

Fuse Let-Thru Current Tables

Apparent RMS Symmetrical Let-Thru Current

Table 13 - Class RK5, TR Fuses at 250 Volts AC, 15% Power Factor

Prospective Short Circuit Rms. Sym Amperes	Fuse Let-Thru Current In Kilo-Amperes											
	By Fuse Rating In Amperes											
	30		60		100		200		400		600	
	irms	Ip	irms	Ip	irms	Ip	irms	Ip	irms	Ip	irms	Ip
5,000	1.4	3.2	3.0	6.9	3.2	7.4	5.0	12	-	-	-	-
10,000	1.8	4.1	3.8	8.7	4.1	9.4	6.6	15	10	23	10	23
15,000	2.1	4.8	4.4	10	4.7	11	7.6	17	13	29	15	35
20,000	2.3	5.3	4.8	11	5.1	12	8.4	19	14	32	19	44
25,000	2.5	5.6	5.2	12	5.5	13	9.0	21	15	34	21	48
30,000	2.6	6.0	5.5	13	5.9	14	9.6	22	16	37	22	50
35,000	2.7	6.2	5.8	13	6.2	14	10	23	17	38	23	53
40,000	2.9	6.7	6.1	14	6.5	15	11	24	18	40	24	56
50,000	3.1	7.1	6.5	15	7.0	16	11	26	19	43	26	60
60,000	3.3	7.6	7.0	16	7.4	17	12	27	20	46	28	63
80,000	3.6	8.3	7.7	18	8.1	19	13	31	22	51	30	70
100,000	3.9	9.0	8.3	19	8.8	20	14	33	24	55	33	75
150,000	4.4	10	9.4	22	10	23	16	38	27	62	38	86
200,000	4.9	11	11	24	11	26	18	41	30	69	41	95

Bus Duct Short-Circuit Protection

Bus duct listed to the UL 857 standard is labeled with a “short-circuit current rating”. To earn this rating the bus duct must be capable of surviving its “short-circuit current rating” for 3 full cycles (60 Hz basis).

The following table shows the potential short-circuit current ratings for both feeder and plug-in bus duct. Also shown are the peak instantaneous currents the bus duct must be capable of withstanding to earn a given “short-circuit current rating”.

Current-limiting fuses may be used to protect bus duct from fault currents that exceed the bus duct “short-circuit current rating”. The fuse will provide short-circuit protection if fuse peak let-thru current does not exceed the bus duct peak instantaneous withstand current. In addition, the fuse total clearing curve must fall to the left of the bus duct short-circuit current rating at the 3 cycle (.05 sec.) point. The fuse ampere ratings shown in this table satisfy both of these requirements.

Example:

In a 480V circuit with 100,000A available short-circuit current, what maximum size fuse can be used to protect feeder bus duct which has a 42,000 short-circuit rating?

Answer:

From the table, a Mersen 1600A Class L fuse A4BQ1600 will protect this bus duct up to 100,000 amperes.

Short Circuit Current Rating in Amperes	Feeder & Plug-In Fuse Bus Duct Peak Instantaneous Withstand Current in Amperes	Maximum Mersen Fuse for Short Circuit Protection*		
		50,000A	100,000A	200,000A
5000	8500	60A	60A	30A
7500	13,000	100A	100A	100A
10,000	17,000	200A	100A	100A
14,000	28,000	400A	400A	200A
22,000	48,000	800A	600A	400A
25,000	55,000	1000A	600A	600A
30,000	66,000	1200A	800A	600A
35,000	76,000	1600A	1000A	800A
42,000	92,000	2500A	1600A	1000A
50,000	110,000	3000A	2000A	1200A
65,000	142,000	4000A	3000A	2500A
75,000	160,000	5000A	4000A	3000A
85,000	180,000	5000A	5000A	4000A
100,000	220,000	6000A	6000A	5000A
125,000	270,000	6000A	6000A	6000A
150,000	330,000	6000A	6000A	6000A

* 30A to 600A fuses –

Class J (time delay AJT)

Class RK1 (A2K/A6K or time delay A2D/A6D)

800 to 6000A fuses –

Class L (A4BQ)