Protistor® Square-body Fuses
PSC gR/aR sizes 000/00
gR/aR - 500 to 690 VAC DIN 000

GERMAN STANDARD
gRB - URB from 20 to 400 A
Size: 000

- EXTREMELY HIGH BREAKING CAPACITY FUSES: PROTECTION OF POWER SEMICONDUCTORS ACCORDING TO IEC 60269-1 and 4
- 690V 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 60269.4
- ALL 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(VAC)	Class	Current rating IN (A)	Pre-arcing I^2t @ 1 ms I^2tp (A^2s)	Total clearing I^2t @ 660V I^2tt (A^2s)	Watts loss 0.8 IN	Watts loss IN	Tested Breaking Capacity	Estimated Breaking Capacity
690	gRB	16	8,2	60	-	5,6	200 k A @ 690 V	300 k A @ 690 V
		20	12	80	3.8	7		
		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		
690	URB	80	390	2500	11.6	21	200 k A @ 690 V	300 k A @ 690 V
		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		

* @ U_n

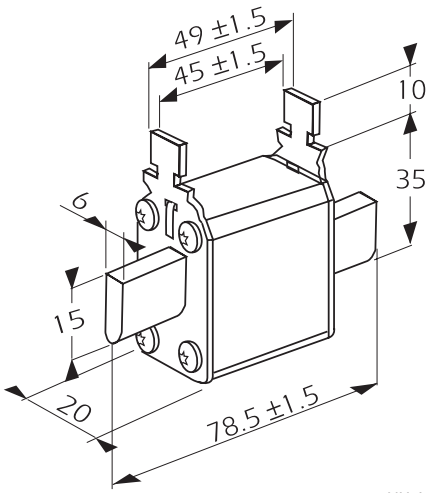
Minimum operating voltage for blown fuse indicator: 20 V

Minimum operating voltage for trip-indicator: 20 V

Protistor® Square-body Fuses
PSC gR/aR sizes 000/00
gR/aR - 500 to 690 VAC DIN 000

German standard blade-type DIN 43620 with trip-indicator

Current rating	Designation	Ref. Number	I/I_N*	Catalog Number
16	6,9 GRB 000 PV016	Y210609	1	PC000GB69V16PV
20	6,9 GRB 000 PV020	Z210610	1	PC000GB69V20PV
25	6,9 GRB 000 PV025	A210611	1	PC000GB69V25PV
32	6,9 GRB 000 PV032	B210612	1	PC000GB69V32PV
40	6,9 GRB 000 PV040	C210613	1	PC000GB69V40PV
50	6,9 GRB 000 PV050	D210614	1	PC000GB69V50PV
63	6,9 GRB 000 PV063	E210615	1	PC000GB69V63PV
80	6,9 GRB 000 PV080	F210616	1	PC000GB69V80PV
100	6,9 GRB 000 PV100	G210617	1	PC000GB69V100PV
125	6,9 GRB 000 PV125	H210618	0,9	PC000GB69V125PV



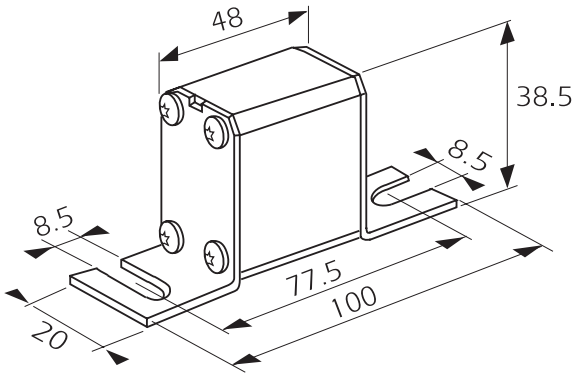
Microswitches
MS 4L 2-5 B6 + PRES Ref. F210156
MS 4L 2-5 B2 + PRES Ref. G210157

Weight: 150g
Packaging: 3 pieces

* Fuse base: 00-EP Ref Number F215170
Pull out grip handle: Ref Number K217244

German standard without blown fuse indicator

Current rating	Designation	Ref. Number	I/I_N*	Catalog Number
16	6,9 GRB 000 D08/016	L330060	1	DN000GB69V16
20	6,9 GRB 000 D08/020	D330030	1	DN000GB69V20
25	6,9 GRB 000 D08/025	E330031	1	DN000GB69V25
32	6,9 GRB 000 D08/032	F330032	1	DN000GB69V32
40	6,9 GRB 000 D08/040	G330033	1	DN000GB69V40
50	6,9 GRB 000 D08/050	H330034	1	DN000GB69V50
63	6,9 GRB 000 D08/063	J330035	1	DN000GB69V63
80	6,9 GRB 000 D08/080	A330073	1	DN000GB69V80
100	6,9 GRB 000 D08/100	S330112	1	DN000GB69V100
125	6,9 GRB 000 D08/125	T330113	0,9	DN000GB69V125
80	6,9 URB 000 D08/080	K330036	1	DN000UB69V80
100	6,9 URB 000 D08/100	L330037	1	DN000UB69V100
125	6,9 URB 000 D08/125	M330038	0,9	DN000UB69V125
160	6,9 URB 000 D08/160	N330039	0,85	DN000UB69V160
200	6,9 URB 000 D08/200	P330040	0,85	DN000UB69V200
250	6,9 URB 000 D08/250	Q330041	0,8	DN000UB69V250
315	6,9 URB 000 D08/315	R330042	0,7	DN000UB69V315
350	5 URB 000 D08/350	V330114	0,7	DN000UB50V350
400	5 URB 000 D08/400	D330191	0,65	DN000UB50V400



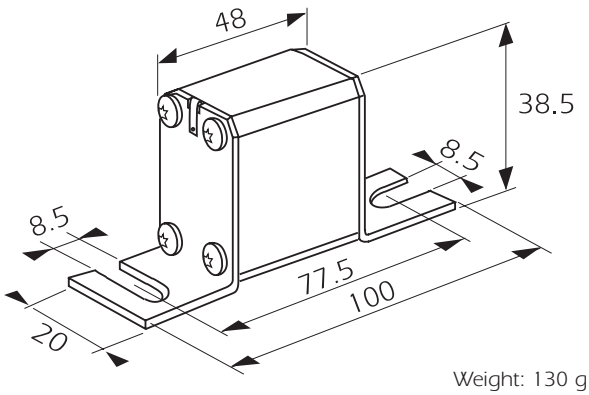
* Fuse base: SI 000 DIN 80
Ref. Number: C220710

Weight: 130 g
Packaging: 6 pieces

Protistor® Square-body Fuses
PSC gR/aR sizes 000/00
gR/aR - 500 to 690 VAC DIN 000

German standard with blown fuse indicator

Current rating	Designation	Ref. Number	I/I_N* fuse base	Catalog Number
16	6,9 gRB 000 D08V/016	C330190	1	DN000GB69V16V
20	6,9 gRB 000 D08V/020	P330017	1	DN000GB69V20V
25	6,9 gRB 000 D08V/025	Q330018	1	DN000GB69V25V
32	6,9 gRB 000 D08V/032	R330019	1	DN000GB69V32V
40	6,9 gRB 000 D08V/040	S330020	1	DN000GB69V40V
50	6,9 gRB 000 D08V/050	T330021	1	DN000GB69V50V
63	6,9 gRB 000 D08V/063	V330022	1	DN000GB69V63V
80	6,9 gRB 000 D08V/080	G330102	1	DN000GB69V80V
100	6,9 gRB 000 D08V/100	Q330110	1	DN000GB69V100V
125	6,9 gRB 000 D08V/125	R330111	0,9	DN000GB69V125V
80	6,9 URB 000 D08V/080	W330023	1	DN000UB69V80V
100	6,9 URB 000 D08V/100	X330024	1	DN000UB69V100V
125	6,9 URB 000 D08V/125	Y330025	0,95	DN000UB69V125V
160	6,9 URB 000 D08V/160	Z330026	0,85	DN000UB69V160V
200	6,9 URB 000 D08V/200	A330027	0,85	DN000UB69V200V
250	6,9 URB 000 D08V/250	B330028	0,8	DN000UB69V250V
315	6,9 URB 000 D08V/315	C330029	0,7	DN000UB69V315V
350	5 URB 000 D08V/350	W330115	0,7	DN000UB69V350V
400	5 URB 000 D08V/400	E330192	0,65	DN000UB69V400V

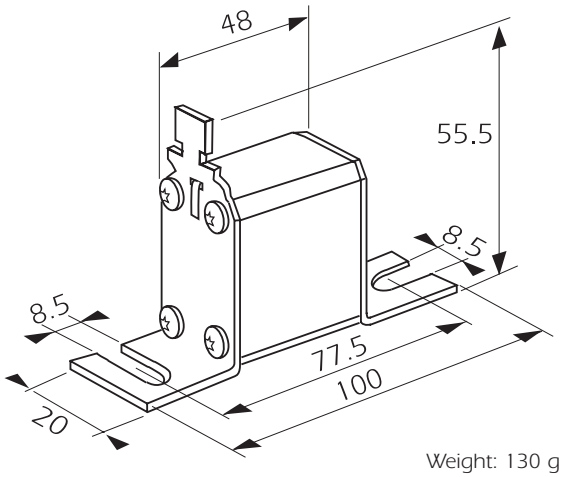


Weight: 130 g
Packaging: 6 pieces

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

German standard with trip-indicator

Current rating	Designation	Ref. Number	I/I_N* fuse base	Catalog Number
16	6,9 gRB 000 D08L/016	X330277	1	DN000GB69V16L
20	6,9 gRB 000 D08L/020	J330173	1	DN000GB69V20L
25	6,9 gRB 000 D08L/025	K330174	1	DN000GB69V25L
32	6,9 gRB 000 D08L/032	L330175	1	DN000GB69V32L
40	6,9 gRB 000 D08L/040	M330176	1	DN000GB69V40L
50	6,9 gRB 000 D08L/050	N330177	1	DN000GB69V50L
63	6,9 gRB 000 D08L/063	P330178	1	DN000GB69V63L
80	6,9 gRB 000 D08L/080	Q330179	1	DN000GB69V80L
100	6,9 gRB 000 D08L/100	R330180	1	DN000GB69V100L
125	6,9 gRB 000 D08L/125	S330181	0,9	DN000GB69V125L
80	6,9 URB 000 D08L/080	T330182	1	DN000UB69V80L
100	6,9 URB 000 D08L/100	V330183	1	DN000UB69V100L
125	6,9 URB 000 D08L/125	W330184	0,95	DN000UB69V125L
160	6,9 URB 000 D08L/160	X330185	0,85	DN000UB69V160L
200	6,9 URB 000 D08L/200	Y330186	0,85	DN000UB69V200L
250	6,9 URB 000 D08L/250	Z330187	0,8	DN000UB69V250L
315	6,9 URB 000 D08L/315	A330188	0,7	DN000UB69V315L
350	5 URB 000 D08L/350	B330189	0,7	DN000UB69V350L
400	5 URB 000 D08L/400	F330193	0,65	DN000UB69V400L

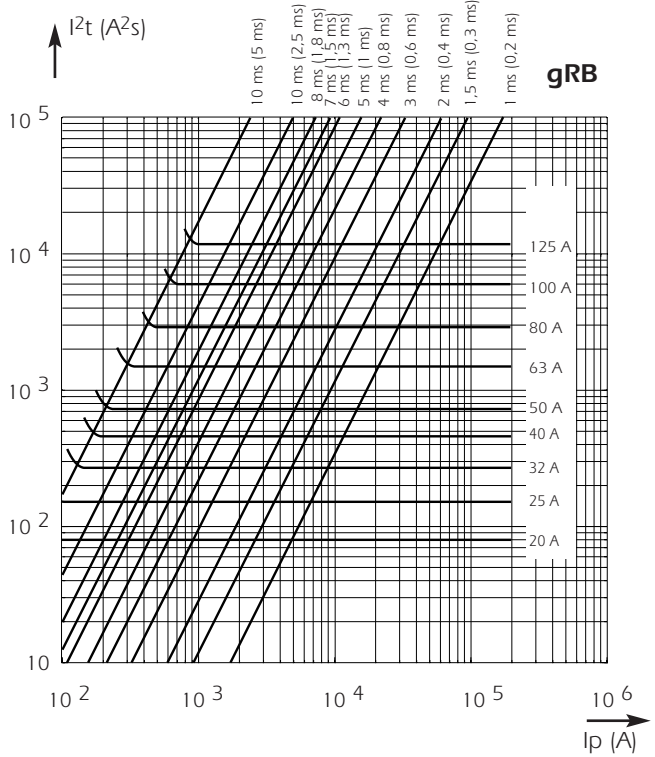


Weight: 130 g
Packaging: 6 pieces

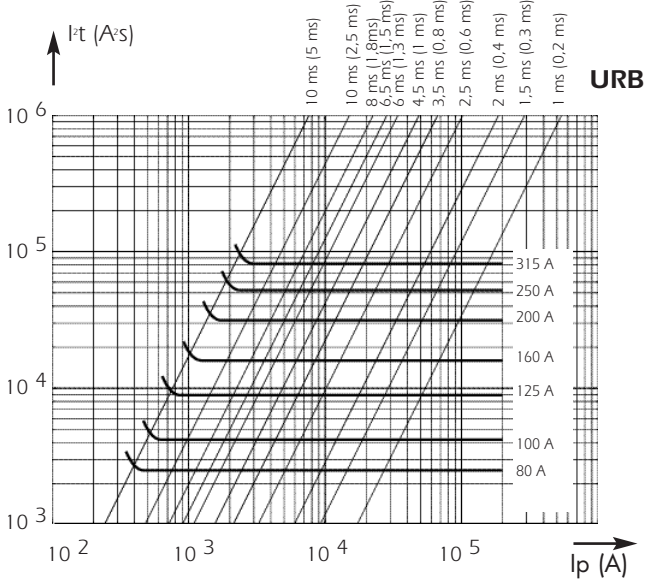
Microswitch
MC 4L 2-5 B6 + PRES Ref. Number : F210156
MC 4L 2-5 B2 + PRES Ref. Number : G210157
Fuse base: SI 000 DIN 80 Ref. Number : C 20710

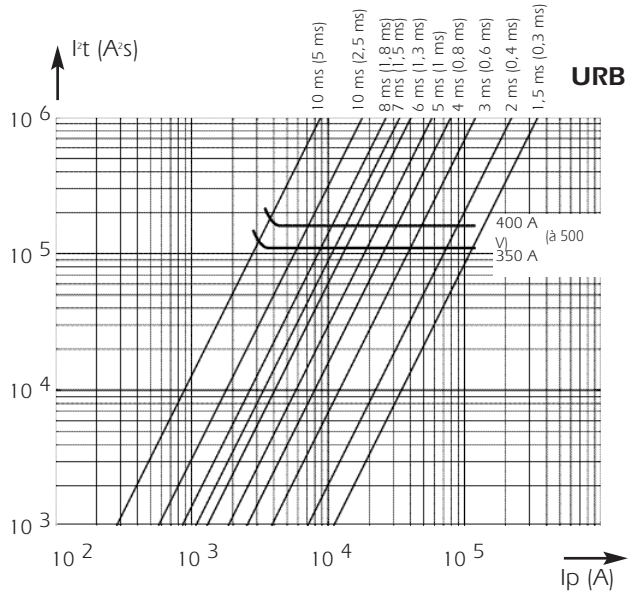
Protistor® Square-body Fuses
PSC gR/aR sizes 000/00
gR/aR - 500 to 690 VAC DIN 000

Total clearing I²t

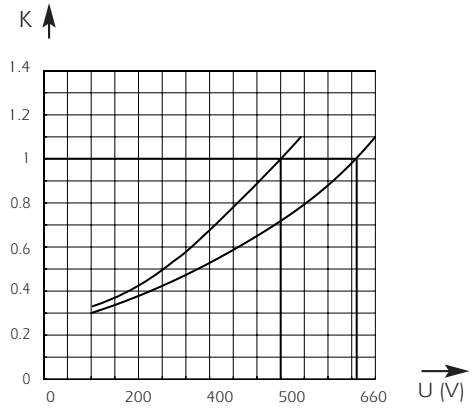


Above: Horizontal curves show, for each rated current, values of total clearing I2t (I2tt) as a function of prospective current Ip. @ UN with cosj = 0.15. Oblique lines indicate total clearing duration Tt, with associated pre-arcing duration in brackets.



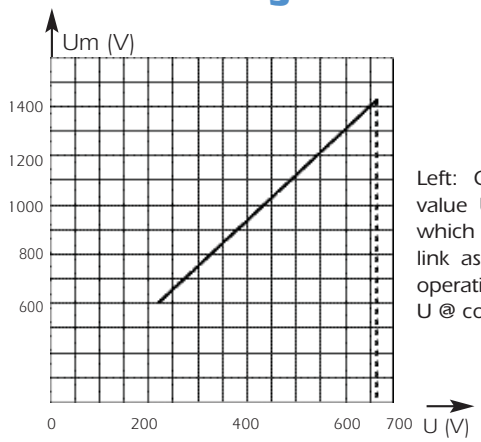


I²t corrective factor



Above: Mean curves show variation of total clearing time (I2tt) and total clearing duration Tt as a function of operating voltage U.

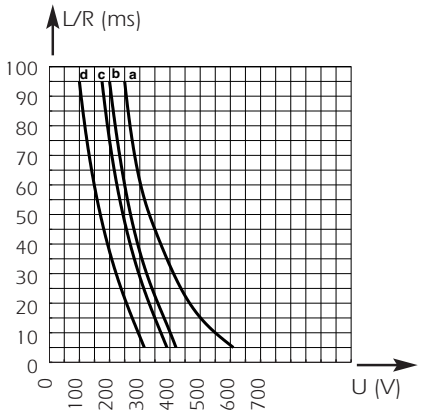
Peak arc voltage



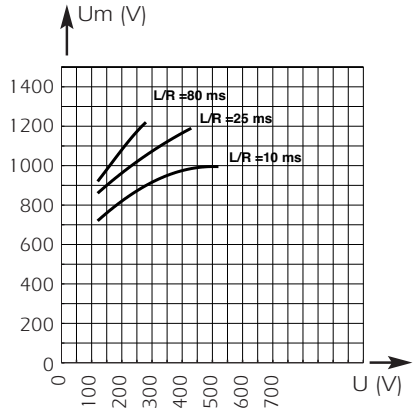
Left: Curve shows peak value Um of arc voltage which appears across fuse link as a function of the operating voltage
U @ cos φ = 0.15

Protistor® Square-body Fuses
PSC gR/aR sizes 000/00
gR/aR - 500 to 690 VAC DIN 000

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

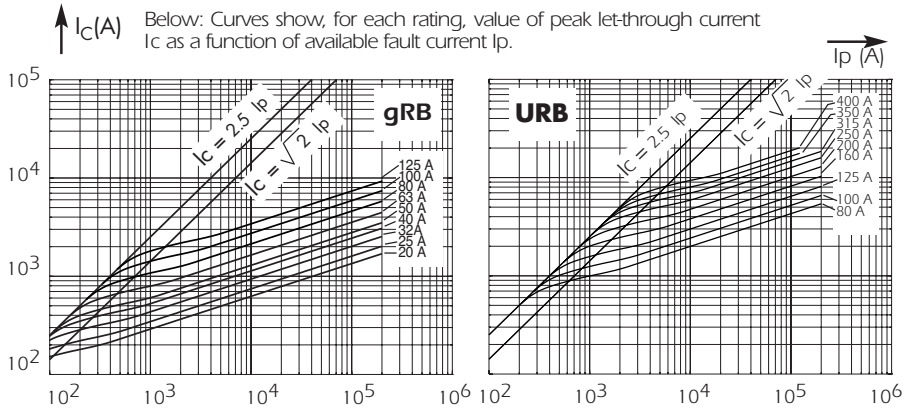


Above: Curves indicates peak arc voltage Um which may appear across fuse terminals at working voltage U.

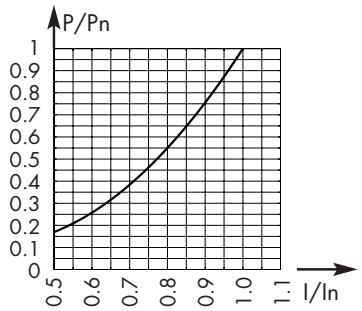
Rated current (A)	Curve	Ipm (A)
20	a	60
25	a	65
32	a	90
40	a	120
50	a	150
63	a	200
80	a	270
100	a	370
125	a	500
160	a	700
200	b	1200
250	c	1800
315	c	2200
350	d	2600
400	d	3100

Ipm values give minimum DC interrupting current in amps.

Current limitation curves

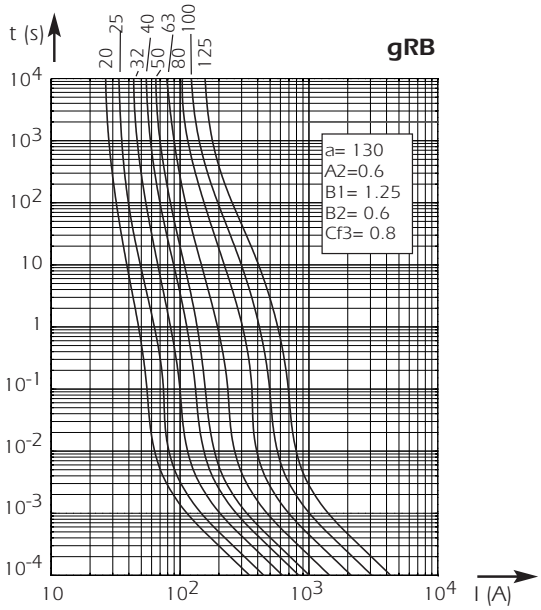


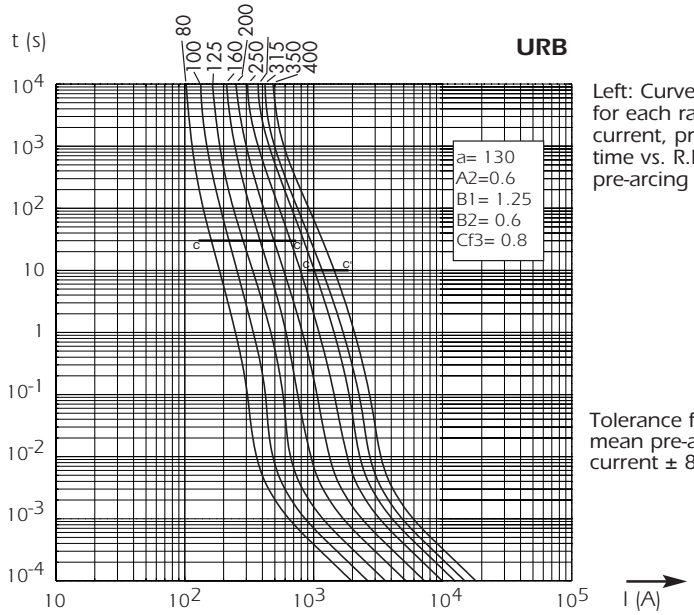
Watts loss



Above: Curve enables computation of power losses P for a IN-rated fuse as a function of R.M.S. current I (as a multiple of IN 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 ± 8%.

Protistor® Square-body Fuses
PSC gR/aR sizes 000/00
gR/aR - 600 to 690 VAC DIN 00

gRB-URB from 16 to 450 A
Size: 00

EXTREMELY HIGH BREAKING CAPACITY FUSES:
PROTECTION OF POWER SEMICONDUCTORS
AS PER IEC STANDARD 60269.1 AND 4

690 V VOLTAGE RATING

gR CLASS (gRB RATINGS 16 to 160 A) AS PER VDE 636-23
- CLEARING ALL OVERLOADS
- IMPROVING SAFETY AND PROTECTION
- ENABLING SELECTIVE COORDINATION WITH ALL FUSES

aR CLASS (URB RATINGS 16 TO 450 A) ACCORDING TO
VDE 636-23 AND IEC 60269-4

CONNECTIONS ACCORDING TO
- DIN 43653/00 80 AND 110 mm BETWEEN AXES
- DIN 43620/00 SOLID BLADES

WITH AN INDICATING PAWL ACTIVATING A MICROSWITCH IF NEEDED

Main Characteristics

Voltage rating U_N(V)	Class	Current rating I_N(A)	Pre-arcing I^2t @ 1 ms I^2tp (A^2s)	Total clearing I^2t total@ UN I^2tt (A^2s)	Watts loss 0.8 IN	Watts loss IN	Tested Breaking Capacity	Estimated Breaking Capacity
690	gRB	16	8	61	2.7	5	200 k A @ 690 V	300 k A @ 690 V
		20	12	86	3.3	6		
		25	18	140	4.4	8		
		32	39	250	6.0	11		
		40	68	450	7.1	13		
		50	116	750	8.8	16		
		63	210	1400	9.9	18		
		80	525	3000	10.5	19		
		100	970	5400	10.7	19.5		
		125	1710	9600	13.2	24		
		160	4270	22400	13.7	25		
	URB	16	7	52	3.8	7	200 k A @ 690 V	300 k A @ 690 V
		20	10	75	5.0	9		
		25	15	120	6.0	11		
		32	32	210	8.2	15		
		40	61	400	9.9	18		
		50	102	700	11.5	21		
		63	177	1200	12.6	23		
		80	390	2200	13.8	25		
		100	692	3900	15.4	28		
		125	1170	6600	18.1	33		
		160	2680	14 000	19.8	36		
		200	4690	24 000	23.1	42		
		250	8300	42 500	27.5	50		
		315	17 520	81 000	31.9	58		
		350 ▪	25 450	118 000	33.0	60		
		400 ▪	33 200	150 000	38.5	70		
600	URB	450 **	51 850	196 000	40.7	74	200 k A @ 600 V	300 k A @ 600 V

NOTE: voltage rating of 350-400-450 A rated fuses is defined with a CC' curve at 1 second limited by minimum breaking current.

▪ Voltage rating: 690 V with CC' at 1s - 450 V with CC' at 10 s
** Voltage rating: 600 V with CC' at 1s - 450 V with CC' at 10 s

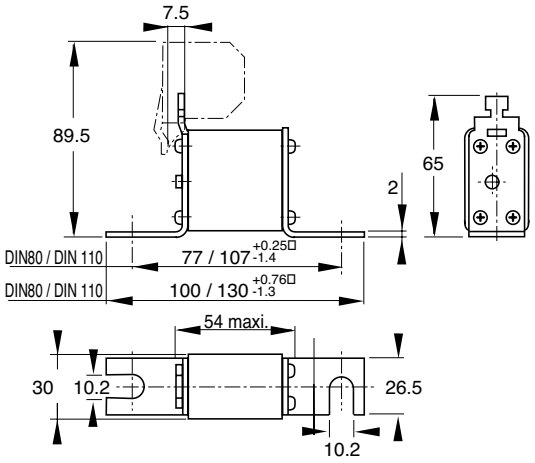
Minimum operating voltage for trip indicator = 20 V

Protistor® Square-body Fuses
PSC gR/aR sizes 000/00
gR/aR - 600 to 690 VAC DIN 00

German standard as per DIN43653/00C - DIN 80 & 110

gRB - DIN 80

Current rating	Designation	Ref. Number	I/I_N* fuse base	Catalog Number
16	6,9 gRB 00 D08L 016	S330273	1	DN00GB69V16L
20	6,9 gRB 00 D08L 020	S330227	1	DN00GB69V20L
25	6,9 gRB 00 D08L 025	T330228	1	DN00GB69V25L
32	6,9 gRB 00 D08L 032	V330229	1	DN00GB69V32L
40	6,9 gRB 00 D08L 040	W330230	1	DN00GB69V40L
50	6,9 gRB 00 D08L 050	X330231	1	DN00GB69V50L
63	6,9 gRB 00 D08L 063	Y330232	1	DN00GB69V63L
80	6,9 gRB 00 D08L 080	Z330233	1	DN00GB69V80L
100	6,9 gRB 00 D08L 100	A330234	1	DN00GB69V100L
125	6,9 gRB 00 D08L 125	B330235	0.9	DN00GB69V125L
160	6,9 gRB 00 D08L 160	C330236	0.9	DN00GB69V160L



Weight: 140 g(D08) - 190 g(D11)
Packaging: 3 pieces
Microswitches: MC 4L 2.5 B6 + PRES - Ref. Number: F210156
MC 4L 2.5 B2 + PRES - Ref. Number: G210157

Fuse-base: SI 00 DIN 80 - Ref. Number: Q098040

URB - DIN 80

Current rating	Designation	Ref. Number	I/I_N* fuse base	Catalog Number
16	6,9 URB 00 D08L 016	V330275	1	DN00UB69V16L
20	6,9 URB 00 D08L 020	T330274	1	DN00UB69V20L
25	6,9 URB 00 D08L 025	M330268	1	DN00UB69V25L
32	6,9 URB 00 D08L 032	N330269	1	DN00UB69V32L
40	6,9 URB 00 D08L 040	P330270	1	DN00UB69V40L
50	6,9 URB 00 D08L 050	Q330271	1	DN00UB69V50L
63	6,9 URB 00 D08L 063	R330272	1	DN00UB69V63L
80	6,9 URB 00 D08L 080	D330237	1	DN00UB69V80L
100	6,9 URB 00 D08L 100	E330238	1	DN00UB69V100L
125	6,9 URB 00 D08L 125	F330239	0.9	DN00UB69V125L
160	6,9 URB 00 D08L 160	G330240	0.85	DN00UB69V160L
200	6,9 URB 00 D08L 200	H330241	0.85	DN00UB69V200L
250	6,9 URB 00 D08L 250	J330242	0.80	DN00UB69V250L
315	6,9 URB 00 D08L 315	K330243	0.75	DN00UB69V315L
350	6,9 URB 00 D08L 350	L330244	0.75	DN00UB69V350L
400	6,9 URB 00 D08L 400	M330245	0.70	DN00UB69V400L
450	6 URB 00 D08L 450	N330246	0.65	DN00UB60V450L

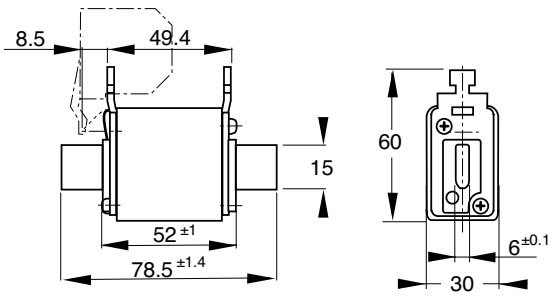
gRB - DIN 110

16	6,9 gRB 00 D11L 016	W330276	1	DN00GB69V16D1L
20	6,9 gRB 00 D11L 020	P330247	1	DN00GB69V20D1L
25	6,9 gRB 00 D11L 025	Q330248	1	DN00GB69V25D1L
32	6,9 gRB 00 D11L 032	R330249	1	DN00GB69V32D1L
40	6,9 gRB 00 D11L 040	S330250	1	DN00GB69V40D1L
50	6,9 gRB 00 D11L 050	T330251	1	DN00GB69V50D1L
63	6,9 gRB 00 D11L 063	V330252	1	DN00GB69V63D1L
80	6,9 gRB 00 D11L 080	W330253	1	DN00GB69V80D1L
100	6,9 gRB 00 D11L 100	X330254	1	DN00GB69V100D1L
125	6,9 gRB 00 D11L 125	Y330255	0.9	DN00GB69V125D1L
160	6,9 gRB 00 D11L 160	Z330256	0.9	DN00GB69V160D1L

URB - DIN 110

80	6,9 URB 00 D11L 80	A330257	1	DN00UB69V80D1L
100	6,9 URB 00 D11L 100	B330258	1	DN00UB69V100D1L
125	6,9 URB 00 D11L 125	C330259	0.9	DN00UB69V125D1L
160	6,9 URB 00 D11L 160	D330260	0.85	DN00UB69V160D1L
200	6,9 URB 00 D11L 200	E330261	0.85	DN00UB69V200D1L
250	6,9 URB 00 D11L 250	F330262	0.80	DN00UB69V250D1L
315	6,9 URB 00 D11L 315	G330263	0.75	DN00UB69V315D1L
350	6,9 URB 00 D11L 350	H330264	0.75	DN00UB69V350D1L
400	6,9 URB 00 D11L 400	J330265	0.70	DN00UB69V400D1L
450	6 URB 00 D11L 450	K330266	0.65	DN00UB60V450D1L

German standard as per DIN43620/00



Weight: 210 g
Packaging: 3 pieces
Microswitches: MC 4L 2.5 B2 + PRES - Ref Number: G210157 or
MC 4L 2.5 B6 + PRES - Ref Number: F210156

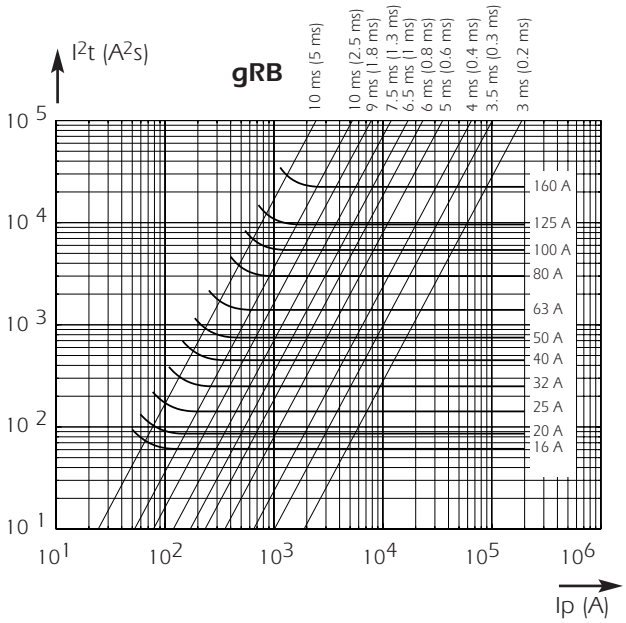
Fuse-base: 00EP - Ref. Number : F215170

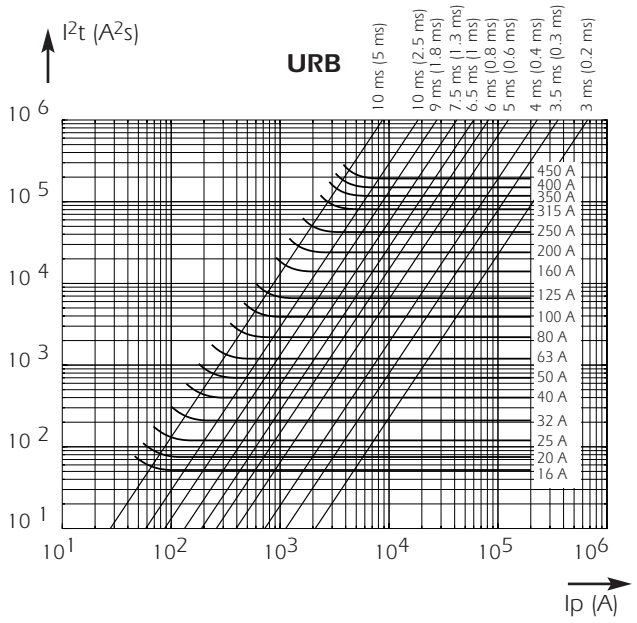
Current rating	Designation	Ref. Number	I/I_N* fuse base	Catalog Number
16	6,9 gRB 00 PV/016	L330267	1	PC00GB69V16PV
20	6,9 gRB 00 PV/020	W330207	1	PC00GB69V20PV
25	6,9 gRB 00 PV/025	X330208	1	PC00GB69V25PV
32	6,9 gRB 00 PV/032	Y330209	1	PC00GB69V32PV
40	6,9 gRB 00 PV/040	Z330210	1	PC00GB69V40PV
50	6,9 gRB 00 PV/050	A330211	1	PC00GB69V50PV
63	6,9 gRB 00 PV/063	B330212	0.90	PC00GB69V63PV
80	6,9 gRB 00 PV/080	C330213	0.90	PC00GB69V80PV
100	6,9 gRB 00 PV/100	D330214	0.90	PC00GB69V100PV
125	6,9 gRB 00 PV/125	E330215	0.85	PC00GB69V125PV
160	6,9 gRB 00 PV/160	F330216	0.85	PC00GB69V160PV

For curves see pages
I/IN : Ratio RMS steady current / current rating for fuses in base.

Protistor® Square-body Fuses
PSC gR/aR sizes 000/00
gR/aR - 600 to 690 VAC DIN 00

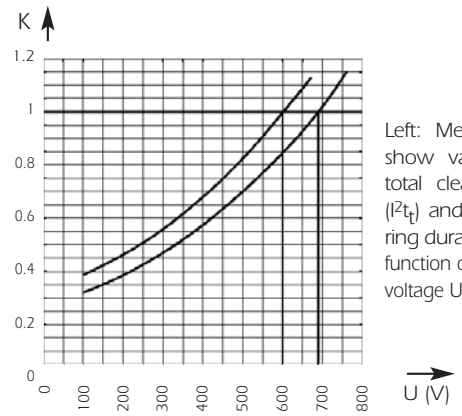
Total clearing I²t





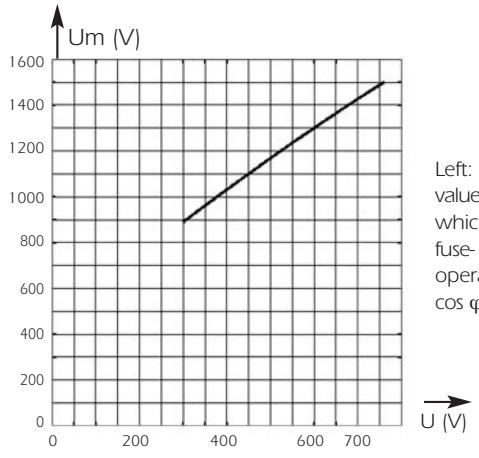
Above: horizontal curves show, for each rated current, maximum values of total clearing I²t (I^2t_t) as a function of prospective current Ip. @ UN with cosφ = 0.15.
Oblique lines indicate total clearing duration Tt, with associated pre-arcing duration shown in brackets.

I²t corrective factor



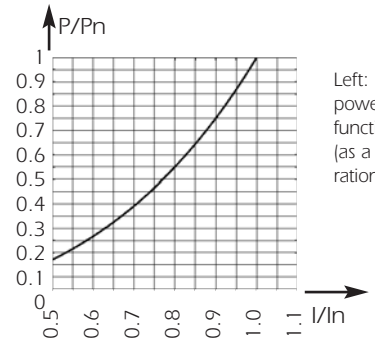
Left: Mean curves show variation of total clearing time (I^2t_t) and total clearing duration Tt as a function of operating voltage U.

Peak arc voltage



Left: Curve shows peak value Um of the arc voltage which appears across fuse- link as a function of operating voltage U @ cos φ = 0.15

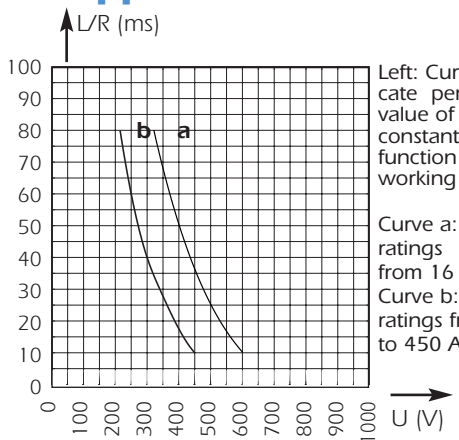
Watts loss



Left: 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)

Protistor® Square-body Fuses
PSC gR/aR sizes 000/00
gR/aR - 600 to 690 VAC DIN 00

DC Application data

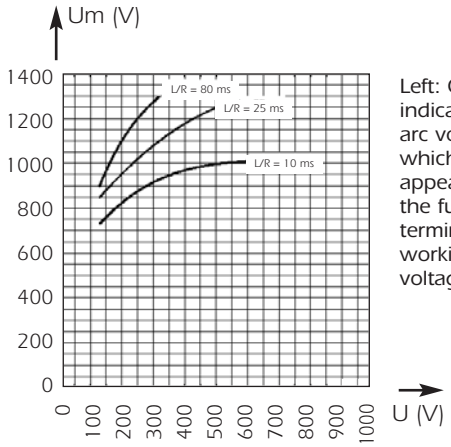


Left: Curves indicate permissible value of time constant L/R as a function of DC working voltage.

Curve a: for ratings from 16 to 250 A
Curve b: for ratings from 315 to 450 A

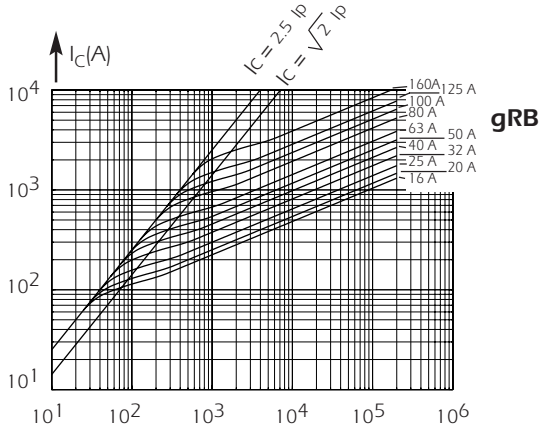
Rated current	Curve	Ipm (A) gRB	Ipm (A) URB
16	a	32	32
20	a	40	40
25	a	50	50
32	a	64	64
40	a	80	80
50	a	100	100
63	a	126	126
80	a	160	170
100	a	200	220
125	a	250	280
160	a	320	390
200	a		510
250	a		650
315	b		840
350	b		1770
400	b		2040
450	b		2250

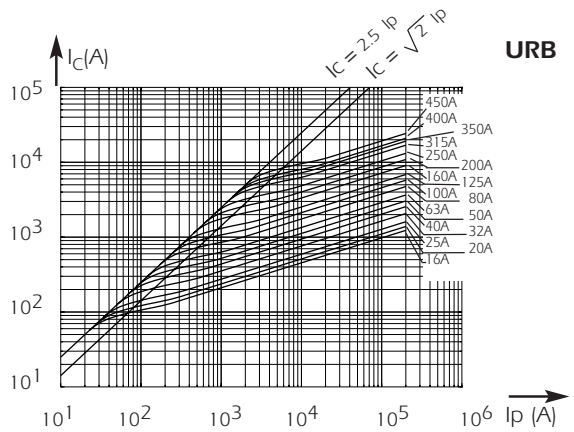
Ipm values give minimum DC interrupting current in amps.



Left: Curves indicate peak arc voltage Um which may appear across the fuse terminals at working voltage U.

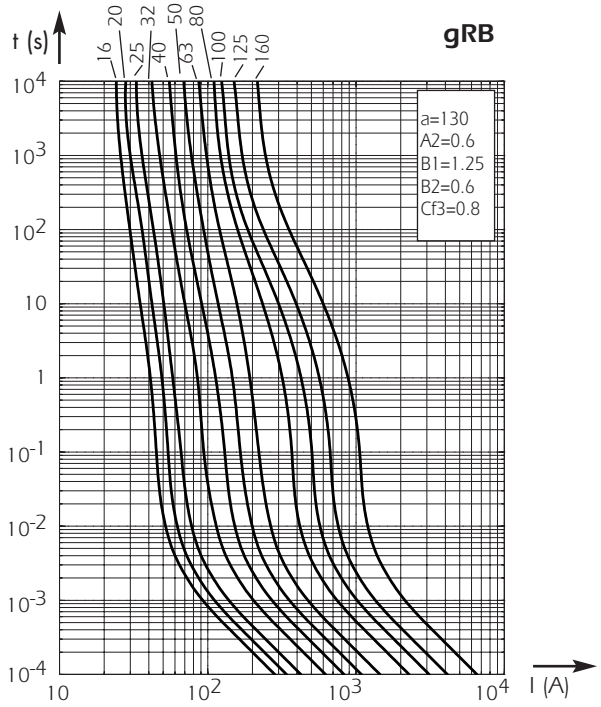
Current limitation curves

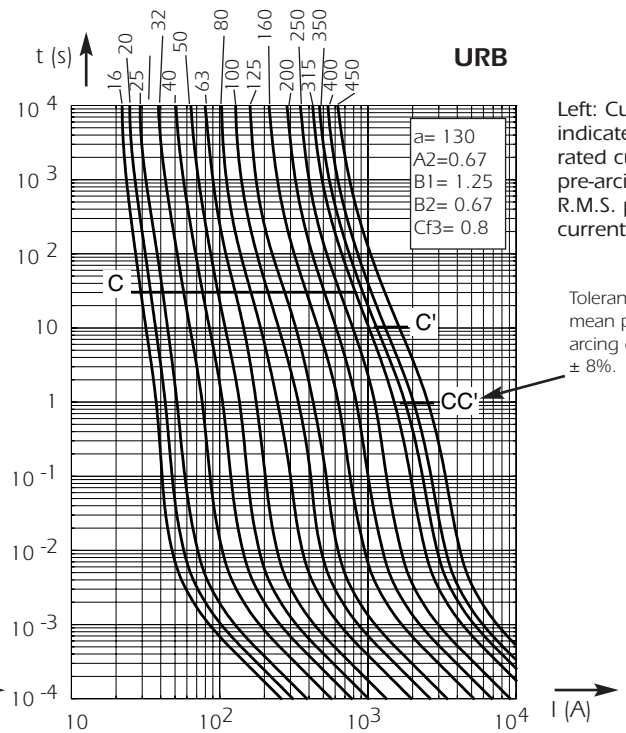




Above: Curves show, for each rating, value of peak let-through current Ic as a function of available fault current Ip.

Time vs current characteristics





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

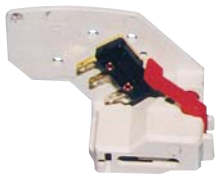
Tolerance for mean pre-arcing current ± 8%.

Protistor® Square-body Fuses
PSC gR/aR sizes 000/00
Microswitches for PSC sizes 000/00 and NH Fuses

MICROSWITCH SYSTEMS ADAPTED TO THE FOLLOWING FUSES:

- PSC sizes 000/00 (brackets) DIN43653
- NH Fuses (plain blades) see details in "General Purpose IEC Fuses" section
- NH plain blades 690 VAC Protistor square-body Fuses

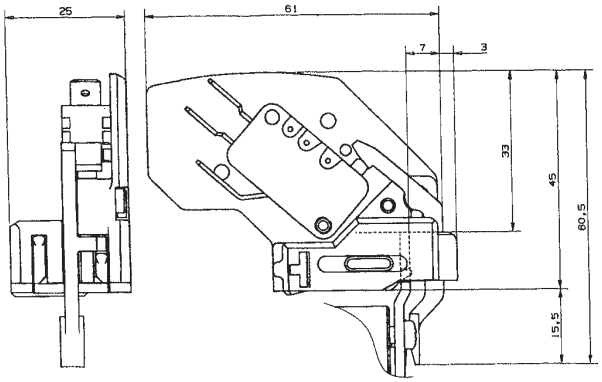
MS 4L 2-5

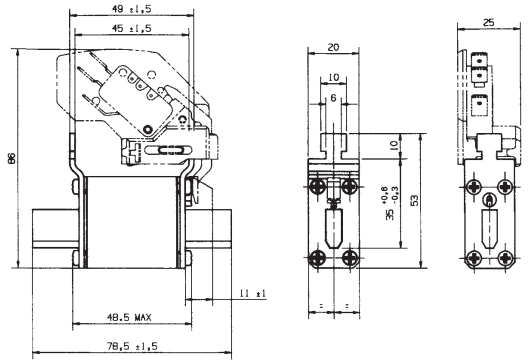


Main Characteristics

Code	AC Insulation voltage rating (***)	Positive operating voltage/current	Current rating	Current	Interrupting rating Non inductive circuit			Inductive circuit : L/R = 25ms			AC voltage withstand test (*)	Impulse voltage test Uimp1.2/50 µs (**)	Fire class according to UL 94
					30V	110V	250V	30V	110V	250V			
MS 4L 2-5 B2	1000 V	20 V	5 A	50 Hz	4A	4A	5A	-	5A	5 A	12 kV	16 kV	V0
+ Pres		100 mA		DC	-	-	-	-	2 A	0,4 A	8 kV	13 kV	
MS 4L 2-5 B6	1000 V	20 V	10 A	50/60 Hz	10 A	10 A	10 A	10 A	10 A	10 A	8 kV	10 kV	V0
+ Pres		50 mA		DC	8 A	0,4 A	0,2 A	4 A	0,2 A	0,1 A			

* 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





Designation	Ref. Number	Weight (g)	Pack.	Catalog Number
MS 4L 2-5 B6 + PRES (Fig. 1) (1)	F210156	30	3	MS 4L2-5B6PRES
MS 4L 2-5 B2 + PRES (Fig. 2) (2)	G210157	26	3	MS 4L2-5B2PRES

Automatically resettable, these microswitch systems indicate fuse presence (PRES) and proper mounting.
In case of improper mounting or fuse melting, this is indicated (terminal 1-4 closed)

Fig.1

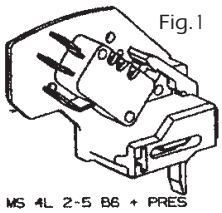
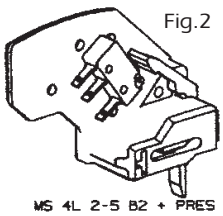


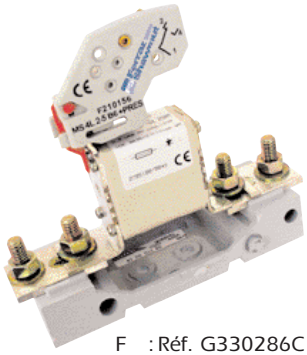
Fig.2



(1) 6.3 mm clips
(2) 2.8 mm clips

Protistor® Square-body Fuses
PSC gGR sizes 000/00
gGR - 690 VAC DIN 00/000 (full range)

F : Réf. D302108
MC: Réf. F210156C



F : Réf. G330286C
PF : Réf. Q098040C
MC: Réf. F210156C

gGr: two functions

A combination of:
Power supply cable protection (gG curve)

- Compliance with the standardized gate values for gG curves as per EN 60269-2,
- Low power dissipation, similar to a gG fuse, no current derating in holders,
- No derating for variable currents,
- Good withstand to overloads,
- Same thermal definition as a gG curve,
- Unnecessary to dimension the cable cross sectional area large in comparison to UR protection,
- Range designed for the new voltage of 690V ± 10%.

Power semi-conductor protection (Fast R curve)

- Fast curve for fault currents and short-circuit currents under 20 In,
- Tested breaking capacity 100 kA (00) or 170 kA (000) at 690 V,
- Very current limiting, which in turn limits electrodynamic forces in the circuit downstream,
- Low I^2t
- Compact footprint: only one fuse instead of two or a relay plus a fuse,
- DC performances 360 to 550V for I/R = 10 ms,
  Semi-conductor protection checked in the same way as a fuse.

Applications: "off-board" protection

- AC and DC speed governor,
- Soft starter,
- Static relay,
- Current regulator,
- Inverter (IGBT module disconnector in parallel),

Battery.

Connection technologies offered

- Solid blades (as per DIN 43620) with visual blown fuse indicator and striker to actuate a micros-witch, MS4L2-5B + PRES (ref. F210156C or G210157C),
- DIN 80 brackets (as per DIN 43653) with visual blown fuse indicator and striker indicator to actuate a microswitch, MS4L2-5B + PRES.
- With these two technologies the designer can choose a fuse according to the types of holders desired.

Protistor® Square-body Fuses
PSC gGR sizes 000/00
gGR - 690 VAC DIN 00/000 (full range)

- EN 60269-2-1 compliant
- Compliance with gG gate values on melting and not melting
- Low dissipated power
- No derating for variable current
- Good withstand to repeated overloading
- Withstand to exceptional overloads (same as Protistor fuses)
- Cable protection

Functionalities

Two functions:
- to protect cables from overloads,
- to protect semi-conductors from short-circuits.

Electrical characteristics

Size 000

Voltage Rating (VAC)	Size	Current Rating In (A)	Prearcing I²t @ 1 ms I²tp (A²s)	Total I²t (A²s)		Power losses @ In (W)	Tested breaking capacity	Estimated breaking capacity
				@ Un	@ 400V			
		16	45	280	230	2.5		
		20	60	380	310	3		
		25	130	830	700	3.5		
		32	210	1350	1150	4	100 kA	200 kA
690	000	40	350	2200	1900	5	@	@
		50	550	3500	3000	6	690 V	690 V
		63	1000	6100	5150	7		
		80	1700	11000	9200	8		
		100	3900	25000	21000	9		

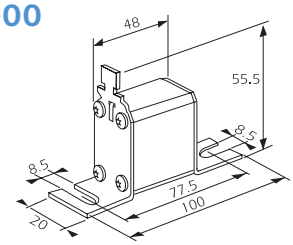
Size 00

Voltage Rating (VAC)	Size	Current Rating In (A)	Prearcing I²t @ 1 ms I²tp (A²s)	Total I²t (A²s)		Power losses @ In (W)	Tested breaking capacity	Estimated breaking capacity
				@ Un	@ 400V			
		16	45	280	230	2.5		
		20	60	390	290	3.2		
		25	120	750	560	4		
		32	240	1550	1150	5		
		40	350	2250	1680	5.5		
		50	540	3500	2600	6.5	100 kA	200 kA
690	00	63	1060	6750	5000	7.6	@	@
		80	1900	12100	9000	9.5	690 V	690 V
		100	3900	24150	18000	11		
		125	6950	45000	33500	13		
		160	13500	82000	61000	16		
		200	27600	160000	120000	18		

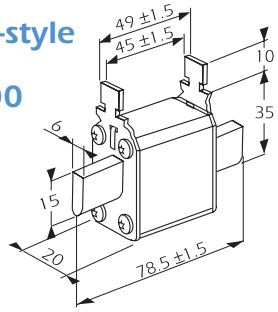
Protistor® Square-body Fuses
PSC gGR sizes 000/00
gGR - 690 VAC DIN 00/000 (full range)

Size 000

German standard DIN 43653/000 DIN 80

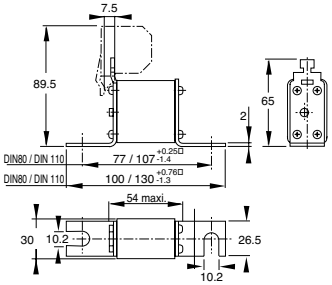


German blade-style fuse standard DIN 43620/000

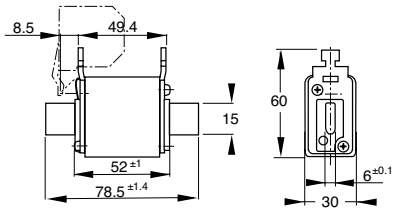


Size 00

German standard 43653/00 - DIN 80



German blade-style fuse standard 43620/00



No derating:
I/In = Irms of use/fuse rating
In the different holders = no derating

Microswitches:
Ref. F210156: 6.3 mm clips
Ref. G210156: 2.8 mm clips

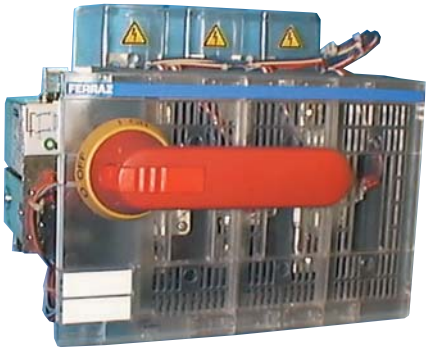
Current (A)	Designation	Ref. Number	I/In*	Weight (g)	Pack.	Catalog Number
16	6,9 gGR 000 D08L 016	H302112	1	120	3	DN000GR69V16L
20	6,9 gGR 000 D08L 020	J302113	1	120	3	DN000GR69V20L
25	6,9 gGR 000 D08L 025	K302114	1	120	3	DN000GR69V25L
32	6,9 gGR 000 D08L 032	L302115	1	120	3	DN000GR69V32L
40	6,9 gGR 000 D08L 040	M302116	1	120	3	DN000GR69V40L
50	6,9 gGR 000 D08L 050	N302117	1	120	3	DN000GR69V50L
63	6,9 gGR 000 D08L 063	P302118	1	120	3	DN000GR69V63L
80	6,9 gGR 000 D08L 080	Q302119	1	120	3	DN000GR69V80L
100	6,9 gGR 000 D08L 100	R302120	1	120	3	DN000GR69V100L
Microswitch		F210156				MS4L2-5B6PRES
		G210157				MS4L2-5B2PRES
16	6,9 gGR 000 PV 016	X302102	1	150	3	NH000GR69V16PV
20	6,9 gGR 000 PV 020	Y302103	1	150	3	NH000GR69V20PV
25	6,9 gGR 000 PV 025	Z302104	1	150	3	NH000GR69V25PV
32	6,9 gGR 000 PV 032	A302105	1	150	3	NH000GR69V32PV
40	6,9 gGR 000 PV 040	B302106	1	150	3	NH000GR69V40PV
50	6,9 gGR 000 PV 050	C302107	1	150	3	NH000GR69V50PV
63	6,9 gGR 000 PV 063	D302108	1	150	3	NH000GR69V63PV
80	6,9 gGR 000 PV 080	E302109	1	150	3	NH000GR69V80PV
100	6,9 gGR 000 PV 100	F302110	1	150	3	NH000GR69V100PV
Microswitch		F210156				MS4L2-5B6PRES
		G210157				MS4L2-5B2PRES
Extractor handle		P215592			1	NH HANDLE
20	6,9 gGR 00 D08L 020	T330297	1	140	3	DN00GR69V20L
25	6,9 gGR 00 D08L 025	V330298	1	140	3	DN00GR69V25L
32	6,9 gGR 00 D08L 032	W330299	1	140	3	DN00GR69V32L
40	6,9 gGR 00 D08L 040	X330300	1	140	3	DN00GR69V40L
50	6,9 gGR 00 D08L 050	Y330301	1	140	3	DN00GR69V50L
63	6,9 gGR 00 D08L 063	G330286	1	140	3	DN00GR69V63L
80	6,9 gGR 00 D08L 080	H330287	1	140	3	DN00GR69V80L
100	6,9 gGR 00 D08L 100	J330288	1	140	3	DN00GR69V100L
125	6,9 gGR 00 D08L 125	K330289	1	140	3	DN00GR69V125L
160	6,9 gGR 00 D08L 160	L330290	1	140	3	DN00GR69V160L
200	6,9 gGR 00 D08L 200	M330291	1	140	3	DN00GR69V200L
Microswitch		F210156				MS4L2-5B6PRES
		G210157				MS4L2-5B2PRES
20	6,9 gGR 00 PV 020	N330292	1	210	3	NH00GR69V20PV
25	6,9 gGR 00 PV 025	P330293	1	210	3	NH00GR69V25PV
32	6,9 gGR 00 PV 032	Q330294	1	210	3	NH00GR69V32PV
40	6,9 gGR 00 PV 040	R330295	1	210	3	NH00GR69V40PV
50	6,9 gGR 00 PV 050	S330296	1	210	3	NH00GR69V50PV
63	6,9 gGR 00 PV 063	A330280	1	210	3	NH00GR69V63PV
80	6,9 gGR 00 PV 080	B330281	1	210	3	NH00GR69V80PV
100	6,9 gGR 00 PV 100	C330282	1	210	3	NH00GR69V100PV
125	6,9 gGR 00 PV 125	D330283	1	210	3	NH00GR69V125PV
160	6,9 gGR 00 PV 160	E330284	1	210	3	NH00GR69V160PV
200	6,9 gGR 00 PV 200	F330285	1	210	3	NH00GR69V200PV
Microswitch		F210156 (only)				MS4L2-5B6PRES
Extractor handle		P215592			1	NH HANDLE

690 V gGR fuse holders and supports

Type of fuse	Nb. poles	References for mounting on 35 mm DIN rail	References for panel mounting
Solid blades size 000/00 IPXX	1	R216192	F215170
	2	F218758	A217212
	3	V219277	F217723
	4	Z223007	S219275
Solid blades size 000/00 IP20 w/o microswitch	1	S218240	-
	3	S229119	-
DIN 80 bracket size 000 IPXX	1	-	C220710
DIN 80 bracket size 00 IPXX	1	-	Q098040
DIN 80 blades size 000 IP20 w/o microswitch	1	B227218	
DIN 80 blades size 000 IP20 for microswitch	1	C227219	-
DIN 80 blades size 00 IP20 w/o microswitch	1	V227672	-
DIN 80 blades size 00 IP20 for microswitch	1	W227673	-
ITCP range	1		

Protistor® Square-body Fuses
PSC gGR sizes 000/00
gGR - 690 VAC DIN 00/000 (full range)

F : Réf. D302108C
MC: Réf. F210156C



F : Réf. G330286C
PF : Réf. Q098040C
MC: Réf. F210156C

ITCP : Réf. G210410A
F : Réf. M330291C

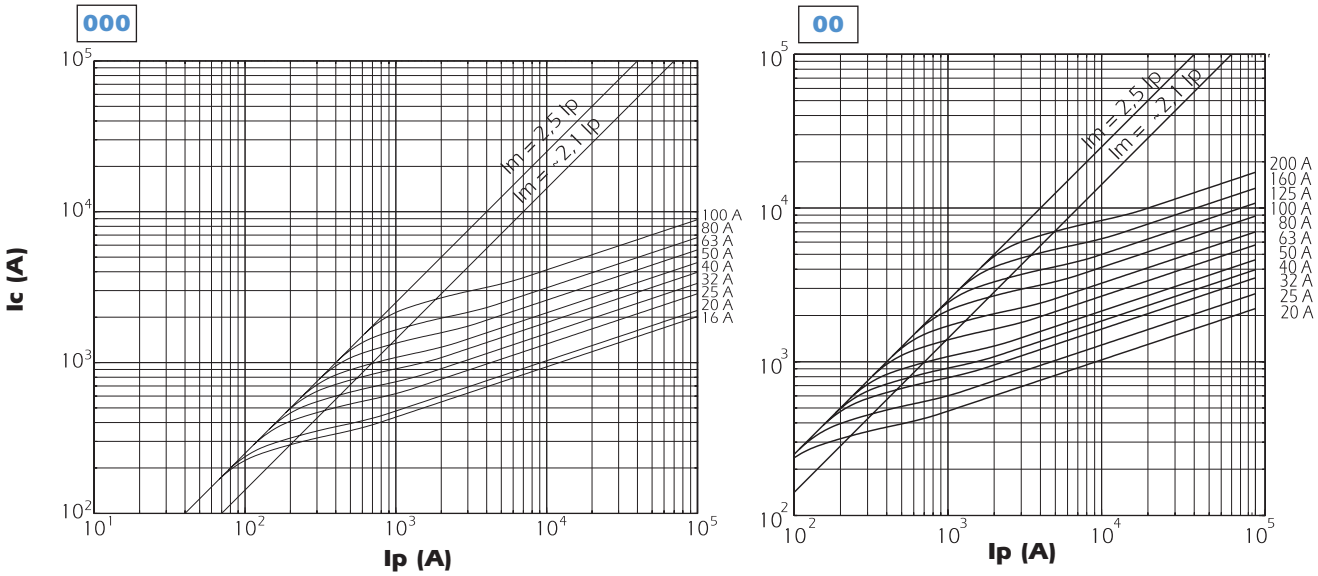
Choice and references of gGR fuse holders

	Type of support	Characteristics	Nb. Poles	Solid blade size 000/00		DIN 80 bracket		Fuse microswitch (2)
				Reference Number	Fuse extraction handle	Size 000	Size 00	
CEI 60269-2	Fuse holders	No protection (1) Screw connection for eye lug or bar for 35 mm DIN rail	1 2 3 4	R216192 F218758 V219277 Z223007	P215592			F2101546 or G210157
		No protection (1) Screw connection for eye lug or bar on panels	1 2 3 4	F215170 A217212 F217723 S219275	P215592	C220710	Q098040	F210156 or G210157
		Protect led to **IP20** Screw connection for eye lug or bar for DIN rail	1 3	S218240 S229119	P215592	W/o microswitch B227218	C227219	
			1			For microswitch V227672	W227673	
CEI 60947-3	Switch disconnector	Horizontal Linocur AC23	2 3	N216626 N222882 B218685 C201781 Y212035 W213574	P215592 P215592 P215592			F210156 or G210157
	Switch with front control handle	ITC 160M III 00 Front handle Inside/outside Complete	3	K227824	P215592			
		ITC 250 III 00 front Handle	3	F210409	P215592			
	Switch with side control handle	ITC 160M III 00 Side handle Outside Complete	3	J227823	P215592			
	ITCP	ITCP	3		P215592	G210410	G210410	

(1) No protection against accidental contact with live parts IPXX.
(2) F210156C microswitch: 6.3 mm clips
G210157C microswitch: 2.8 mm clips

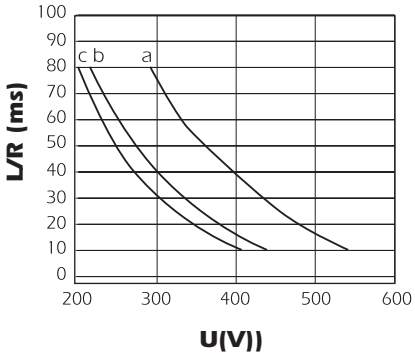
Protistor® Square-body Fuses
PSC gGR sizes 000/00
gGR - 690 VAC DIN 00/000 (full range)

Amplitude of current interrupted



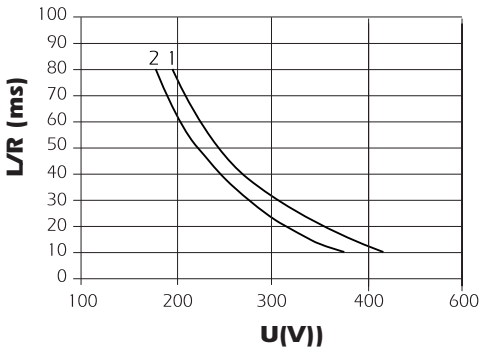
DC working voltage possibilities

Size 00



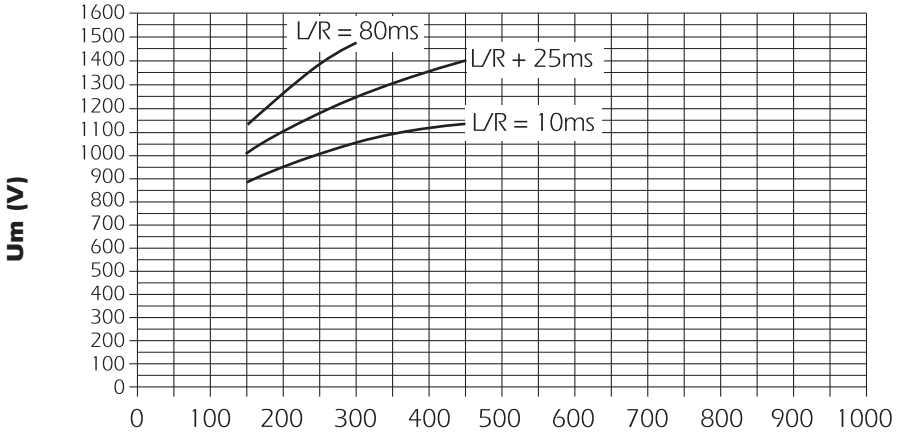
In	Curve
16 A	a
20 A	a
25 A	a
32 A	a
40 A	a
50 A	a
63 A	a
80 A	b
100 A	c
125 A	c
160 A	b
200 A	c

Size 000



In	Curve
16 A	1
20 A	1
25 A	1
32 A	1
40 A	1
50 A	1
63 A	2
80 A	2
100 A	2

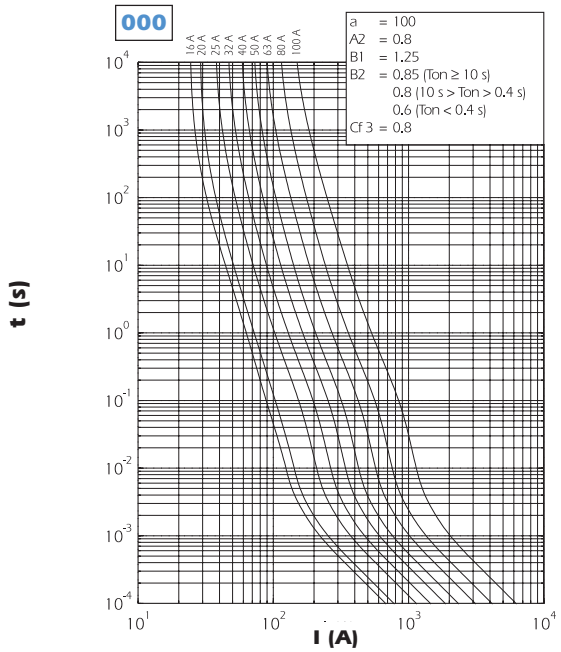
Size 00 and Size 000

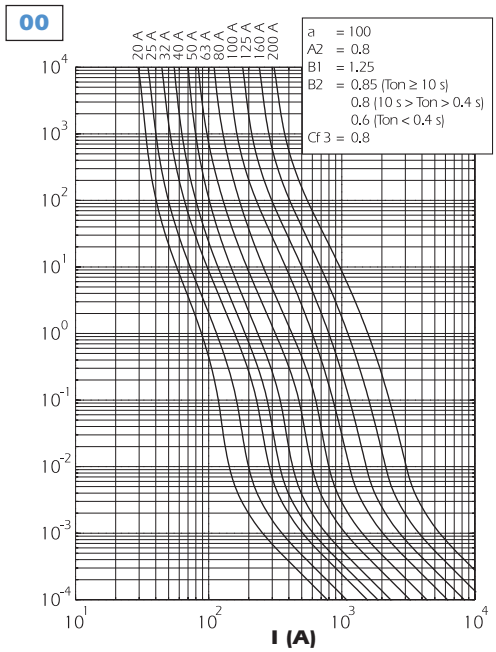


Protistor® Square-body Fuses
PSC gGR sizes 000/00
gGR - 690 VAC DIN 00/000 (full range)

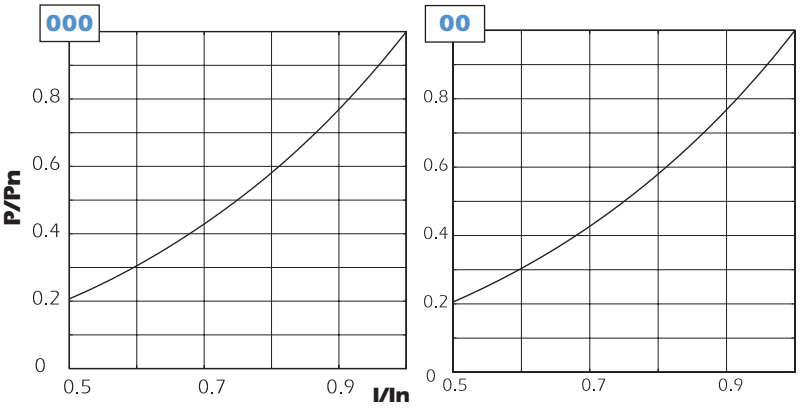
Time/current characteristics

TOLERANCE ON PRE-ARCING CURRENT +/- 8%

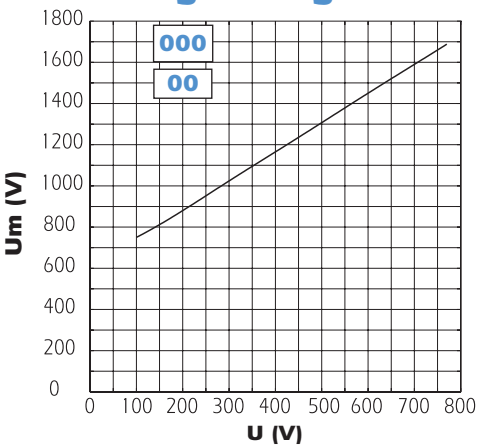




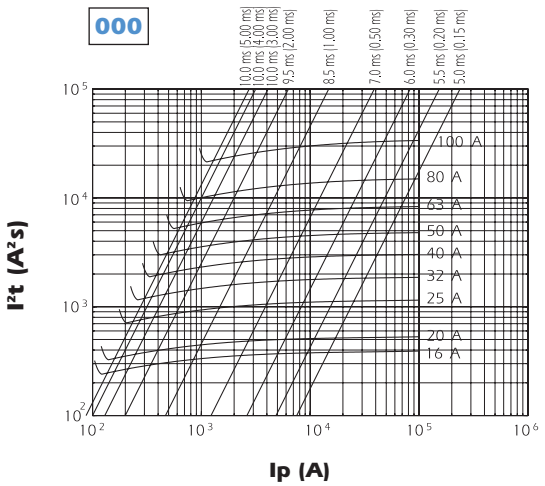
Dissipated power

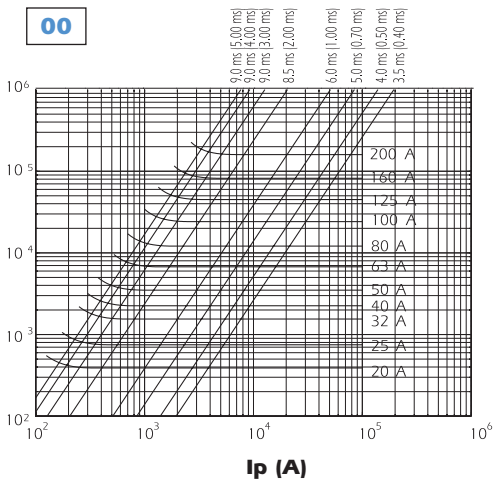


Breaking voltage



Maximum total operating I²t and total operating time





Protistor® Square-body Fuses
PSC gR/aR sizes 000/00
Microswitches for PSC sizes 000/00 and NH

MICROSWITCH SYSTEMS ADAPTED TO THE FOLLOWING FUSES:

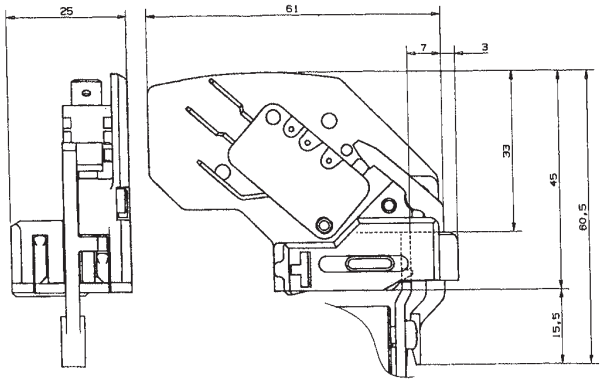
- PSC sizes 000/00 (brackets) DIN43653
- NH Fuses (palin blades) see details in "General Purpose IEC Fuses" section
- NH plain blades 690 VAC Protistor square-body Fuses

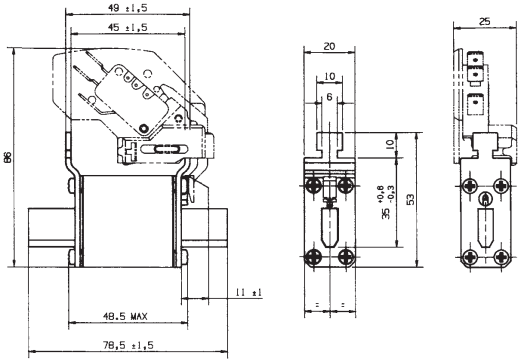
MS 4L 2-5

Main Characteristics

Code	AC Insulation voltage rating (***)	Positive operating voltage/current	Current rating	Current	Interrupting rating Non inductive circuit			Inductive circuit : L/R = 25ms			AC voltage withstand test (*)	Impulse voltage test Uimp1.2/50 µs (**)	Fire class according to UL 94
					30V	110V	250V	30V	110V	250V			
MS 4L 2-5 B2	1000 V	20 V	5 A	50 Hz	4A	4A	5A	-	5A	5 A	12 kV	16 kV	V0
+ Pres		100 mA		DC	-	-	-	-	2 A	0,4 A	8 kV	13 kV	
MS 4L 2-5 B6	1000 V	20 V	10 A	50/60 Hz	10 A	10 A	10 A	10 A	10 A	10 A	8 kV	10 kV	V0
+ Pres		50 mA		DC	8 A	0,4 A	0,2 A	4 A	0,2 A	0,1 A			

* 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





Designation	Ref. Number	Weight (g)	Pack.	Catalog Number
MS 4L 2-5 B6 + PRES (Fig. 1) (1)	F210156	30	3	MS 4L2-5B6PRES
MS 4L 2-5 B2 + PRES (Fig. 2) (2)	G210157	26	3	MS 4L2-5B2PRES

Automatically resettable, these microswitch systems indicate fuse presence (PRES) and proper mounting.
In case of improper mounting or fuse melting, this is indicated (terminal 1-4 closed)

Fig.1

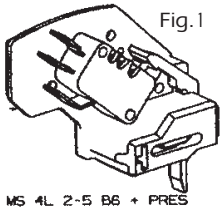
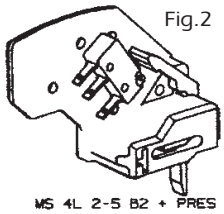


Fig.2



(1) 6.3 mm clips
(2) 2.8 mm clips

Protistor® Square-body Fuses
PSC aR sizes 3x - 450V to 700 VAC
Main characteristics

450 TO 700VAC / 63 TO 2800A

Recognized

Exceptionally low I^2T, Watt losses.
Non-magnetic construction,
Highly reliable low voltage
Trip-indicator system, conformity to UL,
IEC, DIN and VDE standards.
Increased technical performance

- Highter ratings
- Reduction in volume and weight

This fuse preselection table indicates, for each size:

- rated current (or rating) In
- pre-arcing I^2t (I^2tp) at 1 ms
- total operating I^2t (I^2tt) at 660 V, f=50Hz cos φ=0.15, and for a total operating time from 8 to 10 ms
- dissipated power Pn at the rated current In, and at 0.8 In, in steady state
- breaking capacity at various voltages, checked by tests
  made in accordance with IEC and American standards.

Protistor® Square-body Fuses
PSC aR sizes 3x - 450V to 700 VAC
Main characteristics

Estimated breaking capacity: 300kA

Size	Nominal Voltage (VAC)		Ampere Rating (A)	Pre-arcing I²t @ 1ms (kA²s)	Total I²t @ 660V (*) @ Un (kA²s)	Power Pn (W)		Tested Breaking capacity (kA)	
	IEC	USA				End contact	Blades	IEC @ 690V (*) @ Un	USA @ 700V (*) @ Un
30	690	700	50	0,116	0,62	9	9	200	200
			63	0,2	1,1	14	14		
			80	0,33	1,8	19	19		
			100	0,47	2,5	26	26		
			125	0,85	4,5	30	30		
			160	1,6	8,5	37	37		
			200	3	15,5	42	43		
			250	5,8	30	48	50		
			315	12	62	53	55		
			350	15,5	80	57	60		
			400	23	120	60	65		
			450	26	150	80	88		
			500	41	240	80	88		
			550	52	300	80	90		
	600	650	630	84	450(*)	85	95	200(*)	200(*)
31	690	700	160	1,3	7	35	35	200	200
			200	2,6	13,5	45	45		
			250	4,7	25	52	52		
			315	7,5	40	65	65		
			350	10,5	55	67	67		
			400	19	100	68	68		
			450	26,5	140	70	70		
			500	37	195	70	72		
			550	52	280	70	75		
			630	75	390	75	85		
			700	95	490	85	95		
			800	140	800	105	120		
32	690	700	315	5,2	28,9	71	71	200	200
			350	8,9	48,8	71	74		
			400	15	80	72	75		
			450	22	115	77	80		
			500	28	145	85	90		
			550	37	195	90	95		
			630	54	280	95	105		
			700	76	400	100	110		
			800	115	600	110	120		
			900	170	900	110	125		
			1000	240	1250	115	135		
	600	650	1100	270	1450(*)	140	165	160(*)	160(*)
	550	600	1250	410	1950(*)	150	180	150(*)	150(*)
	500	550	1400	555	2300(*)	160	200	130(*)	130(*)
			1600	870	3600(*)	165	205		
	450	500	1800	1050	3700(*)	195	230	110(*)	110(*)
33	690	700	450	13,45	74,1	84	88	200	200
			500	19	100	105	105		
			550	27	140	105	110		
			630	40	210	110	120		
			700	55	300	115	125		
			800	95	490	120	130		
			900	135	700	120	135		
			1000	170	900	135	155		
			1100	240	1260	135	160		
			1250	350	1850	150	180		
			1400	480	2500	160	200		
	600	650	1500	500	2500(*)	210	240	160(*)	160(*)
			1600	555	2900(*)	210	240		
			1800	720	3870(*)	225	260		
	550	600	2000	950	4500(*)	250	290	150(*)	150(*)
	500	550	2250	1250	5160(*)	280	320	130(*)	130(*)
	450	500	2500	1870	6540(*)	280	330	110(*)	110(*)
2X32	690	700	800	60	320	144		200	200
			1000	110	590	165			
			1250	220	1100	190			
			1400	300	1600	200			
			1600	450	2400	220			
			1800	700	3500	225			
			2000	950	5000	235			
	550	600	2200	1100	5250(*)	280		150(*)	150(*)
2x33	690	700	1000	76	395	220		170	170
			1250	160	850	230			
			1400	225	1200	240			
			1600	375	1900	250			
			1800	530	2800	250			
	600	650	2000	700	3100(*)	280		160(*)	160(*)
			2200	950	4400(*)	280			
			2500	1400	6600(*)	310			
			2800	1900	8800(*)	330			

For others Ampere ratings consult us

12/04

Protistor® Square-body Fuses
PSC aR sizes 3x - 450V to 700 VAC
American Terminals - 30 - 33 End contacts

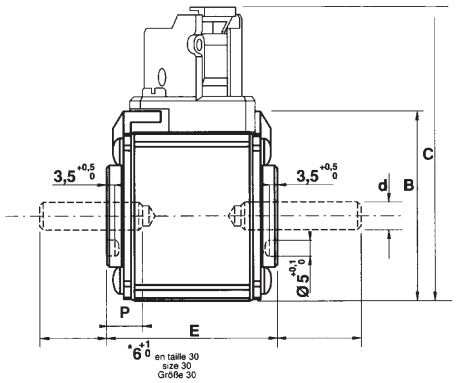
Size	Designation	Reference Number	Weight (g)	Packaging	Catalog Number
30	A070 URD 30 TTI 0050	V302744	245	3	A070UD30TTI 50
	A070 URD 30 TTI 0063	A301967			A070UD30TTI 63
	A070 URD 30 TTI 0080	V301962			A070UD30TTI 80
	A070 URD 30 TTI 0100	W300744			A070UD30TTI100
	A070 URD 30 TTI 0125	G300708			A070UD30TTI125
	A070 URD 30 TTI 0160	N300576			A070UD30TTI160
	A070 URD 30 TTI 0200	P300577			A070UD30TTI200
	A070 URD 30 TTI 0250	Q300578			A070UD30TTI250
	A070 URD 30 TTI 0315	R300579			A070UD30TTI315
	A070 URD 30 TTI 0350	S300580			A070UD30TTI350
	A070 URD 30 TTI 0400	T300581			A070UD30TTI400
	A070 URD 30 TTI 0450	V300582			A070UD30TTI450
	A070 URD 30 TTI 0500	W300583			A070UD30TTI500
	A070 URD 30 TTI 0550	X300584			A070UD30TTI550
	A065 URD 30 TTI 0630	A302703			A065UD30TTI630
31	A070 URD 31 TTI 0160	-	370	3	
	A070 URD 31 TTI 0200	A300472			A070UD31TTI200
	A070 URD 31 TTI 0250	B300473			A070UD31TTI250
	A070 URD 31 TTI 0315	C300474			A070UD31TTI315
	A070 URD 31 TTI 0350	D300475			A070UD31TTI350
	A070 URD 31 TTI 0400	E300476			A070UD31TTI400
	A070 URD 31 TTI 0450	F300477			A070UD31TTI450
	A070 URD 31 TTI 0500	G300478			A070UD31TTI500
	A070 URD 31 TTI 0550	H300479			A070UD31TTI550
	A070 URD 31 TTI 0630	J300480			A070UD31TTI630
	A070 URD 31 TTI 0700	K300481			A070UD31TTI700
	A070 URD 31 TTI 0800	L300482			A070UD31TTI800
32	A070 URD 32 TTI 0315	-	510	3	
	A070 URD 32 TTI 0350	-			
	A070 URD 32 TTI 0400	Q300463			A070UD32TTI400
	A070 URD 32 TTI 0450	N300461			A070UD32TTI450
	A070 URD 32 TTI 0500	P300462			A070UD32TTI500
	A070 URD 32 TTI 0550	R300464			A070UD32TTI550
	A070 URD 32 TTI 0630	S300465			A070UD32TTI630
	A070 URD 32 TTI 0700	T300466			A070UD32TTI700
	A070 URD 32 TTI 0800	V300467			A070UD32TTI800
	A070 URD 32 TTI 0900**	W300468			A070UD32TTI900
	A070 URD 32 TTI 1000**	X300469			A070UD32TTI1000
	A065 URD 32 TTI 1100**	M301081			A065UD32TTI1100
	A060 URD 32 TTI 1250**	N301082			A060UD32TTI1250
	A055 URD 32 TTI 1400**	P301083	600	3	A055UD32TTI1400
	A055 URD 32 TTI 1600**	Q301084			A055UD32TTI1600
	A050 URD 32 TTI 1800**	R301085			A050UD32TTI1800
33	A070 URD 33 TTI 0450	X302171	790	3	A070UD33TTI450
	A070 URD 33 TTI 0500	X300446			A070UD33TTI500
	A070 URD 33 TTI 0550	Y300447			A070UD33TTI550
	A070 URD 33 TTI 0630	Z300448			A070UD33TTI630
	A070 URD 33 TTI 0700	A300449			A070UD33TTI700
	A070 URD 33 TTI 0800	T300443			A070UD33TTI800
	A070 URD 33 TTI 0900	B300450			A070UD33TTI900
	A070 URD 33 TTI 1000	C300451			A070UD33TTI1000
	A070 URD 33 TTI 1100	D300452			A070UD33TTI1100
	A070 URD 33 TTI 1250**	E300453			A070UD33TTI1250
	A070 URD 33 TTI 1400**	F300454			A070UD33TTI1400
	A065 URD 33 TTI 1500**	F302064			A065UD33TTI1500
	A065 URD 33 TTI 1600**	S301086			A065UD33TTI1600
	A065 URD 33 TTI 1800**	T301087	910	3	A065UD33TTI1800
	A060 URD 33 TTI 2000**	V301088			A060UD33TTI2000
	A055 URD 33 TTI 2250**	W301089			A055UD33TTI2250
	A050 URD 33 TTI 2500**	Y300838			A050UD33TTI2500

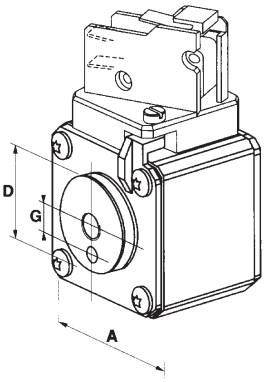
Rated Voltage as per American standard

Protistor® Square-body Fuses
PSC aR sizes 3x - 450V to 700 VAC
American Terminals - 30 - 33 End contacts

Size	A	B	C	D	$E^{\pm 1}$	d	$G^{\pm 0.1}$	$P^{\pm 0.1}$
30	40 1-19/32"	46.5 1-27/32"	82 3-7/32"	26 1"	50.6 2"	5/16"-18	9 23/64"	6 15/64"
31	51 2"	56.5 2-7/32"	91 3-37/64"	30 1-3/16"	50.6 2"	5/16"-18	9 23/64"	9 23/64"
32	60 2-3/8"	65.5 2-37/64"	100 3-15/16"	38 ; (42 **) 1-1/2" ; (1-21/32" **)	50.6 2"	3/8"-16	15 19/32"	9 23/64"
33	74.5 2-15/16"	79.5 3-1/8"	114 4-1/2"	46 ; (52 **) 1-13/16" ;(2-1/16 **)	50.6 2"	1/2"-13	15 19/32"	9 23/64"

Note:
dimensions in mm
dimensions in inches





Microswitches are supplied separately see microswitches PSC 3x & 7x section

Protistor® Square-body Fuses
PSC aR sizes 3x - 450V to 700 VAC
American Terminals - 30 - 33 Blades

Rated voltage as per American standard.

Size	Designation	Reference Number K	Weight (g)	Pack.	Catalog Number
30	A 070 URD 30 KI 0050	E301925	290	3	A070UD30KI050
	A 070 URD 30 KI 0063	B300128			A070UD30KI63
	A 070 URD 30 KI 0080	C300129			A070UD30KI080
	A 070 URD 30 KI 0100	D300130			A070UD30KI100
	A 070 URD 30 KI 0125	E300131			A070UD30KI125
	A 070 URD 30 KI 0160	F300132			A070UD30KI160
	A 070 URD 30 KI 0200	G300133			A070UD30KI200
	A 070 URD 30 KI 0250	H300134			A070UD30KI250
	A 070 URD 30 KI 0315	J300135			A070UD30KI315
	A 070 URD 30 KI 0350	K300136			A070UD30KI350
	A 070 URD 30 KI 0400	L300137			A070UD30KI400
	A 070 URD 30 KI 0450	T301064			A070UD30KI450
	A 070 URD 30 KI 0500	V301065			A070UD30KI500
	A 070 URD 30 KI 0550	W301066			A070UD30KI550
	A 065 URD 30 KI 0630	-			
31	A 070 URD 31 KI 0160	F300385	430	3	A070UD31KI160
	A 070 URD 31 KI 0200	S300028			A070UD31KI200
	A 070 URD 31 KI 0250	T300029			A070UD31KI250
	A 070 URD 31 KI 0315	V300030			A070UD31KI315
	A 070 URD 31 KI 0350	R300050			A070UD31KI350
	A 070 URD 31 KI 0400	W300031			A070UD31KI400
	A 070 URD 31 KI 0450	X300032			A070UD31KI450
	A 070 URD 31 KI 0500	Y300033			A070UD31KI500
	A 070 URD 31 KI 0550	Z300034			A070UD31KI550
	A 070 URD 31 KI 0630	A300035			A070UD31KI630
	A 070 URD 31 KI 0700	B300036			A070UD31KI700
	A 070 URD 31 KI 0800	A301070			A070UD31KI800
32	A 070 URD 32 KI 0400	Z300195	590	3	A070UD32KI400
	A 070 URD 32 KI 0450	A300196			A070UD32KI450
	A 070 URD 32 KI 0500	B300197			A070UD32KI500
	A 070 URD 32 KI 0550	C300198			A070UD32KI550
	A 070 URD 32 KI 0630	D300199			A070UD32KI630
	A 070 URD 32 KI 0700	E300200			A070UD32KI700
	A 070 URD 32 KI 0800	F300201			A070UD32KI800
	A 070 URD 32 KI 0900	G300202			A070UD32KI900
	A 070 URD 32 KI 1000	H300203			A070UD32KI1000
	A 065 URD 32 KI 1100	-			
	A 060 URD 32 KI 1250	-	660		
	A 055 URD 32 KI 1400	-			
	A 055 URD 32 KI 1600	-			
	A 050 URD 32 KI 1800	-			
33	A 070 URD 33 KI 0500	W300238	860	3	A070UD33KI500
	A 070 URD 33 KI 0550	X300239			A070UD33KI550
	A 070 URD 33 KI 0630	Y300240			A070UD33KI630
	A 070 URD 33 KI 0700	Z300241			A070UD33KI700
	A 070 URD 33 KI 0800	A300242			A070UD33KI800
	A 070 URD 33 KI 0900	B300243			A070UD33KI900
	A 070 URD 33 KI 1000	C300244			A070UD33KI1000
	A 070 URD 33 KI 1100	D300245			A070UD33KI1100
	A 070 URD 33 KI 1250	E300246			A070UD33KI1250
	A 070 URD 33 KI 1400	F300247			A070UD33KI1400
	A 065 URD 33 KI 1600	E302063			A065UD33KI1600
	A 065 URD 33 KI 1800	-			
	A 060 URD 33 KI 2000	-			
	A 055 URD 33 KI 2250	-			
	A 050 URD 33 KI 2500	-	1070		

Protistor® Square-body Fuses
PSC aR sizes 3x - 450V to 700 VAC
American Terminals - 30 - 33 Blades

Rated voltage as per American standard.

Size	Designation	Reference Number L	Weight (g)	Pack.	Catalog Number
30	A 070 URD 30 LI 0050	A301921	290	3	A070UD30LI050
	A 070 URD 30 LI 0063	M300138			A070UD30LI63
	A 070 URD 30 LI 0080	N300139			A070UD30LI080
	A 070 URD 30 LI 0100	P300140			A070UD30LI100
	A 070 URD 30 LI 0125	Q300141			A070UD30LI125
	A 070 URD 30 LI 0160	R300142			A070UD30LI160
	A 070 URD 30 LI 0200	S300143			A070UD30LI200
	A 070 URD 30 LI 0250	T300144			A070UD30LI250
	A 070 URD 30 LI 0315	V300145			A070UD30LI315
	A 070 URD 30 LI 0350	W300146			A070UD30LI350
	A 070 URD 30 LI 0400	X300147			A070UD30LI400
	A 070 URD 30 LI 0450	K300527			A070UD30LI450
	A 070 URD 30 LI 0500	L300528			A070UD30LI500
	A 070 URD 30 LI 0550	M300529			A070UD30LI550
	A 060 URD 30 LI 0630	P302003			A060UD30LI630
31	A 070 URD 31 LI 0160	D301924	430	3	A070UD31LI160
	A 070 URD 31 LI 0200	V300697			A070UD31LI200
	A 070 URD 31 LI 0250	W300698			A070UD31LI250
	A 070 URD 31 LI 0315	X300699			A070UD31LI315
	A 070 URD 31 LI 0350	Y300700			A070UD31LI350
	A 070 URD 31 LI 0400	Z300701			A070UD31LI400
	A 070 URD 31 LI 0450	A300702			A070UD31LI450
	A 070 URD 31 LI 0500	B300703			A070UD31LI500
	A 070 URD 31 LI 0550	C300704			A070UD31LI550
	A 070 URD 31 LI 0630	D300705			A070UD31LI630
	A 070 URD 31 LI 0700	E300706			A070UD31LI700
	A 070 URD 31 LI 0800	F300707			A070UD31LI800
32	A 070 URD 32 LI 0400	J300204	590	3	A070UD32LI400
	A 070 URD 32 LI 0450	K300205			A070UD32LI450
	A 070 URD 32 LI 0500	L300206			A070UD32LI500
	A 070 URD 32 LI 0550	M300207			A070UD32LI550
	A 070 URD 32 LI 0630	N300208			A070UD32LI630
	A 070 URD 32 LI 0700	P300209			A070UD32LI700
	A 070 URD 32 LI 0800	Q300210			A070UD32LI800
	A 070 URD 32 LI 0900	R300211			A070UD32LI900
	A 070 URD 32 LI 1000	S300212			A070UD32LI1000
	A 065 URD 32 LI 1100	B301071			A065UD32LI1100
	A 060 URD 32 LI 1250	C301072	660		A060UD32LI1250
	A 055 URD 32 LI 1400	D301073			A055UD32LI1400
	A 055 URD 32 LI 1600	E301074			A055UD32LI1600
	A 050 URD 32 LI 1800	F301075			A050UD32LI1800
33	A 070 URD 33 LI 0500	K300228	860	3	A070UD33LI500
	A 070 URD 33 LI 0550	L300229			A070UD33LI550
	A 070 URD 33 LI 0630	M300230			A070UD33LI630
	A 070 URD 33 LI 0700	N300231			A070UD33LI700
	A 070 URD 33 LI 0800	P300232			A070UD33LI800
	A 070 URD 33 LI 0900	Q300233			A070UD33LI900
	A 070 URD 33 LI 1000	R300234			A070UD33LI1000
	A 070 URD 33 LI 1100	S300235			A070UD33LI1100
	A 070 URD 33 LI 1250	T300236			A070UD33LI1250
	A 070 URD 33 LI 1400	V300237			A070UD33LI1400
	A 065 URD 33 LI 1600	G301076			A065UD33LI1600
	A 065 URD 33 LI 1800	H301077			A065UD33LI1800
	A 060 URD 33 LI 2000	J301078			A060UD33LI2000
	A 055 URD 33 LI 2250	K301079			A055UD33LI2250
	A 050 URD 33 LI 2500	L301080	1070		A050UD33LI2500

Protistor® Square-body Fuses
PSC aR sizes 3x - 450V to 700 VAC
American Terminals - 30 - 33 Blades

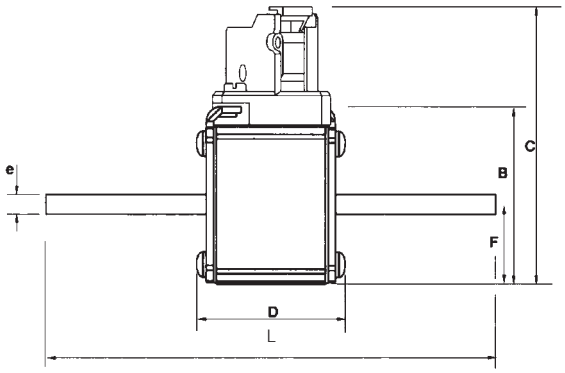
Rated voltage as per American standard.

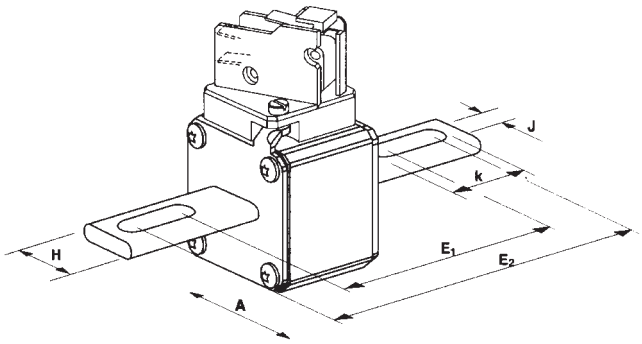
Size	Designation	Reference Number	Weight (g)	Pack.	Catalog Number
		LL			
31	A 070 URD 31 LLI 0160	C301923	290		A070UD31LLI160
	A 070 URD 31 LLI 0200	J300158			A070UD31LLI200
	A 070 URD 31 LLI 0250	K300159			A070UD31LLI250
	A 070 URD 31 LLI 0315	L300160			A070UD31LLI315
	A 070 URD 31 LLI 0350	M300161			A070UD31LLI350
	A 070 URD 31 LLI 0400	N300162			A070UD31LLI400
	A 070 URD 31 LLI 0450	P300163			A070UD31LLI450
	A 070 URD 31 LLI 0500	Q300164			A070UD31LLI500
	A 070 URD 31 LLI 0550	R300165			A070UD31LLI550
	A 070 URD 31 LLI 0630	S300166			A070UD31LLI630
	A 070 URD 31 LLI 0700	T300167			A070UD31LLI700
	A 070 URD 31 LLI 0800	J300526			A070UD31LLI800

Protistor® Square-body Fuses
PSC aR sizes 3x - 450V to 700 VAC
American Terminals - 30 - 33 Blades

	Size	A	B	C	D	$E_1^{\pm 1,1}$	$E_2^{\pm 1,1}$	F	H	J	K	L	e
K	30	40 1-19/32"	46,5 1-27/32"	82 3-7/32"	47,5 1-7/8"	68 2-11/16"	107 4-7/32"	21 53/64"	25 1"	10,5 13/32"	30 1-3/16"	129 5-5/64"	6 15/64"
	31	51 2"	56,5 2-7/32"	91 3-37/64"	47,5 1-7/8"	68 2-11/16"	107 4-7/32"	25,5 1"	25 1"	10,5 13/32"	30 1-3/16"	129 5-5/64"	6 15/64"
	32	60 2-3/8"	65,5 2-37/64"	100 3-15/16"	47,5 1-7/8"	74,5 2-59/64"	109 4-9/32"	30 1-3/16"	32 1-1/4"	14,6 9/16"	32 1-1/4"	134 5-9/32"	6 15/64"
	33	74,5 2-15/16"	79,5 3-1/8"	114 4-1/2"	48,5 1-29/32"	75,4 2-31/32"	107,6 4-15/64"	37,2 1-15/32"	40 1-9/16"	15,9 5/8"	32 1-1/4"	134 5-9/32"	6 15/64"
L	30	40 1-19/32"	46,5 1-27/32"	82 3-7/32"	47,5 1-7/8"	87,6 3-7/16"	126,6 5"	21 53/64"	25 1"	10,5 13/32"	30 1-3/16"	148,5 5-27/32"	6 15/64"
	31	51 2"	56,5 2-7/32"	91 3-37/64"	47,5 1-7/8"	91,6 3-19/32"	122,4 4-13/16"	25,5 1"	25 1"	14,6 9/16"	30 1-3/16"	148,6 5-27/32"	6 15/64"
	32	60 2-3/8"	65,5 2-37/64"	100 3-15/16"	47,5 1-7/8"	94,2 3-45/64"	129 5-5/64"	30 1-3/16"	32 1-1/4"	14,6 9/16"	32 1-1/4"	153 5-9/32"	6 15/64"
	33	74,5 2-15/16"	79,5 3-1/8"	114 4-1/2"	48,5 1-29/32"	94,4 3-23/32"	126,6 5"	37,2 1-15/32"	40 1-9/16"	15,9 5/8"	32 1-1/4"	153 6"	6 15/64"
LL	31	51 2"	56,5 2-7/32"	91 3-37/64"	47,5 1-7/8"	87,6 3-7/16"	126,6 5"	25,5 1"	25 1"	10,5 13/32"	30 1-3/16"	148,6 5-27/32"	6 15/64"

Note:
dimensions in mm
dimensions in inches

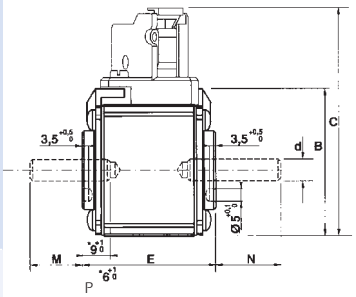


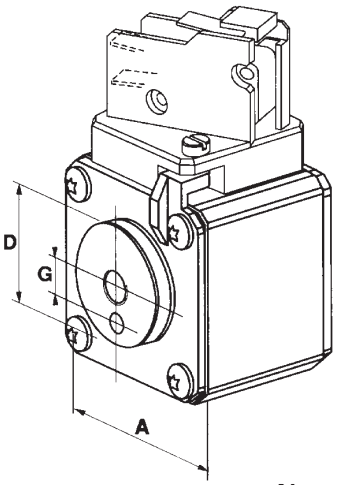


Microswitches supplied separately see microswitches for PSC 3x & 7x section

Protistor® Square-body Fuses
PSC aR sizes 3x - 450V to 700 VAC
IEC Terminals French - 30 - 33 End contacts

Size	Designation	Reference Number	Weight (g)	Packaging	Catalog Number
30	6,9 URD 30 TTF 0050	S300373	245	3	PC30UD69V50TF
	6,9 URD 30 TTF 0063	M300000			PC30UD69V63TF
	6,9 URD 30 TTF 0080	S300051			PC30UD69V80TF
	6,9 URD 30 TTF 0100	T300052			PC30UD69V100TF
	6,9 URD 30 TTF 0125	V300053			PC30UD69V125TF
	6,9 URD 30 TTF 0160	W300054			PC30UD69V160TF
	6,9 URD 30 TTF 0200	X300055			PC30UD69V200TF
	6,9 URD 30 TTF 0250	Y300056			PC30UD69V250TF
	6,9 URD 30 TTF 0315	Z300057			PC30UD69V315TF
	6,9 URD 30 TTF 0350	A300058			PC30UD69V350TF
	6,9 URD 30 TTF 0400	B300059			PC30UD69V400TF
	6,9 URD 30 TTF 0450	V300398			PC30UD69V450TF
	6,9 URD 30 TTF 0500	W300399			PC30UD69V500TF
	6,9 URD 30 TTF 0550	X300400			PC30UD69V550TF
	6 URD 30 TTF 0630	L301770			PC30UD60V630TF
31	6,9 URD 31 TTF 0160	M300299	370	3	PC31UD69V160TF
	6,9 URD 31 TTF 0200	N300001			PC31UD69V200TF
	6,9 URD 31 TTF 0250	P300002			PC31UD69V250TF
	6,9 URD 31 TTF 0315	Q300003			PC31UD69V315TF
	6,9 URD 31 TTF 0350	M300046			PC31UD69V350TF
	6,9 URD 31 TTF 0400	R300004			PC31UD69V400TF
	6,9 URD 31 TTF 0450	S300005			PC31UD69V450TF
	6,9 URD 31 TTF 0500	T300006			PC31UD69V500TF
	6,9 URD 31 TTF 0550	V300007			PC31UD69V550TF
	6,9 URD 31 TTF 0630	W300008			PC31UD69V630TF
	6,9 URD 31 TTF 0700	X300009			PC31UD69V700TF
	6,9 URD 31 TTF 0800	Y300401			PC31UD69V800TF
32	6,9 URD 32 TTF 0315	M302162	510	3	PC32UD69V315TF
	6,9 URD 32 TTF 0350	N302163			PC32UD69V350TF
	6,9 URD 32 TTF 0400	H300065			PC32UD69V400TF
	6,9 URD 32 TTF 0450	J300066			PC32UD69V450TF
	6,9 URD 32 TTF 0500	K300067			PC32UD69V500TF
	6,9 URD 32 TTF 0550	L300068			PC32UD69V550TF
	6,9 URD 32 TTF 0630	M300069			PC32UD69V630TF
	6,9 URD 32 TTF 0700	N300070			PC32UD69V700TF
	6,9 URD 32 TTF 0800	P300071			PC32UD69V800TF
	6,9 URD 32 TTF 0900 **	Q300072			PC32UD69V900TF
	6,9 URD 32 TTF 1000 **	S300074			PC32UD69V1000TF
	6 URD 32 TTF 1100 **	M300759			PC32UD60V1100TF
	5,5 URD 32 TTF 1250 **	P301060			PC32UD55V1250TF
	5 URD 32 TTF 1400 **	Q301061	600	3	PC32UD50V1400TF
	5 URD 32 TTF 1600 **	H300893			PC32UD50V1600TF
	4,5 URD 32 TTF 1800 **	R301062			PC32UD45V1800TF
33	6,9 URD 33 TTF 0450	W302170	790	3	PC33UD69V450TF
	6,9 URD 33 TTF 0500	V300076			PC33UD69V500TF
	6,9 URD 33 TTF 0550	W300077			PC33UD69V550TF
	6,9 URD 33 TTF 0630	X300078			PC33UD69V630TF
	6,9 URD 33 TTF 0700	Y300079			PC33UD69V700TF
	6,9 URD 33 TTF 0800	Z300080			PC33UD69V800TF
	6,9 URD 33 TTF 0900	A300081			PC33UD69V900TF
	6,9 URD 33 TTF 1000	B300082			PC33UD69V1000TF
	6,9 URD 33 TTF 1100	C300083			PC33UD69V1100TF
	6,9 URD 33 TTF 1250 **	D300084			PC33UD69V1250TF
	6,9 URD 33 TTF 1400 **	E300085			PC33UD69V1400TF
	6 URD 33 TTF 1500 **	Y300585			PC33UD60V1500TF
	6 URD 33 TTF 1600 **	Z300586		3	PC33UD60V1600TF
	6 URD 33 TTF 1800 **	A300587			PC33UD60V1800TF
	5,5 URD 33 TTF 2000 **	B300588	910		PC33UD55V2000TF
	5 URD 33 TTF 2250 **	K300757			PC33UD50V2250TF
	4,5 URD 33 TTF 2500 **	L300758			PC33UD45V2500TF





Note:
dimensions in mm
dimensions in inches

Threaded studs and microswitches supplied separately see microswitchesPSC 3x & 7x and Metric studs sections

Size	A	B	C	D	M±	N±	E±1	d	G±0.1	P
30	40 1-9/16"	46,5 1-27/32"	82 3-7/32"	26 1-1/64"	22	27	50,6 2"	M8	9 23/64"	6 15/64"
31	51 2"	56,5 2-7/32"	91 3-37/64"	30 1-3/16"	19	24	50,6 2"	M8	9 23/64"	9 23/64"
32	60 2-3/8"	65,5 2-37/64"	100 3-15/16"	38 ; (42mm **) 1-1/2" ; (1-21/32" **)	19	39	50,6 2"	M10	15 19/32"	9 23/64"
33	74,5 2-15/16"	79,5 3-1/8"	114 4-1/2"	46 ; (52mm **) 1-13/16" ; (2-1/16" **)	24	39	50,6 2"	M12	15 19/32"	9 23/64"

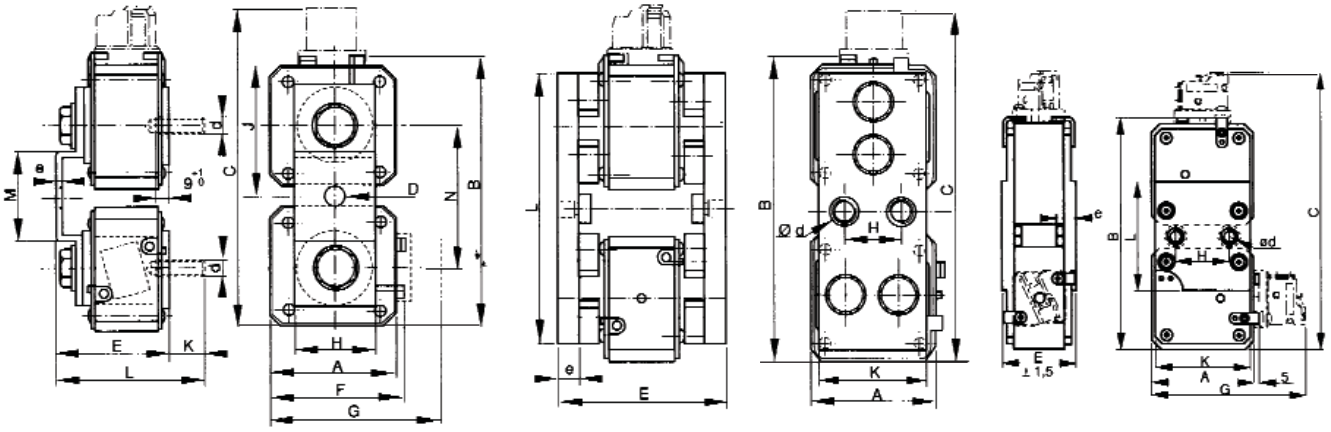
Protistor® Square-body Fuses
PSC aR sizes 3x - 450V to 700 VAC
IEC Terminals French - 30 - 33 End contacts

Size	Designation	Reference Number	Weight (g)	Packaging	Catalog Number
2 x 32	6,9 URD 232 TTF 0800	T300305			PC232UD69V8CTF
	6,9 URD 232 TTF 1000	T300213			PC232UD69V10CTF
	6,9 URD 232 TTF 1250	V300214	1240		PC232UD69V13CTF
	6,9 URD 232 TTF 1400	G300087		1	PC232UD69V14CTF
	6,9 URD 232 TDF 1600	W300215			PC232UD69V16CTD
	6,9 URD 232 TDF 1800	X300216	3300		PC232UD69V18CTD
	6,9 URD 232 TDF 2000	Y300217			PC232UD69V20CTD
	5,5 URD 232 TDF 2200	D301993			PC232UD55V22CTD
2 x 33	6,9 URD 233 TTF 1000	B301186			PC233UD69V10CTF
	6,9 URD 233 TTF 1250	D300268			PC233UD69V13CTF
	6,9 URD 233 TTF 1400	E300269	1900		PC233UD69V14CTF
	6,9 URD 233 TTF 1600	F300270			PC233UD69V16CTF
	6,9 URD 233 PLAF 1800	B300427			PC36UD69V18CP11
	6 URD 233 PLAF 2000	R302235			PC36UD60V20CP11
	6 URD 233 PLAF 2200	Q302234			PC36UD60V22CP11
	6 URD 233 PLAF 2500	P302233		1	PC36UD60V25CP11
	6 URD 233 PLAF 2800	N302232			PC36UD60V28CP11
	5,5 URD 233 PLAF 3000*	L301977			PC36UD55V30CP11
	5,5 URD 233 PLAF 3200*	M301978	2000		PC36UD55V32CP11
	5 URD 233 PLAF 3600*	N301979			PC36UD50V36CP11
	5 URD 233 PLAF 4000*	P301980			PC36UD50V40CP11
	4 URD 233 PLAF 4500*	Q301981			PC36UD40V45CP11
	4 URD 233 PLAF 5000*	R301982			PC36UD40V50CP11

*Consult us

Size	A	B	C	D	E	F	G	H	J	K	d	e	L	M	N
2x32 TT	60	138,5	172	11	67,6	66,5	100	35	61	40	M 10	4	107,5	48	72
2x33 TT	74,5	167	200	13	67,6	81	114	50	80	40	M 12	4	107,5	54	86
2x32 TD	65,5	147	182	-	91,5	-	-	30	-	60	M 10	12	140	-	-
2x33 PLAF	75	171,5	207	-	55,5	-	115	40	-	71	M 10	15	81	-	-

TT **TD** **PLAF**

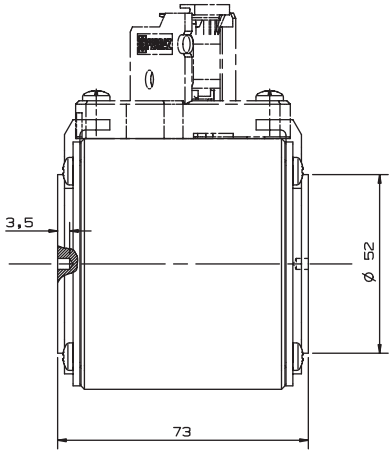


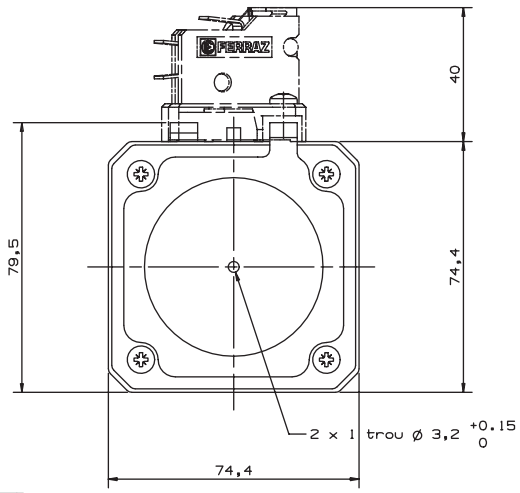
Protistor® Square-body Fuses
PSC aR sizes 3x - 450V to 700 VAC
IEC Terminals French - 30 - 33 End contacts

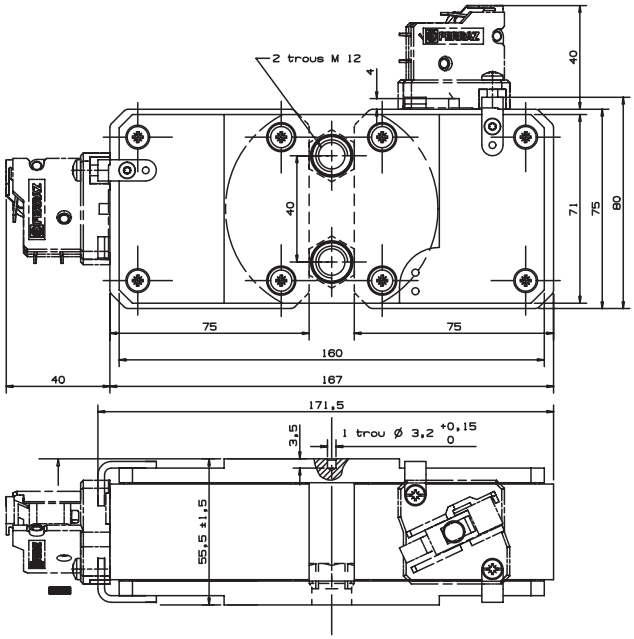
33 PPAF Standard Press-Pack

Size	Designation	Reference Number	Weight (g)	Packaging	Catalog Number
33	6,9 URD 33 PPAF 1250	D301855	910	3	PC33UD69V13CPP
	6,9 URD 33 PPAF 1400	E301856			PC33UD69V14CPP
	6 URD 33 PPAF 1600	G301927			PC33UD60V16CPP
2x33	6,9 URD 233 PPAF 1800	R300694	2450	1	PC36UD69V18CP12
	6 URD 233 PPAF 2000	H302250			PC36UD60V20CP12
	6 URD 233 PPAF 2200	K302252			PC36UD60V22CP13
	6 URD 233 PPAF 2500	M302254			PC36UD60V25CP12
	6 URD 233 PPAF 2800	L302253			PC36UD60V28CP13
	5,5 URD 233 PPAF 3000	to be given - contact us			to be given - contact us
	5,5 URD 233 PPAF 3200	V301985			PC36UD55V32CP12
	5,5 URD 233 PPAF 3600	to be given - contact us			to be given - contact us
	5 URD 233 PPAF 4000	X301987			PC36UD50V40CP12
	4,5 URD 233 PPAF 4500	to be given - contact us			to be given - contact us
	4 URD 233 PPAF 5000	M301932			PC36UD40V50CP12

Studs and microswitches supplied separately







Protistor® Square-body Fuses
PSC aR sizes 3x - 450V to 700 VAC
IEC Terminals French - 30 - 33 Blades

Size	Designation	Reference Number	Weight (g)	Packaging	Base	I/I_N*	Catalog Number
30	6,9 URD 30 E F 0050	R300372	290	3	SP30	1	PC30UD69V50EF
	6,9 URD 30 E F 0063	H300088				1	PC30UD69V63EF
	6,9 URD 30 E F 0080	J300089				1	PC30UD69V80EF
	6,9 URD 30 E F 0100	K300090				1	PC30UD69V100EF
	6,9 URD 30 E F 0125	L300091				1	PC30UD69V125EF
	6,9 URD 30 E F 0160	M300092				0,95	PC30UD69V160EF
	6,9 URD 30 E F 0200	N300093				0,90	PC30UD69V200EF
	6,9 URD 30 E F 0250	P300094				0,85	PC30UD69V250EF
	6,9 URD 30 E F 0315	Q300095				0,80	PC30UD69V315EF
	6,9 URD 30 E F 0350	R300096				0,80	PC30UD69V350EF
	6,9 URD 30 E F 0400	S300097				0,75	PC30UD69V400EF
31	6,9 URD 31 E F 0160	B301922	430	3	SE31	1	PC31UD69V160EF
	6,9 URD 31 E F 0200	C300037				1	PC31UD69V200EF
	6,9 URD 31 E F 0250	D300038				1	PC31UD69V250EF
	6,9 URD 31 E F 0315	E300039				0,95	PC31UD69V315EF
	6,9 URD 31 E F 0350	N300047				0,95	PC31UD69V350EF
	6,9 URD 31 E F 0400	F300040				0,95	PC31UD69V400EF
	6,9 URD 31 E F 0450	G300041				0,95	PC31UD69V450EF
	6,9 URD 31 E F 0500	H300042				0,95	PC31UD69V500EF
	6,9 URD 31 E F 0550	J300043				0,90	PC31UD69V550EF
	6,9 URD 31 E F 0630	K300044				0,90	PC31UD69V630EF
	6,9 URD 31 E F 0700	L300045				0,85	PC31UD69V700EF
32	6,9 URD 32 E F 0400	V300168	590	3	SE32	0,95	PC32UD69V400EF
	6,9 URD 32 E F 0450	W300169				0,95	PC32UD69V450EF
	6,9 URD 32 E F 0500	X300170				0,90	PC32UD69V500EF
	6,9 URD 32 E F 0550	Y300171				0,90	PC32UD69V550EF
	6,9 URD 32 E F 0630	Z300172				0,85	PC32UD69V630EF
	6,9 URD 32 E F 0700	A300173				0,85	PC32UD69V700EF
	6,9 URD 32 E F 0800	B300174				0,80	PC32UD69V800EF
	6,9 URD 32 E F 0900	C300175				0,80	PC32UD69V900EF
	6,9 URD 32 E F 1000	D300176				0,80	PC32UD69V1000EF
33	6,9 URD 33 E F 0500	Z300218	860	3	SF33	0,95	PC33UD69V500EF
	6,9 URD 33 E F 0550	A300219				0,95	PC33UD69V550EF
	6,9 URD 33 E F 0630	B300220				0,90	PC33UD69V630EF
	6,9 URD 33 E F 0700	C300221				0,90	PC33UD69V700EF
	6,9 URD 33 E F 0800	D300222				0,90	PC33UD69V800EF
	6,9 URD 33 E F 0900	E300223				0,85	PC33UD69V900EF
	6,9 URD 33 E F 1000	F300224				0,85	PC33UD69V1000EF
	6,9 URD 33 E F 1100	G300225				0,80	PC33UD69V1100EF
	6,9 URD 33 E F 1250	H300226				0,80	PC33UD69V1250EF
	6,9 URD 33 E F 1400	J300227				0,80	PC33UD69V1400EF

*I/In: Ratio "maximum continuous permissible RMS current In" for a fuse fitted into the bases.

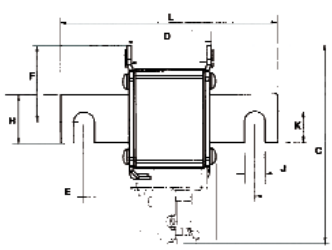
Connections defined as per IEC 60269-1 and for a calm ambience of 30°C.

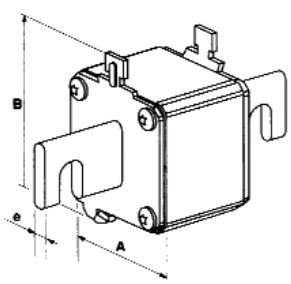
Use the pullout grip PM3 (T097675) for fuse sizes 30, 31, 32.

Fuse holders and microswitches supplied separately.(see Fuse Holders an microswitches PSC 3x & 7x sections)

Size	A	B	C	D	$E^{\pm 1,1}$	L	F	H	J	K	e
30	40	62	96	44,6	76,6	100	38	18	9	11	6
31	51	69	103	44,6	86,6	110	39	25	10,5	16	6
32	60	78	112	44,6	91	126	43	32	13	21,2	6
33	74,5	92,5	127	44,6	91	126	57	40	13	19,5	6

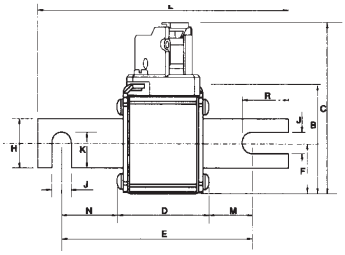
Dimensions in mm

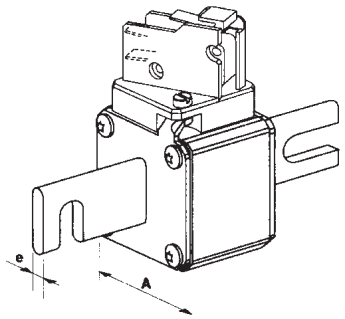


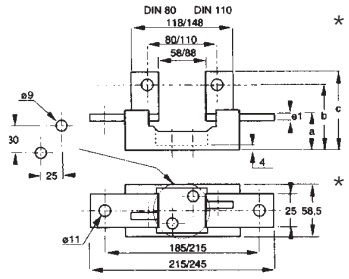


Protistor® Square-body Fuses
PSC aR sizes 3x - 450V to 700 VAC
IEC Terminals German - 30 - 33 Blades (Din 80)

Size	Designation	Reference Number DIN 80	Weight (g)	I/IN Base L98772 F98031	I/IN Base F98560 L91941	Catalog Number DIN 80
30	6,9 URD 30 D08A 0050	F301926	290	1	1	PC30UD69V50A
	6,9 URD 30 D08A 0063	E300108		1	1	PC30UD69V63A
	6,9 URD 30 D08A 0080	F300109		1	1	PC30UD69V80A
	6,9 URD 30 D08A 0100	G300110		1	1	PC30UD69V100A
	6,9 URD 30 D08A 0125	H300111		1	1	PC30UD69V125A
	6,9 URD 30 D08A 0160	J300112		1	1	PC30UD69V160A
	6,9 URD 30 D08A 0200	K300113		1	1	PC30UD69V200A
	6,9 URD 30 D08A 0250	L300114		1	1	PC30UD69V250A
	6,9 URD 30 D08A 0315	M300115		1	1	PC30UD69V315A
	6,9 URD 30 D08A 0350	N300116		1	1	PC30UD69V350A
	6,9 URD 30 D08A 0400	P300117		1	1	PC30UD69V400A
	6,9 URD 30 D08A 0450	A300403		0,95	1	PC30UD69V450A
	6,9 URD 30 D08A 0500	B300404		0,95	1	PC30UD69V500A
	6,9 URD 30 D08A 0550	C300405		0,95	1	PC30UD69V550A
31	6,9 URD 31 D08A 0160	M300322	430	1	1	PC31UD69V160A
	6,9 URD 31 D08A 0200	Y300010		1	1	PC31UD69V200A
	6,9 URD 31 D08A 0250	Z300011		1	1	PC31UD69V250A
	6,9 URD 31 D08A 0315	A300012		1	1	PC31UD69V315A
	6,9 URD 31 D08A 0350	Q300049		1	1	PC31UD69V350A
	6,9 URD 31 D08A 0400	B300013		1	1	PC31UD69V400A
	6,9 URD 31 D08A 0450	C300014		1	1	PC31UD69V450A
	6,9 URD 31 D08A 0500	D300015		1	1	PC31UD69V500A
	6,9 URD 31 D08A 0550	E300016		1	1	PC31UD69V550A
	6,9 URD 31 D08A 0630	F300017		1	1	PC31UD69V630A
	6,9 URD 31 D08A 0700	G300018		0,95	1	PC31UD69V700A
	6,9 URD 31 D08A 0800	D300406		0,85	0,90	PC31UD69V800A
32	6,9 URD 32 D08A 0315	H302158	590	1	1	PC32UD69V315A
	6,9 URD 32 D08A 0350	J302159		1	1	PC32UD69V350A
	6,9 URD 32 D08A 0400	E300177		1	1	PC32UD69V400A
	6,9 URD 32 D08A 0450	F300178		1	1	PC32UD69V450A
	6,9 URD 32 D08A 0500	G300179		1	1	PC32UD69V500A
	6,9 URD 32 D08A 0550	H300180		0,95	1	PC32UD69V550A
	6,9 URD 32 D08A 0630	J300181		0,95	1	PC32UD69V630A
	6,9 URD 32 D08A 0700	K300182		0,90	1	PC32UD69V700A
	6,9 URD 32 D08A 0800	L300183		0,90	0,95	PC32UD69V800A
	6,9 URD 32 D08A 0900	M300184		0,90	0,95	PC32UD69V900A
	6,9 URD 32 D08A 1000	N300185		0,85	0,95	PC32UD69V1000A
	6 URD 32 D08A 1100	W302101		0,80	0,85	PC32UD60V1100A
	5 URD 32 D08A 1250	G300409		0,80	0,85	PC32UD50V1250A
33	6,9 URD 33 D08A 0450	T302168	860	0,95	1	PC33UD69V450A
	6,9 URD 33 D08A 0500	G300248		0,95	1	PC33UD69V500A
	6,9 URD 33 D08A 0550	H300249		0,90	1	PC33UD69V550A
	6,9 URD 33 D08A 0630	J300250		0,90	0,95	PC33UD69V630A
	6,9 URD 33 D08A 0700	K300251		0,90	0,95	PC33UD69V700A
	6,9 URD 33 D08A 0800	L300252		0,85	0,95	PC33UD69V800A
	6,9 URD 33 D08A 0900	M300253		0,85	0,95	PC33UD69V900A
	6,9 URD 33 D08A 1000	N300254		0,80	0,90	PC33UD69V1000A
	6,9 URD 33 D08A 1100	P300255		0,80	0,90	PC33UD69V1100A
	6,9 URD 33 D08A 1250	Q300256		0,75	0,85	PC33UD69V1250A
	6,9 URD 33 D08A 1400	R300257		0,75	0,80	PC33UD69V1400A
	6 URD 33 D08A 1600	X301803		0,70	0,75	PC33UD60V1600A







Fuse holders and microswitches supplied separately (see page , and Fuse Blocks and Fuse Holders section)

Dimensions in mm

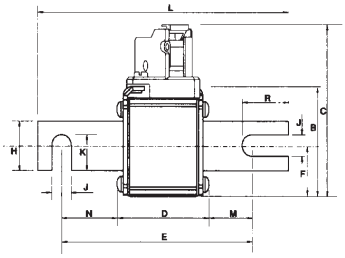
Fuse Size	A	B	C	D	E	F	G	H	J	K	d	e	L	M
30 DIN 80	40	46,5	82	47,5	77	21	25	10,5	17,7	110	11,5	18,5	25,2	6
31 DIN 80	51	56,5	91	47,5	77	25,5	25	10,5	17,7	110	11,5	18,5	25,2	6
32 DIN 80	60	65,5	100	47,5	77	30	32	10,5	21,2	110	11,5	18,5	25,2	6
33 DIN 80	74,5	79,5	114	48,5	77	37,2	40	10,5	25,2	110	11	18	25,2	6

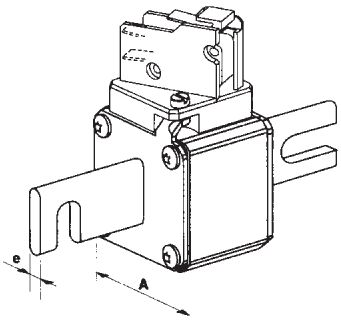
Fuse holders	Ref. Number	a	b	c	e1	x	y	Weight (g) *
SI DIN 80 630 A	L098772	40	68	82	5	185	215	660
SI DIN 80 1250 A	F098560	45	73	87	10	185	215	890

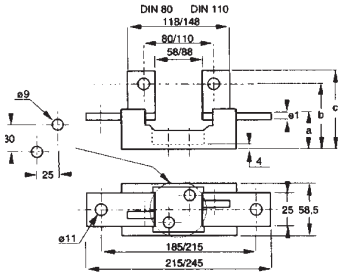
Use the pullout grip PM3 (T097675) for fuse sizes 30, 31, 32

Protistor® Square-body Fuses
PSC aR sizes 3x - 450V to 700 VAC
IEC Terminals German - 30 - 33 Blades (Din110)

Size	Designation	Reference Number DIN 110	Weight (g)	I/IN Base L98772 F98031	I/IN Base F98560 L91941	Catalog Number DIN 110
30	6,9 URD 30 D11A 0050	G301191	290	1	1	PC30UD69V50D1A
	6,9 URD 30 D11A 0063	Q300118		1	1	PC30UD69V63D1A
	6,9 URD 30 D11A 0080	R300119		1	1	PC30UD69V80D1A
	6,9 URD 30 D11A 0100	S300120		1	1	PC30UD69V100D1A
	6,9 URD 30 D11A 0125	T300121		1	1	PC30UD69V125D1A
	6,9 URD 30 D11A 0160	V300122		1	1	PC30UD69V160D1A
	6,9 URD 30 D11A 0200	W300123		1	1	PC30UD69V200D1A
	6,9 URD 30 D11A 0250	X300124		1	1	PC30UD69V250D1A
	6,9 URD 30 D11A 0315	Y300125		1	1	PC30UD69V315D1A
	6,9 URD 30 D11A 0350	Z300126		1	1	PC30UD69V350D1A
	6,9 URD 30 D11A 0400	A300127		1	1	PC30UD69V400D1A
	6,9 URD 30 D11A 0450	S300695		0,95	1	PC30UD69V450D1A
	6,9 URD 30 D11A 0500	Y301091		0,95	1	PC30UD69V500D1A
	6,9 URD 30 D11A 0550	Z301092		0,95	1	PC30UD69V550D1A
31	6,9 URD 31 D11A 0160	-	430	1	1	
	6,9 URD 31 D11A 0200	H300019		1	1	PC31UD69V200D1A
	6,9 URD 31 D11A 0250	J300020		1	1	PC31UD69V250D1A
	6,9 URD 31 D11A 0315	K300021		1	1	PC31UD69V315D1A
	6,9 URD 31 D11A 0350	P300048		1	1	PC31UD69V350D1A
	6,9 URD 31 D11A 0400	L300022		1	1	PC31UD69V400D1A
	6,9 URD 31 D11A 0450	M300023		1	1	PC31UD69V450D1A
	6,9 URD 31 D11A 0500	N300024		1	1	PC31UD69V500D1A
	6,9 URD 31 D11A 0550	P300025		1	1	PC31UD69V550D1A
	6,9 URD 31 D11A 0630	Q300026		1	1	PC31UD69V630D1A
	6,9 URD 31 D11A 0700	R300027		0,95	1	PC31UD69V700D1A
	6,9 URD 31 D11A 0800	H300709		0,85	0,90	PC31UD69V800D1A
32	6,9 URD 32 D11A 0315	K302160	590	1	1	
	6,9 URD 32 D11A 0350	L302161		1	1	PC32UD69V350D1A
	6,9 URD 32 D11A 0400	P300186		1	1	PC32UD69V400D1A
	6,9 URD 32 D11A 0450	Q300187		1	1	PC32UD69V450D1A
	6,9 URD 32 D11A 0500	R300188		1	1	PC32UD69V500D1A
	6,9 URD 32 D11A 0550	S300189		0,95	1	PC32UD69V550D1A
	6,9 URD 32 D11A 0630	T300190		0,95	1	PC32UD69V630D1A
	6,9 URD 32 D11A 0700	V300191		0,90	1	PC32UD69V700D1A
	6,9 URD 32 D11A 0800	W300192		0,90	0,95	PC32UD69V800D1A
	6,9 URD 32 D11A 0900	X300193		0,90	0,95	PC32UD69V900D1A
	6,9 URD 32 D11A 1000	Y300194		0,85	0,95	PC32UD69V10CD1A
	6 URD 32 D11A 1100	-		0,80	0,85	
	5 URD 32 D11A 1250	-		0,80	0,85	
33	6,9 URD 33 D11A 0450	V302169	860	0,95	1	PC33UD69V450D1A
	6,9 URD 33 D11A 0500	S300258		0,95	1	PC33UD69V500D1A
	6,9 URD 33 D11A 0550	T300259		0,90	1	PC33UD69V550D1A
	6,9 URD 33 D11A 0630	V300260		0,90	0,95	PC33UD69V630D1A
	6,9 URD 33 D11A 0700	W300261		0,90	0,95	PC33UD69V700D1A
	6,9 URD 33 D11A 0800	X300262		0,85	0,95	PC33UD69V800D1A
	6,9 URD 33 D11A 0900	Y300263		0,85	0,95	PC33UD69V900D1A
	6,9 URD 33 D11A 1000	Z300264		0,80	0,90	PC33UD69V10CD1A
	6,9 URD 33 D11A 1100	A300265		0,80	0,90	PC33UD69V11CD1A
	6,9 URD 33 D11A 1250	B300266		0,75	0,85	PC33UD69V12CD1A
	6,9 URD 33 D11A 1400	C300267		0,75	0,80	PC33UD69V14CD1A
	6 URD 33 D11A 1600	Z301437		0,70	0,75	PC33UD60V16CD1A







Fuse holders and microswitches supplied separately (see Fuse Holders and microswitches 3x & 7x sections)

Dimensions in mm

fuse Size	A	B	C	D	E	F	G	H	J	K	d	e	L	M
30 DIN 110	40	46,5	82	47,5	101,6	21	25	10,5	17,7	134,6	23,8	30,8	25,2	6
31 DIN 110	51	56,5	91	47,5	101,6	25,5	25	10,5	17,7	134,6	23,8	30,8	25,2	6
32 DIN 110	60	65,5	100	47,5	101,6	30	32	10,5	21,2	134,6	23,8	30,8	25,2	6
33 DIN 110	74,5	79,5	114	48,5	101,6	37,2	40	10,5	25,2	134,6	23,3	30,3	25,2	6

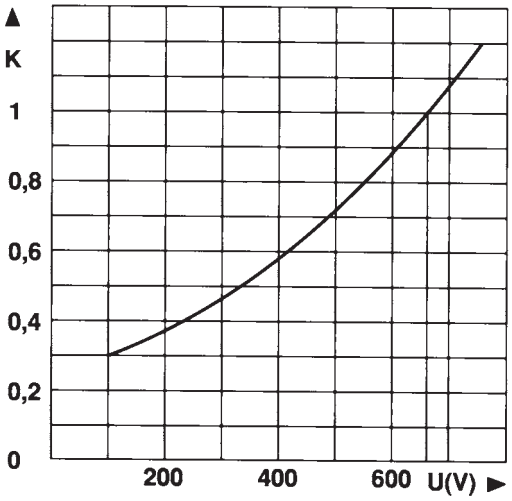
Fuse holders	Ref. Number	a	b	c	e1	x	y	Weight (g)
SI DIN 110 630 A	F098031	40	68	82	5	215	245	1060
SI DIN 110 1250 A	L091941	45	73	87	10	215	245	1320

Use the pullout grip PM3 (T097675) for fuse sizes 30, 31, 32

Protistor® Square-body Fuses
PSC aR sizes 3x - 450V to 700 VAC
Curves set

Sizes 30 - 31 - 32 - 33

I²t Multiplier coefficient



Mean curve indicating variation of total I²t (I^2t_t) and total operating time T_t in accordance with working voltage U.

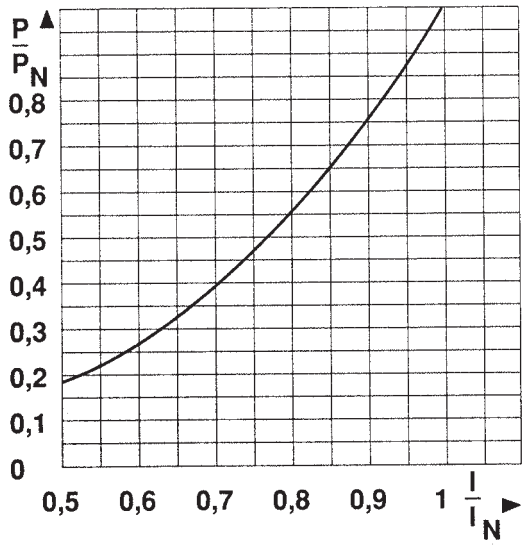
Example:

Fuse 350 A in size 30.
I_p = 10 000 A U = 500 V

At 660 V
I^2t_t = 80 000 A²s T_t = 6 ms

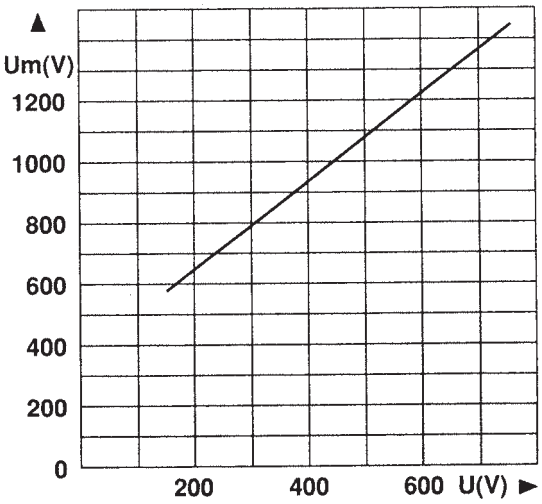
At 500 V
I^2t_t = 80 000 x 0.72 = 57 600 A²s
T_t = 6 x 0.72 = 4.3 ms

Dissipated power



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 a steady state.

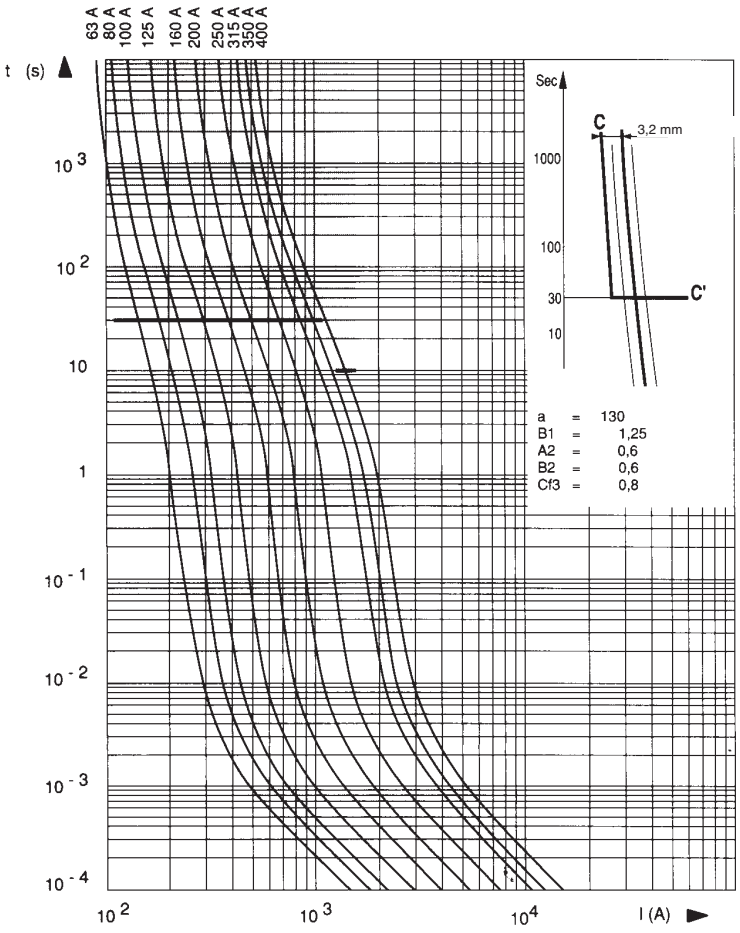
Arc voltage



Curve indicating peak arc voltage Um which may appear across fuse terminals as function of working voltage U at cos φ = 0.15

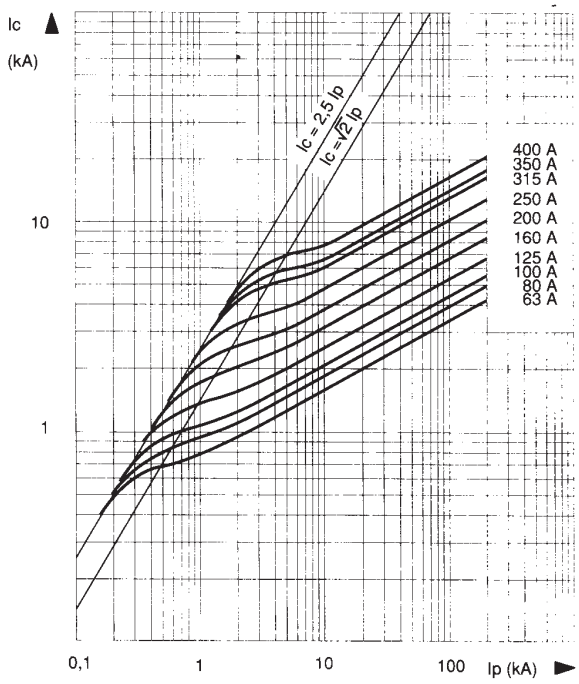
Protistor® Square-body Fuses
PSC aR sizes 3x - 450V to 700 VAC
Curves set

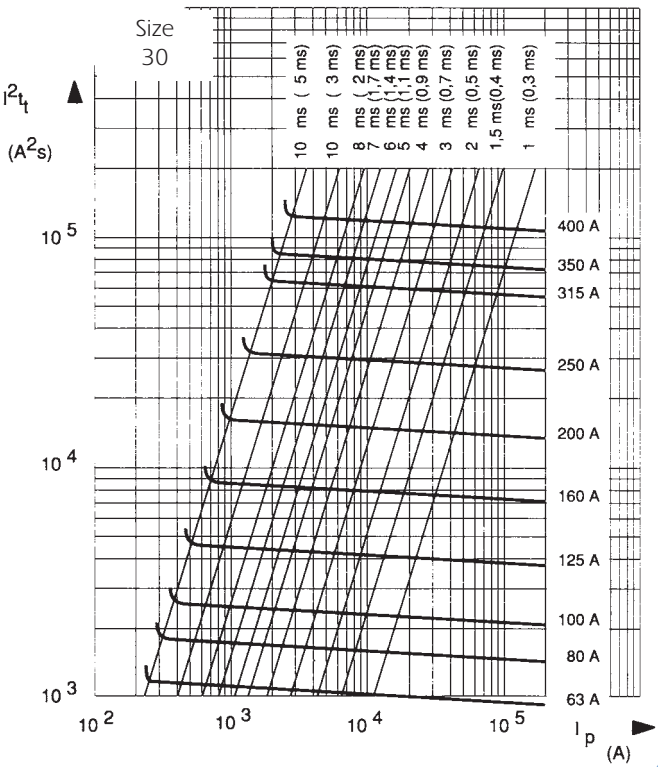
Size 30



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 Ip.





Time-current characteristics

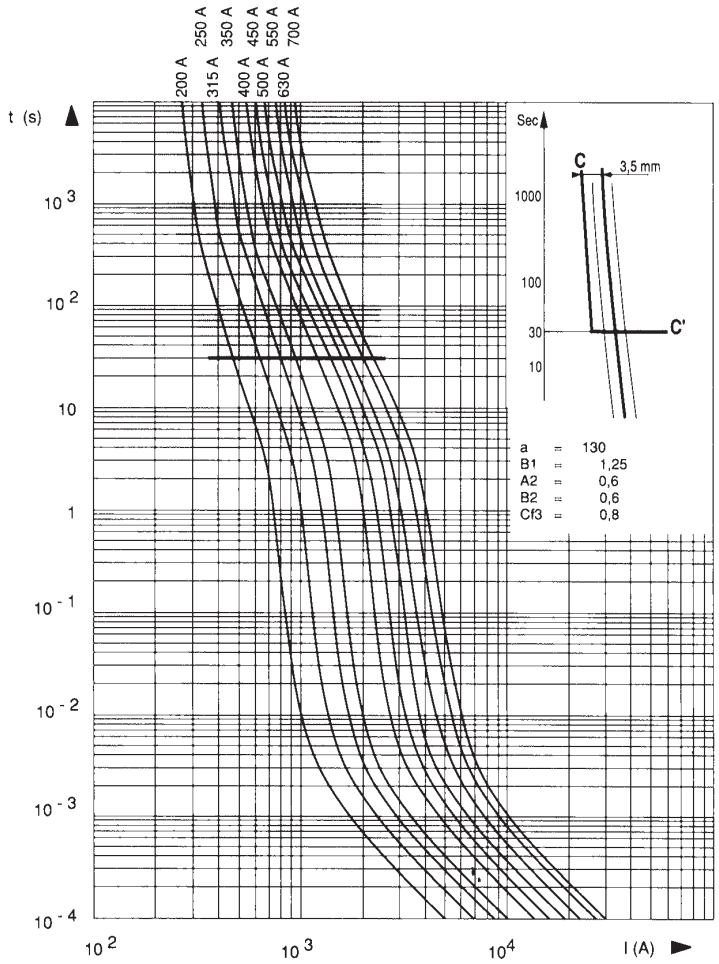
Above, left: Curves indicating pre-arcing time for each rated current as a function of RMS value of pre-arcing current I.
- Tolerances on this current ± 8 %.
- Beyond 30 sec or 10 sec, small overloads must be eliminated by another device.
- Curve CC' represents the maximum times taken by the associated 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 Ipm of the fuse.

Maximum values of total operating I²t 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 660 V, cos φ = 0.15. The oblique lines indicate the corresponding total operating time T_t, with pre-arcing time in brackets.

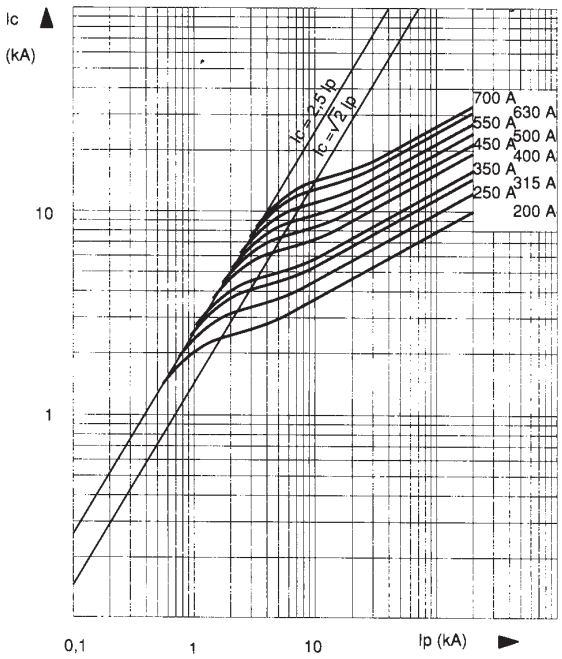
Protistor® Square-body Fuses
PSC aR sizes 3x - 450V to 700 VAC
Curves set

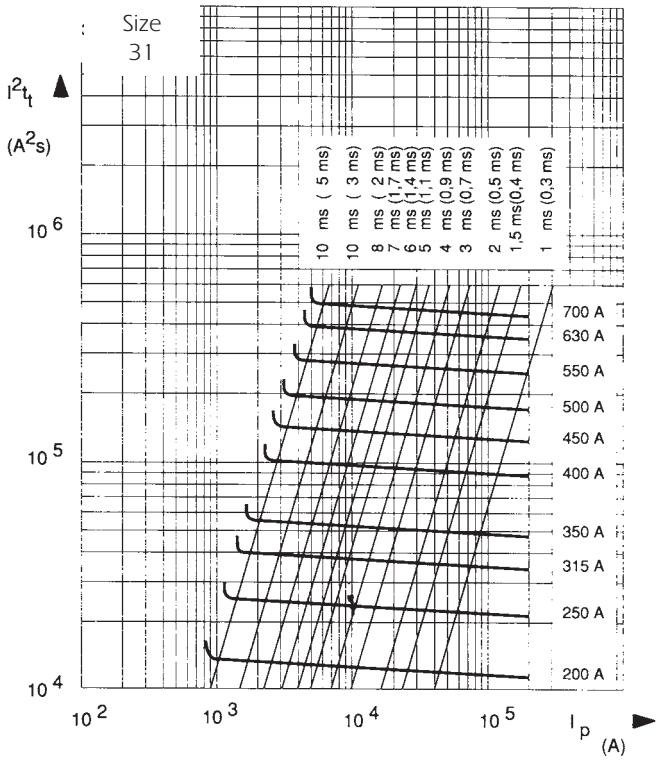
Size 31



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

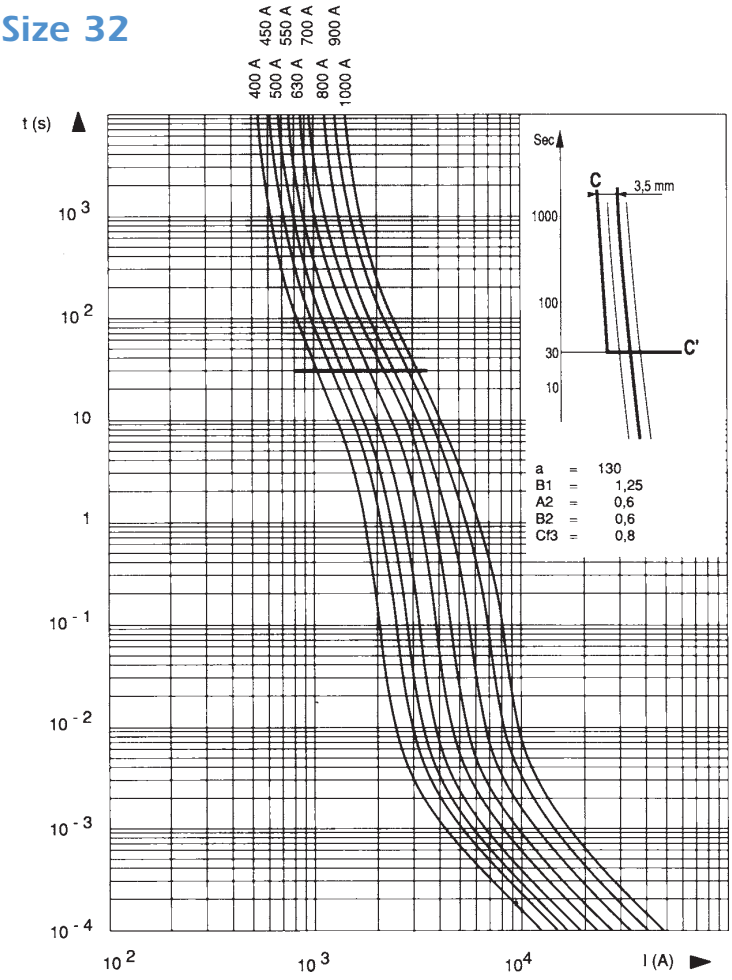
Above, left: Curves indicating pre-arcing time for each rated current as a function of RMS value of pre-arcing current I.
- Tolerances on this current ± 8 %.
- Beyond 30 sec or 10 sec, small overloads must be eliminated by another device.
- Curve CC' represents the maximum times taken by the associated 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 Ipm of the fuse.

Maximum values of total operating I²t 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 660 V, cos φ = 0.15.
The oblique lines indicate the corresponding total operating time T_t, with pre-arcing time in brackets.

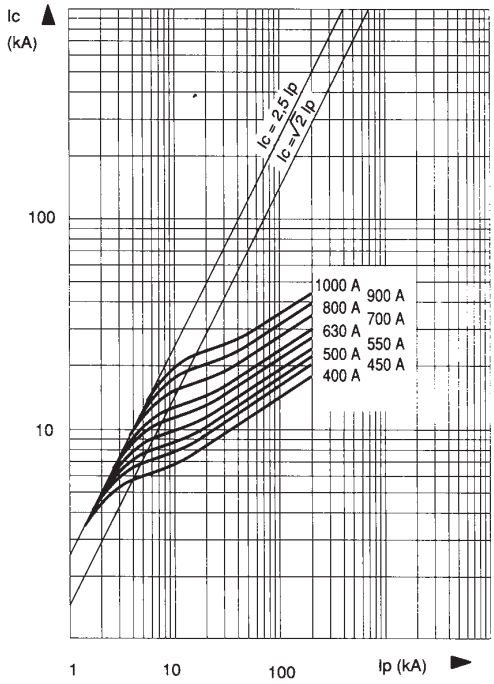
Protistor® Square-body Fuses
PSC aR sizes 3x - 450V to 700 VAC
Curves set

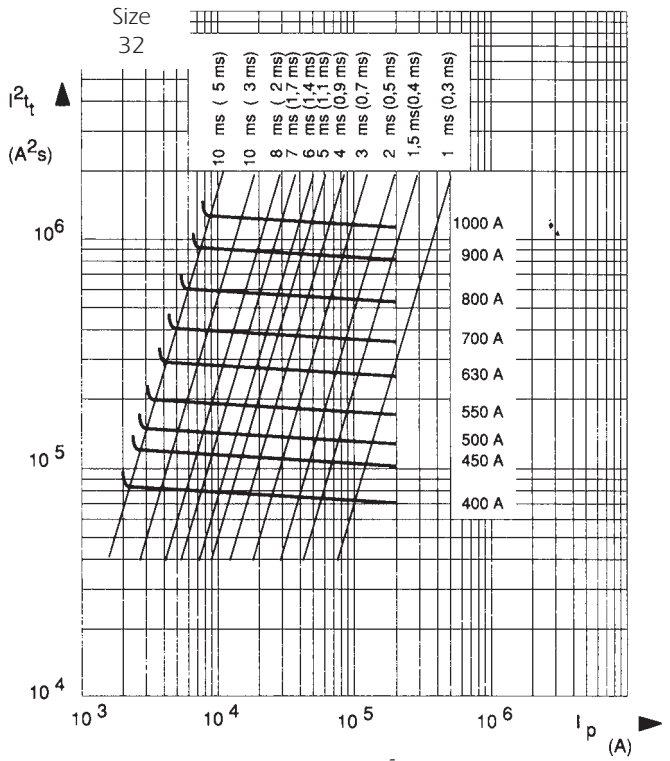
Size 32



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 Ip.





Time-current characteristics

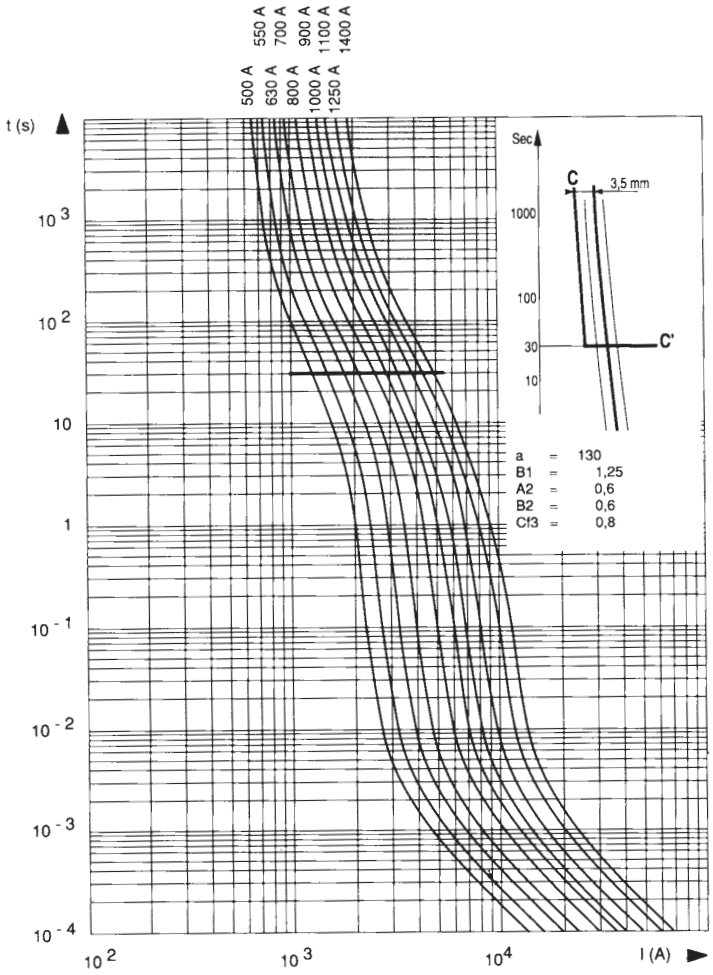
Above, left: Curves indicating pre-arcing time for each rated current as a function of RMS value of pre-arcing current I.
- Tolerances on this current ± 8 %.
- Beyond 30 sec or 10 sec, small overloads must be eliminated by another device.
- Curve CC' represents the maximum times taken by the associated 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 Ipm of the fuse.

Maximum values of total operating I²t and total operating times

Left: Horizontal curves indicating the maximum values of total operating I²t (I^2t_t) as function of the prospective current I_p at 660 V, cos φ = 0.15.
The oblique lines indicate the corresponding total operating time T_t, with pre-arcing time in brackets.

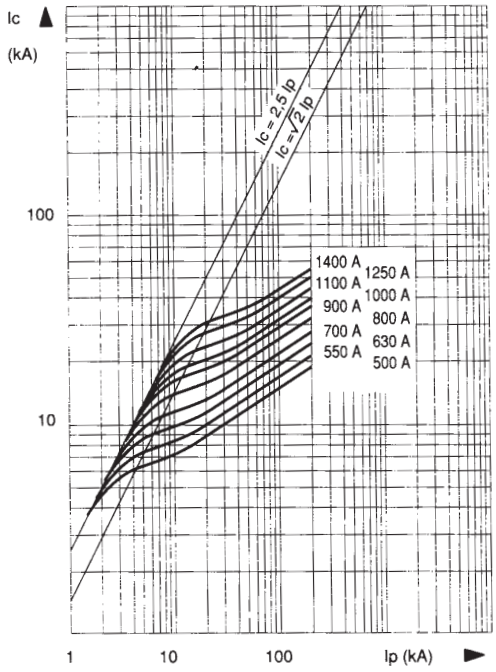
Protistor® Square-body Fuses
PSC aR sizes 3x - 450V to 700 VAC
Curves set

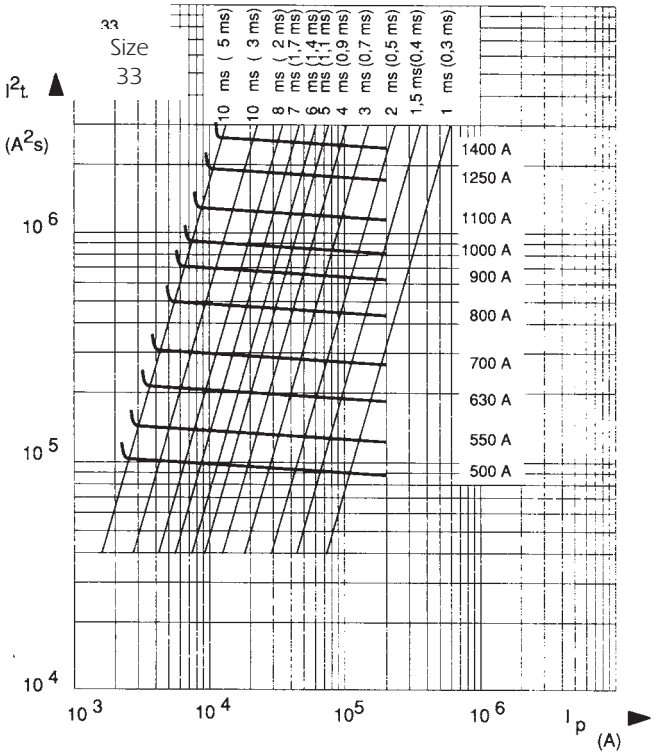
Size 33



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

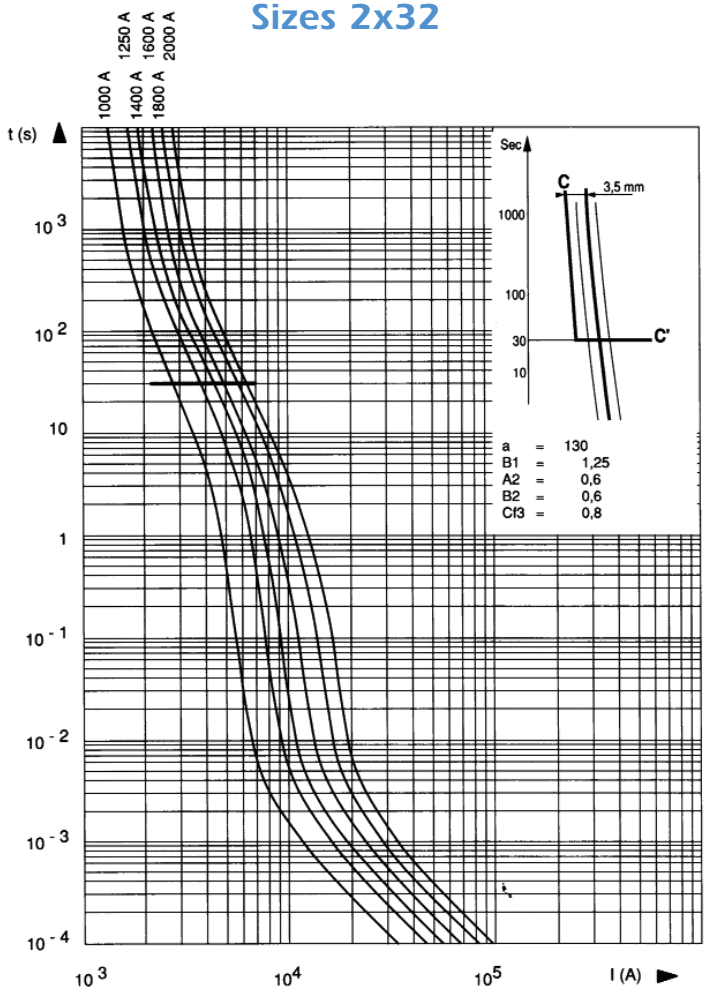
Above, left: Curves indicating pre-arcing time for each rated current as a function of RMS value of pre-arcing current I.
- Tolerances on this current ± 8 %.
- Beyond 30 sec or 10 sec, small overloads must be eliminated by another device.
- Curve CC' represents the maximum times taken by the associated 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 Ipm of the fuse.

Maximum values of total operating I²t and total operating times

Left: Horizontal curves indicating the maximum values of total operating I²t (I^2t_t) as function of the prospective current I_p at 660 V, cos φ = 0.15.
The oblique lines indicate the corresponding total operating time T_t, with pre-arcing time in brackets.

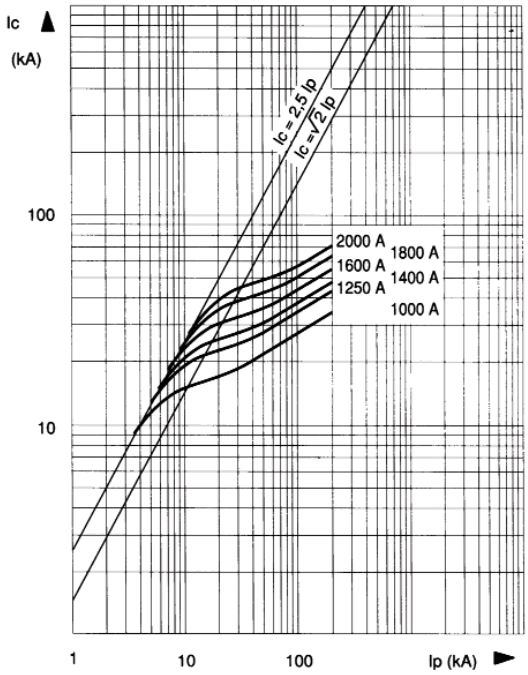
Protistor® Square-body Fuses
PSC aR sizes 3x - 450V to 700 VAC
Curves set

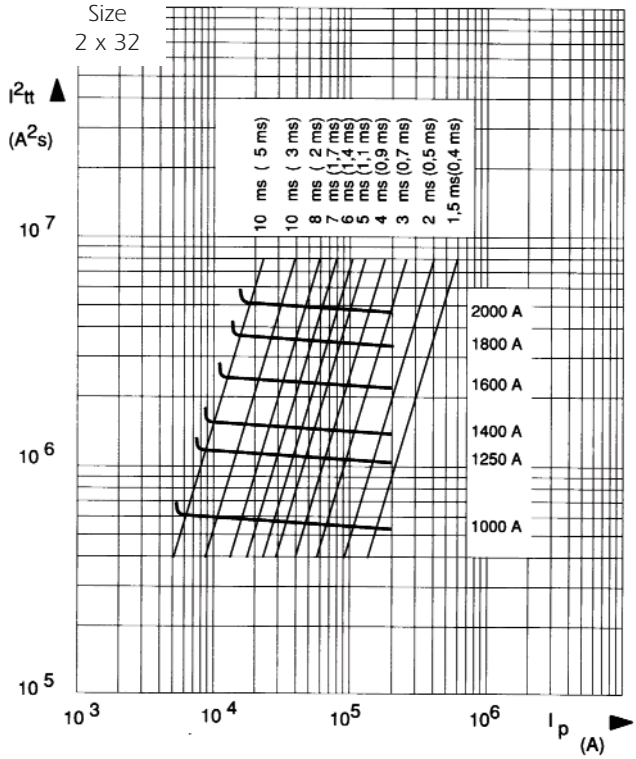
Sizes 2x32



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 Ip.





Time-current characteristics

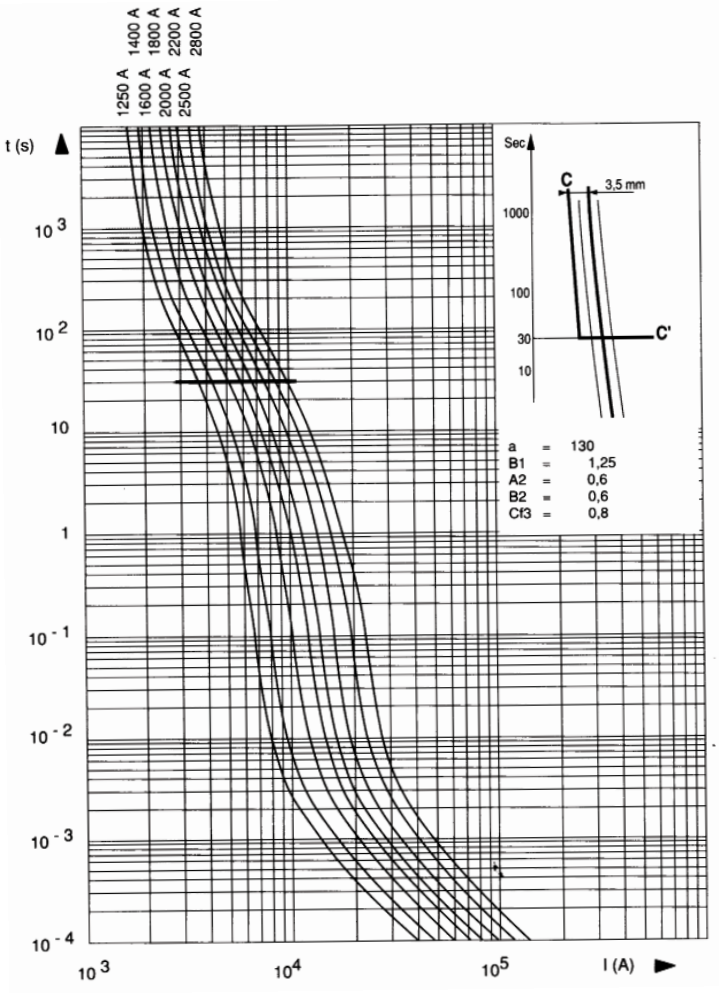
Above, left: Curves indicating pre-arcing time for each rated current as a function of RMS value of pre-arcing current I.
- Tolerances on this current ± 8 %.
- Beyond 30 sec or 10 sec, small overloads must be eliminated by another device.
- Curve CC' represents the maximum times taken by the associated 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 Ipm of the fuse.

Maximum values of total operating I²t and total operating times

Left: Horizontal curves indicating the maximum values of total operating I²t (I^2t_t) as function of the prospective current I_p at 660 V, cos φ = 0.15.
The oblique lines indicate the corresponding total operating time T_t, with pre-arcing time in brackets.

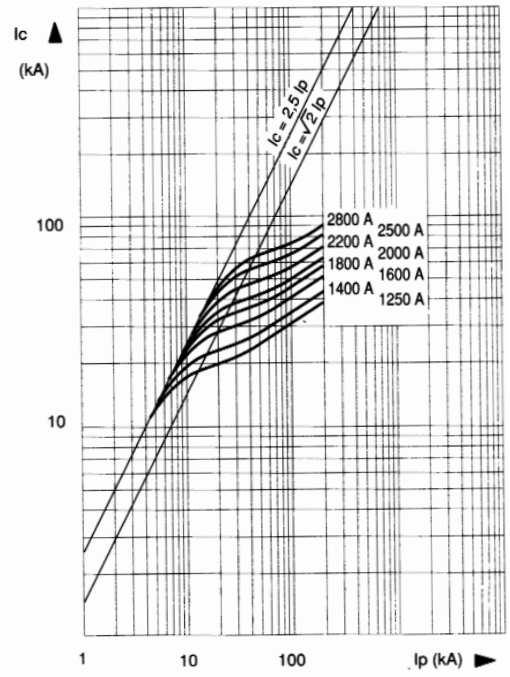
Protistor® Square-body Fuses
PSC aR sizes 3x - 450V to 700 VAC
Curves set

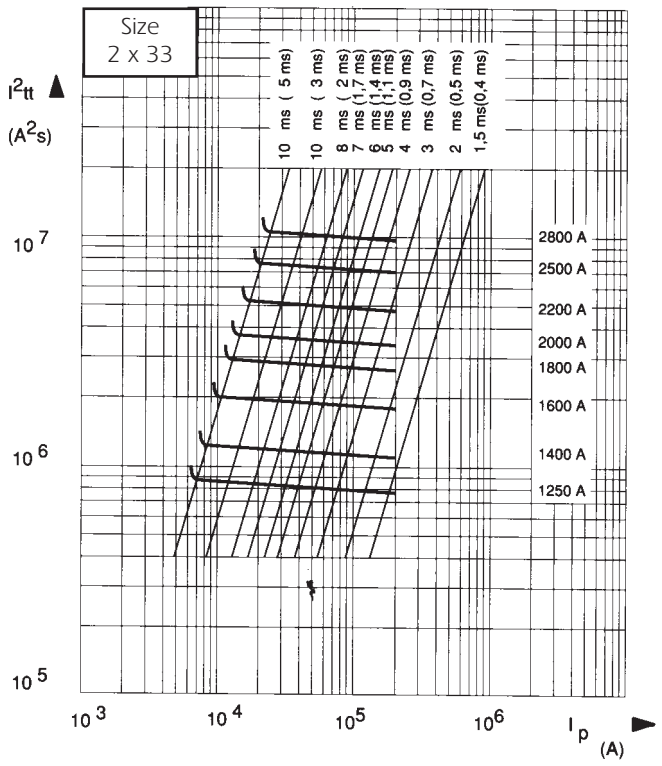
Size 2x33



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 ± 8 %.
- Beyond 30 sec or 10 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 Ipm of the fuse.

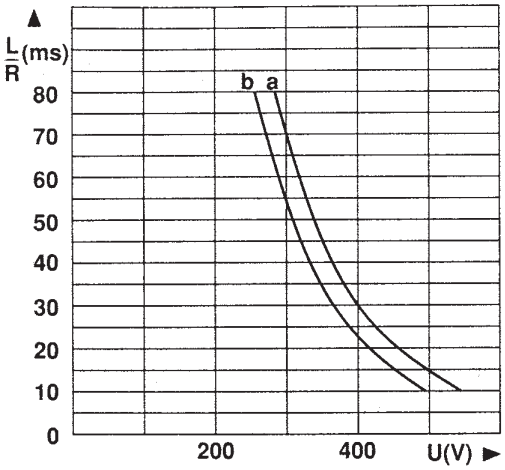
Maximum values of total operating I²t and total operating times

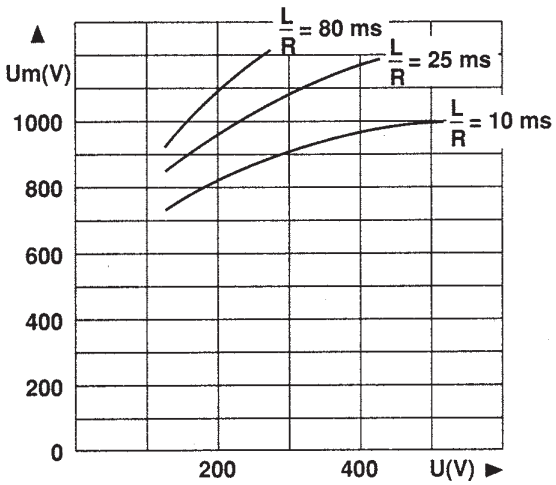
Left: Horizontal curves indicating the maximum values of total operating I²t (I^2t_t) as function of the prospective current I_p at 660 V, cos φ = 0.15. The oblique lines indicate the corresponding total operating time T_t, with pre-arcing time in brackets.

Protistor® Square-body Fuses
PSC aR sizes 3x - 450V to 700 VAC
Curves set

Sizes 30 - 31 - 32 - 33

DC working voltage possibilities





Rated current In (A)	Curves (*) and Ipm (1) corresponding to the rating					
	30 * Ipm (A)	31 * Ipm (A)	32 * Ipm (A)	33 * Ipm (A)	2 x 32 * Ipm (A)	2 x33 * Ipm (A)
63	a 230					
80	a 300					
100	a 360					
125	a 460					
160	a 650					
200	a 880	a 850				
250	a 1300	a 1150				
315	a 1700	a 1450				
350	a 1900	a 1600				
400	a 2300	a 2200	a 2000			
450		a 2500	a 2300			
500		a 3000	a 2600	a 2300		
550		a 3400	a 3150	a 2500		
630		a 5000	a 3700	a 3250		
700		a 5600	a 4300	a 3900		
800			a 5300	a 4800		
900			a 7800	a 5600		
1000			b 9000	a 6600	a 5200	
1100				a 7700		
1250				b 11000	a 7400	a 6500
1400				b 12500	a 8600	a 7800
1600					a 10600	a 9600
1800					a 15600	a 11200
2000					b 18000	a 13200
2200						a 15400
2500						b 22000
2800						b 25000

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.

Ipm (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. This is the case for faults occurring in voltage commutated inverters.

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

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 Non inductive circuit 30V	110V	250V	Inductive circuit : L/R = 25ms 30V	110V	250V	AC voltage withstand test (*)	Impulse voltage test Uimp1.2/50 µs (**)	Fire class according to UL 94
MS 3V 1-5 MS 3V 1-5 UR	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 7V 1-5 MS 7V 1-5 UR	1500V			DC	8 A	0,4 A	0,2 A	4 A	0,2 A	0,1 A	12 kV	20 kV	
MS 3V 1-5 BS MS 3V 1-9 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 7V 1-5 BS MS 7V 1-9 BS	1500V			DC	3 A	0,5 A	0,25 A	3 A	0,2 A	0,1 A	12 kV	20 kV	
MS 3V 1-5 ET	1000V	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 ET	1500V			DC	3 A	0,5 A	-	2 A	0,2 A	-	12 kV	20 kV	

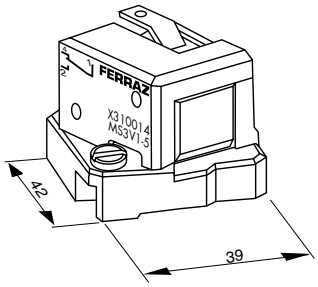
* Between power circuit and microswitch terminals as per IEC 60 and 694 and NFC 64010 (50/60 Hz 1 min duration in dry air)
** Between power circuit and microswitch terminals Uimp: impulse voltage as per IEC 60947-1
*** Between power circuit and microswitch terminals

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

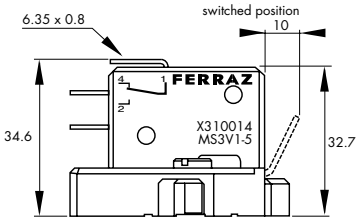
Protistor® Square-body Fuses
PSC aR sizes 3x - 450V to 700 VAC
Microswitches for PSC 3x &7x

Indication systems for PSC Fuse sizes 30 to 73

MS 3V...



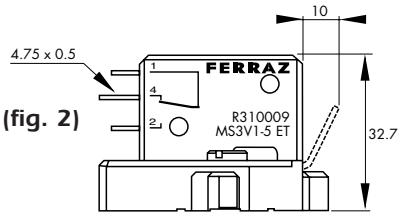
(fig. 1)



These patented indication systems are exclusively hand resettable.

Fuse size	Designation	Ref. Number	Indication style	Weight (g)	Pack.	Catalog Number
30, 31	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
32, 33	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

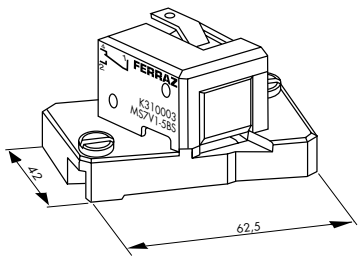
(3) Same as fig.1
(4) Same dimensions as figure 1 but with 2 microswitches side by side
(9) Watertightness class



(fig. 2)

MS 7V...

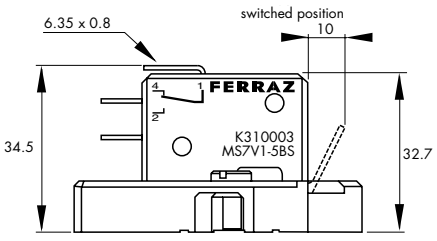
Fuse size	Designation	Ref. Number	Indication style	Weight (g)	Pack.	Catalog Number
70, 71	MS 7V 1-5 (fig.5)	J310002	Standard NO-NC	45	3 pieces	MS7 V1-5
	MS 7V 1-5 UR	Z310039				MS7 V1-5UR
	MS 7V 1-5 BS (3)	K310003	Low level NO-NC	45	3 pieces	MS7-V1-5BS
72, 73	MS 7V 1-9 BS (4)	P310007	Double pole Low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

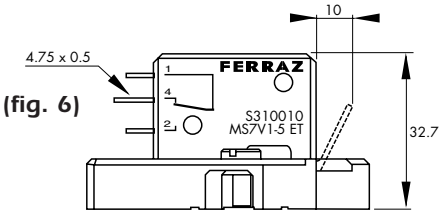


(fig. 5)

(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)

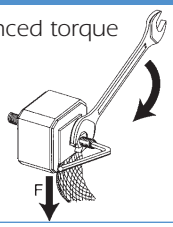
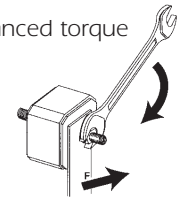
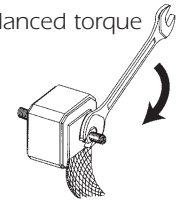
Protistor® Square-body Fuses
PSC aR sizes 3x - 450V to 700 VAC
Metric-studs

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	STUM8x30M8x35
	Size 2	HC stud pair M10x30 & M10x50	T098802	40	6 pairs	STUM10x30M10x50
	Size 3	HC stud pair M12x35 & M12x50	V098803	60	6 pairs	STUM12x35M12x50
	Size 2	HC stud pair M10x50	W098804	45	6 pairs	STUM10x50
	Size 3	HC stud pair M12x50	X098805	45	6 pairs	STUM12x50

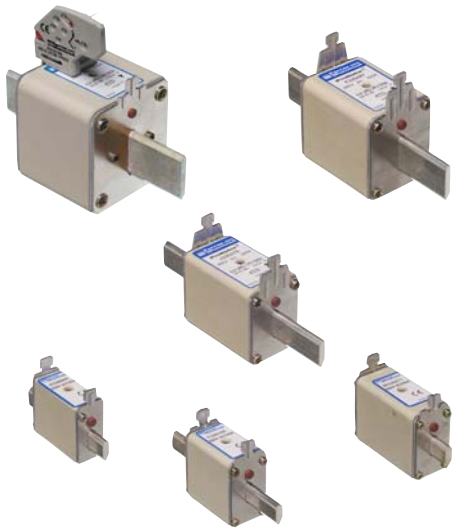
We recommend the use of studs, whose quality is suited to all FERRAZ SHAWMUT square-body fuses with terminals

Stud mounting

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

Protistor® Square-body Fuses
NH Plain Blades - 690 VAC
gR - 690 VAC sizes 000 to 3 (full range)

Ferraz Shawmut PROTISTOR® NH gRB 690 VAC fuse-links provide maximum flexibility in equipment design and ultimate protection for today's power conversion equipment.
This range is a full range, engineered to provide state of the art protection for power semiconductors such as diodes, thyristors, triacs.
These square body fuse-links are available in various body sizes with a broad range of ampere ratings allowing the greatest flexibility in equipment design.
They have pure silver fuse elements which provides optimized I^2t and high breaking capacity. All contact surfaces are silver plated and all hardware non-magnetic.
All fuses are standard with a low voltage dual blown fuse indicator. This indicator can operate a microswitch which is easily mounted directly on to the fuse in service.



Features/Benefits

Broad range of ampere ratings in each body size for design flexibility

IEC 60269-1 and4 compliance for fuses for worldwide semiconductor applications

Beige melted

Red non melted

Ratings

AC: up to 800 A
690 VAC
80-170 kA IR
DC: Consult Factory

Approvals

AC: Tested to IEC 60269-1 and 4

Features

- Full range fast acting
- Highly current limiting.
- High breaking capacities
- Low I^2t
- Worldwide mounting acceptance.
- Superior cycling ability.
- High widstanding in rush current and overloads

Applications

Protection of rectifiers, inverters, static switch, AC & DC drives and UPS systems.

Inovations

- Double indicator(Visual and mechanical).
- Largest range of the market
- Connexion improvement between trip indicator - Micro switch
- Cd / Pb free
- Low voltage indicator - 50V

Protistor® Square-body Fuses
NH Plain Blades - 690 VAC
gR - 690 VAC sizes 000 to 3 (full range)

Voltage	Size	Type	Rating In (A)	Pre-Arcing I^2t @ 1ms (A^2s)	Total I^2t @ 690 V kA^2s	Pn: Power losses (W) PV 43620 0,8In	Breaking capacities @ Un (kA)
690 V	000	gRB	16				
		gRB	20				
		gRB	25				
		gRB	32				
		gRB	40				
		gRB	50				
		gRB	63				
		gRB	80				
		gRB	100				
		gRB	125				
690 V	00	gRB	20			Consult us	
		gRB	25				
		gRB	32				
		gRB	40				
		gRB	50				
		gRB	63				
		gRB	80				
		gRB	100				
		gRB	125				
		gRB	160				
		gRB	200				
690 V	0	gRB	32				
		gRB	40				
		gRB	50				
		gRB	63				
		gRB	80				
		gRB	100				
		gRB	125				
		gRB	160				
		gRB	200				
		gRB	250				

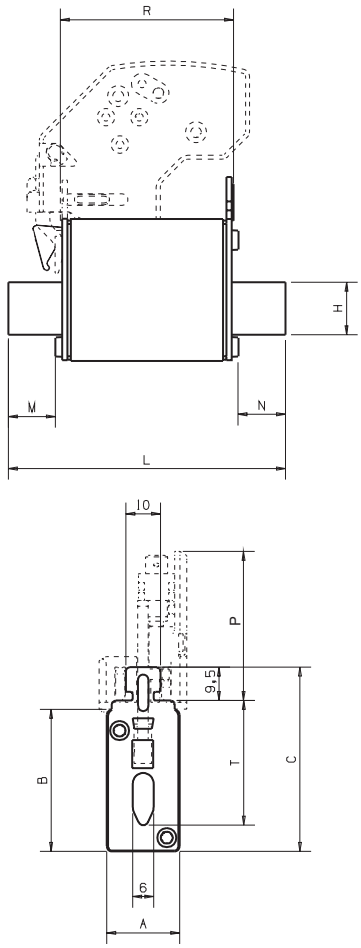
Time/current characteristics
Cut off characteristics
Total I^2t and total operating time
Other curves
Fuse holder derating
} Consult us

Protistor® Square-body Fuses
NH Plain Blades - 690 VAC
gR - 690 VAC sizes 000 to 3 (full range)

Voltage	Size	Type	Rating In (A)	Pre-Arcing I²t @ 1ms (A²s)	Total I²t @ 690 V kA²s	Pn: Power losses (W) PV 43620 0,8In	Breaking capacities @ Un (kA)
690 V	16	gRB	63				
		gRB	80				
		gRB	100				
		gRB	125				
	1	gRB	160				
		gRB	200				
		gRB	250				
		gRB	315				
		gRB	350				
690 V	2	gRB	160			Consult US	
		gRB	200				
		gRB	250				
		gRB	315				
		gRB	350				
		gRB	400				
		gRB	450				
		gRB	500				
690 V	3	gRB	315				
		gRB	350				
		gRB	400				
		gRB	450				
		gRB	500				
		gRB	560				
		gRB	630				
		gRB	700				
		gRB	800				

Protistor® Square-body Fuses
NH Plain Blades - 690 VAC
gR - 690 VAC sizes 000 to 3 (full range)

Size	Designation	Reference Number	Catalog Number	Weight	Pack. (g)
000	6,9 gRB 000 PV 0016	N322035	NH000GB69V16PV	135	3
	6,9 gRB 000 PV 0020	Q322037	NH000GB69V20PV		
	6,9 gRB 000 PV 0025	S322039	NH000GB69V25PV		
	6,9 gRB 000 PV 0032	X322043	NH000GB69V32PV		
	6,9 gRB 000 PV 0040	B322047	NH000GB69V40PV		
	6,9 gRB 000 PV 0050	F322051	NH000GB69V50PV		
	6,9 gRB 000 PV 0063	K322055	NH000GB69V63PV		
	6,9 gRB 000 PV 0080	P322059	NH000GB69V80PV		
	6,9 gRB 000 PV 0100	T322063	NH000GB69V100PV		
	6,9 gRB 000 PV 0125	W322065	NH000GB69V125PV		
	Neutral	Z218269	NH00NEUTRAL		10
	Extraction puller	P215592	NHHANDLE		1
00	6,9 gRB 00 PV 0020	Z322137	NH00GB69V20PV	200	3
	6,9 gRB 00 PV 0025	B322139	NH00GB69V25PV		
	6,9 gRB 00 PV 0032	F322143	NH00GB69V32PV		
	6,9 gRB 00 PV 0040	K322147	NH00GB69V40PV		
	6,9 gRB 00 PV 0050	P322151	NH00GB69V50PV		
	6,9 gRB 00 PV 0063	T322155	NH00GB69V63PV		
	6,9 gRB 00 PV 0080	Y322159	NH00GB69V80PV		
	6,9 gRB 00 PV 0100	C322163	NH00GB69V100PV		
	6,9 gRB 00 PV 0125	E322165	NH00GB69V125PV		
	6,9 gRB 00 PV 0160	J322169	NH00GB69V160PV		
	6,9 gRB 00 PV 0200	L322171	NH00GB69V200PV		
	Neutral	Z218269	NH00NEUTRAL		10
	Extraction puller	P215592	NHHANDLE		1
0	6,9 gRB 0 PV 0032	P322243	NH0GB69V32PV	250	3
	6,9 gRB 0 PV 0040	T322247	NH0GB69V40PV		
	6,9 gRB 0 PV 0050	Y322251	NH0GB69V50PV		
	6,9 gRB 0 PV 0063	C322255	NH0GB69V63PV		
	6,9 gRB 0 PV 0080	G322259	NH0GB69V80PV		
	6,9 gRB 0 PV 0100	L322263	NH0GB69V100PV		
	6,9 gRB 0 PV 0125	N322265	NH0GB69V125PV		
	6,9 gRB 0 PV 0160	S322269	NH0GB69V160PV		
	6,9 gRB 0 PV 0200	V322271	NH0GB69V200PV		
	6,9 gRB 0 PV 0250	Z322275	NH0GB69V250PV		
	Neutral	Z219304	NH0NEUTRAL		10
	Extraction puller	P215592	NHHANDLE		1



Microswitches

MS 4L 2-5 B6 + PRES	F210156	(6,3mm clips)
MS 4L 2-5 B2 + PRES	G210157	(2.8 mm clips)

Automatically resetable, these microswitch systems indicate fuse presence (PRES) and proper mounting
In case of improper mounting or fuse melting, this is indicated (terminal 1-4 closed)

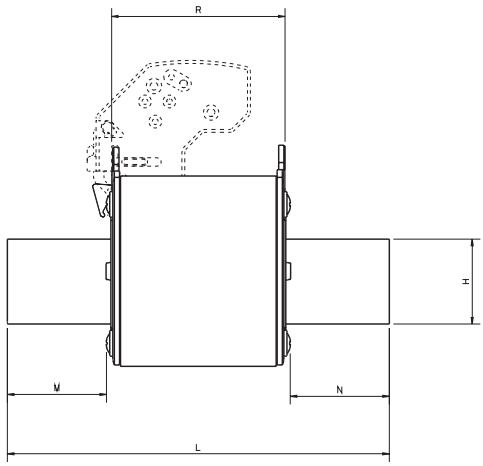
Microswitches supplied seperately

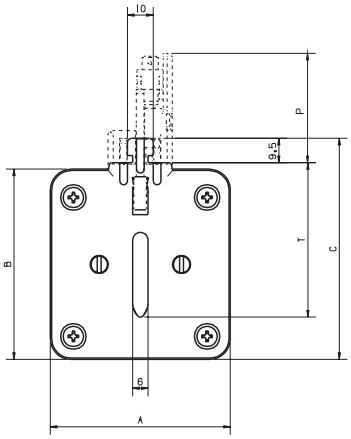
Size	A	B	C	H	L	M	N	P	R	T
000	20,8	40,5	52,5	15	79	13,5	13,5	43,4	49,5	35
	0.82"	1.59"	2.07"	0.59"	3.11"	0.53"	0.53"	1.71"	1.95"	1.38"
00	29,5	47,5	59,5	15	79	13,1	13,1	43,4	50	35
	1.16"	1.87"	2.34"	0.59"	3.11"	0.52"	0.52"	1.71"	1.97"	1.38"
0	29,5	47,5	59,5	15	125	29,1	29,1	43,4	66	35
	1.16"	1.87"	2.34"	0.59"	4.92"	1.15"	1.15"	1.71"	2.60"	1.38"

Fuse holder solution, see gear and Fuse gear section

Protistor® Square-body Fuses
NH Plain Blades - 690 VAC
gR - 690 VAC sizes 000 to 3 (full range)

Size	Designation	Reference Number	Catalog Number	Weight	Pack. (g)
1	6,9 gRB 1 PV 0063	L322355	NH1GB69V63VP	430	3
	6,9 gRB 1 PV 0080	J322399	NH1GB69V80PV		
	6,9 gRB 1 PV 0100	V322363	NH1GB69V100PV		
	6,9 gRB 1 PV 0125	X322365	NH1GB69V125PV		
	6,9 gRB 1 PV 0160	B322369	NH1GB69V160PV		
	6,9 gRB 1 PV 0200	D322371	NH1GB69V200PV		
	6,9 gRB 1 PV 0250	H322375	NH1GB69V250PV		
	6,9 gRB 1 PV 0315	M322379	NH1GB69V315PV		
	6,9 gRB 1 PV 0350	N322380	NH1GB69V350PV		
	Neutral	A219834	NH1NEUTRAL		10
	Extraction puller	P215592	NHHANDLE		1
2	6,9 gRB 2 PV 0160	K322469	NH2GB69V160PV	600	3
	6,9 gRB 2 PV 0200	M322471	NH2GB69V200PV		
	6,9 gRB 2 PV 0250	R322475	NH2GB69V250PV		
	6,9 gRB 2 PV 0315	W322479	NH2GB69V315PV		
	6,9 gRB 2 PV 0350	X322480	NH2GB69V350PV		
	6,9 gRB 2 PV 0400	A322483	NH2GB69V400PV		
	6,9 gRB 2 PV 0450	C322485	NH2GB69V450PV		
	6,9 gRB 2 PV 0500	E322487	NH2GB69V500PV		
	Neutral	N222514	NH2NEUTRAL		10
	Extraction puller	P215592	NHHANDLE		1
3	6,9 gRB 3 PV 0315	E322579	NH3GB69V315PV	750	3
	6,9 gRB 3 PV 0350	F322580	NH3GB69V350PV		
	6,9 gRB 3 PV 0400	J322583	NH3GB69V400PV		
	6,9 gRB 3 PV 0450	L322585	NH3GB69V450PV		
	6,9 gRB 3 PV 0500	N322587	NH3GB69V500PV		
	6,9 gRB 3 PV 0550	P322588	NH3GB69V550PV		
	6,9 gRB 3 PV 0630	Q322589	NH3GB69V630PV		
	6,9 gRB 3 PV 0700	R322590	NH3GB69V700PV		
	6,9 gRB 3 PV 0850	S322591	NH3GB69V850PV		
	Neutral	E223035	NH3NEUTRAL		10
	Extraction puller	P215592	NHHANDLE		1





Microswitches

MS 4L 2-5 B6 + PRES	F210156	(6,3mm clips)
MS 4L 2-5 B2 + PRES	G210157	(2.8 mm clips)

Automatically resetable, these microswitch systems indicate fuse presence (PRES) and proper mounting
In case of improper mounting or fuse melting, this is indicated (terminal 1-4 closed)

Microswitches supplied seperately

Size	A	B	C	H	L	M	N	P	R	T
1	39,5	52,5	64,5	20	135	32,1	32,1	43,4	68	40
	1.56"	2.07"	2.54"	0.79"	5.32"	1.26"	1.26"	1.71"	2.68"	1.57"
2	51	60	72	26	150	38,85	38,85	43,4	68	48
	2.01"	2.36"	2.85"	1.02"	5.91"	1.53"	1.53"	1.71"	2.68"	1.89"
3	70	74	86	33	150	38,85	38,85	43,4	68	60
	2.76"	2.91"	3.39"	1.30"	5.91"	1.53"	1.53"	1.71"	2.68"	2.36"

Fuse holder solution, see Gear and Fuse Gear

Protistor® Square-body Fuses
NH Plain Blades - 690 VAC
gR - 690 VAC sizes 000 to 3 (full range)

Fuse holders and switch-disconnector

Fuse holder
unprotect

Fuse holder
finger safe

Switch
Disconnector

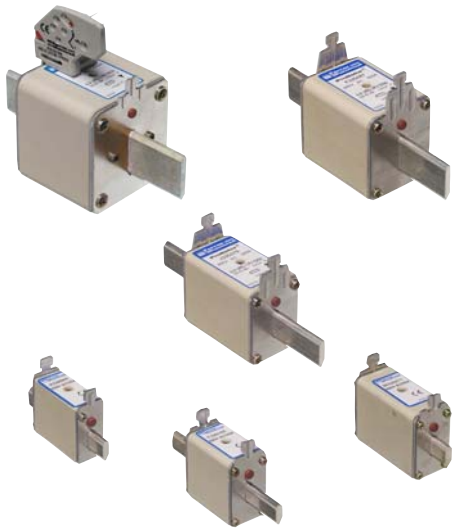
Fuse switch
Disconnector
fast handle

Type	Characteristics	Poles	Size 000/00	Size 0	Size 1	Size 2	Size 3
Fuse holder	Unprotected (4) screw connection for hole and bar terminals for 35mm Din rail	1 2 3 4	R216192 F218758 V219277 Z223007	T218241 G218759 W219278 H222486	A223008 G200796 Y201340 H201855	E211075 V211595 D212109 R212627	X213644 B214154 F214664 K215174
	Unprotected (4) screw connection for holes or bar terminals for panels	1 2 3 4	F215170 A217212 F217723 S219275	N216695 B217213 G217724 R218239	E218757 F222484 Y223006 X201339	F201853 S211593 B212107 C213143	W213643 D214662 H215172 L215681
	Finger Safe Protected screw connection for hole and bar terminals for DIN rail	1 3	S218240 G222485	G226717 J226719A	P226724 Q226725	R226726 S226727	T226728 V226729
Switch-disconnector	Horizontal Linocur AC23	1 2 3	N216626 N222882 B218685 C201781 Y212035 W213574				
Fused switch-disconnector front handle	ITCP 160 III(4)	3	F210409				
	ITC 63 III complete (5)	3	G210824				
	ITC 160 III complete (5)	3	K227824				
	ITC 250 III complete (5)	3			N210830 + Y210770 (3)		
	ITC 400 III complete(5)	3				Q210832 + Y210770 (3)	
	ITC 630 III complete(5)	3					P210831 + Y210770 (3)
	ITC 800 III complete(5)	3					W229674 + Y210770 (3)

(1) Impossible to use microswitch
(2) The axis of operation must be fragmented if the heighten (Y210770A) is not used - Internal or external control.
(3) Necessary heighten for the use of microswitch (F210156C or G210157C)
(4) Unprotected against accidental contact-not finger safe
(5) Finger safe
"**Warning:** for all holders, please check maximum fuse and fuse holder operating limit".

Protistor® Square-body Fuses
NH Plain Blades - 690 VAC
aR - 690 VAC sizes 000 to 3

Ferraz Shawmut PSC-URD 690 VAC fuse-links provide maximum flexibility in equipment design and ultimate protection for today's power conversion equipment. This range is a fast acting, engineered to provide state of the art protection for power semiconductors such as diodes, thyristors.
These square body fuse-links are available in various body sizes with a broad range of ampere ratings allowing the greatest flexibility in equipment design.
They have pure silver fuse elements embedded in solidified sand which provides optimized I^2t and high breaking capacity.
All contact surfaces are plated and all hardware non-magnetic.
All fuses are standard with a low voltage blown fuse indicator. This indicator can operate a microswitch which is easily mounted directly on to the fuse in service.



Features/Benefits

Broad range of ampere ratings in each body size for design flexibility

IEC 60269-4 compliance for fuses for worldwide semiconductor applications

Beige melted

Red non melted

Ratings

AC: up to 1000 A
500 - 690 VAC
80-170 kA IR
DC: Consult Factory

Approvals

AC: Tested to IEC 269.4

Features

- Ultra fast acting
- Highly current limiting.
- High breaking capacities
- Very low I^2t
- Worldwide mounting acceptance.
- Superior cycling ability.
- High widstanding in rush current and overloads

Applications

Protection of rectifiers, inverters, static switch, AC & DC drives and UPS systems.

Inovations

- Double indicator(Visual and mechanical).
- Largest range of the market
- Connexion improvement between trip indicator - Micro switch
- Cd / Pb free
- Low voltage indicator - 50V

Protistor® Square-body Fuses
NH Plain Blades - 690 VAC
aR - 690 VAC sizes 000 to 3

Voltage	Size	Type	Rating In (A)	Pre-Arcing I²t @ 1ms (A²s)	Total I²t @ 690 V (A²s)	Pn: Power losses (W) PV 43620 0,8In	Breaking capacities @ Un kA
690 V CEI 700V UL	000	URD	16	10	48	1,0	80
		URD	20	15	90	1,5	
		URD	25	22	130	2,0	
		URD	32	45	270	2,5	
		URD	40	69	400	4,0	
		URD	50	107	630	5,0	
		URD	63	220	1 300	6,0	
		URD	80	350	2 000	8,0	
		URD	100	720	4 300	9,5	
		URD	125	1 400	8 200	10,5	
		URD	160	2 100	12 200	15,0	
		URD	200	3 900	22 700	18,0	
		URD	250	7 600	44 400	22,0	
500V CEI 550V UL		URD	315	15 400	90 700	30,0	
690 V CEI 700V UL	00	URD	20	15	90	1,5	170
		URD	25	22	130	2,0	
		URD	32	45	270	2,5	
		URD	40	69	400	4,0	
		URD	50	110	630	5,0	
		URD	63	220	1 300	6,0	
		URD	80	350	2 000	8,0	
		URD	100	720	4 300	8,5	
		URD	125	1 390	8 200	10,0	
		URD	160	2 100	12 200	14,0	
		URD	200	3 900	22 700	17,0	
		URD	250	7 600	44 400	20,0	
690 V CEI 700V UL	0	URD	315	15 400	90 700	29,0	170
		URD	32	32	170	9,5	
		URD	40	53	280	10,0	
		URD	50	87	470	10,5	
		URD	63	130	700	11,5	
		URD	80	180	970	12,5	
		URD	100	390	2 080	15,0	
		URD	125	720	3 890	18,0	
		URD	160	1 550	8 320	22,0	
		URD	200	2 950	15 900	27,0	
		URD	250	5 560	29 900	33,0	
		URD	315	11 600	62 300	40,0	

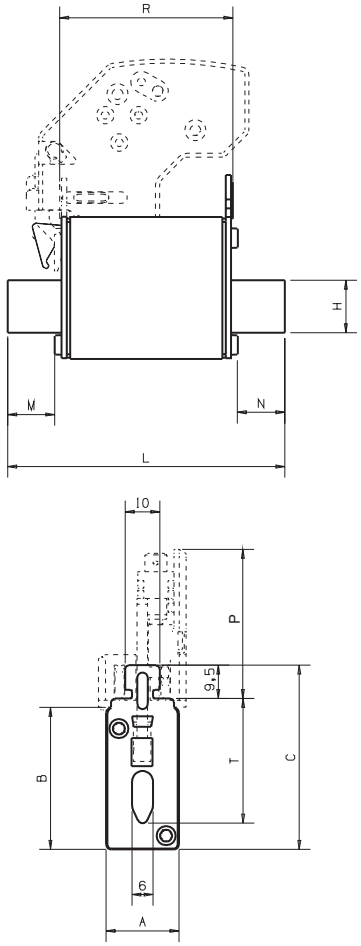
Time/current characteristics
Cut off characteristics
Total I²t and total operating time
Other curves
Fuse holder derating
} See following pages

Protistor® Square-body Fuses
NH Plain Blades - 690 VAC
aR - 690 VAC sizes 000 to 3

Voltage	Size	Type	Rating In (A)	Pre-Arcing I²t @ 1ms (A²s)	Total I²t @ 690 V (A²s)	Pn: Power losses (W) PV 43620 0,8In	Breaking capacities @ Un kA
690 V CEI 700V UL	1	URD	63	130	700	18	170
		URD	80	220	1 170	21,5	
		URD	100	290	1 570	23,0	
		URD	125	620	3 320	26,0	
		URD	160	1 170	6 270	29,0	
		URD	200	2 470	13 300	33,0	
		URD	250	4 670	25 100	37,0	
		URD	315	9 570	51 400	42,0	
		URD	350	13 400	72 300	44,0	
		URD	400	19 500	105 000	48,0	
690 V CEI 700V UL	2	URD	160	960	5 180	38	170
		URD	200	1 710	9 220	42	
		URD	250	3 480	18 700	46,5	
		URD	315	6 860	36 900	54,0	
		URD	350	9 570	51 400	58,0	
		URD	400	13 400	72 300	62,5	
		URD	450	21 000	113 000	69,0	
		URD	500	27 400	147 000	73,0	
		URD	560	38 300	206 000	78,0	
		URD	630	58 700	315 000	85,0	
		URD	700	78 100	420 000	87,0	
690 V CEI 700V UL	3	URD	315	5 251	28 200	57,0	170
		URD	350	7 562	40 600	58,0	
		URD	400	10 500	56 500	65,5	
		URD	450	15 700	84 300	70,0	
		URD	500	22 200	119 000	75,0	
		URD	560	30 200	163 000	80,0	
		URD	630	42 000	226 000	89,0	
		URD	700	61 700	332 000	100,0	
		URD	800	88 900	478 000	112,0	
		URD	900	123 900	666 000	125,0	
		URD	1000	178 400	959 000	140,0	

Protistor® Square-body Fuses
NH Plain Blades - 690 VAC
aR - 690 VAC sizes 000 to 3

Size	Designation	Reference Number	Catalog Number	Weight	Pack. (g)
000	6,9 URD 000 PV 0016	P320035	NH000UD 69V 16PV	135	3
	6,9 URD 000 PV 0020	R320037	NH000UD 69V 20PV		
	6,9 URD 000 PV 0025	T320039	NH000UD 69V 25PV		
	6,9 URD 000 PV 0032	Y320043	NH000UD 69V 32PV		
	6,9 URD 000 PV 0040	C320047	NH000UD 69V 40PV		
	6,9 URD 000 PV 0050	G320051	NH000UD 69V 50PV		
	6,9 URD 000 PV 0063	L320055	NH000UD 69V 63PV		
	6,9 URD 000 PV 0080	Q320059	NH000UD 69V 80PV		
	6,9 URD 000 PV 0100	V320063	NH000UD 69V 100PV		
	6,9 URD 000 PV 0125	X320065	NH000UD 69V 125PV		
	6,9 URD 000 PV 0160	B320069	NH000UD 69V 160PV		
	6,9 URD 000 PV 0200	D320071	NH000UD 69V 200PV		
	6,9 URD 000 PV 0250	H320075	NH000UD 69V 250PV		
	5 URD 000 PV 0315	M320079	NH000UD 50V 315PV		
	Neutral	Z218269			10
	Extraction puller	P215592	NH HANDLE		1
00	6,9 URD 00 PV 0020	A320137	NH00UD 69V 20PV	200	3
	6,9 URD 00 PV 0025	C320139	NH00UD 69V 25PV		
	6,9 URD 00 PV 0032	G320143	NH00UD 69V 32PV		
	6,9 URD 00 PV 0040	L320147	NH00UD 69V 40PV		
	6,9 URD 00 PV 0050	Q320151	NH00UD 69V 50PV		
	6,9 URD 00 PV 0063	V320155	NH00UD 69V 63PV		
	6,9 URD 00 PV 0080	Z320159	NH00UD 69V 80PV		
	6,9 URD 00 PV 0100	D320163	NH00UD 69V 100PV		
	6,9 URD 00 PV 0125	F320165	NH00UD 69V 125PV		
	6,9 URD 00 PV 0160	K320169	NH00UD 69V 160PV		
	6,9 URD 00 PV 0200	M320171	NH00UD 69V 200PV		
	6,9 URD 00 PV 0250	R320175	NH00UD 69V 250PV		
	6,9 URD 00 PV 0315	W320179	NH00UD 69V 315PV		
	Neutral	Z218269			10
	Extraction puller	P215592	NH HANDLE		1
0	6,9 URD 0 PV 0032	Q320243	NH0UD 69V 32PV	250	3
	6,9 URD 0 PV 0040	V320247	NH0UD 69V 40PV		
	6,9 URD 0 PV 0050	Z320251	NH0UD 69V 50PV		
	6,9 URD 0 PV 0063	D320255	NH0UD 69V 63PV		
	6,9 URD 0 PV 0080	H320259	NH0UD 69V 80PV		
	6,9 URD 0 PV 0100	M320263	NH0UD 69V 100PV		
	6,9 URD 0 PV 0125	P320265	NH0UD 69V 125PV		
	6,9 URD 0 PV 0160	T320269	NH0UD 69V 160PV		
	6,9 URD 0 PV 0200	W320271	NH0UD 69V 200PV		
	6,9 URD 0 PV 0250	A320275	NH0UD 69V 250PV		
	6,9 URD 0 PV 0315	E320279	NH0UD 69V 315PV		
	Neutral	Z219304			10
	Extraction puller	P215592	NH HANDLE		1



Microswitches

MS 4L 2-5 B6 + PRES	F210156	(6,3mm clips)
MS 4L 2-5 B2 + PRES	G210157	(2.8 mm clips)

Automatically resetable, these microswitch systems indicate fuse presence (PRES) and proper mounting
In case of improper mounting or fuse melting, this is indicated (terminal 1-4 closed)

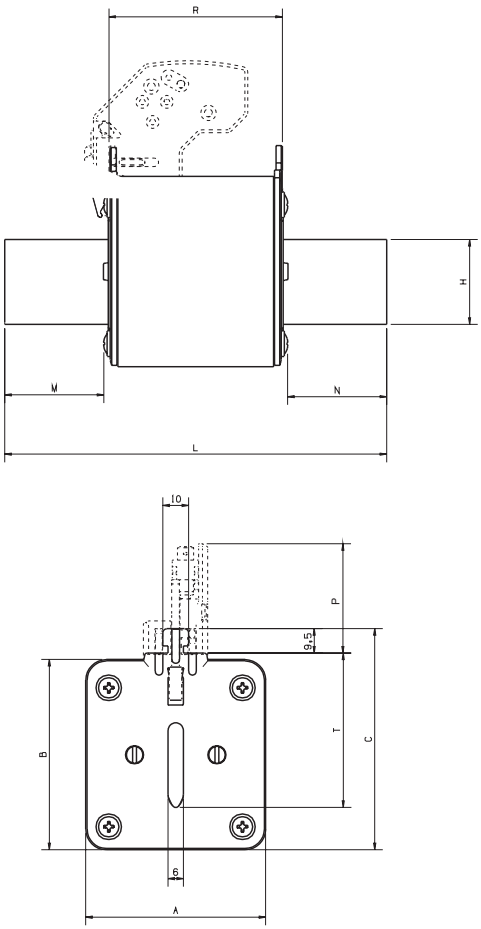
Microswitches supplied seperately

Size	A	B	C	H	L	M	N	P	R	T
000	20,8	40,5	52,5	15	79	13,5	13,5	43,4	49,5	35
	0.82"	1.59"	2.07"	0.59"	3.11"	0.53"	0.53"	1.71"	1.95"	1.38"
00	29,5	47,5	59,5	15	79	13,1	13,1	43,4	50	35
	1.16"	1.87"	2.34"	0.59"	3.11"	0.52"	0.52"	1.71"	1.97"	1.38"
0	29,5	47,5	59,5	15	125	29,1	29,1	43,4	66	35
	1.16"	1.87"	2.34"	0.59"	4.92"	1.15"	1.15"	1.71"	2.60"	1.38"

Fuse holder solution, see Gear and Fuse gear section.

Protistor® Square-body Fuses
NH Plain Blades - 690 VAC
aR - 690 VAC sizes 000 to 3

Size	Designation	Reference Number	Catalog Number	Weight	Pack. (g)
1	6,9 URD 1 PV 0063	M320355	NH1UD 69V 63PV	430	3
	6,9 URD 1 PV 0080	K320399	NH1UD 69V 80PV		
	6,9 URD 1 PV 0100	W320363	NH1UD 69V 100PV		
	6,9 URD 1 PV 0125	Y320365	NH1UD 69V 125PV		
	6,9 URD 1 PV 0160	C320369	NH1UD 69V 160PV		
	6,9 URD 1 PV 0200	E320371	NH1UD 69V 200PV		
	6,9 URD 1 PV 0250	J320375	NH1UD 69V 250PV		
	6,9 URD 1 PV 0315	N320379	NH1UD 69V 315PV		
	6,9 URD 1 PV 0350	P320380	NH1UD 69V 350PV		
	6,9 URD 1 PV 0400	S320383	NH1UD 69V 400PV		
	Neutral	A219834			5
	Extraction puller	P215592	NHHANDLE		1
2	6,9 URD 2 PV 0160	L320469	NH2UD 69V 160PV	600	3
	6,9 URD 2 PV 0200	N320471	NH2UD 69V 200PV		
	6,9 URD 2 PV 0250	S320475	NH2UD 69V 250PV		
	6,9 URD 2 PV 0315	X320479	NH2UD 69V 315PV		
	6,9 URD 2 PV 0350	Y320480	NH2UD 69V 350PV		
	6,9 URD 2 PV 0400	B320483	NH2UD 69V 400PV		
	6,9 URD 2 PV 0450	D320485	NH2UD 69V 450PV		
	6,9 URD 2 PV 0500	F320487	NH2UD 69V 500PV		
	6,9 URD 2 PV 0550	G320488	NH2UD 69V 550PV		
	6,9 URD 2 PV 0630	H320489	NH2UD 69V 630PV		
	6,9 URD 2 PV 0700	J320490	NH2UD 69V 700PV		
	Neutral	N222514			5
	Extraction puller	P215592	NHHANDLE		1
3	6,9 URD 3 PV 0315	F320579	NH3UD 69V 315PV	750	3
	6,9 URD 3 PV 0350	G320580	NH3UD 69V 350PV		
	6,9 URD 3 PV 0400	K320583	NH3UD 69V 400PV		
	6,9 URD 3 PV 0450	M320585	NH3UD 69V 450PV		
	6,9 URD 3 PV 0500	P320587	NH3UD 69V 500PV		
	6,9 URD 3 PV 0550	Q320588	NH3UD 69V 550PV		
	6,9 URD 3 PV 0630	R320589	NH3UD 69V 630PV		
	6,9 URD 3 PV 0700	S320590	NH3UD 69V 700PV		
	6,9 URD 3 PV 0800	T320591	NH3UD 69V 800PV		
	6,9 URD 3 PV 0900	V320592	NH3UD 69V 900PV		
	6,9 URD 3 PV 1000	W320593	NH3UD 69V 1000PV		
	Neutral	E223035			51
	Extraction puller	P215592	NHHANDLE		



Microswitches

MS 4L 2-5 B6 + PRES	F210156	(6,3mm clips)
MS 4L 2-5 B2 + PRES	G210157	(2.8 mm clips)

Automatically resetable, these microswitch systems indicate fuse presence (PRES) and proper mounting
In case of improper mounting or fuse melting, this is indicated (terminal 1-4 closed)

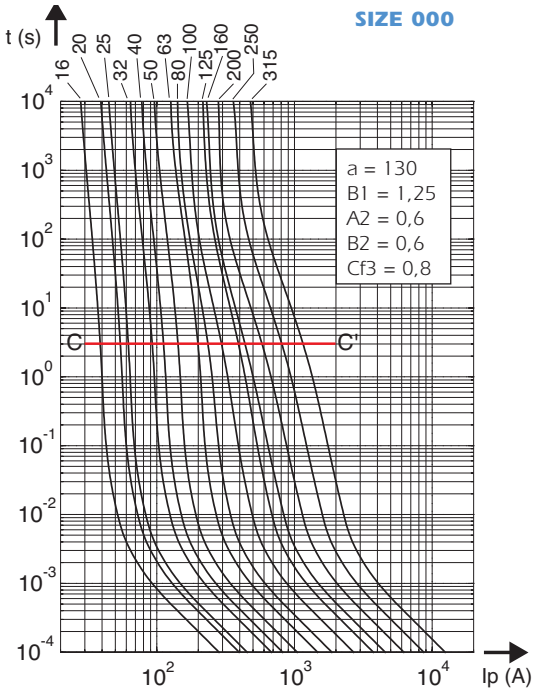
Microswitches supplied seperately

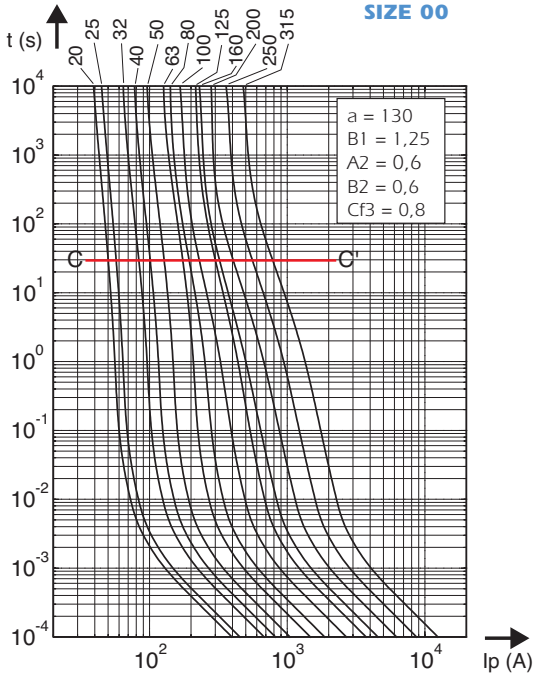
Size	A	B	C	H	L	M	N	P	R	T
1	39,5	52,5	64,5	20	135	32,1	32,1	43,4	68	40
	1.56"	2.07"	2.54"	0.79"	5.32"	1.26"	1.26"	1.71"	2.68"	1.57"
2	51	60	72	26	150	38,85	38,85	43,4	68	48
	2.01"	2.36"	2.85"	1.02"	5.91"	1.53"	1.53"	1.71"	2.68"	1.89"
3	70	74	86	33	150	38,85	38,85	43,4	68	60
	2.76"	2.91"	3.39"	1.30"	5.91"	1.53"	1.53"	1.71"	2.68"	2.36"

Fuse holder solution, see Gear and Fuse gear section.

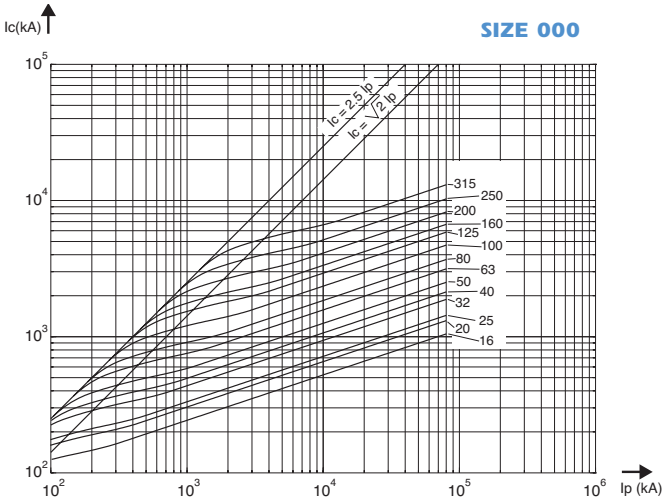
Protistor® Square-body Fuses
NH Plain Blades - 690 VAC
aR - 690 VAC sizes 000 to 3

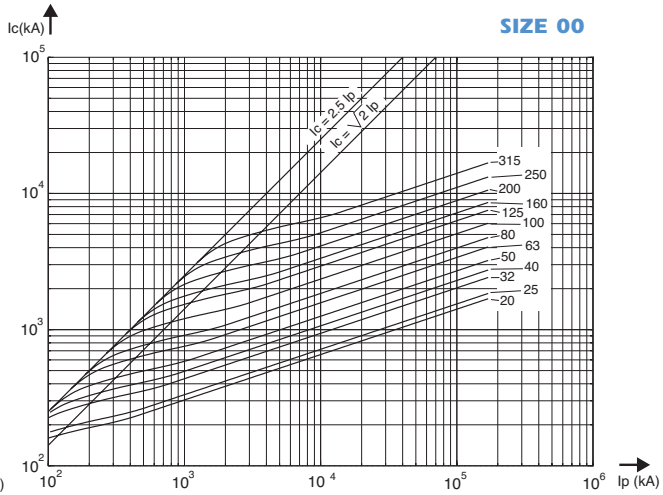
Times/Current Characteristics



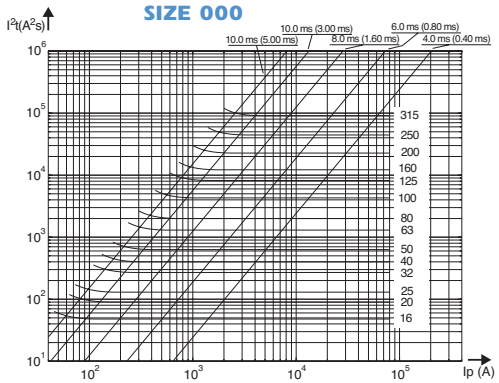


Cut off characteristics - Peak let thru current

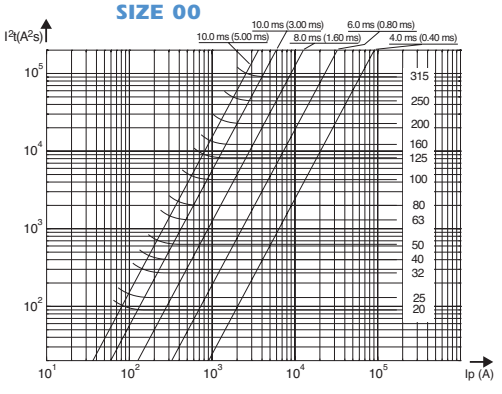




Total I²t and total operating time @ 690 V

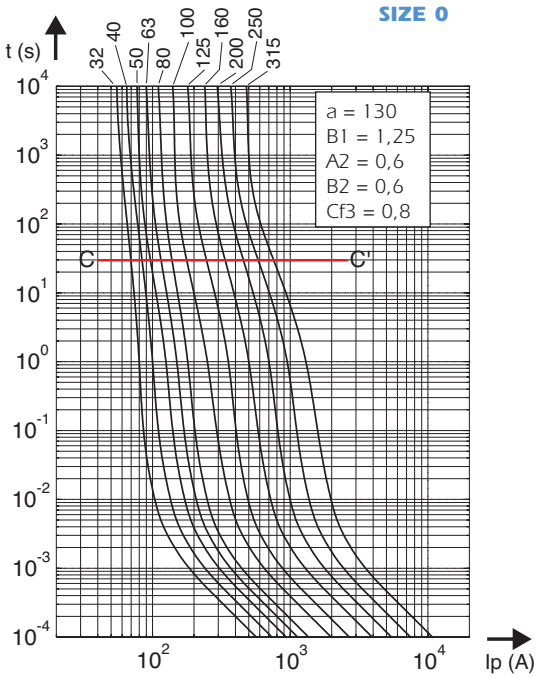


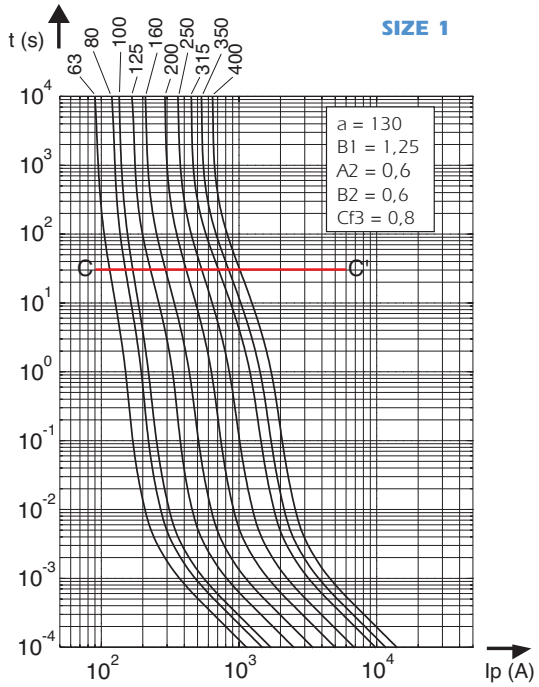
Value between parentheses pertain to prearcing I²t



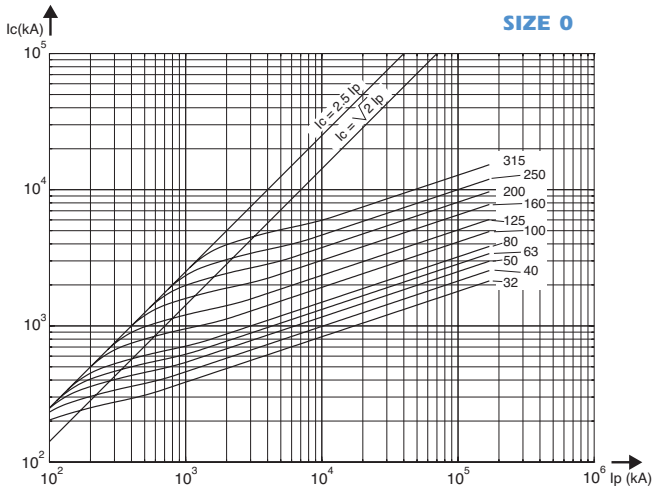
Protistor® Square-body Fuses
NH Plain Blades - 690 VAC
aR - 690 VAC sizes 000 to 3

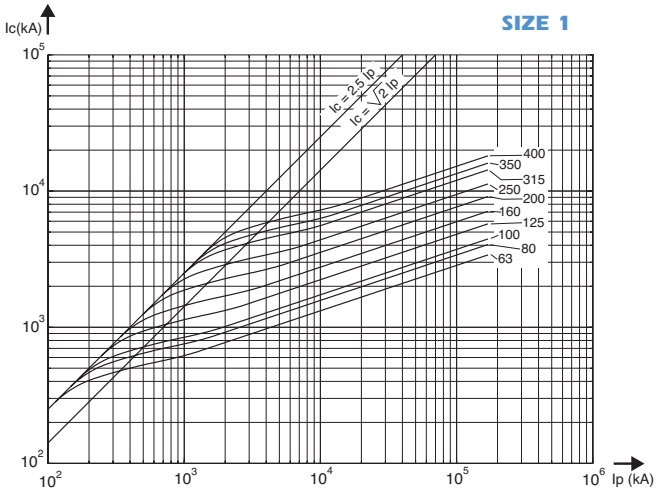
Times/Current Characteristics



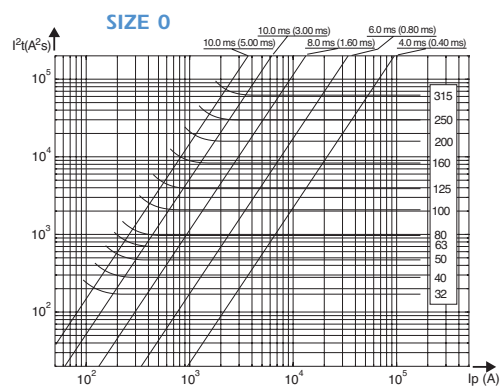


Cut off characteristics - Peak let thru current

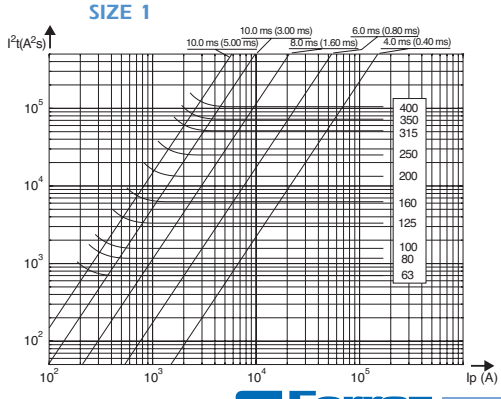




Total I²t and total operating time @ 690 V

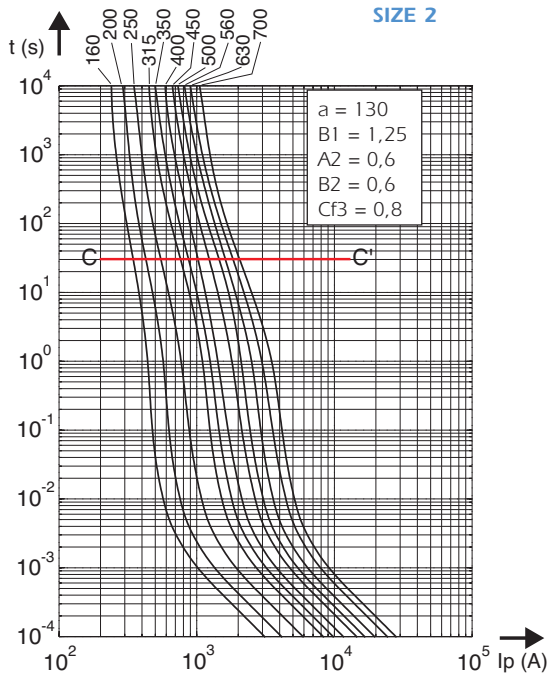


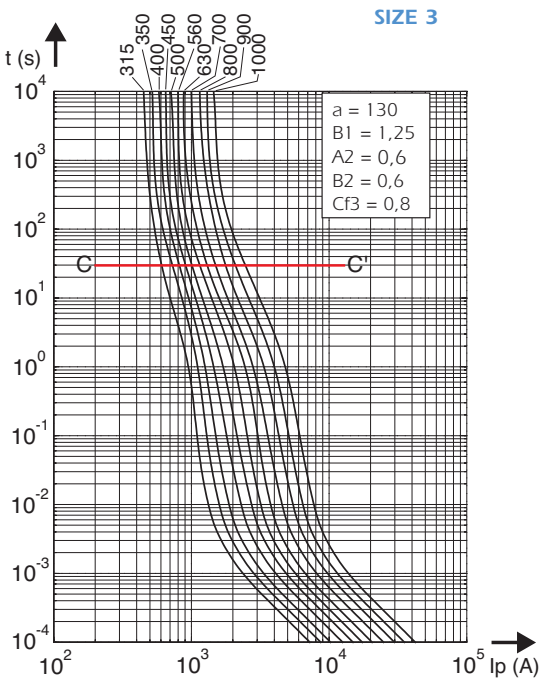
Value between parentheses pertain to prearcing I²t



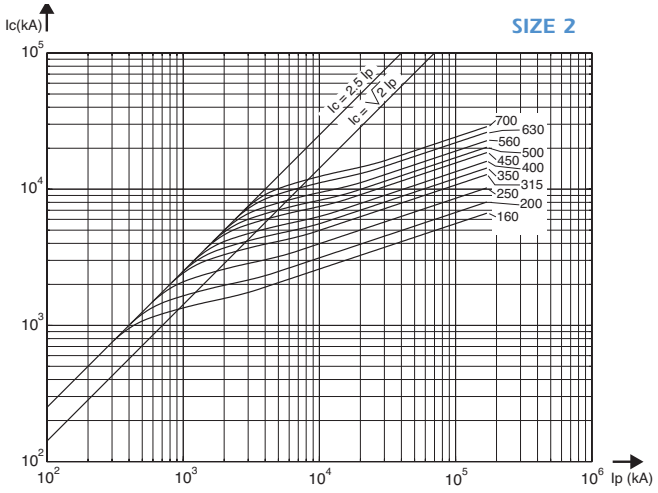
Protistor® Square-body Fuses
NH Plain Blades - 690 VAC
aR - 690 VAC sizes 000 to 3

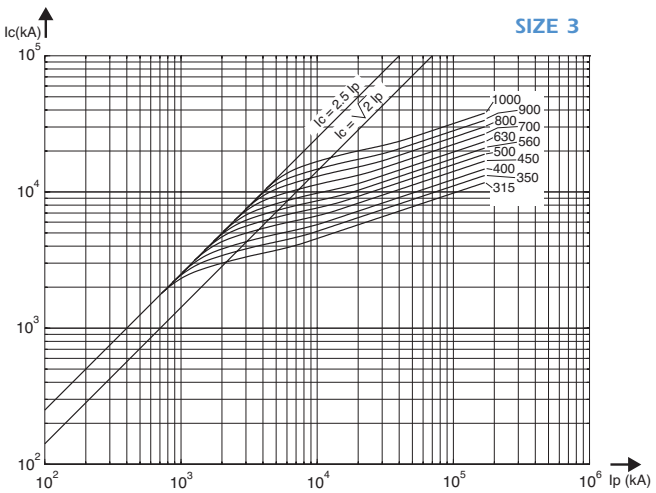
Times/Current Characteristics



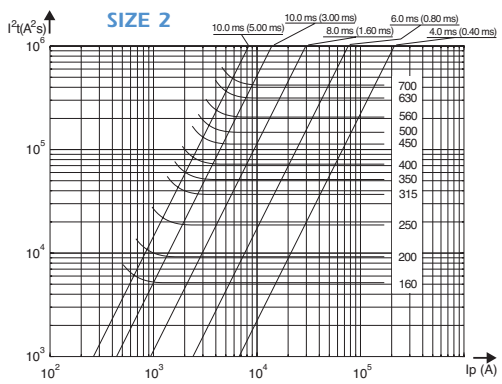


Cut off characteristics - Peak let thru current

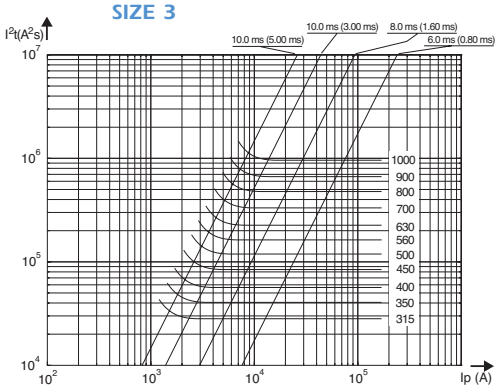




Total I²t and total operating time @ 690 V

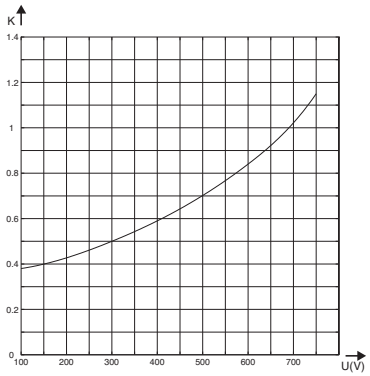


Value between parentheses pertain to prearcing I²t

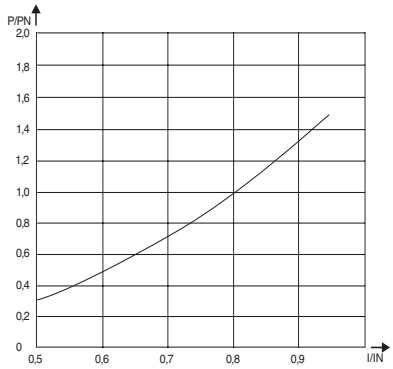


Protistor® Square-body Fuses
NH Plain Blades - 690 VAC
aR - 690 VAC sizes 000 to 3

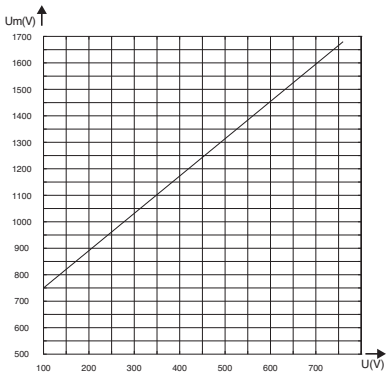
k=f(U)
Multiplier coefficient to calculate total I²t and total operating time



P/PN
Multiplier coefficient to calculate the power losses at various currents



Peak arc voltage



Derating in fuse holders

- **1**- Derating for fuse holder improtected
- **2**- Derating for finger safe fuseholders and switch disconnector Linocur
- **3**- Derating for fused switch-disconnectors ITC
- **4**- Derating for fused switch-disconnectors ITC with finger safe protection

	In	1	2	3	4
Size 000	16	1,00	1,00	1,00	1,00
	20	1,00	1,00	1,00	1,00
	25	1,00	1,00	1,00	1,00
	32	1,00	1,00	1,00	1,00
	40	1,00	1,00	1,00	1,00
	50	1,00	1,00	0,90	0,90
	63	1,00	1,00	0,90	0,90
	80	1,00	0,90	0,75	0,75
	100	1,00	0,90	0,75	0,75
	125	1,00	0,85	0,70	0,70
	160	0,90	0,75	0,60	0,60
	200	0,85	0,70	0,55	0,55
	250	0,75	0,60	0,50	0,50
	315	0,70	0,55	0,45	0,45
Size 00	20	1,00	1,00	1,00	1,00
	25	1,00	1,00	1,00	1,00
	32	1,00	1,00	1,00	1,00
	40	1,00	1,00	1,00	1,00
	50	1,00	1,00	1,00	1,00
	63	1,00	1,00	1,00	1,00
	80	1,00	0,95	0,95	0,95
	100	1,00	0,90	0,90	0,90
	125	1,00	0,85	0,85	0,85
	160	0,90	0,75	0,75	0,75
	200	0,85	0,70	0,70	0,70
	250	0,80	0,65	0,65	0,65
	315	0,70	0,55	0,55	0,55
Size 0	32	1,00			
	40	1,00			
	50	1,00			
	63	1,00			
	80	0,95			
	100	0,95			
	125	0,85			
	160	0,85			
	200	0,80			
	250	0,75			
	315	0,65			

	In	1	2	3	4
Size 1	63	1,00	0,95	1,00	1,00
	80	0,95	0,85	0,95	0,90
	100	0,85	0,75	0,85	0,80
	125	0,85	0,75	0,85	0,80
	160	0,80	0,70	0,80	0,75
	200	0,80	0,70	0,80	0,70
	250	0,75	0,70	0,75	0,70
	315	0,75	0,65	0,75	0,70
	350	0,70	0,65	0,70	0,65
	400	0,65	0,60	0,65	0,60
Size 2	160	0,90	0,80	0,90	0,85
	200	0,85	0,75	0,85	0,80
	250	0,85	0,70	0,80	0,75
	315	0,75	0,65	0,70	0,65
	350	0,70	0,65	0,70	0,65
	400	0,70	0,60	0,70	0,60
	450	0,70	0,60	0,65	0,60
	500	0,70	0,60	0,65	0,60
	550	0,65	0,60	0,65	0,60
	630	0,65	0,55	0,65	0,60
	700	0,60	0,55	0,60	0,55
Size 3	315	0,85	0,75	0,80	0,75
	350	0,85	0,75	0,80	0,75
	400	0,80	0,70	0,75	0,70
	450	0,80	0,70	0,75	0,70
	500	0,75	0,65	0,75	0,70
	550	0,75	0,65	0,75	0,70
	630	0,70	0,60	0,70	0,65
	700	0,70	0,60	0,65	0,60
	800	0,65	0,55	0,60	0,55
	900	0,60	0,50	0,60	0,55
	1000	0,60	0,50	0,55	0,50

Protistor® Square-body Fuses
NH Plain Blades - 690 VAC
aR - 690 VAC sizes 000 to 3

Fuse holders and switch-disconnector

Fuse holder
unprotect

Fuse holder
finger safe

Switch
Disconnector

Fuse switch
Disconnector
fast handle

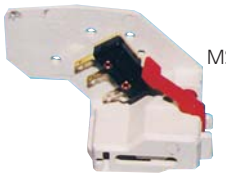
Type	Characteristics	Poles	Size 000/00	Size 0	Sie 1	Size 2	Size 3
Fuse holder	Unprotected (4) screw connection for hole and bar terminals for 35mm Din rail	1 2 3 4	R216192 F218758 V219277 Z223007	T218241 G218759 W219278 H222486	A223008 G200796 Y201340 H201855	E211075 V211595 D212109 R212627	X213644 B214154 F214664 K215174
	Unprotected (4) screw connection for holes or bar terminals for panels	1 2 3 4	F215170 A217212 F217723 S219275	N216695 B217213 G217724 R218239	E218757 F222484 Y223006 X201339	F201853 S211593 B212107 C213143	W213643 D214662 H215172 L215681
	Finger Safe Protected screw connection for hole and bar terminals for DIN rail	1 3	S218240 G222485	G226717 J226719A	P226724 Q226725	R226726 S226727	T226728 V226729
Switch-disconnector	Horizontal Linocur AC23	1	N216626 N222882				
		2	B218685 C201781				
		3	Y212035 W213574				
Fused switch-disconnector front handle	ITCP 160 III(4)	3	F210409				
	ITC 63 III complete (5)	3	G210824				
	ITC 160 III complete (5)	3	K227824				
	ITC 250 III complete (5)	3			N210830 + Y210770 (3)		
	ITC 400 III complete(5)	3				Q210832 + Y210770 (3)	
	ITC 630 III complete(5)	3					P210831 + Y210770 (3)
	ITC 800 III complete(5)	3					W229674 + Y210770 (3)

(1) Impossible to use microswitch
(2) The axis of operation must be fragmented if the heighten (Y210770A) is not used - Internal or external control.
(3) Necessary heighten for the use of microswitch (F210156C or G210157C)
(4) Unprotected against accidental contact-not finger safe
(5) Finger safe
"**Warning** : for all holders, please check maximum fuse and fuse holder operating limit".

Protistor® Square-body Fuses
PSC gR/aR sizes 000/00
Microswitches for PSC sizes 000/00 for NH

MICROSWITCH SYSTEMS ADAPTED TO THE FOLLOWING FUSES:

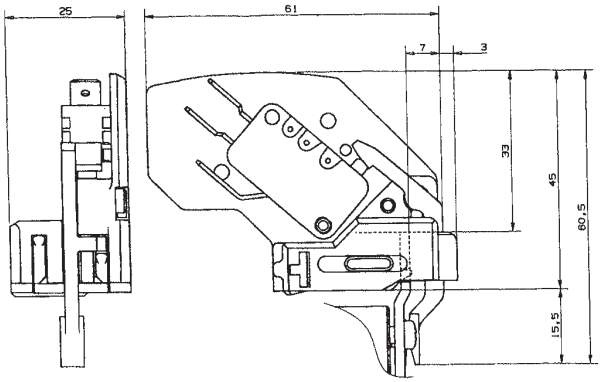
- PSC sizes 000/00 (brackets) DIN43653
- NH Fuses (plain blades) see details in "General Purpose IEC Fuses" section
- NH plain blades 690 VAC Protistor square-body Fuses

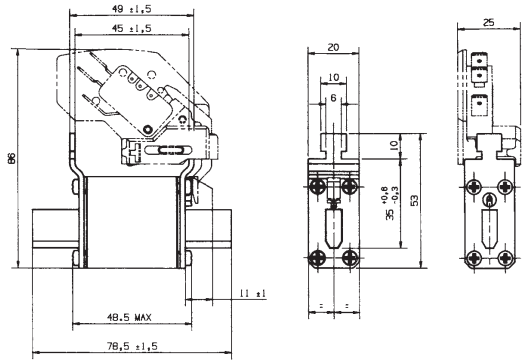

MS 4L 2-5

Main Characteristics

Code	AC Insulation voltage rating (***)	Positive operating voltage/current	Current rating	Current	Interrupting rating Non inductive circuit			Inductive circuit : L/R = 25ms			AC voltage withstand test (*)	Impulse voltage test Uimp1.2/50 µs (**)	Fire class according to UL 94
					30V	110V	250V	30V	110V	250V			
MS 4L 2-5 B2	1000 V	20 V	5 A	50 Hz	4A	4A	5A	-	5A	5 A	12 kV	16 kV	V0
+ Pres		100 mA		DC	-	-	-	-	2 A	0,4 A	8 kV	13 kV	
MS 4L 2-5 B6	1000 V	20 V	10 A	50/60 Hz	10 A	10 A	10 A	10 A	10 A	10 A	8 kV	10 kV	V0
+ Pres		50 mA		DC	8 A	0,4 A	0,2 A	4 A	0,2 A	0,1 A			

* 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





Designation	Ref. Number	Weight (g)	Pack.	Catalog Number
MS 4L 2-5 B6 + PRES (Fig. 1) (1)	F210156	30	3	MS 4L2-5B6PRES
MS 4L 2-5 B2 + PRES (Fig. 2) (2)	G210157	26	3	MS 4L2-5B2PRES

Automatically resettable, these microswitch systems indicate fuse presence (PRES) and proper mounting.
In case of improper mounting or fuse melting, this is indicated (terminal 1-4 closed)

Fig.1

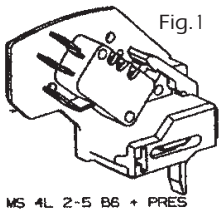
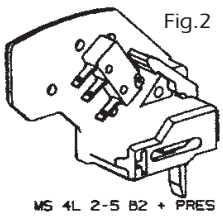


Fig.2



(1) 6.3 mm clips
(2) 2.8 mm clips

Protistor® Square-body Fuses
PSC gR sizes 7x - 690 VAC
Main characteristics

6,9 gRB 71 PA 200

6,9 gRB 73 TTF 1000
+ MS7V1-5 UR

Ferraz Shawmut PSC-gRB 690 VAC fuse-links provide maximum flexibility in equipment design and ultimate protection for today's power conversion equipment.
This range is a fast acting, full range fuses engineered to provide state of the art protection for power semiconductors such as diodes, thyristors.
These square body fuse-links are available in various body sizes with a broad range of ampere ratings allowing the greatest flexibility in equipment design.
They have pure silver fuse elements embedded in solidified sand which provides optimized I^2t and high breaking capacity. All contact surfaces are plated and all hardware non-magnetic.
All fuses are standard with a low voltage blown fuse indicator. This indicator can operate a microswitch which is easily mounted directly on to the fuse in service.

6,9 gRB 70 EF 400

6,9 gRB 73 DIIA 1000

Feature

- Full range (gR curve), fast acting
- Highly current limiting.
- High breaking capacities
- Very low I^2t
- Worldwide mounting acceptance.
- Superior cycling ability.
- High widstanding in rush current and overloads

Ratings

AC: up to 1000 A 690 VAC
150 kA IR
DC: Consult Factory

Applications

Protection of rectifiers, inverters, static switch, AC & DC drives and UPS systems.

AC: Tested to IEC 60269.4

approvals

Features/Benefits

Wide range of mounting styles

Broad range of ampere ratings in each body size for design flexibility

IEC 60269-4 compliance for fuses for worldwide semiconductor applications

Protistor® Square-body Fuses
PSC gR sizes 7x - 690 VAC
Main characteristics

Voltage	Size	Type	Rating In (A)	Pre-Arcing I²t @ 1ms kA²s	Total I²t @ 690V kA²s	PN: Power losses (W)				Breaking capacities (kA)
						End contacts		Blades		
						0,8 In	In	0,8In	In	
690V	70	gRB	50	0,12	0,7	9	17	9	17	150
		gRB	63	0,27	1,6	9	18	9	18	
		gRB	80	0,47	2,8	11	22	11	22	
		gRB	100	1,06	6,2	12	23	12	23	
		gRB	125	1,9	11,2	13	26	13	26	
		gRB	160	4,2	25	15	29	15	29	
		gRB	200	7,5	44	17	33	17	34	
		gRB	250	13,5	79	20	39	20	40	
		gRB	315	24	142	23	46	24	47	
		gRB	350	41	240	23	46	24	47	
	71	gRB	125	1,06	6,2	18	35	18	35	
		gRB	160	2,4	14	19	38	19	38	
		gRB	200	5	29,5	21	41	21	42	
		gRB	250	9,5	56	23	46	24	48	
		gRB	315	18,5	108	27	53	27	54	
		gRB	350	23	140	29	58	30	60	
		gRB	400	38	225	30	59	31	61	
		gRB	450	62	360	30	59	31	61	
		gRB	500	78	460	32	64	34	67	
	72	gRB	200	4,2	25	23	45	23	45	
		gRB	250	8,5	50	25	49	25	50	
		gRB	315	17	100	28	55	29	57	
		gRB	350	23	140	29	58	30	60	
		gRB	400	34	200	32	63	33	65	
		gRB	450	47	280	34	67	35	70	
		gRB	500	68	400	35	69	36	72	
		gRB	550	84	495	38	75	39	78	
		gRB	630	124	730	41	81	43	86	
		gRB	700	155	910	45	89	48	95	
	73	gRB	315	12	69	33	66	34	67	
		gRB	350	17	100	34	68	35	69	
		gRB	400	27	160	36	71	37	73	
		gRB	450	34	200	40	79	41	82	
		gRB	500	47	280	42	84	43	86	
		gRB	550	68	400	42	84	44	87	
		gRB	630	102	600	45	89	47	94	
		gRB	700	139	820	47	94	50	100	
		gRB	800	227	1330	48	96	52	104	
		gRB	900	280	1640	55	109	60	119	
		gRB	1000	385	2270	58	115	64	127	

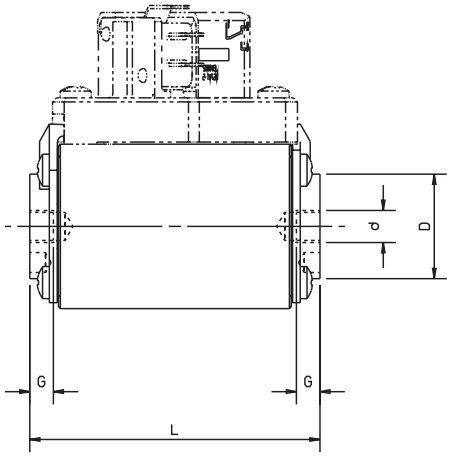
Time/current characteristics
Cut off characteristics
Total I²t and total operating time
Other curves

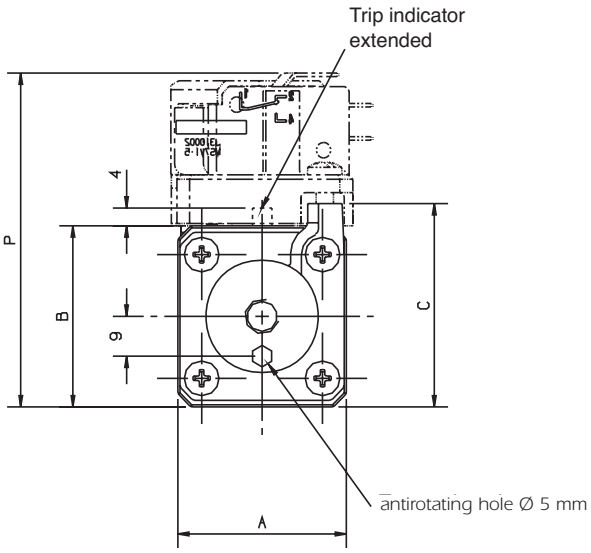
see following pages

Protistor® Square-body Fuses
PSC gR sizes 7x - 690 VAC
French 70-73 End contacts

Size	Designation	Reference Number	Weight (g)	Catalog Number
	6,9 gRB 70 TTF 050	C301279		PC70GB69V50TF
	6,9 gRB 70 TTF 063	D301280		PC70GB69V63TF
	6,9 gRB 70 TTF 080	E301281		PC70GB69V80TF
	6,9 gRB 70 TTF 100	F301282		PC70GB69V100TF
	6,9 gRB 70 TTF 125	G301283		PC70GB69V125TF
70	6,9 gRB 70 TTF 160	L301310	340	PC70GB69V160TF
	6,9 gRB 70 TTF 200	M301311		PC70GB69V200TF
	6,9 gRB 70 TTF 250	N301312		PC70GB69V250TF
	6,9 gRB 70 TTF 315	P301313		PC70GB69V315TF
	6,9 gRB 70 TTF 350			
	6,9 gRB 71 TTF 125	Q301314		PC71GB69V125TF
	6,9 gRB 71 TTF 160	R301315		PC71GB69V160TF
	6,9 gRB 71 TTF 200	S301316		PC71GB69V200TF
	6,9 gRB 71 TTF 250	T301317		PC71GB69V250TF
71	6,9 gRB 71 TTF 315	N301427	520	PC71GB69V315TF
	6,9 gRB 71 TTF 350	V301318		PC71GB69V350TF
	6,9 gRB 71 TTF 400	W301319		PC71GB69V400TF
	6,9 gRB 71 TTF 450	X301320		PC71GB69V450TF
	6,9 gRB 71 TTF 500	S301707		PC71GB69V500TF
	6,9 gRB 72 TTF 200	F301328		PC72GB69V200TF
	6,9 gRB 72 TTF 250	G301329		PC72GB69V250TF
	6,9 gRB 72 TTF 315	H301330		PC72GB69V315TF
	6,9 gRB 72 TTF 350	W301710		PC72GB69V350TF
	6,9 gRB 72 TTF 400	J301331		PC72GB69V400TF
72	6,9 gRB 72 TTF 450	X301711	810	PC72GB69V450TF
	6,9 gRB 72 TTF 500	K301332		PC72GB69V500TF
	6,9 gRB 72 TTF 550	L301333		PC72GB69V550TF
	6,9 gRB 72 TTF 630	M301334		PC72GB69V630TF
	6,9 gRB 72 TTF 700	Y301712		PC72GB69V700TF
	6,9 gRB 73 TTF 315	W301342		PC73GB69V315TF
	6,9 gRB 73 TTF 350	B301715		PC73GB69V350TF
	6,9 gRB 73 TTF 400	X301343		PC73GB69V400TF
	6,9 gRB 73 TTF 450	Y301344		PC73GB69V450TF
	6,9 gRB 73 TTF 500	C301716		PC73GB69V500TF
73	6,9 gRB 73 TTF 550	Z301345	1220	PC73GB69V550TF
	6,9 gRB 73 TTF 630	A301346		PC73GB69V630TF
	6,9 gRB 73 TTF 700	B301347		PC73GB69V700TF
	6,9 gRB 73 TTF 800	D301717		PC73GB69V800TF
	6,9 gRB 73 TTF 900	S301638		PC73GB69V900TF
	6,9 gRB 73 TTF 1000	F301719		PC73GB69V10CTF

Packaging: 3 pieces sizes 70 and 71 / 1 piece size 72 and 73





Threaded studs :

M8 x 20 mm: Réf.V099171
M10 x 30 mm: Réf.M099946
M12 x 35 mm: Réf.J099966
exists in other length

Microswitches:

MS 7V 1-5	Réf.J310002	Standard NO-NC
MS 7V 1-5 UR	Réf.Z310039	Standard NO-NC
MS 7V 1-5 BS	Réf.K310003	Low level NO-NC
MS 7V 1-9 BS	Réf.P310007	Double pole NO-NC-low level
MS 7V 1-5 ET	Réf.S310010	Low level NO-NC-IP 50

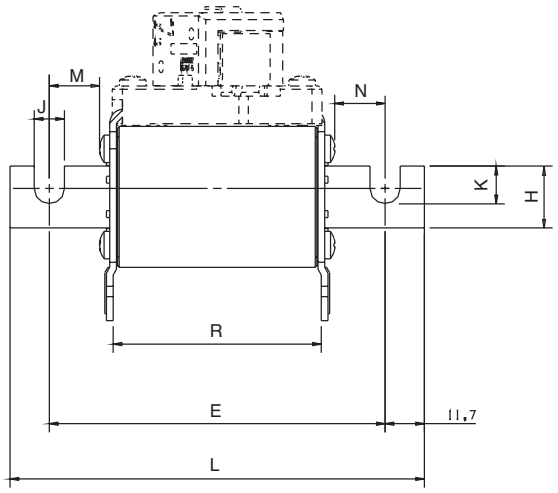
Threaded studs and Microswitches supplied seperately

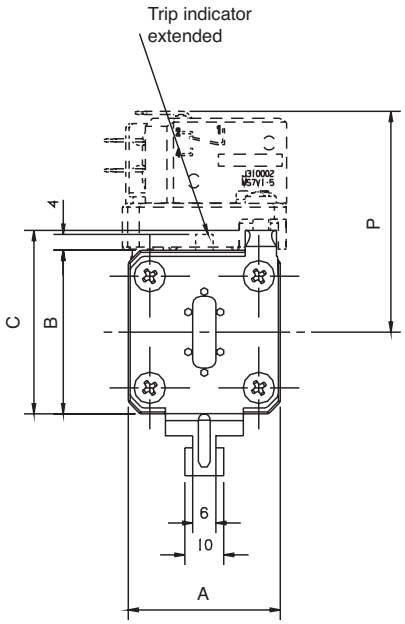
Size	A	B	C	D	L	d	G*	P
70	39,8	41,8	46,5	26	74	M 8	6	81,8
	1.57"	1.65"	1.83"	1.02"	2.91"		0.24"	3.22"
71	51	51	56,5	30	74	M 8	9	85.5
	2.00"	2.00"	2.22"	1.18"	2.91"		0.35"	3.37"
72	60	60	65.5	38	74	M 10	9	93.6
	2.36"	2.36"	2.58"	1.50"	2.91"		0.35"	3.69"
73	74,4	74,4	78,5	46	74	M 12	9	107.6
	2.93"	2.93"	3.09"	1.81"	2.91"		0.35"	4.24"

Fuse holder solution, see Fuse gear section.

Protistor® Square-body Fuses
PSC gR sizes 7x - 690 VAC
French 70-73 Blades

Size	Designation	Reference Number	Weight (g)	Catalog Number
	6,9 gRB 70 EF 050	P301405		PC70GB69V50EF
	6,9 gRB 70 EF 063	Q301406		PC70GB69V63EF
	6,9 gRB 70 EF 080	R301407		PC70GB69V80EF
	6,9 gRB 70 EF 100	S301408		PC70GB69V100EF
	6,9 gRB 70 EF 125	T301409		PC70GB69V125EF
70	6,9 gRB 70 EF 160	V301410	370	PC70GB69V160EF
	6,9 gRB 70 EF 200			
	6,9 gRB 70 EF 250			
	6,9 gRB 70 EF 315			
	6,9 gRB 70 EF 350			
	6,9 gRB 71 EF 125	Y301321		PC71GB69V125EF
	6,9 gRB 71 EF 160	Z301322		PC71GB69V160EF
	6,9 gRB 71 EF 200	A301323		PC71GB69V200EF
	6,9 gRB 71 EF 250	B301324		PC71GB69V250EF
71	6,9 gRB 71 EF 315		540	
	6,9 gRB 71 EF 350	C301325		PC71GB69V350EF
	6,9 gRB 71 EF 400	D301326		PC71GB69V400EF
	6,9 gRB 71 EF 450	E301327		PC71GB69V450EF
	6,9 gRB 71 EF 500	G301858		PC71GB69V500EF
	6,9 gRB 72 EF 200	N301335		PC72GB69V200EF
	6,9 gRB 72 EF 250	P301336		PC72GB69V250EF
	6,9 gRB 72 EF 315	Q301337		PC72GB69V315EF
	6,9 gRB 72 EF 350			
	6,9 gRB 72 EF 400	R301338		PC72GB69V400EF
72	6,9 gRB 72 EF 450		810	
	6,9 gRB 72 EF 500	S301339		PC72GB69V500EF
	6,9 gRB 72 EF 550	T301340		PC72GB69V550EF
	6,9 gRB 72 EF 630	V301341		PC72GB69V630EF
	6,9 gRB 72 EF 700			
	6,9 gRB 73 EF 315	C301348		PC73GB69V315EF
	6,9 gRB 73 EF 350			
	6,9 gRB 73 EF 400	D301349		PC73GB69V400EF
	6,9 gRB 73 EF 450	E301350		PC73GB69V450EF
	6,9 gRB 73 EF 500			
73	6,9 gRB 73 EF 550	F301351	1150	PC73GB69V550EF
	6,9 gRB 73 EF 630	G301352		PC73GB69V630EF
	6,9 gRB 73 EF 700	H301353		PC73GB69V700EF
	6,9 gRB 73 EF 800			
	6,9 gRB 73 EF 900			
	6,9 gRB 73 EF 1000			





Packaging: 3 pieces sizes 70 and 71 / 1 piece size 72 and 73

Microswitches:	MS 7V 1-5	Réf.J310002	Standard NO-NC
	MS 7V 1-5 UR	Réf.Z310039	Standard NO-NC
	MS 7V 1-5 BS	Réf.K310003	Low level NO-NC
	MS 7V 1-9 BS	Réf.P310007	Double pole NO-NC-low level
	MS 7V 1-5 ET	Réf.S310010	Low level NO-NC-IP 50

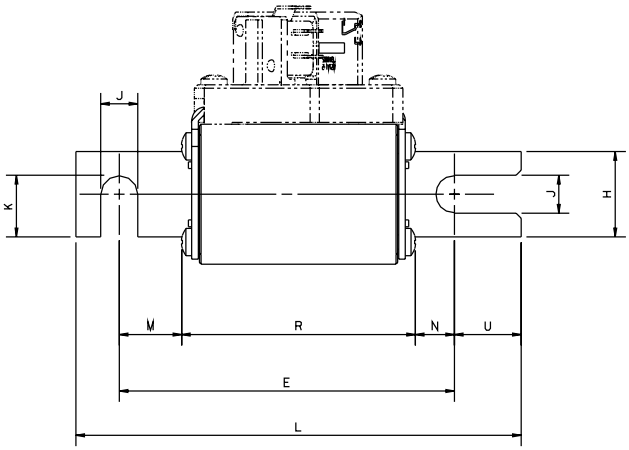
Microswitches supplied seperately

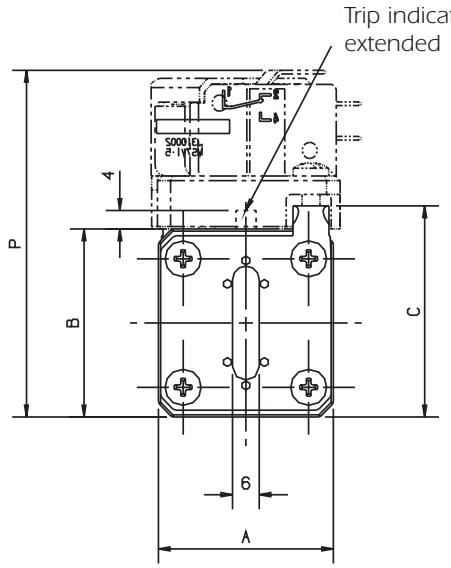
Size	A	B	C	E±1,3	H	J	K	L±1,5	M	N	P	R
70	39,8	41,8	46,5	100	18	9	11	123,4	28,2	28,2	77	68
	1.57"	1.65"	1.83"	3.94"	0.71"	0.35"	0.43"	4.86"	1.11"	1.11"	3.03"	2.68"
71	51	51	56,5	110	25	10,5	16	133,4	32,7	32,7	91	68
	2.00"	2.00"	2.22"	4.33"	0.98"	0.41"	0.63"	5.25"	1.29"	1.29"	3.58"	2.68"
72	60	60	65,5	114,4	32	13	21,2	149,4	40,7	40,7	100	68
	2.36"	2.36"	2.58"	4.50"	1.26"	0.51"	0.83"	5.88"	1.60"	1.60"	3.93"	2.68"
73	74,4	74,4	78,5	114,4	40	13	19,5	149,4	40,7	40,7	114,4	68
	2.93"	2.93"	3.09"	4.50"	1.58"	0.51"	0.77"	5.88"	1.60"	1.60"	4.50"	2.68"

Reinforced and longuer knifes available under designation ESF
Fuse holder solution, see Fuse gear section.

Protistor® Square-body Fuses
PSC gR sizes 7x - 690 VAC
German 70-73 End contacts

Size	Designation	Reference Number	Weight (g)	Catalog Number
	6,9 gRB 70 D11A 050			
	6,9 gRB 70 D11A 063			
	6,9 gRB 70 D11A 080			
	6,9 gRB 70 D11A 100	Q302027		PC70GB69V100D1A
	6,9 gRB 70 D11A 125			
70*	6,9 gRB 70 D11A 160	R301591	370	PC70GB69V160D1A
	6,9 gRB 70 D11A 200	S301592		PC70GB69V200D1A
	6,9 gRB 70 D11A 250	Z301943		PC70GB69V250D1A
	6,9 gRB 70 D11A 315	J301584		PC70GB69V315D1A
	6,9 gRB 70 D11A 350	W302124		PC70GB69V350D1A
	6,9 gRB 71 D11A 125	B302658		PC71GB69V125D1A
	6,9 gRB 71 D11A 160	C302659		PC71GB69V160D1A
	6,9 gRB 71 D11A 200	C302682		PC71GB69V200D1A
	6,9 gRB 71 D11A 250	R302143		PC71GB69V250D1A
71*	6,9 gRB 71 D11A 315			
	6,9 gRB 71 D11A 350	T302214	540	PC71GB69V350D1A
	6,9 gRB 71 D11A 400			
	6,9 gRB 71 D11A 450	R301637		PC71GB69V450D1A
	6,9 gRB 71 D11A 500	A301737		PC71GB69V500D1A
	6,9 gRB 72 D11A 200			
	6,9 gRB 72 D11A 250	T302697		
	6,9 gRB 72 D11A 315	V302698		
	6,9 gRB 72 D11A 350	E302500		PC72GB69V350D1A
	6,9 gRB 72 D11A 400	V302215		PC72GB69V400D1A
72**	6,9 gRB 72 D11A 450	Q302671	800	PC72GB69V450D1A
	6,9 gRB 72 D11A 500			
	6,9 gRB 72 D11A 550	L301724		PC72GB69V550D1A
	6,9 gRB 72 D11A 630			
	6,9 gRB 72 D11A 700			
	6,9 gRB 73 D11A 315			
	6,9 gRB 73 D11A 350			
	6,9 gRB 73 D11A 400			
	6,9 gRB 73 D11A 450			
	6,9 gRB 73 D11A 500	W302216		PC73GB69V500D1A
73**	6,9 gRB 73 D11A 550	R302672	1150	PC73GB69V550D1A
	6,9 gRB 73 D11A 630			
	6,9 gRB 73 D11A 700	F301765		PC73GB69V700D1A
	6,9 gRB 73 D11A 800			
	6,9 gRB 73 D11A 900			
	6,9 gRB 73 D11A 1000	S302673		PC73GB69V10CD1A





Packaging: *3 pieces
** 1 piece

Microswitches:

MS 7V 1-5	Réf.J310002	Standard NO-NC
MS 7V 1-5 UR	Réf.Z310039	Standard NO-NC
MS 7V 1-5 BS	Réf.K310003	Low level NO-NC
MS 7V 1-9 BS	Réf.P310007	Double pole NO-NC-low level
MS 7V 1-5 ET	Réf.S310010	Low level NO-NC-IP 50

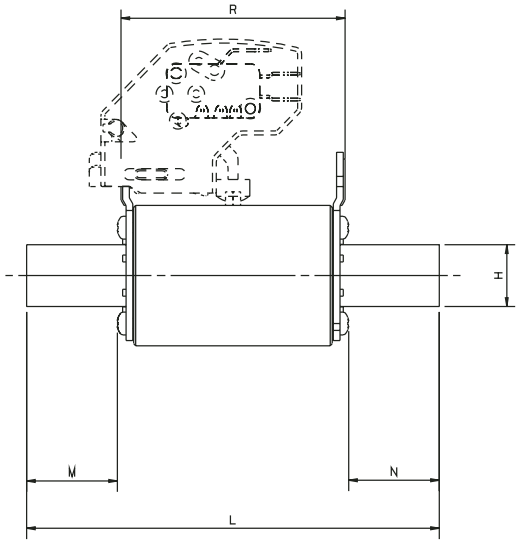
Microswitches supplied seperately

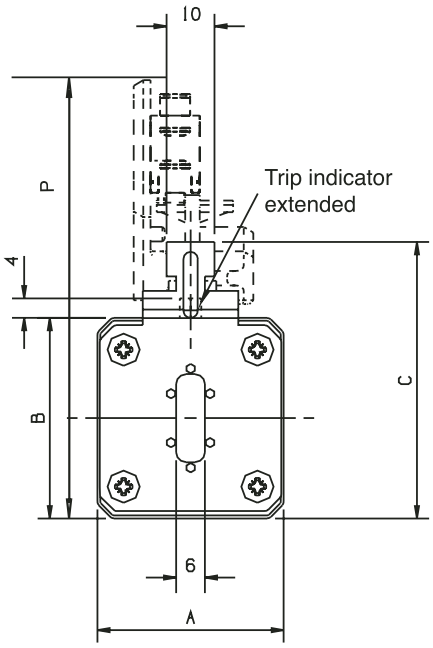
Size	A	B	C	E± 1,3	H	J	K	L	M	N	P	R
70	39,8	41,8	46,5	100,4	25	10,5	17,7	133,4	18,5	11,5	81,4	70,4
	1.57"	1.65"	1.83"	3.95"	0.98"	0.41"	0.70"	5.25"	0.73"	0.43"	3.20"	2.77"
71	51	51	56,5	100,4	25	10,5	17,7	133,4	18,5	11,5	91	70,4
	2.00"	2.00"	2.22"	3.95"	0.98"	0.41"	0.70"	5.25"	0.73"	0.45"	3.68"	2.77"
72	60	60	65,5	100,4	32	11,1	21,2	133,4	18,5	11,5	93,6	70,4
	2.36"	2.36"	2.58"	3.95"	1.26"	0.44"	0.83"	5.25"	0.73"	0.45"	3.69"	2.77"
73	74,4	74,4	78,5	100,4	40	10,5	25,2	133,4	18	11	114,4	70,4
	2.93"	2.93"	3.09"	3.95"	1.58"	0.41"	1.00"	5.25"	0.71"	0.43"	4.50"	2.77"

Fuse holder solution, see Fuse gear section.

Protistor® Square-body Fuses
PSC gR sizes 7x - 690 VAC
IEC Terminals 70-73 Plain Blades

Size	Designation	Reference Number	Weight (g)	Catalog Number
70*	6,9 gRB 70 PA 050	Q301245	340	PC70GB69V50PA
	6,9 gRB 70 PA 063	R301246		PC70GB69V63PA
	6,9 gRB 70 PA 080	S301247		PC70GB69V80PA
	6,9 gRB 70 PA 100	T301248		PC70GB69V100PA
	6,9 gRB 70 PA 125	T301179		PC70GB69V125PA
	6,9 gRB 70 PA 160	F301190		PC70GB69V160PA
	6,9 gRB 70 PA 200	S301178		PC70GB69V200PA
	6,9 gRB 70 PA 250	V301249		PC70GB69V250PA
	6,9 gRB 70 PA 315	W301250		PC70GB69V315PA
	6,9 gRB 70 PA 350	X301251		PC70GB69V350PA
71*	6,9 gRB 71 PA 125	Y301252	550	PC71GB69V125PA
	6,9 gRB 71 PA 160	Z301253		PC71GB69V160PA
	6,9 gRB 71 PA 200	A301254		PC71GB69V200PA
	6,9 gRB 71 PA 250	B301255		PC71GB69V250PA
	6,9 gRB 71 PA 315	R301177		PC71GB69V315PA
	6,9 gRB 71 PA 350	E301258		PC71GB69V350PA
	6,9 gRB 71 PA 400	V301226		PC71GB69V400PA
	6,9 gRB 71 PA 450	C301256		PC71GB69V450PA
	6,9 gRB 71 PA 500	D301257		PC71GB69V500PA
72*	6,9 gRB 72 PA 200	F301259	820	PC72GB69V200PA
	6,9 gRB 72 PA 250	G301260		PC72GB69V250PA
	6,9 gRB 72 PA 315	H301261		PC72GB69V315PA
	6,9 gRB 72 PA 350	J301262		PC72GB69V350PA
	6,9 gRB 72 PA 400	K301263		PC72GB69V400PA
	6,9 gRB 72 PA 450	L301264		PC72GB69V450PA
	6,9 gRB 72 PA 500	M301265		PC72GB69V500PA
	6,9 gRB 72 PA 550	N301266		PC72GB69V550PA
	6,9 gRB 72 PA 630	P301267		PC72GB69V630PA
	6,9 gRB 72 PA 700	Q301268		PC72GB69V700PA
73**	6,9 gRB 73 PA 315	R301269	1120	PC73GB69V315PA
	6,9 gRB 73 PA 350	S301270		PC73GB69V350PA
	6,9 gRB 73 PA 400	T301271		PC73GB69V400PA
	6,9 gRB 73 PA 450	V301272		PC73GB69V450PA
	6,9 gRB 73 PA 500	W301273		PC73GB69V500PA
	6,9 gRB 73 PA 550	N301404		PC73GB69V550PA
	6,9 gRB 73 PA 630	X301274		PC73GB69V630PA
	6,9 gRB 73 PA 700	Y301275		PC73GB69V700PA
	6,9 gRB 73 PA 800	Z301276		PC73GB69V800PA
	6,9 gRB 73 PA 900	A301277		PC73GB69V900PA
	6,9 gRB 73 PA 1000	B301278		PC73GB69V1000PA





Packaging: **3 pieces - ** 1 piece*

Size Fuses	Microswitches		
70	MS PA 2-5T70	Réf.T210398	OF Standard
	MS PA 2-9T70	Réf.V210399	Double OF side by side
	MS PA 2-5 B2T70	Réf.W210400	OF Terminals 2.8 mm
71-72-73	MS PA 2-5	Réf.H210158	OF Standard
	MS PA 2-9V	Réf.J210159	Double OF side by side
	MS PA 2-5 B2	Réf.C210160	OF Terminals 2.8 mm

Microswitches supplied seperately

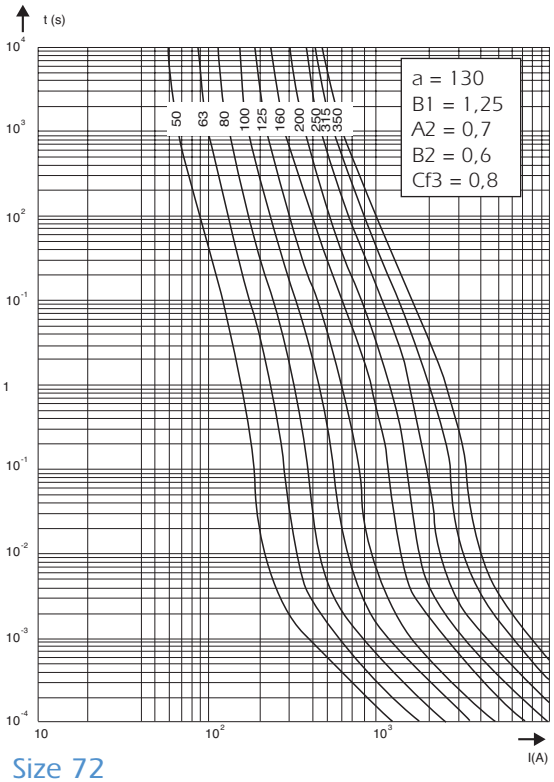
Size	A	B	C	H	L±1,5	M	N	P	R
70	39,8	41,8	57	18	123,4	26,2	26,2	90	67
	1.57"	1.65"	2.24"	0.71"	4.86"	1.03"	1.03"	3.54"	2.64"
71	51	51	63	25	133,4	26,2	26,2	96	68
	2.00"	2.00"	2.48"	0.98"	5.25"	1.03"	1.03"	3.79"	2.68"
72	60	60	72	32	149,4	39,2	39,2	105	68
	2.36"	2.36"	2.84"	1.26"	5.88"	1.54"	1.54"	4.15"	2.68"
73	74,4	74,4	87,5	40	149,4	39,2	39,2	121	68
	2.93"	2.93"	3.45"	1.58"	5.88"	1.54"	1.54"	4.76"	2.68"

180° position trip indicator available under PV designation but no microswitch possible Fuse holder solution, see Gear and Fuse gear section

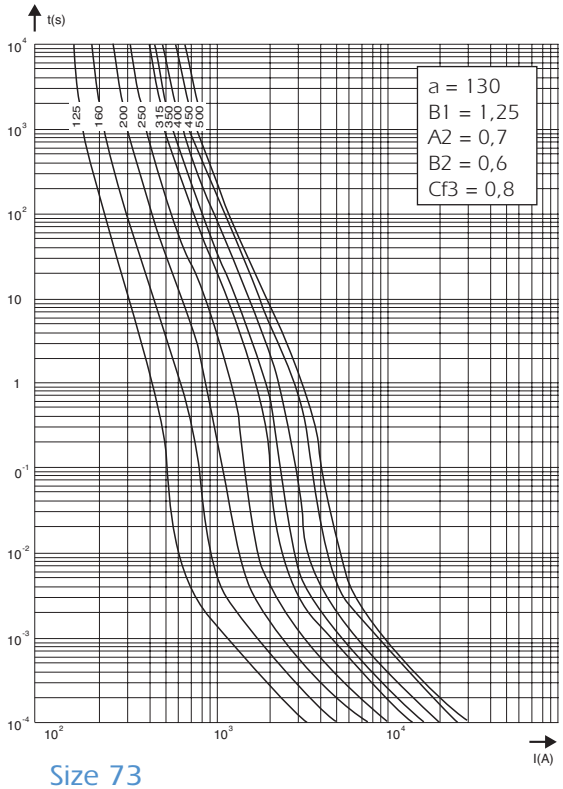
Protistor® Square-body Fuses
PSC gR sizes 7x - 690 VAC
Curves set

Times/Current Characteristics

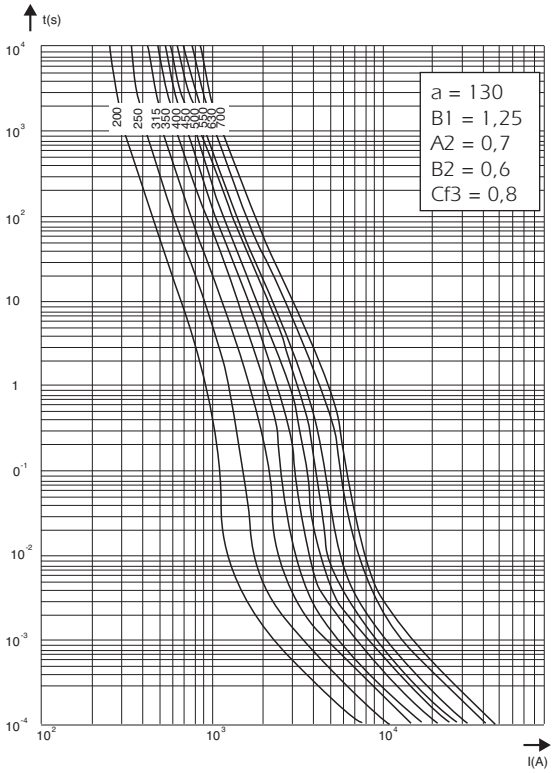
Size 70



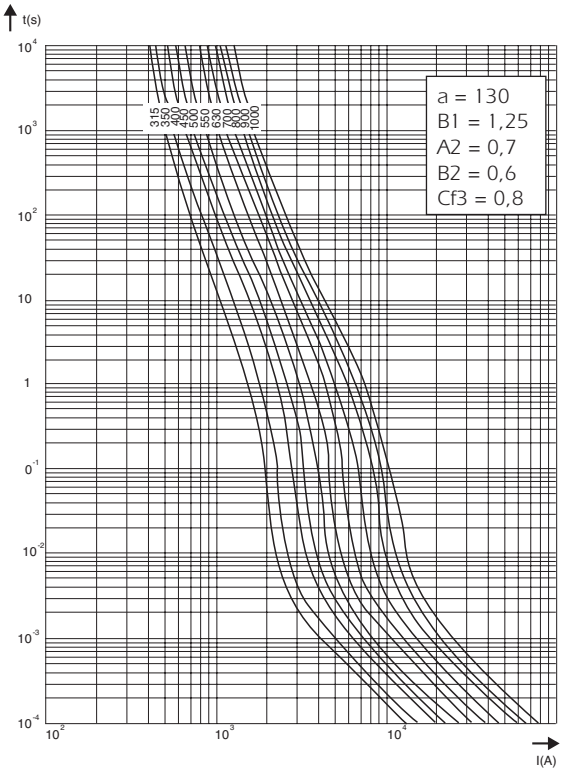
Size 71



Size 72



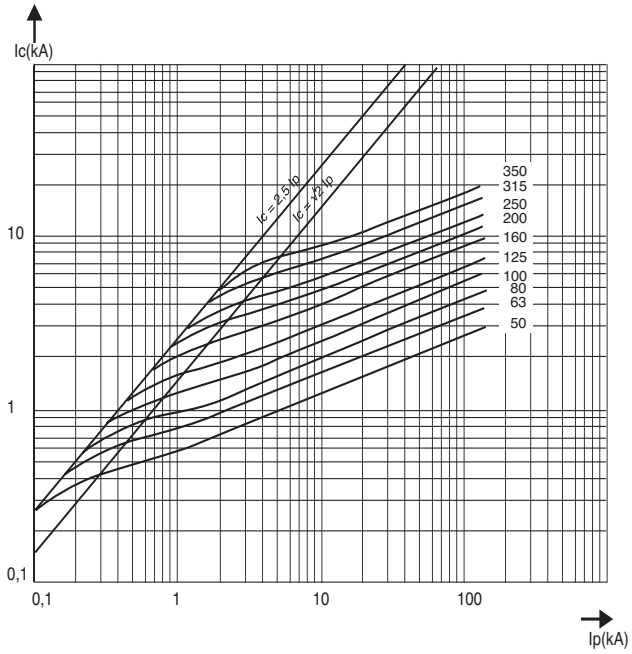
Size 73



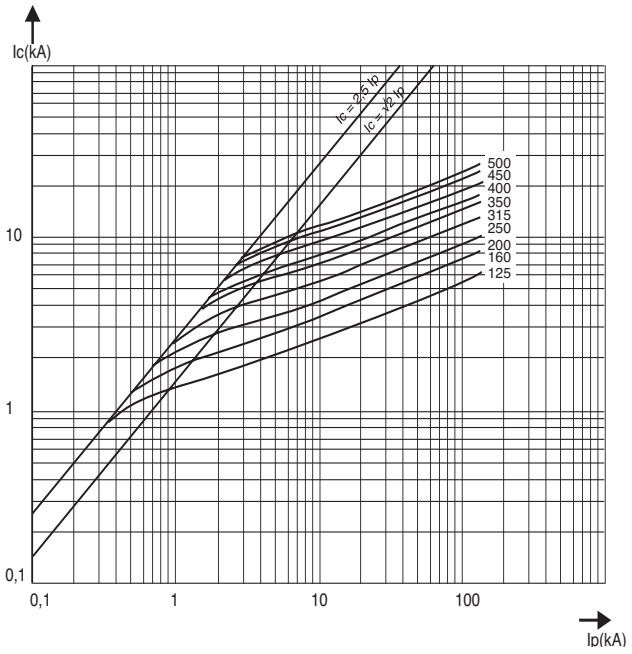
Protistor® Square-body Fuses
PSC gR sizes 7x - 690 VAC
Curves set

Cut off characteristics
Peak let thru current

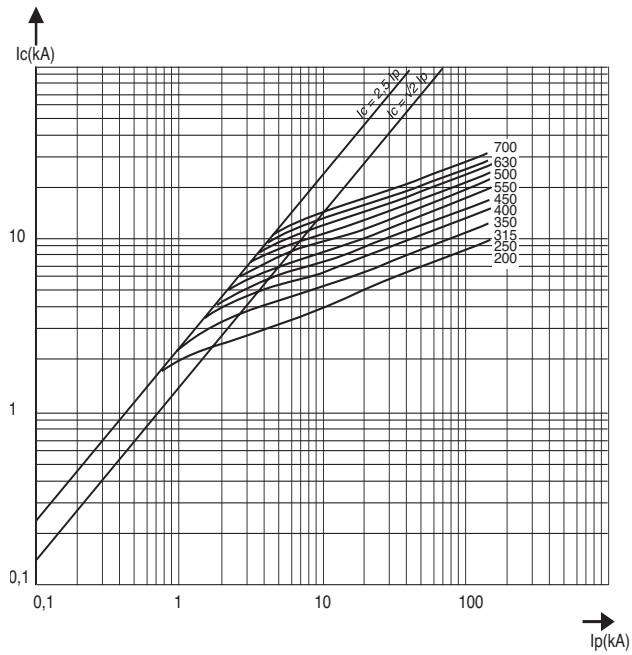
Size 70



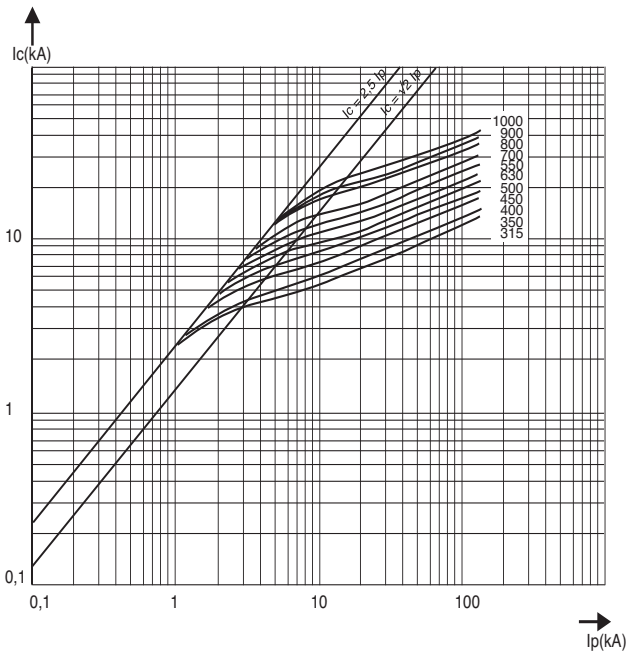
Size 71



Size 72



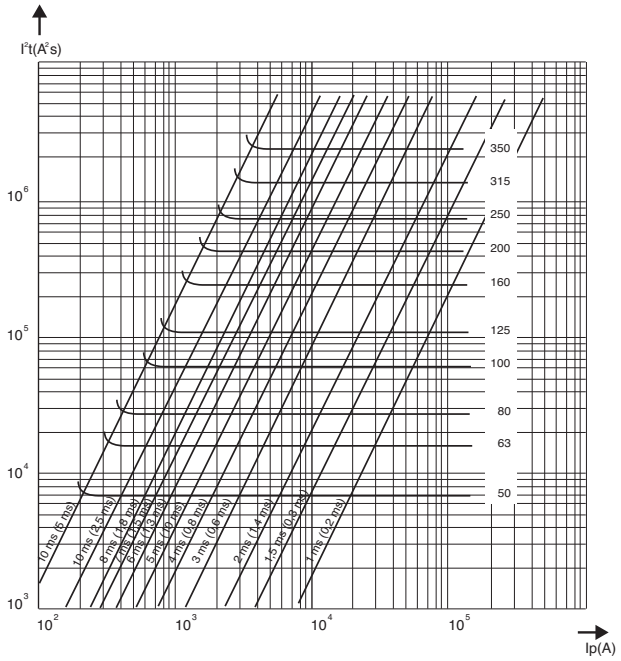
Size 73



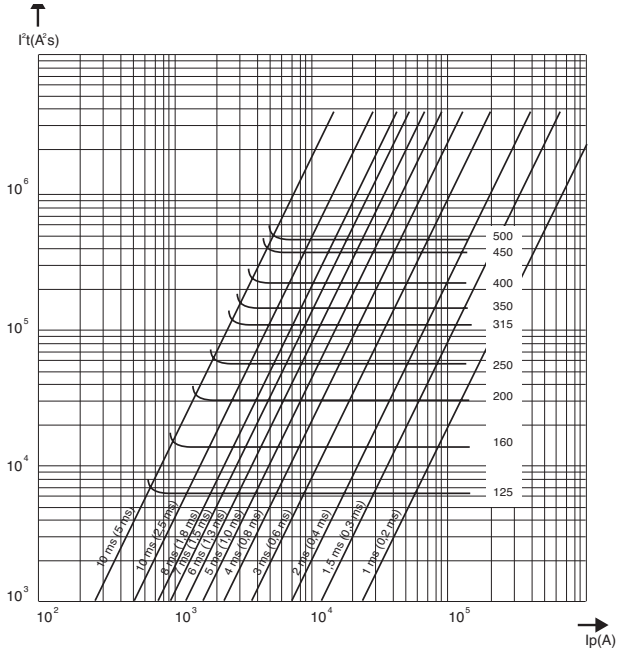
Protistor® Square-body Fuses
PSC gR sizes 7x - 690 VAC
Curves set

Total I²t and total operating time @ 690 V

Size 70

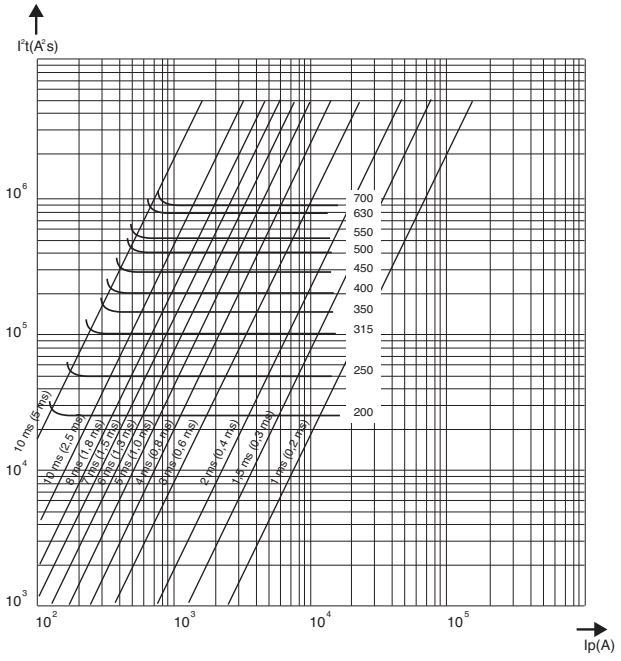


Size 71

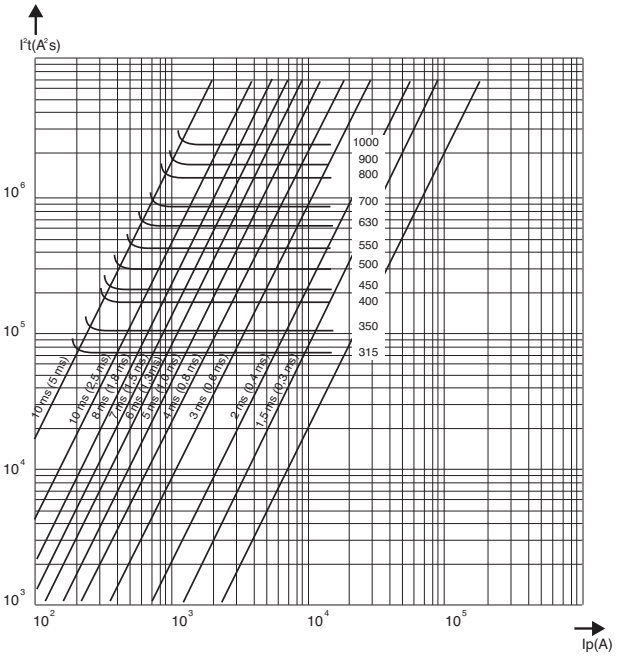


Value between parentheses pertain to prearcing I²t

Size 72



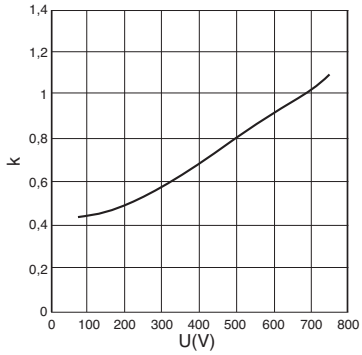
Size 73



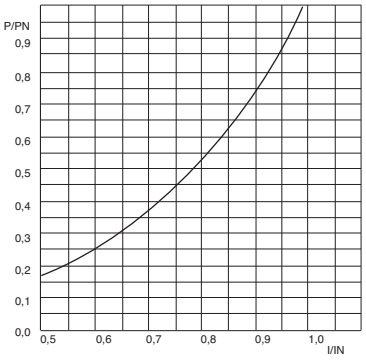
Value between parentheses pertain to prearcing I²t

Protistor® Square-body Fuses
PSC gR sizes 7x - 690 VAC
Curves set

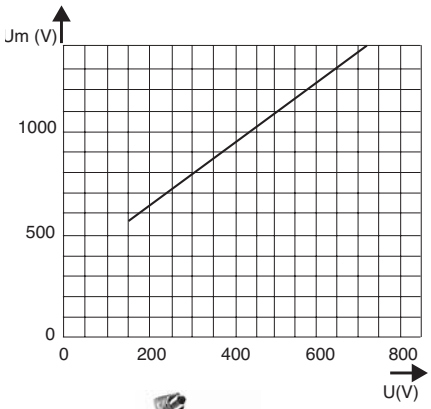
k=f(U)
Multiplier coefficient
to calculate total I^2t
and total operating time



P/PN
Multiplier coefficient
to calculate the power
losses at various currents



Peak arc voltage



PA terminals fuse holder

Size	1 pole	2 poles	3 poles	4 poles	wall	separators	fuse shields
70	T218241	G218759	W219278	H222486	Z213669	V216724	K200822
71	A223008	G200796	Y201340	H201855	J214690	N217753	M222513
72	E211075	V211595	D212109	R212627	J214690	N217753	Y211621
73	X213644	B214154	F214664	K215174	Q215708	M218787	X212655

End contacts TTF terminal fuse holders

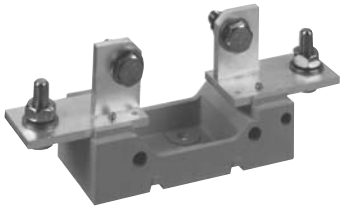
Size	1 pole
70/71	C301233
72/73	E301235

French blades EF terminal fuse holders

Size	SP/SE/SF
70	F096099
71	V098711
72	W098712
73	C209187

Din blades 110 mm DI N 43653 terminal fuse holders

Size	Fuses holders
70/71/72/73	L091941



Warning: for all holders, please check maximum fuse and fuse holders operating limit. in Gear and Fuse gear section
Tightning torque see Gear and Fuse gear section.

Protistor® Square-body Fuses
PSC gR sizes 7x - 690 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 MS 3V 1-5 UR	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 7V 1-5 MS 7V 1-5 UR	1500V			DC	8 A	0,4 A	0,2 A	4 A	0,2 A	0,1 A	12 kV	20 kV	
MS 3V 1-5 BS MS 3V 1-9 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 7V 1-5 BS MS 7V 1-9 BS	1500V			DC	3 A	0,5 A	0,25 A	3 A	0,2 A	0,1 A	12 kV	20 kV	
MS 3V 1-5 ET	1000V	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 ET	1500V			DC	3 A	0,5 A	-	2 A	0,2 A	-	12 kV	20 kV	

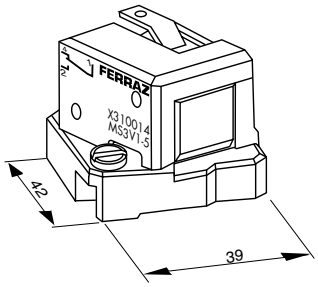
* Between power circuit and microswitch terminals as per IEC 60 and 694 and NFC 64010 (50/60 Hz 1 min duration in dry air)
** Between power circuit and microswitch terminals Uimp: impulse voltage as per IEC 60947-1
*** Between power circuit and microswitch terminals

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

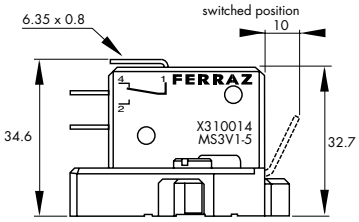
Protistor® Square-body Fuses
PSC gR sizes 7x - 690 VAC
Microswitches for PSC 3x &7x

Indication systems for PSC Fuse sizes 30 to 73

MS 3V...



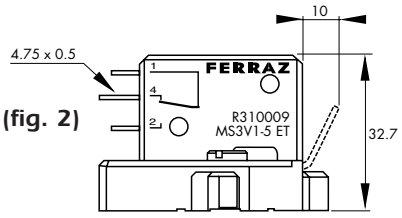
(fig. 1)



These patented indication systems are exclusively hand resettable.

Fuse size	Designation	Ref. Number	Indication style	Weight (g)	Pack.	Catalog Number
30, 31	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)	W310013	Low level NO-NC	34	3 pieces	MS3-V1-5BS
32, 33	MS 3V 1-9 BS (4)	T310011	Double pole Low level	44	3 pieces	MS3V1-9BS
	MS 3V 1-5 ET (fig.2)	R310009	Low level NO-NC IP 50 (9)	34	3 pieces	MS3V1-5 ETANCHE

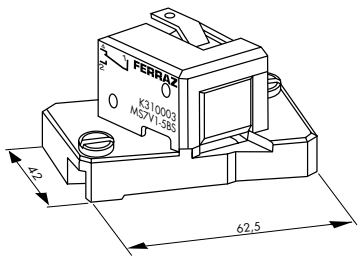
(3) Same as fig.1
(4) Same dimensions as figure 1 but with 2 microswitches side by side
(9) Watertightness class



(fig. 2)

MS 7V...

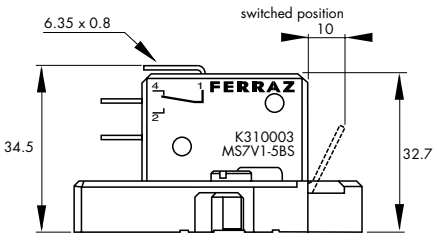
Fuse size	Designation	Ref. Number	Indication style	Weight (g)	Pack.	Catalog Number
70, 71	MS 7V 1-5 (fig.5)	J310002	Standard NO-NC	45	3 pieces	MS7 V1-5
	MS 7V 1-5 UR	Z310039				MS7 V1-5UR
	MS 7V 1-5 BS (3)	K310003	Low level NO-NC	45	3 pieces	MS7-V1-5BS
72, 73	MS 7V 1-9 BS (4)	P310007	Double pole Low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

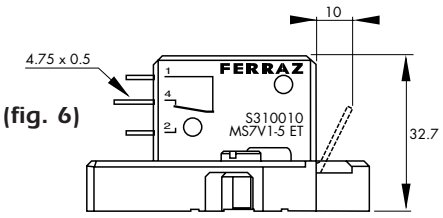


(fig. 5)

(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.





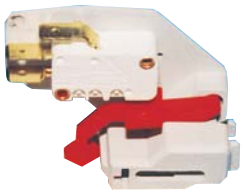
(fig. 6)

Protistor® Square-body Fuses
PSC gR sizes 7x - 690 VAC
Microswitches for PSC 70-73 Plain blades

MICROSWITCH SYSTEMS ADAPTED TO THE FOLLOWING FERRAZ SHAWMUT FUSES ONLY:

PSC sizes 70, 71, 72, 73 PLAIN BLADES (PA)

MS PA 2-5



Main Characteristics

Code	AC Insulation voltage rating (***)	Positive operating voltage/current	Current rating	Current	Breaking Capacity Non inductive circuit			Inductive circuit : L/R = 25ms			AC voltage withstand test (*)	Impulse voltage test Uimp1.2/50 µs (**)	Fire class according to UL 94
					30V	110V	250V	30V	110V	250V			
MS PA 2-5	1500 V	20 V	10 A	50/60 Hz	10 A	10 A	10 A	10 A	10 A	10 A	9 kV	13 kV	V0
MS PA 2-9		50 mA		DC	8 A	0,4 A	0,2 A	4 A	0,2 A	0,1 A			
MS PA 2-5 B2	1500 V	20 V/100 mA	5 A	50 Hz	4 A	4 A	5 A	-	5 A	5 A	12 kV	16 kV	V0

* 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

MS PA...

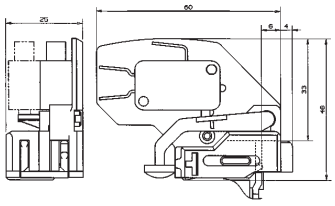
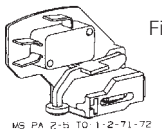


Fig.7



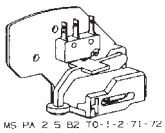


Fig.8

Exclusive "MS PA" indication systems are automatically resettable

Fuse size	Code	Ref. Number	Indication style	Weight (g)	Pack.	Catalog Number
71-72-73	MS PA 2-5	H210158	OF Standard (fig. 7)	32,5	1	MSPA 2-5
	MS PA 2-9V	J210159	Double (fig.7) 0F side by side	39,5	1	MSPA 2-9
	MS PA 2-5 B2	C210360	0F Terminals 2,8 (fig. 8)	27	1	MSPA 2-5B2
70	MS PA 2-5	T210398	0F Standard (fig.7)	31	1	MSPA 2-5T70
	MS PA 2-9	V210399	Double (fig.7) 0F side by side	37	1	MSPA 2-9T70
	MS PA 2-5 B2	W210400	0F Terminals 2,8 (fig.8)	27	1	MSPA 2-5B2T70

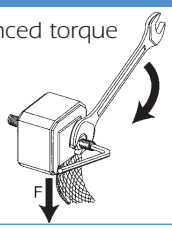
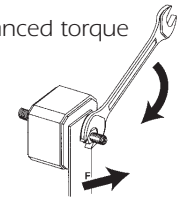
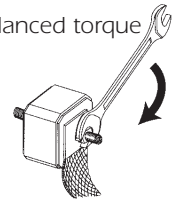
Protistor® Square-body Fuses
PSC gR sizes 7x - 690 VAC
Metric-studs

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	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 M10x30 & M10x50 M12x35 & M12x50	10 15 15	13.5 26 46
Balanced torque 	M8x30 & M8x35 M10x30 & M10x50 M12x35 & M12x50	10 15 15	13.5 26 46
Unbalanced torque 	M8x30 & M8x35 M10x30 & M10x50 M12x35 & M12x50	10 15 15	13.5 26 46

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