

Other Protistor® Fuses DIN Bracket Ferrule Fuses 17x49 gRB/URB - 690 VAC



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

690 V VOLTAGE RATING AS PER IEC 33

gR CLASS (CURRENT RATING 12 TO 90 A) AS PER
VDE 636-23

- CLEARING ALL OVERLOADS
- IMPROVED SAFETY AND PROTECTION
- ENABLING SELECTIVE COORDINATION WITH ALL FUSES
WITHIN DISTRIBUTION CIRCUIT

aR CLASS (CURRENT RATING 100 A) ACCORDING TO VDE
636-23 AND IEC 60269.4

CONNECTION AS PER:

- GERMAN STANDARD DIN 43653/00C
- BRITISH STANDARD BS 88-4

These fuses are UL Recognized 

Main Characteristics

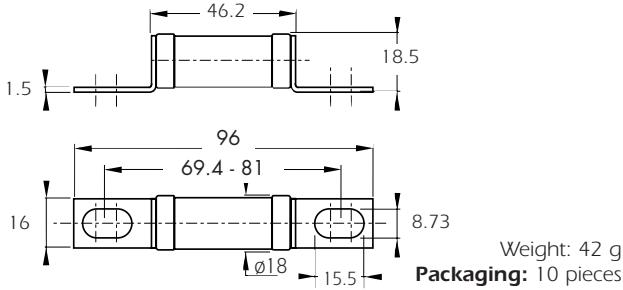
Voltage rating U_N (V)	Class	Current rating I_N (A)	pre-arcng I^2t @ 1 ms I^2tp (A ² s)	Total clearing I^2t @ U_N I^2tt (A ² s)	Watts loss		Tested Breaking capacity	Estimated Breaking capacity
					0.8 I_N	I_N		
690	gRB	12	4.2	30	1.95	3.5		
		16	9.6	65	2.2	4.0		
		20	17.1	110	3.0	5.5		
		25	26.8	170	4.4	8.0		
		32	52.5	330	5.0	9.0		
		35	69	430	5.2	9.5		
		40	96	610	5.8	10.5	200 kA @ 690 V	300 kA @ 690 V
		45	130	820	6.3	11.5		
		50	154	970	7.2	13		
		55	210	1320	7.4	13.5		
		63	310	1950	8.0	14.5		
		75	520	3250	8.8	16		
		80	620	3900	9.4	17		
		90	840	5300	11	20		
690	URB	100	965	6150	13	23.5	200 kA @ 690 V	300 kA @ 690 V

Minimum operating voltage for separate trip-indicator: 20 V

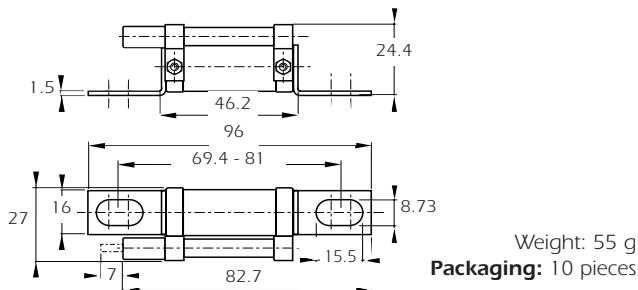
Semiconductor (AC) fuses

Other Protistor® Fuses DIN Bracket Ferrule Fuses 17x49 gRB/URB - 690 VAC

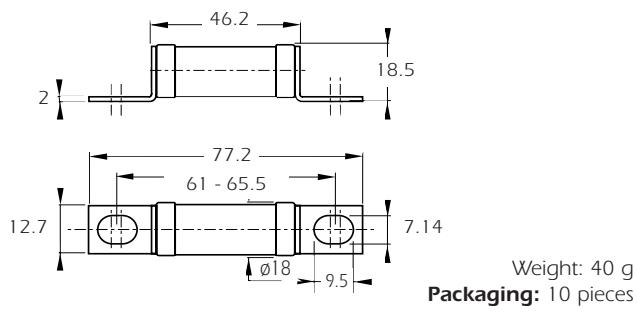
German standard without blown fuse indication



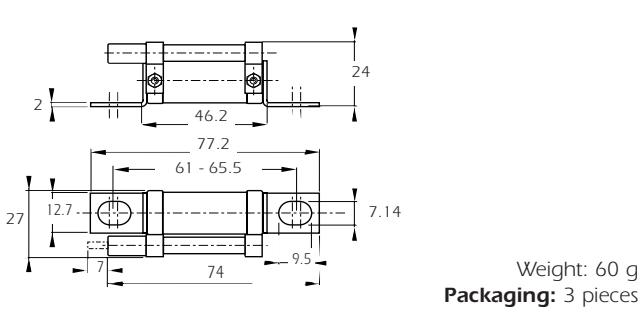
German standard with separate trip-indicator DIN 43623/00C



British standard without blown fuse indication



British standard with separate trip-indicator BS 88-4



Current rating	Designation	Ref. Number	Catalog Number
12	6,9 gRB 17 D08/12	M220972	DN17GB69V12
16	6,9 gRB 17 D08/16	N220973	DN17GB69V16
20	6,9 gRB 17 D08/20	P220974	DN17GB69V20
25	6,9 gRB 17 D08/25	Q220975	DN17GB69V25
32	6,9 gRB 17 D08/32	R220976	DN17GB69V32
35	6,9 gRB 17 D08/35	S220977	DN17GB69V35
40	6,9 gRB 17 D08/40	T220978	DN17GB69V40
45	6,9 gRB 17 D08/45	V220979	DN17GB69V45
50	6,9 gRB 17 D08/50	W220980	DN17GB69V50
55	6,9 gRB 17 D08/55	X220981	DN17GB69V55
63	6,9 gRB 17 D08/63	Y220982	DN17GB69V63
75	6,9 gRB 17 D08/75	Z220983	DN17GB69V75
80	6,9 gRB 17 D08/80	A220984	DN17GB69V80
90	6,9 gRB 17 D08/90	B220985	DN17GB69V90
100	6,9 URB 17 D08/100	C220986	DN17UB69V100

Current rating	Designation	Ref. Number	Catalog Number
12	6,9 gRB 17 D08P 12	X221004	DN17GB69V12P
16	6,9 gRB 17 D08P 16	Y221005	DN17GB69V16P
20	6,9 gRB 17 D08P 20	Z221006	DN17GB69V20P
25	6,9 gRB 17 D08P 25	A221007	DN17GB69V25P
32	6,9 gRB 17 D08P 32	B221008	DN17GB69V32P
35	6,9 gRB 17 D08P 35	C221009	DN17GB69V35P
40	6,9 gRB 17 D08P 40	D221010	DN17GB69V40P
45	6,9 gRB 17 D08P 45	E221011	DN17GB69V45P
50	6,9 gRB 17 D08P 50	F221012	DN17GB69V50P
55	6,9 gRB 17 D08P 55	G221013	DN17GB69V55P
63	6,9 gRB 17 D08P 63	H221014	DN17GB69V63P
75	6,9 gRB 17 D08P 75	I221015	DN17GB69V75P
80	6,9 gRB 17 D08P 80	J221016	DN17GB69V80P
90	6,9 gRB 17 D08P 90	K221017	DN17GB69V90P
100	6,9 URB 17 D08P 100	M221018	DN17UB69V100P

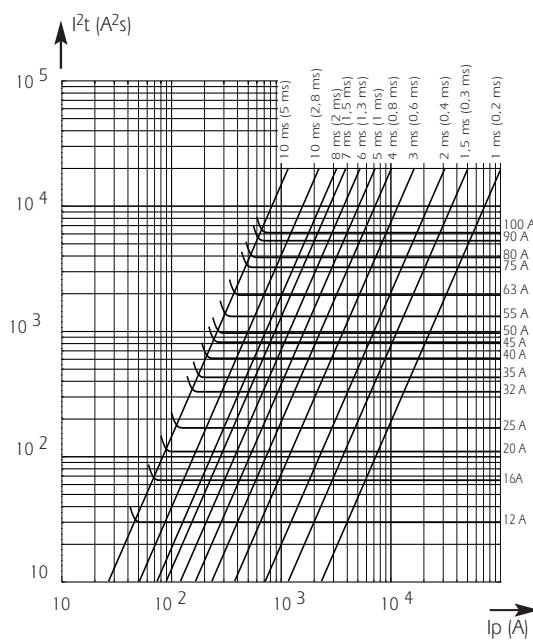
Current rating	Designation	Ref. Number	Catalog Number
12	6,9 gRB 17/12	W220957	BS17GB69V12
16	6,9 gRB 17/16	X220958	BS17GB69V16
20	6,9 gRB 17/20	Y220959	BS17GB69V20
25	6,9 gRB 17/25	Z220960	BS17GB69V25
32	6,9 gRB 17/32	A220961	BS17GB69V32
35	6,9 gRB 17/35	B220962	BS17GB69V35
40	6,9 gRB 17/40	C220963	BS17GB69V40
45	6,9 gRB 17/45	D220964	BS17GB69V45
50	6,9 gRB 17/50	E220965	BS17GB69V50
55	6,9 gRB 17/55	F220966	BS17GB69V55
63	6,9 gRB 17/63	G220967	BS17GB69V63
75	6,9 gRB 17/75	H220968	BS17GB69V75
80	6,9 gRB 17/80	I220969	BS17GB69V80
90	6,9 gRB 17/90	K220970	BS17GB69V90
100	6,9 URB 17/100	L220971	BS17UB69V100

Current rating	Designation	Ref. Number	Catalog Number
12	6,9 gRB 17P12	D220987	BS17GB69V12P
16	6,9 gRB 17P16	E220988	BS17GB69V16P
20	6,9 gRB 17P20	F220989	BS17GB69V20P
25	6,9 gRB 17P25	G220990	BS17GB69V25P
32	6,9 gRB 17P32	H220991	BS17GB69V32P
35	6,9 gRB 17P35	J220992	BS17GB69V35P
40	6,9 gRB 17P40	K220993	BS17GB69V40P
45	6,9 gRB 17P45	L220994	BS17GB69V45P
50	6,9 gRB 17P50	M220995	BS17GB69V50P
55	6,9 gRB 17P55	N220996	BS17GB69V55P
63	6,9 gRB 17P63	P220997	BS17GB69V63P
75	6,9 gRB 17P75	Q220998	BS17GB69V75P
80	6,9 gRB 17P80	R220999	BS17GB69V80P
90	6,9 gRB 17P90	S221000	BS17GB69V90P
100	6,9 URB 17P100	T221001	BS17UB69V100P

Semiconductor fuses

Other Protistor® Fuses
DIN Bracket Ferrule Fuses
17x49 gRB/URB - 690 VAC

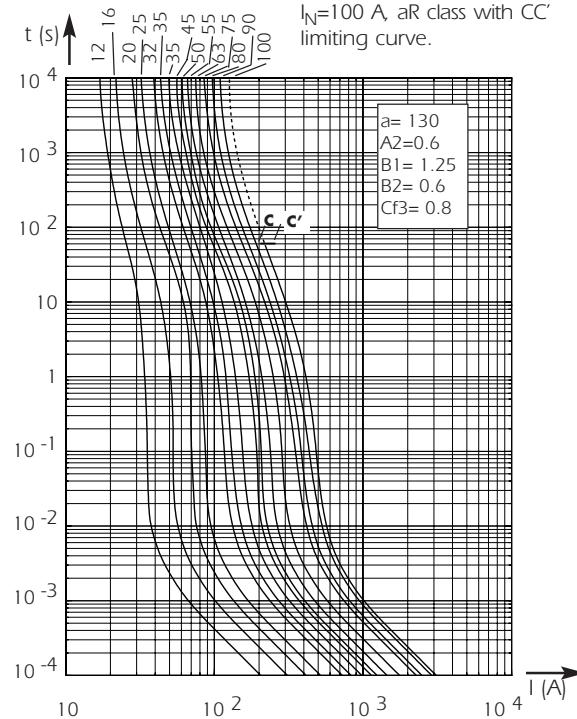
Total clearing I^2t



Above: Horizontal curves show for each rated current maximum values of total clearing I^2t (I^2t_t) as a function of prospective current I_p @ 690 V.
 $\cos \varphi = 0.15$.

Oblique lines indicate total clearing duration T_t and associated pre-arc duration in brackets.

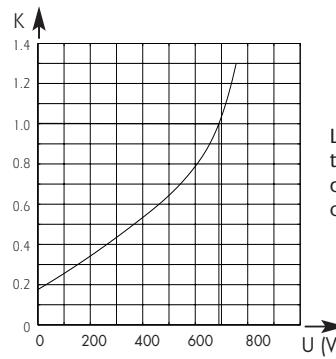
Time vs current characteristics



Tolerance for mean pre-arc current $\pm 9\%$.

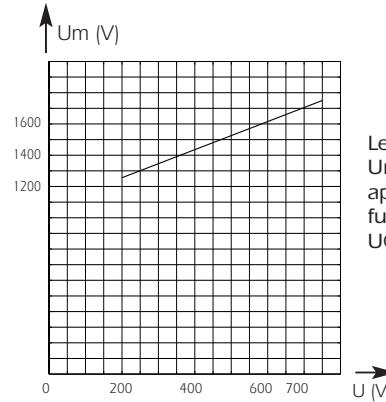
Above: Curves indicate, for each rated current, pre-arc time vs. R.M.S. pre-arc current

I^2t corrective factor



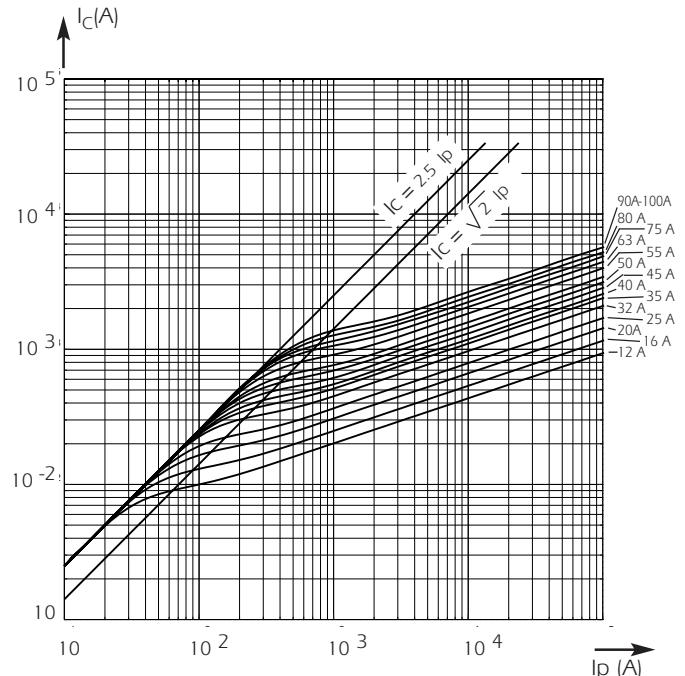
Left: Curve shows variation of total clearing time (I^2t_t) and total clearing duration T_t as a function of operating voltage U .

Peak arc voltage



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

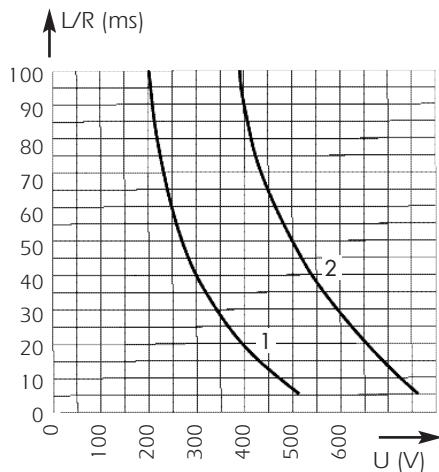
Current limitation curves



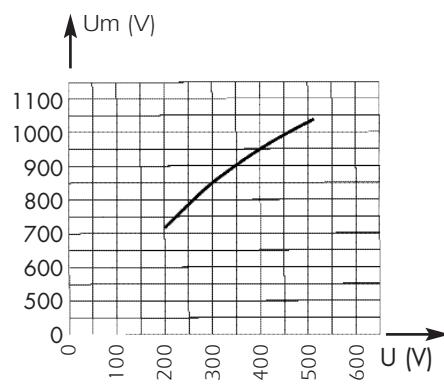
Above: Curves show, for each rating, value of peak let-through current IC as a function of available fault current I_p .

Other Protistor® Fuses DIN Bracket Ferrule Fuses 17x49 gRB/URB - 690 VAC

DC Application data

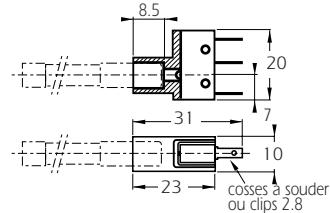


Above: Curves indicate permissible value of time constant L/R as a function of DC working voltage.
 Curve 1: $I_p \geq 1,6 I_N$ only for fuses grB (current rating from 12 to 50 A)
 Curve 2: $I_p \geq 8 I_N$ for fuses grB et URB



Curve indicates peak arc voltage U_m which may appear across the fuse terminals at working voltage U .

Microswitch



Designation	Ref. Num.	Weight	Pack.
MC 6,3 GR 2.5	Y 310015	10 g	3 pieces

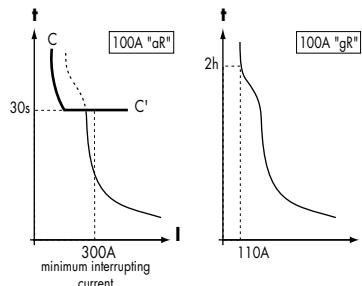
Electrical characteristics:
 $I_N = 3 A - U_N = 250 VAC$
 $I_N = 2 A - U_N = 30 VDC$

Certain minimum operating voltage/current
 20 V-100 mA

NEW gR-CLASS

OPTIMAL PROTECTION OF POWER EQUIPMENT

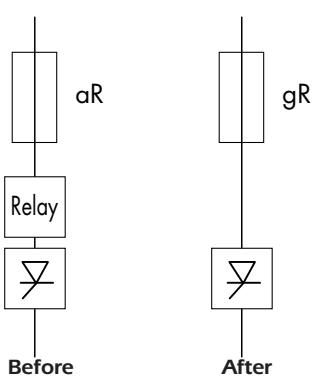
Thanks to recent technological developments, Ferraz Shawmut today markets gR-class PROTISTOR® fuses capable of clearing all types of overloads, from low multiples of current ratings up to very high short-circuit currents. Enhanced performance enables these fuses to provide solutions to many previously unsolved problems in power electronics: protection of cables without the use of additional components, protection of equipment from fire hazards, selective coordination of different fuses within a single power distribution installation...



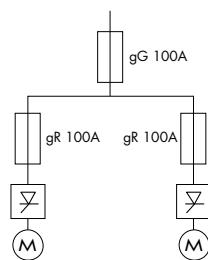
Example:
 100A aR vs. 100A gR

SELECTIVE COORDINATION

gR-class semiconductor fuses can be utilized in association with gI and gG-class low voltage power distribution fuses of the same current rating, installed upstream. In a "selectively coordinated" distribution installation, melting is limited to the fuse associated with the faulted circuit, while upstream fuses remain intact. This prevents unnecessary down-time due to power blackouts in non-faulted branches.



Example of
selective
coordination



aR-CLASS vs. gR-CLASS

aR-class fuses feature a high minimum interrupting current as compared with their current rating. The primary time-current characteristic of aR-class fuses is the CC' curve, above which another protection device must be associated. The gR-class fuse represents considerably improved performance in semiconductor protection.

FERRAZ SHAWMUT EXPERTISE

gR-class fuses should be used in the design of low voltage equipment and in the protection of power electronics equipment. Designers can often substitute a gR-class fuse for an aR-class fuse (10x38, 14x51, 22x58, PSC 000 and 17x49 DIN80 or BS 88-4) but the reverse is not true: an aR fuse can never replace a gR fuse. Start protecting your new equipment with gR-class fuses today. The application of gR class fuses, with current ratings less than 100 Amps, offers enhanced protection, safety and reliability, along with reduced risk of replacement errors and assembly costs.

Other Protistor® Fuses

BS88-4 Fuses

10x28, 17x27 - 250 VAC

BRITISH STANDARD

250 VAC - URE - URGS - URZ

From 5 to 180 A

Sizes 10x28 - 17x27

Extremely high breaking capacity fuses:
protection of power semiconductors as per
IEC standard 60269.1 and 4

250 V voltage rating complying with IEC 33

gr class (ratings from 5 to 32 a)
AS PER VDE 636-23 AND IEC 60269.4

aR CLASS (RATINGS FROM 7 to 180 A) COMPLYING WITH
VDE 636-23 AND IEC 60269.4

TWO MODELS COMPLYING WITH BS 88-4

- WITHOUT INDICATOR
- WITH SEPARATE TRIP-INDICATOR (SIZE 17x27)

17x27 URGS are UL Recognized



Main Characteristics

Voltage rating U_N (V)	Size	Class	Current rating I_N (A)	Pre-arcng I^2t @ 1 ms I^2tp (A ² s)	Total clearing I^2t @ U_N A ² s		Watts loss		Tested breaking capacity
					$I_p \leq 30I_N$	$I_p > 30I_N$	0.8 I_N	I_N	
10 x28	URE		5	1.3	10	11	0.6	1	160k A @ 250 V
			6	1.8	13	15	0.7	1.2	
			10	2.4	18	20	1.2	2.1	
			12	4.3	28	33	1.6	2.8	
			15	6.7	41	48	2.0	3.5	
			20	15.0	85	100	2.2	4.0	
			25	27.0	135	160	2.6	4.7	
			32	53.0	240	280	3.0	5.4	
250V	17x27	URGS	7	1.3	8,5	9,8	0.56	1	160k A @ 250 V
			10	4.5	21	23,8	0.84	1.5	
			12	5.9	27	31	1.1	2.0	
			16	11.2	50	59	1.7	3.0	
			20	15.6	80	100	2.2	3.9	
			25	30.0	130	160	2.7	4.8	
			30	45.0	195	235	3.2	5.6	
			35	63.0	270	330	3.7	6.5	
			50	180.0	7890	940	4.9	8.8	
			60	250.0	1100	1310	5.8	10.4	
			75	380.0	1670	1990	7.2	13.6	
			80	480.0	2100	2530	7.25	13.7	
			100	730.0	3350	4060	6.5	11.5	160k A @ 250 V
			125	850.0	5720	6920	6.7	12.3	
			150	1250.0	7930	9590	7.4	13.6	
			160	1730.0	9600	11700	8.8	15.6	
			180	2090.0	14500	17500	9.5	17	

Minimum Operating voltage for separate trip indicator = 20 V

Semiconductor fuses

Other Protistor® Fuses

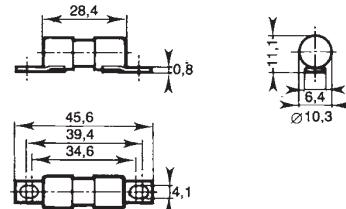
BS88-4 Fuses

10x28, 17x27 - 250 VAC

CP 10x28 - Without trip-indicator

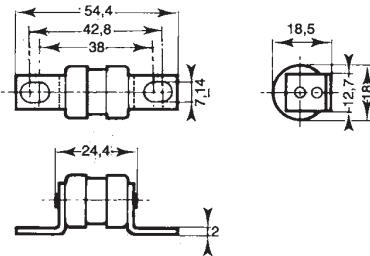
Size	Designation	Ref. Number	Pack.	Catalog Number
	2.5 URE 10/5	M082489		BS10UE25V5
	2.5 URE 10/6	E097478		BS10UE25V6
	2.5 URE 10/10	L082488		BS10UE25V10
	2.5 URE 10/12	P097487	10	BS10UE25V12
10x28	2.5 URE 10/15	K082487	(11g)	BS10UE25V15
	2.5 URE 10/20	J082486		BS10UE25V20
	2.5 URE 10/25	X097494		BS10UE25V25
	2.5 URE 10/32	N081984		BS10UE25V32

**BBS 88 part 4
requires respectively
Ø8.7 and 8.8



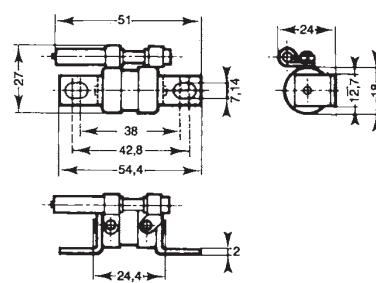
CP 17x27 - Without trip-indicator

Size	Designation	Ref. Number	Pack.	Catalog Number
	2.5 URGS 17/7	M076647		BS17US25V7
	2.5 URGS 17/10	N076648		BS17US25V10
	2.5 URGS 17/12	P076649		BS17US25V12
	2.5 URGS 17/16	Q076650		BS17US25V16
	2.5 URGS 17/20	L097507		BS17US25V20
	2.5 URGS 17/25	R076651		BS17US25V25
	2.5 URGS 17/30	S076652	10	BS17US25V30
17x27	2.5 URGS 17/35	T076653	(30g)	BS17US25V35
	2.5 URGS 17/50	V076654		BS17US25V50
	2.5 URGS 17/60	W076655		BS17US25V60
	2.5 URGS 17/75	X076656		BS17US25V75
	2.5 URGS 17/80	Z085559		BS17US25V80
	2.5 URZ 17/100	Y085558		BS17UZ25V100
	2.5 URZ 17/125	G097526		BS17UZ25V125
	2.5 URZ 17/150	W085556		BS17UZ25V150
	2.5 URZ 17/160	H097527		BS17UZ25V160
	2.5 URZ 17/180	N097532		BS17UZ25V180



CP 17x27 - With separated trip-indicator BS88-4

Size	Designation	Ref. Number	Pack.	Catalog Number
	2.5 URGS 17P7	P097533		BS17US25V7P
	2.5 URGS 17P10	Q097534		BS17US25V10P
	2.5 URGS 17P12	S097536		BS17US25V12P
	2.5 URGS 17P16	X097540		BS17US25V16P
	2.5 URGS 17P20	B097544		BS17US25V20P
	2.5 URGS 17P25	D097546		BS17US25V25P
	2.5 URGS 17P30	E097547	10	BS17US25V30P
17x27	2.5 URGS 17P35	F097548	(40g)	BS17US25V35P
	2.5 URGS 17P50	J097551		BS17US25V50P
	2.5 URGS 17P60	H081082		BS17US25V60P
	2.5 URGS 17P75	K097552		BS17US25V75P
	2.5 URGS 17P80	L097553		BS17US25V80P
	2.5 URZ 17P100	P097556		BS17UZ25V100P
	2.5 URZ 17P125	Q097557		BS17UZ25V125P
	2.5 URZ 17P150	R097558		BS17UZ25V150P
	2.5 URZ 17P160	S097559		BS17UZ25V160P
	2.5 URZ 17P180	T097560		BS17UZ25V180P



Microswitch MC6.3 GR 2-5N Ref: Y301015



Semiconductor (AC) fuses

Other Protistor® Fuses

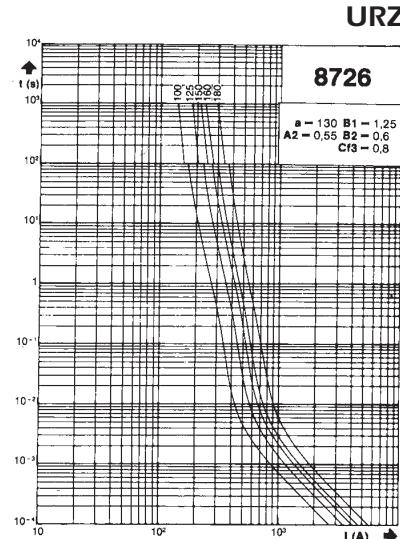
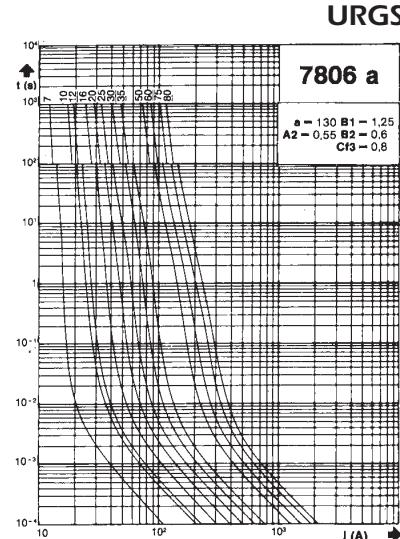
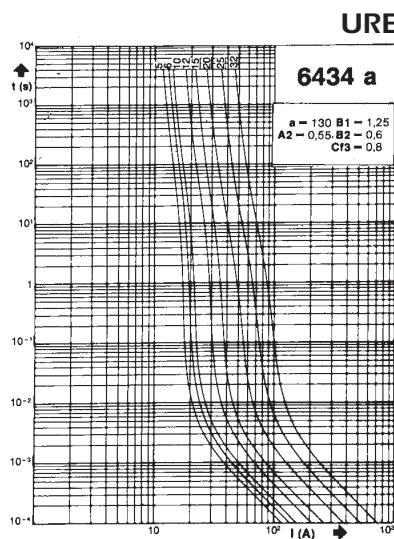
BS88-4 Fuses

10x28, 17x27 - 250 VAC



Electrical characteristics

Times vs current characteristics

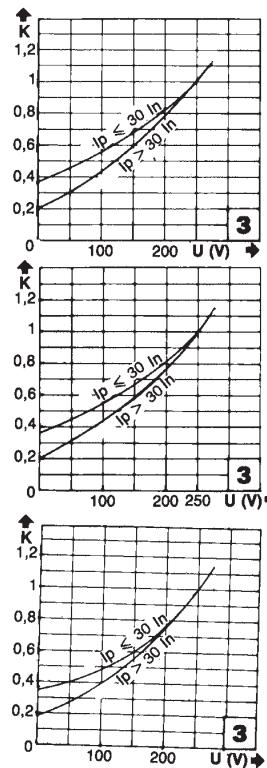


* These curves indicate, for each rated current,
the prearc time vs. the R.M.S. prearc current.

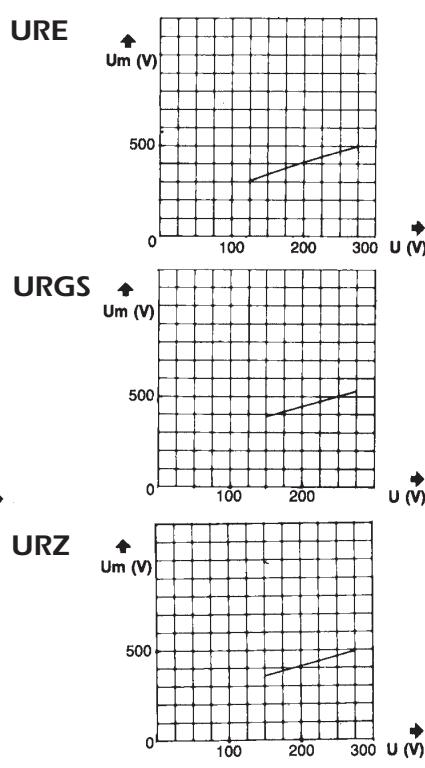
* Tolerance for the mean prearc current $\pm 10\%$

Corrective factor - Peak arc voltage

Corrective factor



Peak arc voltage



* The mean curves show the variation of the total clearing time ($I_p^2 t_t$) and the total clearing duration t_t as a function of operating voltage U .

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

Semiconductor fuses

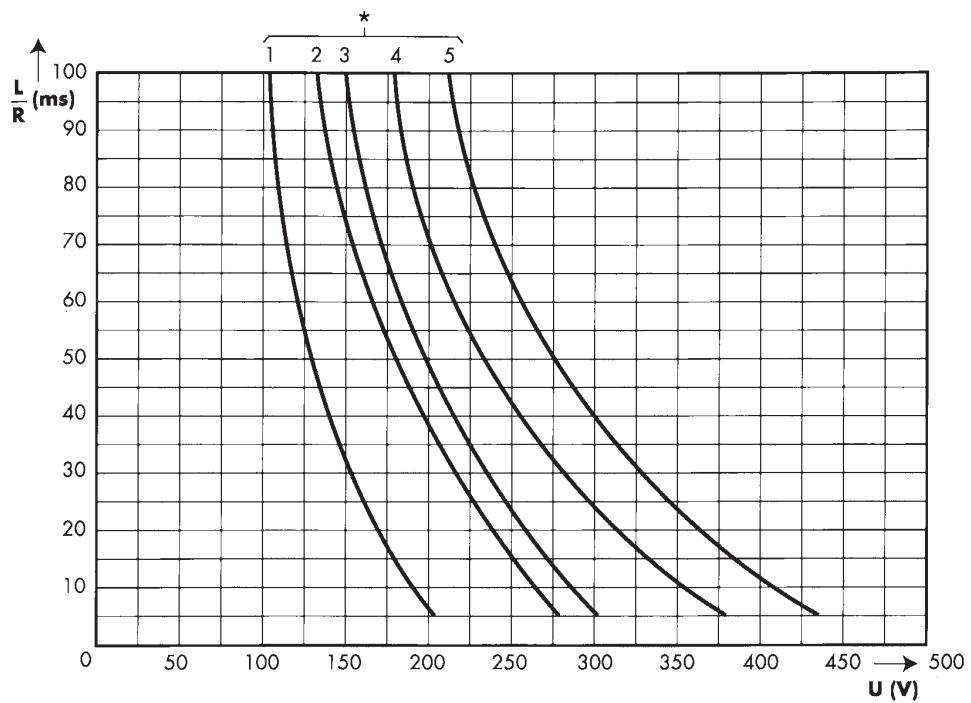


Other Protistor® Fuses

BS88-4 Fuses

10x28, 17x27 - 250 VAC

D.C Applications data



- These curves indicate the permissible value of time constant L/R as a function of the D.C. working voltage.

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

Curves # and I_{pm} for each rating			
Class	Rated current	*	I_{pm} (A)
URE	5	5	40
	6	5	50
	10	5	55
	12	5	80
	15	5	100
	20	5	130
	25	5	175
	32	5	255
URGS	7	5	40
URZ	100	4	190
	125	3	250
	150	2	300
	160	2	330
	180	1	400

for URGS class fuses, consult us.



Semiconductor (AC) fuses

**Other Protistor® Fuses
BS88-4 Fuses
36x27, 2X36x27, - 250 VAC**



Extremely high breaking capacity fuses:
protection of power semiconductors as per IEC standard 60269.1
and 4

250 V voltage rating COMPLYING WITH IEC 33

gr class (ratings from 50 to 350 a URGG - 300 to
700 A URGH) AS PER VDE 636-23 AND IEC 60269.4

aR CLASS (RATINGS FROM 400 to 525 A URGG - 800 to
1050 A URGH) COMPLYING WITH VDE 636-23 AND IEC 60269.4

TWO MODELS COMPLYING WITH BS 88-4

- WITHOUT INDICATOR
- WITH SEPARATE TRIP-INDICATOR

Main Characteristics

Voltage rating U_N (V)	Size	Class	Current rating I_N (A)	Pre-arcng I^2t @ 1 ms I^2tp (A ² s)	Total clearing I^2t @ U_N A ² s	Watts loss		Tested Breaking capacity
						0.8 I_N	I_N	
250V	36x27	URGG	50	120	500	4.75	9.5	100k A @ 250 V
			75	330	1380	6.3	12.6	
			100	745	3060	7.8	15.7	
			125	1340	5500	9.1	18.2	
			150	1930	7950	10.8	21.6	
			200	4020	16400	13.5	27.0	
			250	5350	30000	16.3	32.6	
			300	7290	49600	18.6	37.2	
			350	18000	74000	21	42.0	
			400	25100	128000	23.4	46.7	
	2x36x27	URGH	450	33500	170000	27.1	54.1	
			500	43000	219000	30.4	60.8	
			525	48200	245000	33.2	66.4	
			300	7700	31800	21.6	43.2	100k A @ 250 V
			350	11500	48700	24.3	48.6	
			400	16000	65600	27	54.0	
			500	29100	120000	32.6	65.2	
			600	48200	198500	37.2	74.4	
			700	72000	276000	42.0	84.0	
			800	100000	512000	46.7	93.4	
			900	134000	680000	54.1	108.2	
			1000	172000	876000	60.8	121.6	
			1050	193000	980000	66.4	132.8	

Minimum operating voltage for separate or integrated trip indicator = 20 V

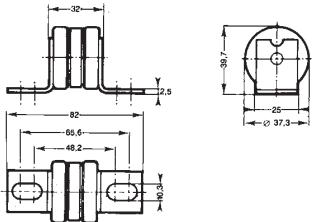
Semiconductor fuses

Other Protistor® Fuses

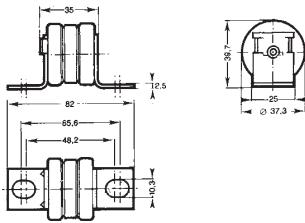
BS88-4 Fuses

36x27, 2X36x27, - 250 VAC

CP 36x27 Without trip-indicator

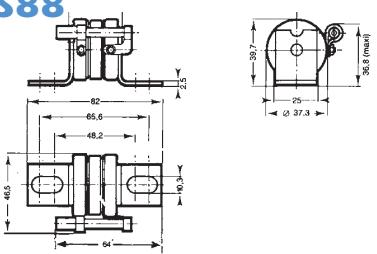


CP 36x27 With built-in trip-indicator



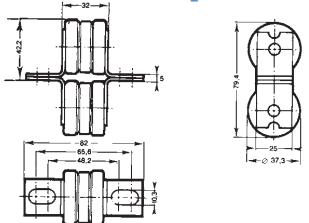
Microswitch MC 36 GR 2.5 - Ref. P 092496

CP 36x27 With separated trip-indicator BS88

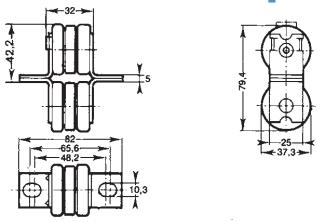


Microswitch MC 36 GR 2.5 N - Ref. Y 310005

CP 2x36x27 Without trip-indicator



CP 2x36x27 With built-in trip-indicator



Microswitch MC 36 GR 2.5 N - Ref. P 092496

Size	Designation	Ref. Number	Pack.	Catalog Number
36x27	2.5 URGG 36/50	J080945		BS36UG25V50
	2.5 URGG 36/75	K080946		
	2.5 URGG 36/100	L080947		BS36UG25V100
	2.5 URGG 36/125	R082470		BS36UG25V125
	2.5 URGG 36/150	Q082469		BS36UG25V150
	2.5 URGG 36/200	P082468	3	BS36UG25V200
	2.5 URGG 36/250	N082467	(170g)	BS36UG25V250
	2.5 URGG 36/300	M082466		BS36UG25V300
	2.5 URGG 36/350	L082465		BS36UG25V350
	2.5 URGG 36/400	G075538		BS36UG25V400
	2.5 URGG 36/450	H075539		BS36UG25V450
	2.5 URGG 36/500	J075540		BS36UG25V500
	2.5 URGG 36/525	K075541		BS36UG25V525

Size	Designation	Ref. Number	Pack.	Catalog Number
36x27	2.5 URGG 36T50	F080942		BS36UG25V50T
	2.5 URGG 36T75	G080943		BS36UG25V75T
	2.5 URGG 36T100	H080944		BS36UG25V100T
	2.5 URGG 36T125	W082382		BS36UG25V125T
	2.5 URGG 36T150	V082381		BS36UG25V150T
	2.5 URGG 36T200	T082380	3	BS36UG25V200T
	2.5 URGG 36T250	S082379	(170g)	BS36UG25V250T
	2.5 URGG 36T300	R082378		BS36UG25V300T
	2.5 URGG 36T350	Q082377		BS36UG25V350T
	2.5 URGG 36T400	L075542		BS36UG25V400T
	2.5 URGG 36T450	M075543		BS36UG25V450T
	2.5 URGG 36T500	N075544		BS36UG25V500T
	2.5 URGG 36T525	P075545		BS36UG25V525T

Size	Designation	Ref. Number	Pack.	Catalog Number
36x27	2.5 URGG 36P50	C080939		BS36UG25V50P
	2.5 URGG 36P75	D080940		BS36UG25V75P
	2.5 URGG 36P100	E080941		BS36UG25V100P
	2.5 URGG 36P125	Y081004		BS36UG25V125P
	2.5 URGG 36P150	X081003		BS36UG25V150P
	2.5 URGG 36P200	W081002	3	BS36UG25V200P
	2.5 URGG 36P250	V081001	(185g)	BS36UG25V250P
	2.5 URGG 36P300	T081000		BS36UG25V300P
	2.5 URGG 36P350	S080999		BS36UG25V350P
	2.5 URGG 36P400	V075504		BS36UG25V400P
	2.5 URGG 36P450	W075505		BS36UG25V450P
	2.5 URGG 36P500	X075506		BS36UG25V500P
	2.5 URGG 36P525	Y075507		BS36UG25V525P

Size	Designation	Ref. Number	Pack.	Catalog Number
2x36x27	2.5 URGH 236/300	K082464		BS236UH25V300
	2.5 URGH 236/350	J082463		BS236UH25V350
	2.5 URGH 236/400	H082462		BS236UH25V400
	2.5 URGH 236/500	G082461		BS236UH25V500
	2.5 URGH 236/600	F082460		BS236UH25V600
	2.5 URGH 236/700	E082459	3	BS236UH25V700
	2.5 URGH 236/800	Q075546	(290g)	BS236UH25V800
	2.5 URGH 236/900	R075547		BS236UH25V900
	2.5 URGH 236/1000	S075548		BS236UH25V1000
	2.5 URGH 236/1050	T075549		BS236UH25V1050

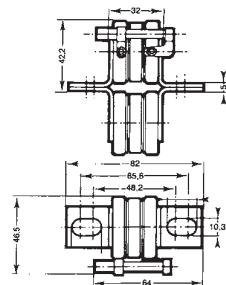
Size	Designation	Ref. Number	Pack.	Catalog Number
2x36x27	2.5 URGH 236T300	P082376		BS236UH25V300T
	2.5 URGH 236T350	N082375		BS236UH25V350T
	2.5 URGH 236T400	M082374		BS236UH25V400T
	2.5 URGH 236T500	L082373		BS236UH25V500T
	2.5 URGH 236T600	K082372		BS236UH25V600T
	2.5 URGH 236T700	J082371	3	BS236UH25V700T
	2.5 URGH 236T800	V075550	(290g)	BS236UH25V800T
	2.5 URGH 236T900	R075551		BS236UH25V900T
	2.5 URGH 236T1000	S075552		BS236UH25V1000T
	2.5 URGH 236T1050	T075553		BS236UH25V1050T

Other Protistor® Fuses BS88-4 Fuses 36x27, 2X36x27, - 250 VAC

CP 36x27

With separated trip-indicator

BS88

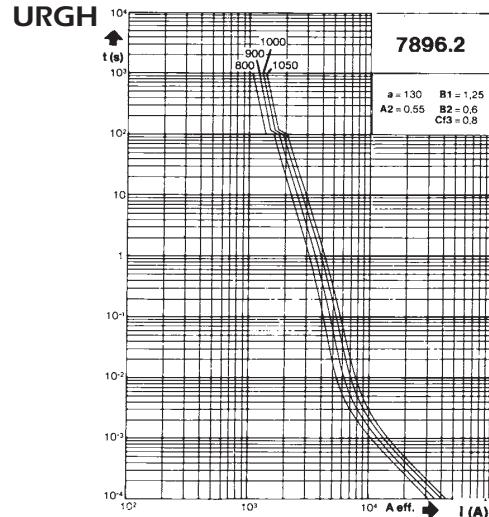
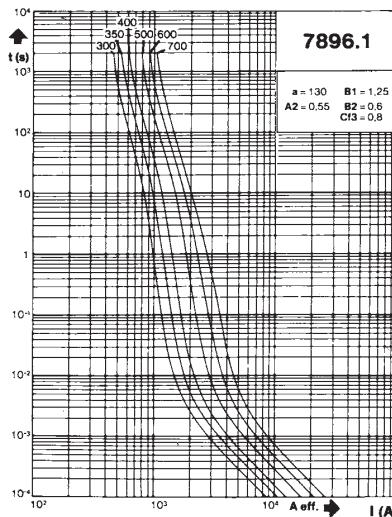
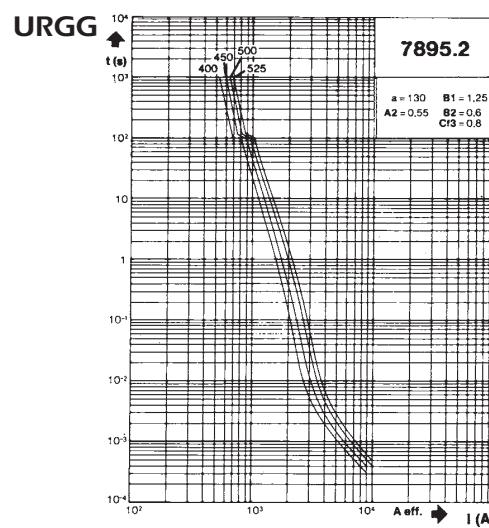
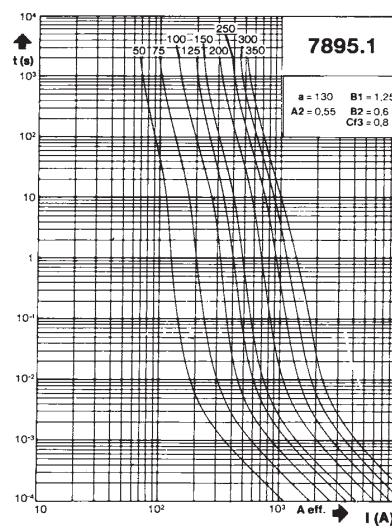


Microswitch MC 6.3 GR 2.5 N - Ref. Y 310005

Size	Designation	Ref. Number	Pack.	Catalog Number
2x36x27	2.5 URGH 236P300	R080998		BS236UH25V300P
	2.5 URGH 236P350	Q080997		BS236UH25V350P
	2.5 URGH 236P400	P080996		BS236UH25V400P
	2.5 URGH 236P500	N080995		BS236UH25V500P
	2.5 URGH 236P600	M080994	3 (900g)	BS236UH25V600P
	2.5 URGH 236P700	L080993		BS236UH25V700P
	2.5 URGH 236P800	Z075508		BS236UH25V800P
	2.5 URGH 236P900	A075509		BS236UH25V900P
	2.5 URGH 236P1000	B075510		BS236UH25V1000P
	2.5 URGH 236P1050	C075511		BS236UH25V1050P

Electrical characteristics

Times vs current characteristics



- These curves indicate, for each rated current, the pre-arc time vs. the R/M.S. pre-arc current.
 - Tolerance for the mean pre-arc current $\pm 10\%$

Semiconductor fuses



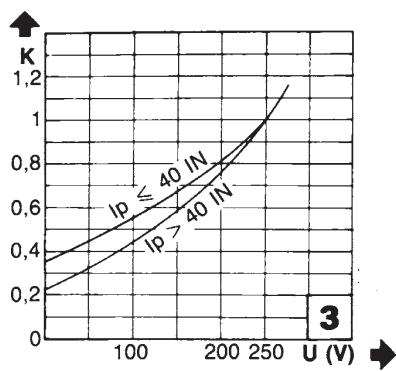
Other Protistor® Fuses

BS88-4 Fuses

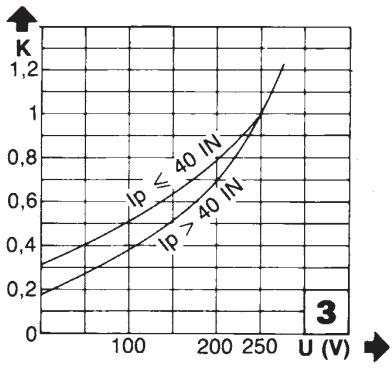
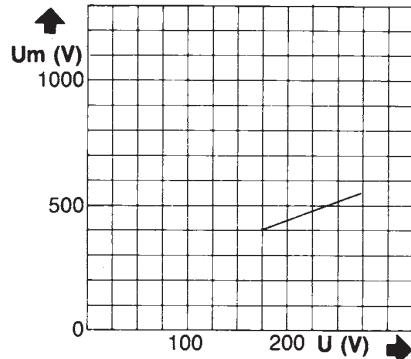
36x27, 2X36x27, - 250 VAC

Corrective factor - Peak arc voltage

Corrective factor

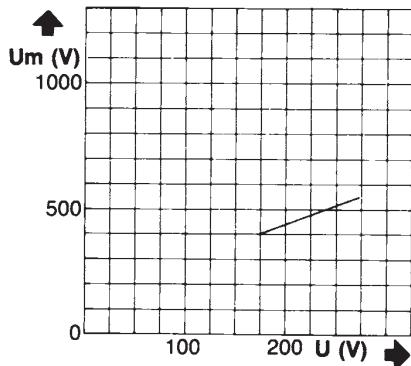


Peak arc voltage



URGG
From 50 to 350 A

URGH
From 300 to 700 A



Corrective factor

* The mean curves show the variation of the total clearing time (I^2t_t) and the total clearing duration t_t as a function of operating voltage U

Peak arc voltage

This curve shows the peak value Um of the arc voltage which appears across the fuse link as a function of the operating voltage U @ $\cos \varphi = 0.15$.

Other Protistor® Fuses

BS88-4 Fuses

10x51, 17x49, 2X17x49, - 690 VAC



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

**690 V VOLTAGE RATING COMPLYING WITH IEC 33
GR CLASS (RATINGS FROM 5 TO 160 A)
AS PER VDE 636-23 AND IEC 60269.4**

**TWO MODELS COMPLYING WITH BS 88-4
- WITHOUT INDICATOR
- WITH SEPARATE TRIP-INDICATOR
(SIZES 17x49 AND 2x17x49)**

17x49 URS fuses are UL Recognized 

Main Characteristics

Voltage rating U_N (V)	Size	Class	Current rating I_N (A)	Pre-arcng I^2t @ 1 ms I^2tp (A^2s)	Total clearing I^2t @ 660 V A^2s		Watts loss		Tested Breaking capacity
					$I_p \leq 30I_N$	$I_p > 30I_N$	$0.8 I_N$	I_N	
690V	10x51	URE	5	1.3	10	15	1.05	2	200k A @ 690 V
			6	1.3	13.5	20.5	1.3	2.5	
			10	3.3	25	35	2.2	4.1	
			12	5.5	40	58	2.3	4.3	
			15	9.7	70	100	2.4	4.4	
			20	19.4	120	200	3.1	5.8	
	17x49	URS	16	9.7	75	107	2.7	4.8	200k A @ 690 V
			20	17.3	130	185	2.9	5.3	
			25	27	200	285	3.7	6.7	
			32	53	400	570	4.7	8.6	
			35	70	510	725	5.2	9.6	
			40	98	760	1080	5.7	10.5	
			45	130	900	1280	6.2	11.4	
			50	156	1000	1420	6.8	12.6	
			55	210	1380	1970	7.2	13.3	
			63	315	2000	2850	7.5	13.9	
			75	525	3350	4630	7.8	14.4	
			80	625	3900	5700	8.5	15.8	
2x17x49	URT	URT	65	210	1590	2270	9.5	17.4	200k A @ 690 V
			75	310	2300	3280	10.9	20	
			85	430	3050	4350	11.9	21.9	
			90	252	3600	5130	12.4	22.8	
			110	850	5500	7840	13.8	26.5	
			145	1730	11000	15700	15.5	28.5	
			150	2090	13400	18500	15.6	28.7	
			160	2500	15600	22800	16.9	31.5	

Minimum operating voltage for separate trip indicator = 20 V

Semiconductor fuses

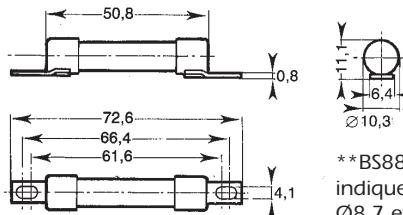


Other Protistor® Fuses

BS88-4 Fuses

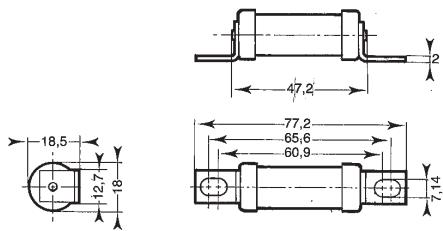
10x51, 17x49, 2X17x49, - 690 VAC

CP 10x51 Without trip-indicator

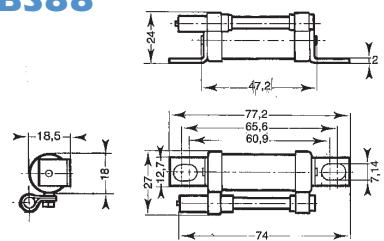


**BS88 part 4
indique respectivement
Ø8,7 et 8,8

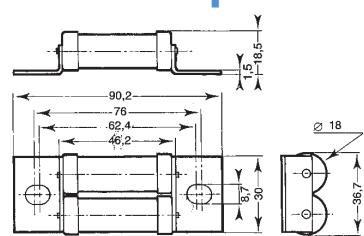
CP 17x49 Without trip-indicator



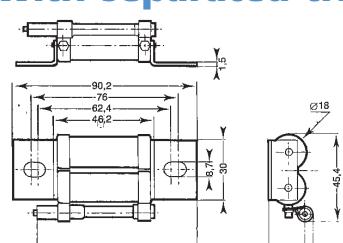
CP 17x49 With separated trip-indicator BS88



CP 2x17x49 Without trip-indicator



CP 2x17x49 With separated trip-indicator



Size	Designation	Ref. Number	Pack.	Catalog Number
10x51	6,9 URE 10/5	D082458	(13g)	BS10UE69V5
	6,9 URE 10/6	X097057		BS10UE69V6
	6,9 URE 10/10	C082457		BS10UE69V10
	6,9 URE 10/12	Z097059		BS10UE69V12
	6,9 URE 10/15	B082456		BS10UE69V15
	6,9 URE 10/20	A082455		BS10UE69V20

Size	Designation	Ref. Number	Pack.	Catalog Number
17x49	6,9 URS 17/16	G075883	(51g)	BS17US69V16
	6,9 URS 17/20	H075884		BS17US69V20
	6,9 URS 17/25	J075885		BS17US69V25
	6,9 URS 17/32	K075886		BS17US69V32
	6,9 URS 17/35	L075887		BS17US69V35
	6,9 URS 17/40	M075888	10	BS17US69V40
	6,9 URS 17/45	N075889		BS17US69V45
	6,9 URS 17/50	P075890		BS17US69V50
	6,9 URS 17/55	Q075891		BS17US69V55
	6,9 URS 17/63	R075892		BS17US69V63
	6,9 URS 17/75	S075893		BS17US69V75
	6,9 URS 17/80	T075894		BS17US69V80

Size	Designation	Ref. Number	Pack.	Catalog Number
17x49	6,6 URS 17P16	V075895	(61g)	BS17US69V16P
	6,9 URS 17P20	W075896		BS17US69V20P
	6,9 URS 17P25	X075897		BS17US69V25P
	6,9 URS 17P32	Y075898		BS17US69V32P
	6,9 URS 17P35	Z075899		BS17US69V35P
	6,9 URS 17P40	A075900	10	BS17US69V40P
	6,9 URS 17P45	B075901		BS17US69V45P
	6,9 URS 17P50	K081084		BS17US69V50P
	6,9 URS 17P55	C075902		BS17US69V55P
	6,9 URS 17P63	D075903		BS17US69V63P
	6,9 URS 17P75	E075904		BS17US69V75P
	6,9 URS 17P80	F075905		BS17US69V80P

Size	Designation	Ref. Number	Pack.	Catalog Number
2x17x49	6,6 URT 217/65	G075906	(82g)	BS217UT69V65
	6,9 URT 217/75	F099572		BS217UT69V75
	6,9 URT 217/85	H075907		BS217UT69V85
	6,9 URT 217/90	A099958		BS217UT69V90
	6,9 URT 217/110	B099959	5	BS217UT69V110
	6,9 URT 217/140	J075908		BS217UT69V140
	6,9 URT 217/150	C099960		BS217UT69V150
	6,9 URT 217/160	K075909		BS217UT69V160

Size	Designation	Ref. Number	Pack.	Catalog Number
2x17x49	6,6 URT 217P65	L075910	(95g)	BS217UT69V65P
	6,9 URT 217P75	M075911		BS217UT69V75P
	6,9 URT 217P85	N075912		BS217UT69V85P
	6,9 URT 217P90	P075913		BS217UT69V90P
	6,9 URT 217P110	Q075914		BS217UT69V110P
	6,9 URT 217P140	R075915	5	BS217UT69V140P
	6,9 URT 217P150	S075916		BS217UT69V150P
	6,9 URT 217P160	T075917		BS217UT69V160P



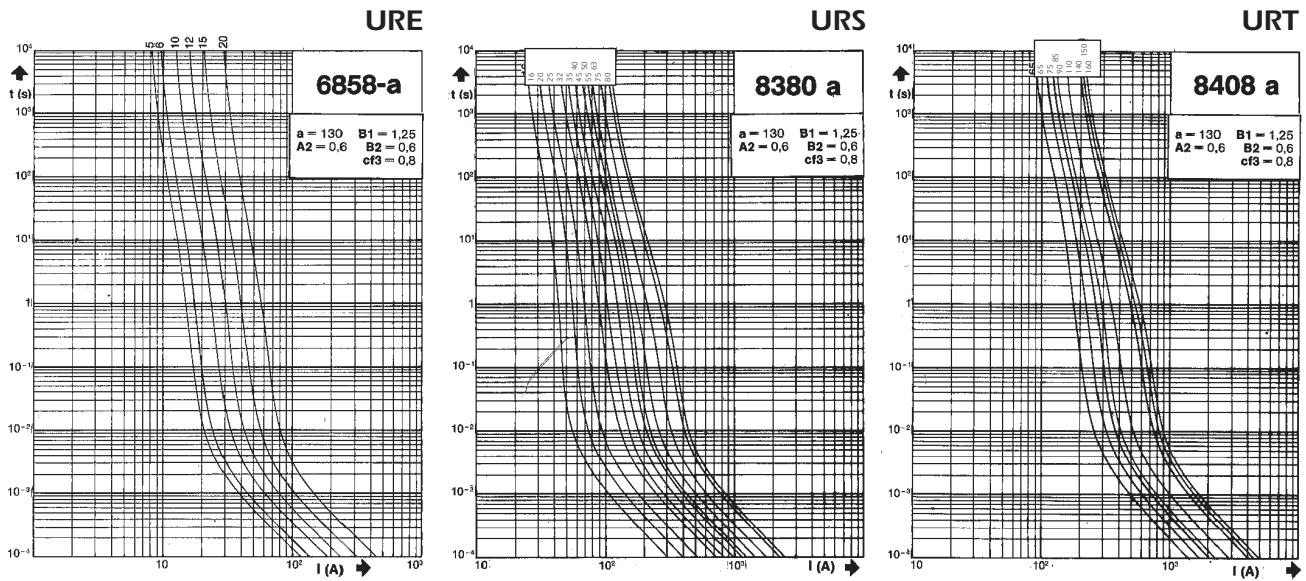
Semiconductor (AC) fuses

Other Protistor® Fuses

BS88-4 Fuses

10x51, 17x49, 2X17x49, - 690 VAC

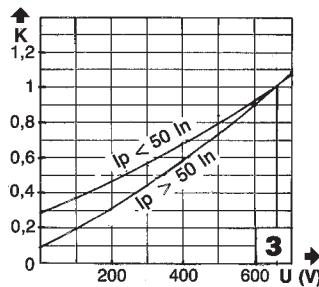
Times vs current characteristics



- These curves indicate, for each rated current, the pre-arching time vs. the R/M.S. pre-arching current.
- Tolerance for the mean pre-arching current $\pm 10\%$

Corrective factor - Peak arc voltage

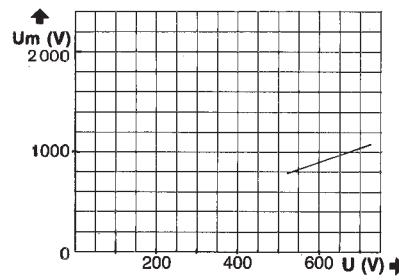
Corrective factor



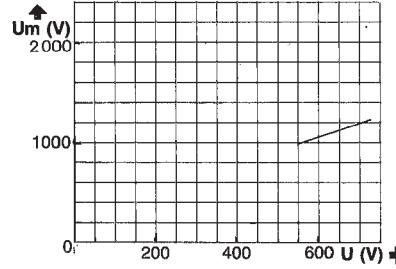
URE

URS
URT

Peak arc voltage



URS
URT



Corrective factor

* The mean curves show the variation of the total clearing time ($|I^2 t_t|$) and the total clearing duration t_t as a function of operating voltage U

Peak arc voltage

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

Semiconductor fuses

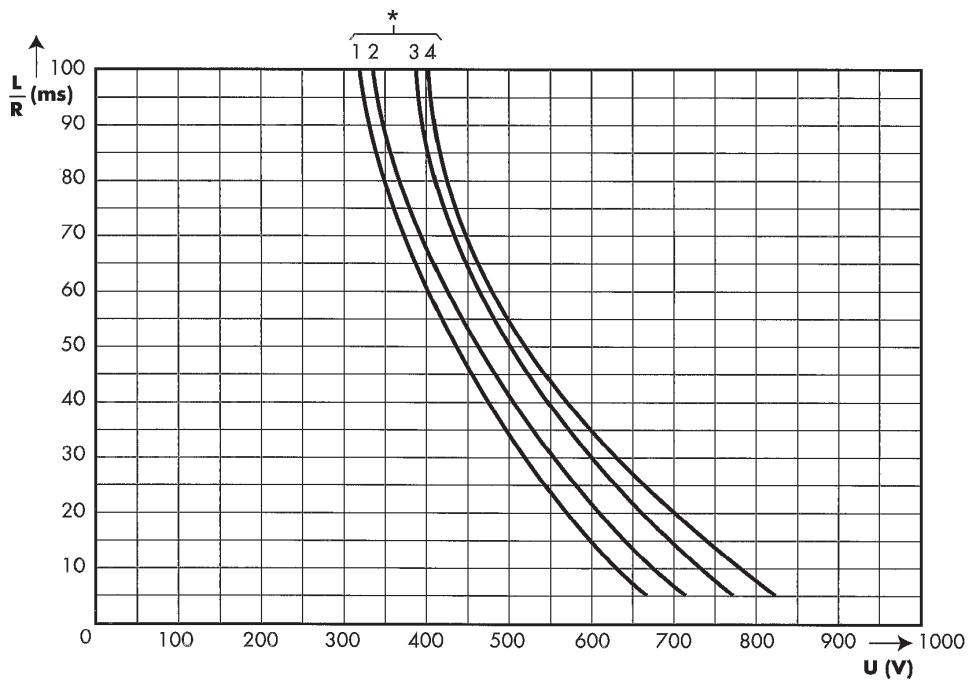


Other Protistor® Fuses

BS88-4 Fuses

10x51, 17x49, 2X17x49, - 690 VAC

D.C Applications data



- These curves indicate the permissible value of time constant L/R as a function of the D.C. working voltage.

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

Curves and I_{pm} for each rating			
Class	Rated current	*	I_{pm} (A)
URE	5	4	40
	6	4	48
	10	4	60
	12	4	84
	15	4	112
	20	4	140
URS	16	3	96
	20	3	140
	25	3	175
	32	3	255
	35	3	300
	40	3	320
	45	3	335
	50	3	350
	55	3	365
	63	3	390
	75	2	425
	80	1	440
URT	65	3	510
	75	3	550
	85	3	590
	90	3	610
	110	3	685
	140	3	800
	150	2	840
	160	1	880

Other Protistor® Fuses BS88-4 Fuses 000 BS88 - 500 V to 690 VAC



EXTREMELY HIGH BREAKING CAPACITY FUSES: PROTECTION OF POWER SEMICONDUCTORS AS PER IEC STANDARD 60269.1 AND 4, AND EN 60269-1 AND 4

500- 690 V VOLTAGE RATING (RATING 20 TO 400 A)

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

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

aR CLASS (URB RATINGS 75 TO 400 A) ACCORDING TO VDE 636-23 AND IEC 269.4

TWO MODELS ACCORDING TO BS 88-4 AND EN 60 269 .4 STANDARDS; Z3 DRAWING (74 mm BETWEEN AXES) WITHOUT BLOWN FUSE INDICATION - WITH SEPARATE TRIP INDICATOR

These fuses are UL Recognized 

Main Characteristics

Voltage rating U_N (V)	Class	Current rating I_N (A)	Pre-arcing I^2t @ 1 ms I^2t_p (A^2s)	Total clearing I^2t (A^2s)	Watts loss 0.8 I_N	I_N	Tested Breaking capacity	Estimated Breaking capacity
690 V	gRB	20	12	80 @ 660 V	3.8	7	200k A @ 690 V	300k A @ 690 V
		25	20	150 @ 660 V	5.0	9		
		32	39	270 @ 660 V	5.5	10		
		40	70	460 @ 660 V	6.6	12		
		50	102	730 @ 660 V	7.7	14		
		63	210	1500 @ 660 V	8.8	16		
		80	475	2900 @ 660 V	9.9	18		
		100	970	6000 @ 660 V	11	20		
		125	1900	11800 @ 660 V	11.6	21		
690 V	URB	75	350	2250 @ 660 V	11.2	20.5	200k A @ 690 V	300k A @ 690 V
		80	390	2500 @ 660 V	11.6	21		
		100	690	4200 @ 660 V	12.7	23		
		110	950	6800 @ 660 V	13.5	24.5		
		125	1300	8900 @ 660 V	14.3	26		
		160	2700	16000 @ 660 V	17.0	31		
		200	5250	31500 @ 660 V	19.8	36		
		250	9900	52000 @ 660 V	24.8	45		
		315	15500	82000 @ 660 V	31.9	58		
500 V	URB	350	22400	110000 @ 500 V	31.9	58	120k A @ 500 V	
		400	33200	160000 @ 500 V	36.3	66		

Minimum operating voltage for separate trip indicator = 20 V

Semiconductor fuses



Other Protistor® Fuses

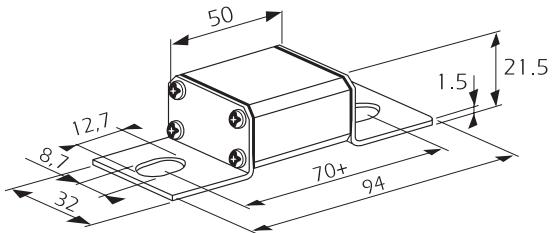
BS88-4 Fuses

000 BS88 - 500 V to 690 VAC

References

British standard without blown fuse indicator

Current rating	Designation	Ref. Number	Catalog Number
20	6,9 gRB 000 BS88/020	T330044	BS000GB69V20
25	6,9 gRB 000 BS88/025	V330045	BS000GB69V25
32	6,9 gRB 000 BS88/032	W330046	BS000GB69V32
40	6,9 gRB 000 BS88/040	X330047	BS000GB69V40
50	6,9 gRB 000 BS88/050	Z330049	BS000GB69V50
63	6,9 gRB 000 BS88/063	A330050	BS000GB69V63
80	6,9 gRB 000 BS88/080	N330108	BS000GB69V80
100	6,9 gRB 000 BS88/100	H330103	BS000GB69V100
125	6,9 gRB 000 BS88/125	P330109	BS000GB69V125

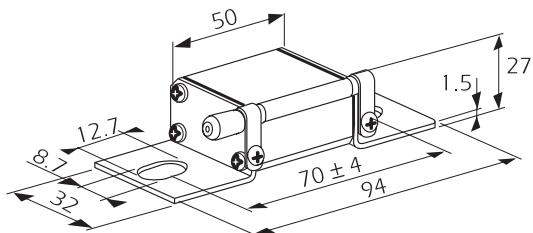


Weight: 125 g
Packaging: 3 pieces

Current rating	Designation	Ref. Number	Catalog Number
75	6,9 URB 000 BS88/075	B330051	BS000UB69V75
80	6,9 URB 000 BS88/080	C330052	BS000UB69V80
100	6,9 URB 000 BS88/100	D330053	BS000UB69V100
110	6,9 URB 000 BS88/110	E330100	BS000UB69V110
125	6,9 URB 000 BS88/125	E330054	BS000UB69V125
150	6,9 URB 000 BS88/150	F330101	BS000UB69V150
160	6,9 URB 000 BS88/160	F330055	BS000UB69V160
200	6,9 URB 000 BS88/200	G330056	BS000UB69V200
250	6,9 URB 000 BS88/250	H330057	BS000UB69V250
315	6,9 URB 000 BS88/315	J330058	BS000UB69V315
350	5 URB 000 BS88/350	X330116	BS000UB50V350
400	5 URB 000 BS88/400	G330194	BS000UB50V400

British standard with separate blown fuse trip-indicator

Current rating	Designation	Ref. Number	Catalog Number
20	6,9 gRB 000 BS88P020	Y330117	BS000GB69V20P
25	6,9 gRB 000 BS88P025	Z330118	BS000GB69V25P
32	6,9 gRB 000 BS88P032	A330119	BS000GB69V32P
40	6,9 gRB 000 BS88P040	B330120	BS000GB69V40P
50	6,9 gRB 000 BS88P050	C330121	BS000GB69V50P
63	6,9 gRB 000 BS88P063	D330122	BS000GB69V63P
80	6,9 gRB 000 BS88P080	E330123	BS000GB69V80P
100	6,9 gRB 000 BS88P100	F330124	BS000GB69V100P
125	6,9 gRB 000 BS88P125	G330125	BS000GB69V125P



Weight: 135 g
Packaging: 3 pieces

Current rating	Designation	Ref. Number	Catalog Number
75	6,9 URB 000 BS88P075	H330126	BS000UB69V75P
80	6,9 URB 000 BS88P080	J330127	BS000UB69V80P
100	6,9 URB 000 BS88P100	K330128	BS000UB69V100P
110	6,9 URB 000 BS88P110	L330129	BS000UB69V110P
125	6,9 URB 000 BS88P125	M330130	BS000UB69V125P
150	6,9 URB 000 BS88P150	N330131	BS000UB69V150P
160	6,9 URB 000 BS88P160	P330132	BS000UB69V160P
200	6,9 URB 000 BS88P200	Q330133	BS000UB69V200P
250	6,9 URB 000 BS88P250	R330134	BS000UB69V250P
315	6,9 URB 000 BS88P315	S330135	BS000UB69V315P
350	5 URB 000 BS88P350	T330136	BS000UB50V350P
400	5 URB 000 BS88P400	H330195	BS000UB50V400P

The use of MC 6.3 GR 2-5N blown fuse remote sensing microswitch is possible.

Ref. Number : Y310015 mounted on separate trip-indicator.

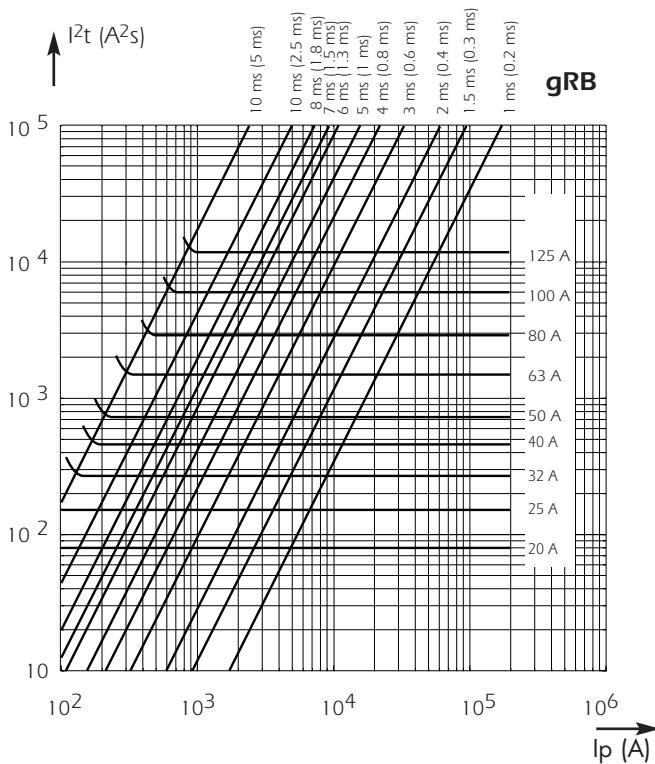
See Microswitch section



Semiconductor (AC) fuses

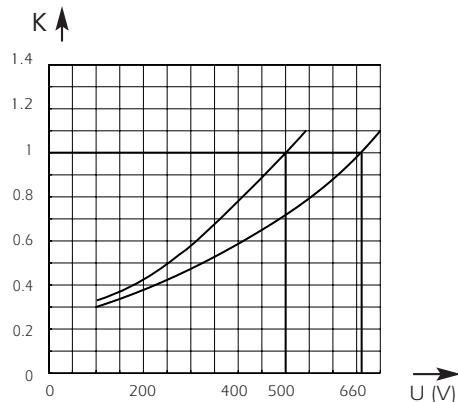
**Other Protistor® Fuses
BS88-4 Fuses
000 BS88 - 500 V to 690 VAC**

Total clearing I^2t

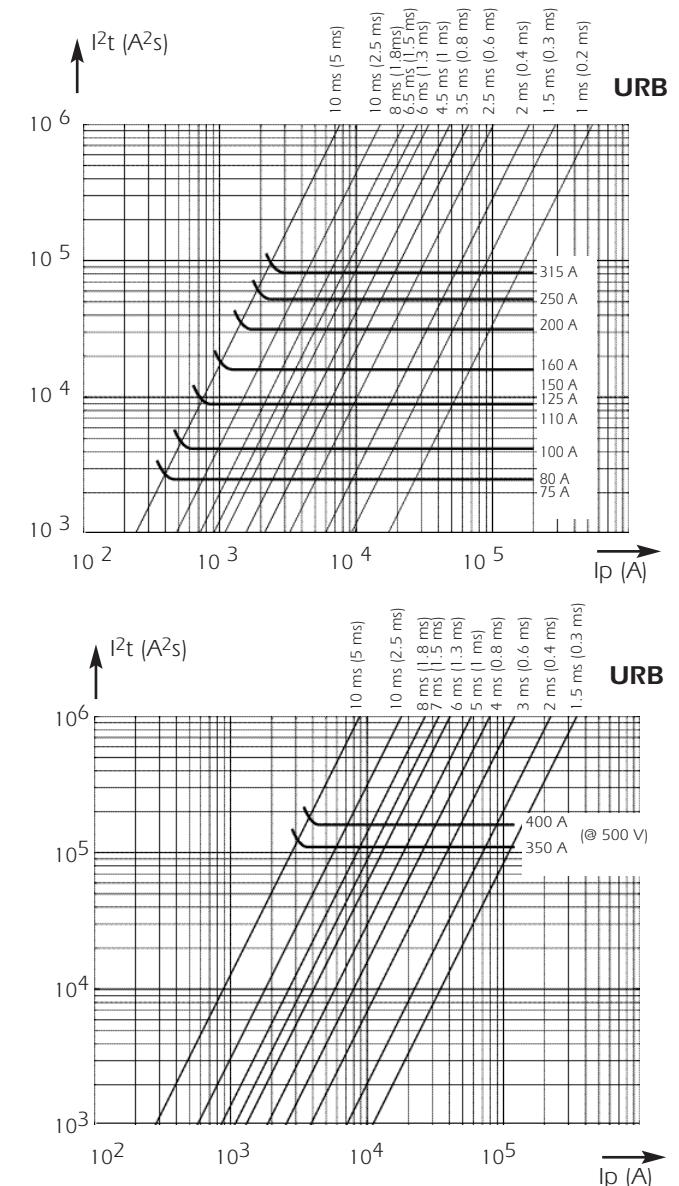


Above: Horizontal curves show, for each rated current, maximum values of total clearing I^2t (I^2t_f) as a function of prospective current I_p . @ UN with $\cos \varphi = 0.15$.
Oblique lines indicate total clearing duration T_t , with associated pre-arc duration in brackets.

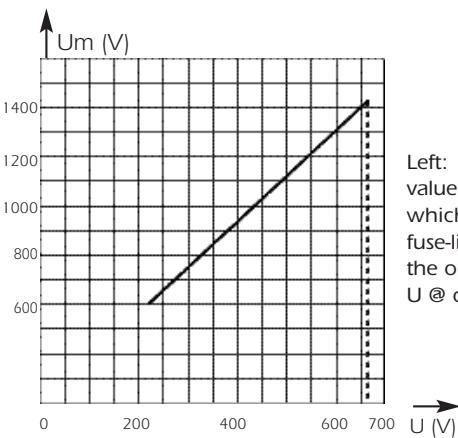
I^2t corrective factor



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



Peak arc voltage



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

Semiconductor fuses

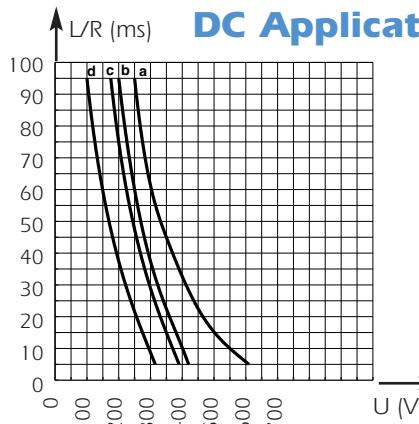


Other Protistor® Fuses

BS88-4 Fuses

000 BS88 - 500 V to 690 VAC





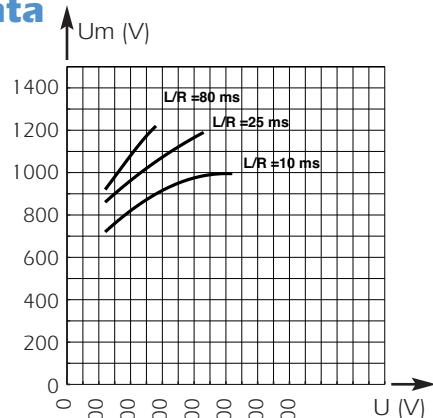
Above: curves indicate permissible value of time constant L/R as a function of DC working voltage.

Curve a: for ratings from 20 to 160 A

Curve b : for ratings from 180 to 200 A

Curve c : for ratings from 250 to 315 A

Curve d : for ratings from 350 to 400 A

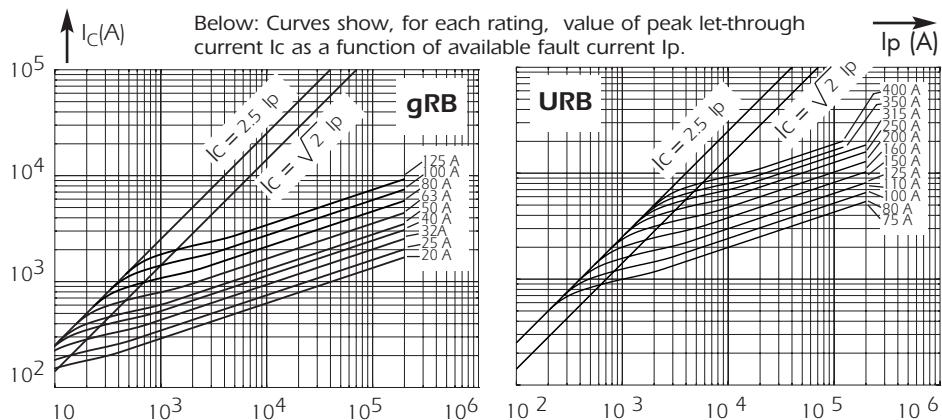


Above: Curves indicate peak arc voltage U_m which may appear across the fuse terminals at working voltage U .

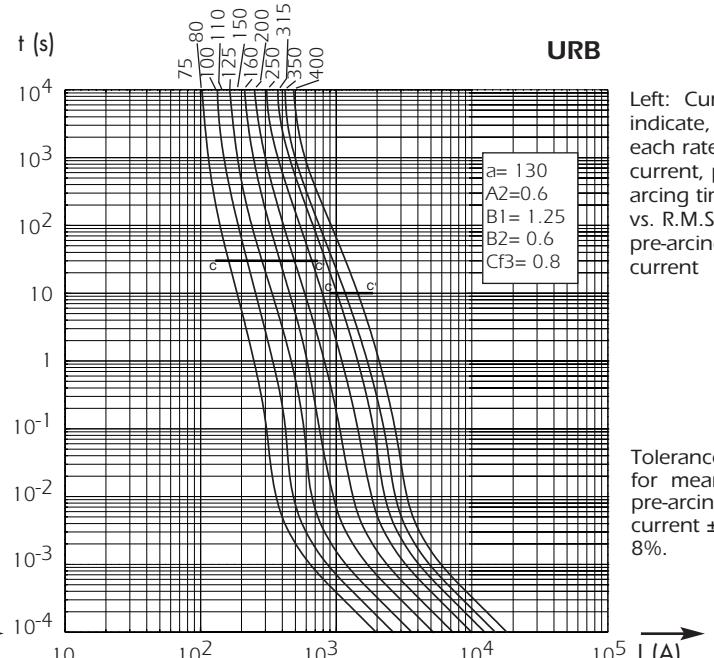
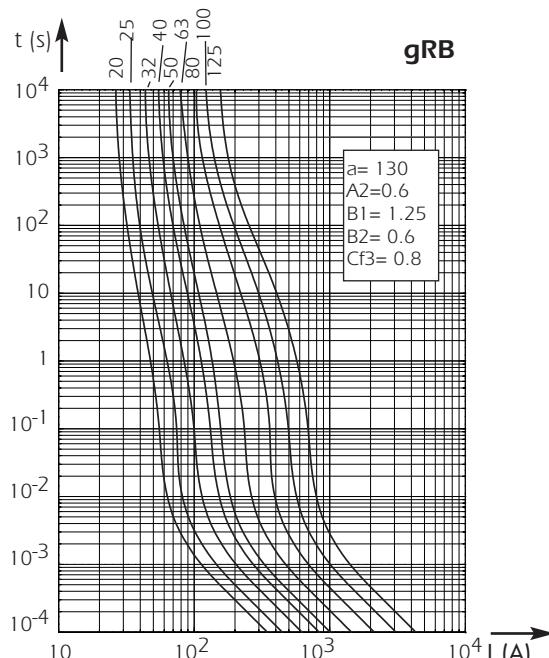
Rated current	Curve	I_{pm} (A)
20	a	60
25	a	65
32	a	90
40	a	120
50	a	150
63	a	200
80	a	270
100	a	370
125	a	500
160	a	700
200	b	1200
250	c	1800
315	c	2200
350	d	2600
400	d	3100

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

Current limitation curves



Time vs current characteristics



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

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

Other Protistor® Fuses BS88-4 Fuses 000, 2.000 BS88Z - 690 VAC



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

690 V VOLTAGE RATING (RATINGS 50 TO 500 A)

gR CLASS (gRB RATINGS 50 AND 65 A) COMPLYING WITH VDE 636-23

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

aR CLASS (URC AND URD RATINGS 75 TO 500 A) ACCORDING TO VDE 636-23 AND IEC 60269.4

FOUR MODELS: SINGLE AND TWIN BODY AS PER BS 88-4 STANDARD ; Z2 DRAWING (92 mm BETWEEN AXES)
WITHOUT BLOWN FUSE INDICATOR - WITH SEPARATE TRIP-INDICATOR

These fuses are UL Recognized



Main Characteristics

Voltage rating U_N (V)	Size	Class	Current rating I_N (A)	Pre-arcing I^2t @ 1 ms I^2t_p (A^2s)	Total clearing I^2t @ 660 V I^2t_t (A^2s)	Watts loss 0.8 I_N	I_N	Tested Breaking capacity	Estimated Breaking capacity
690	000	gRB	50	102	730	7.7	14		
			65	210	1500	8.8	16		
		URC	75	390	2500	9.4	17		
			85	540	3300	10.5	19		
			90	690	4200	13.2	24		
			110	1300	8900	13.8	25		
		URD	150	2700	16000	14.3	26		
			180	5250	31500	14.9	27		
			200	9900	52000	15.4	28		
			250	15500	82000	17.6	32		
			280	15500	82000	23.7	43		
		URC	175	2760	16800	18.2	33		
			200	3800	25000	20.4	37		
			235	5200	35600	24.2	44		
			300	10800	64000	28.6	52		
			325	15400	92400	29.1	53		
			355	21000	126000	29.7	54		
			400	39600	208000	30.8	56		
			450	40000	210000	33	60		
			500	62000	328000	35.2	64		

Minimum operating voltage for separate trip-indicator: 20 V

Semiconductor fuses

Other Protistor® Fuses

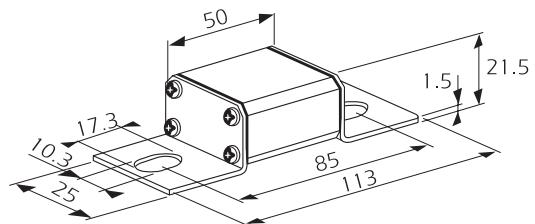
BS88-4 Fuses

000, 2.000 BS88Z - 690 VAC

British standard without blown fuse indicator

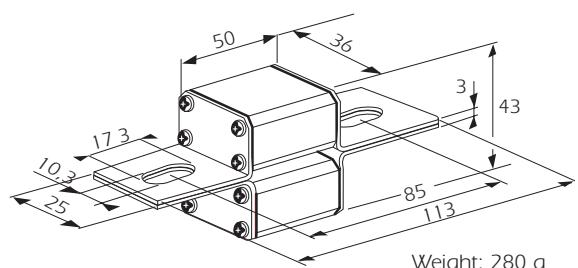


Current rating	Designation	Ref. Number	Catalog Number
50	6,9 gRB 000 BS88Z/050	V330137	BZ000GB69V50
65	6,9 gRB 000 BS88Z/065	W330138	BZ000GB69V65
75	6,9 URC 000 BS88Z/075	X330139	BZ000UC69V75
85	6,9 URC 000 BS88Z/085	Y330140	BZ000UC69V85
90	6,9 URC 000 BS88Z/090	Z330141	BZ000UC69V90
110	6,9 URC 000 BS88Z/110	A330142	BZ000UC69V110
150	6,9 URC 000 BS88Z/150	B330143	BZ000UC69V150
180	6,9 URC 000 BS88Z/180	C330144	BZ000UC69V180
200	6,9 URD 000 BS88Z/200	D330145	BZ000UD69V200
250	6,9 URD 000 BS88Z/250	E330146	BZ000UD69V250
280	6,9 URC 000 BS88Z/280	F330147	BZ000UC69V280



Weight: 140 g
Packaging: 3 pieces

Current rating	Designation	Ref. Number	Catalog Number
175	6,9 URC 2000 BS88Z/175	P330155	BZ2000UC69V175
200	6,9 URC 2000 BS88Z/200	Q330156	BZ2000UC69V200
235	6,9 URC 2000 BS88Z/235	R330157	BZ2000UC69V235
300	6,9 URC 2000 BS88Z/300	S330158	BZ2000UC69V300
325	6,9 URC 2000 BS88Z/325	T330159	BZ2000UC69V325
355	6,9 URC 2000 BS88Z/355	V330160	BZ2000UC69V355
400	6,9 URD 2000 BS88Z/400	W330161	BZ2000UD69V400
450	6,9 URC 2000 BS88Z/450	X330162	BZ2000UC69V450
500	6,9 URD 2000 BS88Z/500	Y330163	BZ2000UD69V500

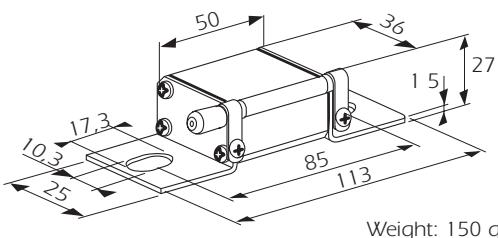


Weight: 280 g
Packaging: 3 pieces

British standard with separate trip-indicator

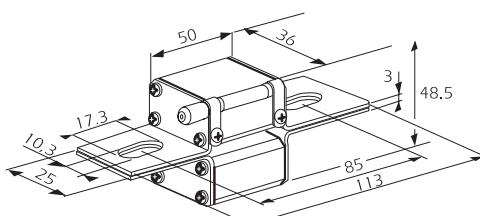


Current rating	Designation	Ref. Number	Catalog Number
90	6,9 URC 000 BS88ZP090	G330148	BZ000UC69V90P
110	6,9 URC 000 BS88ZP110	H330149	BZ000UC69V110P
150	6,9 URC 000 BS88ZP150	J330150	BZ000UC69V150P
180	6,9 URC 000 BS88ZP180	K330151	BZ000UC69V180P
200	6,9 URD 000 BS88ZP200	L330152	BZ000UD69V200P
250	6,9 URD 000 BS88ZP250	M330153	BZ000UD69V250P
280	6,9 URC 000 BS88ZP280	N330154	BZ000UC69V280P



Weight: 150 g
Packaging: 3 pieces

Current rating	Designation	Ref. Number	Catalog Number
175	6,9 URC 2000 BS88ZP175	Z330164	BZ2000UC69V175P
200	6,9 URC 2000 BS88ZP200	A330165	BZ2000UC69V200P
235	6,9 URC 2000 BS88ZP235	B330166	BZ2000UC69V235P
300	6,9 URC 2000 BS88ZP300	C330167	BZ2000UC69V300P
325	6,9 URC 2000 BS88ZP325	D330168	BZ2000UC69V325P
355	6,9 URC 2000 BS88ZP355	E330169	BZ2000UC69V355P
400	6,9 URD 2000 BS88ZP400	F330170	BZ2000UD69V400P
450	6,9 URC 2000 BS88ZP450	G330171	BZ2000UC69V450P
500	6,9 URD 2000 BS88ZP500	H330172	BZ2000UD69V500P



Weight: 290 g
Packaging: 3 pieces

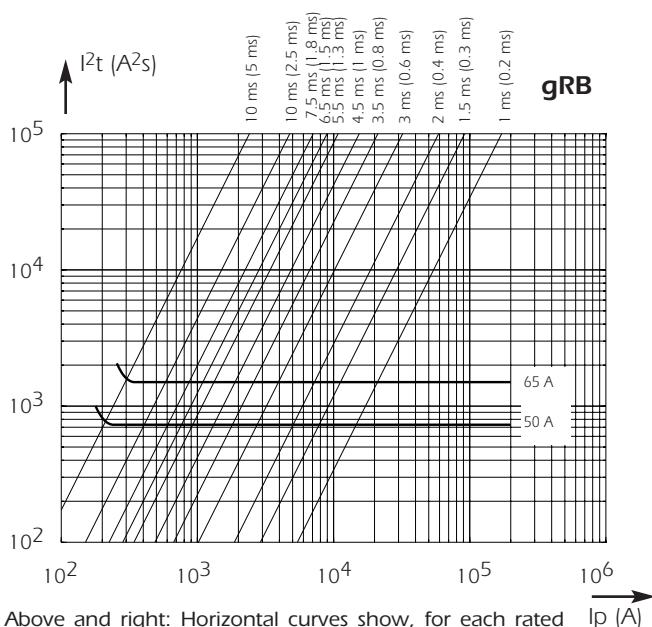
The use of MC 6.3 GR 2-5N blown fuse remote sensing microswitch is possible.
Ref. Number: Y310015 mounted on separate trip-indicator.



Semiconductor (AC) fuses

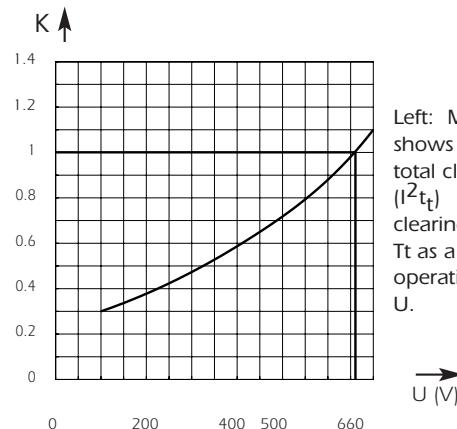
**Other Protistor® Fuses
BS88-4 Fuses
000, 2.000 BS88Z - 690 VAC**

Total clearing I^2t



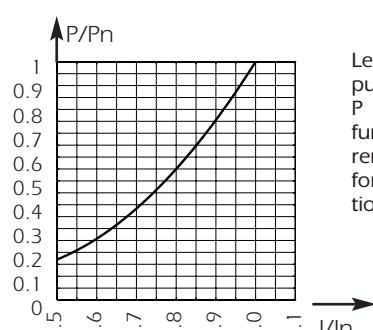
Above and right: Horizontal curves show, for each rated current, maximum values of total clearing I^2t ($|I^2t|$) as a function of prospective current I_p @ UN with $\cos \varphi = 0.15$. Oblique lines indicate total clearing duration T_t , with associated pre-arc duration in brackets.

I^2t corrective factor

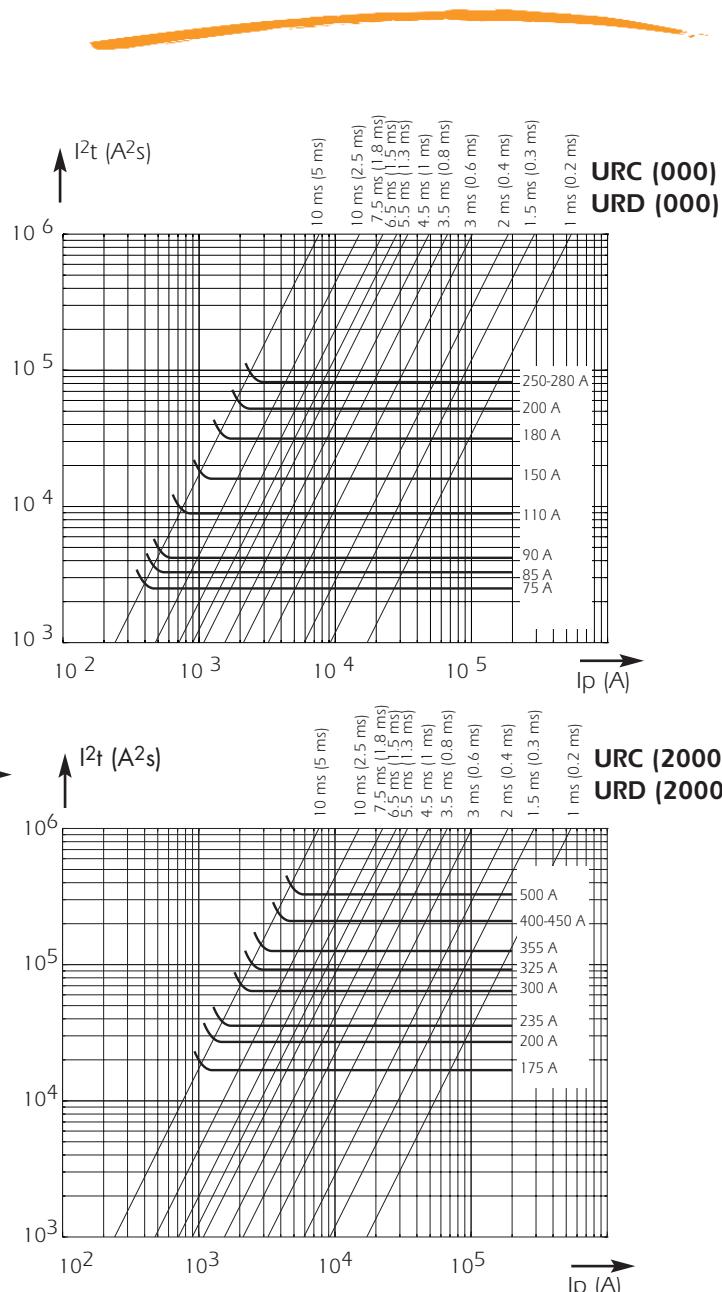


Left: Mean curve shows variation of total clearing time ($|I^2t|$) and total clearing duration T_t as a function of operating voltage U .

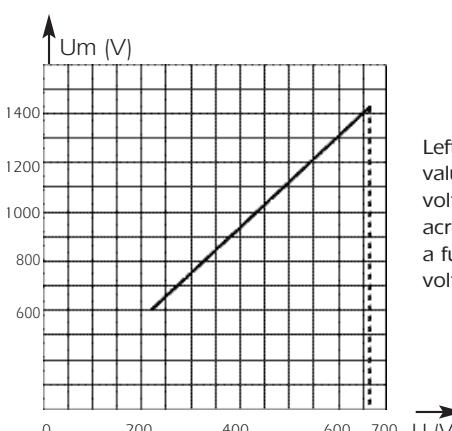
Watts loss



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



Peak arc voltage



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

Semiconductor fuses

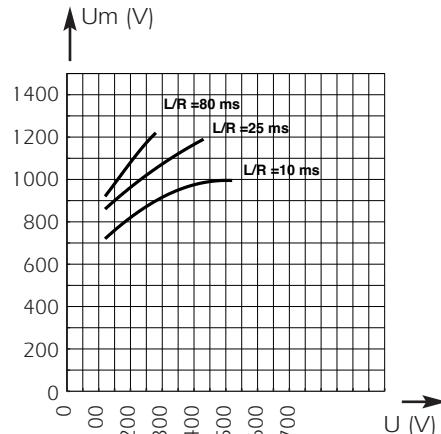
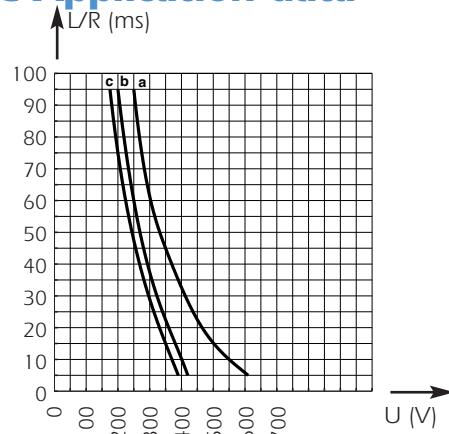


Other Protistor® Fuses

BS88-4 Fuses

000, 2.000 BS88Z - 690 VAC

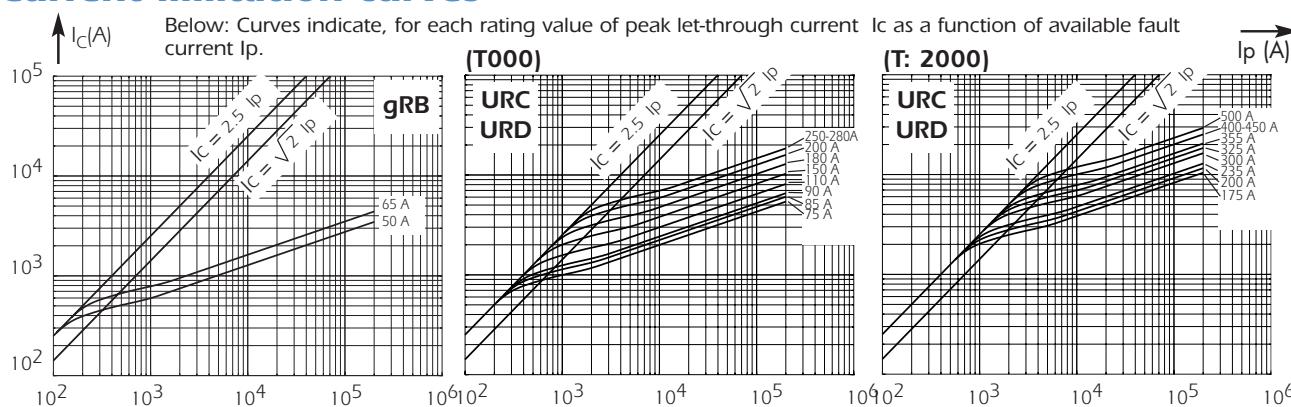
DC Application data



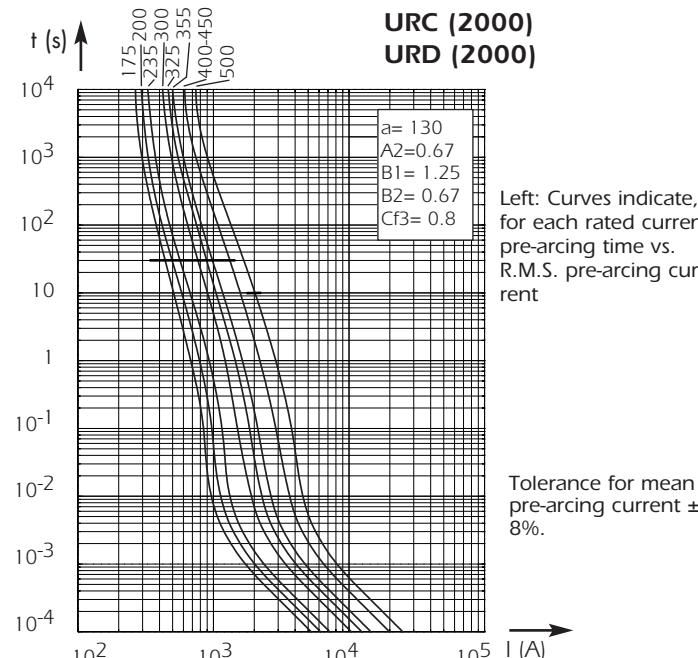
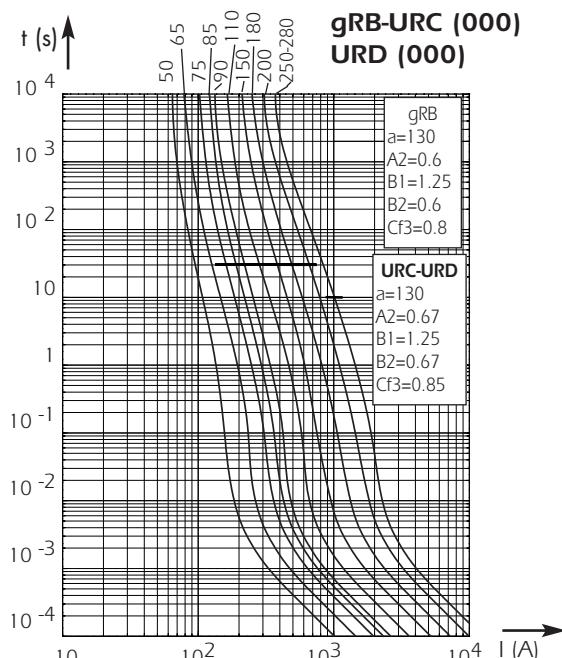
Rated current	Curve	I_{pm} (A)
50	a	150
65	a	200
75	a	270
85	a	350
90	a	370
110	a	500
150	a	700
180	b	1200
200	c	1800
250	c	2200
280	c	2200
175	a	740
200	a	870
235	a	1000
300	a	1400
325	b	1900
355	b	2400
400	c	3600
450	c	4400
500	c	4400

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

Current limitation curves



Time vs current characteristics



Other Protistor® Fuses

BS88-4 Fuses

36x55, 2x36x55 - 690 VAC



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

690 V VOLTAGE RATING COMPLYING WITH IEC 33
AR CLASS (RATINGS FROM 75 TO 800 A) AS PER VDE 636-23
AND IEC 60269.4

THREE MODELS COMPLYING WITH BS 88-4

- WITHOUT INDICATOR
- WITH SEPARATE TRIP-INDICATOR
- WITH BUILT-IN TRIP-INDICATOR

Main Characteristics

Voltage rating U_N (V)	Size	Class	Current rating I_N (A)	Pre-arcng $I^2t @ 1\text{ ms}$ I^2tp (A^2s)	Total clearing $I^2t @ 660\text{ V}$ A^2s		Watts loss		Tested Breaking capacity
					$I_p \leq 50 I_N$	$I_p > 50 I_N$	$0.8 I_N$	I_N	
690V	36x55	URR	75	350	1800	2000	9.7	19.5	200k A @ 690 V
			110	1180	6000	67000	11.3	22.8	
			200	3900	18500	20500	21.8	41.4	
			250	8760	41000	46000	23.6	44.1	
	URGL	URGL	50	180	860	990	7.3	14.0	200k A @ 690 V
			65	335	1600	1840	8.8	17.1	
			85	480	3450	4000	12.2	23.5	
			90	720	41000	4700	13.2	25.5	
			150	2880	12600	14500	18..9	35.3	
			180	5350	22500	25500	19.1	35.7	
			200	9510	40000	46000	17.7	33.1	
			250	21400	97000	11000	18.7	34.5	
			280	29100	125000	145000	20.3	38.0	
			315	38100	157000	180000	222.77	42.6	
			355	48200	190000	215000	25.9	48.5	
	2x36x55	URU	400	72000	265000	305000	26.7	50.0	
			200	4700	24000	27000	18.4	33.0	200k A @ 690 V
			235	6920	34500	39000	21.0	37.6	
			400	21200	100000	110000	34.8	62.3	
			500	35000	164000	184000	47.2	88.2	
			630	97300	515000	575000	41.1	73.2	
	URGM	URGM	175	2880	13800	16000	24.7	47.6	200k A @ 690 V
			300	13700	660000	68000	31.5	59.0	
			325	21400	900000	102000	30.0	54.0	
			355	25200	106000	120000	33.1	62.0	
			450	65600	300000	340000	34.6	63.8	
			500	85600	390000	440000	37.44	69.0	
			630	152000	630000	720000	45.4	85.2	
			710	193000	760000	860000	51.8	97.0	
			800	282000	$1.22 \cdot 10^6$	$1.22 \cdot 10^6$	53.4	100.0	

Minimum operating voltage for built-in and separate trip indicator = 20 V

Semiconductor (AC) fuses

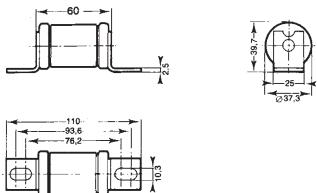
Other Protistor® Fuses

BS88-4 Fuses

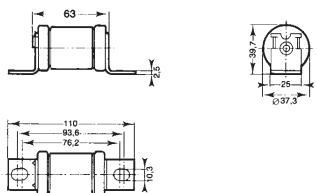
36x55, 2x36x55 - 690 VAC

Ref. Numbers

CP 36x55 without trip-indicator

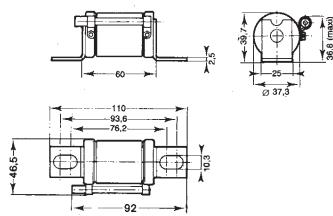


CP 36x55 with built-in trip-indicator



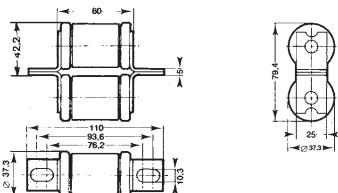
Microswitch MC 36 GR 2.5 - Ref. P 092496

CP 36x55 with separated trip-indicator BS88-4

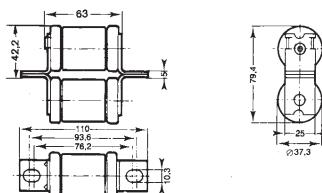


Microswitch MC 36 GR 2.5 - Ref. Y 310015

CP 2x36x55 without trip-indicator



CP 2x36x55 with built-in trip-indicator



Microswitch MC 36 GR 2.5 - Ref. P 092496

Size	Designation	Ref. Number	Pack.	Catalog Number
6,9	URGL 36/50	X097103		BS36UL69V50
6,9	URGL 36/65	H097113		BS36UL69V65
6,9	URR 36/75	H097136		BS36UR69V75
6,9	URGL 36/85	M097163		BS36UL69V85
6,9	URGL 36/90	N097164		BS36UL69V90
6,9	URR 36/110	P097165	6	BS36UR69V110
6,9	URGL 36/150	Q097166	(220g)	BS36UL69V150
36x55	URGL 36/180	R097167		BS36UL69V180
6,9	URR 36/200	S097168		BS36UR69V200
6,9	URGL 36/200	T097169		BS36UL69V200
6,9	URR 36/250	V097170		BS36UR69V250
6,9	URGL 36/250	W097171		BS36UL69V250
6,9	URGL 36/280	A097175		BS36UL69V280
6,9	URGL 36/315	B097176		BS36UL69V315
6,9	URGL 36/355	C097177		BS36UL69V355
6,9	URGL 36/400	D097178		BS36UL69V400

Size	Designation	Ref. Number	Pack.	Catalog Number
6,6	URGL 36T50	N097210		BS36UL69V50T
6,9	URGL 36T65	K097230		BS36UL69V65T
6,9	URR 36T75	H099965		BS36UR69V75T
6,9	URGL 36T85	M097255		BS36UL69V85T
6,9	URGL 36T90	N097256		BS36UL69V90T
6,9	URR 36T110	R099973	6	BS36UR69V110T
6,9	URGL 36T150	Z082178	(220g)	BS36UL69V150T
36x55	URGL 36T180	P097257		BS36UL69V180T
6,9	URR 36T200	A085560		BS36UR69V200T
6,9	URGL 36T200	R097259		BS36UL69V200T
6,9	URR 36T250	W097263		BS36UR69V250T
6,9	URGL 36T250	X097264		BS36UL69V250T
6,9	URGL 36T280	Y097265		BS36UL69V280T
6,9	URGL 36T315	Z097266		BS36UL69V315T
6,9	URGL 36T355	A097267		BS36UL69V355T
6,9	URGL 36T400	C097269		BS36UL69V400T

Size	Designation	Ref. Number	Pack.	Catalog Number
6,9	URGL 36P90	H097182		BS36UL69V90P
6,9	URR 36P110	J097183		BS36UR69V110P
6,9	URGL 36P150	K097184		BS36UL69V150P
6,9	URGL 36P180	L097185		BS36UL69V180P
6,9	URR 36P200	M097186		BS36UR69V200P
6,9	URGL 36P200	N097187	6	BS36UL69V200P
6,9	URR 36P250	P097188	(230g)	BS36UR69V250P
36x55	URGL 36P250	Q097189		BS36UL69V250P
6,9	URGL 36P280	R097190		BS36UL69V280P
6,9	URGL 36P315	V097193		BS36UL69V315P
6,9	URGL 36P355	Y097196		BS36UL69V355P
6,9	URGL 36P400	M097209		BS36UL69V400P

Size	Designation	Ref. Number	Pack.	Catalog Number
6,9	URGM 236/175	D097270		BS236UM69V175
6,9	URU 236/200	F097272		BS236UU69V200
6,9	URU 236/235	J097275		BS236UU69V235
6,9	URGM 236/300	K097276		BS236UM69V300
6,9	URGM 236/325	R097282		BS236UM69V325
6,9	URGM 236/355	S097283	3	BS236UM69V355
6,9	URU 236/400	T097284	(400g)	BS236UU69V400
2x36x55	URGM 236/450	Y097288		BS236UM69V450
6,9	URGM 236/500	Z097289		BS236UM69V500
6,9	URU 236/500	A097290		BS236UU69V500
6,9	URGM 236/630	B097291		BS236UM69V630
6,9	URU 236/630	R097351		BS236UU69V630
6,9	URGM 236/710	S097352		BS236UM69V710
6,9	URGM 236/800	Y097357		BS236UM69V800

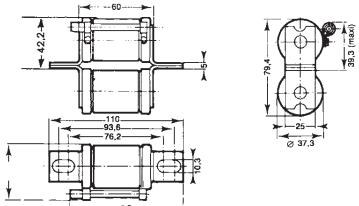
Size	Designation	Ref. Number	Pack.	Catalog Number
6,9	URGM 236T175	F097456		BS236UM69V175T
6,9	URU 236T200	G097457		BS236UU69V200T
6,9	URU 236T235	A082179		BS236UU69V235T
6,9	URGM 236T300	S085553		BS236UM69V300T
6,9	URGM 236T325	J097459		BS236UM69V325T
6,9	URGM 236T355	N097463	3	BS236UM69V355T
6,9	URU 236T400	P097464	(400g)	BS236UU69V400T
2x36x55	URGM 236T450	Q097465		BS236UM69V450T
6,9	URGM 236T500	R097466		BS236UM69V500T
6,9	URU 236T500	S097467		BS236UU69V500T
6,9	URGM 236T630	V097469		BS236UM69V630T
6,9	URU 236T630	W097470		BS236UU69V630T
6,9	URGM 236T710	C097476		BS236UM69V710T
6,9	URGM 236T800	D097477		BS236UM69V800T



Semiconductor (AC) fuses

**Other Protistor® Fuses
BS88-4 Fuses
36x55, 2x36x55 - 690 VAC**

**CP 2x36x55
with separated trip-indicator
BS88-4**



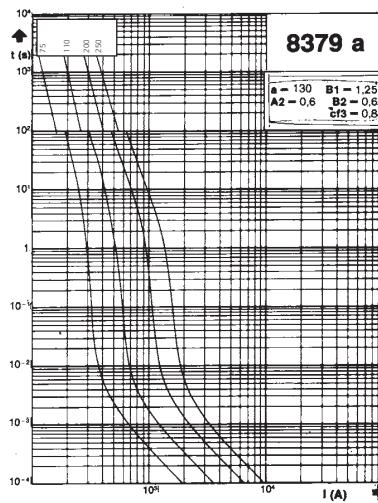
Microswitch MC 6,3 GR 2.5 - Ref. Y 310015

Size	Designation	Ref. Number	Pack.	Catalog Number
6,9	URGM 236P175	A097359		BS236UM69V175P
6,9	URU 236P200	E097363		BS236UU69V200P
6,9	URU 236P235	F097364		BS236UU69V235P
6,9	URGM 236P300	G097365		BS236UM69V300P
6,9	URGM 236P325	Q097373		BS236UM69V325P
6,9	URGM 236P355	R097374	3 (410g)	BS236UM69V355P
6,9	URU 236P400	S097375		BS236UU69V400P
2x36x55	URGM 236P450	T097376		BS236UM69V450P
6,9	URU 236P500	V097377		BS236UU69V500P
6,9	URGM 236P500	E097386		BS236UM69V500P
6,9	URU 236P630	J097390		BS236UU69V630P
6,9	URGM 236P630	P097395		BS236UM69V630P
6,9	URGM 236P710	B097452		BS236UM69V710P
6,9	URGM 236P800	E097455		BS236UM69V800P

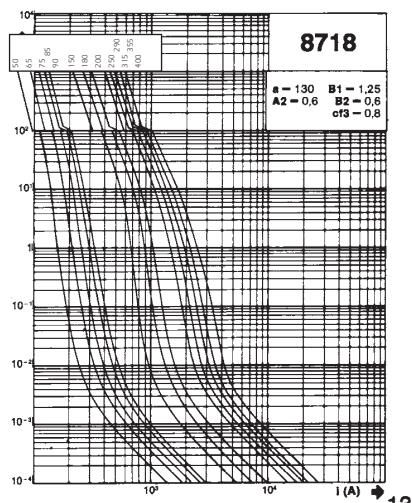
Electrical characteristics

Times vs current characteristics

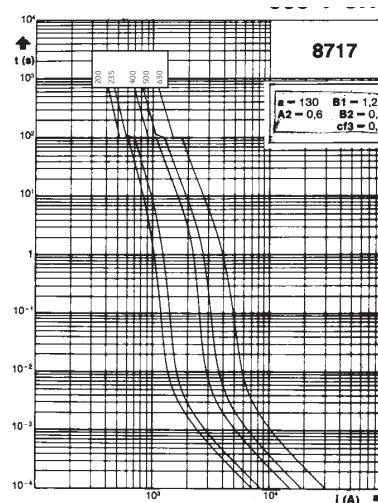
690 V URR



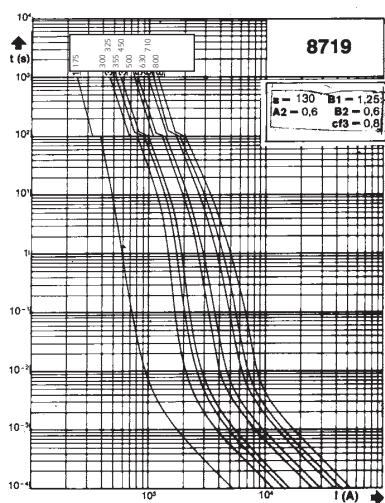
690 V URGL



690 V URU



690 V URGM



- These curves indicate, for each rated current, the pre-arc time vs. the R.M.S. pre-arc current.
- Tolerance for the mean pre-arc current $\pm 10\%$

Semiconductor fuses

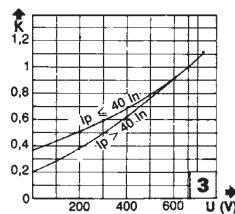
Other Protistor® Fuses

BS88-4 Fuses

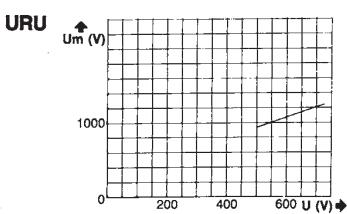
36x55, 2x36x55 - 690 VAC

Corrective factor - Peak arc voltage

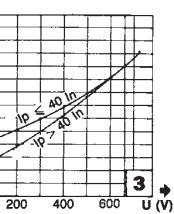
Corrective factor



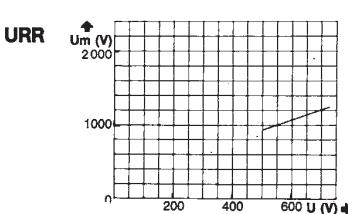
Peak arc voltage



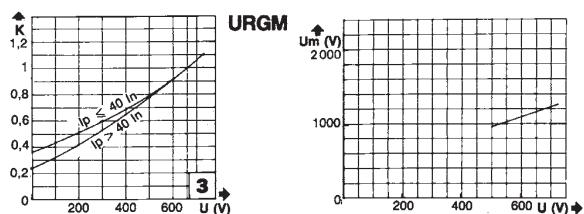
Corrective factor



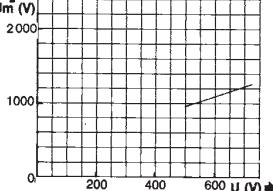
Peak arc voltage



URGM



URGL



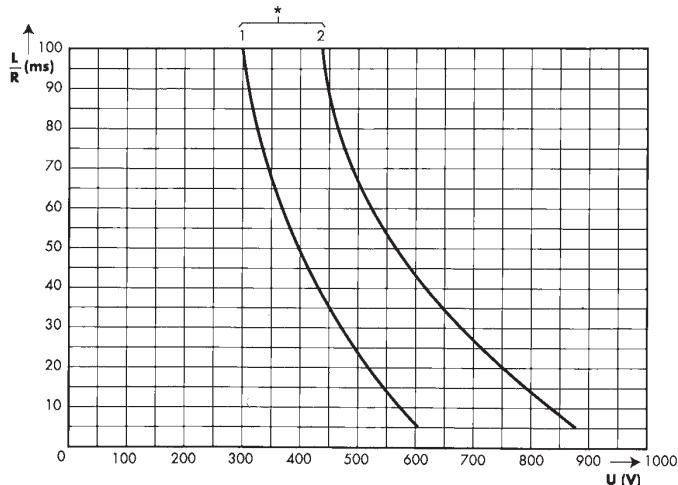
Corrective factor

The mean curves shows the variation of total clearing time (I^2t_t) and total clearing duration T_t as a function of operating voltage U.

Peak arc voltage

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

DC Application data



Curves and I_{pm} for each rating

Class	Rated current	Curve*	I_{pm} (A)
URR	75	2	225
	110	2	330
	200	2	600
	250	2	750
URU	200	2	600
	235	2	700
	400	2	1200
	500	2	1500
	630	1	1890

- This curves indicate the permissible value of time constant L/R as a function of DC working voltage
- I_{pm} values give the minimum DC interrupting current in amps.

Other Protistor® Fuses

BS88-4 Fuses

17x49 gRB/URB - 690 VAC



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

690 V VOLTAGE RATING AS PER IEC 33

gR CLASS (CURRENT RATING 12 TO 90 A) AS PER
VDE 636-23

- CLEARING ALL OVERLOADS
- IMPROVED SAFETY AND PROTECTION
- ENABLING SELECTIVE COORDINATION WITH ALL FUSES
WITHIN DISTRIBUTION CIRCUIT

aR CLASS (CURRENT RATING 100 A) ACCORDING TO VDE
636-23 AND IEC 60269.4

CONNECTION AS PER:

- GERMAN STANDARD DIN 43653/00C
- BRITISH STANDARD BS 88-4

These fuses are UL Recognized 

Main Characteristics

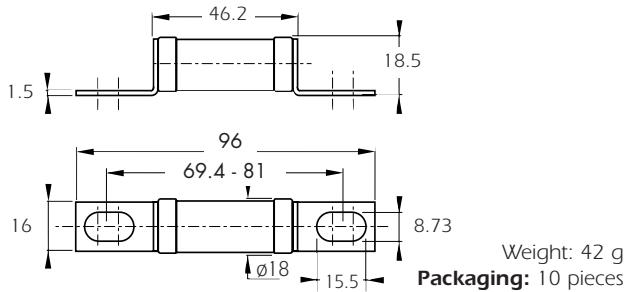
Voltage rating U_N (V)	Class	Current rating I_N (A)	pre-arcng I_{Pt} @ 1 ms I_{Ptp} (A ² s)	Total clearing I^2t @ U_N I^2tt (A ² s)	Watts loss		Tested Breaking capacity	Estimated Breaking capacity
					0.8 I_N	I_N		
690	gRB	12	4.2	30	1.95	3.5		
		16	9.6	65	2.2	4.0		
		20	17.1	110	3.0	5.5		
		25	26.8	170	4.4	8.0		
		32	52.5	330	5.0	9.0		
		35	69	430	5.2	9.5	200 kA @ 690 V	300 kA @ 690 V
		40	96	610	5.8	10.5		
		45	130	820	6.3	11.5		
		50	154	970	7.2	13		
		55	210	1320	7.4	13.5		
		63	310	1950	8.0	14.5		
		75	520	3250	8.8	16		
		80	620	3900	9.4	17		
		90	840	5300	11	20		
690	URB	100	965	6150	13	23.5	200 kA @ 690 V	300 kA @ 690 V

Minimum operating voltage for separate trip-indicator: 20 V

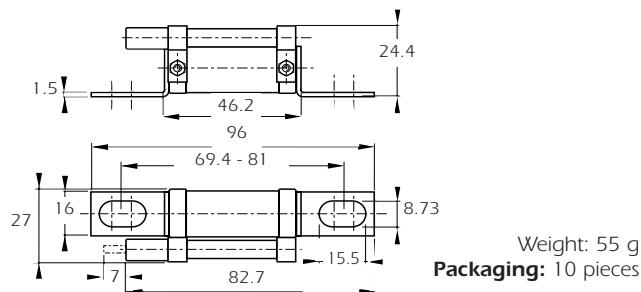
Semiconductor fuses

Other Protistor® Fuses BS88-4 Fuses 17x49 gRB/URB - 690 VAC

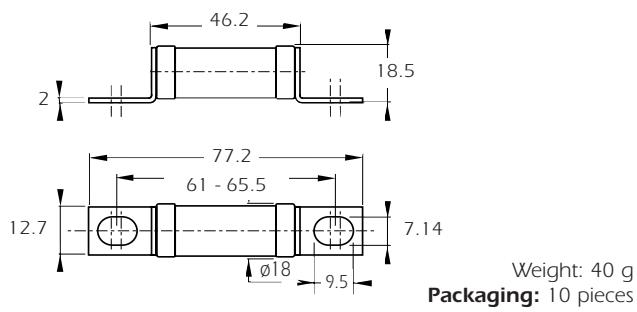
German standard without blown fuse indication



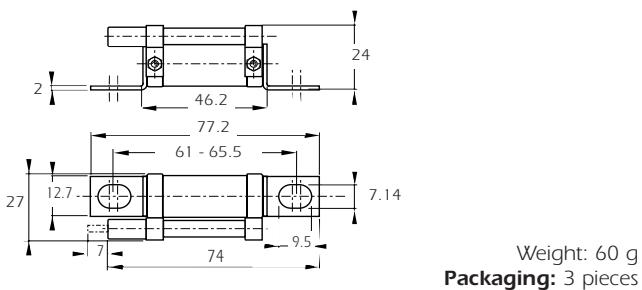
German standard with separate trip-indicator DIN 43623/00C



British standard without blown fuse indication



British standard with separate trip-indicator BS 88-4



Current rating	Designation	Ref. Number	Catalog Number
12	6,9 gRB 17 D08/12	M220972	DN17GB69V12
16	6,9 gRB 17 D08/16	N220973	DN17GB69V16
20	6,9 gRB 17 D08/20	P220974	DN17GB69V20
25	6,9 gRB 17 D08/25	Q220975	DN17GB69V25
32	6,9 gRB 17 D08/32	R220976	DN17GB69V32
35	6,9 gRB 17 D08/35	S220977	DN17GB69V35
40	6,9 gRB 17 D08/40	T220978	DN17GB69V40
45	6,9 gRB 17 D08/45	V220979	DN17GB69V45
50	6,9 gRB 17 D08/50	W220980	DN17GB69V50
55	6,9 gRB 17 D08/55	X220981	DN17GB69V55
63	6,9 gRB 17 D08/63	Y220982	DN17GB69V63
75	6,9 gRB 17 D08/75	Z220983	DN17GB69V75
80	6,9 gRB 17 D08/80	A220984	DN17GB69V80
90	6,9 gRB 17 D08/90	B220985	DN17GB69V90
100	6,9 URB 17 D08/100	C220986	DN17UB69V100

Current rating	Designation	Ref. Number	Catalog Number
12	6,9 gRB 17 D08P 12	X221004	DN17GB69V12P
16	6,9 gRB 17 D08P 16	Y221005	DN17GB69V16P
20	6,9 gRB 17 D08P 20	Z221006	DN17GB69V20P
25	6,9 gRB 17 D08P 25	A221007	DN17GB69V25P
32	6,9 gRB 17 D08P 32	B221008	DN17GB69V32P
35	6,9 gRB 17 D08P 35	C221009	DN17GB69V35P
40	6,9 gRB 17 D08P 40	D221010	DN17GB69V40P
45	6,9 gRB 17 D08P 45	E221011	DN17GB69V45P
50	6,9 gRB 17 D08P 50	F221012	DN17GB69V50P
55	6,9 gRB 17 D08P 55	G221013	DN17GB69V55P
63	6,9 gRB 17 D08P 63	H221014	DN17GB69V63P
75	6,9 gRB 17 D08P 75	J221015	DN17GB69V75P
80	6,9 gRB 17 D08P 80	K221016	DN17GB69V80P
90	6,9 gRB 17 D08P 90	L221017	DN17GB69V90P
100	6,9 URB 17 D08P 100	M221018	DN17UB69V100P

Current rating	Designation	Ref. Number	Catalog Number
12	6,9 gRB 17/12	W220957	BS17GB69V12
16	6,9 gRB 17/16	X220958	BS17GB69V16
20	6,9 gRB 17/20	Y220959	BS17GB69V20
25	6,9 gRB 17/25	Z220960	BS17GB69V25
32	6,9 gRB 17/32	A220961	BS17GB69V32
35	6,9 gRB 17/35	B220962	BS17GB69V35
40	6,9 gRB 17/40	C220963	BS17GB69V40
45	6,9 gRB 17/45	D220964	BS17GB69V45
50	6,9 gRB 17/50	E220965	BS17GB69V50
55	6,9 gRB 17/55	F220966	BS17GB69V55
63	6,9 gRB 17/63	G220967	BS17GB69V63
75	6,9 gRB 17/75	H220968	BS17GB69V75
80	6,9 gRB 17/80	J220969	BS17GB69V80
90	6,9 gRB 17/90	K220970	BS17GB69V90
100	6,9 URB 17/100	L220971	BS17UB69V100

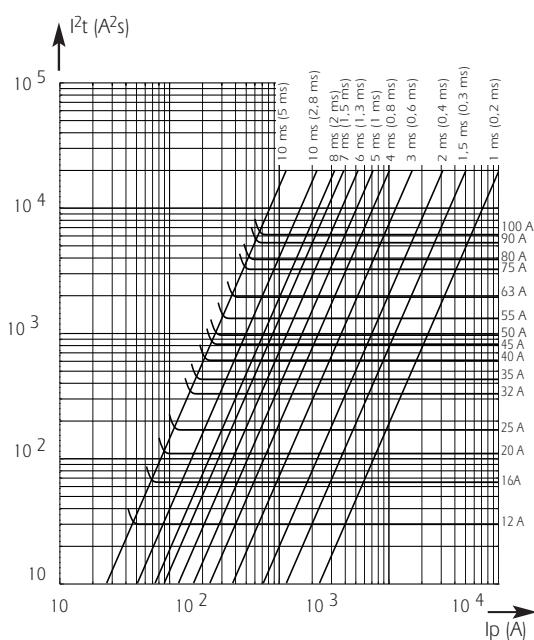
Current rating	Designation	Ref. Number	Catalog Number
12	6,9 gRB 17P12	D220987	BS17GB69V12P
16	6,9 gRB 17P16	E220988	BS17GB69V16P
20	6,9 gRB 17P20	F220989	BS17GB69V20P
25	6,9 gRB 17P25	G220990	BS17GB69V25P
32	6,9 gRB 17P32	H220991	BS17GB69V32P
35	6,9 gRB 17P35	J220992	BS17GB69V35P
40	6,9 gRB 17P40	K220993	BS17GB69V40P
45	6,9 gRB 17P45	L220994	BS17GB69V45P
50	6,9 gRB 17P50	M220995	BS17GB69V50P
55	6,9 gRB 17P55	N220996	BS17GB69V55P
63	6,9 gRB 17P63	P220997	BS17GB69V63P
75	6,9 gRB 17P75	Q220998	BS17GB69V75P
80	6,9 gRB 17P80	R220999	BS17GB69V80P
90	6,9 gRB 17P90	S221000	BS17GB69V90P
100	6,9 URB 17P100	T221001	BS17UB69V100P



Semiconductor (AC) fuses

**Other Protistor® Fuses
BS88-4 Fuses
17x49 gRB/URB - 690 VAC**

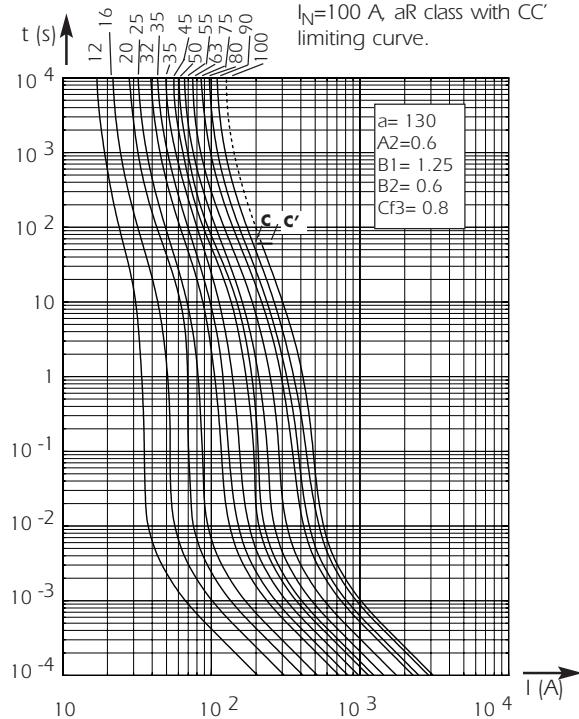
Total clearing I^2t



Above: Horizontal curves show for each rated current maximum values of total clearing I^2t (I^2t_t) as a function of prospective current I_p , @ 690 V.
 $\cos \varphi = 0.15$.

Oblique lines indicate total clearing duration T_t and associated pre-arc duration in brackets.

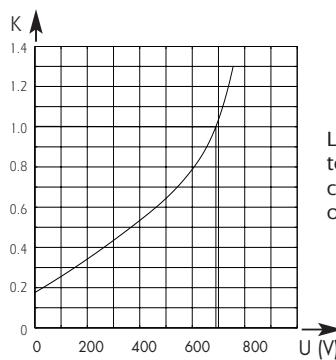
Time vs current characteristics



Tolerance for mean pre-arc current $\pm 9\%$.

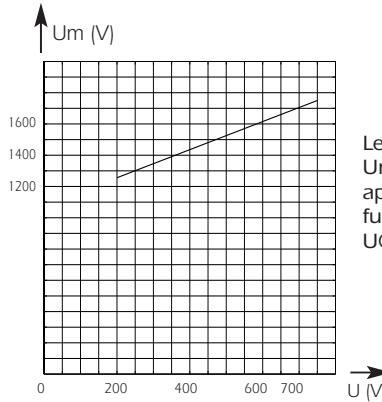
Above: Curves indicate, for each rated current, pre-arc time vs. R.M.S. pre-arc current

I^2t corrective factor



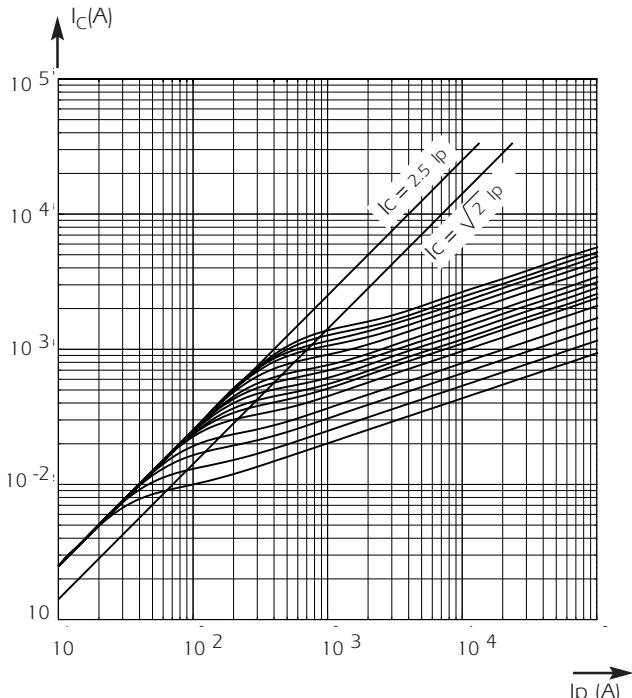
Left: Curve shows variation of total clearing time (I^2t_t) and total clearing duration T_t as a function of operating voltage U .

Peak arc voltage



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

Current limitation curves



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

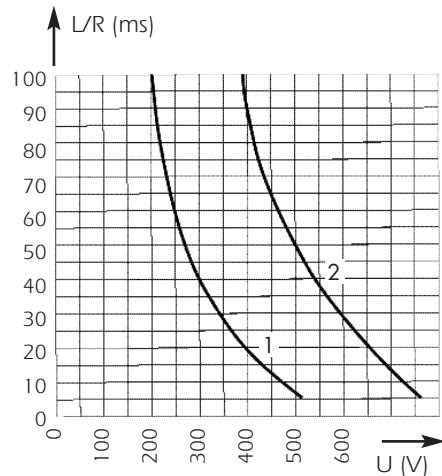
Semiconductor fuses

Other Protistor® Fuses

BS88-4 Fuses

17x49 gRB/URB - 690 VAC

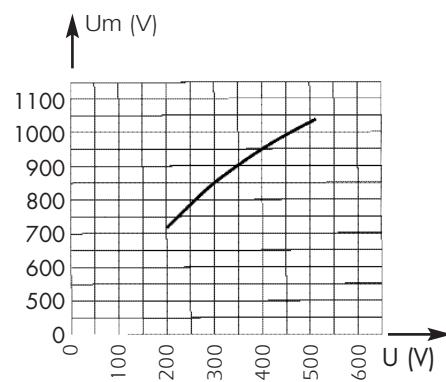
DC Application data



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

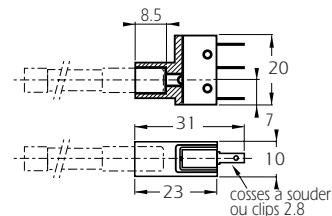
Curve 1: $I_p \geq 1,6 I_N$ only for fuses gRB (current rating from 12 to 50 A)

Curve 2: $I_p \geq 8 I_N$ for fuses gRB et URB



Curve indicates peak arc voltage U_m which may appear across the fuse terminals at working voltage U .

Microswitch



Designation	Ref. Num.	Weight	Pack.
MC 6,3 GR 2.5	Y 310015	10 g	3 pieces

Electrical characteristics:

$I_N = 3 A - U_N = 250 VAC$

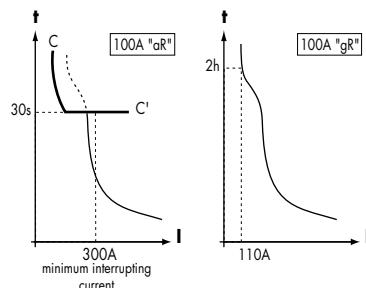
$I_N = 2 A - U_N = 30 VDC$

Certain minimum operating voltage/current
20 V-100 mA

NEW gR-CLASS

OPTIMAL PROTECTION OF POWER EQUIPMENT

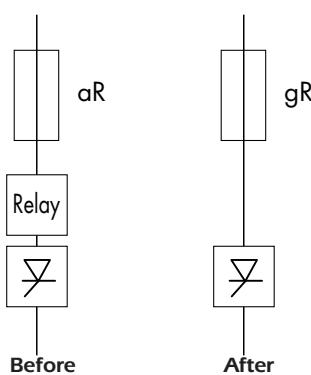
Thanks to recent technological developments, Ferraz Shawmut today markets gR-class PROTISTOR® fuses capable of clearing all types of overloads, from low multiples of current ratings up to very high short-circuit currents. Enhanced performance enables these fuses to provide solutions to many previously unsolved problems in power electronics: protection of cables without the use of additional components, protection of equipment from fire hazards, selective coordination of different fuses within a single power distribution installation...



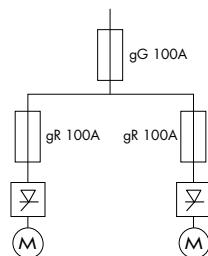
Example:
100A aR vs. 100A gR

SELECTIVE COORDINATION

gR-class semiconductor fuses can be utilized in association with gI and gG-class low voltage power distribution fuses of the same current rating, installed upstream. In a "selectively coordinated" distribution installation, melting is limited to the fuse associated with the faulted circuit, while upstream fuses remain intact. This prevents unnecessary down-time due to power blackouts in non-faulted branches.



Example of
selective
coordination



aR-CLASS vs. gR-CLASS

aR-class fuses feature a high minimum interrupting current as compared with their current rating. The primary time-current characteristic of aR-class fuses is the CC' curve, above which another protection device must be associated. The gR-class fuse represents considerably improved performance in semiconductor protection.

FERRAZ SHAWMUT EXPERTISE

gR-class fuses should be used in the design of low voltage equipment and in the protection of power electronics equipment. Designers can often substitute a gR-class fuse for an aR-class fuse (10x38, 14x51, 22x58, PSC 000 and 17x49 DIN80 or BS 88-4) but the reverse is not true: an aR fuse can never replace a gR fuse. Start protecting your new equipment with gR-class fuses today. The application of gR class fuses, with current ratings less than 100 Amps, offers enhanced protection, safety and reliability, along with reduced risk of replacement errors and assembly costs.



Semiconductor (AC) fuses

Other Protistor® Fuses

BS88-4 Fuses

Microswitches for BS88-4 Protistor®

MICROSWITCH SYSTEMS ADAPTED

TO THE FOLLOWING FUSES:

- BS88 - 4 separated trip-indicator
- BS88 - 4 built-in trip-indicator

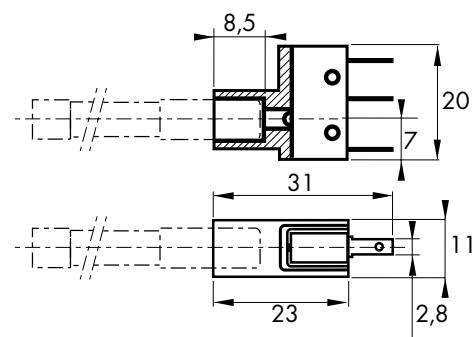
Main Characteristics

Code	AC Insulation voltage rating (***)	Positive operating voltage/current	Current rating	Current	Interrupting rating								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											
MC 6,3 GR 2-5 N	1000 V	20 V	5 A	50/60 Hz	-	5 A	0,3 A	-	3 A	2 A	3.5 kV	-	H.B.	-	-	
		100 mA		DC	4 A	0.4 A	-	3 A	0.4 A	-						
MC 36 GR 2-5	1000 V	20 V	5 A	50/60 Hz	-	5 A	5 A	-	5 A	5 A	7.5 kV	-	H.B.	-	-	
		100 mA		DC	4 A	0.4 A	-	2 A	0.4 A	-						

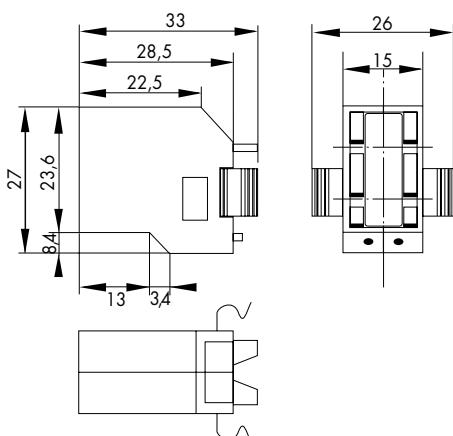
* Between power circuit and microswitch terminals as per IEC 60 and 694 (50/60 Hz 1 min duration in dry air)

** Between power circuit and microswitch terminals Uimp: impulse voltage as per IEC 947-1

*** Between power circuit and microswitch terminals



Catalog Number	Ref. Number	Weight (g)	Pack.
MC 6,3 GR 2-5 N (for separate trip-indicator)	Y 310015	10	3



Catalog Number	Ref. Number	Weight (g)	Pack.
MC 36 GR 2-5 (for built-in trip-indicator)	P 092496	10	3