



Semiconductor Fuses



 European Fuses

DIN 000 Fuses

6,6 gRB-URB - 5 URB



GERMAN STANDARD

500 - 660 V AC

gRB - URB from 20 to 400 A

Size: 000


EXTREMELY HIGH INTERRUPTING RATING FUSES:
PROTECTION OF POWER SEMICONDUCTORS ACCORDING
TO 269.1 AND 4

500- 660 V VOLTAGE RATING (RATING 20 TO 400 A)

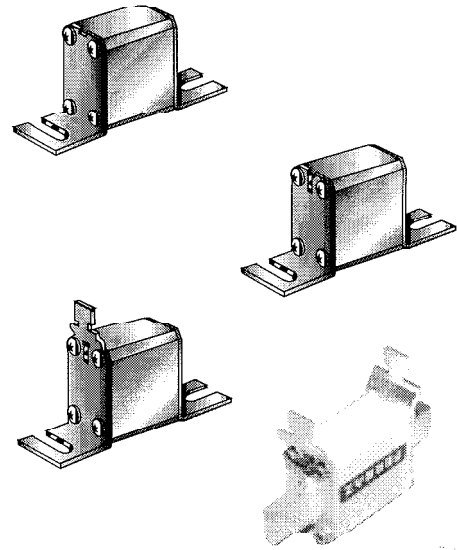
gR CLASS (gRB RATINGS 20 TO 125 A) ACCORDING
TO VDE 636-23

- CLEARING ALL OVERLOADS
- IMPROVING SAFETY AND PROTECTION
- ENABLING SELECTIVE COORDINATION WITH ALL FUSES

aR CLASS (URB RATINGS 80 TO 400 A) ACCORDING TO VDE 636-23
AND IEC 269.4

3 MODELS COMPLYING WITH DIN 43653-00C ARE 
WITH OR WITHOUT BLOWN FUSE INDICATION -
WITH TRIP INDICATOR

MODEL COMPLYING WITH DIN 43620 (00C) STANDARD WITH
BLOWN FUSE INDICATION - WITH TRIP INDICATOR



MAIN CHARACTERISTICS

Voltage rating U_N (V)	Class	Current rating I_N (A)	Pre-arcing $I^2t @ 1 \text{ ms}$ I^2t_p (A ² s)	Total clearing $I^2t @ U_N$ I^2t_t (A ² s)	Watts loss		Tested interrupting rating	Estimated interrupting rating
					0.8 I_N	I_N		
660 690+6%	gRB	20	12	80	3.8	7	200 k A @ 660 V	300 k A @ 660 V
		25	20	150	5.0	9		
		32	39	270	5.5	10		
		40	70	460	6.6	12		
		50	102	730	7.7	14		
		63	210	1500	8.8	16		
		80	475	2900	9.9	18		
		100	970	6000	11	20		
		125	1900	11800	11.6	21		
		660 690+6%	URB	80	390	2500		
100	690			4200	12.7	23		
125	1300			8900	14.3	26		
160	2700			16000	17.0	31		
200	5250			31500	19.8	36		
250	9900			52000	24.8	45		
315	15500			82000	31.9	58		
500	URB	350	22400	110000	31.9	58	120 k A @ 500 V	
		400	33200	160000	36.3	66		

Minimum operating voltage for blown fuse indicator: 20 V

Minimum operating voltage for trip-indicator: 20 V



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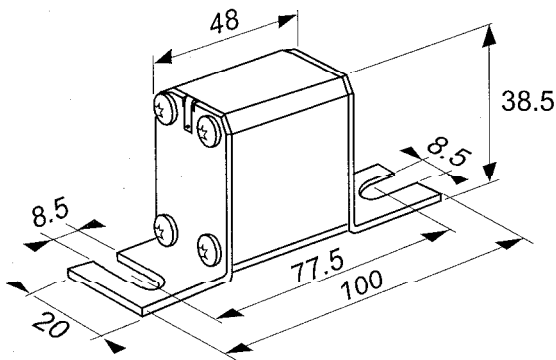
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GERMAN STANDARD WITH BLOWN FUSE INDICATOR



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* Fuse base: SI 000 DIN 80
Ref. Number: C 220710

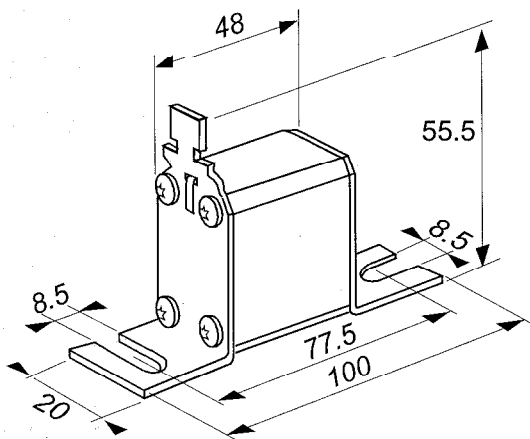
Weight: 110 g
Packaging: 6 pieces

Current rating	Code	Ref. Number	I/IN Fuse-base
20	6,6 gRB 000 DO8V/020	P330017	1
25	6,6 gRB 000 DO8V/025	Q330018	1
32	6,6 gRB 000 DO8V/032	R330019	1
40	6,6 gRB 000 DO8V/040	S330020	1
50	6,6 gRB 000 DO8V/050	T330021	1
63	6,6 gRB 000 DO8V/063	V330022	1
80	6,6 gRB 000 DO8V/080	G330102	1
100	6,6 gRB 000 DO8V/100	Q330110	1
125	6,6 gRB 000 DO8V/125	R330111	0,9
80	6,6 URB 000 DO8V/080	W330023	1
100	6,6 URB 000 DO8V/100	X330024	1
125	6,6 URB 000 DO8V/125	Y330025	0,95
160	6,6 URB 000 DO8V/160	Z330026	0,85
200	6,6 URB 000 DO8V/200	A330027	0,85
250	6,6 URB 000 DO8V/250	B330028	0,8
315	6,6 URB 000 DO8V/315	C330029	0,7
350	5 URB 000 DO8V/350	W330115	0,7
400	5 URB 000 DO8V/400	E330192	0,65

GERMAN STANDARD WITH BLOWN FUSE TRIP-INDICATOR



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Microswitch

MC 4L 2.5 B6 + PRES Ref. Number : F210156

MC 4L 2.5 B2 + PRES Ref. Number : G210157

* Fuse base: SI 000 DIN 80 Ref. Number : C 20710

Weight: 120 g
Packaging: 6 pieces

Current rating	Code	Ref. Number	I/IN Fuse-base
20	6,6 gRB 000 DO8L/020	J330173	1
25	6,6 gRB 000 DO8L/025	K330174	1
32	6,6 gRB 000 DO8L/032	L330175	1
40	6,6 gRB 000 DO8L/040	M330176	1
50	6,6 gRB 000 DO8L/050	N330177	1
63	6,6 gRB 000 DO8L/063	P330178	1
80	6,6 gRB 000 DO8L/080	Q330179	1
100	6,6 gRB 000 DO8L/100	R330180	1
125	6,6 gRB 000 DO8L/125	S330181	0,9
80	6,6 URB 000 DO8L/080	T330182	1
100	6,6 URB 000 DO8L/100	V330183	1
125	6,6 URB 000 DO8L/125	W330184	0,9
160	6,6 URB 000 DO8L/160	X330185	0,85
200	6,6 URB 000 DO8L/200	Y330186	0,85
250	6,6 URB 000 DO8L/250	Z330187	0,8
315	6,6 URB 000 DO8L/315	A330188	0,7
350	5 URB 000 DO8L/350	B330189	0,7
400	5 URB 000 DO8L/400	F330193	0,65



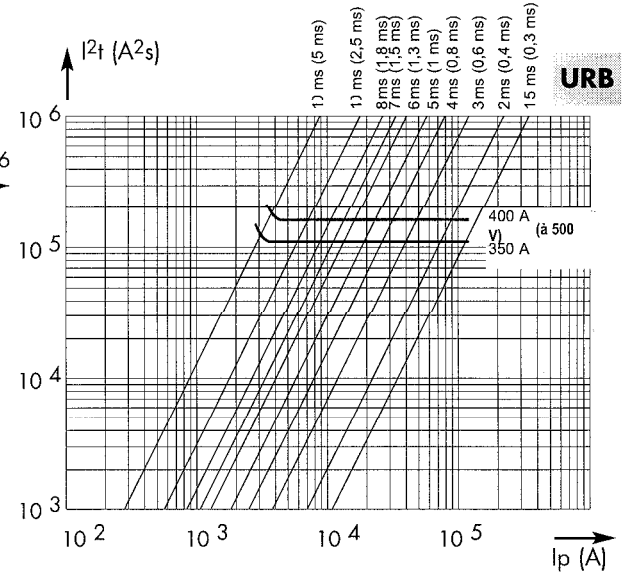
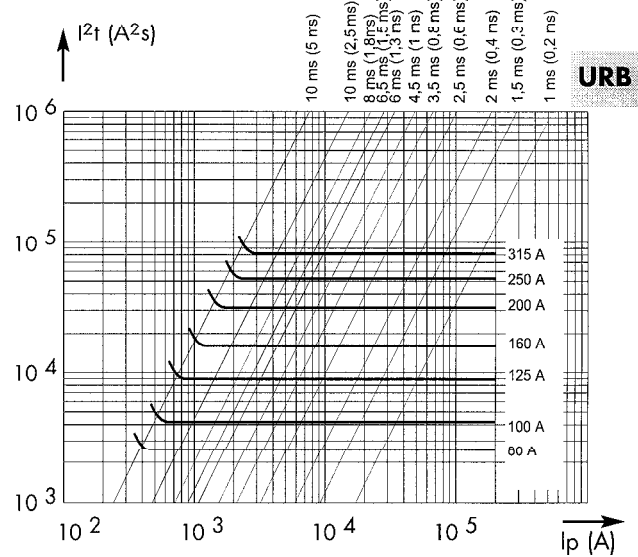
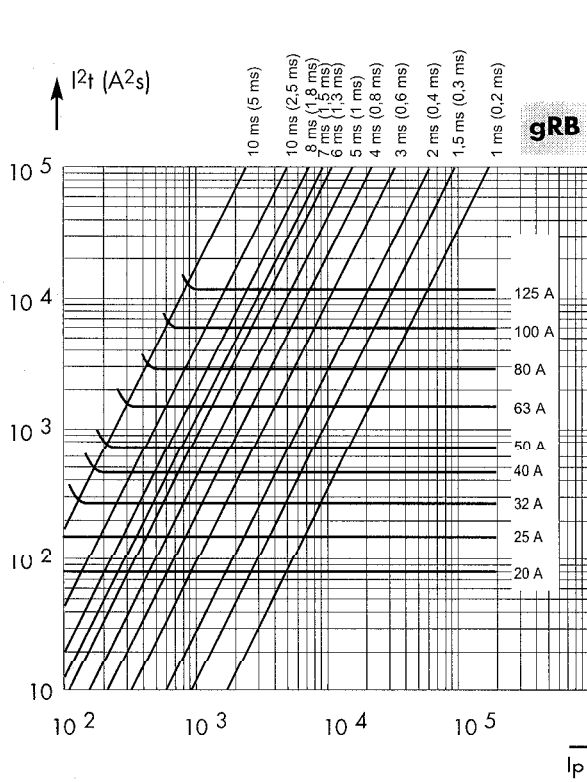
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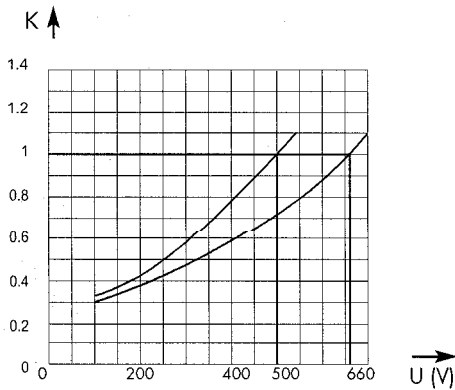
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Total clearing I^2t



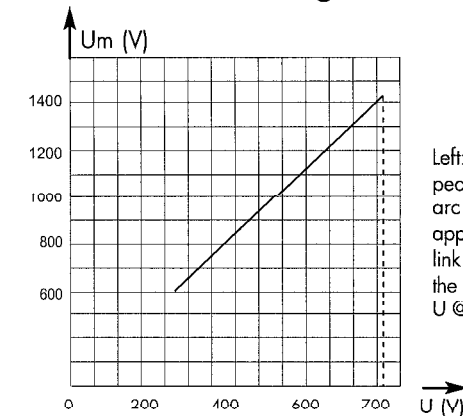
Above: Horizontal curves show, for each rated current, values of total clearing I^2t (I^2t_t) as a function of prospective current I_p . @ U_N with $\cos \phi = 0.15$. Oblique lines indicate total clearing duration T_t with associated pre-arcing duration in brackets.

I^2t corrective factor



Above: Mean curves show variation of total clearing time (I^2t_t) and total clearing duration T_t as a function of operating voltage U .

Peak arc voltage



Left: Curve shows peak value U_m of arc voltage which appears across fuse link as a function of the operating voltage U @ $\cos \phi = 0.15$



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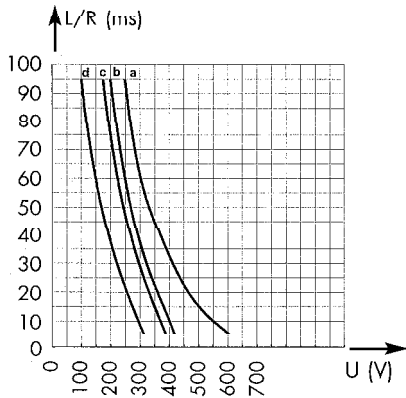


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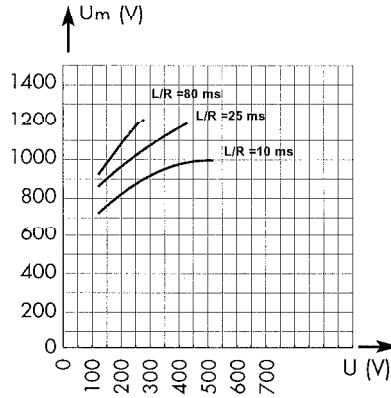
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DC Application data



Above: Curves indicate permissible value of time constant L/R as a function of DC working voltage.
 Curve a: Ratings from 20 to 160 A
 Curve b: Rating 200 A
 Curve c: Ratings from 250 to 315 A
 Curve d: Ratings from 350 to 400 A



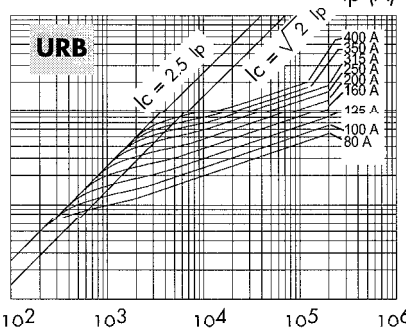
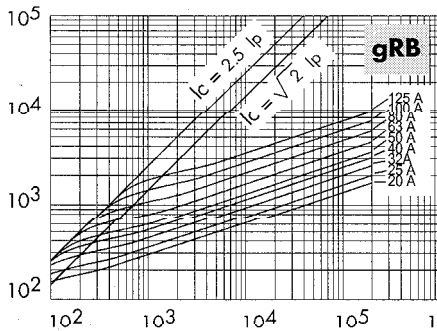
Above: Curves indicates peak arc voltage U_m which may appear across fuse terminals at working voltage U.

Rated current	Curve	I_{pm} (A)
20	a	60
25	a	65
32	a	90
40	a	120
50	a	150
63	a	200
80	a	270
100	a	370
125	a	500
160	a	700
200	b	1200
250	c	1800
315	c	2200
350	d	2600
400	d	3100

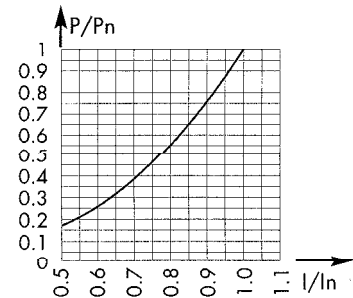
I_{pm} values give minimum DC interrupting current in amps.

Current limitation curves

Above: Curves show, for each rating, value of peak letthrough current I_c as a function of available fault current I_p .

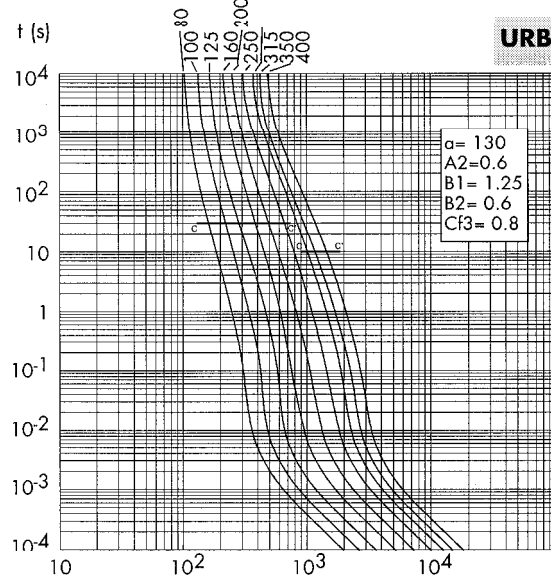
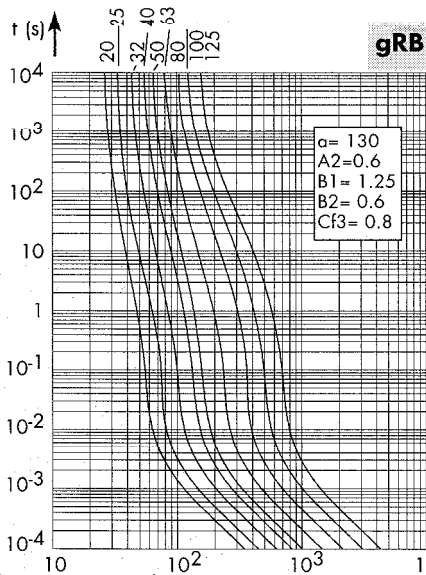


Watts loss



Above: Curve enables computation of power losses P for a I_n -rated fuse as a function of R.M.S. current I (as a multiple of I_n for steady state operation)

Time vs current characteristics



Left: Curves show, for each rated current, pre-arcing time vs. R.M.S. pre-arcing current

Tolerance for mean pre-arcing current $\pm 8\%$.