

Other Protistor® Fuses Ferrule Fuses 27x60 gRB - 800 VAC

800 VAC
gRB from 8 to 110 A
Size: 27 x 60

EXTREMELY HIGH BREAKING CAPACITY FUSES: PROTECTION OF POWER SEMICONDUCTORS
COMPLYING WITH IEC STANDARDS 60269-1 AND 4

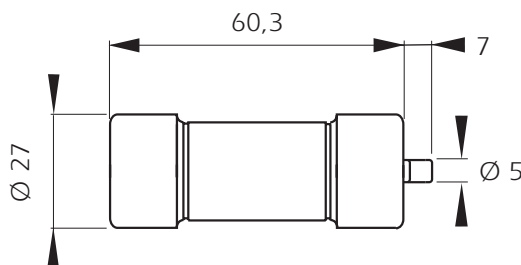
800 V VOLTAGE RATING ACCORDING TO IEC 33



- gR CLASS AS PER IEC 60269-4
- CLEARING ALL OVERLOADS
 - IMPROVED SAFETY AND PROTECTION
 - ENABLING SELECTIVE COORDINATION WITH OTHER FUSES

WITH TRIP INDICATOR

Dimensions



Unit weight
78 g

Trip indicator force: 4.5N at 0mm - 2.5N at 7mm

Main Characteristics

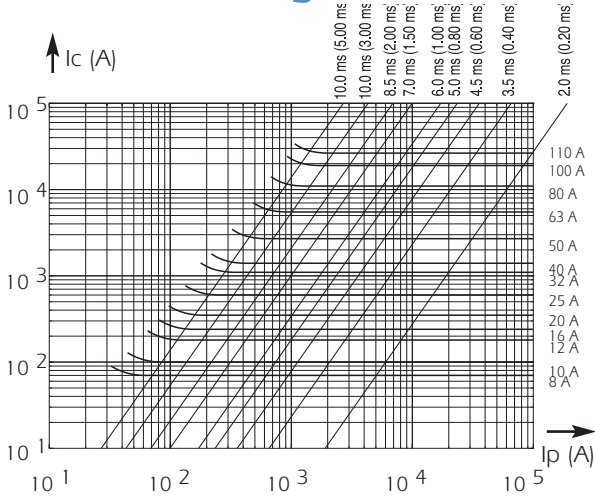
Voltage rating U_N (V)	Class	Current rating I_N (A)	Pre-arcing $I^2t @ 1 \text{ ms}$ I^2tp (A2s)	Total clearing $I^2t @ U_N$ I^2tt (A2s)	Watts loss		Tested Breaking capacity	Designation	Ref. Number	Pack	Catalog Number
					0.8 I_N	I_N					
800	gRB	8	4.25	70	1.2	2.0	175 kA @ 700V	821 CP GRB27.60 8	R221436	10	FR27GB80V 8T
		10	8.0	100	1.3	2.3		821 CP GRB27.60 10	S221437	10	FR27GB80V 10T
		12	17.0	180	1.4	2.5		821 CP GRB27.60 12	T221438	10	FR27GB80V 12T
		16	26.5	250	1.9	3.5		821 CP GRB27.60 16	V221439	10	FR27GB80V 16T
		20	38.5	350	2.4	4.0		821 CP GRB27.60 20	W221440	10	FR27GB80V 20T
		25	73.0	600	2.8	5.0	90 kA @ 800V	821 CP GRB27.60 25	X221441	10	FR27GB80V 25T
		32	130	1000	3.5	6.0		821 CP GRB27.60 32	Y221442	10	FR27GB80V 32T
		40	195	1400	4.7	8.0		821 CP GRB27.60 40	Z221443	10	FR27GB80V 40T
		50	430	2700	4.8	8.5		821 CP GRB27.60 50	A221444	10	FR27GB80V 50T
		63	965	5500	5.6	10		821 CP GRB27.60 63	B221445	10	FR27GB80V 63T
		80	1890	11000	6.4	11.5		821 CP GRB27.60 80	C221446	10	FR27GB80V 80T
		100	3480	19000	7.4	13		821 CP GRB27.60 100	D221447	10	FR27GB80V 100T
		110	4670	27000	7.7	14		821 CP GRB27.60 110	E221448	10	FR27GB80V 110T

Minimum operating voltage for trip-indicator: 20 V

See Gears and Fuse gears

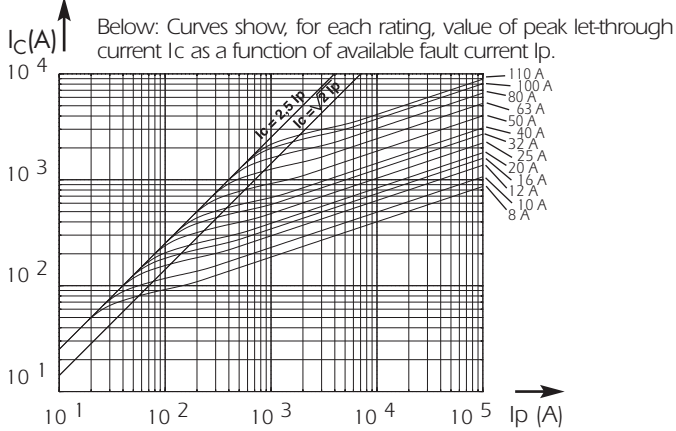
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Total clearing I²t



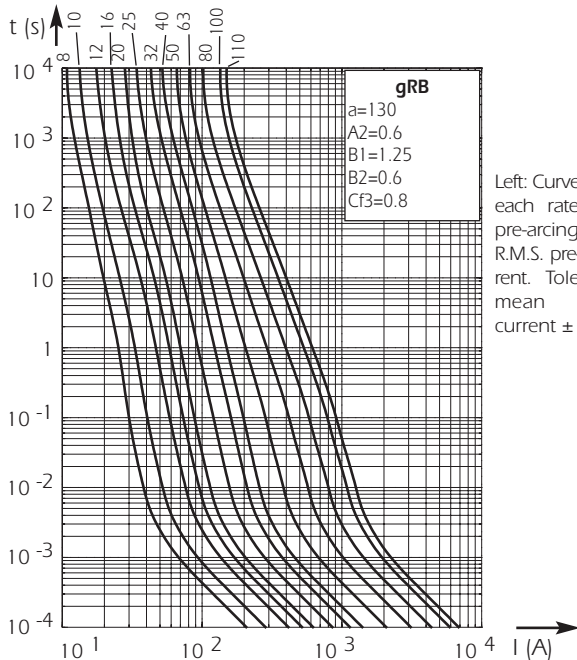
Above: Horizontal curves show maximum values of total clearing I^2t (I^2t_t) as function of prospective current I_p . @ U_N with $\cos \varphi = 0.15$. Oblique lines indicate total clearing duration T_t and associated pre-arcing duration in brackets.

Current limitation curves



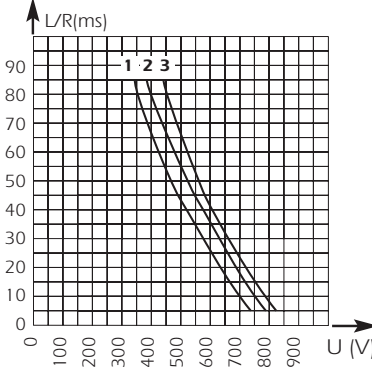
Below: Curves show, for each rating, value of peak let-through current I_c as a function of available fault current I_p .

Time vs current characteristics

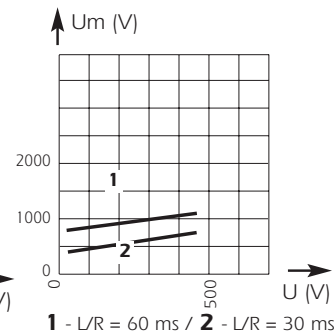


Left: Curves show, for each rated current, pre-arcing time vs. R.M.S. pre-arcing current. Tolerance for mean pre-arcing current $\pm 8\%$.

DC Application data



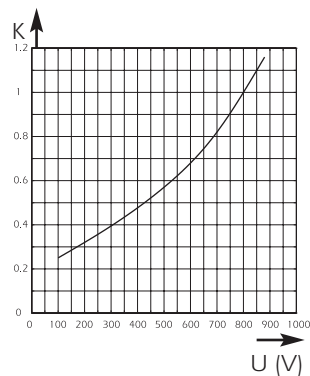
Above: Curves indicate permissible value of time constant L/R as a function of DC working voltage.
1 - I_N from 80 to 110 A / 2 - I_N from 25 to 63 A
3 - I_N from 8 to 12 A



1 - $L/R = 60$ ms / 2 - $L/R = 30$ ms

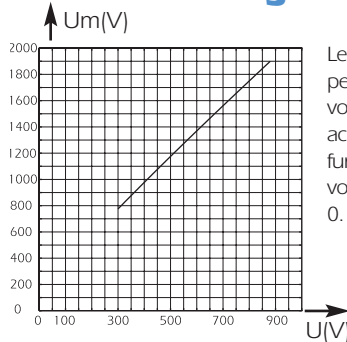
Above: Curve indicates peak arc voltage U_m which may appear across fuse terminals at working voltage U , for different values of time constant L/R of the fault circuit.

I²t corrective factor



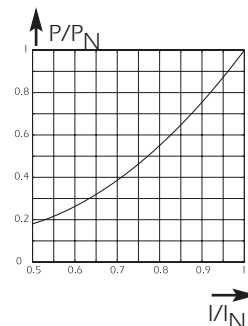
Left: Mean curve shows variation of total clearing time (I^2t_t) and total clearing duration T_t as a function of operating voltage U .

Peak arc voltage



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

Watts loss



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

Other Protistor® Fuses

Ferrule Fuses

27x60 URGD - 600 V to 690 VAC



EXTREMELY BREAKING CAPACITY RATING FUSES:
PROTECTION OF POWER SEMICONDUCTORS ACCORDING TO
IEC STANDARD 60269.1 AND 4

600 V - 690 V AC VOLTAGE RATING

aR- CLASS ACCORDING TO VDE 636-23 AND IEC 60269.4

Main Characteristics

Voltage rating U_N (VAC)	Class	Current rating I_N (A)	Pre-arcing $i^2t @ 1 \text{ ms}$ I^2t_p (A ² s)	Total clearing I^2t (A ² s)	Watts loss		Tested Breaking capacity
					$0.8 I_N$	I_N	
690 V	URGD	63	405	1840 @ 660 V	12	22	200 kA @ 690 V
		80	860	3750 @ 660 V	13.5	24.6	
		100	1620	6800 @ 660 V	15	27	
		125	3425	13600 @ 660 V	16	29.5	
		160	6480	24600 @ 660 V	17	32.5	
		200	13700	61500 @ 660 V	18.5	35.7	
600 V	URGD	250	29600	107000 @ 600 V	21	40	200 kA @ 600 V

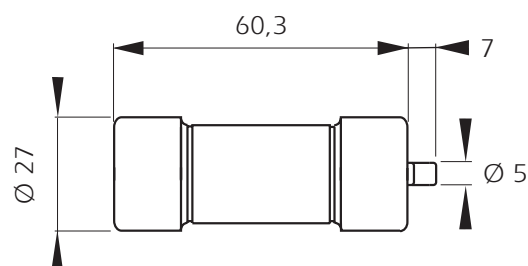
Minimum operating voltage for trip-indicator: 20 V

Ref. Numbers

27x60 - With trip-indicator

Type	Voltage	Current rating	Designation	Ref. Number	Catalog Number
URGD	690 V	63 A	6.921 CP URGD 27x60/ 63	A076820	FR27UD69V63T
		80 A	6.921 CP URGD 27x60/ 80	B076821	FR27UD69V80T
		100 A	6.921 CP URGD 27x60/100	C076822	FR27UD69V100T
		125 A	6.921 CP URGD 27x60/125	D076823	FR27UD69V125T
		160 A	6.921 CP URGD 27x60/160	E076824	FR27UD69V160T
		200 A	6.921 CP URGD 27x60/200	F076825	FR27UD69V200T
URGD	600 V	250 A	621 CP URGD 27x60/250	W076264	FR27UD60V250T

See Gears and Fuse gears section



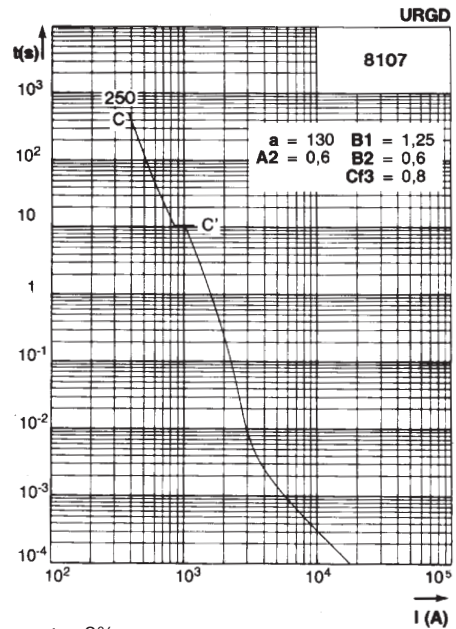
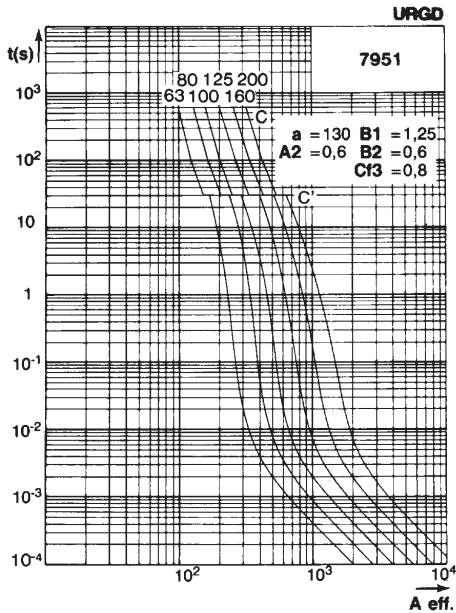


Other Protistor® Fuses

Ferrule Fuses

27x60 URGD - 600 V to 690 VAC

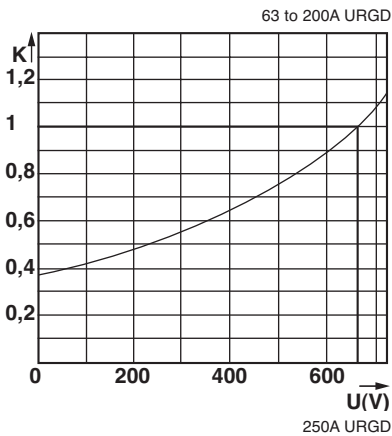
Time vs current characteristics



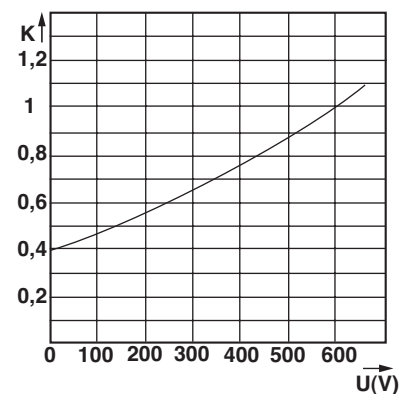
Tolerance for mean pre-arcing current $\pm 8\%$

These curves indicate, for each rated current, pre-arcing time vs. R.M.S. pre-arcing current.

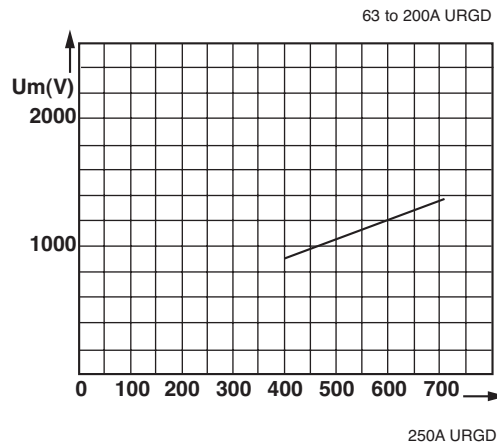
Corrective factor



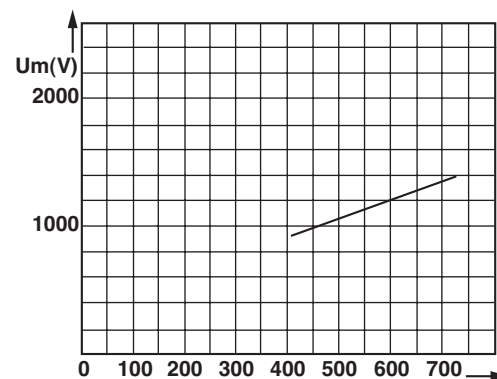
Left: Mean curves showing variation of total clearing time ($I^2 t_t$) and the total clearing duration t_t as a function of the operating voltage U



Peak arc voltage



Left: Curves show peak value U_m of arc voltage which appears across the fuse-link as a function of operating voltage U @ $\cos \varphi = 0.15$.



Other Protistor® Fuses

Ferrule Fuses

27x60 URQ/URS/URB - 690 V to 1000 VAC



EXTREMELY HIGH IBREAKING CAPACITY FUSES:

PROTECTION OF POWER SEMI CONDUCTORS ACCORDING TO IEC STANDARD 60269.1 AND 4

690 V - 1000 V AC VOLTAGE RATING

aR-CLASS ACCORDING TO VDE 636-23 AND IEC 60269.4

690V URQ and 1000V URB are UL RECOGNIZED

Main Characteristics

Voltage rating U_N (VAC)	Class	Current rating I_N (A)	Pre-arcing $I^2t @ 1 \text{ ms}$ I^2t_p (A ² s)	Total clearing I^2t I^2t_t (A ² s)	Watts loss		Tested Breaking capacity
					0,8 I_N	I_N	
690 V	URQ	50	110	610 @ 660 V	8.4	16	200 kA @ 690 V
		63	155	860 @ 660 V	11.1	21	
		80	350	1880 @ 660 V	12.6	24	
		100	625	3210 @ 660 V	14.2	27	
		125	1400	6970 @ 660 V	15.7	30	
		160	3150	15000 @ 660 V	17.7	34	
		200	6580	30000 @ 660 V	19.4	38	
690 V	URS	250	15570	63000 @ 660 V	22.6	45	200 kA @ 690 V
		125	2790	13000 @ 660 V	14.5	25	
		160	5500	24000 @ 660 V	17.5	30	
		32	33	250 @ 1000 V	7.4	14.5	
1000 V	URB	40	60	450 @ 1000 V	8.7	17	100 kA @ 1000 V
		50	110	840 @ 1000 V	9.7	19	
		63	200	1470 @ 1000 V	11.3	22	
		80	435	3300 @ 1000 V	12.3	24	
		100	975	6000 @ 1000 V	14	27	
		125	1910	12500 @ 1000 V	16	31	
		160	3890	26700 @ 1000 V	18	35	
		170	4710	36000 @ 1000 V	19	37	

* Minimum operating voltage for trip-indicator: 20 V



Other Protistor® Fuses

Ferrule Fuses

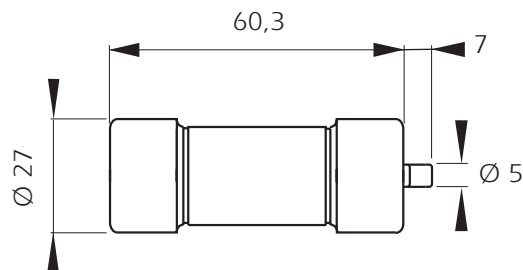
27x60 URQ/URS/URB - 690 V to 1000 VAC

27x60 - With trip-indicator

 Except 125 and 160A URS

Type	Voltage	Current rating	Designation	Ref. Number	Catalog Number
URO	690 V	50 A	6.921 CP URO 27x60/ 50	N075958	FR27UQ69V50T
		63 A	6.921 CP URO 27x60/ 63	V076309	FR27UQ69V63T
		80 A	6.921 CP URO 27x60/ 80	W076310	FR27UQ69V80T
		100 A	6.921 CP URO 27x60/100	R078330	FR27UQ69V100T
		125 A	6.921 CP URO 27x60/125	S078331	FR27UQ69V125T
		160 A	6.921 CP URO 27x60/160	X076311	FR27UQ69V160T
		200 A	6.921 CP URO 27x60/200	T078332	FR27UQ69V200T
URS	690 V	125 A	6.921 CP URS 27x60/125	P209865	FR27US69V125T
		160 A	6.921 CP URS 27x60/160	Q209866	FR27US69V160T
URB	1000 V	32 A	1021 CP URB 27x60/ 32	S081298	FR27UB10C32T
		40 A	1021 CP URB 27x60/ 40	R081297	FR27UB10C40T
		50 A	1021 CP URB 27x60/ 50	Q081296	FR27UB10C50T
		63 A	1021 CP URB 27x60/ 63	P081295	FR27UB10C63T
		80 A	1021 CP URB 27x60/ 80	N081294	FR27UB10C80T
		100 A	1021 CP URB 27x60/100	M081293	FR27UB10C100T
		125 A	1021 CP URB 27x60/125	L081292	FR27UB10C125T
		160 A	1021 CP URB 27x60/160	K081291	FR27UB10C160T
		170 A	1021 CP URB 27x60/170	Z080338	FR27UB10C170T

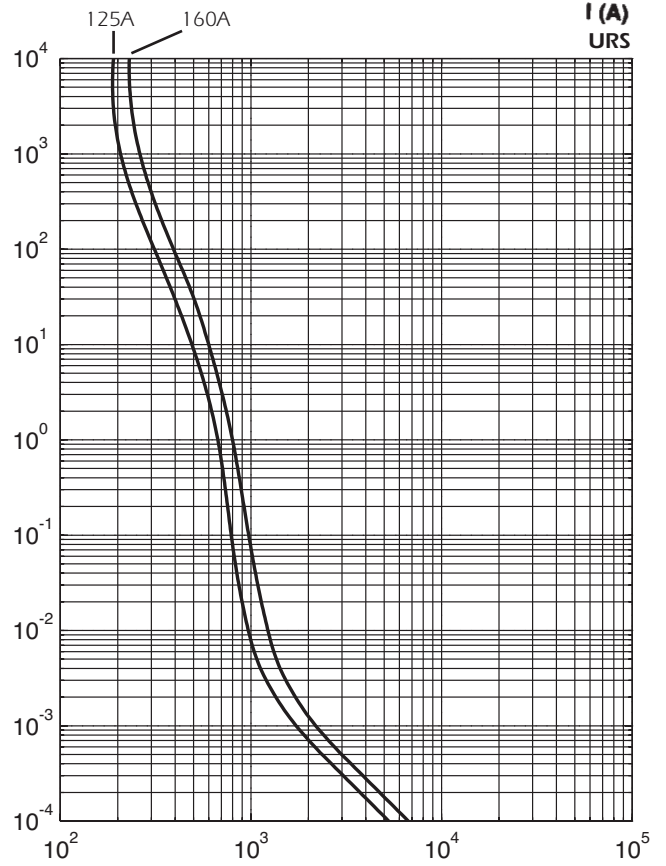
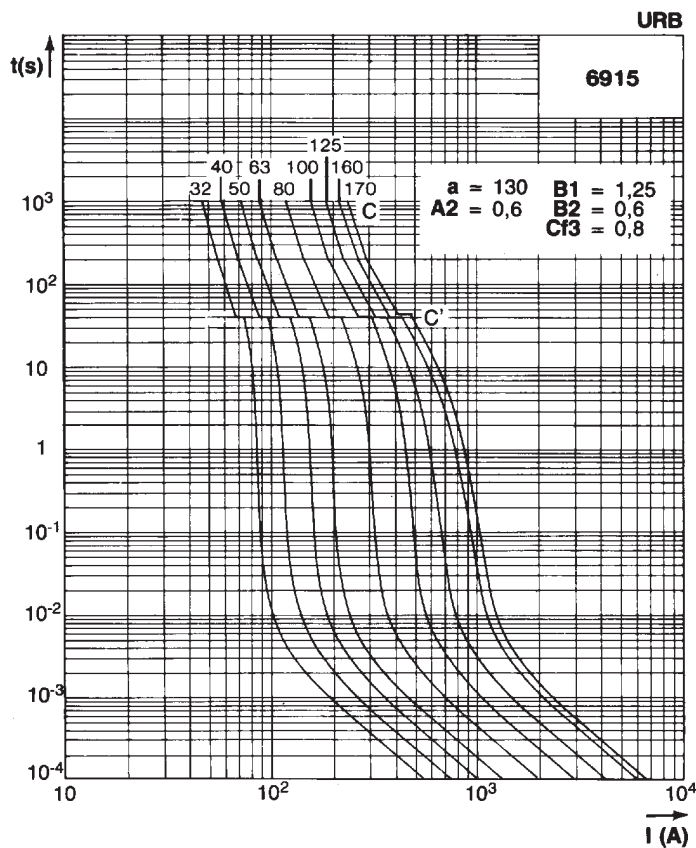
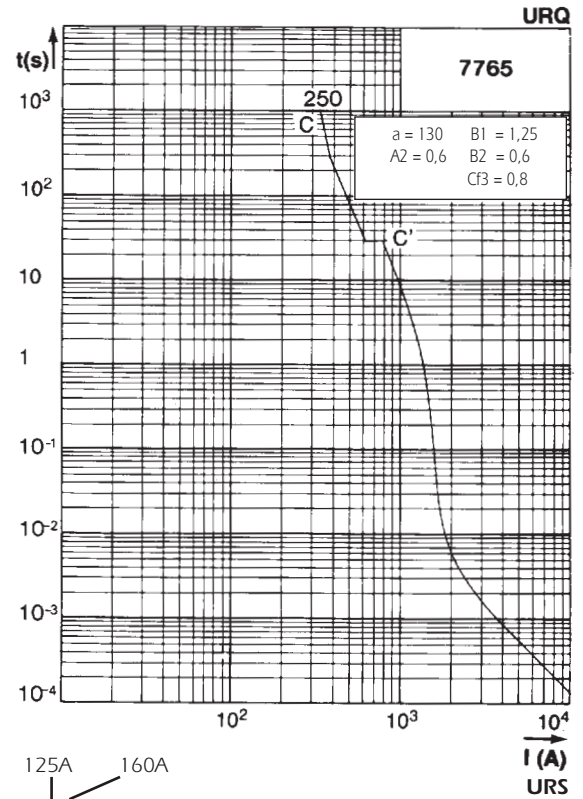
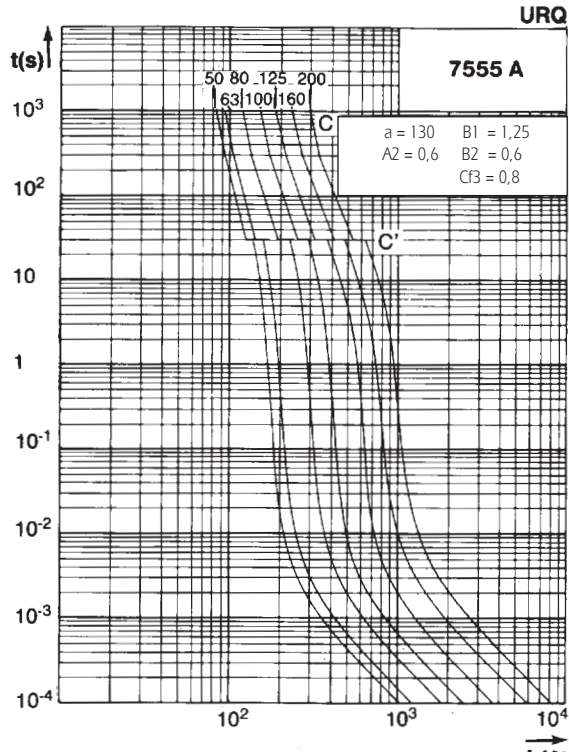
See Gears and Fuse gears section



Other Protistor® Fuses Ferrule Fuses

27x60 URQ/URS/URB - 690 V to 1000 VAC

Time vs current characteristics



These curves indicate, for each rated current, pre-arcing time vs. R.M.S. pre-arcing current.

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

Semiconductor (AC) fuses

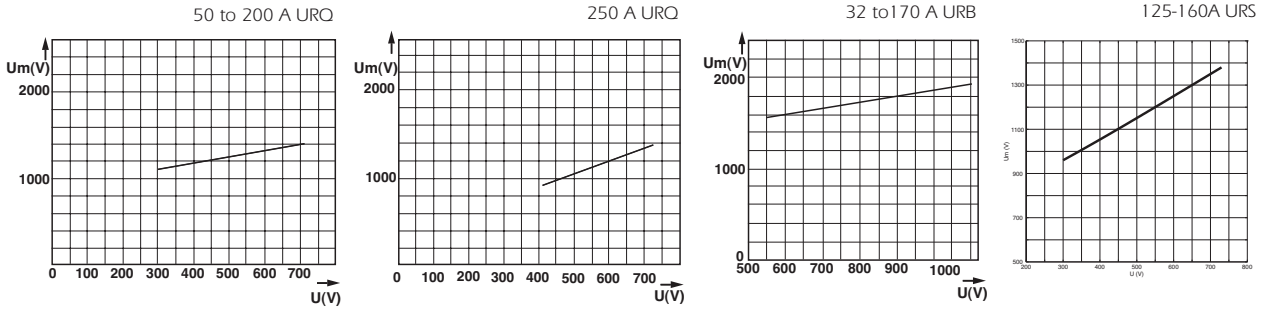


Other Protistor® Fuses

Ferrule Fuses

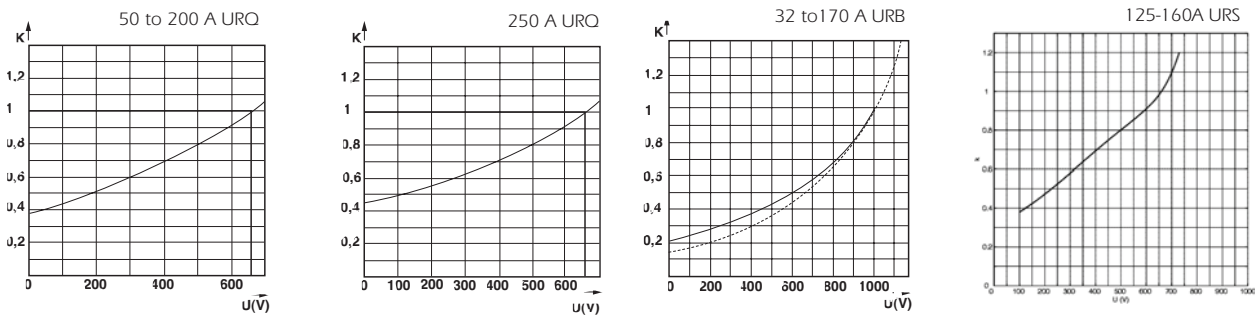
27x60 URQ/URS/URB - 690 V to 1000 VAC

Peak arc voltage



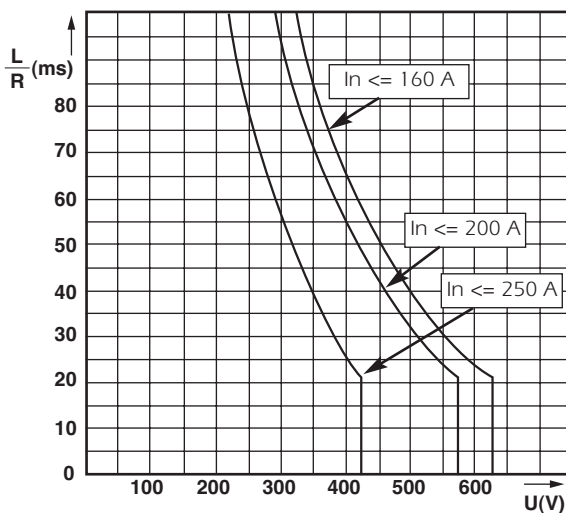
These curves show peak value U_m of arc voltage which appears across the fuse-link as a function of operating voltage $U @ \cos \varphi = 0.15$.

Corrective factor



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

DC Application data



Left: Curves indicate permissible value of time constant L/r as a function of the DC working voltage