

Protistor® Square-body Fuses PSC aR sizes 7x - 650 V to 1300 VAC Main characteristics

 Recognized

650 to 1300VAC / 63 to 2800A.

- Exceptionally low I²T, Watt losses.
- Non-magnetic construction, highly reliable low voltage.
- Indicator system.
- Conformity to UL, CSA investigated, IEC, DIN and VDE standards.
- Increased technical performance
- Higher ratings.
- Reduction in volume and weight.
- This fuse preselection table indicates, for each size:
 - rated current (or rating) I_n
 - pre-arcing I²t (I²t_p) at 1 ms
 - total operating I²t (I²t_t) at 1000 V and 850V(I)f=50Hz, cos φ =0.15, and for a total operating time from 8 to 10 ms
 - dissipated power P_n at the rated current I_n, and at 0.8 I_n, in steady state
 - breaking capacity at various voltages, checked by tests made in accordance with IEC and American standards.



Estimated breaking capacity: 300 kA

PSC 650 to 1300VAC US and European standard

Size	Nominal Voltage U _N (VAC)		Ampere Rating (A)	Pre-arcing I ² t @ 1ms (kA ² s)	Total I ² t @ 1000V (*) @ U _n (kA ² s)	Power (W)		Tested Breaking capacity		
	IEC	UL				End contacts	Blades	IEC	USA	
70	1250	1300	50	0,116	0,7	16	16	100kA @ 1250V	100kA @ 1300V	
			63	0,210	1,2	26	26			
			80	0,470	2,7	27	27			
			100	0,830	4,8	30	30			
			125	1,30	7,5	38	38			
			160	2,55	15	45	45			
	1200	1300	200	4,7	27	54	56	100kA @ 1200V	100kA @ 1300V	
			250	9,6	55	58	61			
			280	14	82	61	64			
			315	20	115	66	72			
			350	28	158	68	75			
			400	39	224	81	90			
1100	1200	450	62	356	82	82	150kA @ 1100V	150kA @ 1200V		
		500	84	483	83	83				
		800	900	550	128	576(*)			83	83
750	800	550	128	576(*)	83	83	100kA @ 800V	100kA @ 900V		
		630	176	730(*)	91	91	100kA @ 750V	100kA @ 800V		
		160	2,6	15	46	46	100kA @ 1250V	100kA @ 1300V		
1250	1300	200	4,7	27	54	54				
		250	8,9	51	61	61				
		280	12	68	68	70				
		315	16	92	73	76				
		350	22	127	76	80				
		400	38	220	76	80				
1100	1300 (TTI)	450	47	270	87	95			150kA @ 1100V	150kA @ 1200V
		500	68	390	90	X				
		500	68	390	X	100				
		550	84	485	98	112				
		630	125	725	105	X				
		630	125	725	X	120				
1000	1100	700	180	1040	105	105	150kA @ 1000V	150kA @ 1100V		
		900	950	800	290	1540(*)	116	116	100kA @ 900V	100kA @ 950V
		800	850	900	446	2010(*)	120	120	100kA @ 800V	100kA @ 850V

(¹) at 850 V

(²) does not exist with blades



Protistor® Square-body Fuses PSC aR sizes 7x - 650 V to 1300 VAC Main characteristics

PSC 650 to 1300VAC US and European standard

Size	Nominal Voltage U _N (VAC)		Ampere Rating (A)	Pre-arcing I _{pt} @ 1ms (kA _{2s})	Total I ² t @ 1000V (*) @ U _N (kA _{2s})	Power (W)		Tested Breaking capacity Estimated B.C 300 kA	
	IEC	UL				End contacts	Blades	IEC	USA
72	1250	1300	280	10	60	72	72	100kA @ 1250V	100kA @ 1300V
			315	15	87	76	76		
			350	21	120	77	77		
			400	32,5	190	80	80		
			450	44	255	87	89		
			500	57	330	94	98		
	550	68	390	110	120				
	630	105	610	113	X				
	1100	1200	630	105	610	X	125	150kA @ 1100V	150kA @ 1200V
			700	145	815	122	140		
			800	215	1240	125	146		
	1000	1100	700	145	815	X	140	150kA @ 1000V	150kA @ 1100V
800			215	1240	X	146			
900			312	1800	130	152			
850	900	1000	439	2150(*)	136	136	100kA @ 850V	100kA @ 900V	
73	1250	1300	315	12	68	84	84	100kA @ 1250V	100kA @ 1300V
			350	17	100	86	86		
			375	19	110				
			400	25	145	93	93		
			450	35,5	205	99	100		
			500	44	255	110	112		
			550	57	330	116	120		
			630	84	485	125	132		
			700	110	640	135	X		
			800	190	1090	136	X		
	1200	1300	700	110	640	X	146	100kA @ 1200V	100kA @ 1300V
			900	250	1090	150	X		
			800	190	1090	X	148	150kA @ 1100V	150kA @ 1200V
	1100	1200	900	250	1440	X	170	150kA @ 1000V	150kA @ 1100V
			1000	370	2130	152	168		
	1000	1100	1100	445	2555	168	208		
			950	1000	1100	445	2430(*)	168	X
	900	1000	1000	370	1920(*)	X	174	150kA @ 900V	150kA @ 1000V
			1100	445	2280(*)	X	208		
			1250	585	3080(*)	186	X		
	1400	1000	1400	755	4100(*)	210	X		
850			900	1400	755	3700(*)	210	X	150kA @ 850V
690	700	1500	1180	4750(*)	200	X	180kA @ 690V	180kA @ 700V	
		1600	1430	5740(*)	203	X			
600	650	1800	2040	7150(*)	206	X	120kA @ 600V	120kA @ 650V	
2 x 72	1250	1300	630	60	348	160		100kA @ 1250V	
			700	84	480	162			
			800	130	760	168			
			900	176	1020	183			
			1000	228	1320	197			
			1100	272	1560	231			
	1100	1200	1250	426	2440	237		100kA @ 1100V	
			1400	568	3260	256			
			1600	860	4895	262		100kA @ 1000V	
	1000	1100	1800	1250	6350(*)	275		100kA @ 900V	
			2000	1760	7570(*)	285		100kA @ 750V	
	900	1000	2200	2410	8350(*)	320		100kA @ 650V	
2500			3470	12000(*)	340				
2 x 73	1250	1300	800	100	580	195		100kA @ 1250V	
			900	142	820	208			
			1000	176	1000	231			
			1100	228	1300	244			
			1250	336	1900	262			
	1100	1200	1400	440	2600	283		100kA @ 1100V	
			1600	760	4400	286			
			1800	1000	5800	315			
	1000	1100	2000	1480	8500	319		120kA @ 1000V	
			2200	1780	9632(*)	353		100kA @ 950V	
	900	1000	2500	2340	12075(*)	390		110kA @ 900V	
			2800	3000	15000(*)	440		100kA @ 850V	
	850	900	3000	4980	15700(*)	405		200kA @ 600V	
			3200	5720	19030(*)	426			
	600	650	3600	8160	25200(*)	430		200kA @ 550V	

(1) at 850 V

(2) does not exist with blades

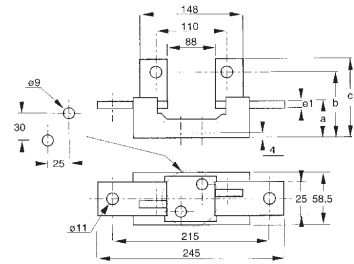
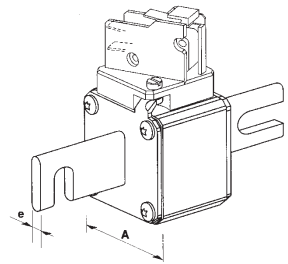
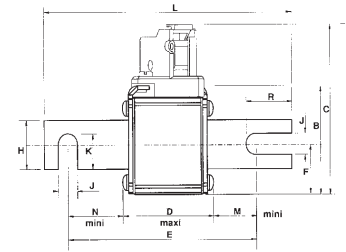


Protistor® Square-body Fuses

PSC aR sizes 7x - 650 V to 1300 VAC

IEC Terminals - German 70 - 73 Blades (DIN 110)

Size	Designation	Reference Number	Weight (g)	Pack.	*I/In Base		Catalog Number
					F098031	L091941	
70	12,5 URD 70 D 11 A 0063	V300536	380	3	1	1	PC70UD13C63D1A
	12,5 URD 70 D 11 A 0080	W300537			1	1	PC70UD13C80D1A
	12,5 URD 70 D 11 A 0100	X300538			1	1	PC70UD13C100D1A
	12,5 URD 70 D 11 A 0125	Y300539			1	1	PC70UD13C125D1A
	12,5 URD 70 D 11 A 0160	Z300540			1	1	PC70UD13C160D1A
	12,5 URD 70 D 11 A 0200	A300541			1	1	PC70UD13C200D1A
	12,5 URD 70 D 11 A 0250	B300542			1	1	PC70UD13C250D1A
	12 URD 70 D 11 A 0280	J300710			1	1	PC70UD12C280D1A
	12 URD 70 D 11 A 0315	C300543			1	1	PC70UD12C315D1A
	11 URD 70 D 11 A 0350	D300544			1	1	PC70UD11C350D1A
71	12,5 URD 71 D 11 A 0160	D300751	570	3	1	1	PC71UD13C160D1A
	12,5 URD 71 D 11 A 0200	E300545			1	1	PC71UD13C200D1A
	12,5 URD 71 D 11 A 0250	F300546			1	1	PC71UD13C250D1A
	12,5 URD 71 D 11 A 0280	K300711			1	1	PC71UD12C280D1A
	12,5 URD 71 D 11 A 0315	G300547			1	1	PC71UD12C315D1A
	12,5 URD 71 D 11 A 0350	H300548			1	1	PC71UD13C350D1A
	12,5 URD 71 D 11 A 0400	J300549			1	1	PC71UD13C400D1A
	12,5 URD 71 D 11 A 0450	K300550			0,95	1	PC71UD13C450D1A
	11 URD 71 D 11 A 0500	L300551			0,95	1	PC71UD11C500D1A
	11 URD 71 D 11 A 0550	M300552			0,90	1	PC71UD13C550D1A
72	10 URD 71 D 11 A 0630	N300553	800	3	0,90	0,95	PC71UD10C630D1A
	12,5 URD 72 D 11 A 0280	P300554			1	1	PC72UD13C280D1A
	12,5 URD 72 D 11 A 0315	Q300555			1	1	PC72UD13C315D1A
	12,5 URD 72 D 11 A 0350	R300556			1	1	PC72UD13C350D1A
	12,5 URD 72 D 11 A 0400	S300557			1	1	PC72UD13C400D1A
	12,5 URD 72 D 11 A 0450	T300558			1	1	PC72UD13C450D1A
	12,5 URD 72 D 11 A 0500	V300559			0,95	1	PC72UD13C500D1A
	12,5 URD 72 D 11 A 0550	W300560			0,90	0,95	PC72UD13C550D1A
	11 URD 72 D 11 A 0630	X300561			0,90	0,95	PC72UD11C630D1A
	10 URD 72 D 11 A 0700	Y300562			0,85	0,90	PC72UD10C700D1A
73	10 URD 72 D 11 A 0800	Z300563	1150	3	0,85	0,90	PC72UD10C800D1A
	12,5 URD 73 D 11 A 0315	A300564			1	1	PC73UD13C315D1A
	12,5 URD 73 D 11 A 0350	B300565			1	1	PC73UD13C350D1A
	12,5 URD 73 D 11 A 0400	C300566			0,95	1	PC73UD13C400D1A
	12,5 URD 73 D 11 A 0450	D300567			0,95	1	PC73UD13C450D1A
	12,5 URD 73 D 11 A 0500	E300568			0,90	1	PC73UD13C500D1A
	12,5 URD 73 D 11 A 0550	F300569			0,90	0,95	PC73UD13C550D1A
	12,5 URD 73 D 11 A 0630	G300570			0,85	0,95	PC73UD13C630D1A
	12 URD 73 D 11 A 0700	H300571			0,85	0,90	PC73UD12C700D1A
	11 URD 73 D 11 A 0800	J300572			0,85	0,90	PC73UD11C800D1A
9	10 URD 73 D 11 A 0900	K300573			0,80	0,85	PC73UD10C900D1A
	9 URD 73 D 11 A 1000	L300574			0,80	0,85	PC73UD90V10CD1A
	9 URD 73 D 11 A 1100	M300575			0,75	0,80	PC73UD90V11CD1A



Pull out grip PM7
(V097676)
in size 70-71-72

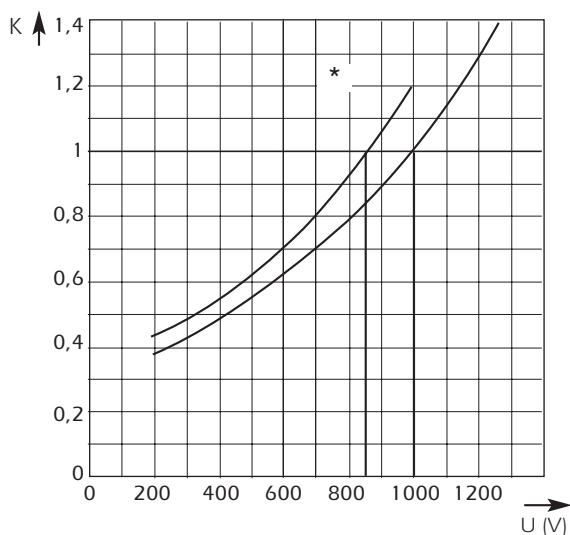
Microswitches
supplied separately

	A	B	C	D	E±1,1	F	H	J	K	L±1,5	M	N	R	e
70	40	46,5	82	71	100,4	21	25	10,5	17,7	133,4	11,5	18,5	25,2	6
71	51	56,5	91	71	100,4	25,5	25	10,5	17,7	133,4	11,5	18,5	25,2	6
72	60	65,5	100	71	100,4	30	32	10,5	21,2	133,4	11,5	18,5	25,2	6
73	74,5	79,5	114	72	100,4	37,2	40	10,5	25,2	133,4	11	18	25,2	6

Fuse holders	Ref. N°	Cat. N°	a	b	c	e1	Weight (g)
SI DIN 110 630 A	F098031	SIDN110630A	40	68	82	5	1060
SI DIN 110 1250 A	L091941	SIDN1101250A	45	73	87	10	1320

Protistor® Square-body Fuses PSC aR sizes 7x - 650 V to 1300 VAC Curves set

Multiplier coefficient



Left: Mean curve indicating variation of total I^2t (I^2t_t) and total operating time T_t in accordance with working voltage U .

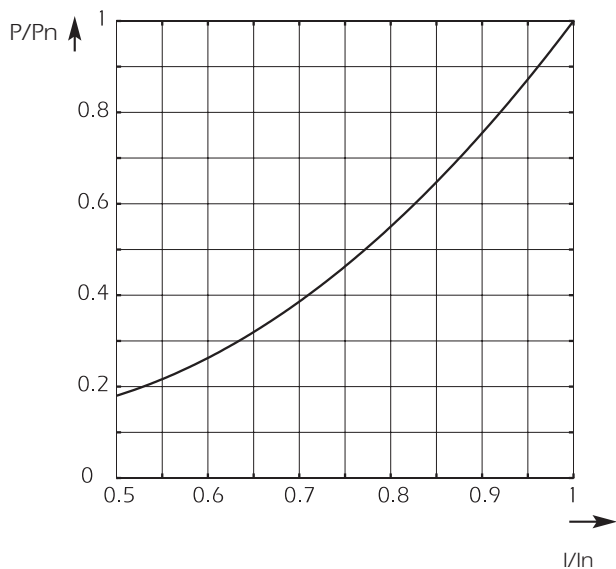
Example:
Fuse 350 A in size 70.
 $I_p = 10\,000$ A $U = 1100$ V

At 1000 V
 $I^2t_t = 115\,000$ A²s $T_t = 7$ ms

At 1100 V
 $I^2t_t = 115\,000 \times 1.13 = 130\,000$ A²s
 $T_t = 7 \times 1.13 = 7.9$ ms

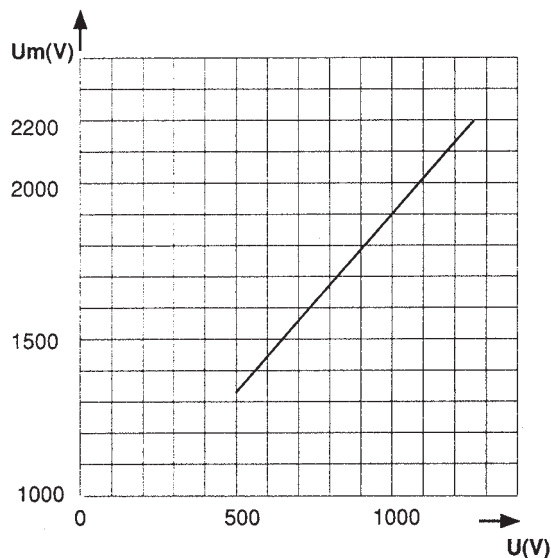
* curve for fuses with I^2t published at 850VAC

Dissipated power



Above left: Curve enabling calculation of dissipated power P by a fuse rated I_n , as a function of the RMS current I , in multiples of I_n , in steady state.

Arc voltage



Above right: Curve indicating peak arc voltage U_m which may appear across fuse terminals as a function of working voltage U at $\cos \varphi = 0.15$

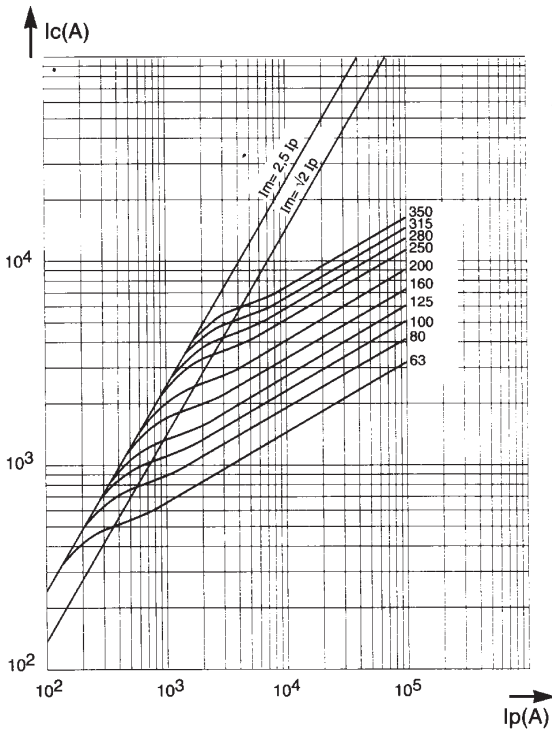


Protistor® Square-body Fuses PSC aR sizes 7x - 650 V to 1300 VAC Curves set

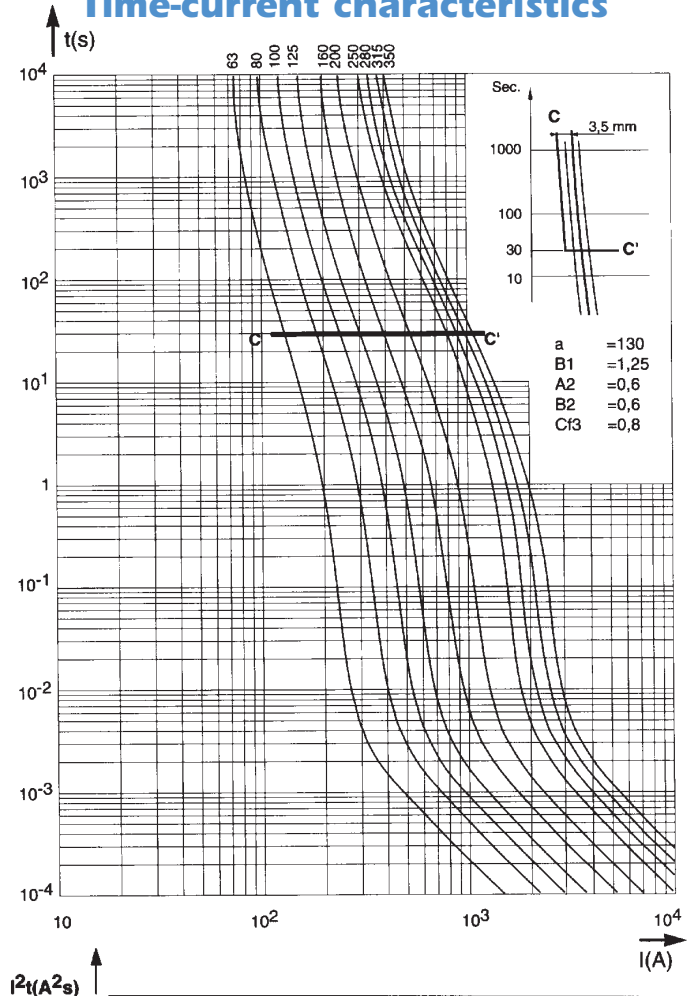
Size 70

Cut-off characteristics

Curves indicating for each rated current the peak value I_C that the current may reach as a function of the prospective fault current I_p .



Time-current characteristics

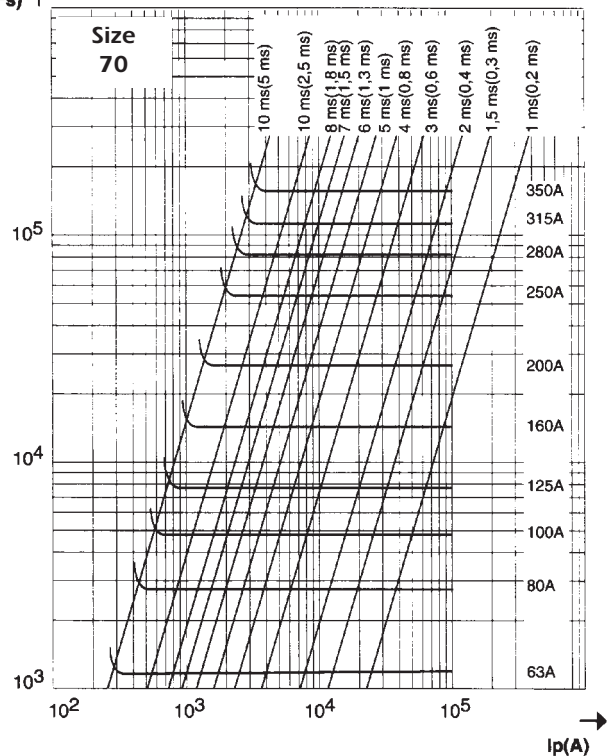


Time-current characteristics

- Curves indicating pre-arcing time for each rated current as a function of RMS value of pre-arcing current I .
- Tolerances on this current $\pm 8\%$.
- Beyond 30 sec, small overloads must be eliminated by another device.
- Curve CC' represents the maximum times taken by the associated device to clear small overloads; only its horizontal line is represented. Its oblique line must be plotted according to sketch, top right corner.
- The intersection of the fuse and CC' curves indicates the minimum breaking current I_{pm} of the fuse.

Maximum values of total operating I^2t and total operating times

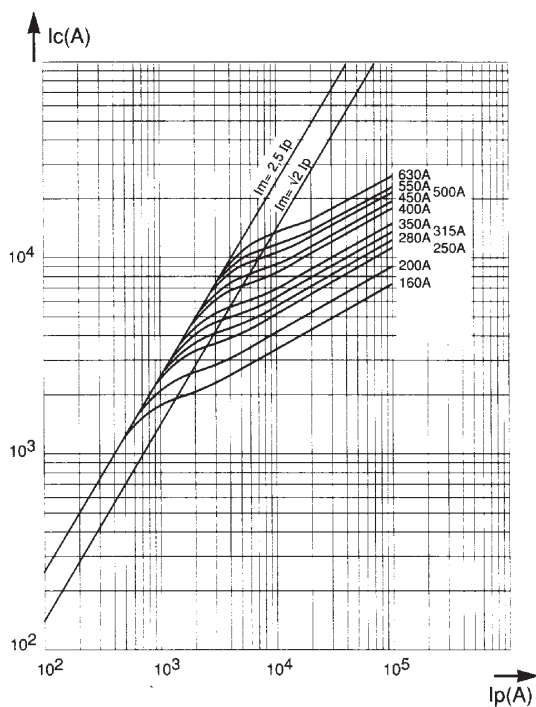
Horizontal curves indicating the maximum values of total operating I^2t (I^2t_t) as function of the prospective current I_p at 1000V or 850 V(*), $\cos \varphi = 0.15$.
The oblique lines indicate the corresponding total operating time T_t , with pre-arcing time in brackets.



Protistor® Square-body Fuses PSC aR sizes 7x - 650 V to 1300 VAC Curves set

Cut-off characteristics

Curves indicating for each rated current the peak value I_C that the current may reach as a function of the prospective fault current I_p .



Time-current characteristics

Curves indicating pre-arcing time for each rated current as a function of RMS value of pre-arcing current I .

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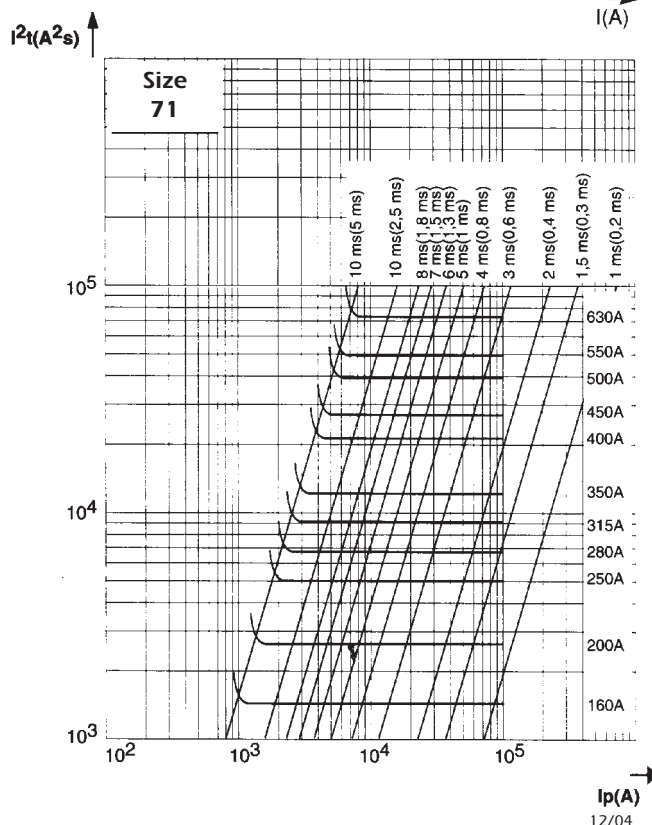
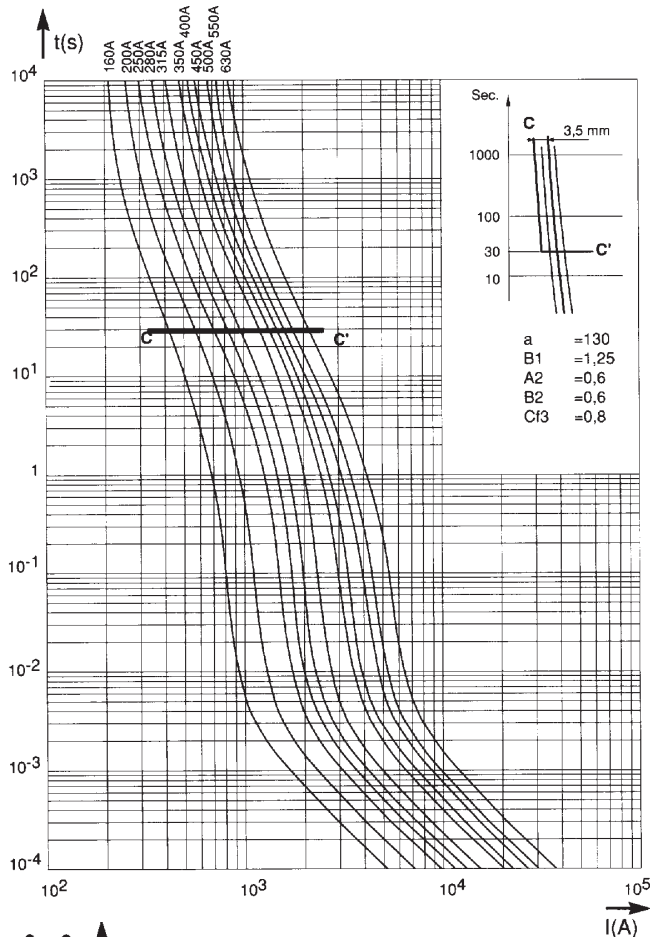
Maximum values of total operating I^2t and total operating times

Horizontal curves indicating the maximum values of total operating I^2t (I^2t_t) as function of the prospective current I_p at 1000V or 850 V(*), $\cos \varphi = 0.15$.

The oblique lines indicate the corresponding total operating time T_t with pre-arcing time in brackets.

Size 71

Time-current characteristics



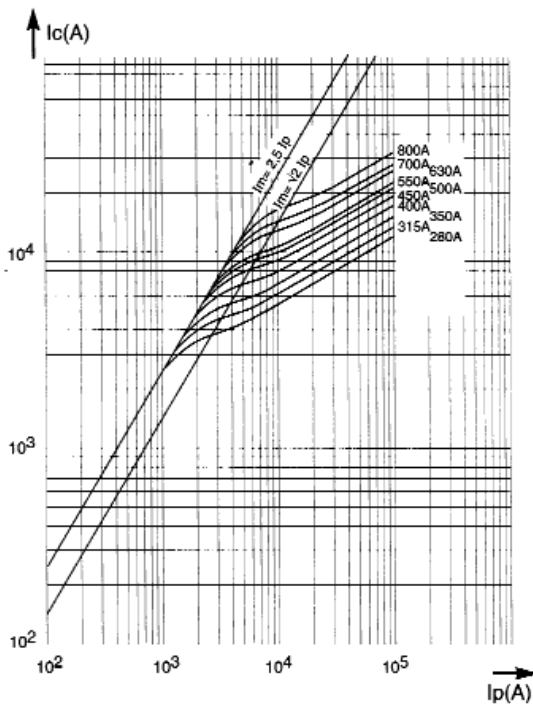


Protistor® Square-body Fuses PSC aR sizes 7x - 650 V to 1300 VAC Curves set

Size 72

Cut-off characteristics

Below, right: Curves indicating for each rated current the peak value I_C that the current may reach as a function of the prospective fault current I_p .



Time-current characteristics

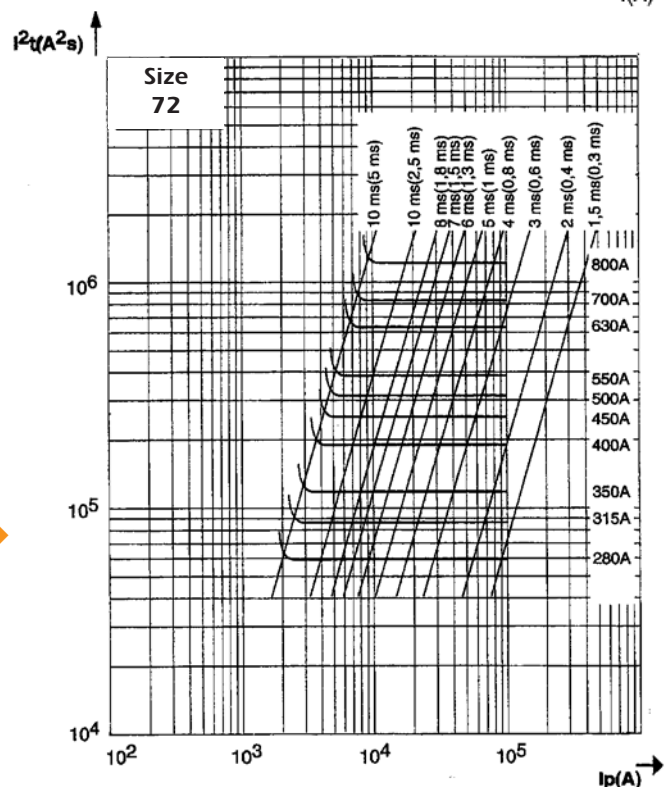
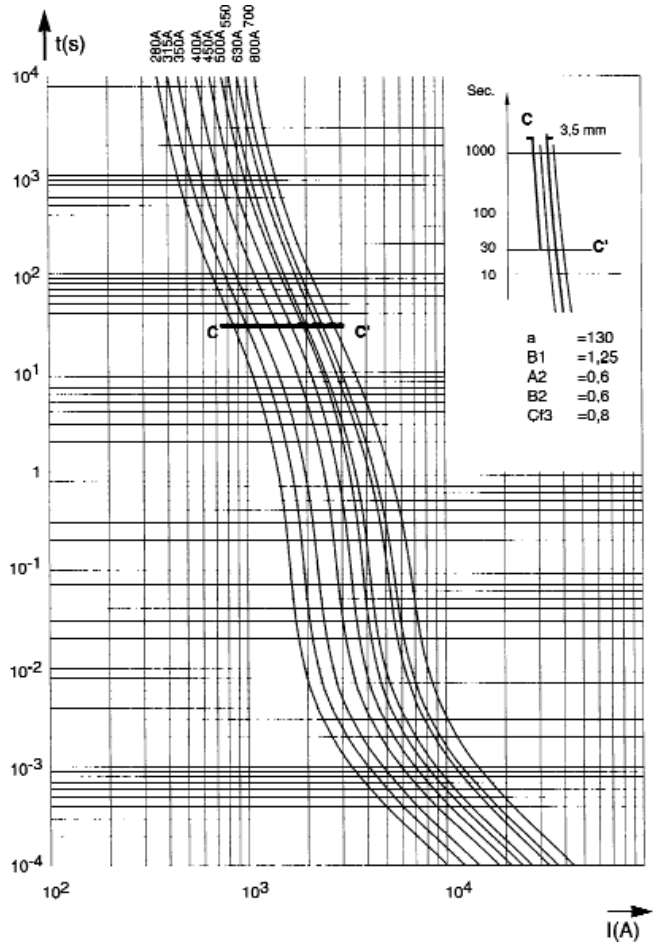
Above, left: Curves indicating pre-arcing time for each rated current as a function of RMS value of pre-arcing current I .

- Tolerances on this current $\pm 8\%$.
- Beyond 30 sec, small overloads must be eliminated by another device.
- Curve CC' represents the maximum times taken by the associated device to clear small overloads; only its horizontal line is represented. Its oblique line must be plotted according to sketch, top right corner.
- The intersection of the fuse and CC' curves indicates the minimum breaking current I_{pm} of the fuse.

Maximum values of total operating I^2t and total operating times

Left: Horizontal curves indicating the maximum values of total operating I^2t (I^2t_t) as function of the prospective current I_p at 1000V or 850 V(*), $\cos \varphi = 0.15$.
The oblique lines indicate the corresponding total operating time T_t , with pre-arcing time in brackets.

Time-current characteristics

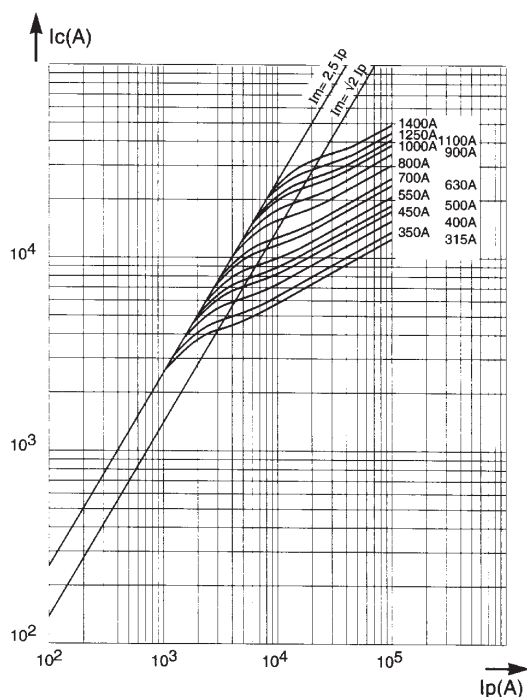


Protistor® Square-body Fuses PSC aR sizes 7x - 650 V to 1300 VAC Curves set

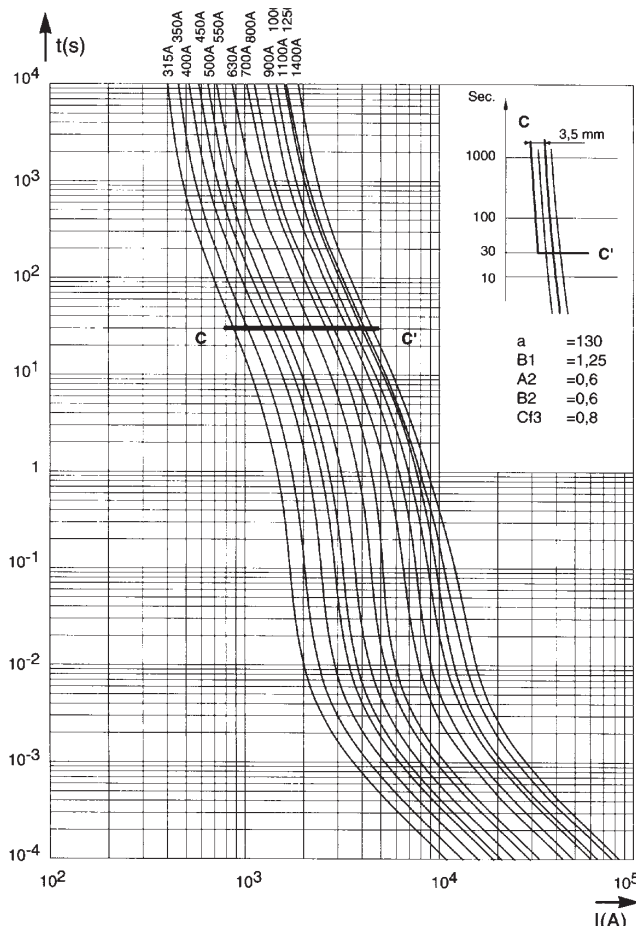
Size 73

Cut-off characteristics

Curves indicating for each rated current the peak value I_C that the current may reach as a function of the prospective fault current I_p .



Time-current characteristics



Time-current characteristics

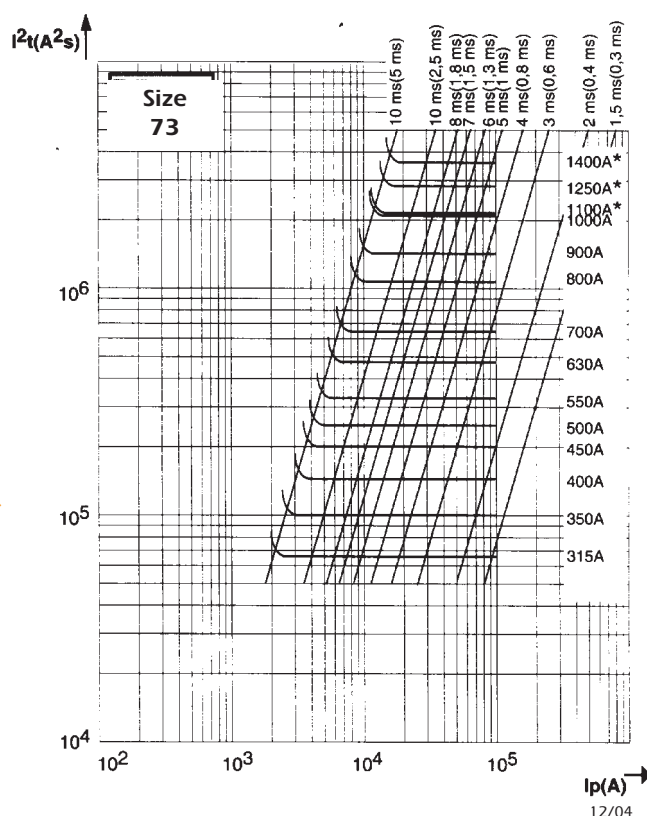
Curves indicating pre-arcing time for each rated current as a function of RMS value of pre-arcing current I .

- Tolerances on this current $\pm 8\%$.
- Beyond 30 sec, small overloads must be eliminated by another device.
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- The intersection of the fuse and CC' curves indicates the minimum breaking current I_{pm} of the fuse.

Maximum values of total operating I^2t and total operating times

Horizontal curves indicating the maximum values of total operating I^2t (I^2t_t) as function of the prospective current I_p at 1000V or 850 V(*), $\cos \varphi = 0.15$.

The oblique lines indicate the corresponding total operating time T_t with pre-arcing time in brackets.



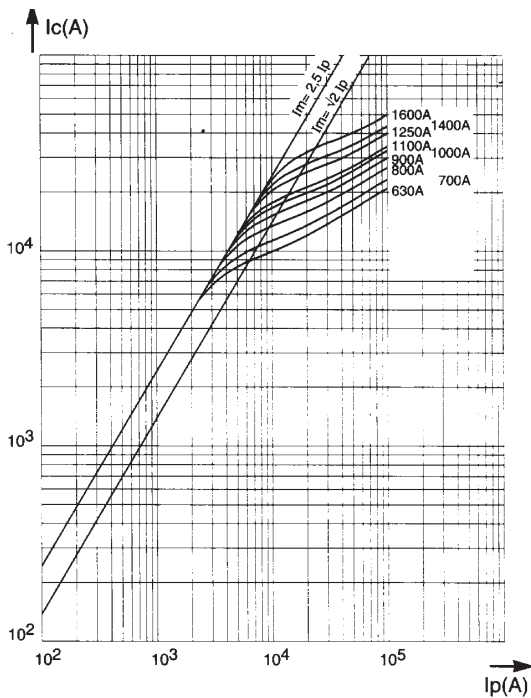


Protistor® Square-body Fuses PSC aR sizes 7x - 650 V to 1300 VAC Curves set

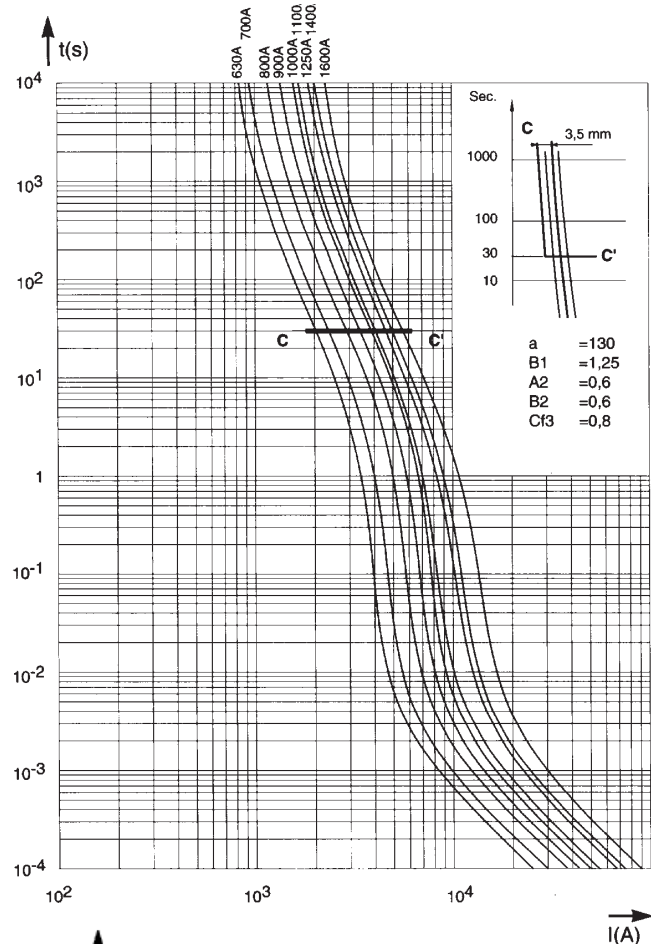
Size 2x72

Cut-off characteristics

Curves indicating for each rated current the peak value I_C that the current may reach as a function of the prospective fault current I_p .



Time-current characteristics



Time-current characteristics

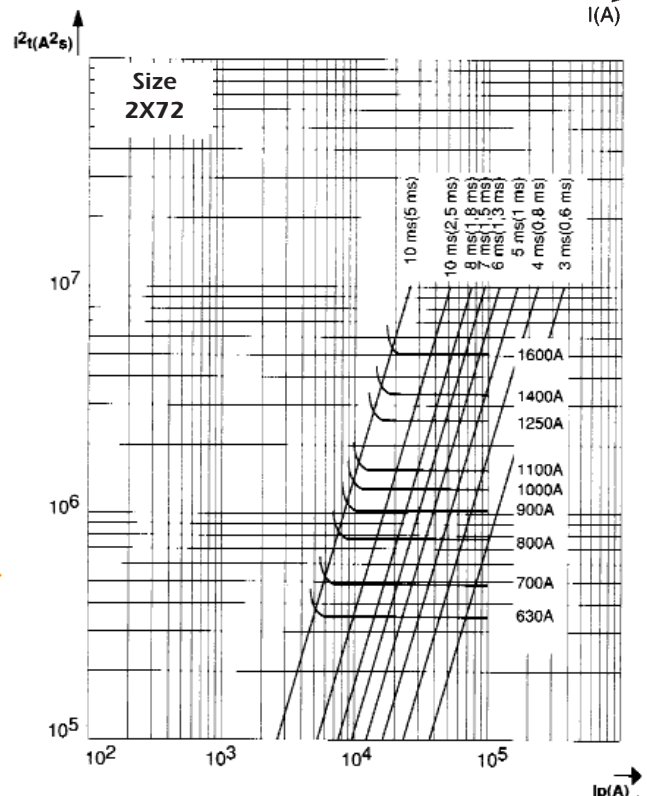
Curves indicating pre-arcing time for each rated current as a function of RMS value of pre-arcing current I .

- Tolerances on this current $\pm 8\%$.
- Beyond 30 sec, small overloads must be eliminated by another device.
- Curve CC' represents the maximum times taken by the associated device to clear small overloads; only its horizontal line is represented. Its oblique line must be plotted according to sketch, top right corner.
- The intersection of the fuse and CC' curves indicates the minimum breaking current I_{pm} of the fuse.

Maximum values of total operating I^2t and total operating times

Horizontal curves indicating the maximum values of total operating I^2t (I^2t_t) as function of the prospective current I_p at 1000V or 850 V(*), $\cos \varphi = 0.15$.

The oblique lines indicate the corresponding total operating time T_t , with pre-arcing time in brackets.

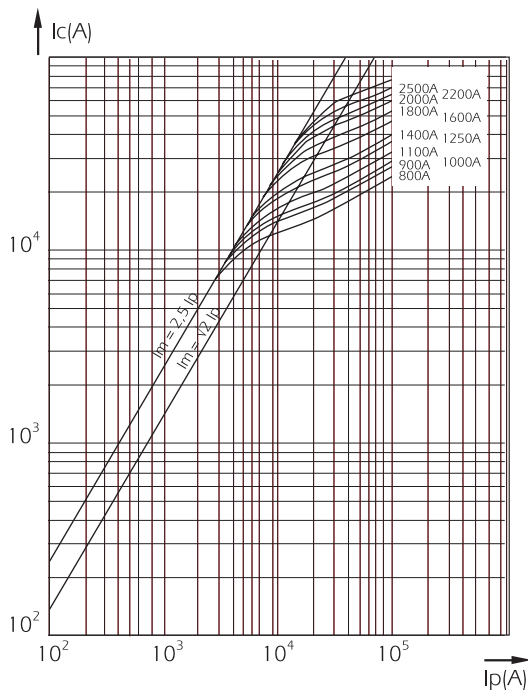


Semiconductor (AC) fuses

Protistor® Square-body Fuses PSC aR sizes 7x - 650 V to 1300 VAC Curves set

Cut-off characteristics

Curves indicating for each rated current the peak value I_C that the current may reach as a function of the prospective fault current I_p .



Time-current characteristics

Curves indicating pre-arcing time for each rated current as a function of RMS value of pre-arcing current I .

- Tolerances on this current $\pm 8\%$.
- Beyond 30 sec, small overloads must be eliminated by another device.
- Curve CC' represents the maximum times taken by the associated device to clear small overloads; only its horizontal line is represented. Its oblique line must be plotted according to sketch, top right corner.
- The intersection of the fuse and CC' curves indicates the minimum breaking current I_{pm} of the fuse.

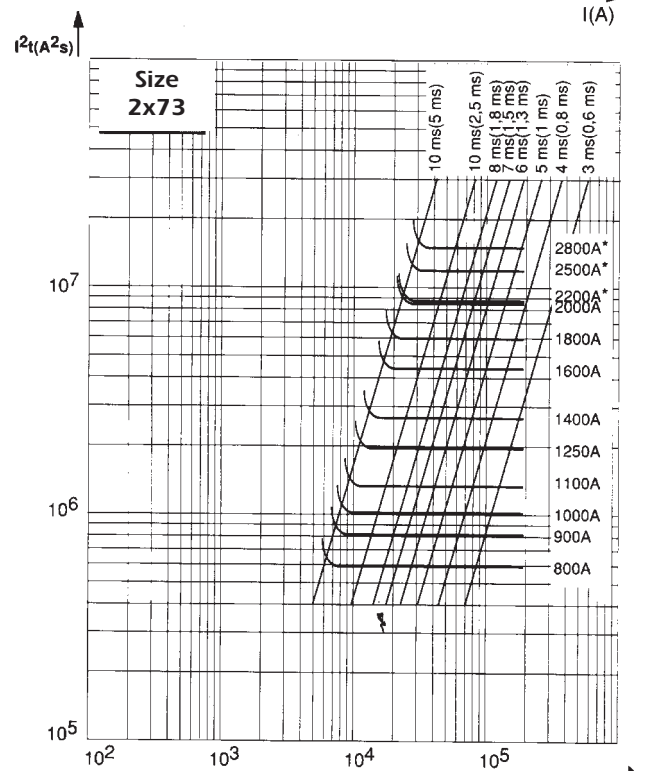
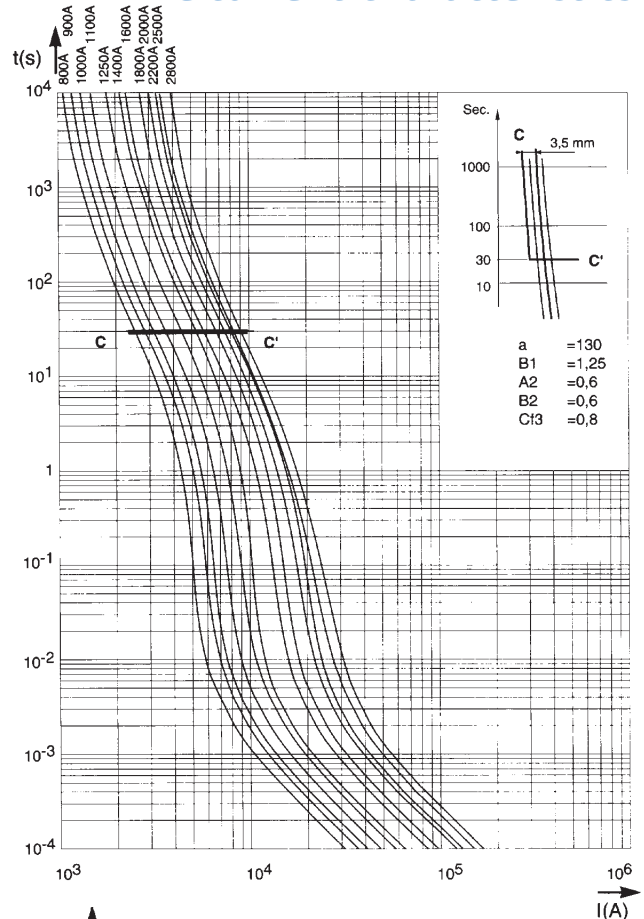
Maximum values of total operating I^2t and total operating times

Horizontal curves indicating the maximum values of total operating I^2t (I^2t_t) as function of the prospective current I_p at 1000V or 850 V(*), $\cos \varphi = 0.15$.

The oblique lines indicate the corresponding total operating time T_t , with pre-arcing time in brackets.

Size 2x72

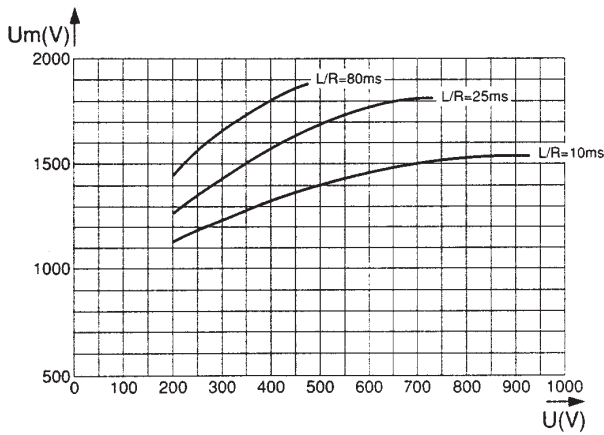
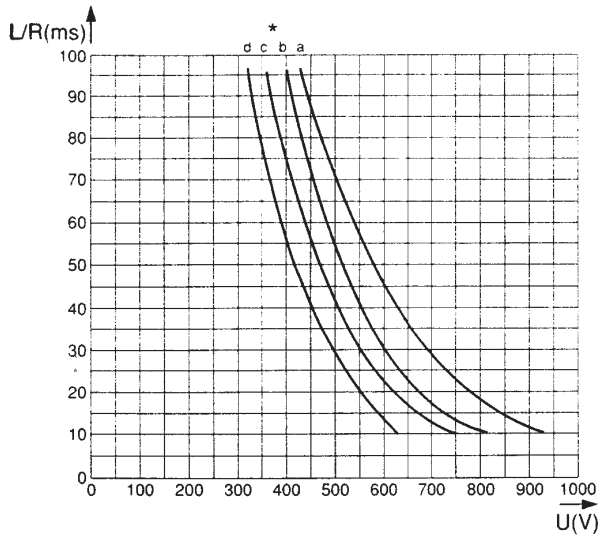
Time-current characteristics





Protistor® Square-body Fuses PSC aR sizes 7x - 650 V to 1300 VAC Curves set

DC working voltage possibilities



Top: Curves indicating the maximum time constant L/R of the fault path as a function of the DC voltage U , for the rated currents in the sizes indicated in the table.

I_{pm} (1) values indicate the minimum breaking current in Amperes (A).

Remark: When the fault current di/dt is very large, this condition can be exceeded. It is the case for faults occurring in voltage commutated inverters.

Below: Curves indicating peak arc voltage U_m which may appear across fuse terminals as a function of the DC working voltage U , for various time constant L/R of fault path.

Rated current I_N (A)	Curves (*) and I_{pm} (1) corresponding to the rating												
		70 * I_{pm} (A)	71 * I_{pm} (A)	72 * I_{pm} (A)	73 * I_{pm} (A)	2x72 * I_{pm} (A)	2x73 * I_{pm} (A)						
63	a	270											
80	a	400											
100	a	520											
125	a	700											
160	a	950	a	950									
200	a	1300	a	1300									
250	a	1800	a	1800									
280	b	2200	a	2000	a	1800							
315	b	2600	a	2300	a	2200	a	2000					
350	c	3000	a	2700	a	2600	a	2400					
400			b	3500	a	3200	a	3000					
450			b	4000	a	3800	a	3500					
500			c	4800	a	4600	a	3900					
550			c	5200	b	5000	a	4400					
630			c	6400	b	6200	a	5300	a	4400			
700					c	6800	a	6000	a	5200			
800						c	8000	b	8000	a	6400	a	6000
900								b	9000	a	7600	a	7000
1000								c	11000	a	9200	a	7800
1100								c	12000	b	10000	a	8800
1250								c	13500	b	12400	a	10600
1400								c	15000	c	13600	a	12000
1600										c	16000	b	16000
1800												b	18000
2000												c	22000
2200												c	24000
2500												d	27000
2800												d	30000

Protistor® Square-body Fuses PSC aR sizes 3x - 450V to 700 VAC Microswitches PSC 3x & 7x

- MICROSWITCH SYSTEMS ADAPTED

TO THE FOLLOWING FERRAZ SHAWMUT FUSES ONLY:

- PSC sizes 30, 31, 32, 33, 2x32, 2x33 / 70, 71, 72, 73, 272, 273
except plain blades

- PSC LR sizes 33, 233, 73, 273

- PERMANENT INDICATION OF FUSE STATE: CONDUCTIVE
BLOWN

- MANUAL RESETTING

- STANDARD AND LOW ELECTRICAL LEVEL WITH DIFFERENT INSULATION LEVELS

- BS TYPE FOR USE IN CORROSIVE ATMOSPHERE

- MS 3V 1-5 UR AND MS 7V 1-5 UR TYPE UL ARE RECOGNIZED



MS 7V 1-5

Main Characteristics

Code	AC Insulation voltage rating (***)	Positive operating voltage/current	Current rating	Current	Breaking Capacity						AC voltage withstand test (*)	Impulse voltage test Uimp1.2/50 µs (**)	Fire class according to UL 94
					Non inductive circuit			Inductive circuit : L/R = 25ms					
					30V	110V	250V	30V	110V	250V			
MS 3V 1-5	1000 V	20 V 50 mA	10 A	50/60 Hz	10 A	10 A	10 A	10 A	10 A	10 A	8,5 kV	14 kV	H.B
MS 3V 1-5 UR				DC	8 A	0,4 A	0,2 A	4 A	0,2 A	0,1 A			
MS 7V 1-5	1500V	10 V 10 mA	3 A	50/60 Hz	3 A	3 A	3 A	2 A	1 A	1 A	8,5 kV	14 kV	
MS 7V 1-5 UR				DC	3 A	0,5 A	0,25 A	3 A	0,2 A	0,1 A			
MS 3V 1-5 BS	1000 V	10 V 10 mA	3 A	50/60 Hz	3 A	3 A	3 A	2 A	1 A	1 A	8,5 kV	14 kV	
MS 3V 1-9 BS				DC	3 A	0,5 A	0,25 A	3 A	0,2 A	0,1 A			
MS 7V 1-5 BS	1500V	10 V 10 mA	3 A	50/60 Hz	3 A	3 A	3 A	2 A	1 A	1 A	8,5 kV	14 kV	
MS 7V 1-9 BS				DC	3 A	0,5 A	-	2 A	0,2 A	-			
MS 3V 1-5 ET	1000V	10 V	3 A	50/60 Hz	3 A	3 A	3 A	2 A	1 A	1 A	8,5 kV	14 kV	
MS 7V 1-5 ET	1500V	10 mA	3 A	DC	3 A	0,5 A	-	2 A	0,2 A	-	12 kV	20 kV	

* Between power circuit and microswitch terminals as per IEC 60 and 694 and NFC 64010 (50/60 Hz 1 min duration in dry air)

** Between power circuit and microswitch terminals Uimp: impulse voltage as per IEC 60947-1

*** Between power circuit and microswitch terminals

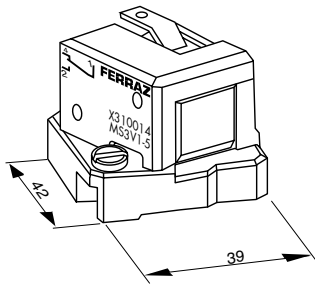
Warning: microswitch systems exclusively designed for FERRAZ SHAWMUT.
PSC Fuses fitted a patented trip-indicator, saving use of EDV



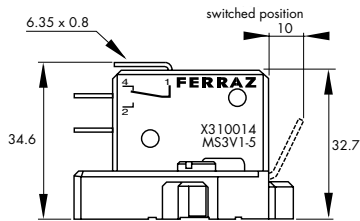
Protistor® Square-body Fuses PSC aR sizes 3x - 450V to 700 VAC Microswitches for PSC 3x & 7x

Indication systems for PSC Fuse sizes 30 to 73 MS 3V...

These patented indication systems are exclusively hand resettable.



(fig. 1)

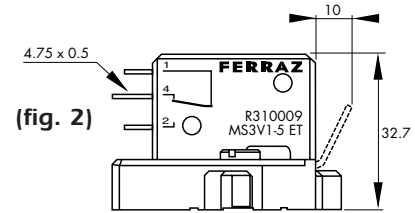


Fuse size	Designation	Ref. Number	Indication style	Weight (g)	Pack.	Catalog Number
30, 31 32, 33	MS 3V 1-5 (fig.1)	X310014	Standard NO-NC	34	3 pieces	MS3 V1-5
	MS 3V 1-5 UR	Y310038				MS3 V1-5UR
	MS 3V 1-5 BS (3)	K310013	Low level NO-NC	34	3 pieces	MS3-V1-5BS
	MS 3V 1-9 BS (4)	P310011	Double pole Low level	44	3 pieces	MS3V1-9BS
	MS 3V 1-5 ET (fig.2)	S310009	Low level NO-NC IP 50 (9)	34	3 pieces	MS3V1-5 ETANCHE

(3) Same as fig.1

(4) Same dimensions as figure 1 but with 2 microswitches side by side

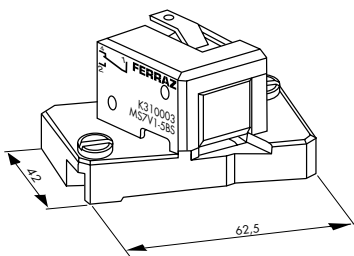
(9) Watertightness class



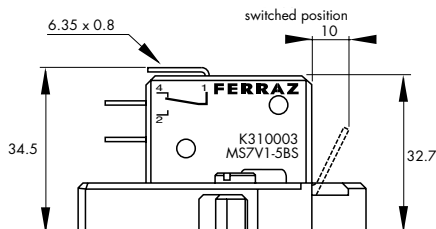
(fig. 2)

MS 7V...

Fuse size	Designation	Ref. Number	Indication style	Weight (g)	Pack.	Catalog Number
70, 71 72, 73	MS 7V 1-5 (fig.5)	J310002	Standard NO-NC	45	3 pieces	MS7 V1-5
	MS 7V 1-5 UR	Z310039				MS7 V1-5UR
	MS 7V 1-5 BS (3)	K310003	Low level NO-NC	45	3 pieces	MS7-V1-5BS
	MS 7V 1-9 BS (4)	P310007	Double pole Low level	55	3 pieces	MS7V1-9BS
	MS 7V 1-5 ET (fig.6)	S310010	Low level NO-NC IP 50 (9)	55	3 pieces	MS7V1-5 ETANCHE



(fig. 5)

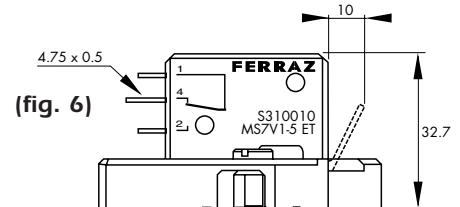


(7) Same as fig. 5

(8) Same dimensions as figure 5 but with 2 microswitches side by side

(9) Watertightness class

Warning: Microswitch systems exclusively designed for FERRAZ SHAWMUT PSC fuses fitted with a patented trip-indicator, saving use of EDV.



(fig. 6)

Semiconductor (AC) fuses

Protistor® Square-body Fuses PSC gR sizes 7x - 690 VAC Metric-studs

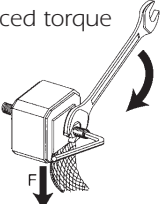
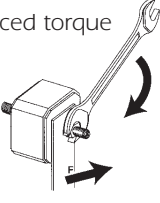
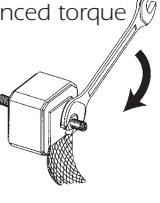
Metric studs for threaded terminal fuses



Type and fuse size	Designation	Ref. Number	Unit weight (g)	Pack.	Catalog Number
 Sizes 0 and 1	HC stud pair M8x30 & M8x35	S098801	23	6 pairs	STU M8x30 M8x35
	Size 2 HC stud pair M10x30 & M10x50	T098802	40	6 pairs	STU M10x30 M10x50
	Size 3 HC stud pair M12x35 & M12x50	V098803	60	6 pairs	STU M12x35 M12x50
 Size 2	Size 2 HC stud pair M10x50	W098804	45	6 pairs	STU M10x50
	Size 3 HC stud pair M12x50	X098805	45	6 pairs	STU M12x50

We recommend the use of studs, whose quality is suited to all FERRAZ SHAWMUT square-body fuses with terminals

Stud mounting

Torque type	Stud type	Maximum stud tightning torque (Nm) (1)	Maximum nut tightning torque (Nm) (1)
Balanced torque 	M8x30 & M8x35	10	13.5
	M10x30 & M10x50	15	26
	M12x35 & M12x50	15	46
Balanced torque 	M8x30 & M8x35	10	13.5
	M10x30 & M10x50	15	26
	M12x35 & M12x50	15	46
Unbalanced torque 	M8x30 & M8x35	10	13.5
	M10x30 & M10x50	15	26
	M12x35 & M12x50	15	46

(1) Factory limit on torque at 20°C ambient: +0, -2Nm; except on 46Nm value (+0, -4Nm)