

# Protistor® size 70 aR

1100 to 1250VAC (IEC) / 1300VAC (UL)

## SEMICONDUCTOR PROTECTION FUSES

### SQUARE BODY HIGH-SPEED FUSE-LINKS AC PROTECTION



The 1250/1300V Protistor® fuse-links provide maximum flexibility in equipment design and ultimate protection for today's power conversion equipment. These aR ultra-fast acting square body fuse-links are available in different body sizes, each size having multiple worldwide acceptable mounting styles.

The Protistor® have been engineered to provide state-of-the-art protection for semiconductors: diodes, thyristors, GTO's and IGBT devices. 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 rating level. All contact surfaces are silver plated and all hardware is non-magnetic.

All fuse-links can be equipped with a low voltage trip-indicator which can operate a field mountable microswitch.

## TECHNICAL DATA OVERVIEW

Voltage Range AC	1100 ... 1250 VAC
Ampere Range (A)	50 ... 500 A
Speed/Characteristic	aR
I.R. AC (IEC)	100 kA
Product Size	70

## FEATURES & BENEFITS

- Multiple body sizes and terminals or blades combination
- aR Class according to VDE 636-23 and IEC 60269-4
- Very low  $I^2t$  for improved semiconductor protection
- Ultra fast acting
- Current limiting
- Superior cycling capability
- Increased technical performances: higher ratings and reduction in volume and weight

## APPLICATIONS

- Protection of inverters, motor drives, UPS systems and similar 690V or less equipments.

## STANDARDS

- IEC 60269-4 Compliance
- UL/CSA Recognized E76491
- CCC GB 13539.4



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# Protistor® size 70 aR

1100 to 1250VAC (IEC) / 1300VAC (UL)

## PRODUCT RANGE

### Size 70 type TTI 5/16"-18 unified coarse threaded terminals

Catalog number	Item number	Rated voltage AC (IEC)	Rated voltage AC (UL)	Rated current I <sub>n</sub>	Pre-arcing I <sup>2</sup> t	Clearing I <sup>2</sup> t at Rated Voltage	Rated breaking capacity AC	Power dissipation at I <sub>n</sub>	Weight	Package
A130UD70TTI63	Q301015	1250 V	1300 V	63 A	210 A <sup>2</sup> s	1680 A <sup>2</sup> s	100 kA	26 W	0.335 kg	3
A130UD70TTI80	R301016	1250 V	1300 V	80 A	470 A <sup>2</sup> s	3780 A <sup>2</sup> s	100 kA	27 W	350 g	3
A130UD70TTI100	S301017	1250 V	1300 V	100 A	830 A <sup>2</sup> s	6750 A <sup>2</sup> s	100 kA	30 W	350 g	3
A130UD70TTI125	T301018	1250 V	1300 V	125 A	1310 A <sup>2</sup> s	10500 A <sup>2</sup> s	100 kA	38 W	350 g	3
A130UD70TTI160	V301019	1250 V	1300 V	160 A	2570 A <sup>2</sup> s	21000 A <sup>2</sup> s	100 kA	45 W	0.35 kg	3
A130UD70TTI200	W301020	1250 V	1300 V	200 A	4730 A <sup>2</sup> s	38000 A <sup>2</sup> s	100 kA	54 W	350 g	3
A130UD70TTI250	X301021	1250 V	1300 V	250 A	9580 A <sup>2</sup> s	77000 A <sup>2</sup> s	100 kA	58 W	0.35 kg	3
A130UD70TTI280	Y301022	1200 V	1300 V	280 A	14200 A <sup>2</sup> s	106000 A <sup>2</sup> s	100 kA	61 W	350 g	3
A130UD70TTI315	Z301023	1200 V	1300 V	315 A	20000 A <sup>2</sup> s	149000 A <sup>2</sup> s	100 kA	66 W	0.35 kg	3
A120UD70TTI350	A301024	1100 V	1200 V	350 A	27800 A <sup>2</sup> s	180000 A <sup>2</sup> s	100 kA	68 W	350 g	3



PC70UD13C200TF

### Size 70 type TTF M8 threaded terminals

Catalog number	Item number	Rated voltage AC (IEC)	Rated voltage AC (UL)	Rated current I <sub>n</sub>	Pre-arcing I <sup>2</sup> t	Clearing I <sup>2</sup> t at Rated Voltage	Rated breaking capacity AC	Power dissipation at I <sub>n</sub>	Weight	Package
PC70UD13C50TF	C301095	1250 V	1300 V	50 A	120 A <sup>2</sup> s	980 A <sup>2</sup> s	100 kA	16 W	0.339 kg	3
PC70UD13C63TF	M300483	1250 V	1300 V	63 A	210 A <sup>2</sup> s	1680 A <sup>2</sup> s	100 kA	26 W	0.339 kg	3
PC70UD13C80TF	N300484	1250 V	1300 V	80 A	470 A <sup>2</sup> s	3780 A <sup>2</sup> s	100 kA	27 W	0.339 kg	3
PC70UD13C100TF	P300485	1250 V	1300 V	100 A	830 A <sup>2</sup> s	6750 A <sup>2</sup> s	100 kA	30 W	0.339 kg	3
PC70UD13C125TF	Q300486	1250 V	1300 V	125 A	1310 A <sup>2</sup> s	10500 A <sup>2</sup> s	100 kA	38 W	0.339 kg	3
PC70UD13C160TF	R300487	1250 V	1300 V	160 A	2570 A <sup>2</sup> s	21000 A <sup>2</sup> s	100 kA	45 W	0.339 kg	3
PC70UD13C200TF	S300488	1250 V	1300 V	200 A	4730 A <sup>2</sup> s	38000 A <sup>2</sup> s	100 kA	54 W	0.339 kg	3
PC70UD13C250TF	T300489	1250 V	1300 V	250 A	9580 A <sup>2</sup> s	77000 A <sup>2</sup> s	100 kA	58 W	0.339 kg	3
PC70UD12C280TF	N300714	1200 V	1300 V	280 A	14200 A <sup>2</sup> s	106000 A <sup>2</sup> s	100 kA	61 W	0.339 kg	3
PC70UD12C315TF	V300490	1200 V	1300 V	315 A	20000 A <sup>2</sup> s	149000 A <sup>2</sup> s	100 kA	66 W	0.339 kg	3
PC70UD11C350TF	W300491	1100 V	1200 V	350 A	27800 A <sup>2</sup> s	180000 A <sup>2</sup> s	100 kA	68 W	0.339 kg	3
PC70UD11C400TF	E300867	1100 V	1200 V	400 A	38700 A <sup>2</sup> s	254000 A <sup>2</sup> s	100 kA	81 W	0.339 kg	3
PC70UD11C450TF	H301284	1100 V	1200 V	450 A	61700 A <sup>2</sup> s	405000 A <sup>2</sup> s	100 kA	82 W	340 g	3
PC70UD10C500TF	J301285	1000 V	1100 V	500 A	84000 A <sup>2</sup> s	483000 A <sup>2</sup> s	100 kA	83 W	0.339 kg	3

### Size 70 type long slotted blades

Catalog number	Item number	Rated voltage AC (IEC)	Rated voltage AC (UL)	Rated current I <sub>n</sub>	Pre-arcing I <sup>2</sup> t	Clearing I <sup>2</sup> t at Rated Voltage	Rated breaking capacity AC	Power dissipation at I <sub>n</sub>	Weight	Package
A130UD70LI063	W300652	1250 V	1300 V	63 A	210 A <sup>2</sup> s	1680 A <sup>2</sup> s	100 kA	26 W	0.3766 kg	3
A130UD70LI080	X300653	1250 V	1300 V	80 A	470 A <sup>2</sup> s	3780 A <sup>2</sup> s	100 kA	27 W	0.3766 kg	3
A130UD70LI100	Y300654	1250 V	1300 V	100 A	830 A <sup>2</sup> s	6750 A <sup>2</sup> s	100 kA	30 W	0.3766 kg	3
A130UD70LI125	Z300655	1250 V	1300 V	125 A	1310 A <sup>2</sup> s	10500 A <sup>2</sup> s	100 kA	38 W	0.3766 kg	3
A130UD70LI160	A300656	1250 V	1300 V	160 A	2570 A <sup>2</sup> s	21000 A <sup>2</sup> s	100 kA	45 W	0.3766 kg	3
A130UD70LI200	B300657	1250 V	1300 V	200 A	4730 A <sup>2</sup> s	38000 A <sup>2</sup> s	100 kA	56 W	0.3766 kg	3
A130UD70LI250	C300658	1250 V	1300 V	250 A	9580 A <sup>2</sup> s	77000 A <sup>2</sup> s	100 kA	61 W	0.3333 kg	3
A130UD70LI280	Q300716	1200 V	1300 V	280 A	14200 A <sup>2</sup> s	106000 A <sup>2</sup> s	100 kA	64 W	0.3766 kg	3
A130UD70LI315	D300659	1200 V	1300 V	315 A	20000 A <sup>2</sup> s	149000 A <sup>2</sup> s	100 kA	72 W	0.3766 kg	3
A120UD70LI350	E300660	1100 V	1200 V	350 A	27800 A <sup>2</sup> s	180000 A <sup>2</sup> s	100 kA	75 W	0.3766 kg	3

# Protistor® size 70 aR

1100 to 1250VAC (IEC) / 1300VAC (UL)

## PRODUCT RANGE

### Size 70 type NH style blade contacts

Catalog number	Item number	Rated voltage AC (IEC)	Rated voltage AC (UL)	Rated current I <sub>n</sub>	Pre-arcing I <sup>2</sup> t	Clearing I <sup>2</sup> t at Rated Voltage	Rated breaking capacity AC	Power dissipation at I <sub>n</sub>	Weight	Package
PC70UD13C50PA	J301423	1250 V	1300 V	50 A	120 A <sup>2</sup> s	980 A <sup>2</sup> s	100 kA	16 W	370 g	3
PC70UD13C63PA	A301185	1250 V	1300 V	63 A	210 A <sup>2</sup> s	1680 A <sup>2</sup> s	100 kA	26 W	0.364 kg	3
PC70UD13C80PA	M301242	1250 V	1300 V	80 A	470 A <sup>2</sup> s	3780 A <sup>2</sup> s	100 kA	27 W	0.364 kg	3
PC70UD13C100PA	J301124	1250 V	1300 V	100 A	830 A <sup>2</sup> s	6750 A <sup>2</sup> s	100 kA	30 W	0.364 kg	3
PC70UD13C125PA	K301125	1250 V	1300 V	125 A	1310 A <sup>2</sup> s	10500 A <sup>2</sup> s	100 kA	38 W	0.364 kg	3
PC70UD13C160PA	D301188	1250 V	1300 V	160 A	2570 A <sup>2</sup> s	21000 A <sup>2</sup> s	100 kA	45 W	0.364 kg	3
PC70UD13C200PA	Z300839	1250 V	1300 V	200 A	4730 A <sup>2</sup> s	38000 A <sup>2</sup> s	100 kA	56 W	370 g	3

### Size 70 for bolted connections

Catalog number	Item number	Rated voltage AC (IEC)	Rated voltage AC (UL)	Rated current I <sub>n</sub>	Pre-arcing I <sup>2</sup> t	Clearing I <sup>2</sup> t at Rated Voltage	Rated breaking capacity AC	Power dissipation at I <sub>n</sub>	Weight	Package
PC70UD13C63EF	P300600	1250 V	1300 V	63 A	210 A <sup>2</sup> s	1680 A <sup>2</sup> s	100 kA	26 W	0.358 kg	3
PC70UD13C80EF	Q300601	1250 V	1300 V	80 A	470 A <sup>2</sup> s	3780 A <sup>2</sup> s	100 kA	27 W	0.358 kg	3
PC70UD13C100EF	R300602	1250 V	1300 V	100 A	830 A <sup>2</sup> s	6750 A <sup>2</sup> s	100 kA	30 W	0.358 kg	3
PC70UD13C125EF	S300603	1250 V	1300 V	125 A	1310 A <sup>2</sup> s	10500 A <sup>2</sup> s	100 kA	38 W	0.358 kg	3
PC70UD13C160EF	T300604	1250 V	1300 V	160 A	2570 A <sup>2</sup> s	21000 A <sup>2</sup> s	100 kA	45 W	0.358 kg	3
PC70UD13C200EF	V300605	1250 V	1300 V	200 A	4730 A <sup>2</sup> s	38000 A <sup>2</sup> s	100 kA	56 W	0.358 kg	3
PC70UD13C250EF	W300606	1250 V	1300 V	250 A	9580 A <sup>2</sup> s	77000 A <sup>2</sup> s	100 kA	61 W	0.358 kg	3
PC70UD12C280EF	L300712	1200 V	1300 V	280 A	14200 A <sup>2</sup> s	106000 A <sup>2</sup> s	100 kA	64 W	360 g	3
PC70UD12C315EF	X300607	1200 V	1300 V	315 A	20000 A <sup>2</sup> s	149000 A <sup>2</sup> s	100 kA	72 W	0.358 kg	3
PC70UD11C350EF	Y300608	1100 V	1200 V	350 A	27800 A <sup>2</sup> s	180000 A <sup>2</sup> s	100 kA	75 W	360 g	3

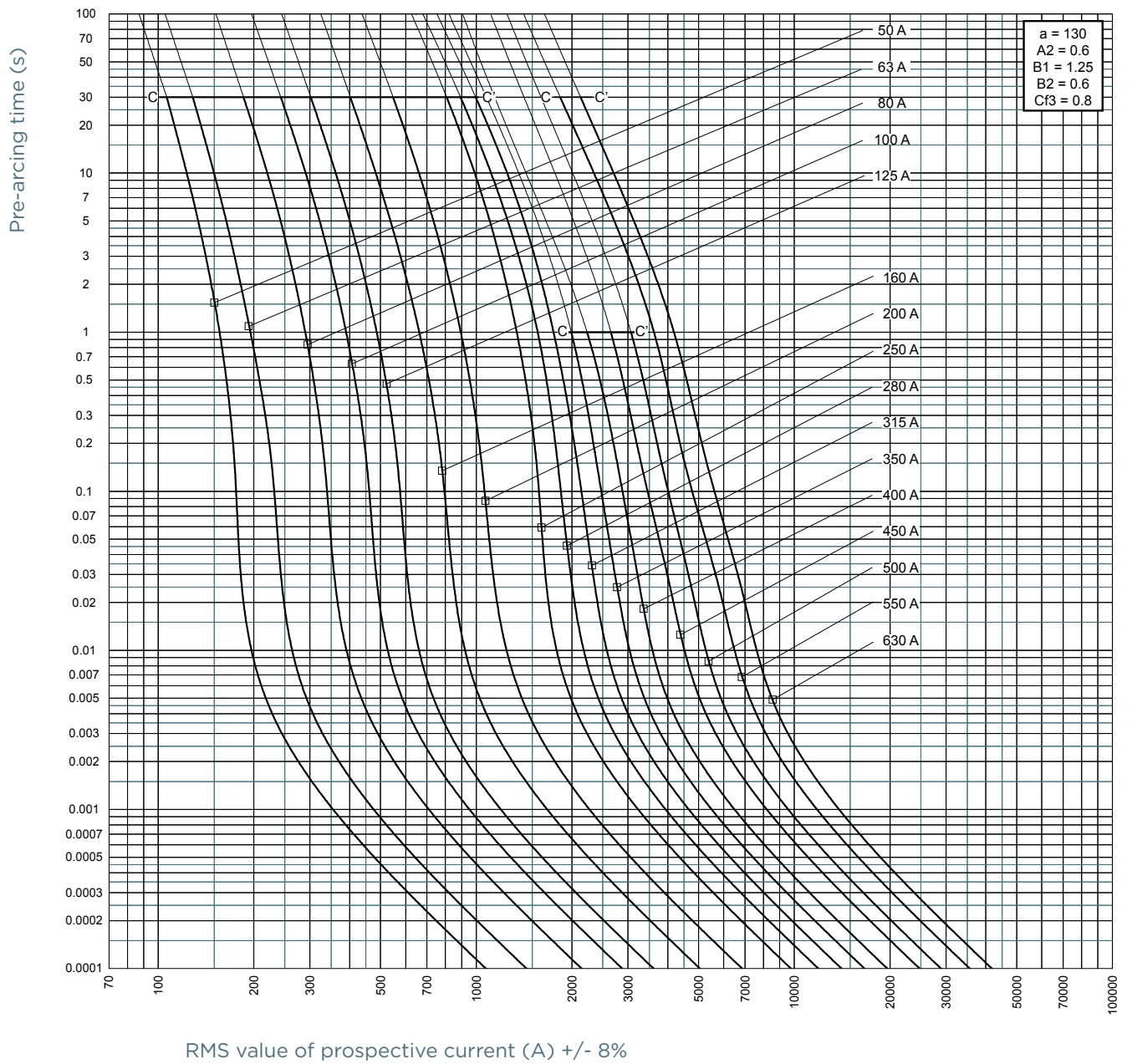


PC70UD13C200D1A

### Size 70 type DIN110

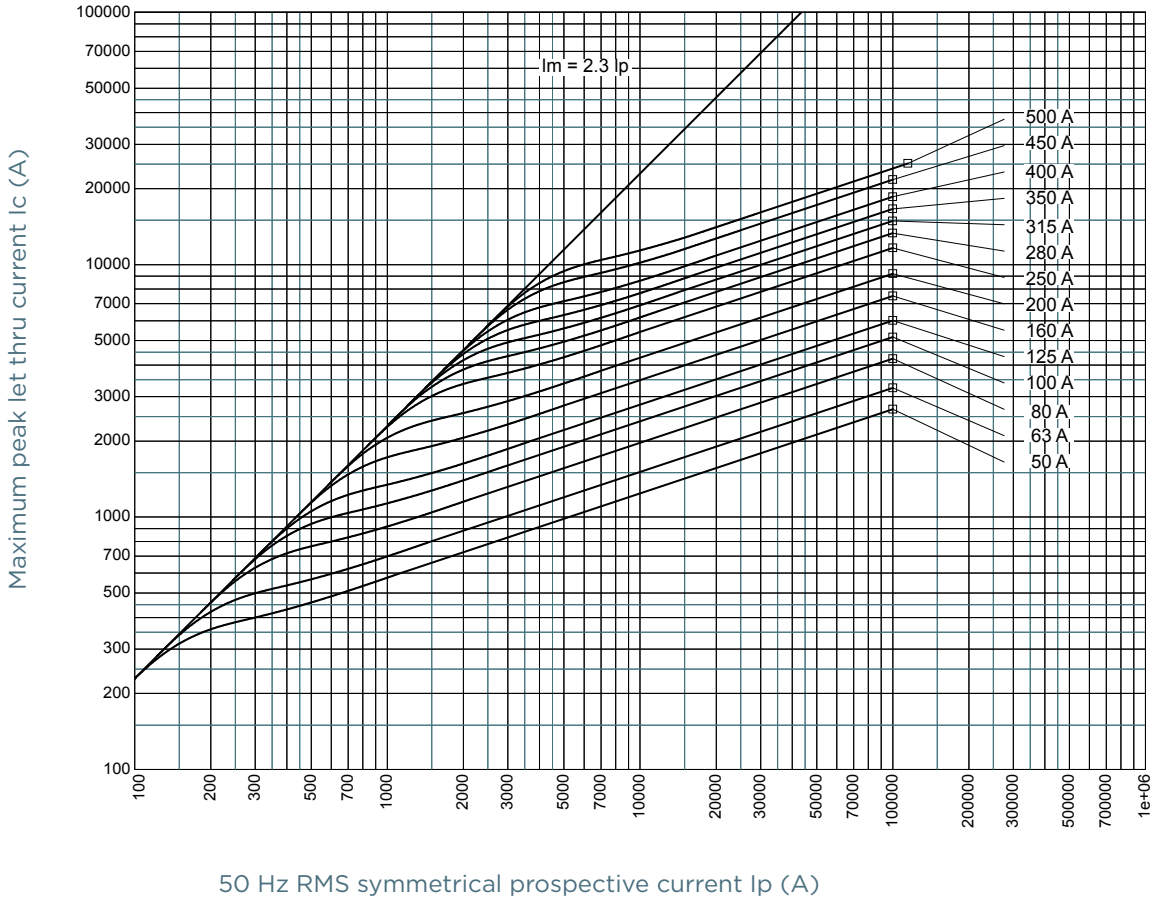
Catalog number	Item number	Rated voltage AC (IEC)	Rated voltage AC (UL)	Rated current I <sub>n</sub>	Pre-arcing I <sup>2</sup> t	Clearing I <sup>2</sup> t at Rated Voltage	Rated breaking capacity AC	Power dissipation at I <sub>n</sub>	Weight	Package
PC70UD13C63D1A	V300536	1250 V	1300 V	63 A	210 A <sup>2</sup> s	1680 A <sup>2</sup> s	100 kA	26 W	0.3633 kg	3
PC70UD13C80D1A	W300537	1250 V	1300 V	80 A	470 A <sup>2</sup> s	3780 A <sup>2</sup> s	100 kA	27 W	0.3633 kg	3
PC70UD13C100D1A	X300538	1250 V	1300 V	100 A	830 A <sup>2</sup> s	6750 A <sup>2</sup> s	100 kA	30 W	0.3633 kg	3
PC70UD13C125D1A	Y300539	1250 V	1300 V	125 A	1310 A <sup>2</sup> s	10500 A <sup>2</sup> s	100 kA	38 W	0.3633 kg	3
PC70UD13C160D1A	Z300540	1250 V	1300 V	160 A	2570 A <sup>2</sup> s	21000 A <sup>2</sup> s	100 kA	45 W	0.3633 kg	3
PC70UD13C200D1A	A300541	1250 V	1300 V	200 A	4730 A <sup>2</sup> s	38000 A <sup>2</sup> s	100 kA	56 W	0.3633 kg	3
PC70UD13C250D1A	B300542	1250 V	1300 V	250 A	9580 A <sup>2</sup> s	77000 A <sup>2</sup> s	100 kA	61 W	0.3633 kg	3
PC70UD12C280D1A	J300710	1200 V	1300 V	280 A	14200 A <sup>2</sup> s	106000 A <sup>2</sup> s	100 kA	64 W	0.3633 kg	3
PC70UD12C315D1A	C300543	1200 V	1300 V	315 A	20000 A <sup>2</sup> s	149000 A <sup>2</sup> s	100 kA	72 W	0.3633 kg	3
PC70UD11C350D1A	D300544	1100 V	1200 V	350 A	27800 A <sup>2</sup> s	180000 A <sup>2</sup> s	100 kA	75 W	0.3633 kg	3

## TIME CURRENT CHARACTERISTIC CURVES

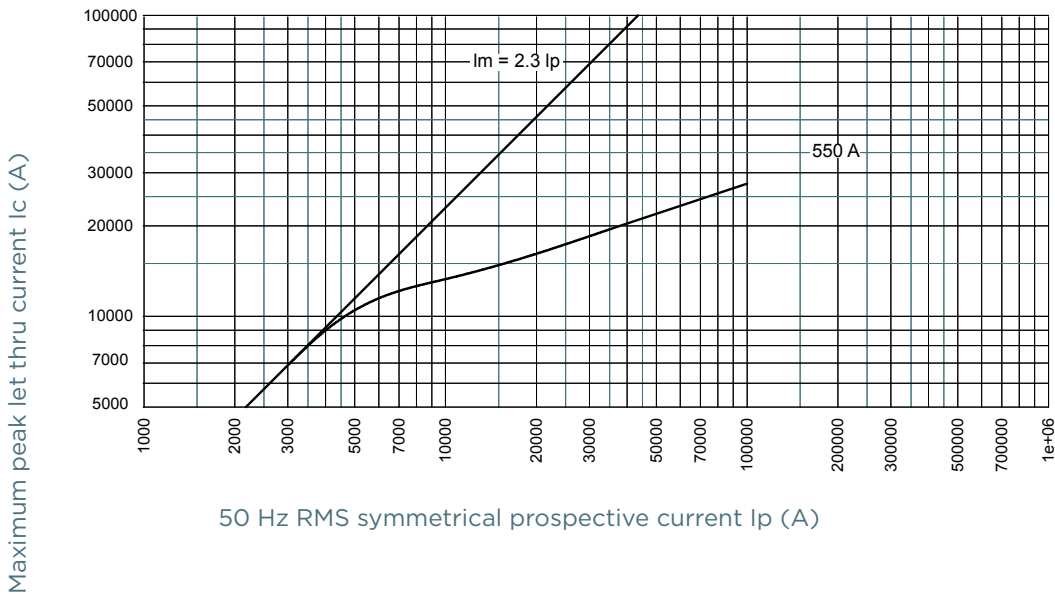


CUT-OFF CURRENT CHARACTERISTIC

Size 70 1250V 500A...250A,1200V 280A...315A, 1100V 350A...450A, 1000V 500A



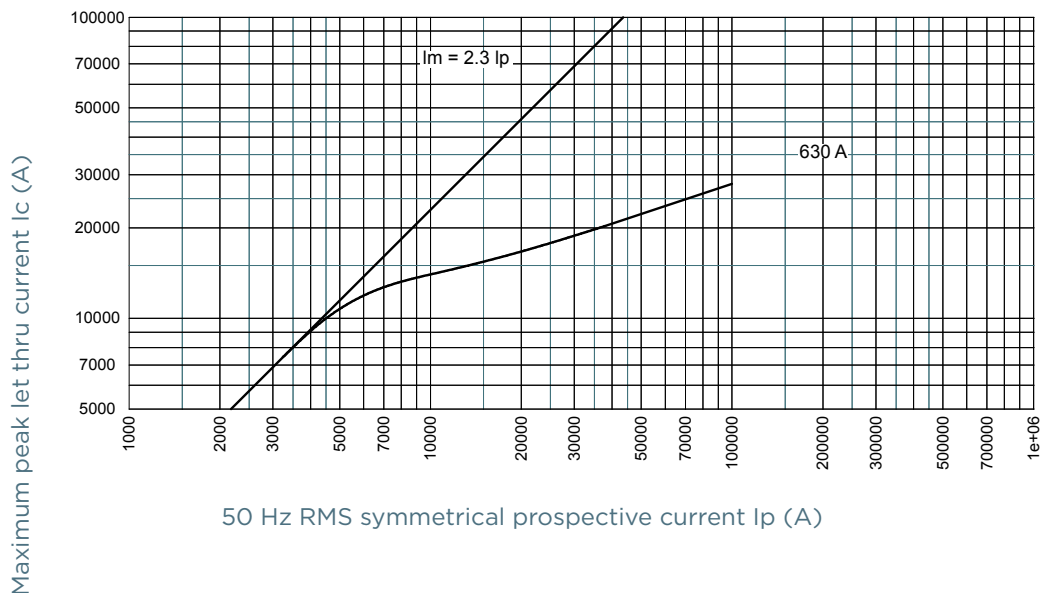
Size 70 800V



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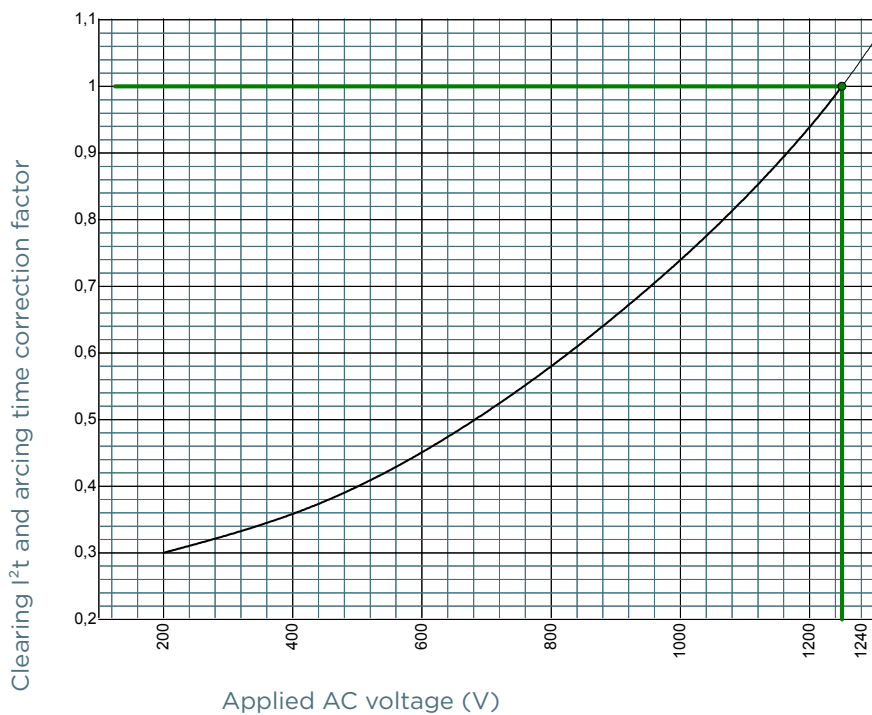
## CUT-OFF CURRENT CHARACTERISTIC

### Size 70 750V



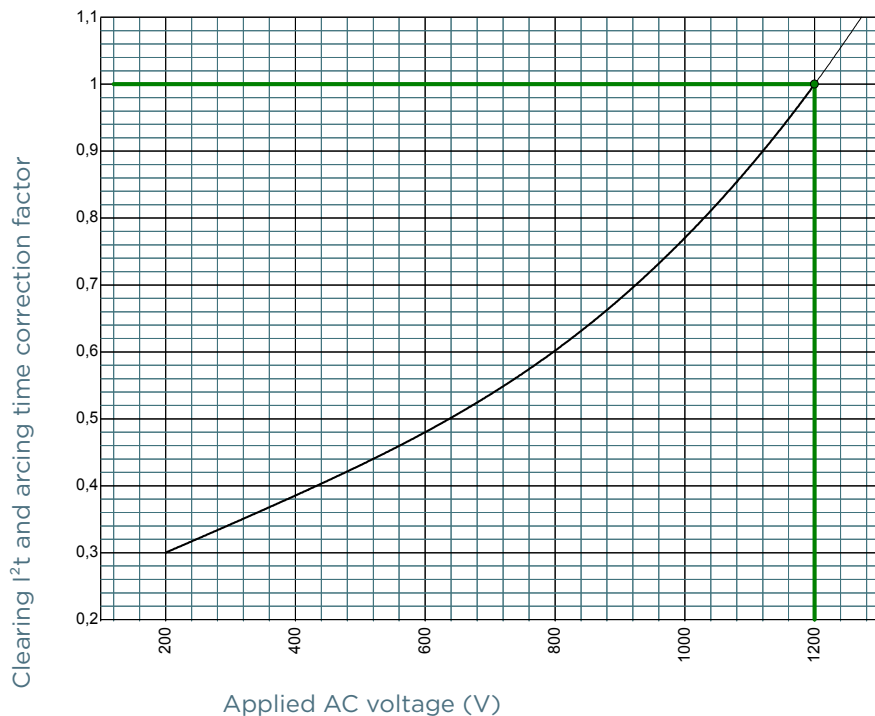
## I<sup>2</sup>T MULTIPLIER COEFFICIENT

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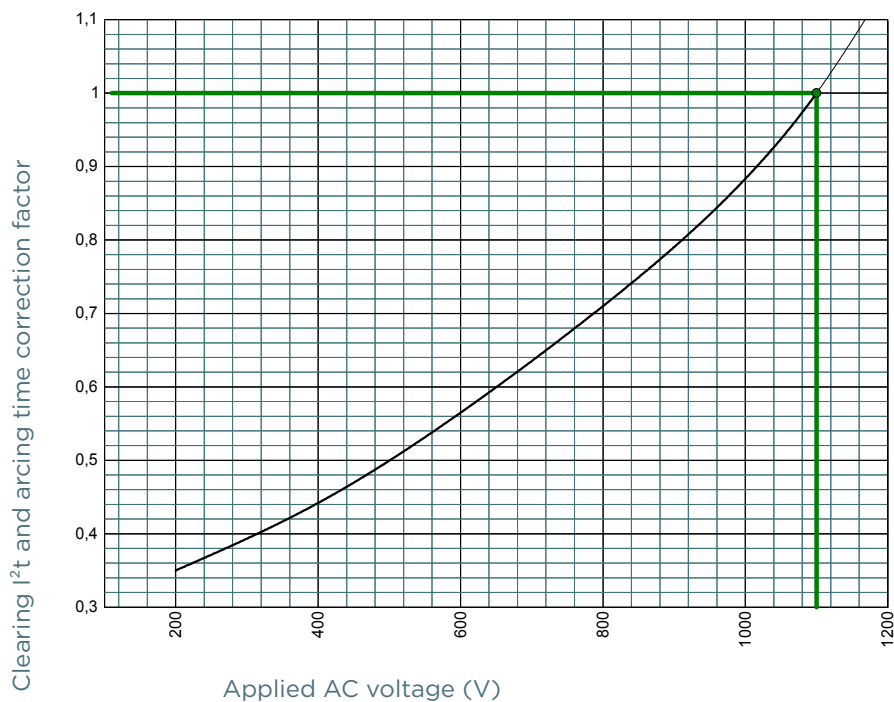


## I<sup>2</sup>T MULTIPLIER COEFFICIENT

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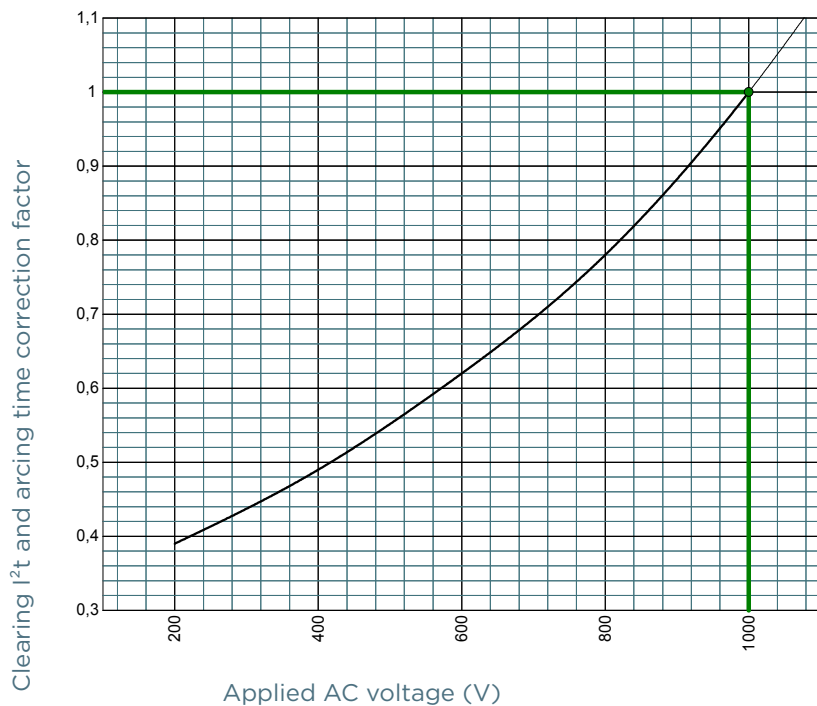


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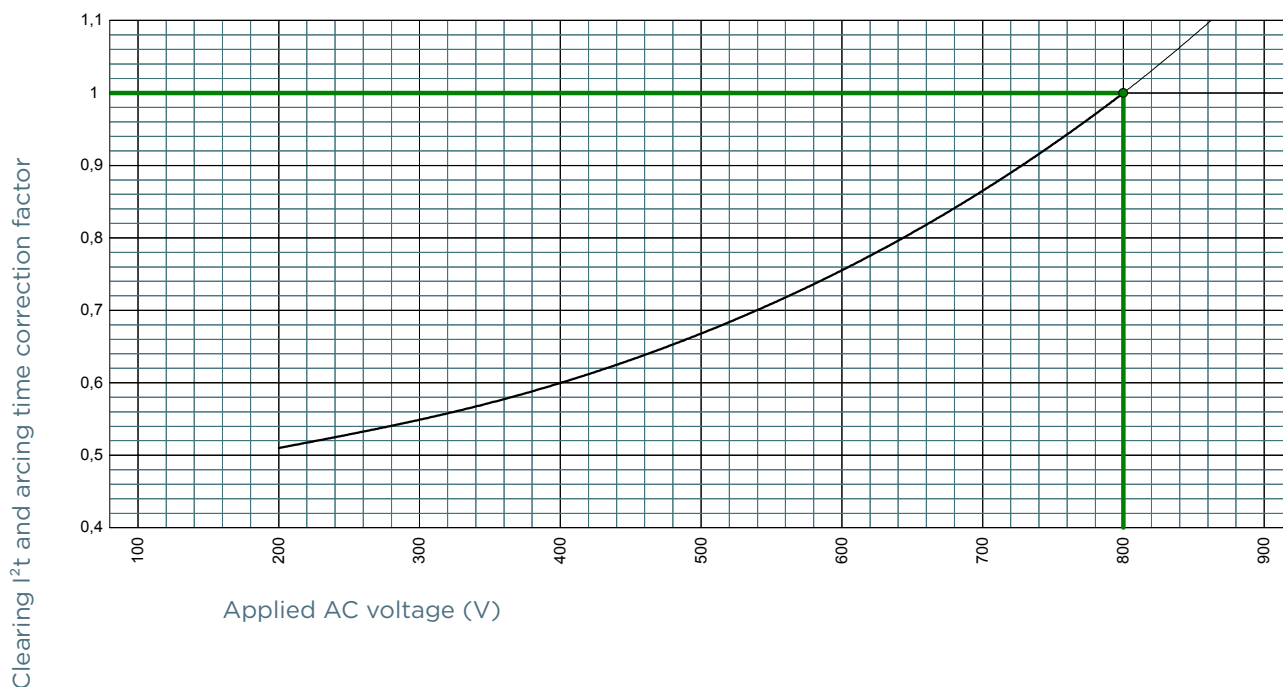


## I<sup>2</sup>T MULTIPLIER COEFFICIENT

### Size 70 1000V



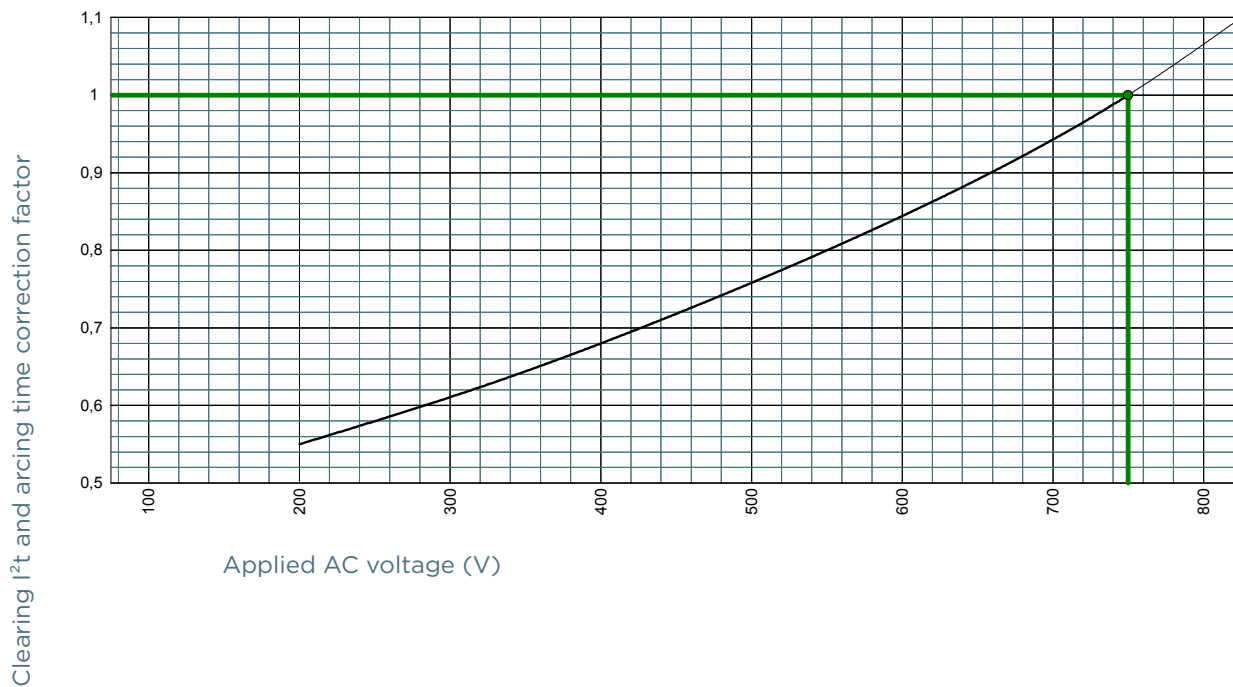
### Size 70 800V





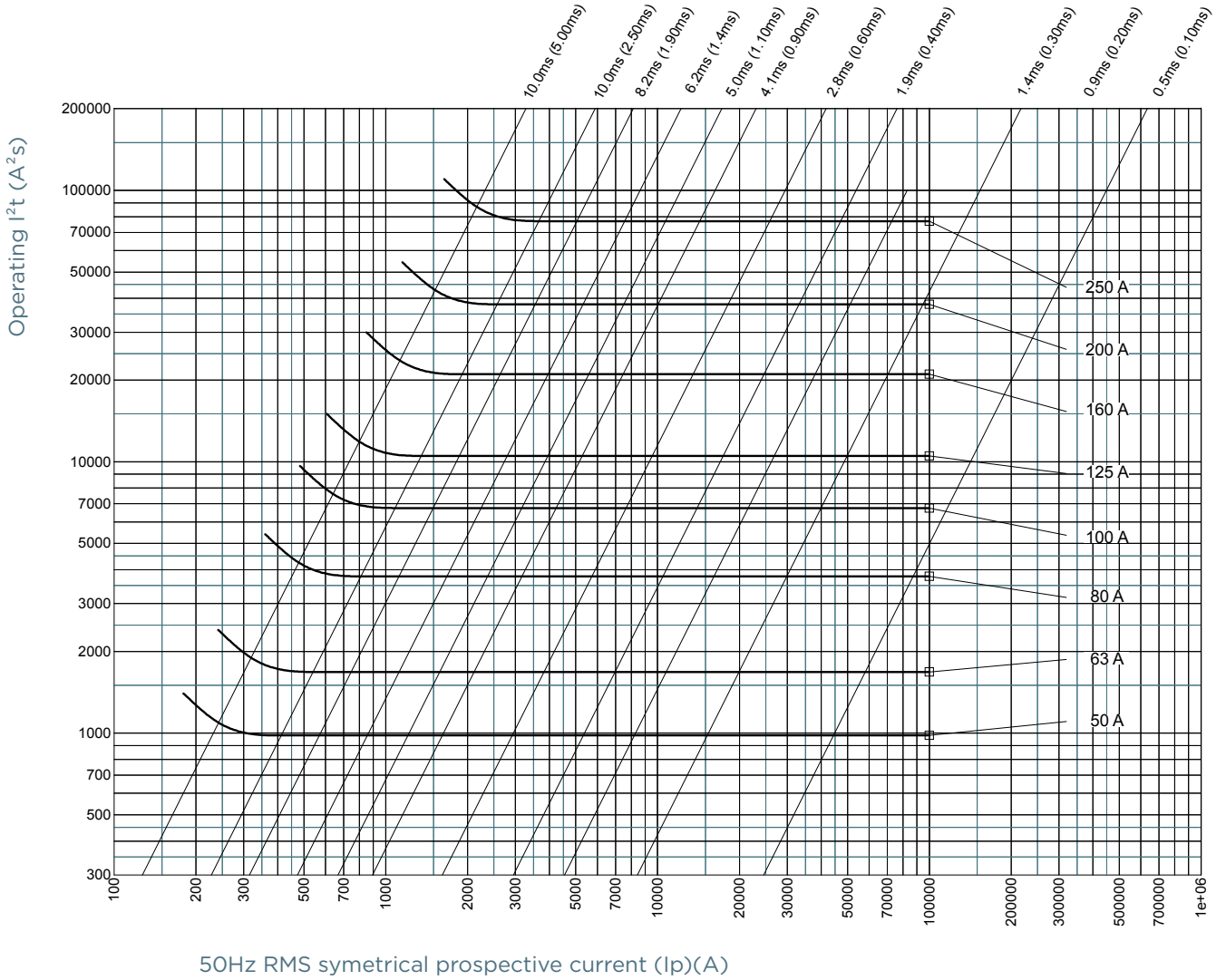
## I<sup>2</sup>T MULTIPLIER COEFFICIENT

### Size 70 750V



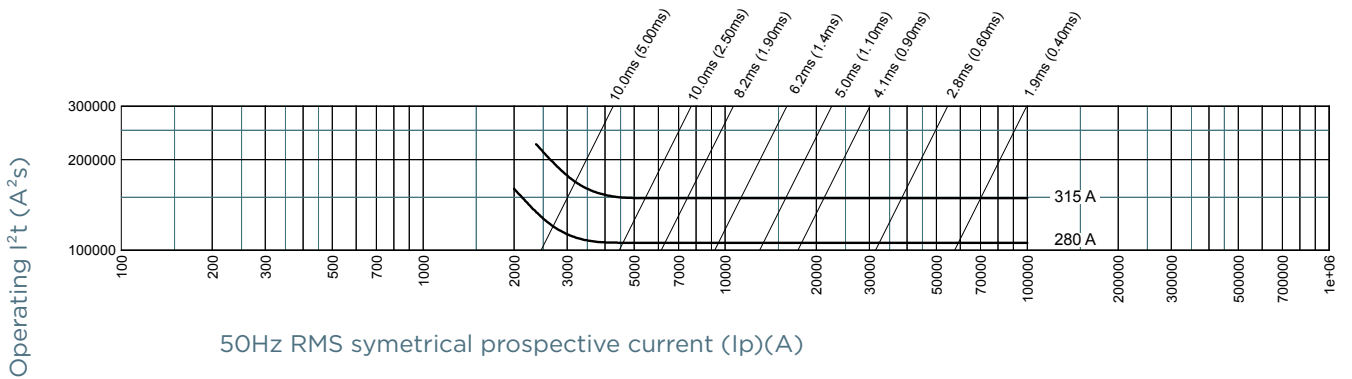
CHARACTERISTICS TOTAL I<sup>2</sup>T CURVE

Size 70 1250V



50Hz RMS symmetrical prospective current (Ip)(A)

Size 70 1200V

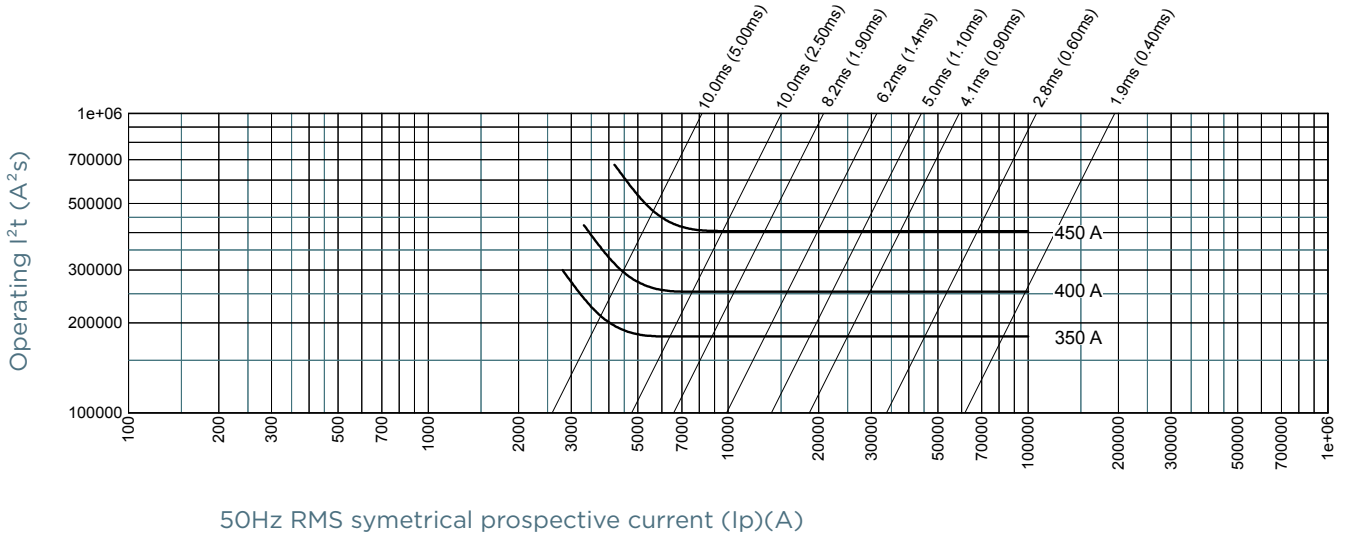


50Hz RMS symmetrical prospective current (Ip)(A)

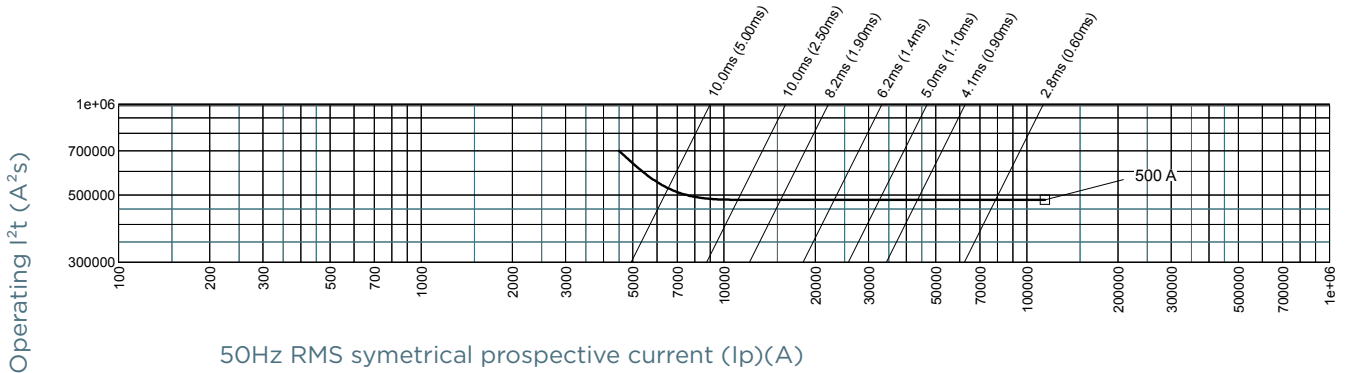
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CHARACTERISTICS TOTAL I<sup>2</sup>T CURVE

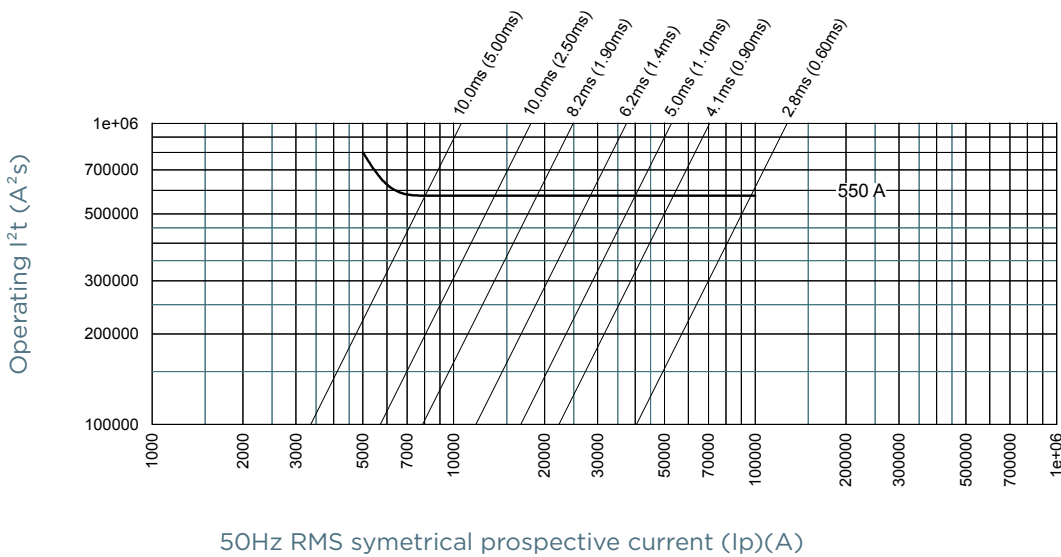
Size 70 1100V



Size 70 1000V

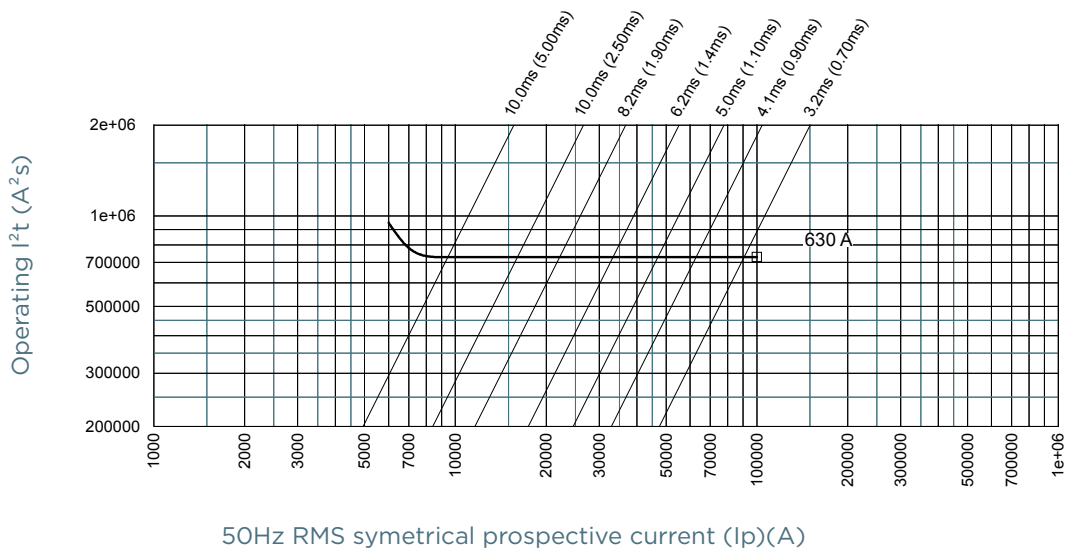


Size 70 800V



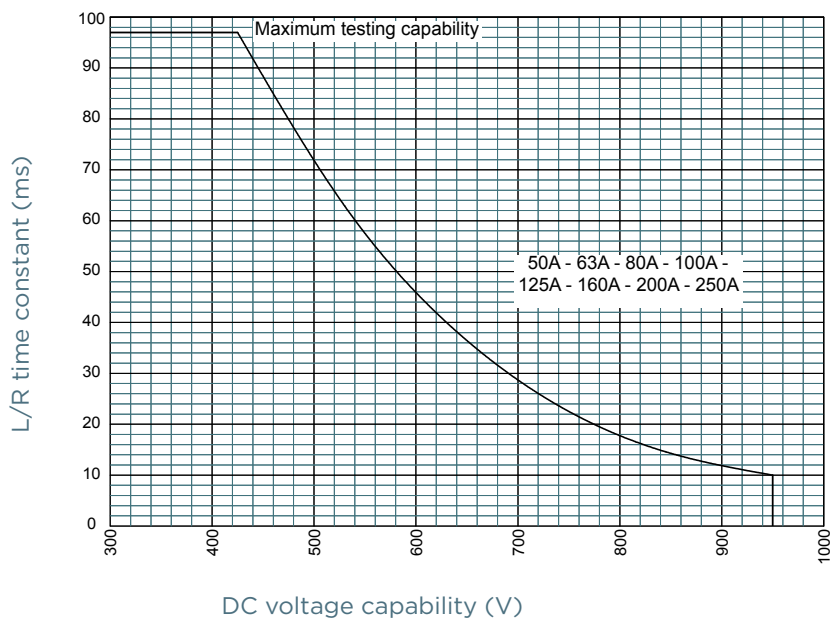
## CHARACTERISTICS TOTAL I<sup>2</sup>T CURVE

### Size 70 750V



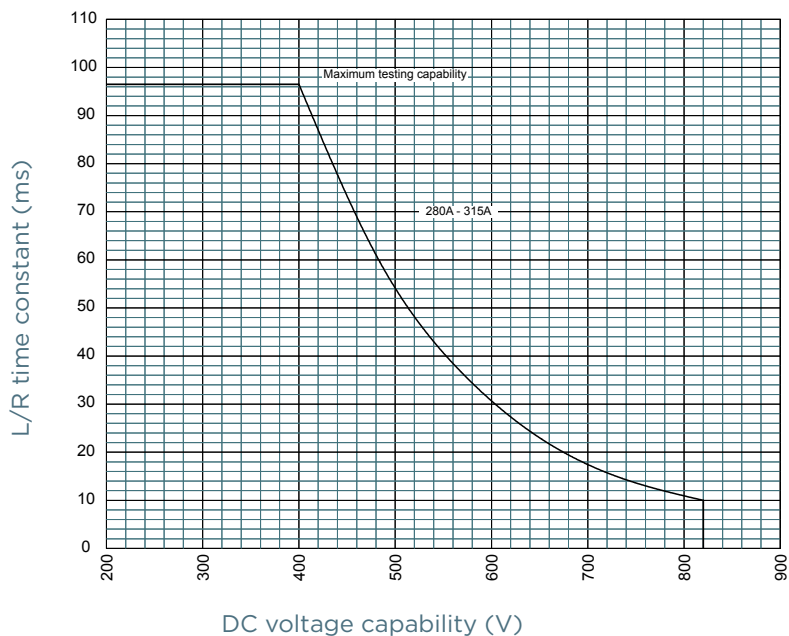
## L/R TIME CONSTANT VS DC VOLTAGE CAPABILITY

### Size 70 1250V

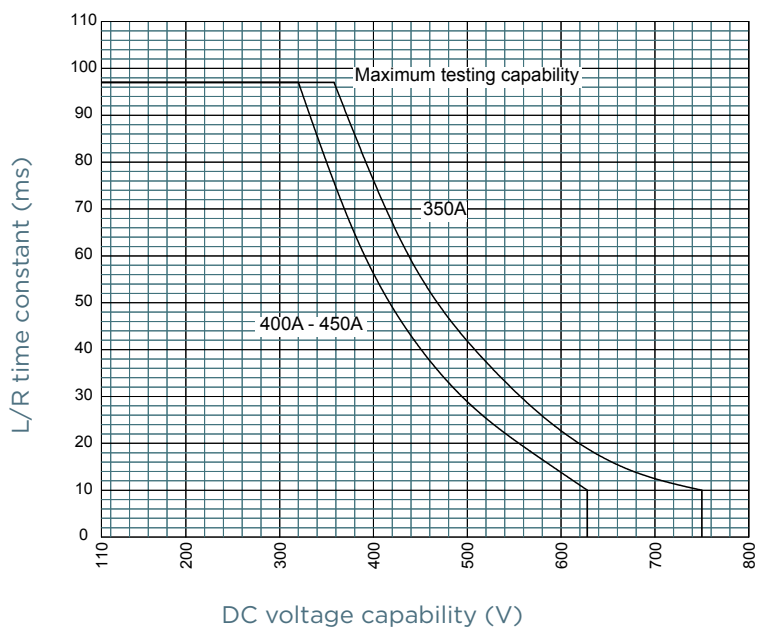


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### Size 70 1200V

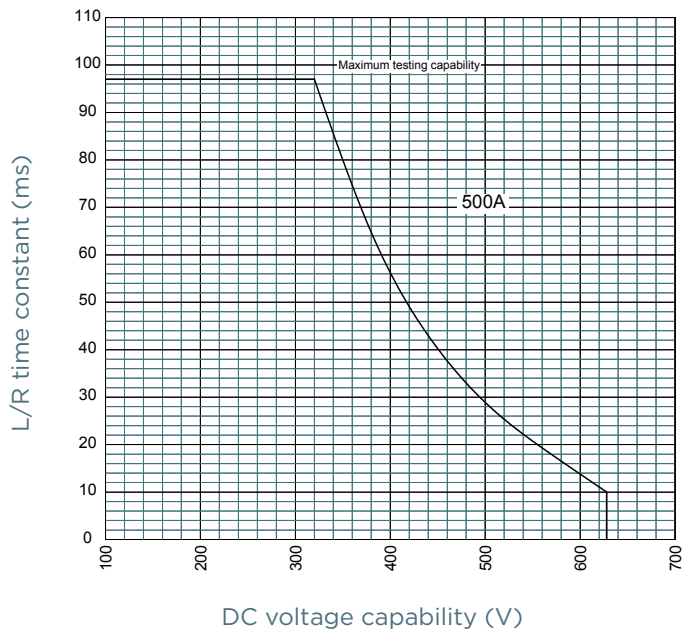


### Size 70 1100V

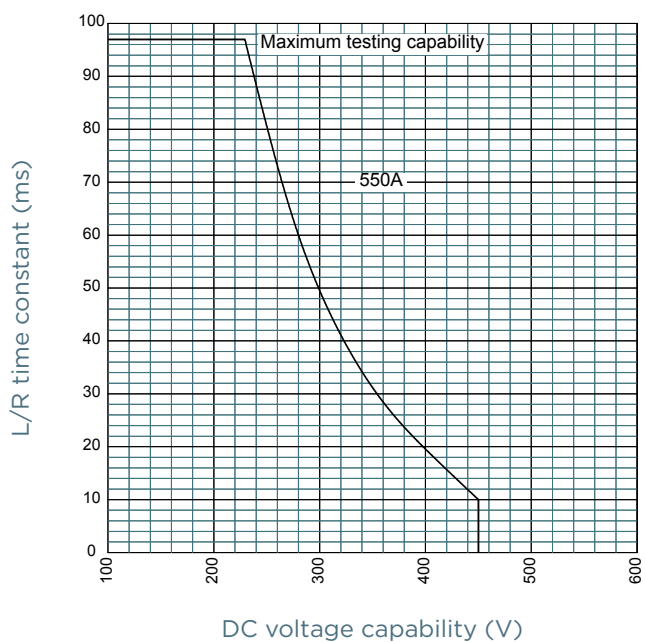


## L/R TIME CONSTANT VS DC VOLTAGE CAPABILITY

### Size 70 1000V

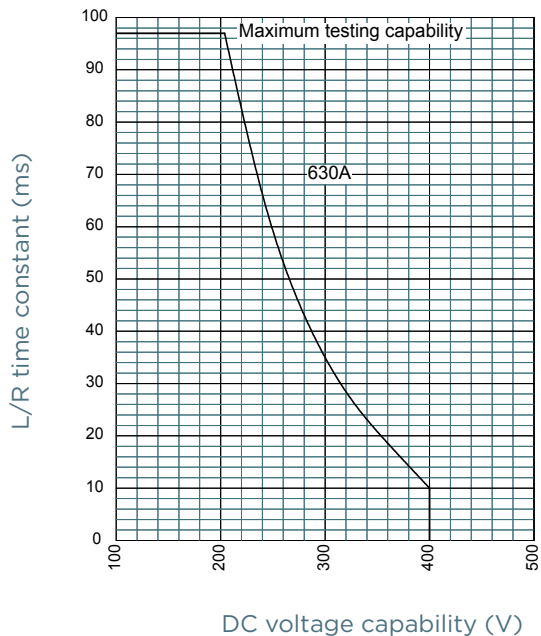


### Size 70 800V



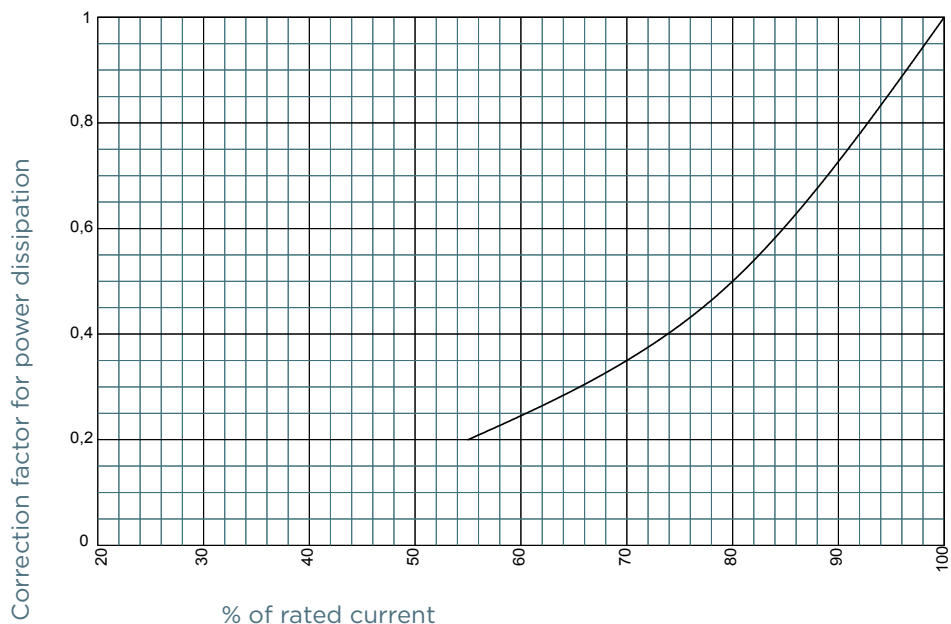
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### Size 70 750V



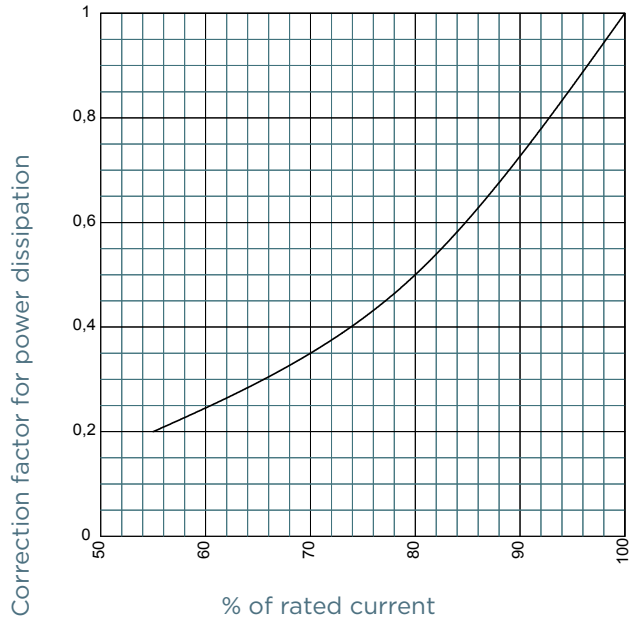
## POWER DISSIPATION

### Size 70 1250V

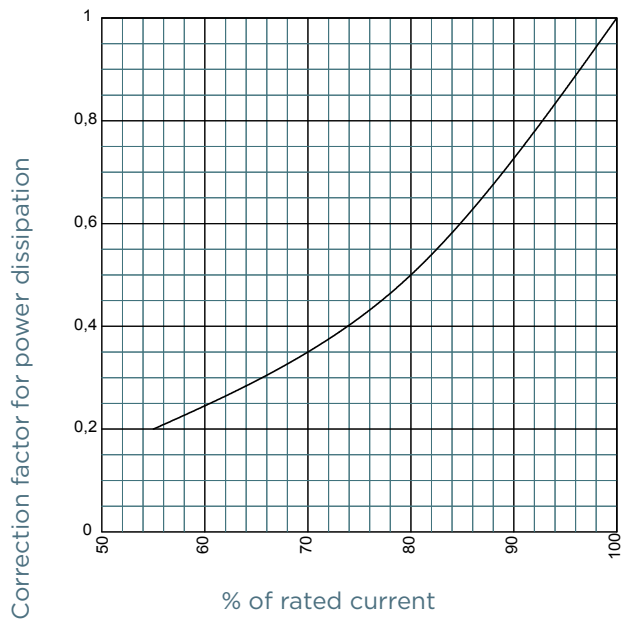


## POWER DISSIPATION

### Size 70 1200V



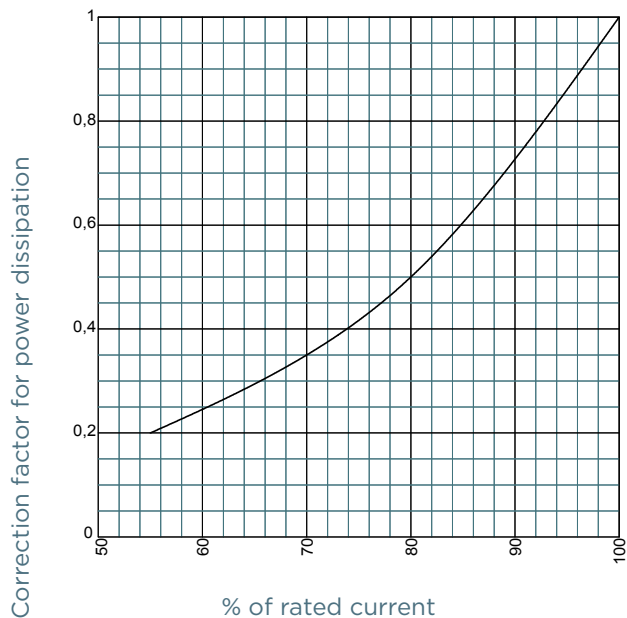
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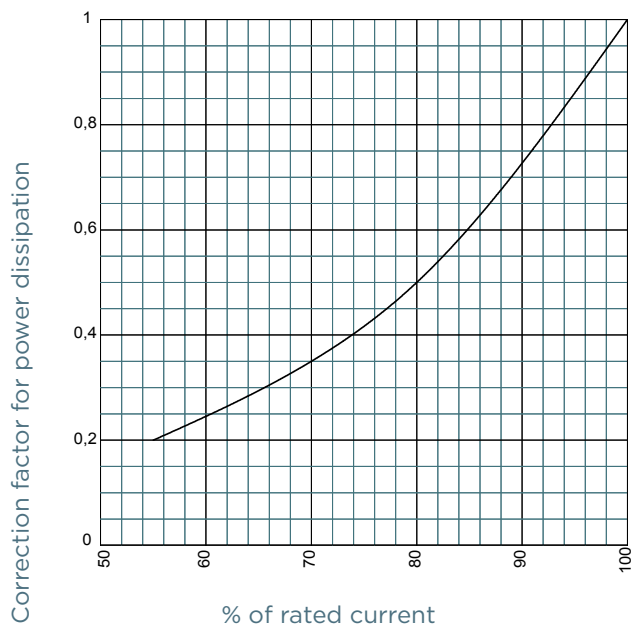


## POWER DISSIPATION

### Size 70 1000V

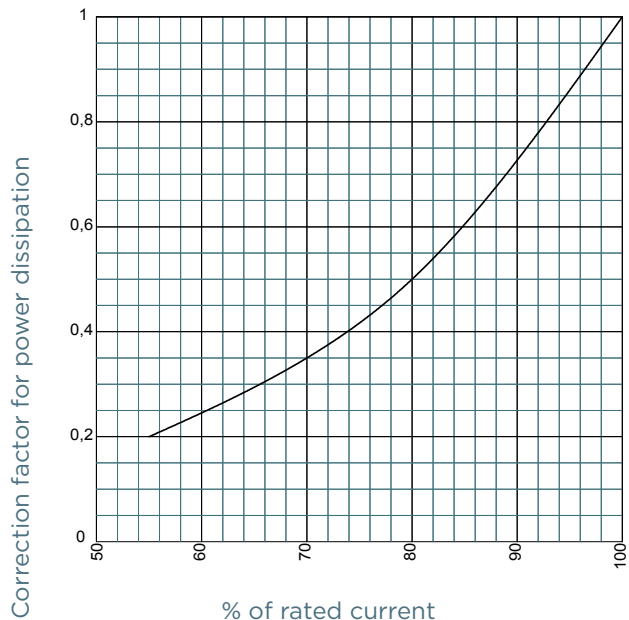


### Size 70 800V



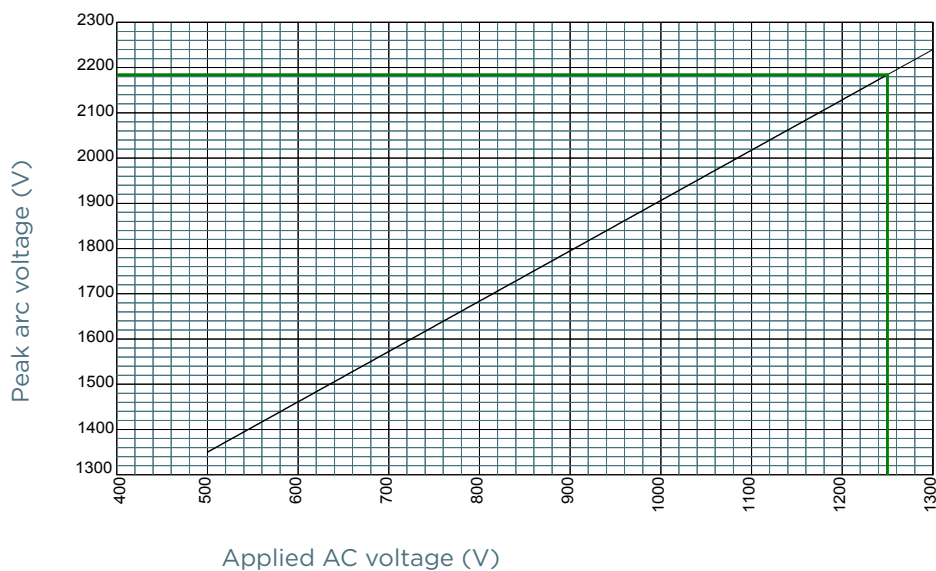
## POWER DISSIPATION

### Size 70 750V



## PEAK ARC VOLTAGE

### Size 70 1250V

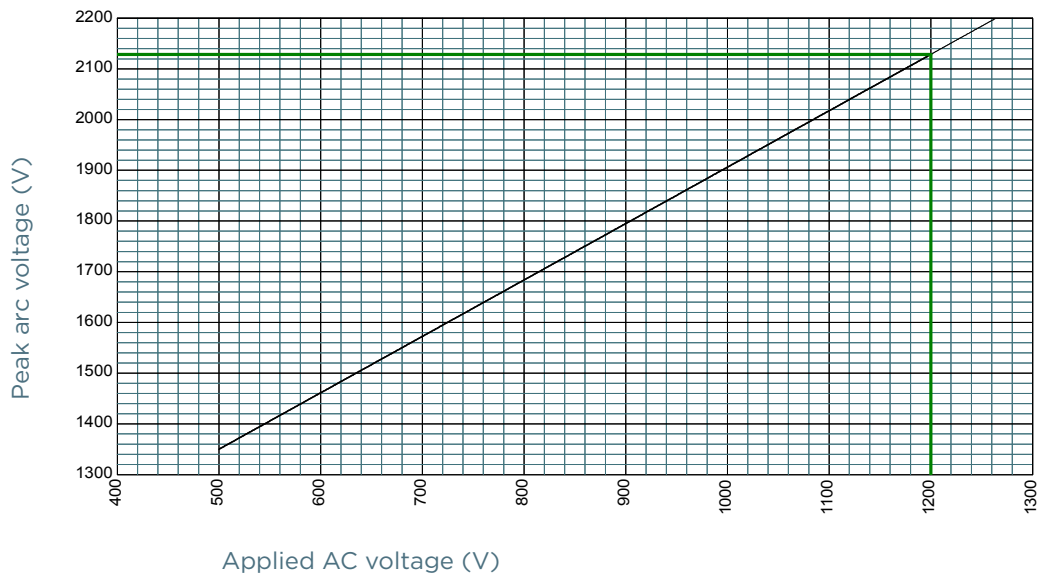


# Protistor® size 70 aR

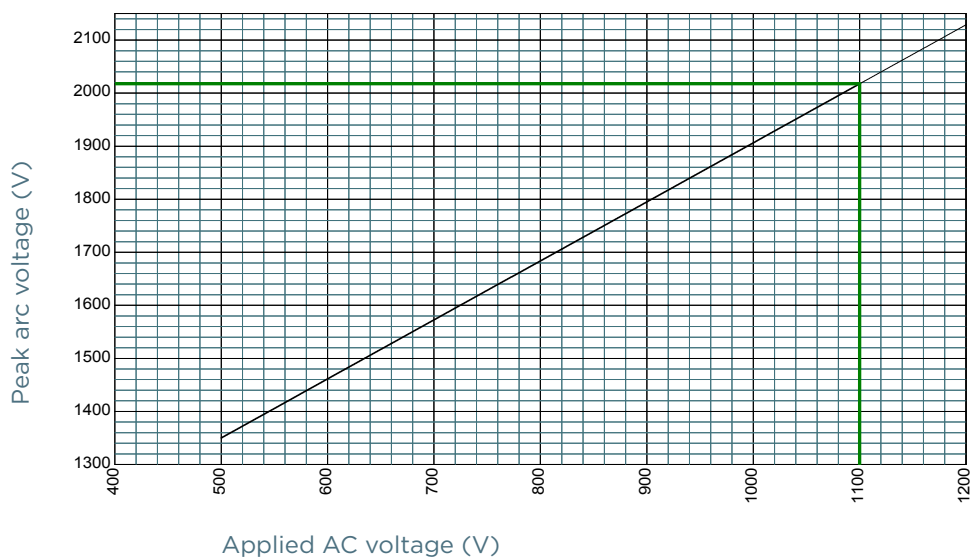
1100 to 1250VAC (IEC) / 1300VAC (UL)

## PEAK ARC VOLTAGE

### Size 70 1200V



### Size 70 1100V



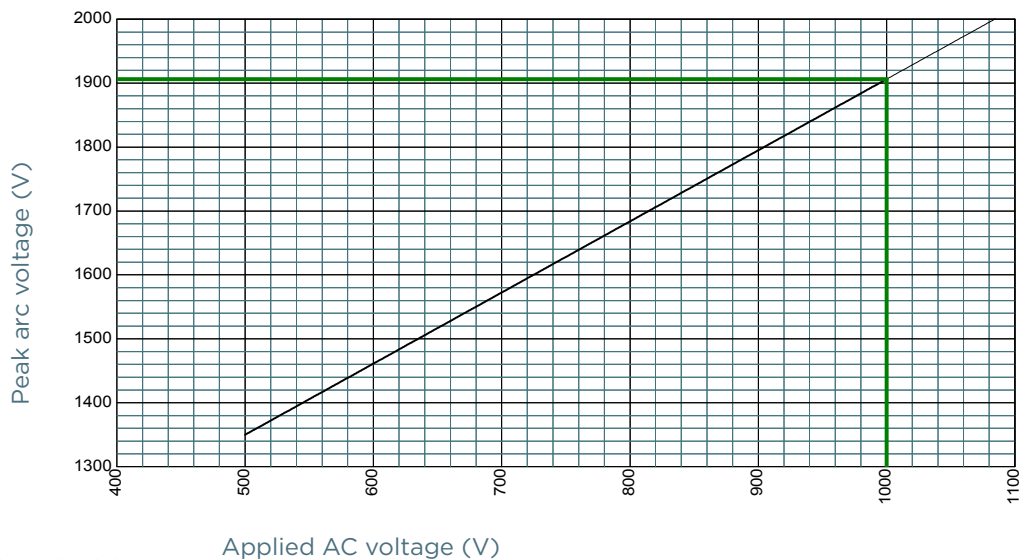
MERSEN reserves the right to change, update or correct, without notice, any information contained in this datasheet.

# Protistor® size 70 aR

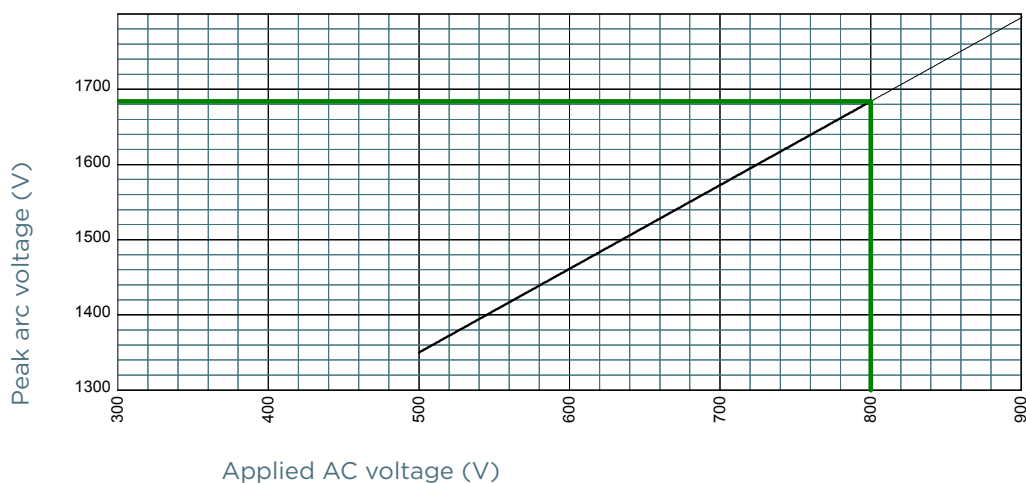
1100 to 1250VAC (IEC) / 1300VAC (UL)

## PEAK ARC VOLTAGE

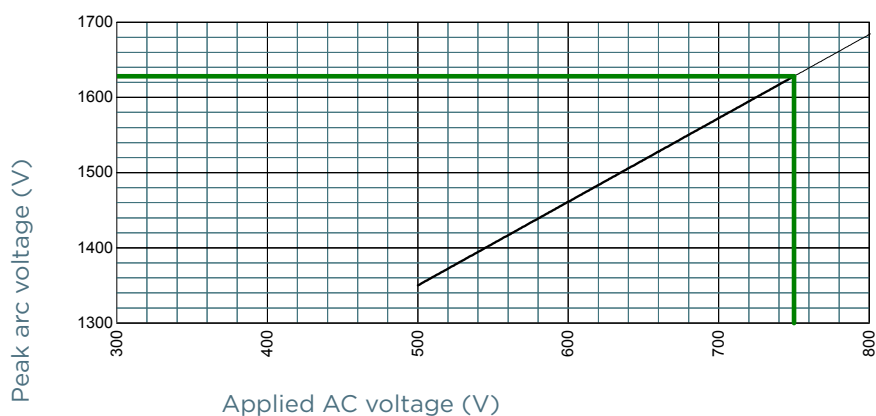
### Size 70 1000V



### Size 70 800V



### Size 70 750V



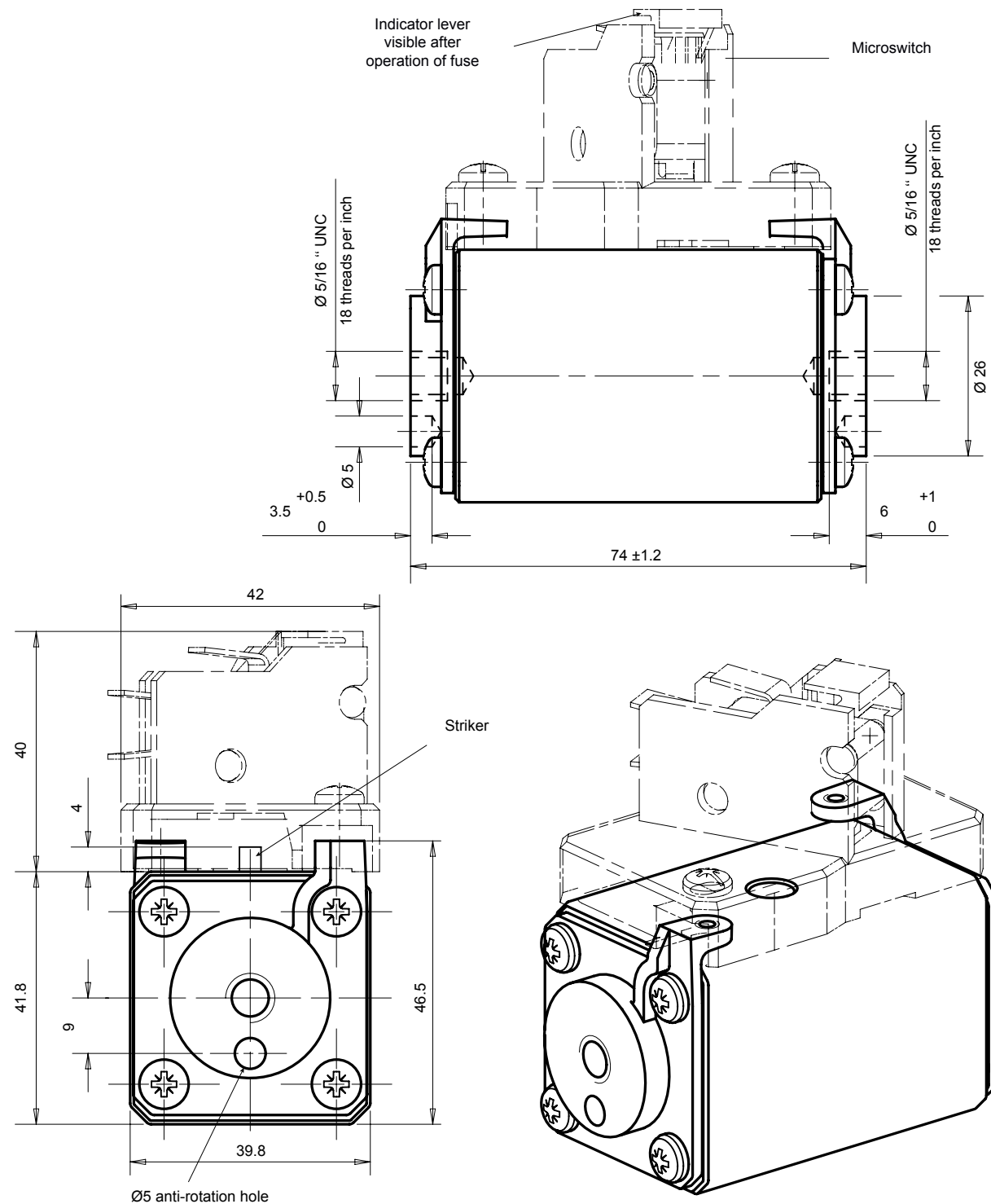
MERSEN reserves the right to change, update or correct, without notice, any information contained in this datasheet.

# Protistor® size 70 aR

1100 to 1250VAC (IEC) / 1300VAC (UL)

## DIMENSIONS

Size 70 aR TTI (109497)



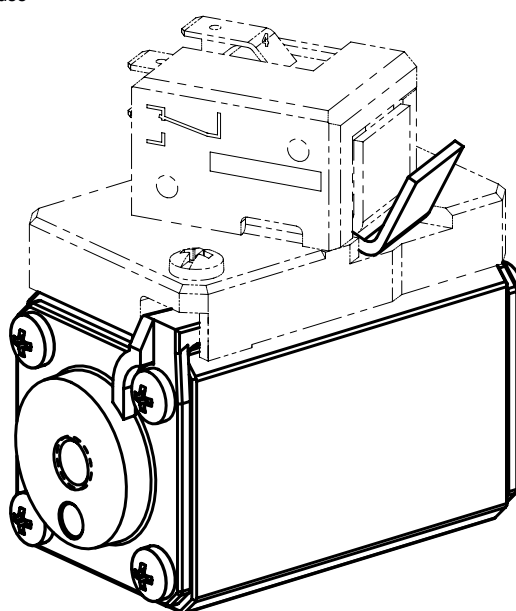
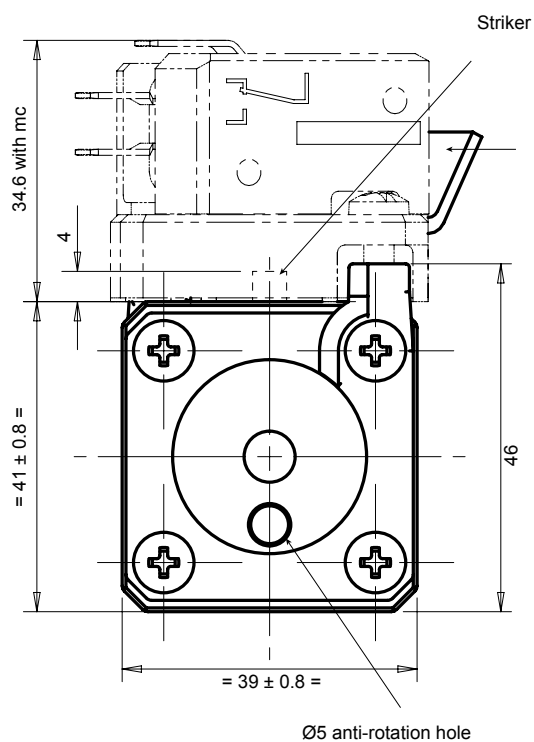
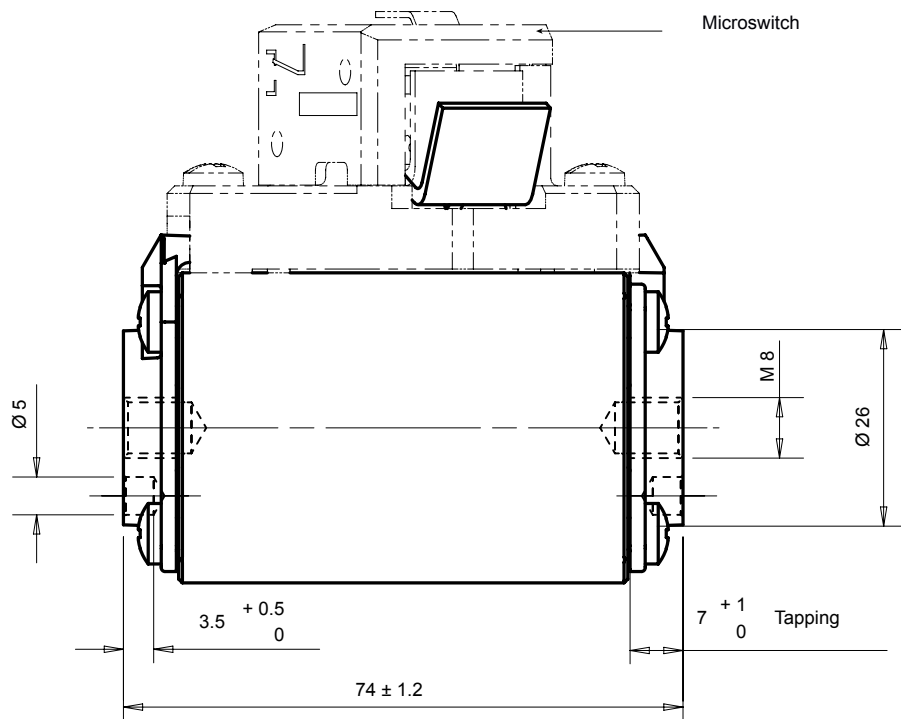
Dimensions in mm

# Protistor® size 70 aR

1100 to 1250VAC (IEC) / 1300VAC (UL)

## DIMENSIONS

Size 70 aR TTF (105698)



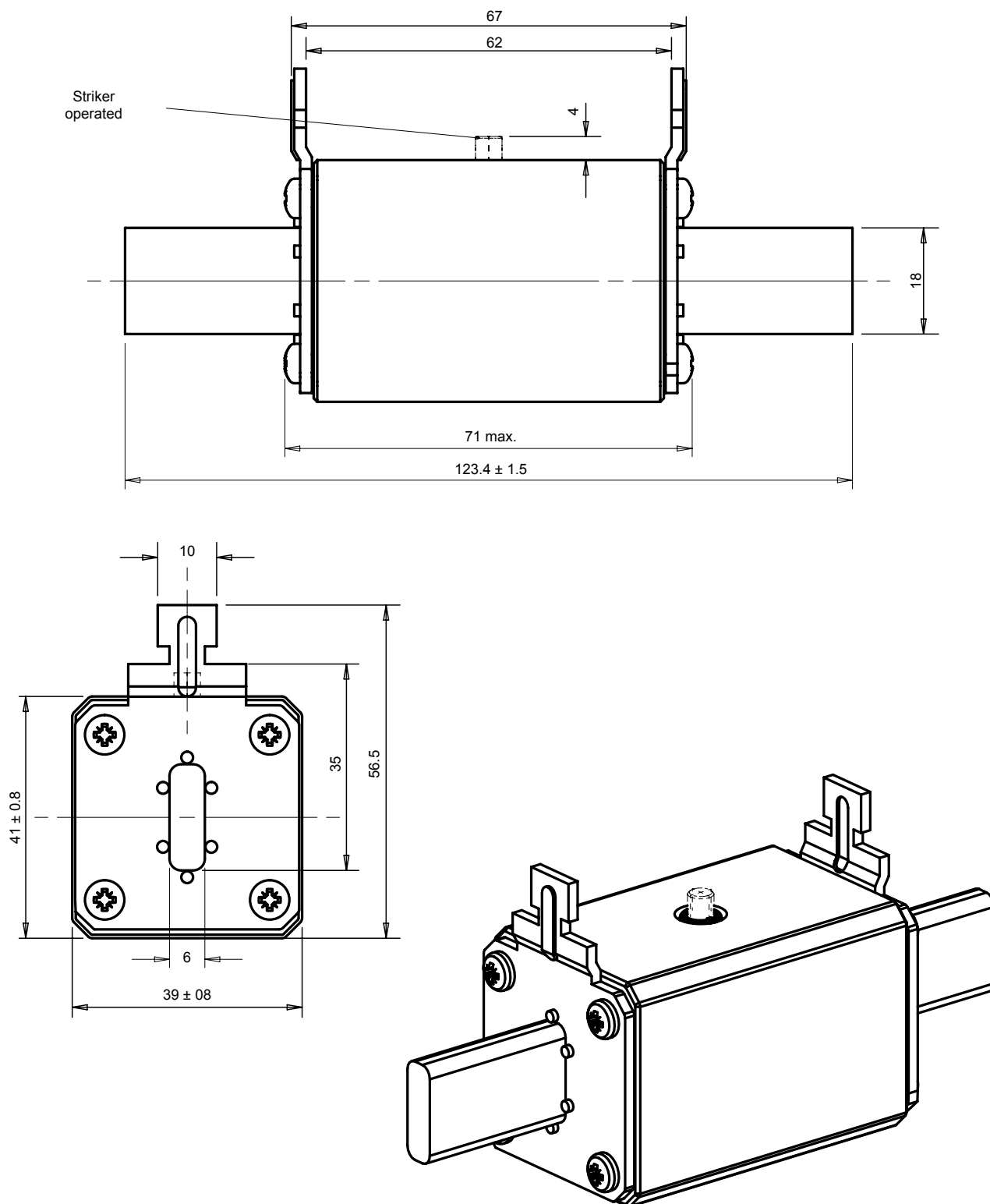
Dimensions in mm

# Protistor® size 70 aR

1100 to 1250VAC (IEC) / 1300VAC (UL)

## DIMENSIONS

Size 70 aR NH (107129)



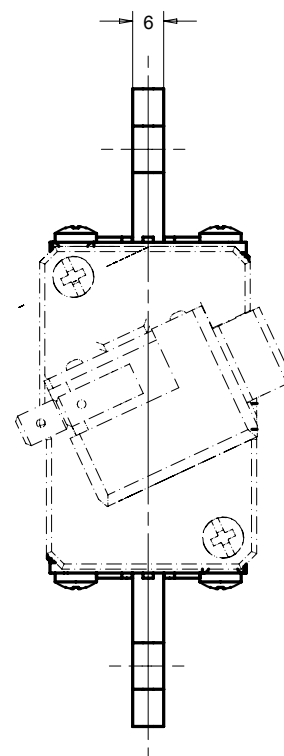
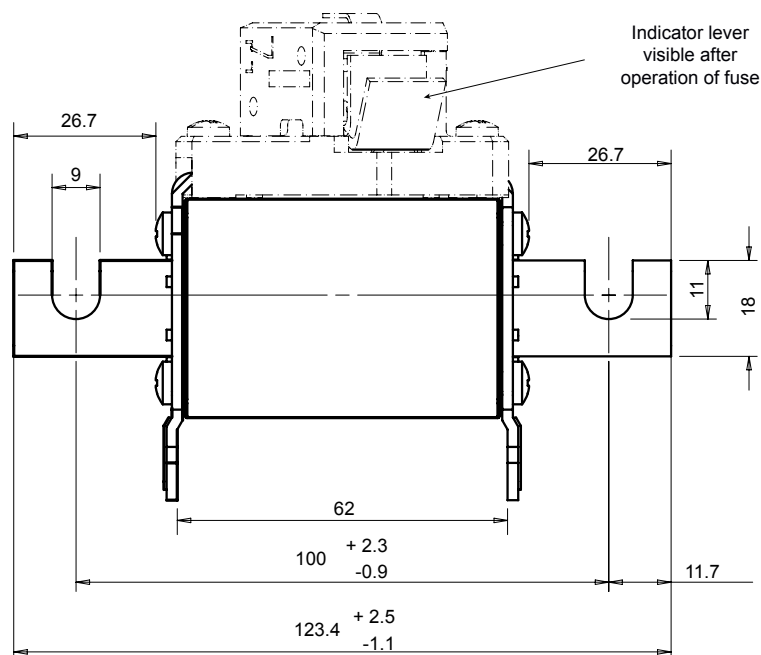
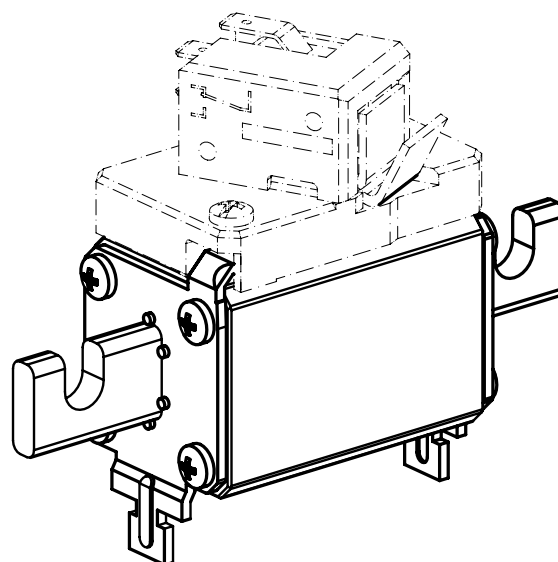
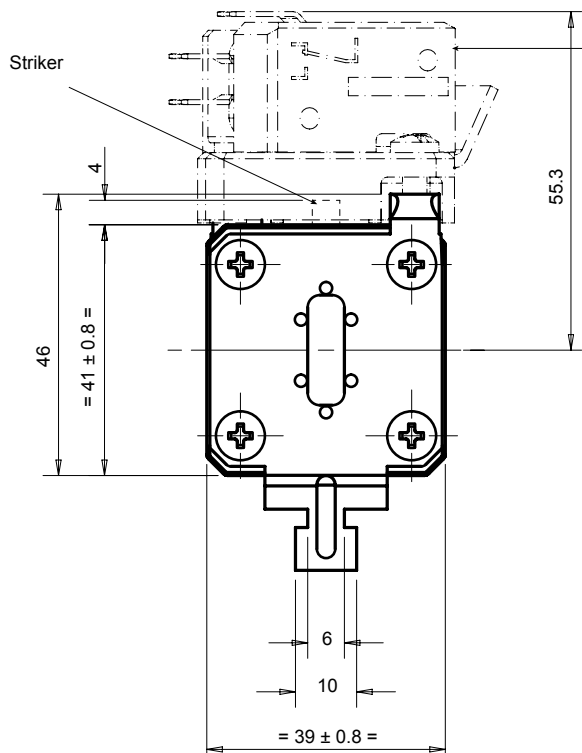
Dimensions in mm

# Protistor® size 70 aR

1100 to 1250VAC (IEC) / 1300VAC (UL)

## DIMENSIONS

Size 70 aR EF (105879)



Dimensions in mm

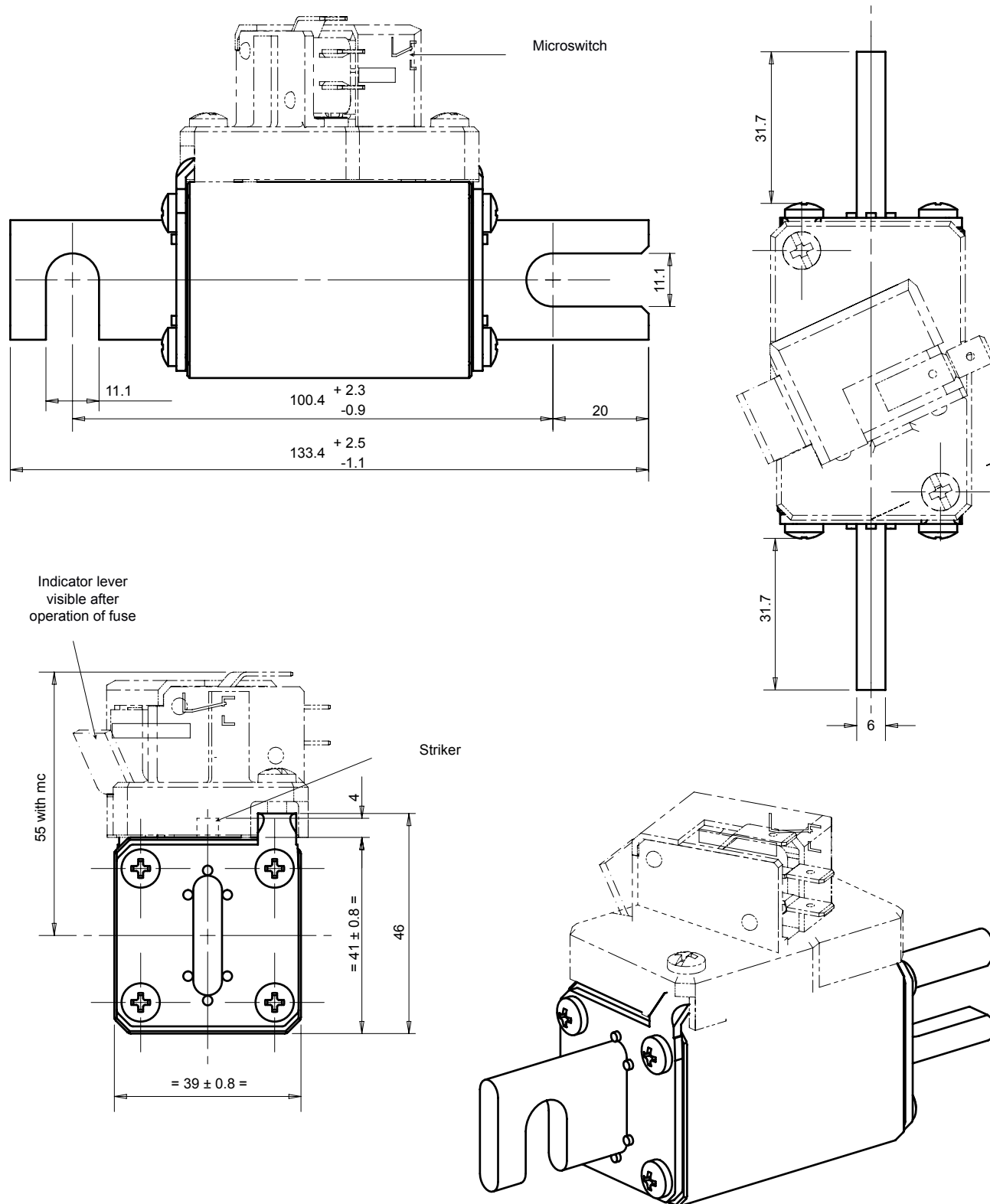


# Protistor® size 70 aR

1100 to 1250VAC (IEC) / 1300VAC (UL)

## DIMENSIONS

Size 70 aR DIN 110 (105711)



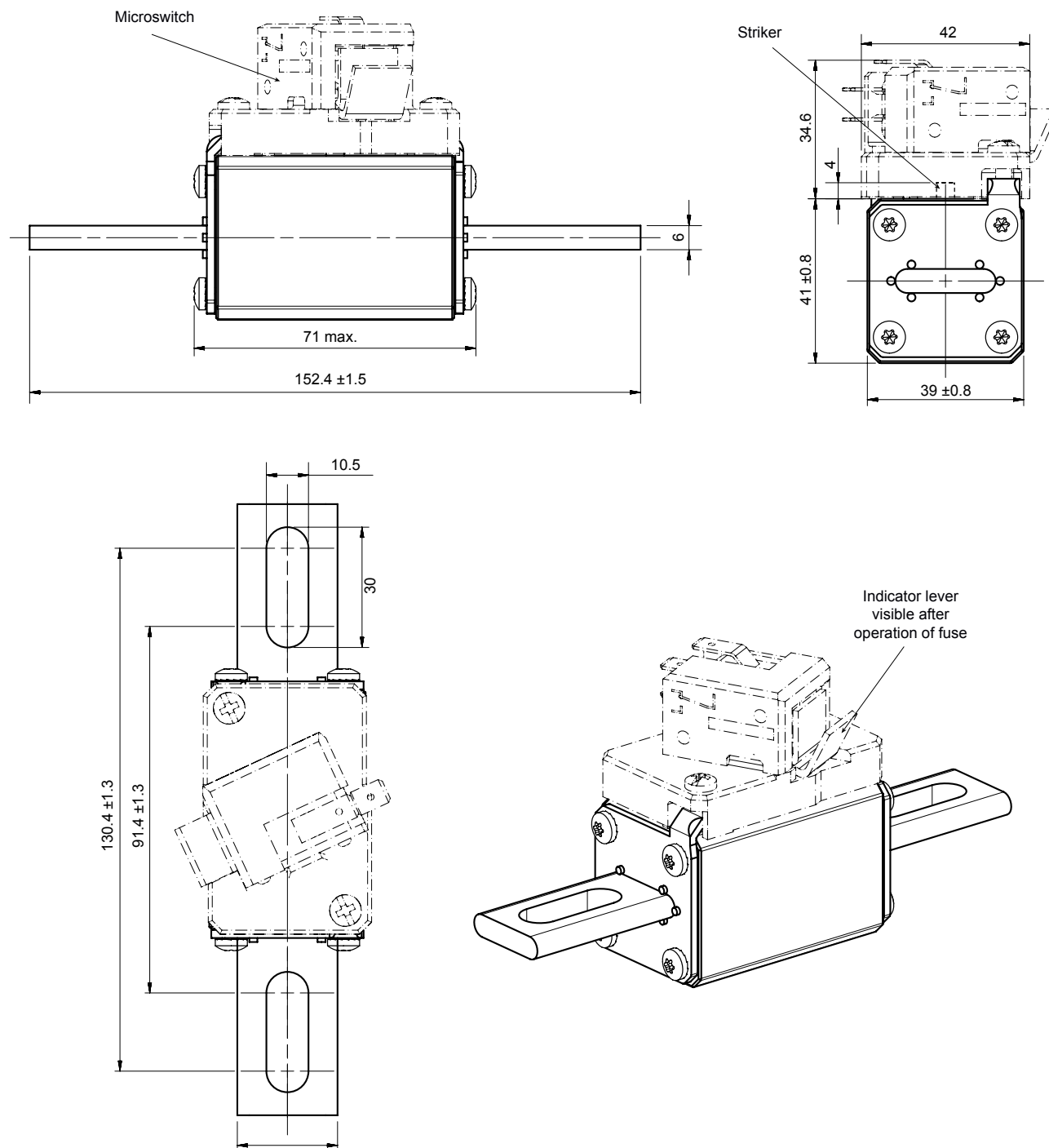
Dimensions in mm

# Protistor® size 70 aR

1100 to 1250VAC (IEC) / 1300VAC (UL)

## DIMENSIONS

Size 70 aR LI (105921)



Dimensions in mm