

GENERAL

The selection tables presented in this data bulletin supplement the selection tables contained in S&C Data Bulletin 350-110, “Selection Guide for the Protection of Overhead Distribution Transformers.” The procedures described in S&C Data Bulletin 350-110 are fully applicable for use with these tables. Before proceeding with the primary-fuse selection process, you should review the text portion of S&C Data Bulletin 350-110, paying particular attention to the

text beginning on page 3, which describes the selection criteria for transformer-primary fuses. Specific instructions for use of the fuse selection tables presented in this data bulletin can be found on page 48 (foldout) of S&C Data Bulletin 350-110.

To locate the appropriate selection table, based on the applicable transformer kV rating, refer to Table 1 below.

TABLE 1—Index to Selection Tables

Transformer Rating, kV			Table Number	Page Number
Single-Phase		Three-Phase		
Phase-to-Neutral	Phase-to-Phase			
—	—	2.4	2	2
2.4	2.4	4.16	3	2
—	—	4.8	4	3
4.16	4.16	7.2	5	3
4.8	4.8	8.32	6	4
6.9	6.9	12.0	7	4
7.2	7.2	12.47	8	5
7.62	—	13.2	9	5
7.96	—	13.8	10	6
8.32	8.32	14.4	11	6
13.2	13.2	22.9	12	7
13.8	13.8	23.9	13	7
14.4	14.40	24.90	14	8
19.92	—	—	15	8

THE FUSE SELECTION TABLES

TABLE 2—Transformers Rated 2.4 kV Three-Phase

Transformer Rating, kVA, Three-Phase	Transformer Full-Load Current, Amperes	Fuse-Link Peak Load Capability, ^① Percent of Transformer kVA Rating			Transformer Protection Index, Percent of Transformer kVA Rating		Fuse Link Rating, Amperes
		Continuous Load	Hot-Load Pickup	Cold-Load Pickup	1 ϕ and Δ - Δ , Δ - Δ	Δ - Δ	
15	3.61	120	120	100	235	—	4
		150	150	125	1370	—	5
		230	230	175	1900	—	7
22.5	5.41	155	155	115	275	1500	7
		220	220	165	535	1500	10
		330	330	220	765	1500	15
30	7.22	165	165	125	365	430	10
		240	240	165	545	600	15
		330	330	195	775	885	20
45	10.8	165	165	110	345	365	15
		220	220	130	495	520	20

① These values reflect the inherent peak-load capabilities of the fuse links themselves—not the peak-load capabilities of the transformers which, in many cases, are much lower.

TABLE 3—Transformers Rated 2.4 kV Single-Phase^① or 4.16 kV Three-Phase

Transformer Rating, kVA		Transformer Full-Load Current, Amperes	Fuse-Link Peak Load Capability, ^② Percent of Transformer kVA Rating			Transformer Protection Index, Percent of Transformer kVA Rating		Fuse Link Rating, Amperes
1 ϕ	3 ϕ		Continuous Load	Hot-Load Pickup	Cold-Load Pickup	1 ϕ and Δ - Δ , Δ - Δ	Δ - Δ	
7.5	22.5	3.12	140	140	115	275	—	4
			175	175	145	2500	—	5
			265	265	200	2500	—	7
10	30	4.16	130	130	105	265	—	5
			200	200	150	1635	—	7
			285	285	215	835	—	10
15	45	6.25	130	130	100	230	1100	7
			190	190	145	440	565	10
			285	285	195	640	775	15
25	75	10.4	170	170	115	360	380	15
			230	230	135	515	545	20

① Phase-to-neutral or phase-to-phase.

② These values reflect the inherent peak-load capabilities of the fuse links themselves—not the peak-load capabilities of the transformers which, in many cases, are much lower.

Note: Refer to “How to Use the Fuse Selection Tables” on page 48 (foldout) of S&C Data Bulletin 350-110.

THE FUSE SELECTION TABLES — Continued

TABLE 4—Transformers Rated 4.8 kV Three-Phase

Transformer Rating, kVA, Three-Phase	Transformer Full-Load Current, Amperes	Fuse-Link Peak Load Capability, ^① Percent of Transformer kVA Rating			Transformer Protection Index, Percent of Transformer kVA Rating		Fuse Link Rating, Amperes
		Continuous Load	Hot-Load Pickup	Cold-Load Pickup	1 ϕ and Δ - Δ , Δ - Δ	Δ - Δ	
22.5	2.71	120	120	100	255	—	3
		160	160	130	255	—	4
		200	200	165	—	—	5
30	3.61	120	120	100	235	—	4
		150	150	125	1370	—	5
		230	230	175	1900	—	7
45	5.41	155	155	115	275	1500	7
		220	220	165	535	1500	10
		330	330	220	765	1500	15
75	9.02	130	130	100	270	310	10
		195	195	130	425	445	15
		265	265	160	605	656	20
112.5	13.5	175	175	110	385	405	20

① These values reflect the inherent peak-load capabilities of the fuse links themselves—not the peak-load capabilities of the transformers which, in many cases, are much lower.

TABLE 5—Transformers Rated 4.16 kV Single-Phase^① or 7.2 kV Three-Phase

Transformer Rating, kVA		Transformer Full-Load Current, Amperes	Fuse-Link Peak Load Capability, ^② Percent of Transformer kVA Rating			Transformer Protection Index, Percent of Transformer kVA Rating		Fuse Link Rating, Amperes
1 ϕ	3 ϕ		Continuous Load	Hot-Load Pickup	Cold-Load Pickup	1 ϕ and Δ - Δ , Δ - Δ	Δ - Δ	
15	45	3.61	120	120	100	235	—	4
			150	150	125	1370	—	5
			230	230	175	1900	—	7
25	75	6.01	140	140	105	240	1195	7
			200	200	150	465	610	10
			300	300	200	670	850	15
37.5	112.5	9.02	130	130	100	270	310	10
			195	195	130	425	445	15
			265	265	160	605	656	20
50	150	12.0	150	150	100	310	325	15
			200	200	120	440	460	20

① Phase-to-neutral or phase-to-phase.

② These values reflect the inherent peak-load capabilities of the fuse links themselves—not the peak-load capabilities of the transformers which, in many cases, are much lower.

Note: Refer to “How to Use the Fuse Selection Tables” on page 48 (foldout) of S&C Data Bulletin 350-110.



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TABLE 6—Transformers Rated 4.8 kV Single-Phase^① or 8.32 kV Three-Phase

Transformer Rating, kVA		Transformer Full-Load Current, Amperes	Fuse-Link Peak Load Capability, ^② Percent of Transformer kVA Rating			Transformer Protection Index, Percent of Transformer kVA Rating		Fuse Link Rating, Amperes
1ø	3ø		Continuous Load	Hot-Load Pickup	Cold-Load Pickup	1ø and Δ-Δ, Δ-Δ, Δ-Δ	Δ-Δ	
15	45	3.12	140	140	115	275	—	4
			175	175	145	2500	—	5
			265	265	200	2500	—	7
25	75	5.20	160	160	120	275	—	7
			230	230	175	575	—	10
			345	345	230	800	—	15
37.5	112.5	7.81	150	150	115	330	375	10
			230	230	155	500	535	15
			305	305	180	710	780	20
50	150	10.4	170	170	115	360	380	15
			230	230	135	515	545	20

① Phase-to-neutral or phase-to-phase.

② These values reflect the inherent peak-load capabilities of the fuse links themselves—not the peak-load capabilities of the transformers which, in many cases, are much lower.

TABLE 7—Transformers Rated 6.9 kV Single-Phase^① or 12.0 kV Three-Phase

Transformer Rating, kVA		Transformer Full-Load Current, Amperes	Fuse-Link Peak Load Capability, ^② Percent of Transformer kVA Rating			Transformer Protection Index, Percent of Transformer kVA Rating		Fuse Link Rating, Amperes
1ø	3ø		Continuous Load	Hot-Load Pickup	Cold-Load Pickup	1ø and Δ-Δ, Δ-Δ, Δ-Δ	Δ-Δ	
25	75	3.61	120	120	100	235	—	4
			150	150	125	1370	—	5
			230	230	175	1900	—	7
37.5	112.5	5.41	155	155	115	275	1500	7
			220	220	165	535	1500	10
			330	330	220	765	1500	15
50	150	7.22	165	165	125	365	430	10
			245	245	165	545	600	15
			230	330	195	775	885	20
75	225	10.8	165	165	110	345	365	15
			220	220	130	495	520	20
100	300	14.4	165	165	100	360	375	20

① Phase-to-neutral or phase-to-phase.

② These values reflect the inherent peak-load capabilities of the fuse links themselves—not the peak-load capabilities of the transformers which, in many cases, are much lower.

Note: Refer to “How to Use the Fuse Selection Tables” on page 48 (foldout) of S&C Data Bulletin 350-110.

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TABLE 8—Transformers Rated 7.2 kV Single-Phase^① or 12.47 kV Three-Phase

Transformer Rating, kVA		Transformer Full-Load Current, Amperes	Fuse-Link Peak Load Capability, ^② Percent of Transformer kVA Rating			Transformer Protection Index, Percent of Transformer kVA Rating		Fuse Link Rating, Amperes
1Ø	3Ø		Continuous Load	Hot-Load Pickup	Cold-Load Pickup	1Ø and Δ-Δ, Δ-Δ, Δ-Δ	Δ-Δ	
25	75	3.47	125	125	105	245	—	4
			155	155	130	1490	—	5
			240	240	180	2055	—	7
37.5	112.5	5.21	160	160	120	275	—	7
			230	230	175	575	—	10
			345	345	230	800	—	15
50	150	6.94	170	170	130	385	455	10
			255	255	175	570	635	15
			345	345	205	815	915	20
75	225	10.4	170	170	115	360	380	15
			230	230	135	515	545	20
100	300	13.9	170	170	100	375	395	20

① Phase-to-neutral or phase-to-phase.

② These values reflect the inherent peak-load capabilities of the fuse links themselves—not the peak-load capabilities of the transformers which, in many cases, are much lower.

TABLE 9—Transformers Rated 7.62 kV Single-Phase^① or 13.2 kV Three-Phase

Transformer Rating, kVA		Transformer Full-Load Current, Amperes	Fuse-Link Peak Load Capability, ^② Percent of Transformer kVA Rating			Transformer Protection Index, Percent of Transformer kVA Rating		Fuse Link Rating, Amperes
1Ø	3Ø		Continuous Load	Hot-Load Pickup	Cold-Load Pickup	1Ø and Δ-Δ, Δ-Δ, Δ-Δ	Δ-Δ	
25	75	3.28	130	130	110	260	—	4
			165	165	135	335	—	5
			255	255	190	435	—	7
37.5	112.5	4.92	170	170	125	360	—	7
			240	240	185	615	—	10
			365	365	245	875	—	15
50	150	6.56	180	180	135	415	505	10
			270	270	185	610	700	15
			365	365	215	870	1025	20
75	225	9.84	180	180	120	385	405	15
			240	240	145	550	580	20
100	300	13.1	180	180	110	400	420	20

① Phase-to-neutral, only.

② These values reflect the inherent peak-load capabilities of the fuse links themselves—not the peak-load capabilities of the transformers which, in many cases, are much lower.

Note: Refer to “How to Use the Fuse Selection Tables” on page 48 (foldout) of S&C Data Bulletin 350-110.



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TABLE 10—Transformers Rated 7.96 kV Single-Phase^① or 13.8 kV Three-Phase

Transformer Rating, kVA		Transformer Full-Load Current, Amperes	Fuse-Link Peak Load Capability, ^② Percent of Transformer kVA Rating			Transformer Protection Index, Percent of Transformer kVA Rating		Fuse Link Rating, Amperes
1ø	3ø		Continuous Load	Hot-Load Pickup	Cold-Load Pickup	1ø and Δ-Δ, Δ-Δ, Δ-Δ	Δ-Δ	
25	75	3.14	140	140	115	275	—	4
			175	175	145	2500	—	5
			265	265	200	2500	—	7
37.5	112.5	4.71	175	170	135	305▲	—	7
			255	240	190	675	—	10
			380	365	255	930	—	15
50	150	6.28	190	190	100	440	555	10
			285	285	145	640	765	15
			380	380	190	920	1090	20
75	225	9.41	190	190	125	405	425	15
			255	255	150	575	615	20
100	300	12.6	190	190	115	420	440	20

① Phase-to-neutral, only.

▲ Applicable to single-phase transformers or three-phase transformer connected grounded-wye—grounded-wye.

② These values reflect the inherent peak-load capabilities of the fuse links themselves—not the peak-load capabilities of the transformers which, in many cases, are much lower.

TABLE 11—Transformers Rated 8.32 kV Single-Phase^① or 14.4 kV Three-Phase

Transformer Rating, kVA		Transformer Full-Load Current, Amperes	Fuse-Link Peak Load Capability, ^② Percent of Transformer kVA Rating			Transformer Protection Index, Percent of Transformer kVA Rating		Fuse Link Rating, Amperes
1ø	3ø		Continuous Load	Hot-Load Pickup	Cold-Load Pickup	1ø and Δ-Δ, Δ-Δ, Δ-Δ	Δ-Δ	
37.5	112.5	4.51	120	120	100	245	—	5
			185	185	140	1440	—	7
			265	265	200	730	—	10
50	150	6.01	140	140	105	240	1195	7
			200	200	150	465	610	10
			300	300	200	670	850	15
75	225	9.02	130	130	100	270	310	10
			195	195	130	425	445	15
			265	265	160	605	655	20
100	300	12.0	150	150	100	310	325	15
			200	200	120	440	460	20

① Phase-to-neutral or phase-to-phase.

② These values reflect the inherent peak-load capabilities of the fuse links themselves—not the peak-load capabilities of the transformers which, in many cases, are much lower.

Note: Refer to “How to Use the Fuse Selection Tables” on page 48 (foldout) of S&C Data Bulletin 350-110.

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TABLE 12—Transformers Rated 13.2 kV Single-Phase^① or 22.9 kV Three-Phase

Transformer Rating, kVA		Transformer Full-Load Current, Amperes	Fuse-Link Peak Load Capability, ^② Percent of Transformer kVA Rating			Transformer Protection Index, Percent of Transformer kVA Rating		Fuse Link Rating, Amperes
1 ϕ	3 ϕ		Continuous Load	Hot-Load Pickup	Cold-Load Pickup	1 ϕ and $\Delta-\Delta$, $\Delta-\Delta$	$\Delta-\Delta$	
50	150	3.78	145	145	120	1035	—	5
			220	220	165	1775	—	7
			315	315	240	875	—	10
75	225	5.67	145	145	110	250	1200	7
			210	210	160	500	1200	10
			315	315	210	715	1200	15
100	300	7.56	155	155	120	340	395	10
			235	235	160	520	560	15
			315	315	190	735	815	20
167	500	12.6	190	190	110	420	435	20

① Phase-to-neutral or phase-to-phase.

② These values reflect the inherent peak-load capabilities of the fuse links themselves—not the peak-load capabilities of the transformers which, in many cases, are much lower.

TABLE 13—Transformers Rated 13.8 kV Single-Phase^① or 23.9 kV Three-Phase

Transformer Rating, kVA		Transformer Full-Load Current, Amperes	Fuse-Link Peak Load Capability, ^② Percent of Transformer kVA Rating			Transformer Protection Index, Percent of Transformer kVA Rating		Fuse Link Rating, Amperes
1 ϕ	3 ϕ		Continuous Load	Hot-Load Pickup	Cold-Load Pickup	1 ϕ and $\Delta-\Delta$, $\Delta-\Delta$	$\Delta-\Delta$	
50	150	3.62	120	120	100	235▲	—	4
			150	150	125	1355	—	5
			230	230	175	1880	—	7
75	225	5.44	150	150	115	270	1500	7
			220	220	165	535	1500	10
			330	330	220	760	1500	15
100	300	7.25	165	165	125	365	425	10
			245	245	165	545	595	15
			330	330	195	775	875	20
167	500	12.1	145	145	100	305	320	15
			195	195	115	440	460	20

① Phase-to-neutral or phase-to-phase.

② These values reflect the inherent peak-load capabilities of the fuse links themselves—not the peak-load capabilities of the transformers which, in many cases, are much lower.

▲ Applicable to single-phase transformers or three-phase transformer connected grounded-wye—grounded-wye.

Note: Refer to “How to Use the Fuse Selection Tables” on page 48 (foldout) of S&C Data Bulletin 350-110.



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TABLE 14—Transformers Rated 14.4 kV Single-Phase^① or 24.9 kV Three-Phase

Transformer Rating, kVA		Transformer Full-Load Current, Amperes	Fuse-Link Peak Load Capability, ^② Percent of Transformer kVA Rating			Transformer Protection Index, Percent of Transformer kVA Rating		Fuse Link Rating, Amperes
1ø	3ø		Continuous Load	Hot-Load Pickup	Cold-Load Pickup	1ø and Δ-Δ, Δ-Δ, Δ-Δ	Δ-Δ	
50	150	3.48	125	125	105	245	—	4
			155	155	135	1470	—	5
			240	240	180	2050	—	7
75	225	5.22	160	160	120	295	—	7
			230	230	170	570	—	10
			345	345	230	800	—	15
100	300	6.96	170	170	130	380	455	10
			255	255	170	570	630	15
			345	345	205	815	930	20
167	500	11.6	155	155	100	320	335	15
			205	205	120	460	480	20

① Phase-to-neutral or phase-to-phase.

② These values reflect the inherent peak-load capabilities of the fuse links themselves—not the peak-load capabilities of the transformers which, in many cases, are much lower.

TABLE 15—Transformers Rated 19.9 kV Single-Phase^{①②}

Transformer Rating, kVA, Single-Phase	Transformer Full-Load Current, Amperes	Fuse-Link Peak Load Capability, ^③ Percent of Transformer kVA Rating			Transformer Protection Index, Percent of Transformer kVA Rating		Fuse Link Rating, Amperes
		Continuous Load	Hot-Load Pickup	Cold-Load Pickup	1ø and Δ-Δ, Δ-Δ, Δ-Δ	Δ-Δ	
75	3.77	145	145	120	295	—	5
		220	220	165	1790	—	7
		315	315	240	885	—	10
100	5.02	165	165	125	285	—	7
		235	235	180	565	—	10
		355	355	240	840	—	15
167	8.38	140	140	105	300	340	10
		215	215	140	455	490	15
		285	285	170	645	710	20
250	12.6	190	190	115	420	440	20

① Phase-to-neutral, only.

② S&C Positrol Fuse Links of the listed ampere ratings are applicable for use with distribution fuse cutouts rated 27 kV maximum design for *single-phase applications* on 19.92/34.5 Gr-Y-kV systems with the transformer primary connected phase-to-neutral. For phase-to-phase and three-phase transformer-protection applications on 19.92/34.5 Gr-Y-kV systems—all

connections—S&C Power Fuses, Type SMD-20, rated 38 kV maximum design are recommended.

③ These values reflect the inherent peak-load capabilities of the fuse links themselves—not the peak-load capabilities of the transformers which, in many cases, are much lower.

Note: Refer to “How to Use the Fuse Selection Tables” on page 48 (foldout) of S&C Data Bulletin 350-110.