (ET1.0) = ET1.0 trip unit  
PG = Micrologic 3.0/5.0/6.0 trip unit

<sup>6</sup> Requires larger sensor size if standard rating plug is used (300 A: 600 A w/LTPU=0.5, 450 A: 1000 A w/LTPU=0.45, 500 A: 800 A w/LTPU=0.625, 700 A: 1000 A w/LTPU= 0.7).

<sup>7</sup> The PowerPact J- and L-frame Mission Critical circuit breakers are denoted as J\_-W and L\_-W.

Table 5: I-Line/NQ Panelboard Selective Coordination at 208Y/120 V — 0.1s to 1000s

Feeder Size / Upstream (I-Line) Panelboard Circuit Breaker Size (A)	Required Downstream (NQ) Panelboard Ampacity (A)	Maximum Available Fault Current at Upstream (I-Line) Panelboard (kA RMS Sym.) <sup>1</sup>	Upstream (I-Line) Panelboard Feeder Circuit Breaker Type	Downstream (NQ) Panelboard Branch Circuit Breaker Type	Largest Possible Branch Circuit Breaker (A)		
100	100	10	HD, FA, BD	QO	25		
			HDU <sup>2</sup> , JDU <sup>2</sup> , JD-W <sup>3</sup> , PG <sup>4,5</sup>	QO	40		
			DJ-MC	QO	70		
		22	HD, FA <sup>6</sup> , BD	QO-VH	25		
			HDU <sup>2</sup> , PG <sup>4,5</sup> , DJ-MC	QO-VH	40 <sup>7</sup>		
			JDU <sup>2</sup> , JD-W <sup>3</sup>	QO-VH	50 <sup>7</sup>		
		65	HG, FH, BG	QH	25		
			HGU <sup>2</sup> , JGU <sup>2</sup> , JG-W <sup>3</sup> , PG <sup>4,5</sup> , DJMC	QH	30		
		110	225	10	HD, BD	QO	25
HDU <sup>2</sup> , DJ-MC	QO				70		
22	HD, BD			QO-VH	25		
	DJ-MC			QO-VH	40 <sup>7</sup>		
	HDU <sup>2</sup>			QO-VH	50 <sup>7</sup>		
65	HG, BG			QH	25		
	HGU <sup>2</sup> , DJ-MC			QH	30		
125	225			10	HD	QO	25
					LA	QO	30
		PG <sup>4,5</sup> , HDU <sup>2</sup> , JDU <sup>2</sup> , JD-W <sup>3</sup> , LDU <sup>2</sup> , LD-W <sup>3</sup> , DJ-MC	QO		70		
		22	HD, BD	QO-VH	25		
			LA	QO-VH	30		
			DJ-MC	QO-VH	50 <sup>7</sup>		
			PG <sup>4,5</sup> , HDU <sup>2</sup> , JDU <sup>2</sup> , JD-W <sup>3</sup> , LDU <sup>2</sup> , LD-W <sup>3</sup>	QO-VH	60 <sup>7</sup>		
		42	LA	QH	30		
			HG, BG	QH	25		
			HGU <sup>2</sup> , JGU <sup>2</sup> , JG-W <sup>3</sup> , LH, LGU <sup>2</sup> , LGW <sup>3</sup> , PG <sup>4,5</sup> , DJ-MC	QH	30		
			65	HGU <sup>2</sup> , JGU <sup>2</sup> , JG-W <sup>3</sup> , LH, LGU <sup>2</sup> , LGW <sup>3</sup> , PG <sup>4,5</sup> , DJ-MC	QH	30	
				HGU <sup>2</sup> , JGU <sup>2</sup> , JG-W <sup>3</sup> , LH, LGU <sup>2</sup> , LGW <sup>3</sup> , PG <sup>4,5</sup> , DJ-MC	QH	30	
150	225	10	HD	QO	25		
			HDU <sup>2</sup> , JD, JDU <sup>2</sup> , JD-W <sup>3</sup> , LA, LDU <sup>2</sup> , LD-W <sup>3</sup> , PG <sup>4,5</sup> , DJ-MC	QO	70		
		22	HD	QO-VH	25		
			JD, LA	QO-VH	40 <sup>7</sup>		
			DJ-MC	QO-VH	50 <sup>7</sup>		
			HDU <sup>2</sup>	QO-VH	60 <sup>7</sup>		
		42	PG <sup>4,5</sup> , JDU <sup>2</sup> , JD-W <sup>3</sup> , LDU <sup>2</sup> , LD-W <sup>3</sup>	QO-VH	70 <sup>7</sup>		
			LA	QH	30		
			HG	QH	25		
			65	HGU <sup>2</sup> , JG, JGU <sup>2</sup> , JG-W <sup>3</sup> , LH, LGU <sup>2</sup> , LG-W <sup>3</sup> , PG <sup>4,5</sup> , DJ-MC	QH	30	
				HGU <sup>2</sup> , JG, JGU <sup>2</sup> , JG-W <sup>3</sup> , LH, LGU <sup>2</sup> , LG-W <sup>3</sup> , PG <sup>4,5</sup> , DJ-MC	QH	30	
				HGU <sup>2</sup> , JG, JGU <sup>2</sup> , JG-W <sup>3</sup> , LH, LGU <sup>2</sup> , LG-W <sup>3</sup> , PG <sup>4,5</sup> , DJ-MC	QH	30	
			175	225	10	JD, JDU <sup>2</sup> , JD-W <sup>3</sup> , LA, LDU <sup>2</sup> , LD-W <sup>3</sup> , PG <sup>4,5</sup>	QO
		DJ-MC				QO	90
		22			JD, LA	QO-VH	40 <sup>7</sup>
PG <sup>4,5</sup> , JDU <sup>2</sup> , JD-W <sup>3</sup> , LDU <sup>2</sup> , LD-W <sup>3</sup>	QO-VH				70 <sup>7</sup>		
42	DJ-MC	QO-VH			100 <sup>7</sup> (2P), 70 <sup>7</sup> (3P)		
	LA	QH			30		
65	JG, JGU <sup>2</sup> , JG-W <sup>3</sup> , LH, LGU <sup>2</sup> , LG-W <sup>3</sup> , PG <sup>4,5</sup> , DJ-MC	QH			30		
	JG, JGU <sup>2</sup> , JG-W <sup>3</sup> , LH, LGU <sup>2</sup> , LG-W <sup>3</sup> , PG <sup>4,5</sup> , DJ-MC	QH			30		



**Table 5: I-Line/NQ Panelboard Selective Coordination at 208Y/120 V — 0.1s to 1000s (continued)**

Feeder Size / Upstream (I-Line) Panelboard Circuit Breaker Size (A)	Required Downstream (NQ) Panelboard Ampacity (A)	Maximum Available Fault Current at Upstream (I-Line) Panelboard (kA RMS Sym.) <sup>1</sup>	Upstream (I-Line) Panelboard Feeder Circuit Breaker Type	Downstream (NQ) Panelboard Branch Circuit Breaker Type	Largest Possible Branch Circuit Breaker (A)
200	225	10	LA	QO	80 <sup>10</sup>
			JD, JDU <sup>2</sup> , JD-W <sup>3</sup> , LA-MC, LDU <sup>2</sup> , LDW <sup>3</sup> , PG <sup>5</sup> , DJ-MC	QO	100 <sup>10</sup>
		22	JD, LA	QO-VH	50 <sup>7</sup>
			DJ-MC	QO-VH	100 <sup>7</sup> (2P), 70 <sup>7</sup> (3P)
			PG <sup>5</sup> , JDU <sup>2</sup> , JD-W <sup>3</sup> , LDU <sup>2</sup> , LD-W <sup>3</sup>	QO-VH	100 <sup>7</sup> (2P), 80 <sup>7</sup> (3P)
			LA-MC	QO-VH	100 <sup>7</sup> (2P), 90 <sup>7</sup> (3P)
42	LA, LA-MC	QH	30		
65	JG, JGU <sup>2</sup> , JG-W <sup>3</sup> , LH, LH-MC, LGU <sup>2</sup> , LG-W <sup>3</sup> , PG <sup>5</sup> , DJ-MC	QH	30		
225	225	10	JD, JDU <sup>2</sup> , JD-W <sup>3</sup> , LA, LDU <sup>2</sup> , LD-W <sup>3</sup> , PG (ET1.0) <sup>8,5</sup> , PG <sup>8,5</sup> , DJ-MC	QO	100 <sup>10</sup>
			LA-MC	QO	125 <sup>9</sup>
		22	JD, LA	QO-VH	60 <sup>7</sup>
			JDU <sup>2</sup> , JD-W <sup>3</sup> , DJ-MC	QO-VH	100 <sup>7</sup> (2P), 80 <sup>7</sup> (3P)
			PG <sup>8,5</sup> , LDU <sup>2</sup> , LD-W <sup>3</sup>	QO-VH	100 <sup>7</sup> (2P), 110 <sup>7</sup> (3P) (except 100A 3P with PG 3.0 trip unit)
			PG (ET1.0) <sup>8,5</sup>	QO-VH	100 <sup>7</sup> (2P), 150 <sup>7</sup> (3P) (except 100A 3P)
42	LA, LA-MC	QH	150 <sup>7</sup>		
65	JG, JGU <sup>2</sup> , JG-W <sup>3</sup> , LH, LH-MC, LGU <sup>2</sup> , LG-W <sup>3</sup> , PG (ET1.0) <sup>8,5</sup> , PG <sup>8,5</sup> , DJ-MC	QH	30		
250	400	10	JD, JDU <sup>2</sup> , JD-W <sup>3</sup> , LA, LDU <sup>2</sup> , LD-W <sup>3</sup> , PG (ET1.0) <sup>8,5</sup> , PG <sup>8,5</sup> , DJ-MC	QO	100 <sup>10</sup>
			LA-MC	QO	125 <sup>9</sup>
		22	JD, LA	QO-VH	60 <sup>7</sup>
			JDU <sup>2</sup> , JD-W <sup>3</sup> , DJ-MC	QO-VH	100 <sup>7</sup> (2P), 80 <sup>7</sup> (3P)
			PG <sup>8,5</sup> , LDU <sup>2</sup> , LD-W <sup>3</sup>	QO-VH	100 <sup>7</sup> (2P), 110 <sup>7</sup> (3P) (except 100A 3P with PG 3.0 trip unit)
			PG (ET1.0) <sup>8,5</sup>	QO-VH	100 <sup>7</sup> (2P), 150 <sup>7</sup> (3P) (except 100A 3P)
42	LA, LA-MC	QH	150 <sup>7</sup>		
65	JG, JGU <sup>2</sup> , JG-W <sup>3</sup> , LH, LH-MC, LGU <sup>2</sup> , LG-W <sup>3</sup> , PG (ET1.0) <sup>8,5</sup> , PG <sup>8,5</sup> , DJ-MC	QH	30		
300	400	10	LA, MG	QO	100 <sup>10</sup>
			PG <sup>11,5</sup> , LDU <sup>2</sup> , LD-W <sup>3</sup> , DJ-MC	QO	125 <sup>9</sup>
		22	LA	QO-VH	100 <sup>7</sup> (2P), 80 <sup>7</sup> (3P)
			MG	QO-VH	100 <sup>7</sup> (2P), 150 <sup>7</sup> (3P) (except 100A 3P)
			PG <sup>12,5</sup> , LDU <sup>2</sup> , LD-W <sup>3</sup> , DJ-MC	QO-VH	150 <sup>7</sup>
		42	LA	QH	30
65	LH, LGU <sup>2</sup> , LG-W <sup>3</sup> , MG, PG <sup>12,5</sup> , DJ-MC	QH	30		
350	400	10	LA	QO	100 <sup>10</sup>
			MG	QO	110 <sup>9</sup>
			LDU <sup>2</sup> , LD-W <sup>3</sup> , DJ-MC	QO	125 <sup>9</sup>
		22	LA	QO-VH	100 <sup>7</sup> (2P), 150 <sup>7</sup> (3P) (except 100A 3P)
			MG, LDU <sup>2</sup> , LD-W <sup>3</sup> , DJ-MC	QO-VH	150 <sup>7</sup>
			LA	QH	30
65	LH, LGU <sup>2</sup> , LG-W <sup>3</sup> , MG, DJ-MC	QH	30		

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**Table 5: I-Line/NQ Panelboard Selective Coordination at 208Y/120 V — 0.1s to 1000s (continued)**

Feeder Size / Upstream (I-Line) Panelboard Circuit Breaker Size (A)	Required Downstream (NQ) Panelboard Ampacity (A)	Maximum Available Fault Current at Upstream (I-Line) Panelboard (kA RMS Sym.) <sup>1</sup>	Upstream (I-Line) Panelboard Feeder Circuit Breaker Type	Downstream (NQ) Panelboard Branch Circuit Breaker Type	Largest Possible Branch Circuit Breaker (A)
400	400	10	LA, LA-MC, LDU <sup>2</sup> , LD-W <sup>3</sup> , MG, PG (ET1.0) <sup>8,5</sup> , PG <sup>8,5</sup> , DJ-MC	QO	125 <sup>9</sup>
		22	LA, LA-MC, LDU <sup>2</sup> , LD-W <sup>3</sup> , MG, PG (ET1.0) <sup>8,5</sup> , PG <sup>8,5</sup> , DJ-MC	QO-VH	150 <sup>7</sup>
		42	LA, LA-MC	QH	30
		65	LH, LH-MC, LGU <sup>2</sup> , LG-W <sup>3</sup> , MG, PG (ET1.0) <sup>8,5</sup> , PG <sup>8,5</sup> , DJ-MC	QH	30
450	600	10	LC, LDU <sup>2</sup> , LD-W <sup>3</sup> , MG, PG <sup>12,5</sup> , DJ-MC	QO	125 <sup>9</sup>
		22	LC, LDU <sup>2</sup> , LD-W <sup>3</sup> , MG, PG <sup>12,5</sup> , DJ-MC	QO-VH	150 <sup>7</sup>
		65	LC, LGU <sup>2</sup> , LG-W <sup>3</sup> , MG, PG <sup>12,5</sup> , DJ-MC	QH	30
500	600	10	LC, LDU <sup>2</sup> , LD-W <sup>3</sup> , MG, PG <sup>12,5</sup> , DJ-M	QO	125 <sup>9</sup>
		22	LC, LDU <sup>2</sup> , LD-W <sup>3</sup> , MG, PG <sup>12,5</sup> , DJ-MC	QO-VH	150 <sup>7</sup>
		65	LC, LGU <sup>2</sup> , LG-W <sup>3</sup> , MG, PG <sup>12,5</sup> , DJ-MC	QH	30
600	600	10	LC, LDU <sup>2</sup> , LD-W <sup>3</sup> , MG, PG (ET1.0) <sup>8,5</sup> , PG <sup>8,5</sup> , DJ-MC	QO	125 <sup>9</sup>
		22	LC, LDU <sup>2</sup> , LD-W <sup>3</sup> , MG, PG (ET1.0) <sup>8,5</sup> , PG <sup>8,5</sup> , DJ-MC	QO-VH	150 <sup>7</sup>
		65	LC, LGU <sup>2</sup> , LG-W <sup>3</sup> , MG, PG (ET1.0) <sup>8,5</sup> , PG <sup>8,5</sup> , DJ-MC	QH	30

<sup>1</sup> 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 for X/R Ratio Adjustment on Page 3 for additional information.

<sup>2</sup> The PowerPact H-, J- and L-frame circuit breakers with Micrologic trip units (3.2/3.3 L,I and 5.2/5.3 L,S,I only) are denoted with the "U" character in the third position.

<sup>3</sup> The PowerPact J- and L-frame Mission Critical circuit breakers are denoted as J\_-W and L\_-W.

<sup>4</sup> PowerPact PG and PK circuit breakers smaller than 200 A cannot accept wires smaller than #3/0 AWG.

<sup>5</sup> PowerPact PK circuit breakers can be used wherever PG circuit breakers are mentioned in the table.

<sup>6</sup> 480 V-rated.

<sup>7</sup> 2P or 3P only. QO-VH 1P is available up to 30 A (and coordinates up to 30 A).

<sup>8</sup> The PowerPact P-frame circuit breaker is available with ET1.0 or Micrologic 3.0/5.0/6.0 trip units in this size range:  
PG (ET1.0) = ET1.0 trip unit  
PG = Micrologic 3.0/5.0/6.0 trip unit

<sup>9</sup> 2 Pole only. QO 1P is available up to 70 A (and coordinates up to 70 A). QO 3P is available up to 100 A (and coordinates up to 100 A).

<sup>10</sup> 2 Pole or 3 Pole only. QO 1P is available up to 70 A (and coordinates up to 70 A).

<sup>11</sup> Requires larger circuit breaker size if standard rating plug is used (300 A: 600 A w/ LTPU=0.5, 450 A: 1000 A w/LTPU=0.45, 500 A: 800 A w/LTPU=0.625).

<sup>12</sup> Requires larger circuit breaker size if standard rating plug is used (300 A: 600 A w/ LTPU=0.5, 450 A: 1000 A w/LTPU=0.45, 500 A: 800 A w/LTPU=0.625).

**Table 6: I-Line/NQ Panelboard Selective Coordination at 208Y/120 V — Total Selective Coordination**

Feeder Size / Upstream (I-Line) Panelboard Circuit Breaker Size (A)	Required Downstream (NQ) Panelboard Ampacity (A)	Maximum Available Fault Current at Upstream (I-Line) Panelboard (kA RMS Sym.) <sup>1</sup>	Upstream (I-Line) Panelboard Feeder Circuit Breaker Type	Downstream (NQ) Panelboard Branch Circuit Breaker Type	Maximum Available Fault Current at Downstream (NQ) Panelboard (kA RMS Sym.) <sup>1,2</sup>	Largest Possible Branch Circuit Breaker (A)		
100	100	10	PG <sup>3,4</sup>	QO	10	40		
			JD-W <sup>5</sup>	QO	18 (1P, 2P), 15 (3P)	30		
			JD-W <sup>5</sup>	QO	15 (1P, 2P), 13 (3P)	40		
			DJ-MC	QO	30	50		
			DJ-MC	QO	1.5	70		
		22	PG <sup>3,4</sup>	QO-VH	22	40 <sup>6</sup>		
			PJ	QO-VH	6.3	40 <sup>6</sup>		
			DJ-MC	QO-VH	30	40 <sup>6</sup>		
			JD-W <sup>5</sup>	QO-VH	18 (1P, 2P), 15 (3P)	30		
			JD-W <sup>5</sup>	QO-VH	15 (1P, 2P), 13 (3P)	50 <sup>6</sup>		
		65	PG <sup>3,4</sup>	QH	65	30		
			JG-W <sup>5</sup>	QH	18 (1P, 2P), 15 (3P)	30		
			DJ-MC	QH	1.5	30		
		110	225	10	DJ-MC	QO	30	50
					DJ-MC	QO	1.5	70
22	DJ-MC			QO-VH	30	40 <sup>6</sup>		
	DJ-MC			QH	1.5	30		
125	225			10	PG <sup>3,4</sup>	QO	10	70
					JD-W <sup>5</sup>	QO	18 (1P, 2P), 15 (3P)	30
		JD-W <sup>5</sup>	QO		15 (1P, 2P), 13 (3P)	60		
		JD-W <sup>5</sup>	QO		12 (1P, 2P), 10 (3P)	70		
		LD-W <sup>5</sup>	QO		18	60		
		LD-W <sup>5</sup>	QO		10	70		
		DJ-MC	QO		30	60		
		DJ-MC	QO		1.5	70		
		22	DJ-MC		QO-VH	30	50 <sup>6</sup>	
			PG <sup>3,4</sup>		QO-VH	22	60 <sup>6</sup>	
			PJ	QO-VH	6.3	60 <sup>6</sup>		
			JD-W <sup>5</sup>	QO-VH	18 (1P, 2P), 15 (3P)	30		
			JD-W <sup>5</sup>	QO-VH	15 (1P, 2P), 13 (3P)	60 <sup>6</sup>		
			LD-W <sup>5</sup>	QO-VH	18	60 <sup>6</sup>		
		65	PG <sup>3,4</sup>	QH	65	30		
			JG-W <sup>5</sup>	QH	18 (1P, 2P), 15 (3P)	30		
			LG-W <sup>5</sup>	QH	18	30		
			DJ-MC	QH	1.5	30		
		150	225	10	JD-W <sup>5</sup>	QO	18 (1P, 2P), 15 (3P)	30
					JD-W <sup>5</sup>	QO	15 (1P, 2P), 13 (3P)	60
JD-W <sup>5</sup>	QO				12 (1P, 2P), 10 (3P)	70		
PG <sup>3,4</sup>	QO				10	70		
DJ-MC	QO				30	70		
LD-W <sup>5</sup>	QO				18	60		
LD-W <sup>5</sup>	QO				10	70		

Table 6: I-Line/NQ Panelboard Selective Coordination at 208Y/120 V — Total Selective Coordination (continued)

Feeder Size / Upstream (I-Line) Panelboard Circuit Breaker Size (A)	Required Downstream (NQ) Panelboard Ampacity (A)	Maximum Available Fault Current at Upstream (I-Line) Panelboard (kA RMS Sym.) <sup>1</sup>	Upstream (I-Line) Panelboard Feeder Circuit Breaker Type	Downstream (NQ) Panelboard Branch Circuit Breaker Type	Maximum Available Fault Current at Downstream (NQ) Panelboard (kA RMS Sym.) <sup>1,2</sup>	Largest Possible Branch Circuit Breaker (A)
150	225	22	DJ-MC	QO-VH	30	50 <sup>6</sup>
			JD-W <sup>5</sup>	QO-VH	18 (1P, 2P), 15 (3P)	30
			JD-W <sup>5</sup>	QO-VH	15 (1P, 2P), 13 (3P)	60 <sup>6</sup>
			JD-W <sup>5</sup>	QO-VH	12 (1P, 2P), 10 (3P)	70 <sup>6</sup>
			PG <sup>3,4</sup>	QO-VH	22	70 <sup>6</sup>
			PJ	QO-VH	6.3	70 <sup>6</sup>
			LD-W <sup>5</sup>	QO-VH	18	60 <sup>6</sup>
			LD-W <sup>5</sup>	QO-VH	10	70 <sup>6</sup>
		65	DJ-MC	QH	1.5	30
			PG <sup>3,4</sup>	QH	65	30
			JG-W <sup>5</sup>	QH	18 (1P, 2P), 15 (3P)	30
			JG-W <sup>5</sup>	QH	18	30
175	225	10	PG <sup>3,4</sup>	QO	10	70
			JD-W <sup>5</sup>	QO	18 (1P, 2P), 15 (3P)	30
			JD-W <sup>5</sup>	QO	15 (1P, 2P), 13 (3P)	60
			JD-W <sup>5</sup>	QO	12 (1P, 2P), 10 (3P)	70
			LD-W <sup>5</sup>	QO	18	60
			LD-W <sup>5</sup>	QO	10	70
			DJ-MC	QO	30	80
			DJ-MC	QO	2.5	90
		22	PG <sup>3,4</sup>	QO-VH	22	70 <sup>6</sup>
			PJ	QO-VH	6.3	70 <sup>6</sup>
			JD-W <sup>5</sup>	QO-VH	18 (1P, 2P), 15 (3P)	30
			JD-W <sup>5</sup>	QO-VH	15 (1P, 2P), 13 (3P)	60 <sup>6</sup>
			JD-W <sup>5</sup>	QO-VH	12 (1P, 2P), 10 (3P)	70 <sup>6</sup>
			PJ	QO-VH	18	60 <sup>6</sup>
			LD-W <sup>5</sup>	QO-VH	10	70 <sup>6</sup>
			LG-W <sup>5</sup>	QO-VH	30	80 <sup>6</sup> (2P), 70 <sup>6</sup> (3P)
		65	DJ-MC	QO-VH	2.5	100 <sup>6</sup> (2P)
			PG <sup>3,4</sup>	QH	65	30
			JG-W <sup>5</sup>	QH	18 (1P, 2P), 15 (3P)	30
			JG-W <sup>5</sup>	QH	18	30
			JG-W <sup>5</sup>	QH	2.5	30
200	225	10	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
			LA-MC	QO	5 (1P, 3P), 6 (2P)	70
			LA-MC	QO	5	100 <sup>7</sup>
			PG <sup>4</sup>	QO	10	100 <sup>7</sup>
			JD-W <sup>5</sup>	QO	18 (1P, 2P), 15 (3P)	30
			JD-W <sup>5</sup>	QO	15 (1P, 2P), 13 (3P)	60
			JD-W <sup>5</sup>	QO	12 (1P, 2P), 10 (3P)	100 <sup>7</sup>
			LD-W <sup>5</sup>	QO	18	60
			LD-W <sup>5</sup>	QO	10	100 <sup>7</sup>
			DJ-MC	QO	30	100 <sup>7</sup>

**Table 6: I-Line/NQ Panelboard Selective Coordination at 208Y/120 V — Total Selective Coordination (continued)**

Feeder Size / Upstream (I-Line) Panelboard Circuit Breaker Size (A)	Required Downstream (NQ) Panelboard Ampacity (A)	Maximum Available Fault Current at Upstream (I-Line) Panelboard (kA RMS Sym.) <sup>1</sup>	Upstream (I-Line) Panelboard Feeder Circuit Breaker Type	Downstream (NQ) Panelboard Branch Circuit Breaker Type	Maximum Available Fault Current at Downstream (NQ) Panelboard (kA RMS Sym.) <sup>1,2</sup>	Largest Possible Branch Circuit Breaker (A)	
200	225	22	PG <sup>4</sup>	QO-VH	22	100 <sup>6</sup> (2P), 80 <sup>6</sup> (3P)	
			PJ	QO-VH	6.3	100 <sup>6</sup> (2P), 80 <sup>6</sup> (3P)	
			LA-MC	QO-VH	22 (1P, 2P), 16 (3P)	15	
			LA-MC	QO-VH	22 (1P, 2P), 10 (3P)	20	
			LA-MC	QO-VH	7 (1P), 10 (2P), 6.5 (3P)	30	
			LA-MC	QO-VH	7 (2P), 6 (3P)	40 <sup>6</sup>	
			LA-MC	QO-VH	6 (2P), 5.5 (3P)	50 <sup>6</sup>	
			LA-MC	QO-VH	6 (2P), 5 (3P)	70 <sup>6</sup>	
			LA-MC	QO-VH	5	100 <sup>6</sup> (2P), 90 <sup>6</sup> (3P)	
			JD-W <sup>5</sup>	QO-VH	18 (1P, 2P), 15 (3P)	30	
			JD-W <sup>5</sup>	QO-VH	15 (1P, 2P), 13 (3P)	60 <sup>6</sup>	
			JD-W <sup>5</sup>	QO-VH	12 (1P, 2P), 10 (3P)	100 <sup>6</sup> (2P), 80 <sup>6</sup> (3P)	
			LD-W <sup>5</sup>	QO-VH	18	60 <sup>6</sup>	
			LD-W <sup>5</sup>	QO-VH	10	100 <sup>6</sup> (2P), 80 <sup>6</sup> (3P)	
		DJ-MC	QO-VH	30	100 <sup>6</sup> (2P), 70 <sup>6</sup> (3P)		
			42	LA-MC	QH	3.5	30
			65	LA-MC	QH	3.5	30
				PG <sup>4</sup>	QH	65	30
				JG-W <sup>5</sup>	QH	18 (1P, 2P), 15 (3P)	30
				DJ-MC	QH	2.5	30
225	225	10	PG <sup>4</sup>	QO	10	15	
			LA-MC	QO	18	20	
			LA-MC	QO	18 (1P, 2P), 16 (3P)	30	
			LA-MC	QO	11 (1P), 18 (2P), 8 (3P)	40	
			LA-MC	QO	10 (1P, 2P), 7.5 (3P)	50	
			LA-MC	QO	10 (1P, 2P), 7 (3P)	70	
			LA-MC	QO	8 (1P), 10 (2P), 6.5 (3P)	100 <sup>7</sup>	
			LA-MC	QO	7 (1P), 10 (2P), 6 (3P)	100 <sup>7</sup>	
			LA-MC	QO	8 (2P), 6 (3P)	30	
			LA-MC	QO	6	60	
			JD-W <sup>5</sup>	QO	18 (1P, 2P), 15 (3P)	100 <sup>7</sup>	
			JD-W <sup>5</sup>	QO	15 (1P, 2P), 13 (3P)	60	
			JD-W <sup>5</sup>	QO	12 (1P, 2P), 10 (3P)	100 <sup>7</sup>	
			LD-W <sup>5</sup>	QO	18	60	
			LD-W <sup>5</sup>	QO	10	100 <sup>7</sup>	
			DJ-MC	QO	30	100 <sup>7</sup>	

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Table 6: I-Line/NQ Panelboard Selective Coordination at 208Y/120 V — Total Selective Coordination (continued)

Feeder Size / Upstream (I-Line) Panelboard Circuit Breaker Size (A)	Required Downstream (NQ) Panelboard Ampacity (A)	Maximum Available Fault Current at Upstream (I-Line) Panelboard (kA RMS Sym.) <sup>1</sup>	Upstream (I-Line) Panelboard Feeder Circuit Breaker Type	Downstream (NQ) Panelboard Branch Circuit Breaker Type	Maximum Available Fault Current at Downstream (NQ) Panelboard (kA RMS Sym.) <sup>1,2</sup>	Largest Possible Branch Circuit Breaker (A)		
225	225	22	PG <sup>4</sup>	QO-VH	22	100 <sup>6</sup> (2P), 90 <sup>6</sup> (3P)		
			PJ	QO-VH	6.3	100 <sup>6</sup> (2P), 90 <sup>6</sup> (3P)		
			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 <sup>6</sup>		
			LA-MC	QO-VH	18 (2P), 7 (3P)	50 <sup>6</sup>		
			LA-MC	QO-VH	13 (2P), 6.5 (3P)	60 <sup>6</sup>		
			LA-MC	QO-VH	10 (2P), 6 (3P)	70 <sup>6</sup>		
			LA-MC	QO-VH	8 (2P), 6 (3P)	80 <sup>6</sup>		
			LA-MC	QO-VH	6	100 <sup>6</sup>		
			LA-MC	QO-VH	3.94	150 <sup>6</sup> (3P)		
			JD-W <sup>5</sup>	QO-VH	18 (1P, 2P), 15 (3P)	30		
			JD-W <sup>5</sup>	QO-VH	15 (1P, 2P), 13 (3P)	60 <sup>6</sup>		
			JD-W <sup>5</sup>	QO-VH	12 (1P, 2P), 10 (3P)	100 <sup>6</sup> (2P), 80 <sup>6</sup> (3P)		
		LD-W <sup>5</sup>	QO-VH	18	60 <sup>6</sup>			
		LD-W <sup>5</sup>	QO-VH	10	100 <sup>6</sup> (2P), 80 <sup>6</sup> (3P)			
		DJ-MC	QO-VH	30	100 <sup>6</sup> (2P), 70 <sup>6</sup> (3P)			
				42	LA-MC	QH	3.94	30
				65	LA-MC	QH	3.94	30
					PG <sup>4</sup>	QH	65	30
		JG-W <sup>5</sup>	QH		18 (1P, 2P), 15 (3P)	30		
		LG-W <sup>5</sup>	QH		18	30		
		DJ-MC	QH		2.5	30		
250	400	10	PG (ET1.0) <sup>8,4</sup> , PG <sup>8,4</sup>	QO	10	100 <sup>7</sup>		
			DJ-MC	QO	30	100 <sup>7</sup>		
			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 <sup>7</sup>		
			LA-MC	QO	4.38	125 <sup>9</sup>		
			JD-W <sup>5</sup>	QO	18 (1P, 2P), 15 (3P)	30		
			JD-W <sup>5</sup>	QO	15 (1P, 2P), 13 (3P)	60		
			JD-W <sup>5</sup>	QO	12 (1P, 2P), 10 (3P)	100 <sup>7</sup>		
			LD-W <sup>5</sup>	QO	18	60		
			LD-W <sup>5</sup>	QO	10	100 <sup>7</sup>		

Table 6: I-Line/NQ Panelboard Selective Coordination at 208Y/120 V — Total Selective Coordination (continued)

Feeder Size / Upstream (I-Line) Panelboard Circuit Breaker Size (A)	Required Downstream (NQ) Panelboard Ampacity (A)	Maximum Available Fault Current at Upstream (I-Line) Panelboard (kA RMS Sym.) <sup>1</sup>	Upstream (I-Line) Panelboard Feeder Circuit Breaker Type	Downstream (NQ) Panelboard Branch Circuit Breaker Type	Maximum Available Fault Current at Downstream (NQ) Panelboard (kA RMS Sym.) <sup>1,2</sup>	Largest Possible Branch Circuit Breaker (A)		
250	400	22	DJ-MC	QO-VH	30	100 <sup>6</sup> (2P), 80 <sup>6</sup> (3P)		
			PG(ET1.0) <sup>8,4</sup> , PG <sup>8,4</sup>	QO-VH	22	100 <sup>6</sup> (except 100A 3P with PG 3.0 trip unit)		
			PG <sup>8,4</sup>	QO-VH	21.6	110 <sup>6</sup> (3P) (except 100A 3P with PG 3.0 trip unit)		
			PG(ET1.0) <sup>8,4</sup>	QO-VH	21.6	150 <sup>6</sup> (3P) (except 100A)		
			PJ (ET1.0) <sup>8</sup> , PJ <sup>8</sup>	QO-VH	6.3	100 <sup>6</sup> (except 100A 3P with PJ 3.0 trip unit)		
			PJ <sup>8</sup>	QO-VH	6.3	110 <sup>6</sup> (3P) (except 100A 3P with PJ 3.0 trip unit)		
			PJ (ET1.0) <sup>8</sup>	QO-VH	6.3	150 <sup>6</sup> (3P) (except 100A)		
			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 <sup>6</sup>		
			LA-MC	QO-VH	18 (2P), 9 (3P)	50 <sup>6</sup>		
			LA-MC	QO-VH	13 (2P), 8 (3P)	60 <sup>6</sup>		
			LA-MC	QO-VH	11 (2P), 7.5 (3P)	80 <sup>6</sup>		
			LA-MC	QO-VH	10 (2P), 7.5 (3P)	100 <sup>6</sup>		
			LA-MC	QO-VH	4.38	150 <sup>6</sup>		
			JD-W <sup>5</sup>	QO-VH	18 (1P, 2P), 15 (3P)	30		
			JD-W <sup>5</sup>	QO-VH	15 (2P), 13 (3P)	60 <sup>6</sup>		
			JD-W <sup>5</sup>	QO-VH	12 (2P), 10 (3P)	100 <sup>6</sup> (2P), 80 <sup>6</sup> (3P)		
		LD-W	QO-VH	18	60 <sup>6</sup>			
		LD-W	QO-VH	10	100 <sup>6</sup> (2P), 110 <sup>6</sup> (3P)			
		42	LA-MC	QH	4.38	30		
		65	DJ-MC	QH	2.5	30		
			LH-MC	QH	4.38	30		
			PG (ET1.0) <sup>8,4</sup> , PG <sup>8,4</sup>	QH	65	30		
			JG-W <sup>5</sup>	QH	18 (1P, 2P), 15 (3P)	30		
			LG-W <sup>5</sup>	QH	18	30		
		300	400	10	MG	QO	10	100 <sup>7</sup>
					PG <sup>10,4</sup>	QO	10	125 <sup>9</sup>
LD-W <sup>5</sup>	QO				30	125 <sup>9</sup>		
DJ-MC	QO				30	100 <sup>7</sup>		
DJ-MC	QO			4	125 <sup>9</sup>			
22	MG			QO-VH	22	100 <sup>6</sup> (2P), 90 <sup>6</sup> (3P)		
	MG			QO-VH	10.2	150 <sup>6</sup> (3P) (except 100A)		
	PG <sup>10,4</sup>			QO-VH	22	100 <sup>6</sup>		
	PG <sup>10,4</sup>			QO-VH	22 (2P), 21.6 (3P)	150 <sup>6</sup>		
LD-W <sup>5</sup> , DJ-MC	QO-VH			30	150 <sup>6</sup>			
65	MG, PG <sup>10,4</sup>	QH	65	30				
	LG-W <sup>5</sup>	QH	30	30				
DJ-MC	QH	4	30					

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Table 6: I-Line/NQ Panelboard Selective Coordination at 208Y/120 V — Total Selective Coordination (continued)

Feeder Size / Upstream (I-Line) Panelboard Circuit Breaker Size (A)	Required Downstream (NQ) Panelboard Ampacity (A)	Maximum Available Fault Current at Upstream (I-Line) Panelboard (kA RMS Sym.) <sup>1</sup>	Upstream (I-Line) Panelboard Feeder Circuit Breaker Type	Downstream (NQ) Panelboard Branch Circuit Breaker Type	Maximum Available Fault Current at Downstream (NQ) Panelboard (kA RMS Sym.) <sup>1,2</sup>	Largest Possible Branch Circuit Breaker (A)			
350	400	10	MG	QO	10	110 <sup>9</sup>			
			LD-W <sup>5</sup>	QO	30	125 <sup>9</sup>			
			DJ-MC	QO	30	100 <sup>7</sup>			
			DJ-MC	QO	4	125 <sup>9</sup>			
		22	MG	QO-VH	22	100 <sup>6</sup>			
			MG	QO-VH	22 (2P), 10.2 (3P)	150 <sup>6</sup>			
			LD-W <sup>5</sup> , DJ-MC	QO-VH	30	150 <sup>6</sup>			
			MG, PG <sup>10, 4</sup>	QH	65	30			
			LG-W <sup>5</sup>	QH	30	30			
			DJ-MC	QH	4	30			
		400	400	10	LA-MC	QO	18	30	
					LA-MC	QO	10	100 <sup>7</sup>	
LA-MC	QO				7	125 <sup>9</sup>			
MG, PG (ET1.0) <sup>8, 4</sup> , PG <sup>8, 4</sup>	QO				10	125 <sup>9</sup>			
LD-W <sup>5</sup>	QO				30	125 <sup>9</sup>			
DJ-MC	QO				30	100 <sup>7</sup>			
DJ-MC	QO				4	125 <sup>9</sup>			
22	LA-MC				QO-VH	22 (1P, 2P), 18 (3P)	30		
	LA-MC			QO-VH	22 (2P), 18 (3P)	100 <sup>6</sup>			
	LA-MC			QO-VH	7	150 <sup>6</sup>			
	MG			QO-VH	22	100 <sup>6</sup>			
	MG			QO-VH	22 (2P), 10.2 (3P)	150 <sup>6</sup>			
	PG (ET1.0) <sup>8, 4</sup> , PG <sup>8, 4</sup>			QO-VH	22	100 <sup>6</sup>			
	PG (ET1.0) <sup>8, 4</sup> , PG <sup>8, 4</sup>			QO-VH	22 (2P), 21.6 (3P)	150 <sup>6</sup>			
	DJ-MC, LD-W <sup>5</sup>			QO-VH	30	150 <sup>6</sup>			
42	LA-MC			QH	7	30			
	65			LA-MC	QH	7	30		
				DJ-MC	QH	4	30		
				MG, PG (ET1.0) <sup>8, 4</sup> , PG <sup>8, 4</sup>	QH	65	30		
				LG-W <sup>5</sup>	QH	30	30		
	450			600	10	MG, PG <sup>10, 4</sup>	QO	10	125 <sup>9</sup>
						LD-W <sup>5</sup>	QO	30	125 <sup>9</sup>
						DJ-MC	QO	30	100 <sup>7</sup>
DJ-MC						QO	6	125 <sup>9</sup>	
22		MG	QO-VH		22	100 <sup>6</sup>			
		MG	QO-VH		22 (2P), 10.2 (3P)	150 <sup>6</sup>			
		PG <sup>10, 4</sup>	QO-VH		22	100 <sup>6</sup>			
		PG <sup>10, 4</sup>	QO-VH		22 (2P), 21.6 (3P)	150 <sup>6</sup>			
		LD-W <sup>5</sup> , DJ-MC	QO-VH		30	150 <sup>6</sup>			
		65	MG, PG <sup>10, 4</sup>		QH	65	30		
LG-W <sup>5</sup>			QH		30	30			
DJ-MC			QH		6	30			



**Table 6: I-Line/NQ Panelboard Selective Coordination at 208Y/120 V — Total Selective Coordination (continued)**

Feeder Size / Upstream (I-Line) Panelboard Circuit Breaker Size (A)	Required Downstream (NQ) Panelboard Ampacity (A)	Maximum Available Fault Current at Upstream (I-Line) Panelboard (kA RMS Sym.) <sup>1</sup>	Upstream (I-Line) Panelboard Feeder Circuit Breaker Type	Downstream (NQ) Panelboard Branch Circuit Breaker Type	Maximum Available Fault Current at Downstream (NQ) Panelboard (kA RMS Sym.) <sup>1,2</sup>	Largest Possible Branch Circuit Breaker (A)
500	600	10	MG, PG <sup>10, 4</sup>	QO	10	125 <sup>9</sup>
			LD-W <sup>5</sup>	QO	30	125 <sup>9</sup>
			DJ-MC	QO	30	100 <sup>7</sup>
			DJ-MC	QO	6	125 <sup>9</sup>
		22	MG	QO-VH	22	100 <sup>6</sup>
			MG	QO-VH	22 (2P), 10.2 (3P)	150 <sup>6</sup>
			PG <sup>10, 4</sup>	QO-VH	22	100 <sup>6</sup>
			PG <sup>10, 4</sup>	QO-VH	22 (2P), 21.6 (3P)	150 <sup>6</sup>
			LD-W <sup>5</sup> , DJ-MC	QO-VH	30	150 <sup>6</sup>
		65	MG, PG <sup>10, 4</sup>	QH	65	30
			LG-W <sup>5</sup>	QH	30	30
			DJ-MC	QH	6	30
600	600	10	MG, PG (ET1.0) <sup>8, 4</sup> , PG <sup>8, 4</sup>	QO	10	125 <sup>9</sup>
			LD-W <sup>5</sup>	QO	30	125 <sup>9</sup>
			DJ-MC	QO	30	100 <sup>7</sup>
			DJ-MC	QO	6	125 <sup>9</sup>
		22	MG	QO-VH	22	100 <sup>6</sup>
			MG	QO-VH	22 (2P), 10.2 (3P)	150 <sup>6</sup>
			PG (ET1.0) <sup>8, 4</sup> , PG <sup>8, 4</sup>	QO-VH	22	100 <sup>6</sup>
			PG (ET1.0) <sup>8, 4</sup> , PG <sup>8, 4</sup>	QO-VH	22 (2P), 21.6 (3P)	150 <sup>6</sup>
			DJ-MC, LD-W <sup>5</sup>	QO-VH	30	150 <sup>6</sup>
		65	DJ-MC	QH	6	30
			MG, PG (ET1.0) <sup>8, 4</sup> , PG <sup>8, 4</sup>	QH	65	30
			LG-W <sup>5</sup>	QH	30	30

<sup>1</sup> 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 for X/R Ratio Adjustment on Page 3 for additional information.

<sup>2</sup> Values in red are taken from data bulletin 0100DB0501; all other values in this column are generated via TCC comparison.

<sup>3</sup> PowerPact PG and PK circuit breakers smaller than 200 A cannot accept wires smaller than #3/0 AWG.

<sup>4</sup> PowerPact PK circuit breakers can be used wherever PG circuit breakers are mentioned in the table.

<sup>5</sup> The PowerPact J- and L-frame Mission Critical circuit breakers are denoted as J\_-W and L\_-W.

<sup>6</sup> 2 Pole or 3 Pole only. QO-VH 1P is available up to 30 A (and coordinates up to 30 A).

<sup>7</sup> 2 Pole or 3 Pole only. QO 1P is available up to 70 A (and coordinates up to 70 A).

<sup>8</sup> The PowerPact P-frame circuit breaker is available with ET1.0 or Micrologic 3.0/5.0/6.0 trip units in this size range:  
PG (ET1.0) = ET1.0 trip unit  
PG = Micrologic 3.0/5.0/6.0 trip unit

<sup>9</sup> 2 Pole only. QO 1P is available up to 70A (and coordinates up to 70A), QO, 3P is available up to 100A (and coordinates up to 100A).

<sup>10</sup> Requires larger breaker size if standard rating plug is used (300A: 600A w/ LTPU=0.5, 450A: 1000A w/LTPU=0.45, 500A: 800A w/LTPU=0.625).

**Schneider Electric USA, Inc.**  
1415 S. Roselle Road  
Palatine, IL 60067 USA  
1-888-778-2733  
[www.schneider-electric.us](http://www.schneider-electric.us)

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