

NH Square body fuses – Sizes 000 to 3X 500-700VAC

January 2014 – Issue 2

The IXYS UK range of 700V/690V protistor fuse links provides maximum flexibility in equipment design and ultimate protection for today's power conversion equipment. These NH style fuse links are defined as per DIN 43620/00 for a worldwide acceptance into NH modular system fuse holders, fuse switch disconnectors for direct installation.

These protistors have been designed to provide state-of-the-art protection for all IXYS UK high power semiconductors; diodes, thyristors, GTO's and IGBT devices. These fuses are assembled with pure silver, die-cut elements embedded in solidified sand, which helps control arcing characteristics for a lower I^2t and high interrupting rate level. All contact surfaces are silver plated and all hardware is non-magnetic

Each fuse link can be equipped with a low voltage trip indicator which can operate a field mountable microswitch.



Features and Benefits

- Ultra-fast acting
- Current limiting
- Very low I^2t for improved semiconductor protection
- Superior cycling capability
- Multiple body sizes and blade combinations
- aR class according to VDE 636-23 and IEC 60269-4

Applications

Protection of inverters, UPS systems, motor drives and similar equipment rated at 700V/690V AC or less

Approvals

- UL/CSA recognised component
- AC: UL guide no. E76491
- IEC 60269-4 compliance
- RoHS compliant



Nomenclature

The IXYS UK range of 690V/700V protistor fuse links with blade terminals consists of five different body styles and the following nomenclature details the breakdown of each type

1	2	3	4	5	6
069	NH	3	K	0800	F
Rated voltage ÷ 10	Type and standard	Size	Fixing dimension	RMS current rating	Indicator type

Type and Standard Information

NH – NH German standard, knife blade contacts

Body Size

C – Size 000

D – Size 00

0 – 30

1 – 31

2 – 32

3 – 33

Fixing Dimension

K – Knife blade

Indicator Type

F – Flap type

Example

069NH3K0800F is – 700V/690VAC (RMS), NH German standard, size 33, knife bladed, 800A nominal RMS current with flap type indicator

Size 000 (C) fuses – Part numbers

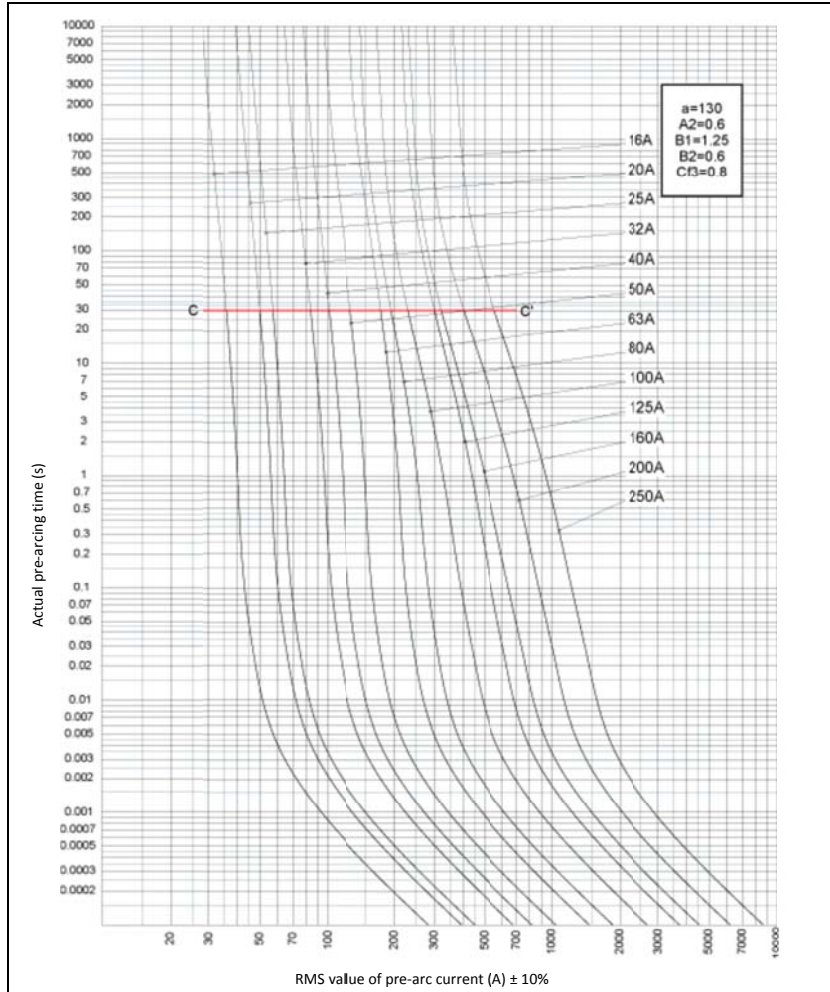
Weight – 135g Max.

Rated Voltage (UL/IEC) V	Nominal Current A	Class	Part Number
700/690	16	aR (URD)	069NHCK0016F
700/690	20	aR (URD)	069NHCK0020F
700/690	25	aR (URD)	069NHCK0025F
700/690	32	aR (URD)	069NHCK0032F
700/690	40	aR (URD)	069NHCK0040F
700/690	50	aR (URD)	069NHCK0050F
700/690	63	aR (URD)	069NHCK0063F
700/690	80	aR (URD)	069NHCK0080F
700/690	100	aR (URD)	069NHCK0100F
700/690	125	aR (URD)	069NHCK0125F
700/690	160	aR (URD)	069NHCK0160F
700/690	200	aR (URD)	069NHCK0200F
700/690	250	aR (URD)	069NHCK0250F
550/500	315	aR (URD)	050NHCK0315F

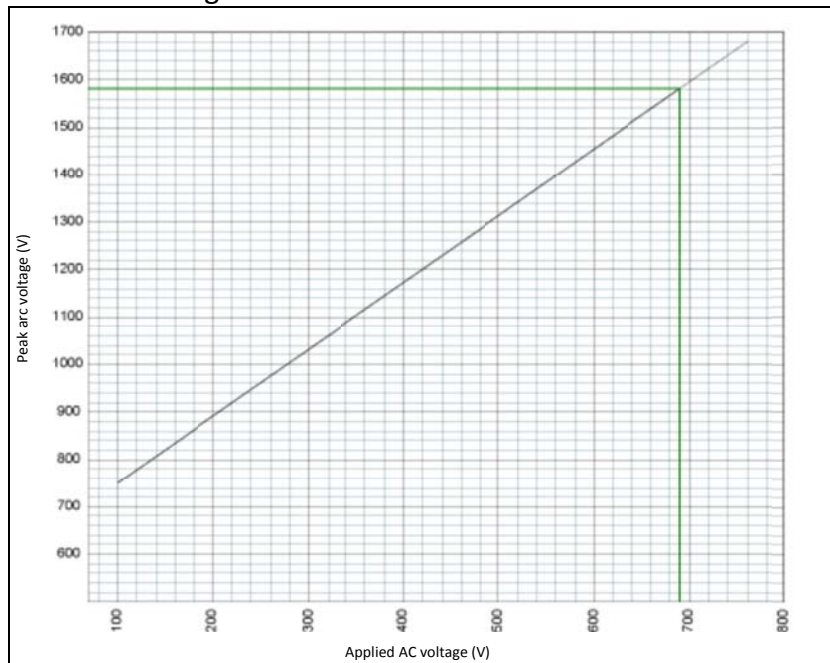
Rating and curves

Rated Voltage (UL/IEC) V	Nominal Current A	Class	Pre-arcing I ² t A ² s	Clearing I ² t @ rated voltage A ² s	Watts loss @ 100% In W	Breaking capacity @ rated voltage kA
700/690	16	aR (URD)	10	48	1	80
700/690	20		15	90	1.5	
700/690	25		22	130	2	
700/690	32		45	270	2.5	
700/690	40		69	400	4	
700/690	50		107	630	5	
700/690	63		220	1300	6	
700/690	80		350	2000	8	
700/690	100		720	4300	9.5	
700/690	125		1400	8200	10.5	
700/690	160		2100	12200	15	
700/690	200		3900	22700	18	
700/690	250		7600	44400	22	
550/500	315		15400	90700	30	

Time/Current characteristics



Peak arc voltage



Size 00 (D) fuses – Part numbers

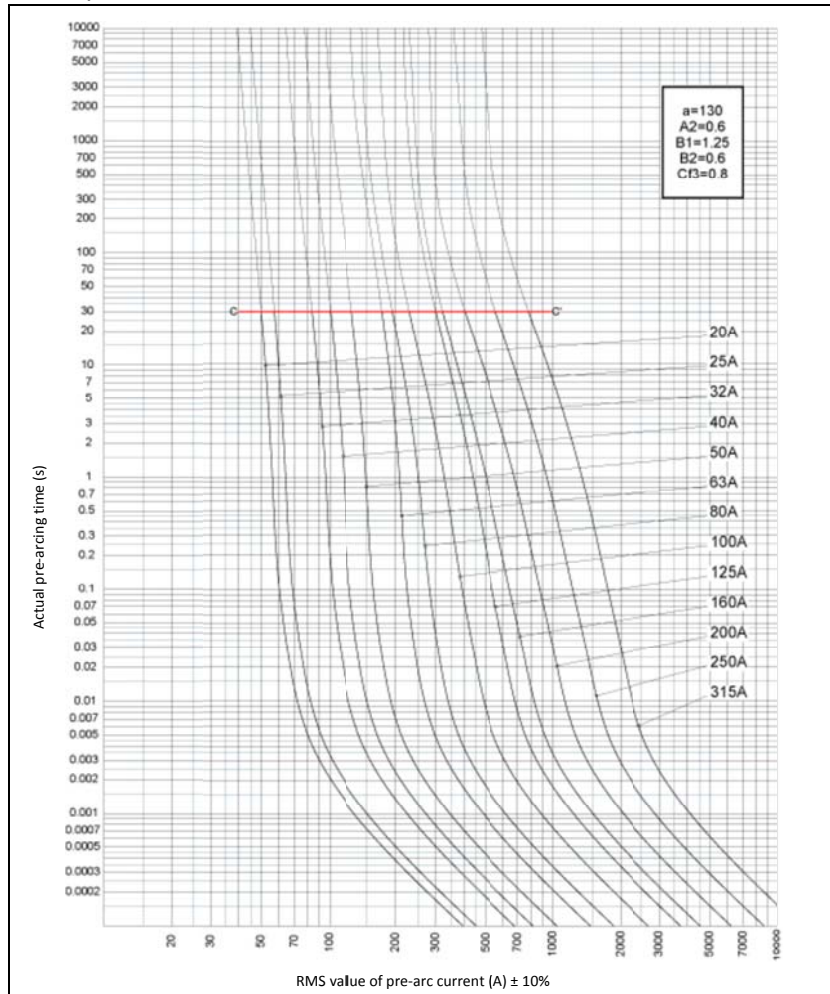
Weight – 200g Max.

Rated Voltage (UL/IEC) V	Nominal Current A	Class	Part Number
700/690	20	aR (URD)	069NHDK0020F
700/690	25	aR (URD)	069NHDK0025F
700/690	32	aR (URD)	069NHDK0032F
700/690	40	aR (URD)	069NHDK0040F
700/690	50	aR (URD)	069NHDK0050F
700/690	63	aR (URD)	069NHDK0063F
700/690	80	aR (URD)	069NHDK0080F
700/690	100	aR (URD)	069NHDK0100F
700/690	125	aR (URD)	069NHDK0125F
700/690	160	aR (URD)	069NHDK0160F
700/690	200	aR (URD)	069NHDK0200F
700/690	250	aR (URD)	069NHDK0250F
700/690	315	aR (URD)	069NHDK0315F

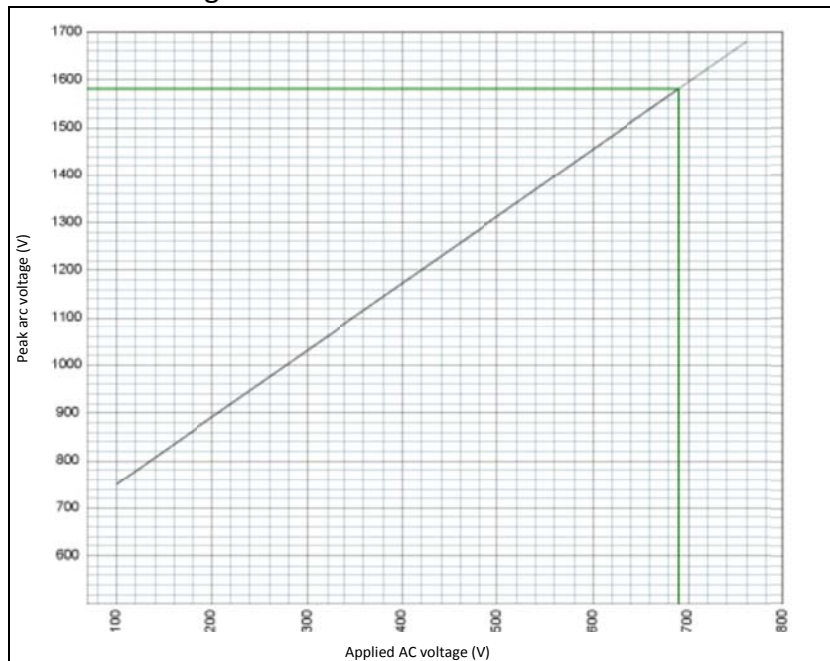
Rating and curves

Rated Voltage (UL/IEC) V	Nominal Current A	Class	Pre-arcing I ² t A ² s	Clearing I ² t @ rated voltage A ² s	Watts loss @ 100% In W	Breaking capacity @ rated voltage kA
700/690	20	aR (URD)	15	90	1.5	170
700/690	25		22	130	2	
700/690	32		45	270	2.5	
700/690	40		69	400	4	
700/690	50		110	630	5	
700/690	63		220	1300	6	
700/690	80		350	2000	8	
700/690	100		720	4300	8.5	
700/690	125		1390	8200	10	
700/690	160		2100	12200	14	
700/690	200		3900	22700	17	
700/690	250		7600	44400	20	
700/690	315		15400	90700	29	

Time/Current characteristics



Peak arc voltage



Size 30 (0) fuses – Part numbers

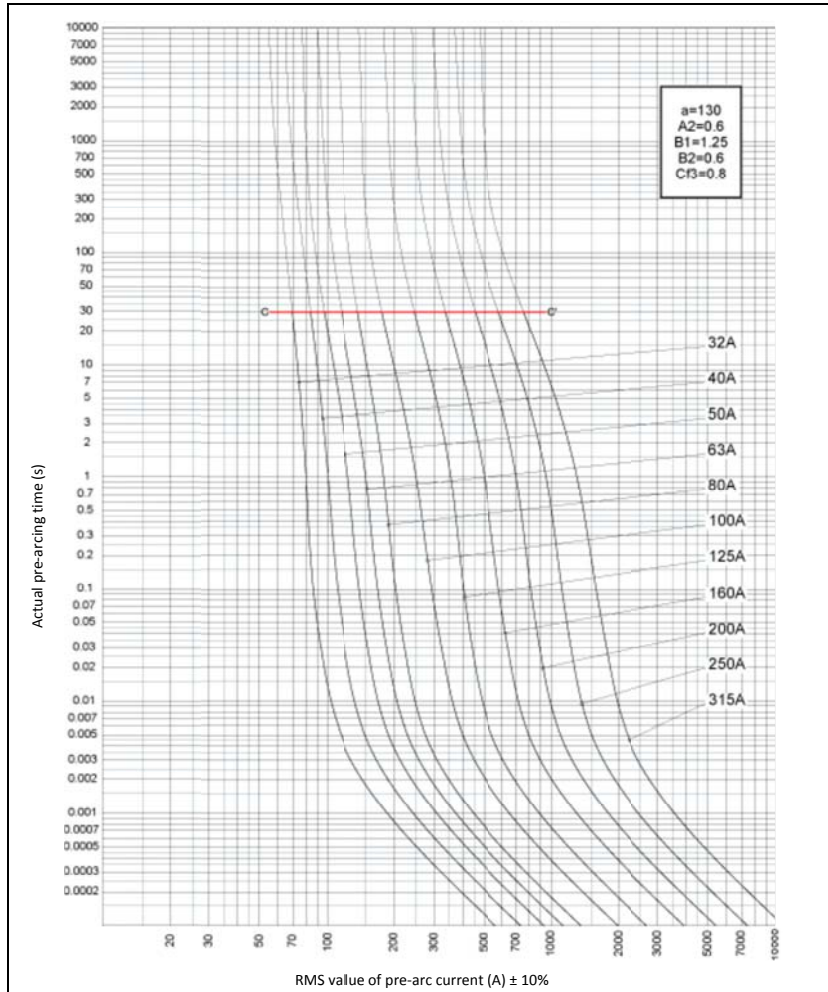
Weight – 250g Max.

Rated Voltage (UL/IEC) V	Nominal Current A	Class	Part Number
700/690	32	aR (URD)	069NH0K0032F
700/690	40	aR (URD)	069NH0K0040F
700/690	50	aR (URD)	069NH0K0050F
700/690	63	aR (URD)	069NH0K0063F
700/690	80	aR (URD)	069NH0K0080F
700/690	100	aR (URD)	069NH0K0100F
700/690	125	aR (URD)	069NH0K0125F
700/690	160	aR (URD)	069NH0K0160F
700/690	200	aR (URD)	069NH0K0200F
700/690	250	aR (URD)	069NH0K0250F
550/500	315	aR (URD)	050NH0K0315F

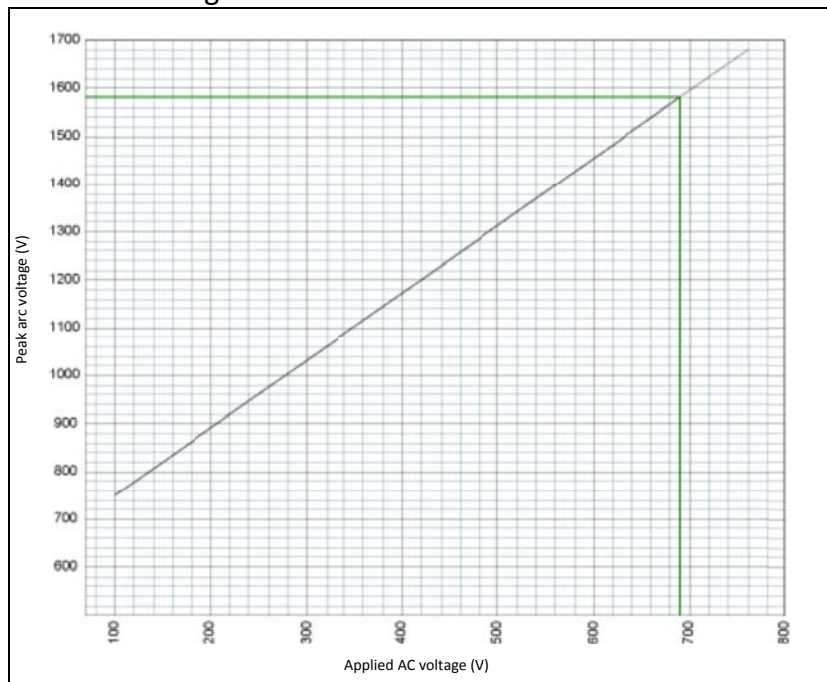
Rating and curves

Rated Voltage (IEC/UL) V	Nominal Current A	Class	Pre-arcing I ² t A ² s	Clearing I ² t @ rated voltage A ² s	Watts loss @ 100% In W	Breaking capacity @ rated voltage kA
700/690	32	aR (URD)	32	170	9.5	170
700/690	40		53	280	10	
700/690	50		87	470	10.5	
700/690	63		130	700	11.5	
700/690	80		180	970	12.5	
700/690	100		390	2080	15	
700/690	125		720	3890	18	
700/690	160		1550	8320	22	
700/690	200		2950	15900	27	
700/690	250		5560	29900	33	
700/690	315		11600	62300	40	

Time/Current characteristics



Peak arc voltage



Size 31 (1) fuses – Part numbers

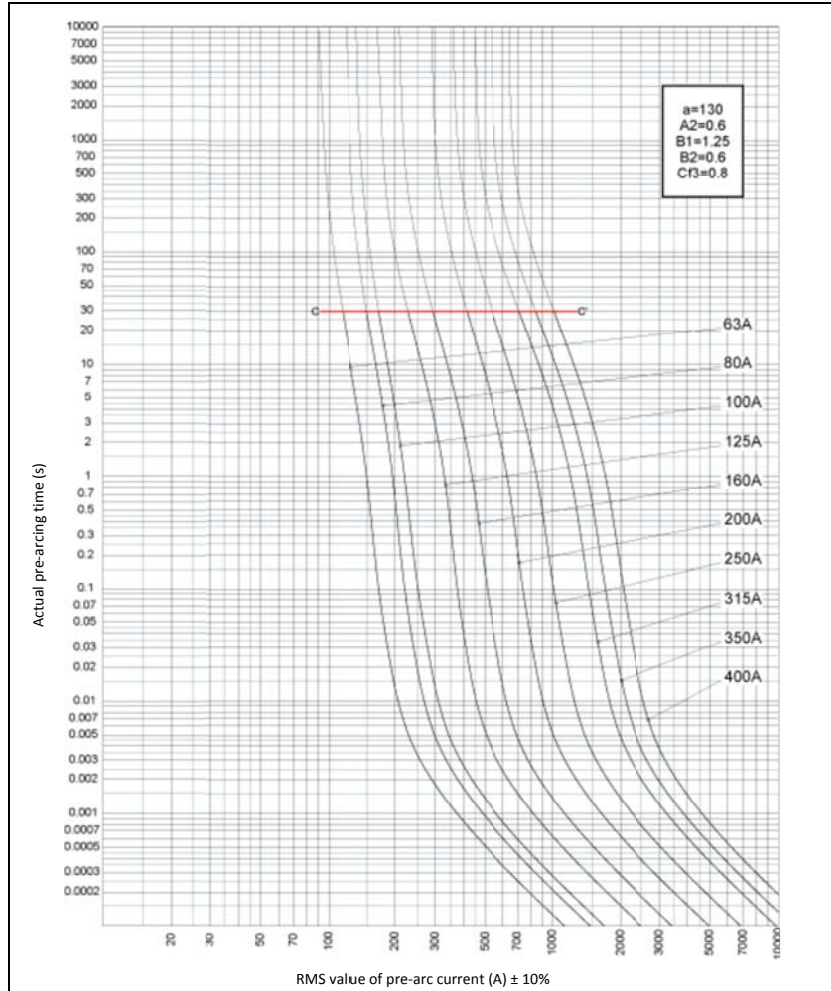
Weight – 430g Max.

Rated Voltage (UL/IEC) V	Nominal Current A	Class	Part Number
700/690	63	aR (URD)	069NH1K0063F
700/690	80	aR (URD)	069NH1K0080F
700/690	100	aR (URD)	069NH1K0100F
700/690	125	aR (URD)	069NH1K0125F
700/690	160	aR (URD)	069NH1K0160F
700/690	200	aR (URD)	069NH1K0200F
700/690	250	aR (URD)	069NH1K0250F
700/690	315	aR (URD)	050NH1K0315F
700/690	350	aR (URD)	069NH1K0350F
700/690	400	aR (URD)	069NH1K0400F

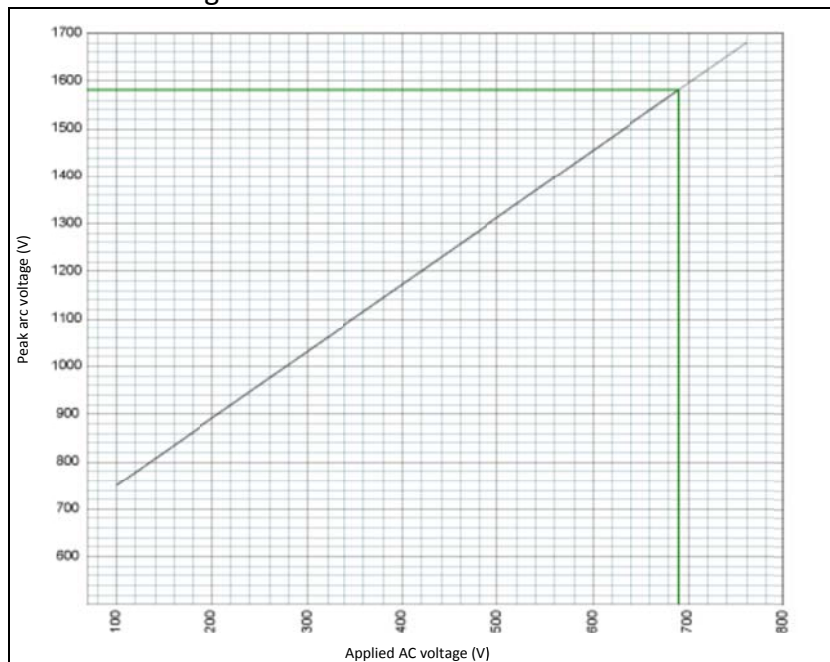
Rating and curves

Rated Voltage (UL/IEC) V	Nominal Current A	Class	Pre-arcing I ² t A ² s	Clearing I ² t @ rated voltage A ² s	Watts loss @ 100% In W	Breaking capacity @ rated voltage kA
700/690	63	aR (URD)	130	700	18	170
700/690	80		220	1170	21.5	
700/690	100		290	1570	23	
700/690	125		620	3320	26	
700/690	160		1170	6270	29	
700/690	200		2470	13300	33	
700/690	250		4670	25100	37	
700/690	315		9570	51400	42	
700/690	350		13400	72300	44	
700/690	400		19500	105000	48	

Time/Current characteristics



Peak arc voltage



Size 32 (2) fuses – Part numbers

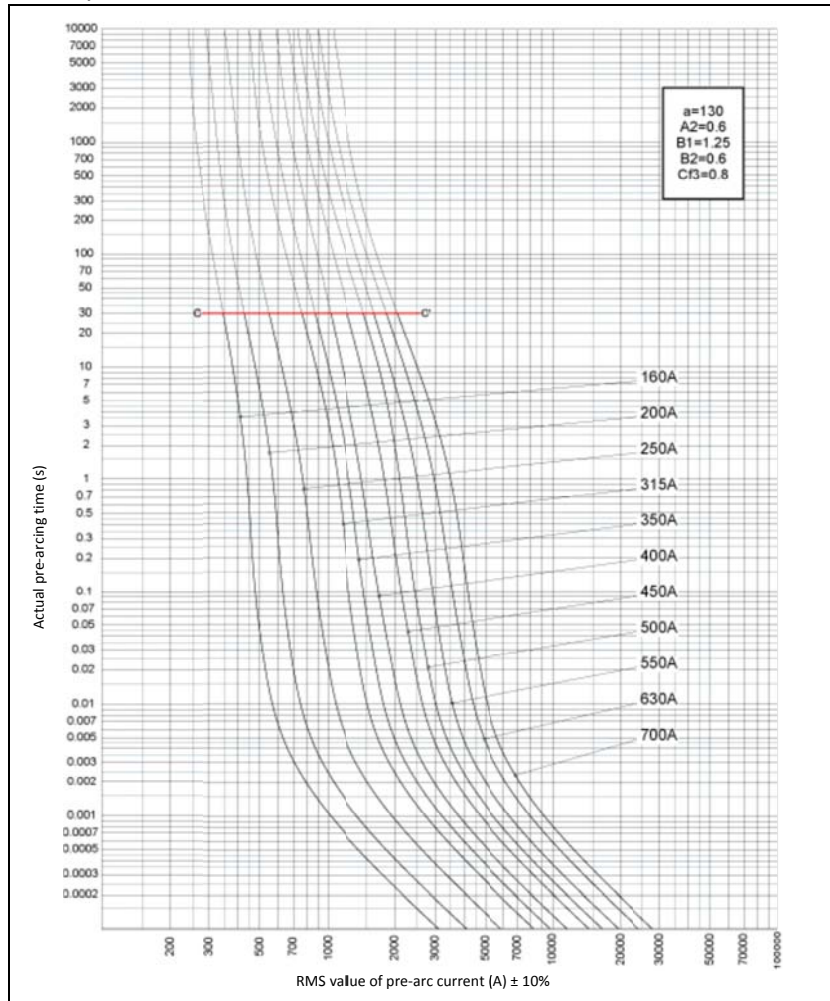
Weight – 430g Max.

Rated Voltage (UL/IEC) V	Nominal Current A	Class	Part Number
700/690	160	aR (URD)	069NH2K0160F
700/690	200	aR (URD)	069NH2K0200F
700/690	250	aR (URD)	069NH2K0250F
700/690	315	aR (URD)	050NH2K0315F
700/690	350	aR (URD)	069NH2K0350F
700/690	400	aR (URD)	069NH2K0400F
700/690	450	aR (URD)	069NH2K0450F
700/690	500	aR (URD)	069NH2K0500F
700/690	550	aR (URD)	069NH2K0550F
700/690	630	aR (URD)	069NH2K0630F
700/690	700	aR (URD)	069NH2K0700F

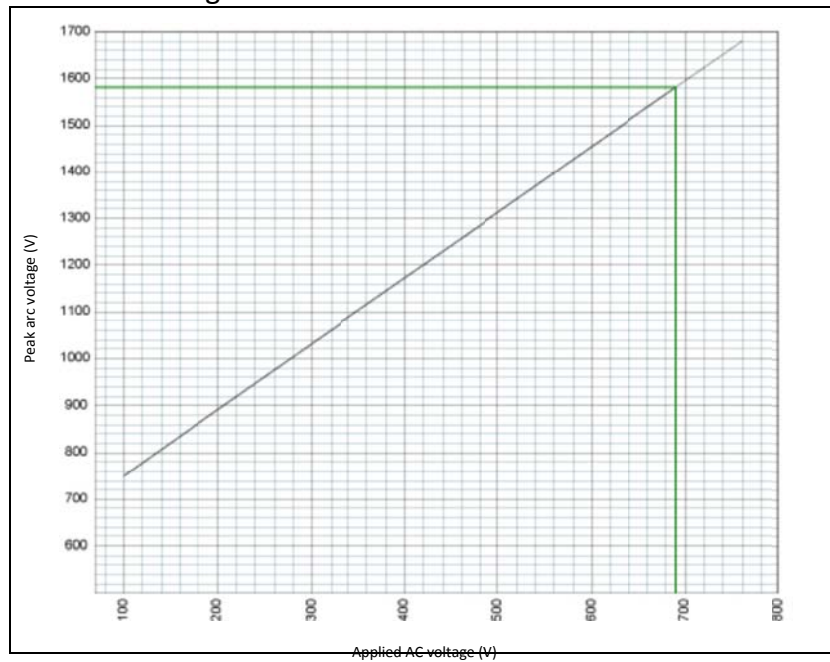
Rating and curves

Rated Voltage (UL/IEC) V	Nominal Current A	Class	Pre-arcing I ² t A ² s	Clearing I ² t @ rated voltage A ² s	Watts loss @ 100% In W	Breaking capacity @ rated voltage kA
700/690	160	aR (URD)	960	5180	38	170
700/690	200		1710	9220	42	
700/690	250		3480	18700	46.5	
700/690	315		6860	36900	54	
700/690	350		9570	51400	58	
700/690	400		13400	72300	62.5	
700/690	450		21000	113000	69	
700/690	500		27400	147000	73	
700/690	550		38300	206000	78	
700/690	630		58700	315000	85	
700/690	700		78100	420000	87	

Time/Current characteristics



Peak arc voltage



Size 33 (3) fuses – Part numbers

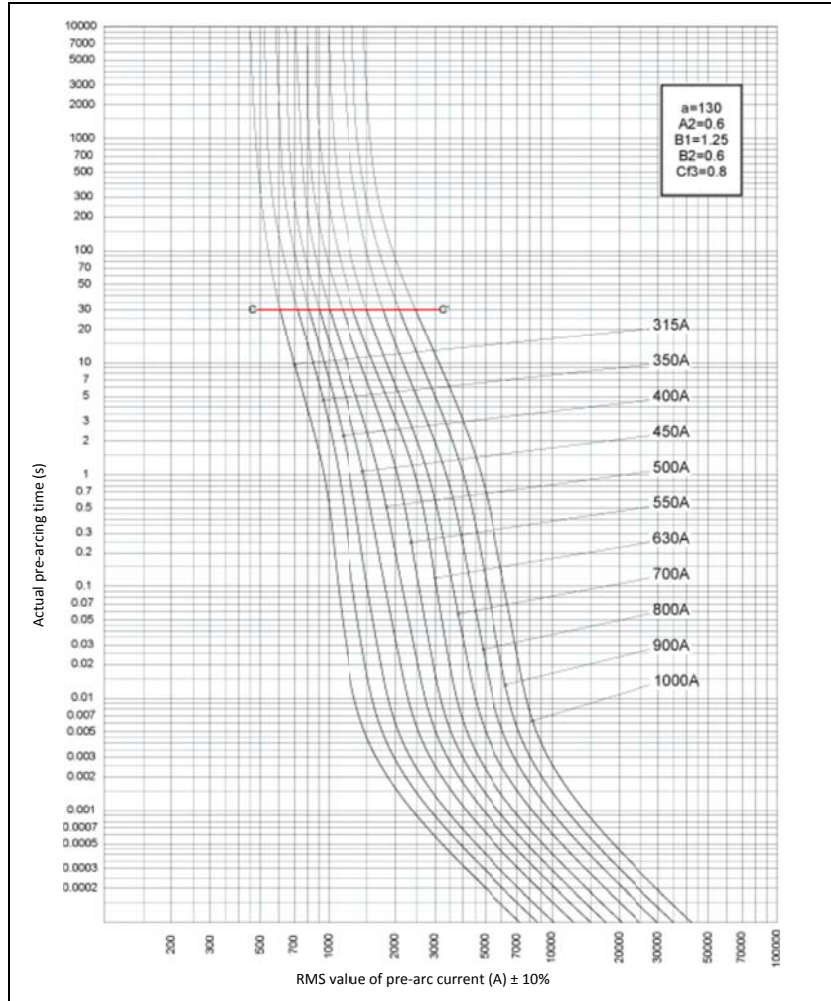
Weight – 750g Max.

Rated Voltage (UL/IEC) V	Nominal Current A	Class	Part Number
700/690	315	aR (URD)	050NH3K0315F
700/690	350	aR (URD)	069NH3K0350F
700/690	400	aR (URD)	069NH3K0400F
700/690	450	aR (URD)	069NH3K0400F
700/690	500	aR (URD)	069NH3K0450F
700/690	550	aR (URD)	069NH3K0500F
700/690	630	aR (URD)	069NH3K0630F
700/690	700	aR (URD)	050NH3K0700F
700/690	800	aR (URD)	069NH3K0800F
700/690	900	aR (URD)	069NH3K0900F
700/690	1000	aR (URD)	069NH3K1000F

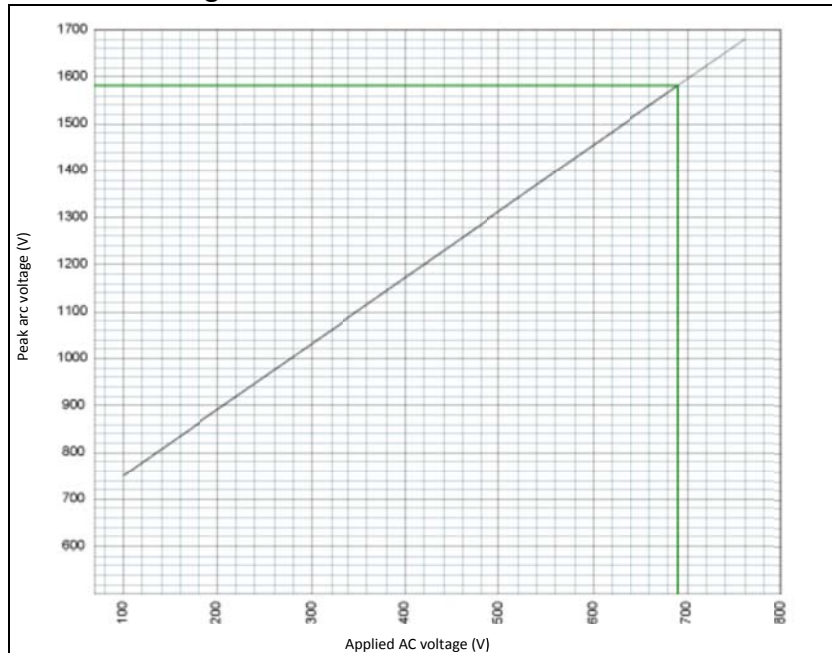
Rating and curves

Rated Voltage (UL/IEC) V	Nominal Current A	Class	Pre-arcing I ² t A ² s	Clearing I ² t @ rated voltage A ² s	Watts loss @ 100% In W	Breaking capacity @ rated voltage kA
700/690	315	aR (URD)	5251	28200	57	170
700/690	350		7562	40600	58	
700/690	400		10500	56500	65.5	
700/690	450		15700	84300	70	
700/690	500		22200	119000	75	
700/690	550		30200	163000	80	
700/690	630		42000	226000	89	
700/690	700		61700	332000	100	
700/690	800		88900	478000	112	
700/690	900		123900	666000	125	
700/690	1000		178400	959000	140	

Time/Current characteristics

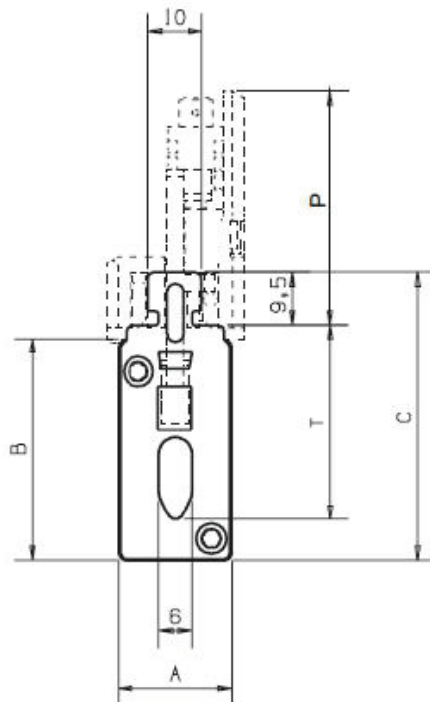
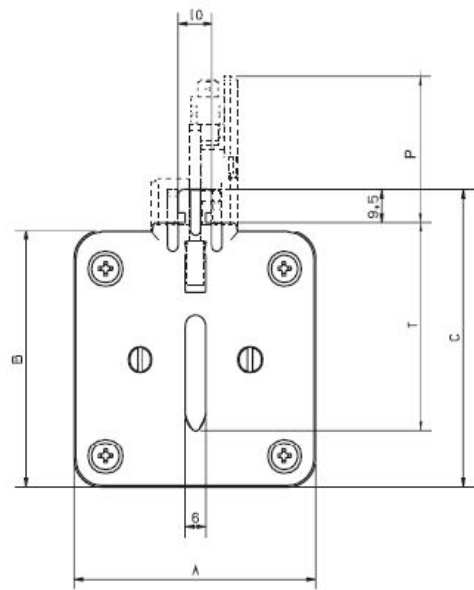
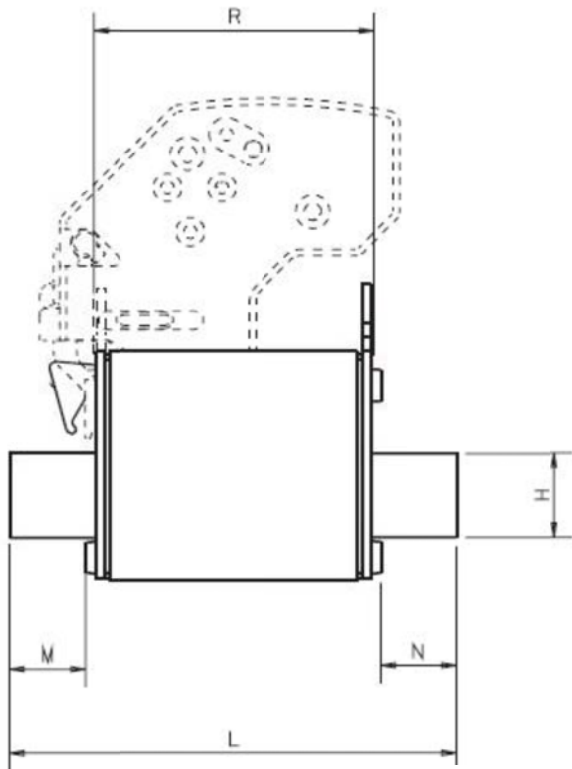


Peak arc voltage



Drawings and Dimensions

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
00	29.5	47.5	59.5	15	79	13.1	13.1	43.4	50	35
0	29.5	47.5	59.5	15	125	29.1	29.1	43.4	66	35
1	39.5	52.5	64.5	20	135	32.1	32.1	43.4	68	40
2	51	60	72	26	150	38.85	38.85	43.4	68	48
3	70	74	86	33	150	38.85	38.85	43.4	68	60



All dimensions in mm

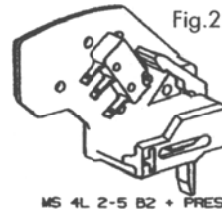
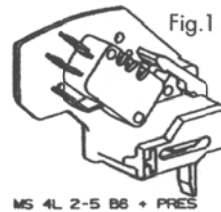
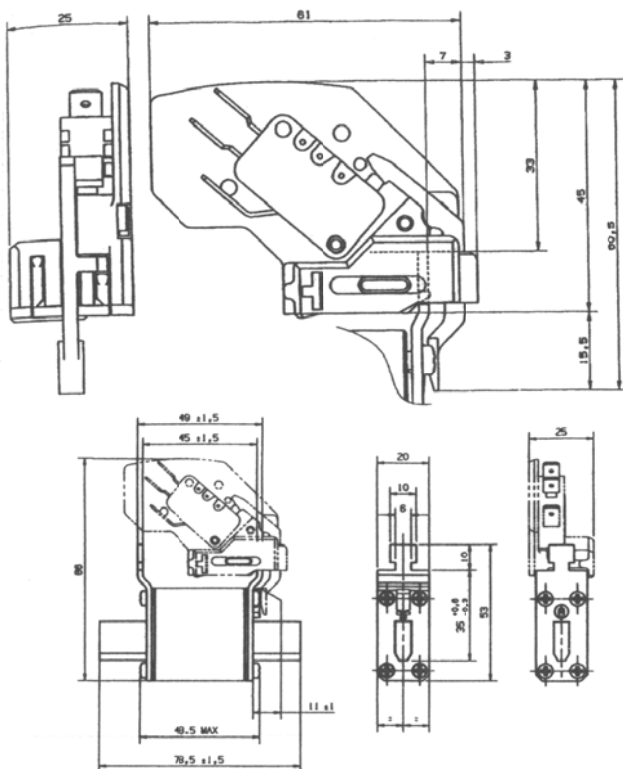
Microswitches

IXYS UK can offer a range of microswitches to suit our NH square body fuse ranges

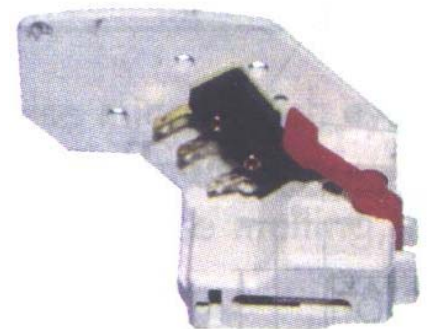
System: MS 4L 2
 Fuse sizes: 000, 00, 30, 31, 32, 33
 Indication style: MS 4L 2-5 B2 = Standard NO-NC
 MS 4L 2-5 B6 = Low Level NO-NC



Part number	AC Insulation Voltage Rating *** (V)	Positive Operating Voltage/Current (V/mA)	Current Rating (A)	Interrupting Rating (A)						AC Voltage Withstand * (kV)	Impulse Voltage test Vimp 1.2/50µs ** (kV)	Fire Class according to UL 94	
				Current (A)	Non inductive circuit			Inductive Circuit: L/R = 25ms					
					30V	110V	250V	30V	110V				250V
MS 4L 2-5 B2 + PRES	1000	20/100	5	AC 50/60Hz	4	4	5	-	5	0.4	12	16	V0
				DC	-	-	-	-	2	0.4	8	13	
MS 4L 2-5 B6 + PRES		20/50	10	AC 50/60Hz	10	10	10	10	10	10	8	10	
				DC	8	0.4	0.2	4	0.2	0.1			



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



Certificate FM26085

IXYS UK Westcode Ltd's BS EN ISO9001 quality system is registered by BSI



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