

High-speed fuses (uR)

gR and aR curves

from 5 to 2000 A



UR type fuses with or without striker



DIN 43620 fuse, solid knife blade



DIN 43653 (T/80) fuse, bracket



K/50/80/110 fuse Notched



EK/76/86/91 type fuse Notched



BK/50/75/80 type fuse Threaded hole



BT/60 type fuse Threaded hole

Function

High speed fuses (UR) protect power semiconductors and DC circuits.

Advantages

High-performance

- Extremely high breaking up to 300 kA.
- Very strong limitation of short-circuit currents (and therefore very sharp decrease in thermal and mechanical stress).
- Good resistance to cyclic loading.

Increased reliability

- Absolute protection over time guaranteed by the simplicity of manufacture and function (Joule effect).
- No degradation of fuse characteristics over time.

Improved safety

The energy released whilst eliminating the fault (fuse blowing) is contained within the cartridge (no degassing).

Fuse blown indicator

An auxiliary contact can be adapted to signal that a fuse has operated.

The solution for

> To protect power semiconductors (variable speed drives, inverters, etc.)



Strong points

> High-performance
> Increased reliability
> Improved safety
> Fuse operated indicator

Extended range

> Compatible range of devices (FUSERBLOC, load break switches, fuse bases).
> Other UR fuse models available on request

Conformity to standards(1)

> IEC 60269-1
> NF EN 60269-1
> IEC 60269-4
> NF EN 60269-4
> DIN EN 60269-4

(1) Product references on request.

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References

690 VAC uR fuses - size 14 x 51

I_n eff. value (A)	I^2t from pre-arc to cold (A^2s)	I^2t operation at 690 V eff. (A^2s)	Losses at I_n (W)	Protection	Available for order in multiples of	14 x 51 uR without striker Reference	14 x 51 uR with striker Reference
5	1.6	11	1.5	aR	10	170N **1405**	
10	3.6	38.5	4	aR	10	170N **1410**	170L **1410**
15	8.6	70	5.5	aR	10	170N **1415**	170L **1415**
20	26	230	6	aR	10	170N **1420**	170L **1420**
25	46.5	375	7	aR	10	170N **1425**	170L **1425**
32	68	600	7.6	aR	10	170N **1432**	170L **1432**
40	84	750	8	aR	10	170N **1440**	170L **1440**
50	200	1800	9	aR	10	170N **1450**	170L **1450**

Accessories

	Reference	Reference
Recommended fused load break switches	FUSERBLOC	FUSERBLOC
Recommended fuse holder	RM 50	RMS 50

690 VAC uR fuses - size 22 x 58

I_n eff. value (A)	I^2t from pre-arc to cold (A^2s)	I^2t operation at 690 V eff. (A^2s)	Losses at I_n (W)	Protection	Available for order in multiples of	22 x 58 uR without striker Reference	22 x 58 uR with striker Reference
20	19	260	5	aR	10	170N **2220**	170L **2220**
25	34	410	6	aR	10	170N **2225**	170L **2225**
32	53.5	605	8	aR	10	170N **2232**	170L **2232**
40	68	750	9	aR	10	170N **2240**	170L **2240**
50	135	1600	9.5	aR	10	170N **2250**	170L **2250**
63	280	3080	11	aR	10	170N **2263**	170L **2263**
80	600	6600	13.5	aR	10	170N **2280**	170L **2280**
100[1]	1100	12500	16	aR	10	170N **2299**	170L **2299**

(1) Voltage: 600 VAC (IEC) / 700 VAC (UL)

Accessories

	Reference	Reference
Recommended fused load break switches	FUSERBLOC	FUSERBLOC
Recommended fuse holder	RM 100	RMS 100

References (continued)

690 VAC uR fuses - size 000

I_n eff. value (A)	I^2t from pre-arc to cold (A^2s)	I^2t operation at 690 V eff. (A^2s)	Losses at I_n (W)	Protection	DIN 43653 (T/80) bracket [1] Reference	DIN 43620 Solid knife blade[2] Reference
10	3.8	25.5	3	gR	170M **1408**	170M **1558**
16	7.2	48	5.5	gR		170M **1559**
20	11.5	78	7	gR		170M **1560**
25	19	130	9	gR	170M **1411**	170M **1561**
32	40	270	10	gR	170M **1412**	170M **1562**
40	69	460	12	gR	170M **1413**	170M **1563**
50	115	770	15	gR	170M **1414**	170M **1564**
63	215	1450	16	gR	170M **1415**	170M **1565**
80	380	2550	19	aR	170M **1416**	170M **1566**
100	695	4650	24	aR	170M **1417**	170M **1567**
125	1200	8500	28	aR	170M **1418**	170M **1568**
160	2,300	16 000	32	aR	170M **1419**	170M **1569**
200	4200	28 000	37	aR	170M **1420**	170M **1570**
250	7750	51 500	42	aR	170M **1421**	170M **1571**
315	12 000	80 500	52	aR	170M **1422**	170M **1572**

(1) UL / CSA. - (2) UL.

Accessories

	Reference	Reference
Fuse blown auxiliary contact	170H **0236**	170H **0236**
Fuse base recommended	170H **1007**	6500 **1010**[1]
Recommended fused load break switches		FUSERBLOC

(1) Single-pole fuse base 160 A, size 00.

690 VAC uR fuses - size 00

I_n eff. value (A)	I^2t from pre-arc to cold (A^2s)	I^2t operation at 690 V eff. (A^2s)	Losses at I_n (W)	Protection	DIN 43653 (T/80) Brackets Reference	BT/60 Threaded hole Reference
25	19	130	6	gR	170M **2658**	
32	28.5	195	7	gR	170M **2659**	
40	50	360	9	gR		
50	95	640	10	gR	170M **2661**	
63	170	1200	12	gR	170M **2662**	170M **2762**
80	310	2100	15	gR	170M **2663**	170M **2763**
100	620	4150	20	aR	170M **2664**[1]	170M **2764**
125	1000	6950	25	aR	170M **2665**[1]	170M **2765**
160	1900	13 000	30	aR	170M **2666**[1]	170M **2766**
200	3400	23 000	35	aR	170M **2667**[1]	170M **2767**
250	6250	42 000	45	aR	170M **2668**[1]	170M **2768**
315	10 000	68 500	55	aR	170M **2669**[1]	
350	13 500	91 500	60	aR	170M **2670**[1]	
400	18 000	125 000	70	aR	170M **2671**[1]	170M **2771**

(1) UL.

Accessories

	Reference	Reference
Fuse blown auxiliary contact	170H **0235**	170H **0235**
Fuse base recommended	170H **1007**	[1]

(1) Mounts directly onto busbar.

690 VAC uR fuses - size 0

I_n eff. value (A)	I^2t from pre-arc to cold (A^2s)	I^2t operation at 690 V eff. (A^2s)	Losses at I_n (W)	Protection	DIN 43620 Solid knife blade Reference
16	3.8	25.5	5	aR	170M **7908**
20	7.2	48	6	aR	170M **7909**
25	11.5	78	7	aR	170M **7910**
32	23.5	160	8	aR	170M **7911**
40	40	270	9	aR	170M **7912**
50	77	515	11	aR	170M **7913**
63	115	770	14	aR	170M **7914**
80	185	1250	18	aR	170M **7915**
100	360	2450	21	aR	170M **7916**
125	550	3700	26	aR	170M **7917**
160	1100	7500	30	aR	170M **7918**
200	2200	15 000	35	aR	170M **7919**

Accessories

	Reference
Fuse blown auxiliary contact	170H **0236**
Fuse base recommended	6501 **1010**(1)
Recommended fused load break switches	FUSERBLOC

(1) Single-pole fuse base 160 A, size 0.

690 VAC uR fuses - size 1*

I_n eff. value eff. (A)	I^2t from pre-arc to cold (A^2s)	I^2t operation at 690 V eff. (A^2s)	Losses at I_n (W)	Protection	K/80 Notched Reference	K/110 Notched Reference	BK/50 Threaded hole Reference
40	40	270	9	aR	170M **3108**(1)	170M **3258**(1)	170M **3458**(1)
50	77	515	11	aR	170M **3109**(1)	170M **3259**(1)	170M **3459**(1)
63	115	770	14	aR	170M **3110**(1)	170M **3260**(1)	170M **3460**(1)
80	185	1250	18	aR	170M **3111**(1)	170M **3261**(1)	170M **3461**(1)
100	360	2450	21	aR	170M **3112**(1)	170M **3262**(1)	170M **3462**(1)
125	550	3700	26	aR	170M **3113**(1)	170M **3263**(1)	170M **3463**(1)
160	1100	7500	30	aR	170M **3114**(1)	170M **3264**(1)	170M **3464**(1)
200	2200	15 000	35	aR	170M **3115**(1)	170M **3265**(1)	170M **3465**(1)
250	4200	28 500	40	aR	170M **3116**(1)	170M **3266**(1)	170M **3466**(1)
315	7000	46 500	50	aR	170M **3117**(1)	170M **3267**(1)	170M **3467**(1)
350	10 000	68 500	55	aR	170M **3118**(1)	170M **3268**(1)	170M **3468**(1)
400	15 000	105 000	60	aR	170M **3119**(1)	170M **3269**(1)	170M **3469**(1)
450	21 000	140 000	65	aR	170M **3120**(1)	170M **3270**(1)	170M **3470**(1)
500	27 000	180 000	70	aR	170M **3121**(1)	170M **3271**(1)	170M **3471**(1)
550	34 000	230 000	75	aR	170M **3122**(1)	170M **3272**(1)	170M **3472**(1)
630	48 500	325 000	80	aR	170M **3123**(1)	170M **3273**(1)	170M **3473**(1)

(1) UL / CSA.

Accessories

	Reference	Reference	Reference
Fuse blown auxiliary contact	170H **0069**	170H **0069**	170H **0069**
Fuse base recommended	170H **3004**	170H **3006**	(1)
Recommended load break switches		FUSERBLOC	

(1) Mounts directly onto busbar.

References (continued)

690 VAC uR fuses - size 1

I_n eff. value (A)	I^2t from pre-arc to cold (A^2s)	I^2t operation at 690 V(3) eff. (A^2s)	Losses at I_n (W)	Protection	K/80 Notched Reference	K/110 Notched Reference	DIN 43620 Solid knife blade Reference	BK/50 Threaded hole Reference
40	40	285	4	aR			170M **3808**(1)	
50	78	550	4.5	aR			170M **3809**(1)	
63	120	850	6.5	aR			170M **3810**(1)	
80	185	1350	8.5	aR			170M **3811**(1)	
100	360	2600	10	aR			170M **3812**(1)	
125	550	3900	11	aR			170M **3813**(1)	
160	1150	8250	12	aR			170M **3814**(1)	
200	1650	11 500	45	aR		170M **4258**(2)		170M **4458**(2)
200	2300	16 500	12.5	aR			170M **3815**(1)	
250	3100	21 000	55	aR	170M **4109**(2)	170M **4259**(2)		170M **4459**(2)
250	4350	31 000	16	aR			170M **3816**(1)	
315	6200	42 000	58	aR	170M **4110**(2)	170M **4260**(2)		170M **4460**(2)
315	7300	52 000	20	aR			170M **3817**(1)	
350	10 000	73 000	21.5	aR			170M **3818**(1)	
350	8500	59 000	60	aR				170M **4461**(2)
400	13 500	91 500	65	aR	170M **4112**(2)	170M **4262**(2)		170M **4462**(2)
400	16 000	115 000	23	aR			170M **3819**(1)	
450	17 000	120 000	70	aR	170M **4113**(2)	170M **4263**(2)		170M **4463**(2)
500	25 000	170 000	72	aR	170M **4114**(2)			
550	34 000	230 000	75	aR	170M **4115**(2)	170M **4265**(2)		170M **4465**(2)
630	52 000	350 000	80	aR	170M **4116**(2)	170M **4266**(2)		170M **4466**(2)
700	69 500	465 000	85	aR	170M **4117**(2)	170M **4267**(2)		170M **4467**(2)
800	105 000	725 000	95	aR		170M **4268**(2)		170M **4468**(2)

(1) UL. - (2) UL / CSA. - (3) For DIN 43620 only. For others I^2t at 660 V.

Accessories

	Reference	Reference	Reference	Reference
Fuse blown auxiliary contact	170H **0069**	170H **0069**	170H **0236**	170H **0069**
Fuse base recommended	170H **3004**	170H **3006**	6501 **1011**(1)	(2)
Recommended load break switches		FUSERBLOC	FUSERBLOC	

(1) Single-pole fuse base 250 A, size 1. *(2) Mounts directly onto busbar.*

690 VAC uR fuses - size 2

I_n eff. value (A)	I^2t from pre-arc to cold (A^2s)	I^2t operation at 690 V eff. (A^2s)	Losses at I_n (W)	Protection	K/80 Notched Reference	K/110 Notched Reference	DIN 43620 Solid knife blade Reference	BK/50 Threaded hole Reference
200	1200	8200	50	aR			170M **5804**(1)	
250	2450	16 500	55	aR			170M **5805**(1)	
315	4950	33 000	60	aR			170M **5806**(1)	
350	7000	46 500	60	aR			170M **5807**(1)	
400	11 000	74 000	65	aR	170M **5108**(2)	170M **5258**(2)		170M **5458**(2)
450	15 500	105 000	70	aR		170M **5259**(2)		170M **5459**(2)
500	21 500	145 000	75	aR	170M **5110**(2)	170M **5260**(2)		170M **5460**(2)
550	28 000	190 000	80	aR	170M **5111**(2)	170M **5261**(2)		170M **5461**(2)
630	41 000	275 000	90	aR		170M **5262**(2)		170M **5462**(2)
700	60 500	405 000	95	aR		170M **5263**(2)		170M **5463**(2)
800	86 000	575 000	105	aR		170M **5264**(2)		170M **5464**(2)
900	125 000	840 000	110	aR		170M **5265**(2)		170M **5465**(2)
1000(3)	180 000	1 250 000	115	aR		170M **5266**(2)		170M **5466**(2)
1100(3)	245 000	1 600 000	120	aR		170M **5267**(2)		170M **5467**(2)
1250	365 000	2 400 000	130	aR				170M **5468**(2)
400	11 000	79 000	65	aR			170M **5808**(1)	
450	16 000	115 000	70	aR			170M **5809**(1)	
500	21 500	155 000	75	aR			170M **5810**(1)	
550	29 000	215 000	80	aR			170M **5811**(1)	
630	41 000	295 000	90	aR			170M **5812**(1)	
700	60 500	430 000	95	aR			170M **5813**(1)	

(1) UL. - (2) UL / CSA. - (3) 1100 A and 1250 A, at 600 V, I^2t at 600 V.

Accessories

	Reference	Reference	Reference	Reference
Fuse blown auxiliary contact	170H **0069**	170H **0069**	170H **0235**	170H **0069**
Fuse base recommended	170H **3004**	170H **3006**	6501 **1012**(1)	(2)
Recommended fused load break switches		FUSERBLOC	FUSERBLOC	FUSERBLOC

(1) Single-pole fuse base 400 A, size 2. *(2) Mounts directly onto busbar.*

690 VAC uR fuses - size 3

I_n eff. value eff. (A)	I^2t from pre-arc to cold (A^2s)	I^2t operation at 690 V eff. (A^2s)	Losses at I_n (W)	Protection	K/80 Notched[1] Reference	K/110 Notched[1] Reference	DIN 43620 Solid knife blade[2] Reference	BK/50 Threaded hole[1] Reference
500	14 000	95 000	95	aR		170M **6258**	170M **6808**	170M **6458**
550	19 500	135 000	100	aR			170M **6809**	
630	31 000	210 000	105	aR	170M **6110**	170M **6260**	170M **6810**	170M **6460**
700	44 500	300 000	110	aR		170M **6261**	170M **6811**	170M **6461**
800	69 500	465 000	115	aR	170M **6112**	170M **6262**	170M **6812**	170M **6462**
900	100 000	670 000	120	aR		170M **6263**	170M **6813**	170M **6463**
1000	140 000	945 000	125	aR		170M **6264**	170M **6814**	170M **6464**
1100	190 000	1300 000	130	aR	170M **6115**	170M **6265**		170M **6465**
1250	290 000	1950 000	140	aR	170M **6116**	170M **6266**	170M **8554**	170M **6466**
1400	370 000	2450 000	155	aR		170M **6267**		170M **6467**
1500	460 000	3100 000	160	aR	170M **6118**	170M **6268**		170M **6468**
1600	580 000	3900 000	160	aR	170M **6119**	170M **6269**		170M **6469**
1800[5]	880 000	5250 000	165	aR				170M **6470**[3]
2000[6]	1150 000	6350 000	175	aR	170M **6121**[4]			170M **6471**[4]

(1) UL / CSA.
(2) UL.
(3) Rated voltage 600 VAC.
(4) Rated voltage 550 VAC.
(5) At 600 V, I^2t at 600 V.
(6) At 550 V, I^2t at 550 V.

Accessories

	Reference	Reference	Reference	Reference
Fuse blown auxiliary contact	170H **0069**	170H **0069**	170H **0236**	170H **0069**
Fuse base recommended	170H **3004**	170H **3006**	6501 **1013**[1]	[2]
Recommended fused load break switches		FUSERBLOC	FUSERBLOC	FUSERBLOC

(1) Single-pole fuse base 630 A, size 3.
(2) Mounts directly onto busbar.

1000 VAC uR fuses - size 00

I_n eff. value (A)	I^2t from pre-arc to cold (A^2s)	I^2t operation at 1000 V eff. (A^2s)	Losses at I_n (W)	Protection	DIN 43620 Solid knife blade Reference
10	3.8	23	5	aR	170M **2672**
20	15	110	8.5	aR	170M **2673**
25	28.5	210	9.5	aR	170M **2674**
32	53	390	11	aR	170M **2675**
35	69	500	12	aR	170M **2676**
40	105	760	13	aR	170M **2677**
50	215	1550	14	aR	170M **2678**
63	380	2750	16	aR	170M **2679**
80	815	5900	18	aR	170M **2680**
100	1550	11 500	21	aR	170M **2681**
125	3000	22000	23	aR	170M **2682**
160	6250	45000	26	aR	170M **2683**
200	12000	86500	31	aR	170M **2684**

Accessories

	Reference
Fuse blown auxiliary contact	170H **0236**
Fuse base recommended	6500 **1010**[1]
Recommended fused load break switches	FUSERBLOC

(1) Single-pole fuse base 160 A, size 00.

High-speed fuses (uR)

gR and aR curves

from 5 to 2000 A

References (continued)

1250 VAC uR fuses - size 1*

I_n eff. value (A)	I^2t from pre-arc to cold (A^2s)	I^2t operation at 1250 V eff. (A^2s)	Losses at I_n (W)	Protection	K/110 Notched[1] Reference
50	135	1100	15	aR	170M **3238**
63	215	1750	20	aR	170M **3239**
80	420	3350	25	aR	170M **3240**
100	750	5950	30	aR	170M **3241**
125	1450	11 500	35	aR	170M **3242**
160	2600	21 000	40	aR	170M **3243**
200	5150	41 000	45	aR	170M **3244**
250	9200	73 000	55	aR	170M **3245**
315	18 500	150 000	60	aR	170M **3246**
350	27 000	220 000	65	aR	170M **3247**
400	53 000	335 000	70	aR	170M **3248**

(1) UL.

Accessories

	Reference
Fuse blown auxiliary contact	170H **0069**
Fuse base recommended	170H **3006**

1250 VAC uR fuses - size 1

I_n eff. value (A)	I^2t from pre-arc to cold (A^2s)	I^2t operation at 1250 V eff. (A^2s)	Losses at I_n (W)	Protection	K/110 Notched[1] Reference
160	1900	15 500	45	aR	170M **4238**
200	3800	30 000	50	aR	170M **4239**
250	7750	61 500	60	aR	170M **4240**
315	15 000	120 000	65	aR	170M **4241**
350	20 000	165 000	70	aR	170M **4242**
400	29 500	235 000	75	aR	170M **4243**
450	42 000	335 000	80	aR	170M **4244**
500	69 500	435 000	85	aR	170M **4245**
550	95 000	590 000	95	aR	170M **4246**

(1) UL.

Accessories

	Reference
Fuse blown auxiliary contact	170H **0069**
Fuse base recommended	170H **3006**

1250 VAC uR fuses - size 2

I_n eff. value (A)	I^2t from pre-arc to cold (A^2s)	I^2t operation at 1250 V eff. (A^2s)	Losses at I_n (W)	Protection	K/110 Notched[1] Reference
250	6500	51 500	65	aR	170M **5238**
315	13 000	105 000	75	aR	170M **5240**
350	16 500	135 000	80	aR	170M **5241**
400	23 000	180 000	85	aR	170M **5242**
500	48 000	380 000	95	aR	170M **5244**
630	115 000	730 000	110	aR	170M **5246**
700	160 000	1050 000	115	aR	170M **5247**
800	245 000	1550 000	120	aR	170M **5248**
900	360 000	1750 000	125	aR	170M **5249**[2]
1000	480 000	2350 000	135	aR	170M **5250**[2]

(1) UL.
(2) At 1100 V, I^2t at 1000 V.

Accessories

	Reference
Fuse blown auxiliary contact	170H **0069**
Fuse base recommended	170H **3006**

1250 VAC uR fuses - size 3

I_n eff. value (A)	I^2t from pre-arc to cold (A^2s)	I^2t operation at 1250 V eff. (A^2s)	Losses at I_n (W)	Protection	K/110 Notched[1] Reference
500	39 000	310 000	105	aR	170M **6242**
550	55 000	435 000	110	aR	170M **6243**
630	83 500	665 000	115	aR	170M **6244**
700	115 000	940 000	120	aR	170M **6245**
800	205 000	1300 000	125	aR	170M **6246**
900	305 000	1900 000	130	aR	170M **6247**
1000	450 000	2750 000	135	aR	170M **6248**
1100	575 000	3600 000	140	aR	170M **6249**
1250	810 000	3950 000[4]	145	aR	170M **6250**[2]

(1) UL.
(2) At 1100 V, I^2t at 1000 V.

Accessories

	Reference
Fuse blown auxiliary contact	170H **0069**
Fuse base recommended	170H **3006**

High-speed fuses (uR)

gR and aR curves

from 5 to 2000 A

Accessories

Fuse blown auxiliary contact

Connection

6.3 x 0.8 mm fast-on terminals.

Electronic principle

An auxiliary contact detects that the fuse has operated.

Electrical characteristics

Voltage (VAC)	Rated current (A)
250	2

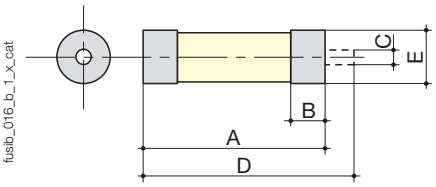


fusib_051_a_1_cat

Dimensions

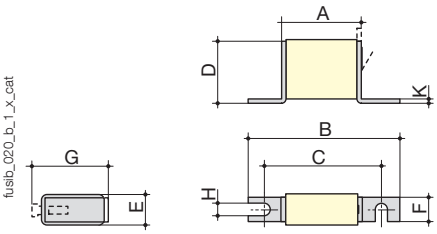
uR 690 VAC fuses

14 x 51 and 22 x 58



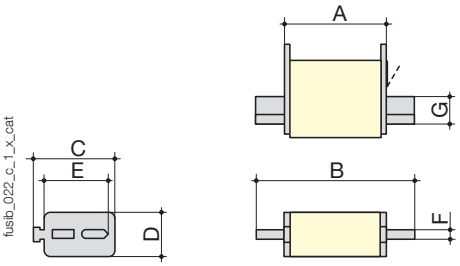
Size	A	B	C	D	E
14 x 51	51	11	4	59	Ø 14.3
22 x 58	58	15	4	66	Ø 22.2

DIN 43653 and T/80



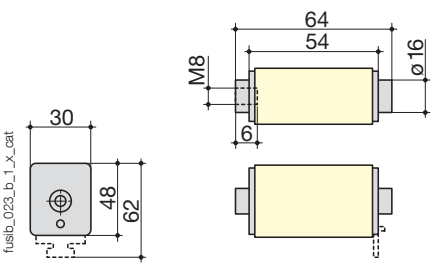
Size	A	B	C	D	E	F	G	H	K
000	54	100	78	40	21	20	51	8	2
00	54	100	78	51	30	28	67	10	2

DIN 43620



Size	A	B	C	D	E	F	G
000	54	79	48	21	35	6	15
00	46	79	60	30	35	6	15
0	68	125	60	35	35	6	15
1	71	135	58	45	40	6	20
2	72	150	71	55	48	6	26
3	72	150	88	76	60	6	33

BT/60

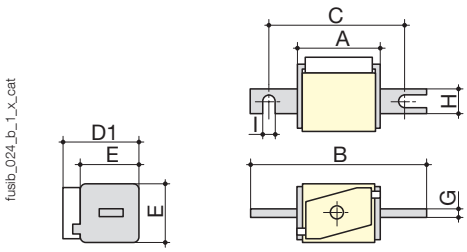


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Dimensions (continued)

uR 690 VAC fuses (continued)

K/80 and K/110



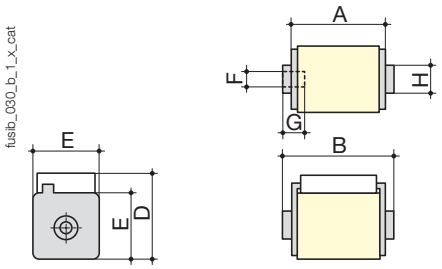
K/80

Size	A	B	C	D1	E	G	H	I
1*	50	104	78	59	45	6	22	11
1	50	108	78	69	53	6	25	11
2	50	108	78	77	61	6	25	11
3	51	109	78	92	76	6	30	11

K/110

Size	A	B	C	D1	E	G	H	I
1*	50	134	108	59	45	6	22	11
1	50	138	108	69	53	6	25	11
2	50	138	108	77	61	6	25	11
3	51	139	108	92	76	6	30	11

BK/50

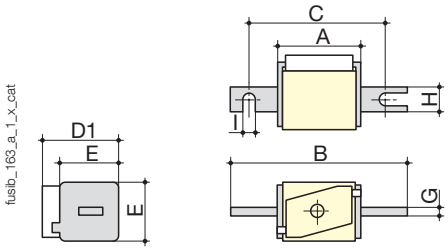


Size	A	B	D	E	F	G	H
1*	50	51	59	45	M8	5	Ø 17
1	50	51	59	53	M8	8	Ø 20
2	50	51(1)	77	61	M10	10	Ø 24
3	51	53(2)	92	76	M12	10	Ø 30

(1) B = 65 mm for rating 1100 to 1250 A.
(2) B = 65 mm for rating 1600 to 2000 A.

uR 1250 VAC fuses

K/110



Size	A	B	C	D1	E	G	H	I
1*	80	138	108	59	45	6	20	11
1	80	138	108	69	53	6	25	11
2	80	138	108	77	61	6	25	11
3	81	139	108	92	76	6	30	11