

PSC Square body fuses – Sizes 000 & 00 700/690V AC, 16A-400A aR class

October 2013 – Issue 1

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 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
- 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 or less

Approvals

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

Ratings

- 600VAC IEC 60269-4
- 700V AC UL recognised
- 500V DC UL recognition for size 000 up to 315A
- 600V DC UL recognition for size 00 up to 160A

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
070	GQ	C	A	0400	N
Rated voltage ÷ 10	Type and standard	Size	Fixing dimension	RMS current rating	Indicator type

Type and Standard Information

GQ – DIN 43 653, German standard DIN80, silicated

GT – DIN 43 653, German standard DIN80, gR characteristics, microswitch capable, non-silicated

GU – DIN 43 653, German standard DIN80, gR characteristics, microswitch capable, silicated

Body Size

C – 000

D – 00

Fixing Dimension

A – 80mm (DIN80)

Indicator Type

N – None fitted

F – Flap type

Example

070GQCA0400N is – IEC rated 690VAC/UL rated 700VAC (RMS), DIN 43-635 German standard DIN80 square body, size000, 80mm fixing,4 nominal RMS current with no indication

Size 000 fuses – Part numbers

Weight – 130g Max.

GQCA fuses

Rated Voltage (UL/IEC) V	Nominal Current A	Class	Part Number (No indicator)	Part Number (Flap indicator)
700/690	80	aR	070GQCA0080N	070GQCA0080F
700/690	100	aR	070GQCA0100N	070GQCA0100F
700/690	125	aR	070GQCA0125N	070GQCA0125F
700/690	160	aR	070GQCA0160N	070GQCA0160F
700/690	200	aR	070GQCA0200N	070GQCA0200F
700/690	250	aR	070GQCA0250N	070GQCA0250F
700/690	315	aR	070GQCA0315N	070GQCA0315F
700/690	350	aR	070GQCA0350N	070GQCA0350F
700/690	400	aR	070GQCA0400N	070GQCA0400F

GTCA fuses

Rated Voltage (UL/IEC) V	Nominal Current A	Class	Part Number (No indicator)
700/690	80	aR	070GTCA0080F
700/690	100	aR	070GTCA0100F
700/690	125	aR	070GTCA0125F
700/690	160	aR	070GTCA0160F
700/690	200	aR	070GTCA0200F
700/690	250	aR	070GTCA0250F
700/690	315	aR	070GTCA0315F
700/690	350	aR	070GTCA0350F
700/690	400	aR	070GTCA0400F

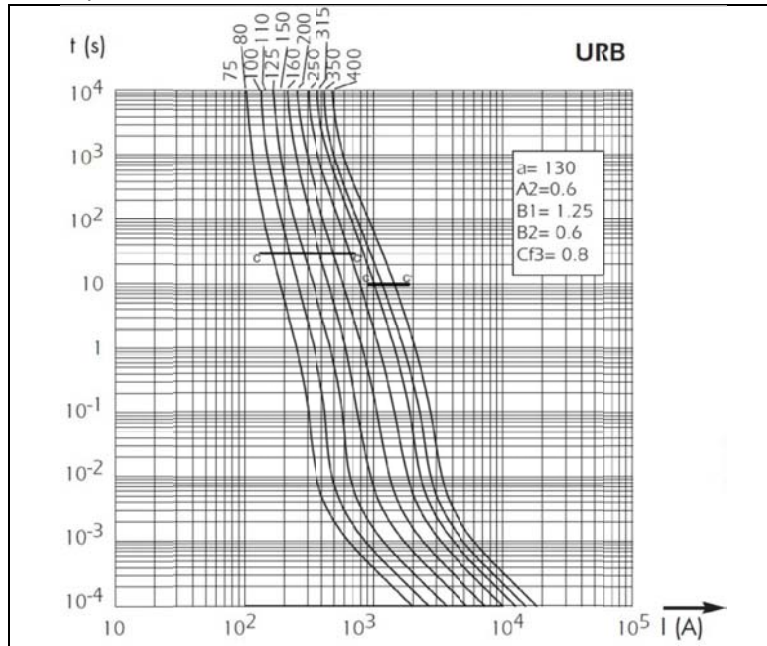
Size 000 fuses – Rating and curves

Rated Voltage (UL/IEC) V	Nominal Current A	Class	Pre-arcing I ² t A ² s	Clearing I ² t A ² s	Watts loss @ 100% In W	Breaking capacity @ rated voltage kA
700/690	80	aR	390	2500*	21	200
700/690	100	aR	690	4200*	23	
700/690	125	aR	1300	8900*	26	
700/690	160	aR	2700	16000*	31	
700/690	200	aR	5250	31500*	36	
700/690	250	aR	9900	52000*	45	
700/690	315	aR	15500	82000*	58	
700/690	350	aR	22400	110000**	58	120
700/690	400	aR	33200	160000**	66	

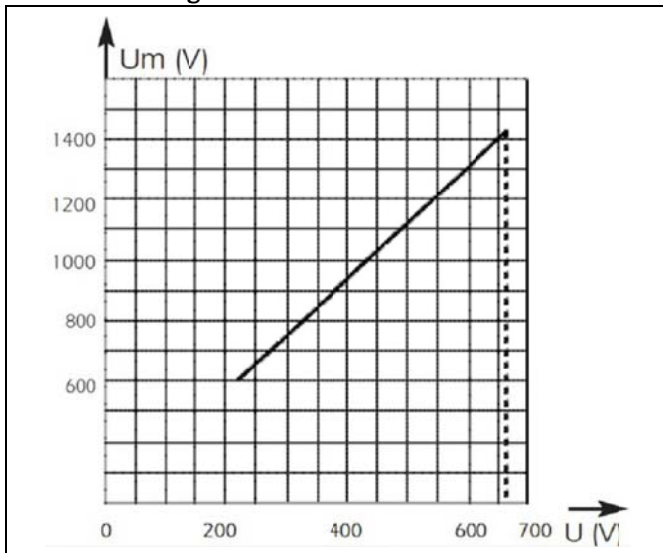
* - Total clearing I²t @ 660V

** - Total clearing I²t @ 500V

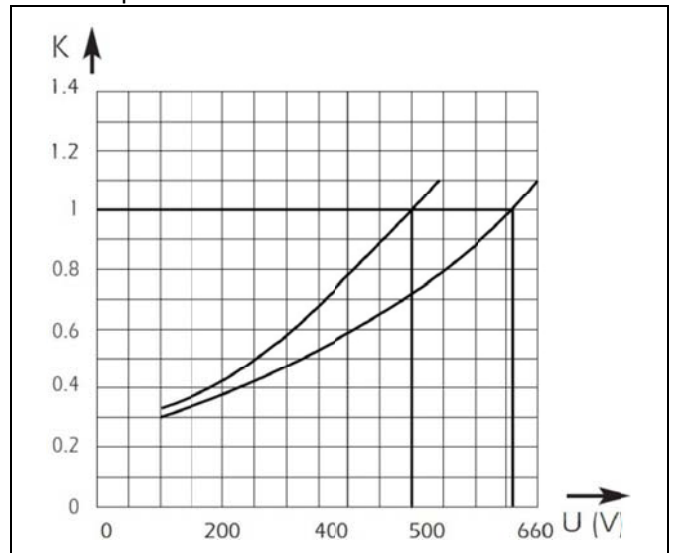
Time/Current characteristics



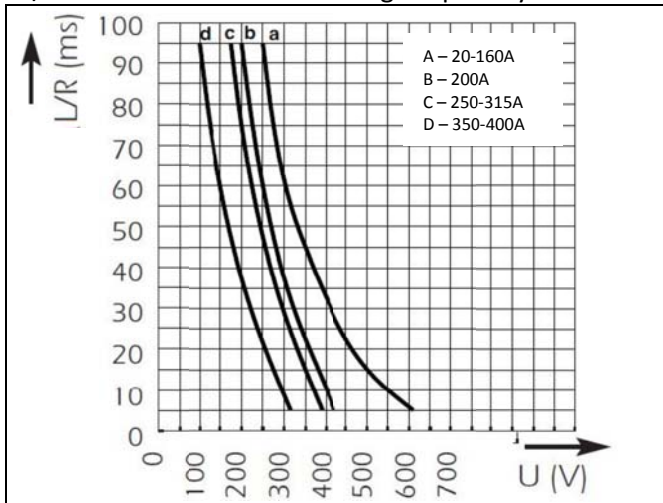
Peak arc voltage



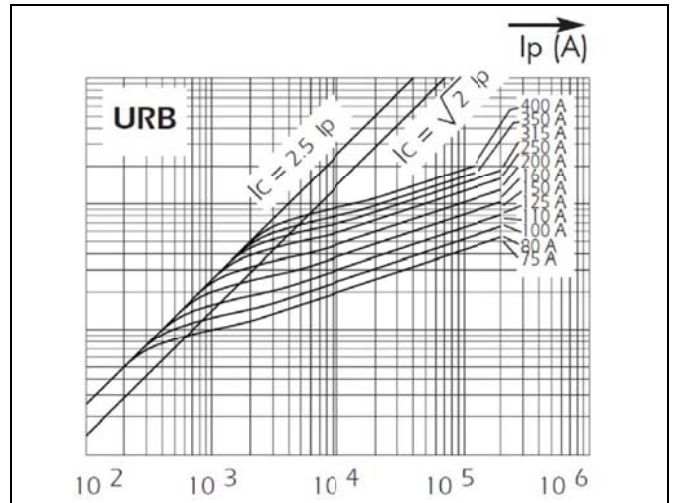
I^2t multiplier coefficient



L/R time constant Vs. DC voltage capability



Peak let thru characteristics



Size 00 fuses – Part numbers

Weight – 140g Max.

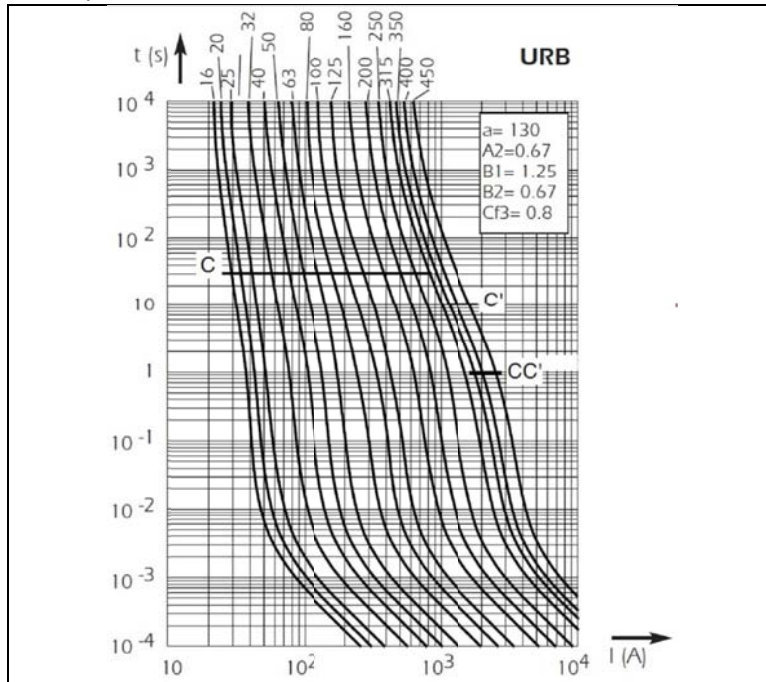
GUDA fuses

Rated Voltage (UL/IEC) V	Nominal Current A	Class	Part Number (Flap indicator)
700/690	16	aR	069GUDA0016F
700/690	20	aR	069GUDA0020F
700/690	25	aR	069GUDA0025F
700/690	32	aR	069GUDA0032F
700/690	40	aR	069GUDA0040F
700/690	50	aR	069GUDA0050F
700/690	63	aR	069GUDA0063F
700/690	80	aR	069GUDA0080F
700/690	100	aR	069GUDA0100F
700/690	125	aR	069GUDA0125F
700/690	160	aR	069GUDA0160F
700/690	200	aR	069GUDA0200F
700/690	250	aR	069GUDA0250F
700/690	315	aR	069GUDA0315F
700/690	350	aR	069GUDA0350F
700/690	400	aR	069GUDA0400F

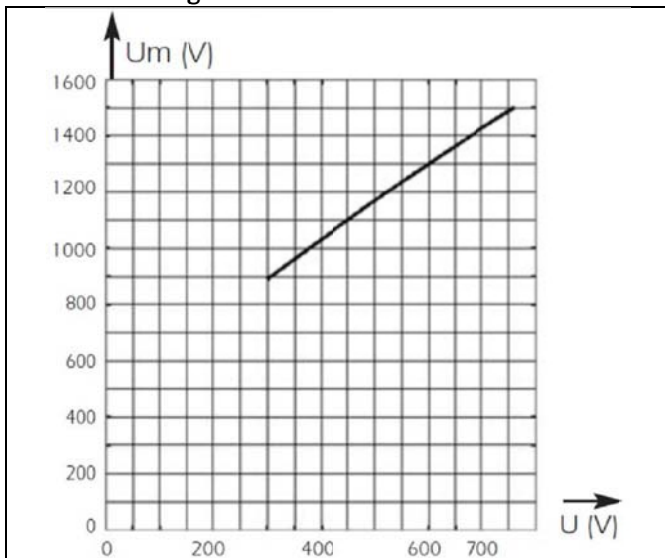
Size 00 fuses – Rating and curves

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	7	52	7	200
700/690	20	aR	10	75	9	
700/690	25	aR	15	120	11	
700/690	32	aR	32	210	15	
700/690	40	aR	61	400	18	
700/690	50	aR	102	700	21	
700/690	63	aR	177	1200	23	
700/690	80	aR	390	2200	25	
700/690	100	aR	692	3900	28	
700/690	125	aR	1170	6600	33	
700/690	160	aR	2680	14000	36	
700/690	200	aR	4690	24000	42	
700/690	250	aR	8300	42500	50	
700/690	315	aR	17520	81000	58	
700/690	350	aR	25450	118000	60	
700/690	400	aR	33200	150000	70	

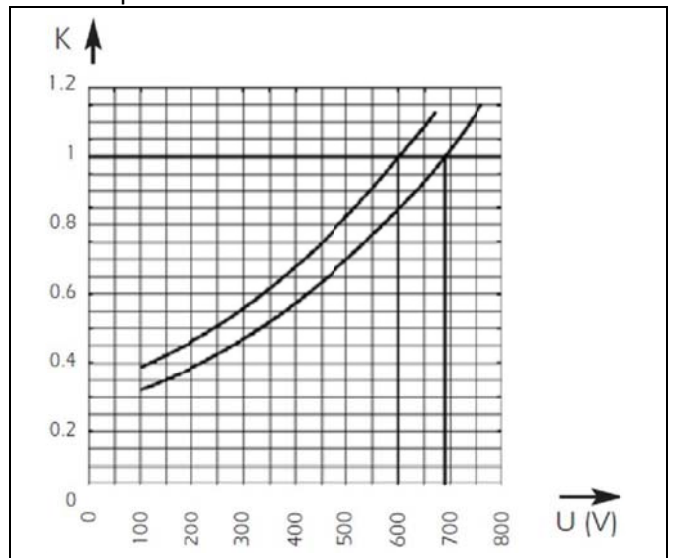
Time/Current characteristics



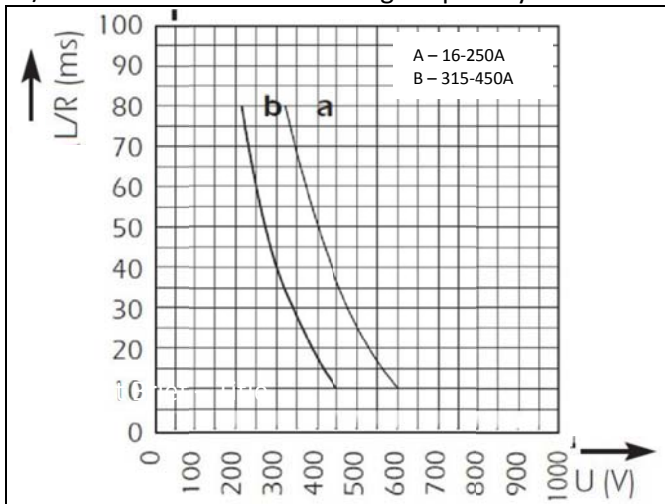
Peak arc voltage



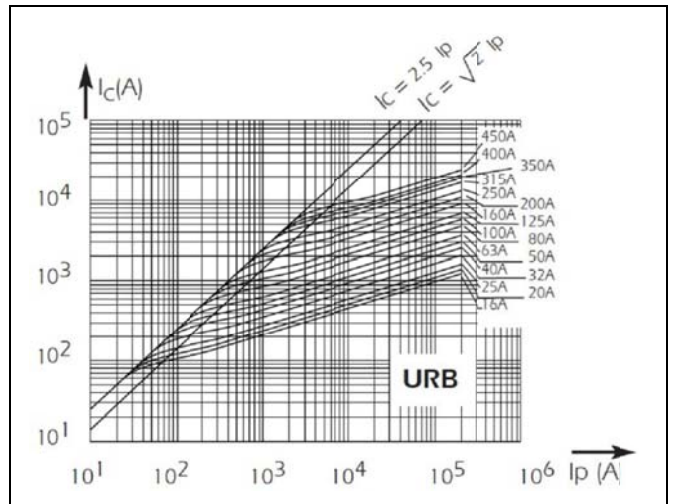
I²t multiplier coefficient



L/R time constant Vs. DC voltage capability

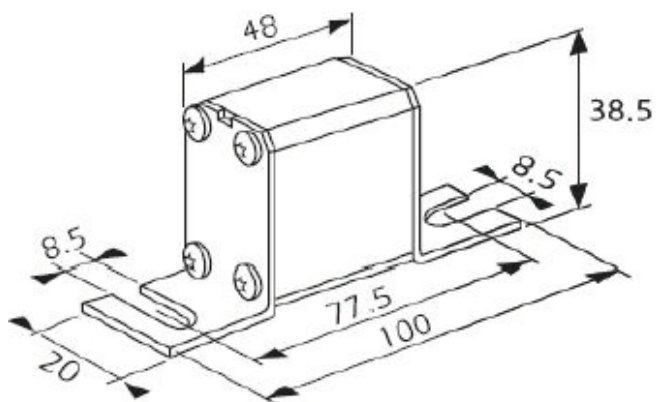


Peak let thru characteristics

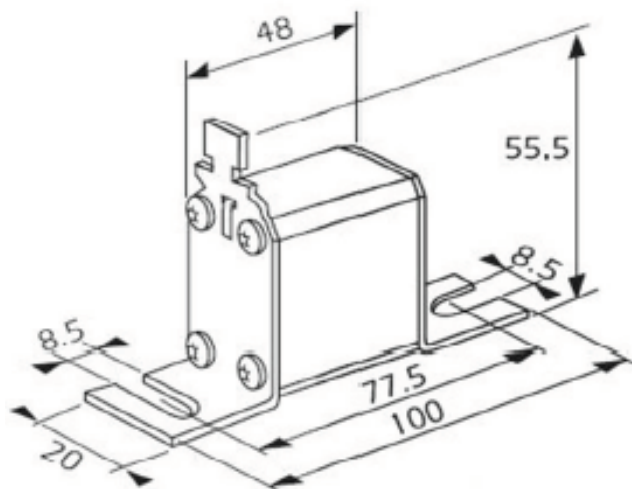


Drawings and Dimensions

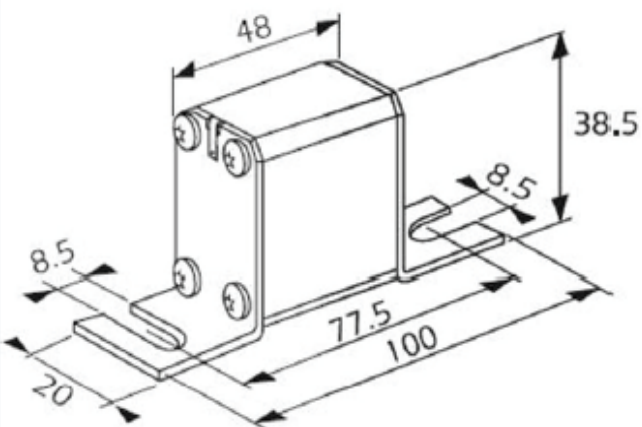
GQCA fuses – no indicator



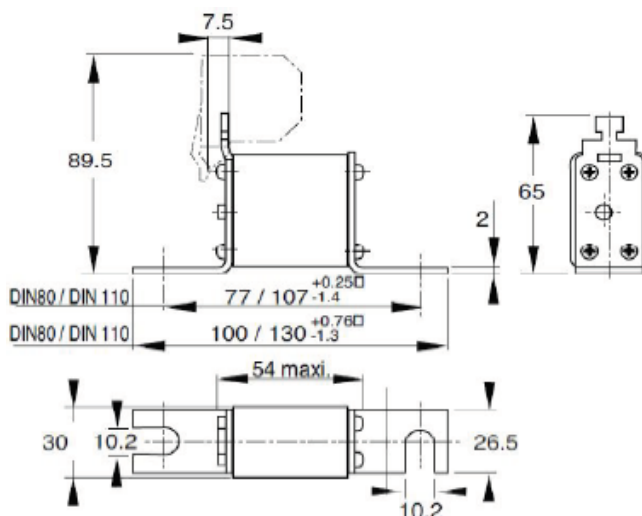
GTCA fuses – with indicator and monitoring micro contact



GQCA fuses – with indicator



GUDA fuses – with indicator and monitoring micro contact



All dimensions in mm

Microswitches

IXYS UK can offer a range of microswitches to suit our size 000 and 00 square body fuse ranges

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

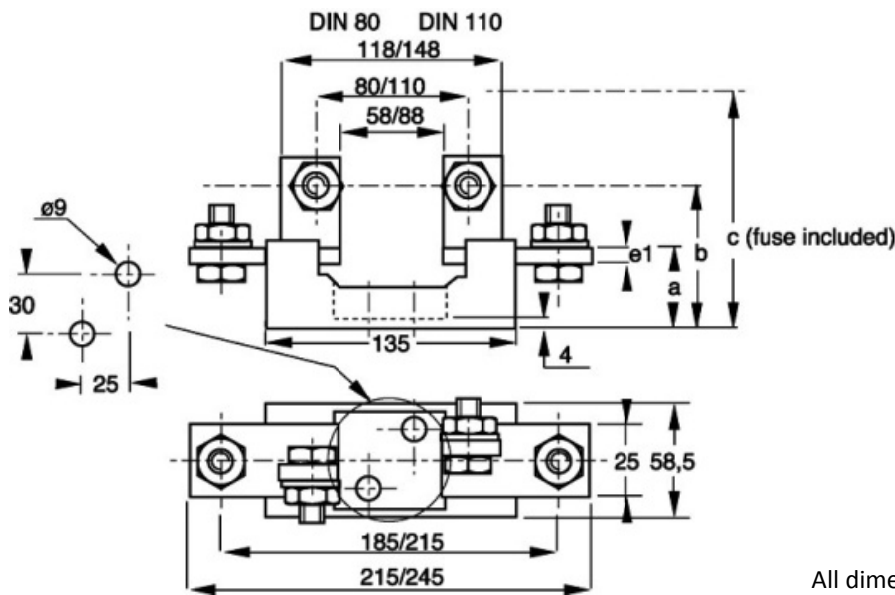


Part number	AC Insulation Voltage Rating *** (V)	Positive Operating Voltage/Current (V/mA)	Current Rating (A)	Interrupting Rating (A)						AC Voltage Withstand * (kV)	Impulse Voltage test Vimp 1.2/50µs ** (kV)	Fire Class according to UL 94	
				Current (A)	Non inductive circuit			Inductive Circuit: L/R = 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			

Fuse Holder

Part Number	Fuse size	Fuse Type	Insulation Voltage (V) AC, 50/60Hz & DC	Rated Current (A)	Connection
SI DIN80 630A	000 & 00	DIN80	1500	2500	Blade
SI DIN80 1250A					

Part Number	a	e1	b	c
SI DIN80 630A	40	5	68	93.5
				99.0
				103.5
				110.3
SI DIN80 1250A	45	10	73	98.5
				104.0
				108.5
				115.3



Certificate FM26085

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



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