



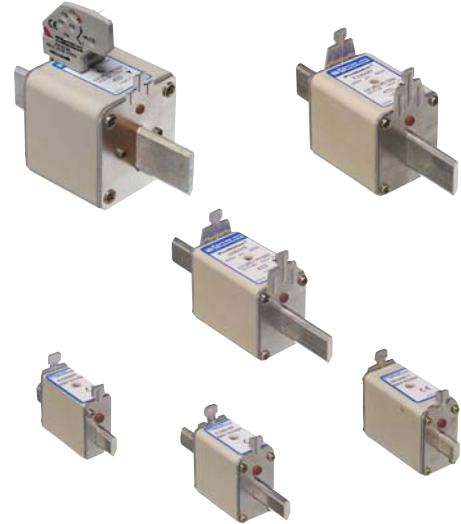
## Protistor® Square-body Fuses NH Plain Blades - 690 VAC gR - 690 VAC sizes 000 to 3 (full range)

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 semiconductor 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 and 4 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 withstanding 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 <sup>2</sup> t @ 1ms (A <sup>2</sup> s)	Total I <sup>2</sup> t @ 690 V kA <sup>2</sup> s	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				
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<sup>2</sup>t and total operating time  
 Other curves  
 Fuse holder derating

} Consult us

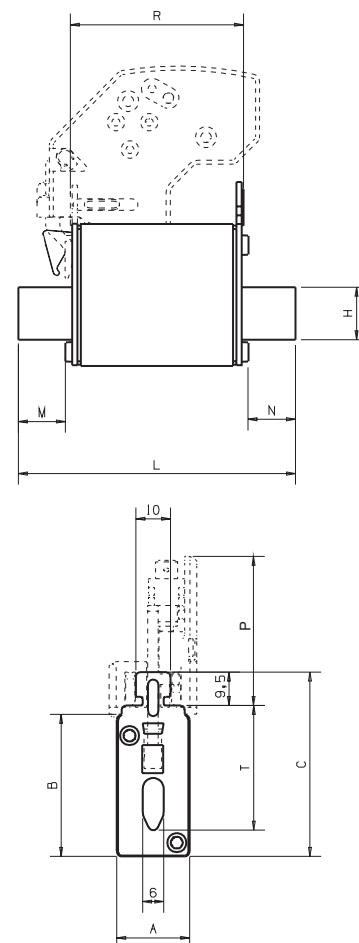


## Protistor® Square-body Fuses NH Plain Blades - 690 VAC gR - 690 VAC sizes 000 to 3 (full range)

Voltage	Size	Type	Rating In (A)	Pre-Arcing I <sup>2</sup> t @ 1ms (A <sup>2</sup> s)	Total I <sup>2</sup> t @ 690 V kA <sup>2</sup> s	Pn: Power losses (W) PV 43620 0,8In	Breaking capacities @ Un (kA)
690 V	16	gRB	63				
		gRB	80				
		gRB	100				
		gRB	125				
		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		
	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 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)

Microswitches supplied separately

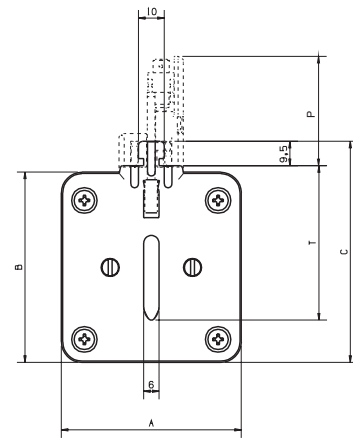
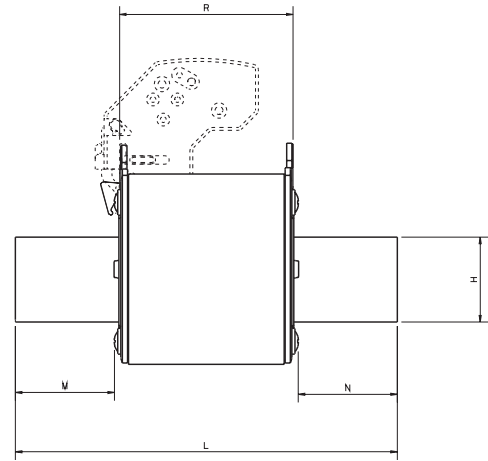
Size	A	B	C	H	L	M	N	P	R	T
000	20,8	40,5	52,5	15	79	13,5	13,5	43,4	49,5	35
	0.82"	1.59"	2.07"	0.59"	3.11"	0.53"	0.53"	1.71"	1.95"	1.38"
00	29,5	47,5	59,5	15	79	13,1	13,1	43,4	50	35
	1.16"	1.87"	2.34"	0.59"	3.11"	0.52"	0.52"	1.71"	1.97"	1.38"
0	29,5	47,5	59,5	15	125	29,1	29,1	43,4	66	35
	1.16"	1.87"	2.34"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

Fuse holder solution, see gear and Fuse gear section



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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		
		Extraction puller	P215592		NHHANDLE
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	O322589	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 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)

Microswitches supplied separately

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	R216192	T218241	A223008	E211075	X213644
		2	F218758	G218759	G200796	V211595	B214154
		3	V219277	W219278	Y201340	D212109	F214664
		4	Z223007	H222486	H201855	R212627	K215174
	Unprotected (4) screw connection for holes or bar terminals for panels	1	F215170	N216695	E218757	F201853	W213643
		2	A217212	B217213	F222484	S211593	D214662
		3	F217723	G217724	Y223006	B212107	H215172
		4	S219275	R218239	X201339	C213143	L215681
	Finger Safe Protected screw connection for hole and bar terminals for DIN rail	1	S218240	G226717	P226724	R226726	T226728
		3	G222485	J226719A	Q226725	S226727	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				O210832 + Y210770 (3)	
	ITC 630 III complete(5)	3					P210831 + Y210770 (3) W229674 + Y210770 (3)
ITC 800 III complete(5)	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



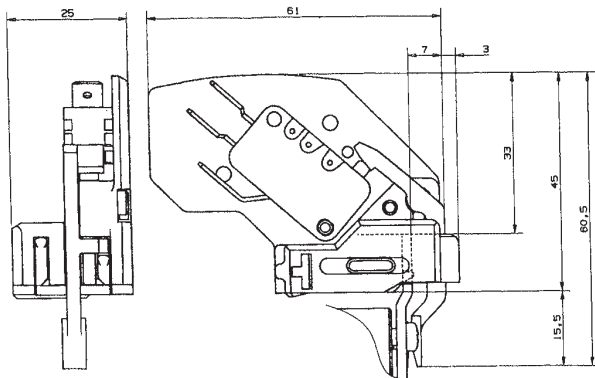
### Main Characteristics

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			
MS 4L 2-5 B2 + Pres	1000 V	20 V 100 mA	5 A	50 Hz DC	4A -	4A -	5A -	- -	5A 2 A	5 A 0,4 A	12 kV 8 kV	16 kV 13 kV	V0
MS 4L 2-5 B6 + Pres	1000 V	20 V 50 mA	10 A	50/60 Hz DC	10 A 8 A	10 A 0,4 A	10 A 0,2 A	10 A 4 A	10 A 0,2 A	10 A 0,1 A	8 kV	10 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

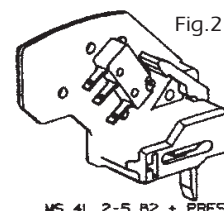
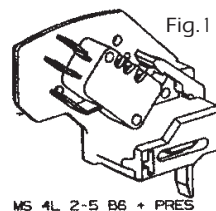
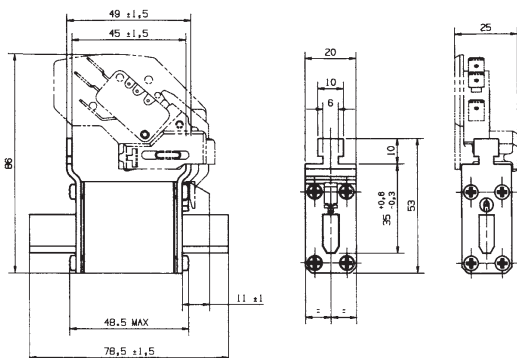
\*\*\* Between power circuit and microswitch terminals



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)



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