

## 5 Particular cases of short-circuit current

### Tabulated values for L<sub>max</sub>

Figure G47 below gives maximum circuit lengths (L<sub>max</sub>) in metres, for:

- 3-phase 4-wire 400 V circuits (i.e. with neutral) and
- 1-phase 2-wire 230 V circuits

protected by general-purpose circuit-breakers.

In other cases, apply correction factors (given in Figure G53) to the lengths obtained. The calculations are based on the above methods, and a short-circuit trip level within  $\pm 20\%$  of the adjusted value I<sub>m</sub>.

For the 50 mm<sup>2</sup> c.s.a., calculation are based on a 47.5 mm<sup>2</sup> real c.s.a.

Handwritten notes on the left: 23, 100, 5, 100, 1/100

Handwritten notes on the right: free, 200

Operating current level I <sub>m</sub> of the instantaneous magnetic tripping element (in A)	c.s.a. (nominal cross-sectional-area) of conductors (in mm <sup>2</sup> )															
	1.5	2.5	4	6	10	16	25	35	50	70	95	120	150	185	240	
50	100	167	267	400												
63	79	133	212	317												
80	63	104	167	250	417											
100	50	83	133	200	333											
125	40	67	107	160	267	427										
160	31	52	83	125	208	333										
200	25	42	67	100	167	267	417									
250	20	33	53	80	133	213	333	467								
320	16	26	42	63	104	167	260	365	495							
400	13	21	33	50	83	133	208	292	396							
500	10	17	27	40	67	107	167	233	317							
560	9	15	24	36	60	95	149	208	283	417						
630	8	13	21	32	63	85	132	185	251	370						
700	7	12	19	29	48	76	119	167	226	333	452					
800	6	10	17	25	42	67	104	146	198	292	396					
875	6	10	15	23	38	61	95	133	181	267	362	457				
1000	5	8	13	20	33	53	83	117	158	233	317	400	435			
1120	4	7	12	18	30	48	74	104	141	208	283	357	388	459		
1250	4	7	11	16	27	43	67	93	127	187	253	320	348	411		
1600		5	8	13	21	33	52	73	99	146	198	250	272	321	400	
2000		4	7	10	17	27	42	58	79	117	158	200	217	257	320	
2500			5	8	13	21	33	47	63	93	127	160	174	206	256	
3200			4	6	10	17	26	36	49	73	99	125	136	161	200	
4000				5	8	13	21	29	40	58	79	100	109	128	160	
5000				4	7	11	17	23	32	47	63	80	87	103	128	
6300					5	8	13	19	25	37	50	63	69	82	102	
8000					4	7	10	15	20	29	40	50	54	64	80	
10000						5	8	12	16	23	32	40	43	51	64	
12500						4	7	9	13	19	25	32	35	41	51	

Fig. G47 : Maximum circuit lengths in metres for copper conductors (for aluminium, the lengths must be multiplied by 0.62)

Figures G48 to G50 next page give maximum circuit length (L<sub>max</sub>) in metres for:

- 3-phase 4-wire 400 V circuits (i.e. with neutral) and
- 1-phase 2-wire 230 V circuits

protected in both cases by domestic-type circuit-breakers or with circuit-breakers having similar tripping/current characteristics.

In other cases, apply correction factors to the lengths indicated. These factors are given in Figure G51 next page.