Application data
Downstream short circuit current calculator

Calculation of a downstream short-circuit current is a function of the upstream short-circuit current (Isc_0), cross-section and length of the conductor. The following table provides information to calculate approximately, the short circuit current at a relevant point of the installation.

Line protection - copper conductor

mm²	Length of the line in metres																							
1.5															0.9	1.3	1.6	3.1	6.2	7.8	9.4	13	16	31
2.5													1.0	1.3	1.6	2.1	2.6	5.1	10	13	16	21	26	51
4												0.8	1.6	2.1	2.5	3.4	4.2	8.2	16	21	25	34	42	82
6												1.2	2.5	3.1	3.8	5.1	6.4	12	25	31	38	51	64	123
10										0.8	1.1	2.1	4.1	5.2	6.3	8.4	11	21	41	52	63	84	106	205
16								0.8	1.0	1.3	1.7	3.3	6.6	8.3	10	13	17	33	66	83	100	135	170	329
25							1.1	1.3	1.6	2.1	2.6	5.1	10	13	16	21	26	51	103	130	157	211	265	514
35							1.5	1.8	2.2	3.0	3.7	7.2	14	18	22	30	37	72	144	182	219	295	371	719
50						1.0	2.2	2.6	3.1	4.2	5.3	10	21	26	31	42	53	103	205	259	314	422	530	
70						1.4	3.0	3.6	4.4	5.9	7.4	14	29	36	44	59	74	144	288	363	439	590	742	
95			0.8	0.9	1.0	2.0	4.1	4.9	6.0	8.0	10	20	39	49	60	80	101	195	390	493	596	801		
120		0.9	1.0	1.2	1.3	2.5	5.2	6.2	7.5	10	13	25	49	62	75	101	127	246	493	623	752			
150	0.8	1.0	1.1	1.3	1.4	2.7	5.6	6.8	8.2	11	14	27	54	68	82	110	138	268	536	677	818			
185	1.0	1.2	1.3	1.5	1.7	3.2	6.7	8.0	9.7	13	16	32	63	80	97	130	163	317	633	800	967			
240	1.2	1.5	1.7	1.9	2.1	3.9	8.3	10	12	16	20	39	79	100	120	162	203	394	789	996				
300	1.4	1.7	2.0	2.2	2.5	4.7	10	12	14	19	24	47	95	120	145	195	244	474	948					
400	1.6	1.9	2.2	2.4	2.7	5.1	11	13	16	21	26	51	103	130	157	211	265	514						
500	1.7	2.1	2.4	2.7	3.0	5.7	12	14	17	23	29	57	114	144	174	234	294	571						
625	1.8	2.1	2.5	2.8	3.1	5.8	12	15	18	24	30	58	117	147	178	240	301	584						
2x95	1.2	1.4	1.6	1.8	2.1	3.9	8.2	9.9	12	16	20	39	78	99	119	160	201	390	781	986				
2x120	1.5	1.8	2.1	2.3	2.6	4.9	10	12	15	20	25	49	99	125	150	202	254	493	986					
2x150	1.6	2.0	2.3	2.5	2.8	5.4	11	14	16	22	28	54	107	135	164	220	276	536						
2x185	1.9	2.3	2.7	3.0	3.3	6.3	13	16	19	26	33	63	127	160	193	260	327	633						
2x240	2.4	2.9	3.3	3.7	4.2	7.9	17	20	24	32	41	79	158	199	241	324	407	789						
3x95	1.8	2.2	2.5	2.8	3.1	5.9	12	15	18	24	30	59	117	148	179	240	302	585						
3x120	2.3	2.7	3.1	3.5	3.9	7.4	16	19	23	30	38	74	148	187	226	304	381	739						
3x150	2.5	3.0	3.4	3.8	4.2	8.0	17	20	25	33	41	80	161	203	245	330	415	804						
3x185	2.9	3.5	4.0	4.5	5.0	9.5	20	24	29	39	49	95	190	240	290	390	490	950						
3x240	3.6	4.4	5.0	5.6	6.2	12	25	30	36	49	61	118	237	299	361	486	610							

Isc at the origin of the cable (kA)	Short-circuit current at the end of the cable																							
100	94	93	92	91	90	83	70	66	62	55	49	33	20	16	14	11	8.8	4.7	2.4	1.9	1.6	1.2	1.0	0.5
90	85	84	84	83	82	76	65	62	58	52	47	32	19	16	14	11	8.7	4.7	2.4	1.9	1.6	1.2	1.0	0.5
80	76	76	75	74	74	69	60	57	54	48	44	31	19	16	14	11	8.6	4.7	2.4	1.9	1.6	1.2	1.0	0.5
70	67	67	66	66	65	61	54	52	49	44	41	29	18	15	13	10	8.5	4.6	2.4	1.9	1.6	1.2	1.0	0.5
60	58	57	57	57	56	54	48	46	44	40	37	27	18	15	13	10	8.3	4.6	2.4	1.9	1.6	1.2	0.9	0.5
50	49	48	48	48	47	45	41	40	38	35	33	25	17	14	12	9.8	8.1	4.5	2.4	1.9	1.6	1.2	0.9	0.5
40	39	39	39	39	38	37	34	33	32	30	28	22	15	13	12	9.3	7.8	4.4	2.3	1.9	1.6	1.2	0.9	0.5
35	34	34	34	34	34	33	30	30	29	27	26	21	15	13	11	9.0	7.6	4.4	2.3	1.9	1.6	1.2	0.9	0.5
30	29	29	29	29	29	28	27	26	25	24	23	19	14	12	11	8.6	7.3	4.3	2.3	1.8	1.5	1.2	0.9	0.5
25	25	25	24	24	24	24	23	22	22	21	20	17	12	11	9.9	8.2	7.0	4.2	2.3	1.8	1.5	1.2	0.9	0.5
20	20	20	20	20	20	19	18	18	18	17	17	14	11	10	9.0	7.5	6.5	4.0	2.2	1.8	1.5	1.1	0.9	0.5
15	15	15	15	15	15	15	14	14	14	13	13	12	9.4	9	7.8	6.7	5.9	3.7	2.1	1.7	1.5	1.1	0.9	0.5
10	9.9	9.9	9.9	9.9	9.9	9.8	9.6	9.5	9.4	9.2	9.1	8.3	7.1	7	6.2	5.5	4.9	3.3	2.0	1.6	1.4	1.1	0.9	0.5
7	7.0	7.0	7.0	7.0	6.9	6.9	6.8	6.8	6.7	6.6	6.5	6.1	5.5	5	4.9	4.4	4.1	2.9	1.8	1.5	1.3	1.0	0.8	0.5
5	5.0	5.0	5.0	5.0	5.0	5.0	4.9	4.9	4.9	4.8	4.8	4.5	4.2	4	3.8	3.5	3.3	2.5	1.7	1.4	1.2	1.0	0.8	0.5
4	4.0	4.0	4.0	4.0	4.0	4.0	3.9	3.9	3.9	3.9	3.8	3.7	3.4	3	3.2	3.0	2.8	2.2	1.5	1.3	1.2	0.9	0.8	0.4
3	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.9	2.9	2.8	2.7	3	2.5	2.4	2.3	1.9	1.4	1.2	1.1	0.9	0.7	0.4
2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	2	1.8	1.7	1.7	1.4	1.1	1.0	0.9	0.8	0.7	0.4
1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1	0.9	0.9	0.9	0.8	0.7	0.7	0.6	0.5	0.5	0.3

Notes:
- Values shorter than 0.8 m or longer than 1 km are not considered
- All values are for voltage 400 V.

Correction coefficient

Voltage	K
230 V	0.58
660 V	1.65

Example

Cable with cross section 95 mm² Cu, 45 m length, and short-circuit current at the transformer terminals of 30 kA.
Estimated short-circuit current of **12 kA** at the end of the cable.