

(Effective 1989-09-18)

Interrupting Capacity for Anticipated Fault Currents for 3P, 4W, Multi-Grounded Low Voltage Systems

- 1.0 The Canadian Electrical Code Part I rule 14-012 requires overcurrent protective devices have an interrupting capacity sufficient for the voltage employed and for the anticipated fault current which must be interrupted.
- 2.0 Studies have shown that electrical distribution systems have undergone such changes in recent years that the available short circuit fault current is a major consideration in the selection of the proper service overcurrent protective device.
- 3.0 Effective September 1, 1989 the Corporation's electrical inspection department will require that all low voltage service protective devices be rated for the available fault current at the point of service.
- 4.0 To assist in determining the available fault current for various size services NSP has developed two tables; Table I "Available Fault Levels for 208 Volt, 3P,4 wire Systems", and Table II "Available Fault Levels for 600 Volt, 3P, 4 wire Systems" (attached).
- 5.0 Tables I and II were designed to represent a worst case condition. Those requesting to install protective devices having some lesser values than that indicated in the tables, will be required to submit all pertinent data to the appropriate NSP Zone Engineering or Inspection Head Office for evaluation.
- 6.0 All fault levels are given in RMS symmetrical values.
- 7.0 When selecting the appropriate fault level value it will be necessary to determine the type of transformation to be provided by the supply utility, i.e. one three phase transformer or three single phase transformers. This information may be obtained by contacting the NSPI Regional office for the area in which the service is to be installed.
- 8.0 The anticipated fault current level for single phase applications normally will not exceed the CSA standard fault level ratings and therefore, do not have to be considered for services having a capacity of 600A or less.
- 9.0 Fault current levels for voltages other than those indicated on Tables I and II, or for sub-service protective devices, may be obtained by contacting Inspection Head Office or the appropriate Zone Engineering Office.

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TABLE I
AVAILABLE THREE PHASE FAULT LEVELS IN RMS SYMMETRICAL AMPS
208 Volt 3 Phase 4 Wire System

Max. Switch Capacity (Amps)	Max. Trans. (kVA)	1-3P Transformer Length of Secondary			3-1P Transformer Length of Secondary		
		50' (15m)	100' (30m)	200' (61m)	50' (15m)	100' (30m)	200' (61m)
200		10,000	10,000	10,000	10,000	10,000	10,000
400	150	15,000	11,000	10,000	21,000	13,000	10,000
600	225	20,000	17,000	14,000	31,000	24,000	19,000
800	225	20,000	17,000	15,000	32,000	26,000	21,000
1000	300	23,000	20,000	18,000	42,000	33,000	27,000
1200	500	31,000	27,000	23,000	62,000	48,000	37,000
1400	500	32,000	28,000	25,000	63,000	50,000	40,000
1600	500	32,000	28,000	25,000	63,000	50,000	40,000
1800	500	32,000	29,000	26,000	63,000	54,000	45,000
2000	750	41,000	36,000	32,000	63,000	54,000	45,000
2200	750	41,000	37,000	33,000	63,000	54,000	46,000
2400	750	41,000	37,000	33,000	63,000	54,000	46,000
2600	750	41,000	38,000	35,000	63,000	56,000	49,000
2800	1000	50,000	45,000	40,000	75,000	65,000	56,000
3000	1000	50,000	45,000	40,000	75,000	65,000	56,000
4000	1500	65,000	59,000	53,000	108,000	93,000	79,000

- Note:
1. Where Max. Transformer kVA is greater than that indicated for the corresponding main switch, use fault current levels applicable to transformer kVA rating.
 2. Where three phase fault levels do not correspond to manufacturers standard ratings, the next largest available rating shall be used.
 3. All specified current values are RMS Symmetrical Amps.

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TABLE II
AVAILABLE THREE PHASE FAULT LEVELS IN RMS SYMMETRICAL AMPS

Max. Switch Capacity (Amps)	Max. Trans. (kVA)	600 Volt 3 Phase 4 Wire System					
		1-3P Transformer Length of Secondary			3-1P Transformer Length of Secondary		
		50' (15m)	100' (30m)	200' (61m)	50' (15m)	100' (30m)	200' (61m)
200	225	10,000	10,000	10,000	12,000	10,000	10,000
400	300	10,000	10,000	10,000	16,000	14,000	12,000
600	500	12,000	11,000	11,000	22,000	22,000	20,000
800	750	15,000	14,000	14,000	22,000	21,000	20,000
1000	1000	18,000	17,000	16,000	25,000	25,000	24,000
1200	1000	18,000	17,000	17,000	25,000	25,000	24,000
1400	1500	23,000	22,000	22,000	39,000	37,000	35,000
1600	1500	23,000	22,000	22,000	39,000	37,000	35,000
1800	2000	28,000	27,000	27,000			
2000	2000	28,000	27,000	27,000			
2200	2000	28,000	28,000	27,000			
2400	2500	33,000	32,000	31,000			
2600	2500	33,000	32,000	31,000			
2800	2500	33,000	32,000	31,000			
3000	3000	38,000	37,000	36,000			
4000	3750	45,000	44,000	43,000			

- Note:
- Where Max. Transformer kVA is greater than that indicated for the corresponding main switch, use fault current levels applicable to transformer kVA rating.
 - Where three phase fault levels do not correspond to manufacturers standard ratings, the next largest available rating shall be used.
 - All specified current values are RMS Symmetrical Amps