

# Protistor® size NH 000, 00, 1, 2, 3 gS

690VAC

## SEMICONDUCTOR PROTECTION FUSES

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



The 690/700V Protistor® fuse-links provide 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.

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.

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

## TECHNICAL DATA OVERVIEW

Rated Voltage	690/700VAC
Ampere Range (A)	16 ... 630 A
Size per Standard	NH 000, 00, 1, 2, 3
Speed/Characteristic	gS
I.R. AC (IEC)	160 kA

## FEATURES & BENEFITS

- Multiple body sizes
- gS Class according to IEC 60269-4
- Low  $I^2t$  for improved semiconductor protection
- Fast acting
- Highly current limiting
- Excellent cycling capability
- Reduced power dissipation
- No derating in standard NH fusegear
- High withstanding against inrush current and overloads

## APPLICATIONS

- Protection of inverters, motor drives, UPS systems and similar 700V or less equipments.

## STANDARDS

- IEC 60269-4 Compliance
- UL/CSA Recognized Component
- CCC GB 1359.4



# Protistor® size NH 000, 00, 1, 2, 3 gS

690VAC

## PRODUCT RANGE



NH000GS69V25PV

### Size 000 gS 690VAC

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>	Package	Weight
NH000GS69V16PV	N322035	690 V	700 V	16 A	9 A <sup>2</sup> s	45 A <sup>2</sup> s	160 kA	5 W	3	0.13 kg
NH000GS69V20PV	Q322037	690 V	700 V	20 A	10 A <sup>2</sup> s	54 A <sup>2</sup> s	160 kA	6 W	3	0.13 kg
NH000GS69V25PV	S322039	690 V	700 V	25 A	18 A <sup>2</sup> s	96 A <sup>2</sup> s	160 kA	7 W	3	0.13 kg
NH000GS69V32PV	X322043	690 V	700 V	32 A	39 A <sup>2</sup> s	218 A <sup>2</sup> s	160 kA	8 W	3	0.13 kg
NH000GS69V40PV	B322047	690 V	700 V	40 A	69 A <sup>2</sup> s	386 A <sup>2</sup> s	160 kA	9 W	3	0.13 kg
NH000GS69V50PV	F322051	690 V	700 V	50 A	136 A <sup>2</sup> s	764 A <sup>2</sup> s	160 kA	10 W	3	0.13 kg
NH000GS69V63PV	K322055	690 V	700 V	63 A	275 A <sup>2</sup> s	1545 A <sup>2</sup> s	160 kA	11 W	3	0.13 kg
NH000GS69V80PV	P322059	690 V	700 V	80 A	543 A <sup>2</sup> s	3055 A <sup>2</sup> s	160 kA	13 W	3	0.13 kg
NH000GS69V100PV	T322063	690 V	700 V	100 A	1063 A <sup>2</sup> s	5982 A <sup>2</sup> s	160 kA	14 W	3	0.13 kg



NH00GS69V125PV

### Size 00 gS 690VAC

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>	Package	Weight
NH00GS69V125PV	E322165	690 V	700 V	125 A	2170 A <sup>2</sup> s	10850 A <sup>2</sup> s	160 kA	16 W	3	0.2 kg
NH00GS69V160PV	J322169	690 V	700 V	160 A	4270 A <sup>2</sup> s	21340 A <sup>2</sup> s	160 kA	19 W	3	0.2 kg



NH1GS69V125PV

### Size 1 gS 690VAC

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>	Package	Weight
NH1GS69V100PV	V322363	690 V	700 V	100 A	965 A <sup>2</sup> s	4820 A <sup>2</sup> s	160 kA	19 W	3	0.43 kg
NH1GS69V125PV	X322365	690 V	700 V	125 A	1705 A <sup>2</sup> s	8550 A <sup>2</sup> s	160 kA	21 W	3	0.43 kg
NH1GS69V160PV	B322369	690 V	700 V	160 A	3860 A <sup>2</sup> s	19000 A <sup>2</sup> s	160 kA	23 W	3	0.43 kg
NH1GS69V200PV	D322371	690 V	700 V	200 A	7560 A <sup>2</sup> s	38000 A <sup>2</sup> s	160 kA	26 W	3	0.43 kg
NH1GS69V250PV	H322375	690 V	700 V	250 A	15420 A <sup>2</sup> s	77150 A <sup>2</sup> s	160 kA	29 W	3	0.43 kg
NH1GS69V280PV	L302897	690 V	700 V	280 A	18665 A <sup>2</sup> s	93000 A <sup>2</sup> s	160 kA	33 W	3	0.43 kg

# Protistor® size NH 000, 00, 1, 2, 3 gS

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## PRODUCT RANGE



NH2GS69V250PV

### Size 2 gS 690VAC

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>	Package	Weight
NH2GS69V160PV	K322469	690 V	700 V	160 A	3460 A <sup>2</sup> s	17500 A <sup>2</sup> s	160 kA	28 W	3	0.64 kg
NH2GS69V200PV	M322471	690 V	700 V	200 A	6870 A <sup>2</sup> s	34000 A <sup>2</sup> s	160 kA	30 W	3	0.64 kg
NH2GS69V250PV	R322475	690 V	700 V	250 A	12485 A <sup>2</sup> s	62000 A <sup>2</sup> s	160 kA	33 W	3	0.64 kg
NH2GS69V315PV	W322479	690 V	700 V	315 A	27945 A <sup>2</sup> s	140000 A <sup>2</sup> s	160 kA	36 W	3	0.64 kg
NH2GS69V350PV	X322480	690 V	700 V	350 A	38310 A <sup>2</sup> s	191000 A <sup>2</sup> s	160 kA	38 W	3	0.64 kg
NH2GS69V400PV	A322483	690 V	700 V	400 A	54320 A <sup>2</sup> s	271000 A <sup>2</sup> s	160 kA	41 W	3	0.64 kg
NH2GS69V450PV	C322485	690 V	700 V	450 A	81125 A <sup>2</sup> s	405000 A <sup>2</sup> s	160 kA	43 W	3	0.64 kg



NH3GS69V315PV

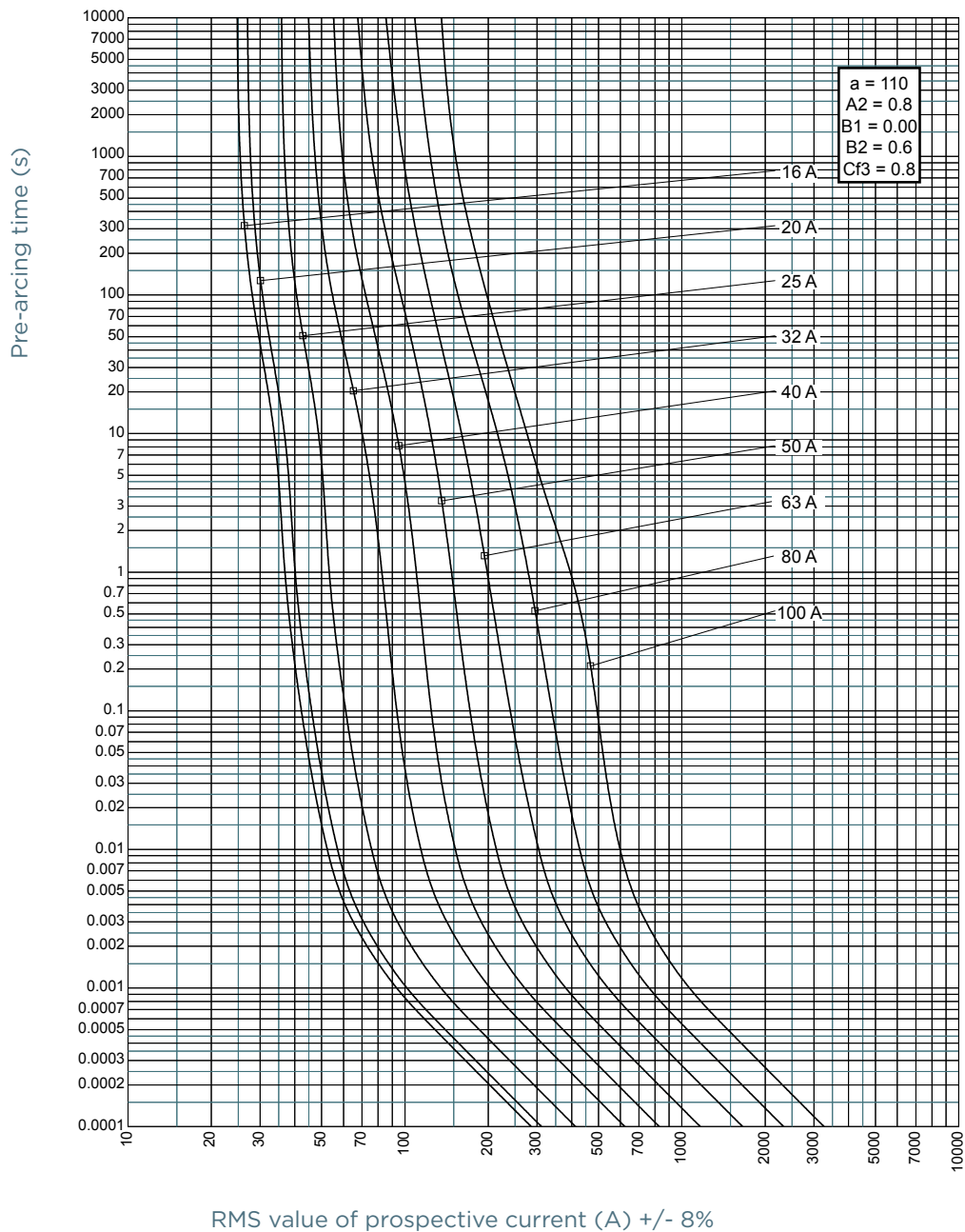
### Size 3 gS 690VAC

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>	Package	Weight
NH3GS69V250PV	R322590	690 V	700 V	250 A	9690 A <sup>2</sup> s	48000 A <sup>2</sup> s	160 kA	39 W	1	1.05 kg
NH3GS69V315PV	E322579	690 V	700 V	315 A	19525 A <sup>2</sup> s	97000 A <sup>2</sup> s	160 kA	42 W	1	1.05 kg
NH3GS69V350PV	F322580	690 V	700 V	350 A	28135 A <sup>2</sup> s	140000 A <sup>2</sup> s	160 kA	44 W	1	1.05 kg
NH3GS69V400PV	J322583	690 V	700 V	400 A	42050 A <sup>2</sup> s	210000 A <sup>2</sup> s	160 kA	47 W	1	1.05 kg
NH3GS69V450PV	L322585	690 V	700 V	450 A	58675 A <sup>2</sup> s	293000 A <sup>2</sup> s	160 kA	50 W	1	1.05 kg
NH3GS69V500PV	N322587	690 V	700 V	500 A	87030 A <sup>2</sup> s	435100 A <sup>2</sup> s	160 kA	52 W	1	1.05 kg
NH3GS69V550PV	P322588	690 V	700 V	550 A	111810 A <sup>2</sup> s	559000 A <sup>2</sup> s	160 kA	56 W	1	1.05 kg
NH3GS69V630PV	Q322589	690 V	700 V	630 A	149950 A <sup>2</sup> s	749000 A <sup>2</sup> s	160 kA	63 W	1	1.05 kg

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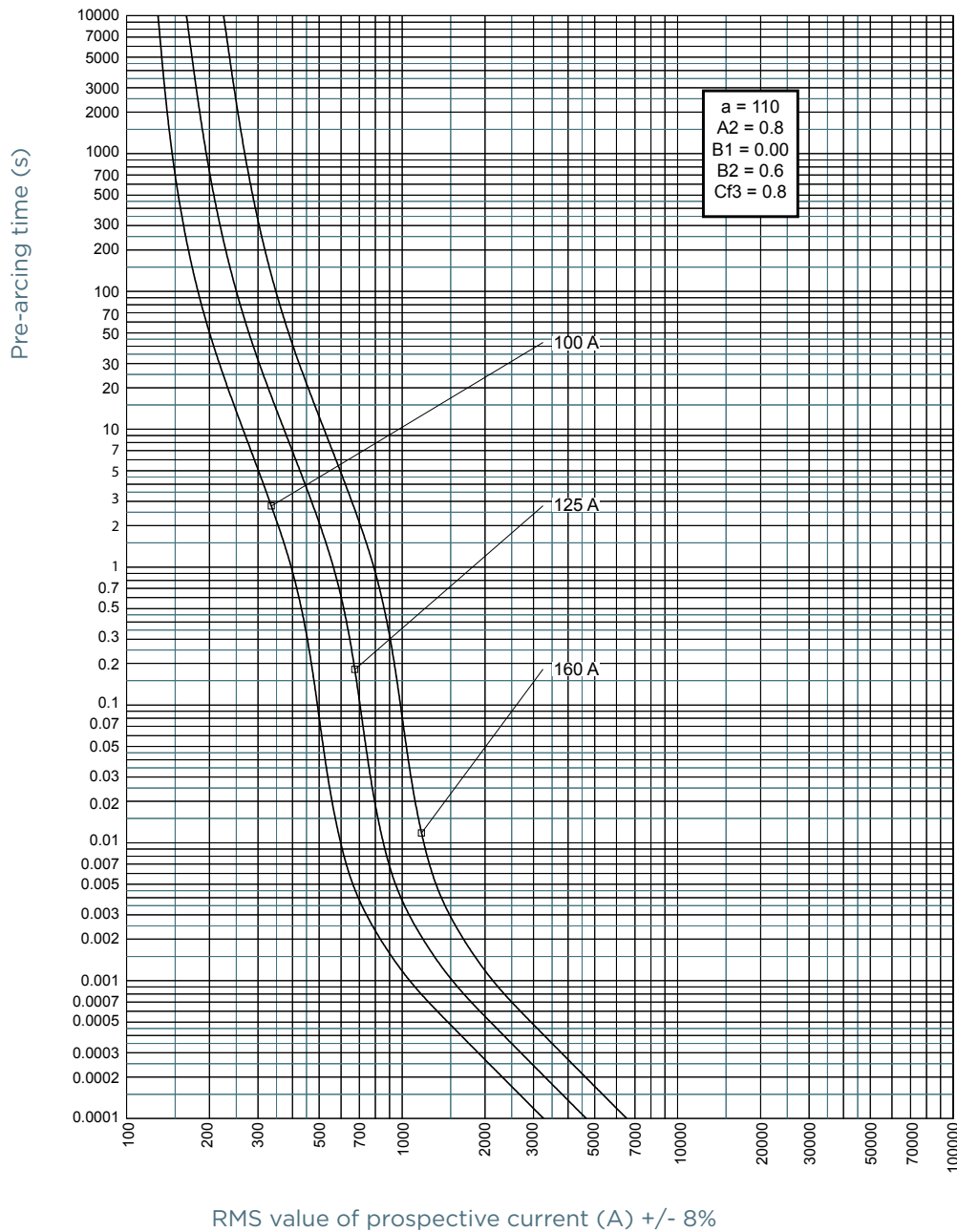
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### Size 000



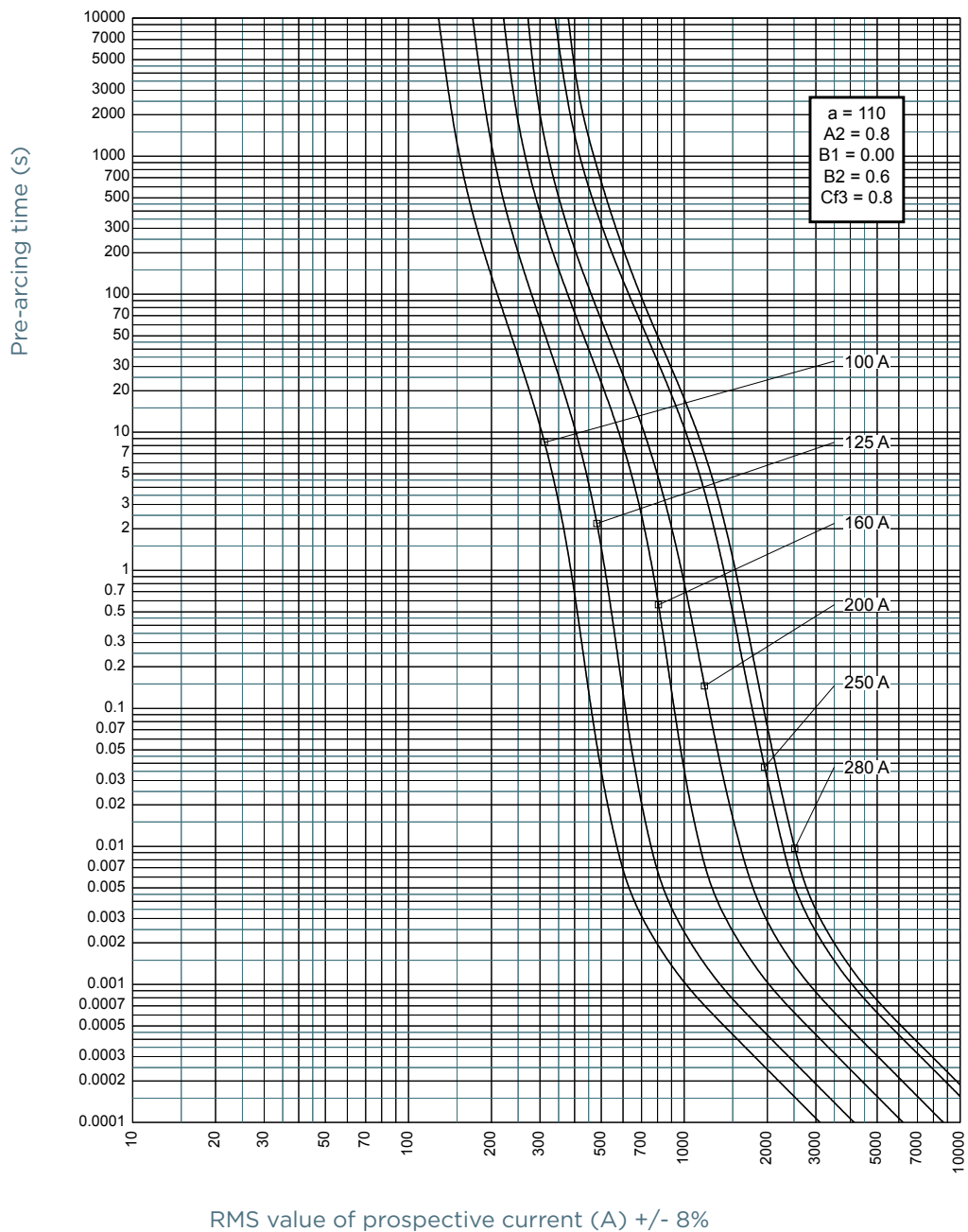
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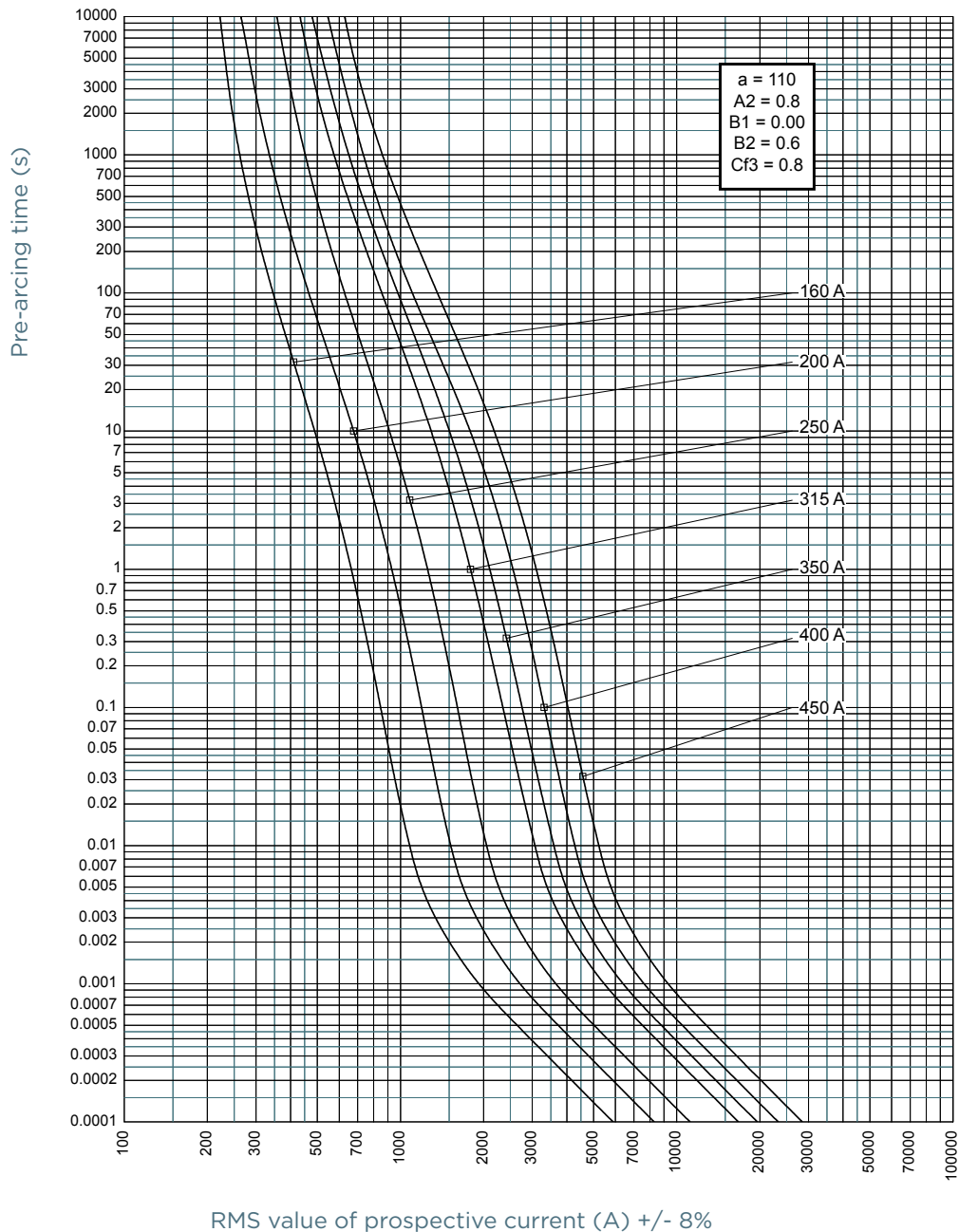
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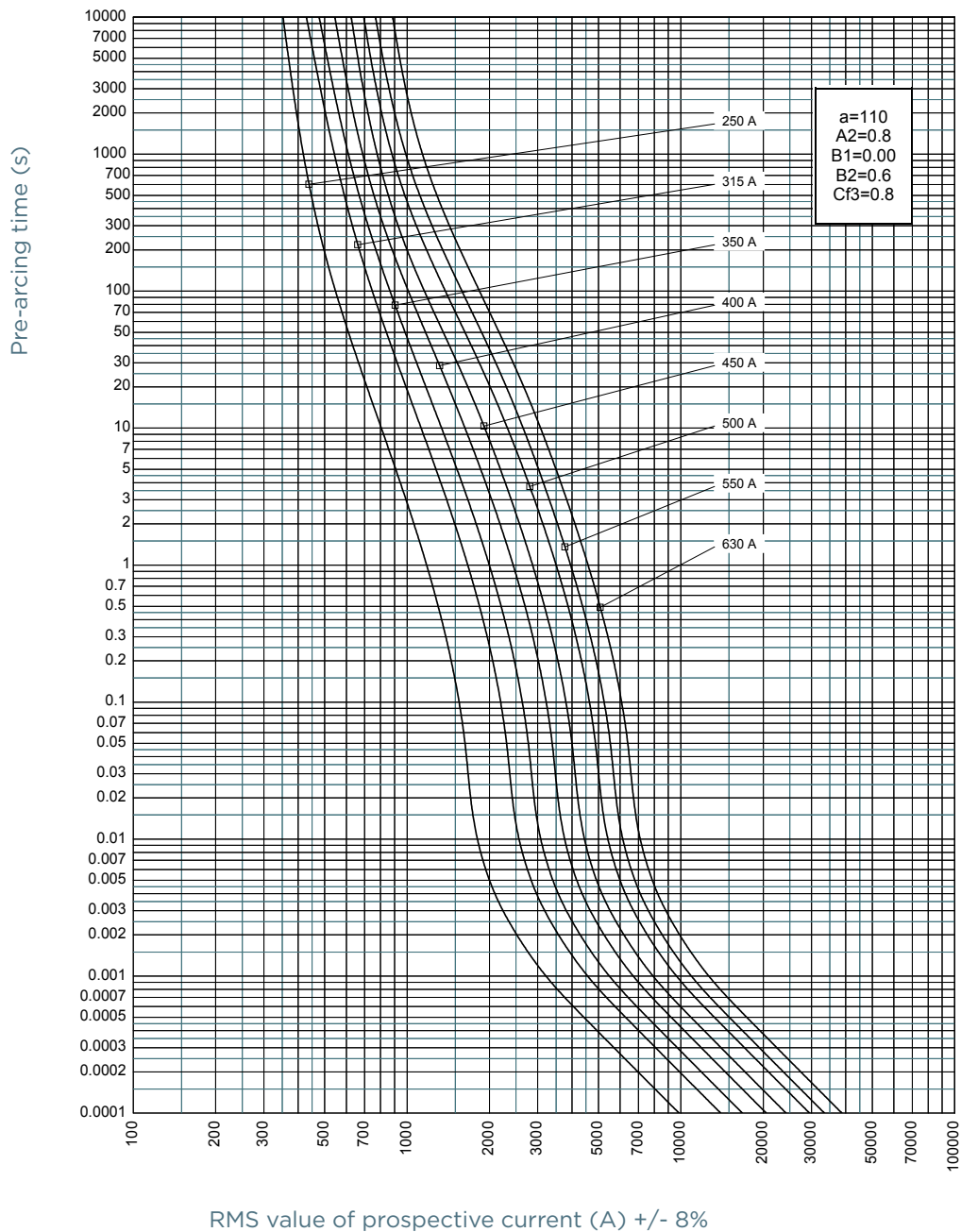
## TIME CURRENT CHARACTERISTIC CURVES

### Size 2



## TIME CURRENT CHARACTERISTIC CURVES

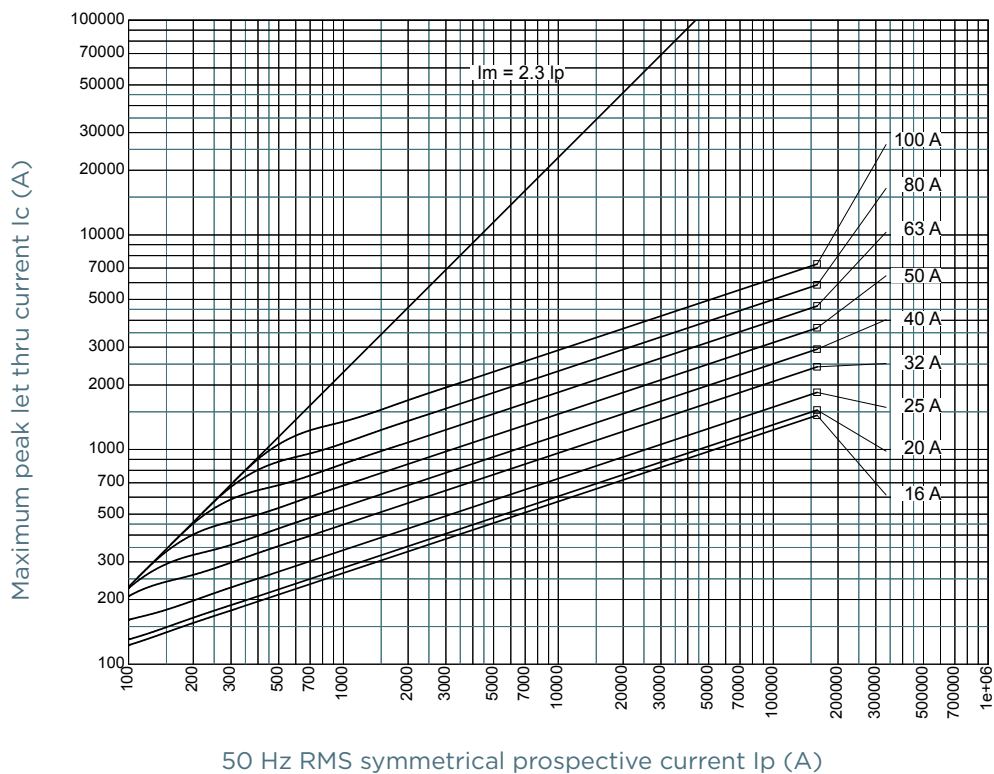
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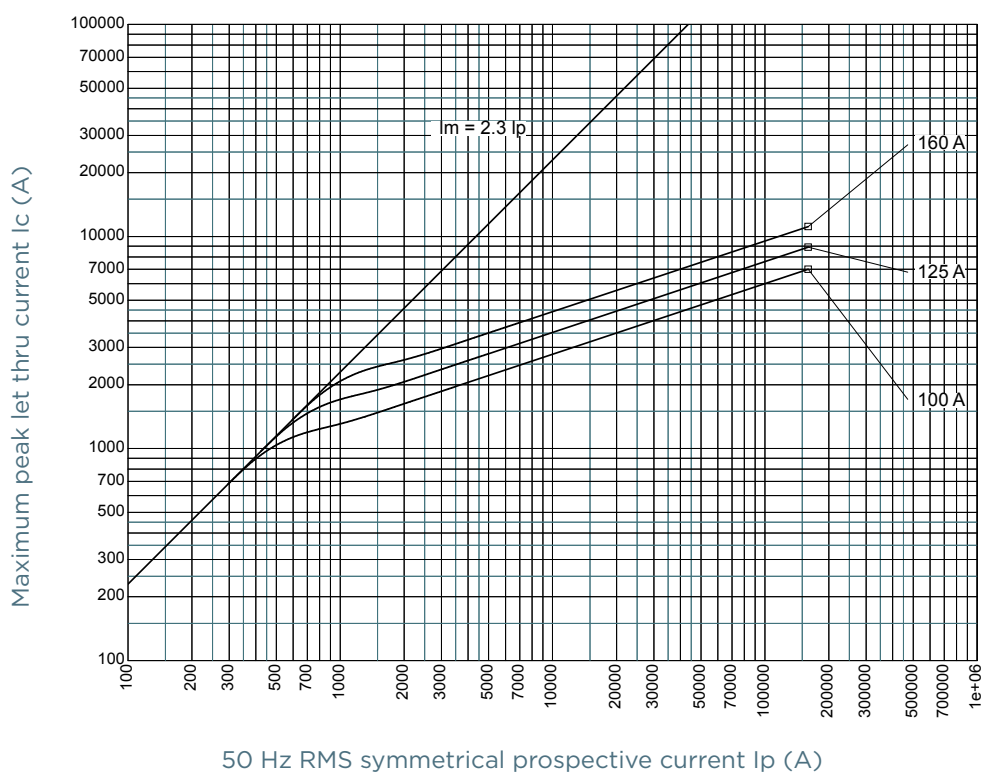


## CUT-OFF CURRENT CHARACTERISTIC

### Size 000

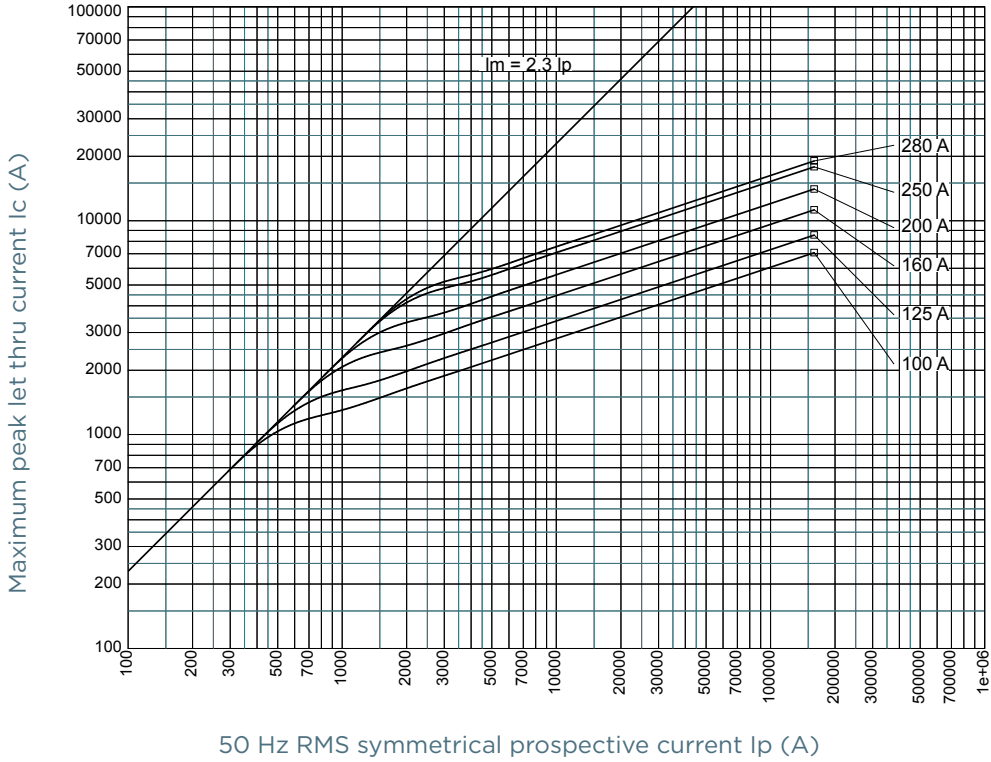


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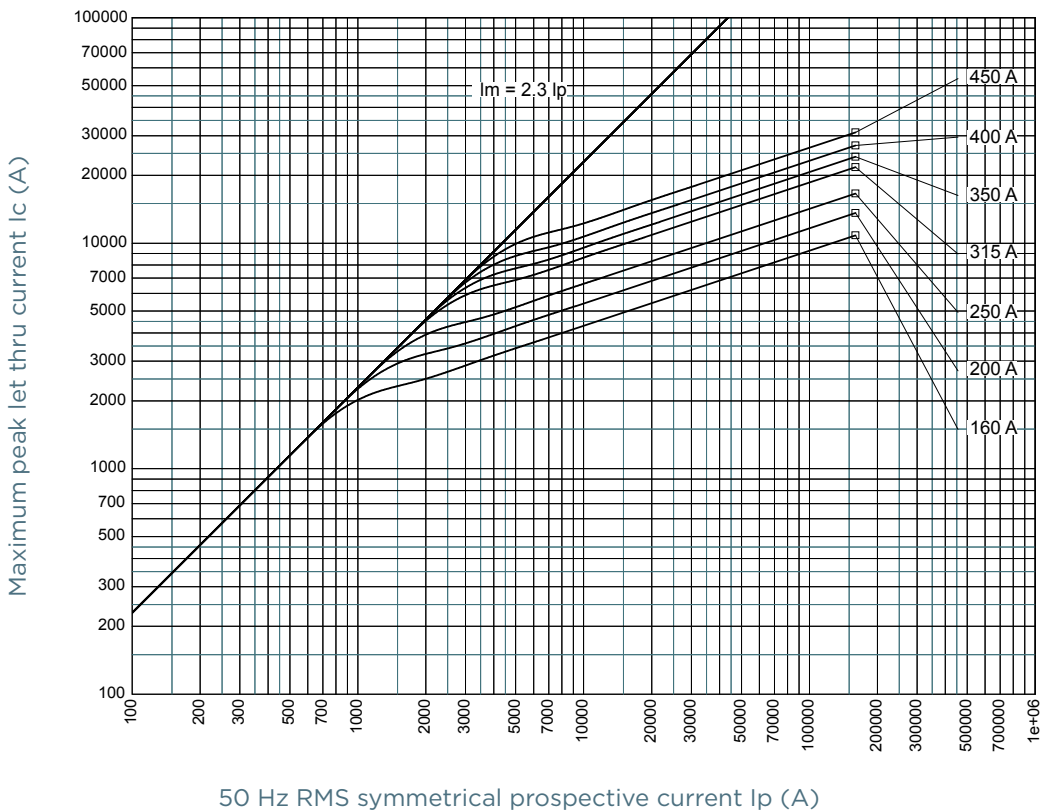


## CUT-OFF CURRENT CHARACTERISTIC

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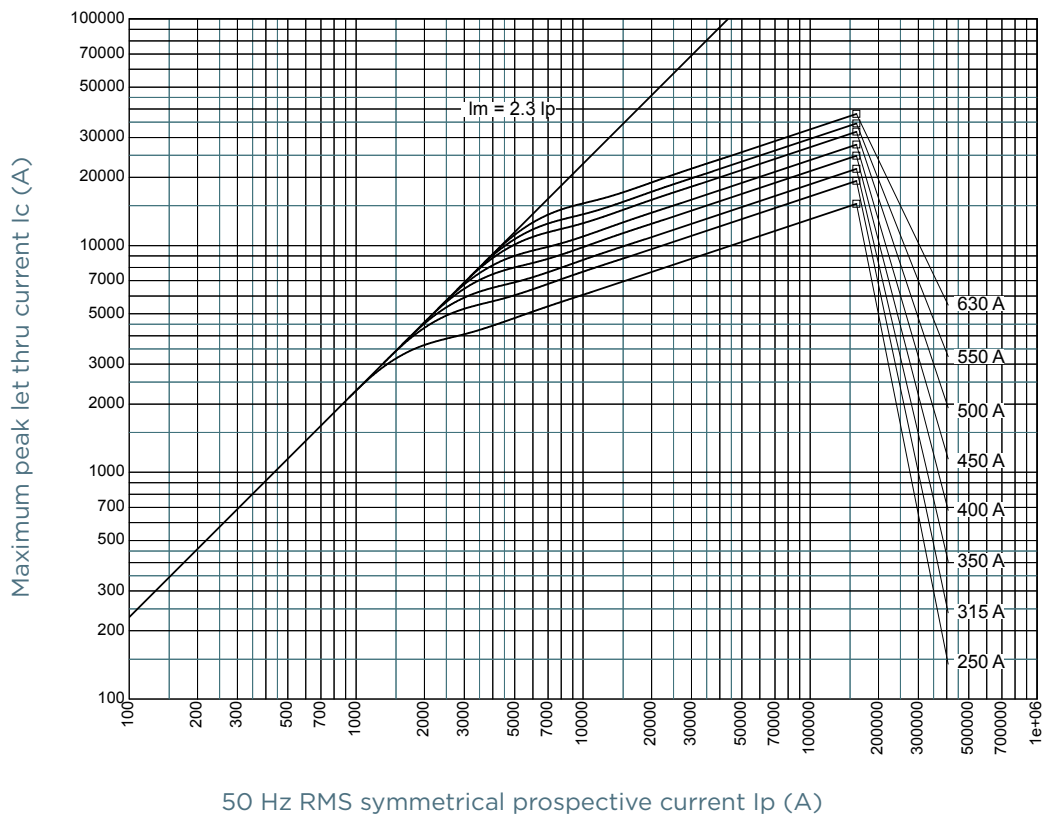


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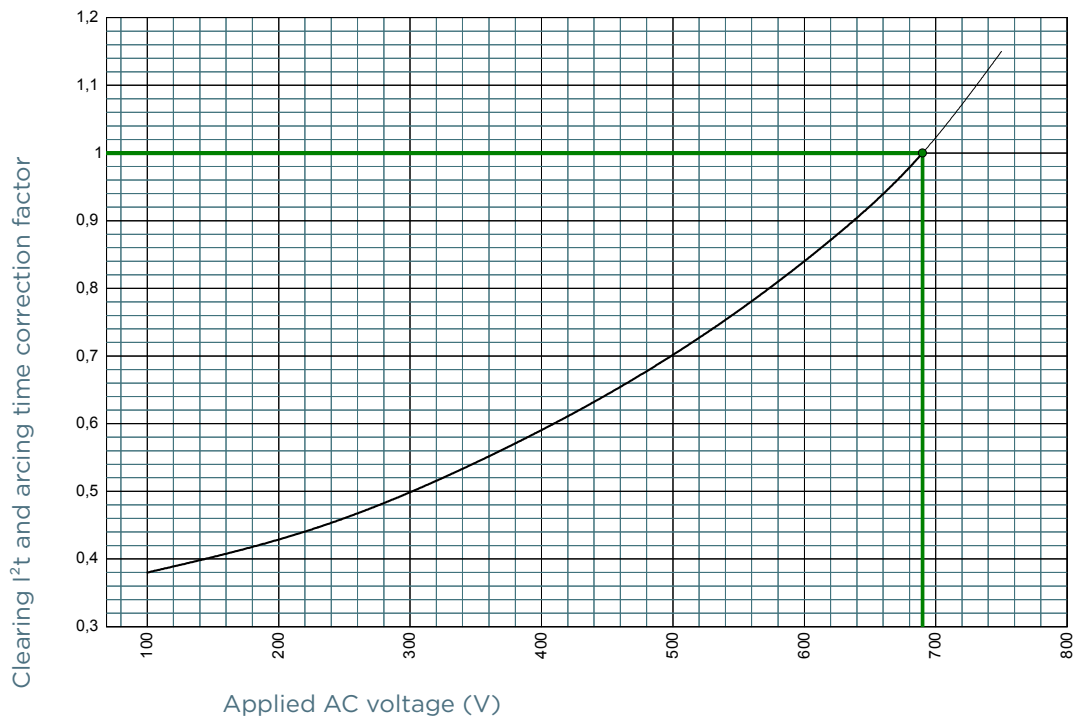
## CUT-OFF CURRENT CHARACTERISTIC

### Size 3



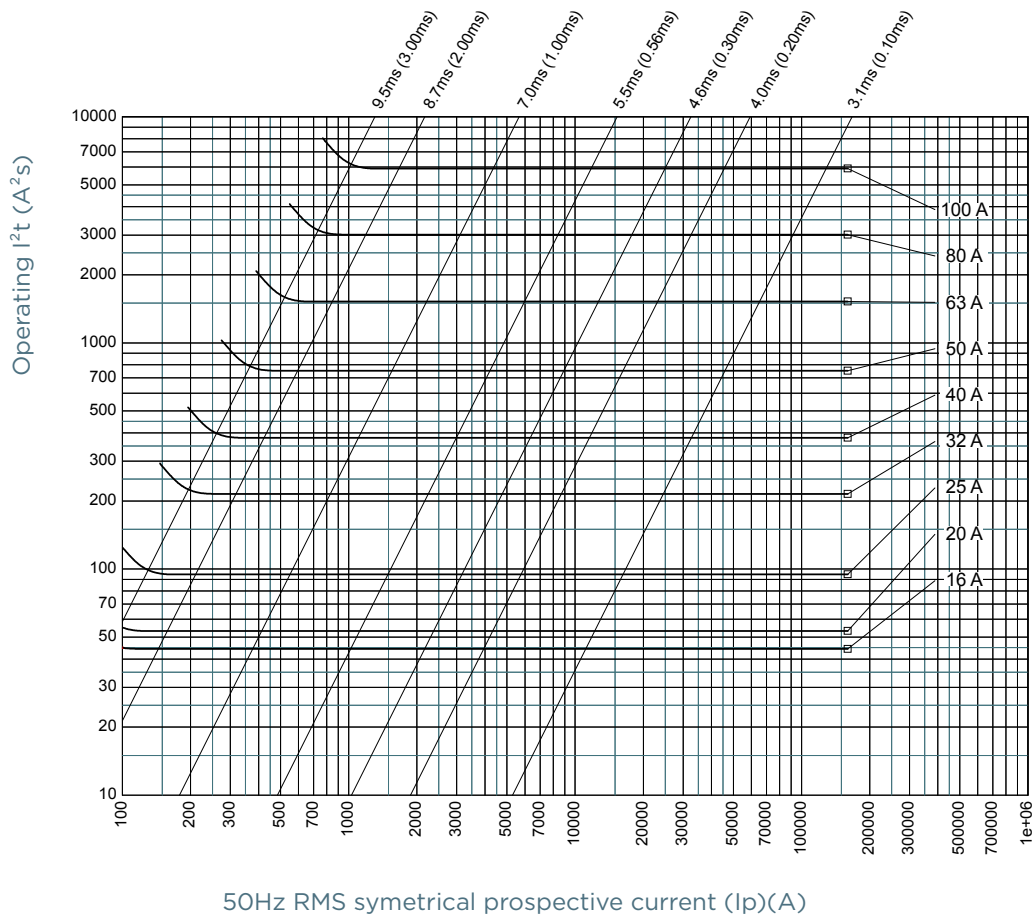
## I<sup>2</sup>T MULTIPLIER COEFFICIENT

Sizes 000, 00, 1, 2, 3



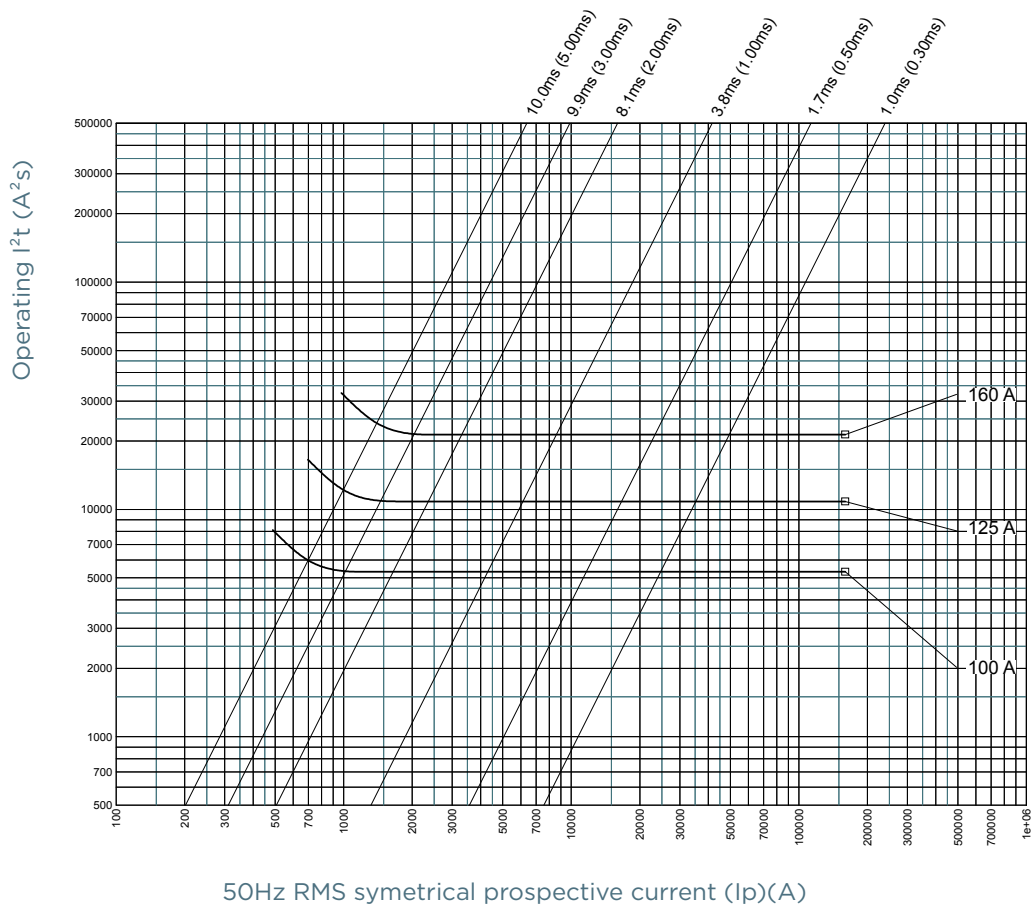
## CHARACTERISTICS TOTAL I<sup>2</sup>T CURVE

### Size 000



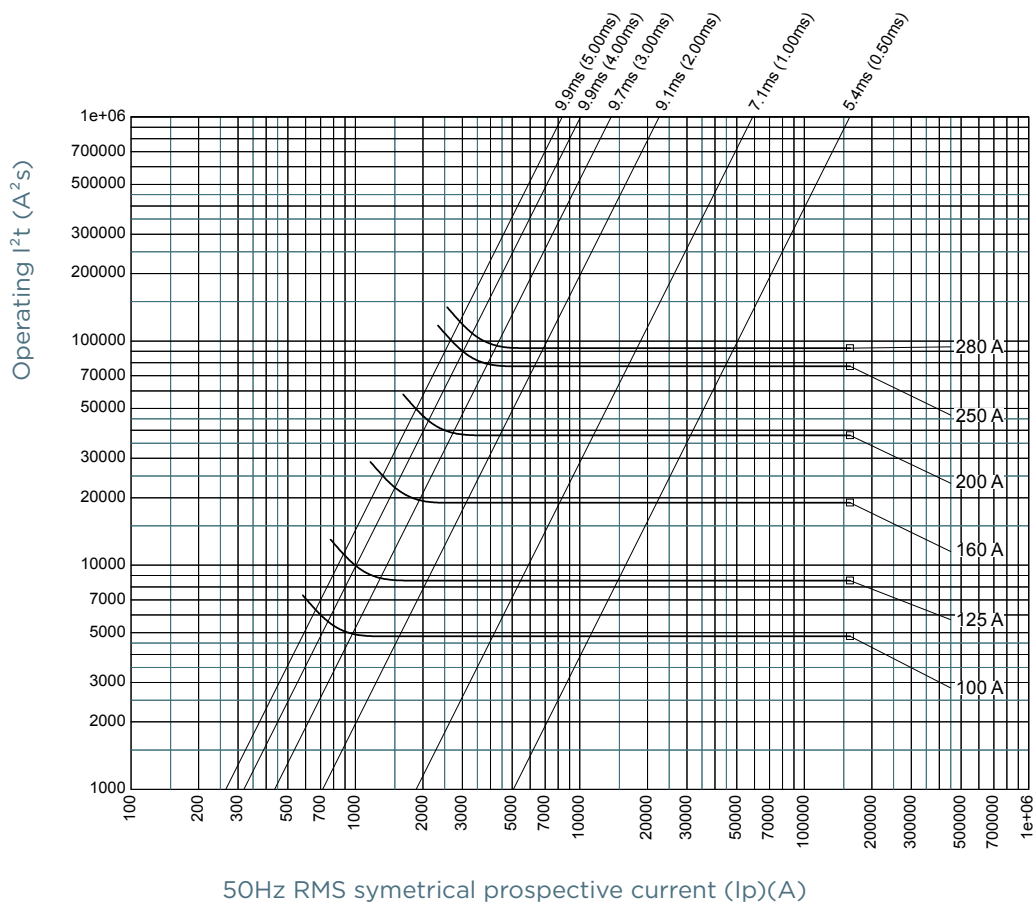
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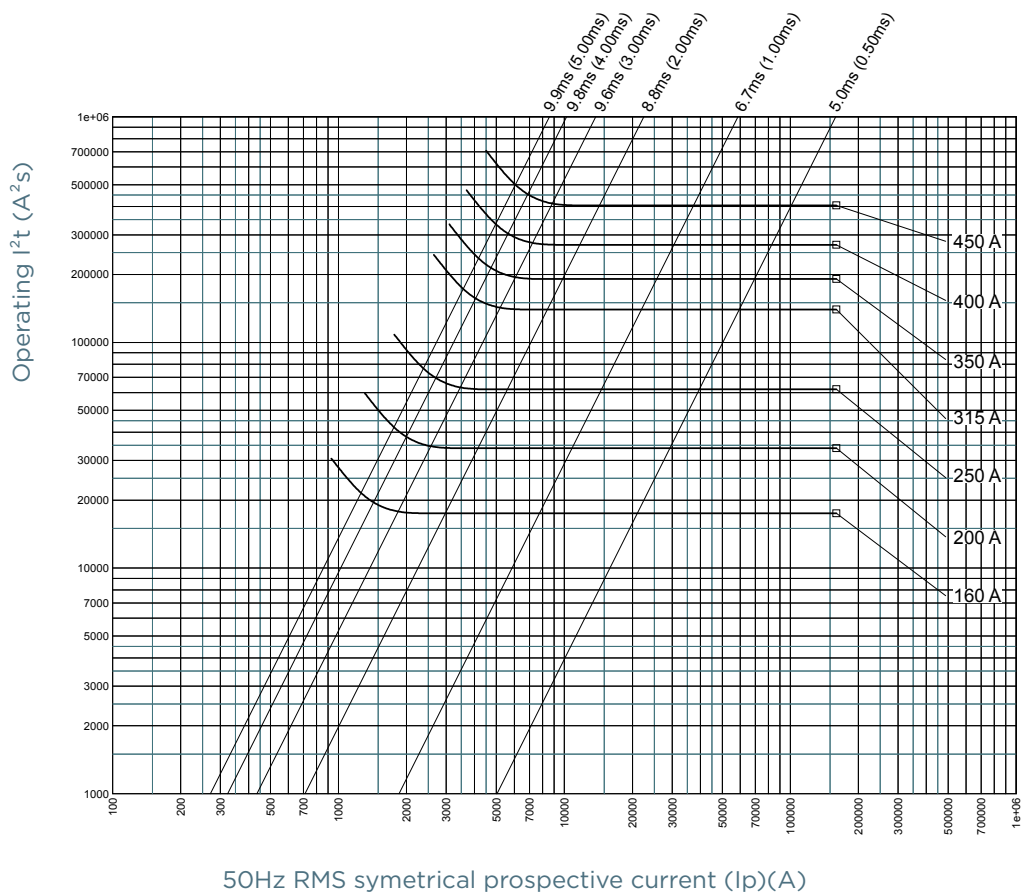
## CHARACTERISTICS TOTAL I<sup>2</sup>T CURVE

### Size 1



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

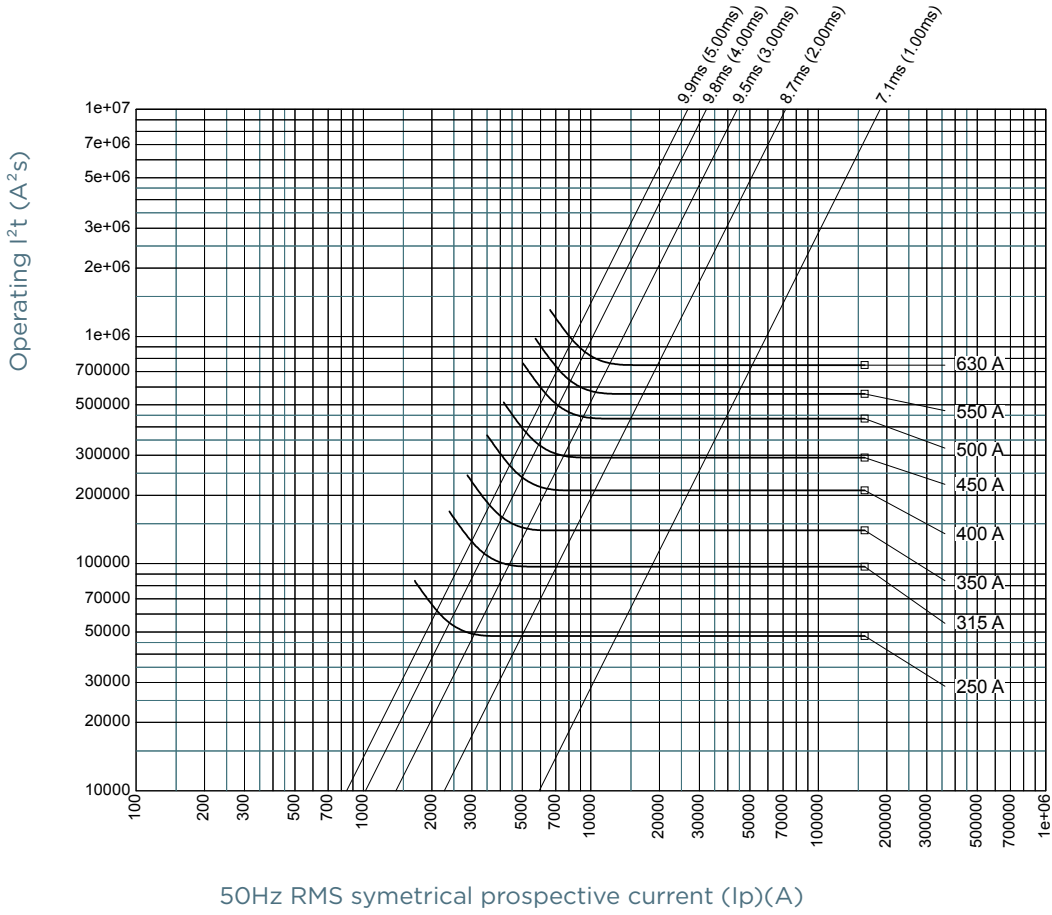
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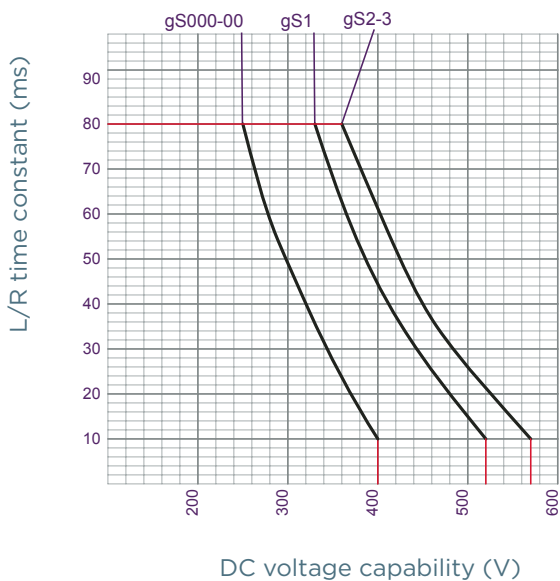


## CHARACTERISTICS TOTAL I<sup>2</sup>T CURVE

### Size 3

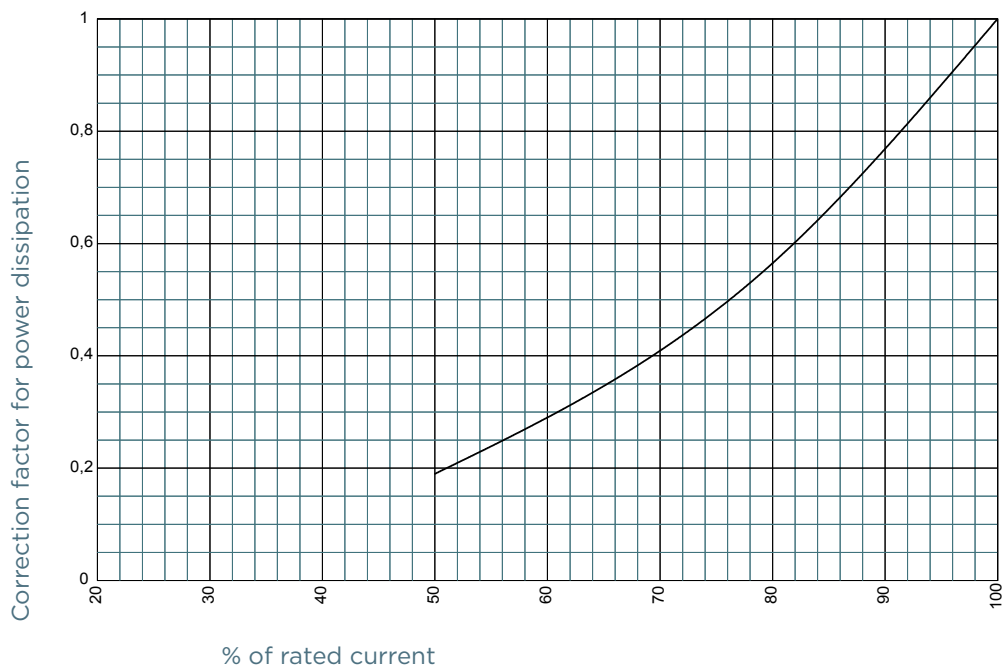


## L/R TIME CONSTANT VS DC VOLTAGE CAPABILITY



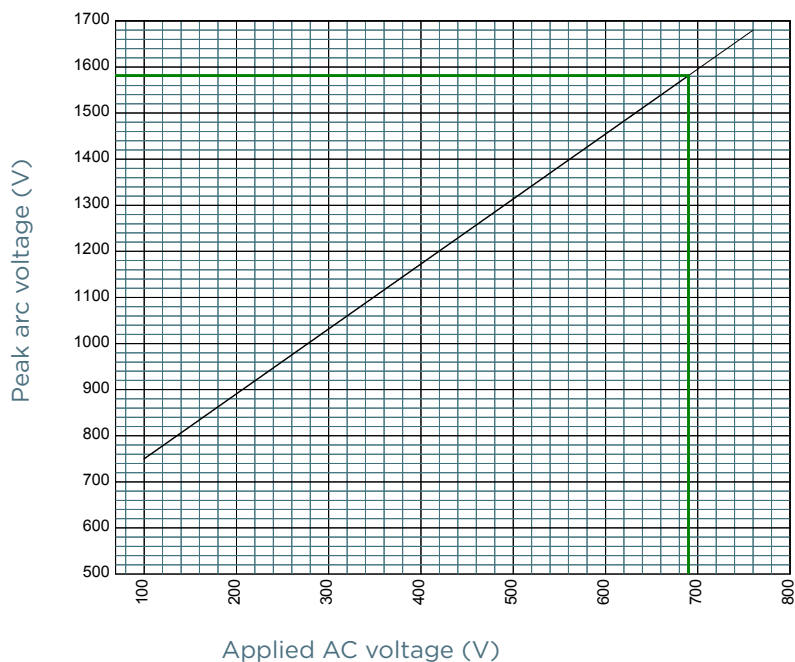
## POWER DISSIPATION

Sizes 000, 00, 1, 2, 3



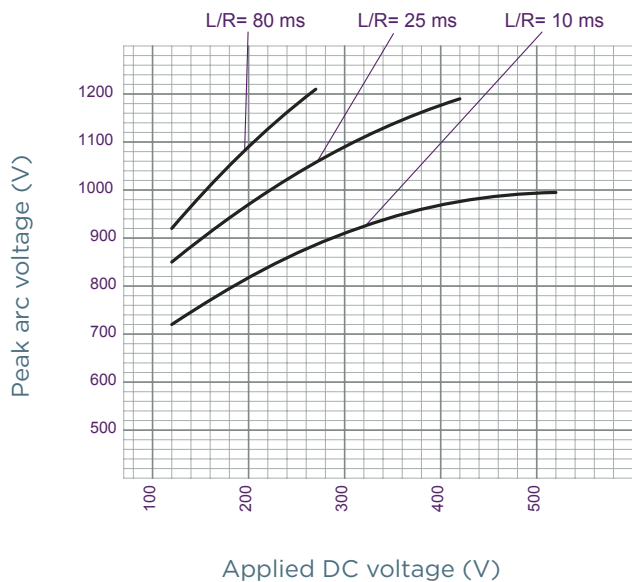
## PEAK ARC VOLTAGE

Sizes 000, 00, 1, 2, 3 VAC



## PEAK ARC VOLTAGE

Sizes 000, 00, 1, 2, 3 VDC

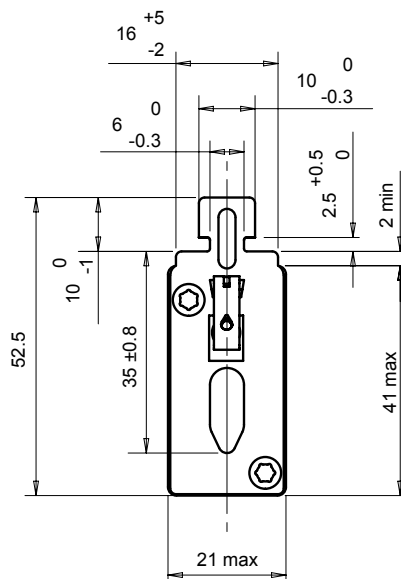
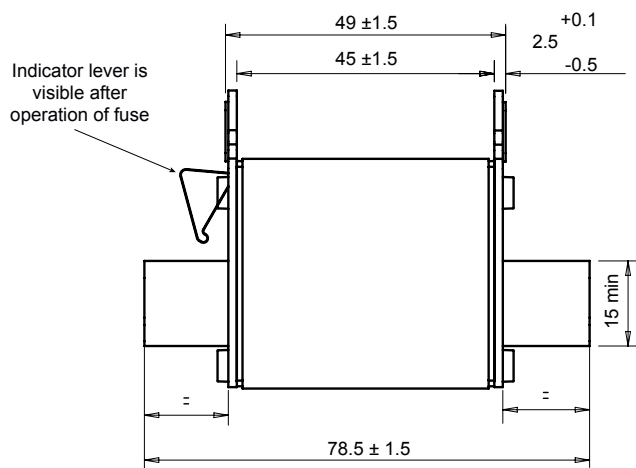


# Protistor® size NH 000, 00, 1, 2, 3 gS

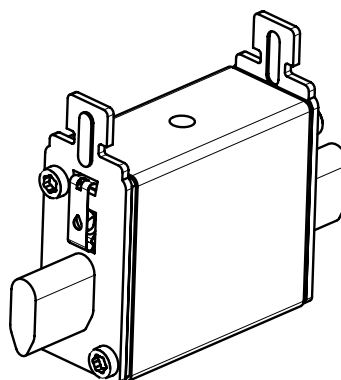
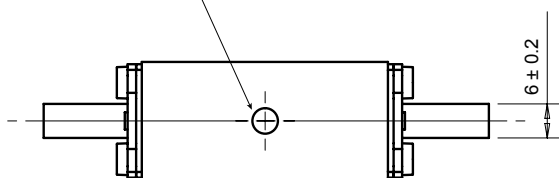
690VAC

## DIMENSIONS

### Size 000



Visibility of red indicator signals conduction of the fuse-link. After operation the red indicator is no longer visible



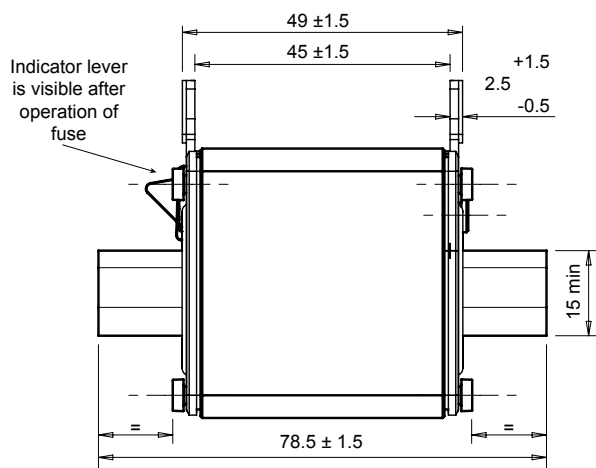
Dimensions in mm

# Protistor® size NH 000, 00, 1, 2, 3 gS

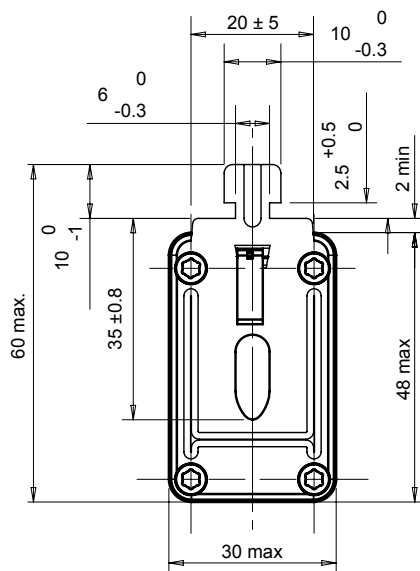
690VAC

## DIMENSIONS

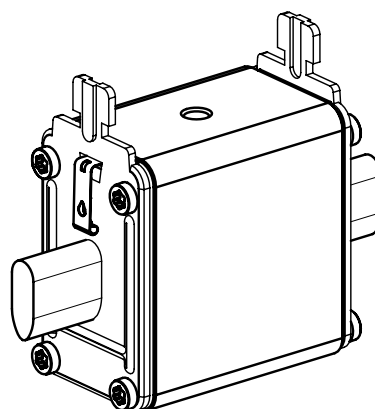
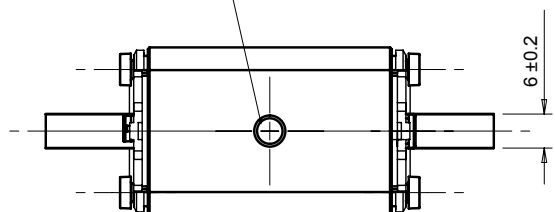
### Size 00



Indicator lever is visible after operation of fuse



Visibility of red indicator signals conduction of the fuse-link.  
After operation the red indicator is no longer visible



Dimensions in mm

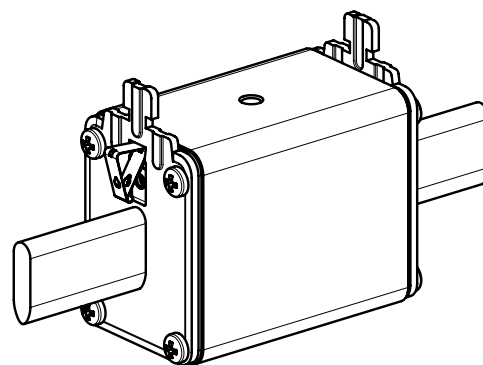
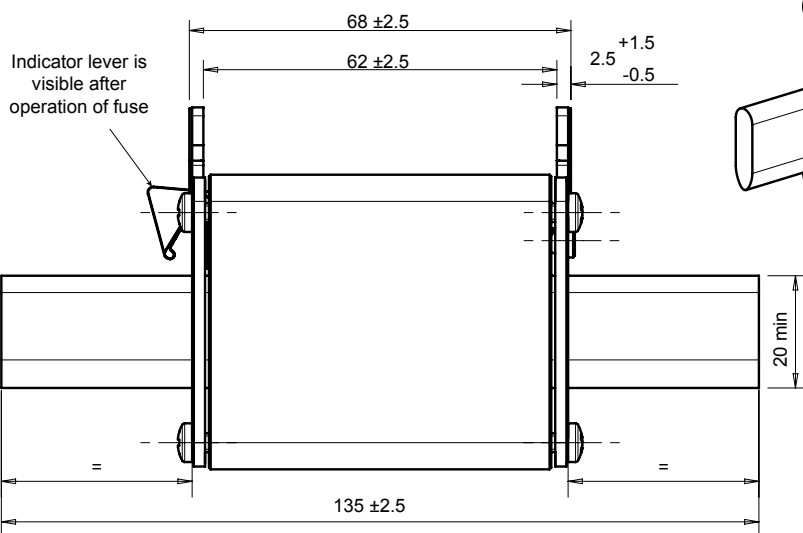
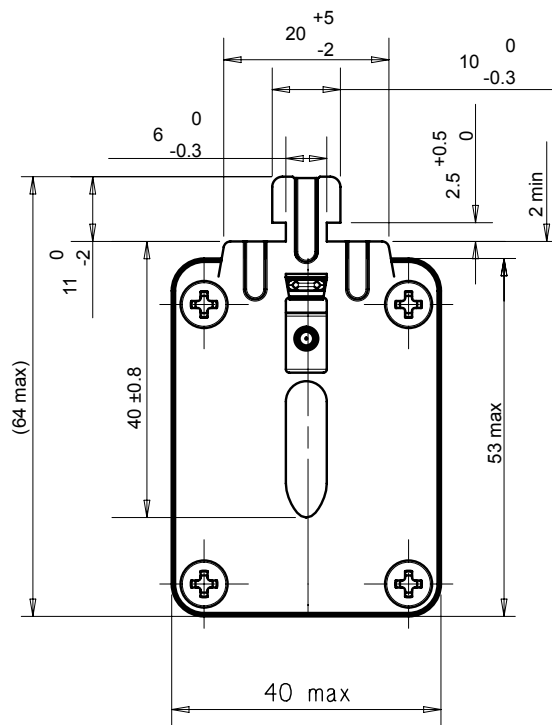
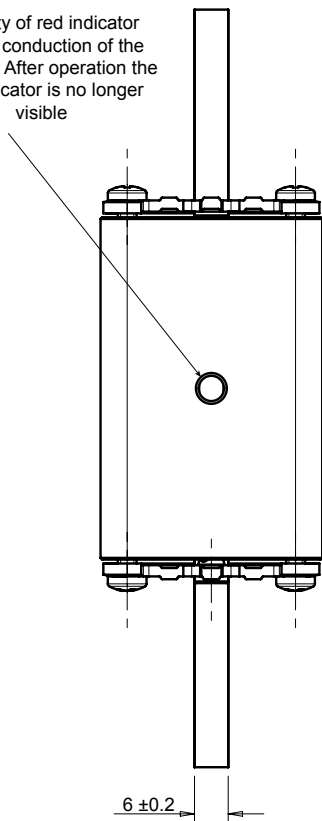
# Protistor® size NH 000, 00, 1, 2, 3 gS

690VAC

## DIMENSIONS

### Size 1

Visibility of red indicator signals conduction of the fuse-link. After operation the red indicator is no longer visible



Dimensions in mm

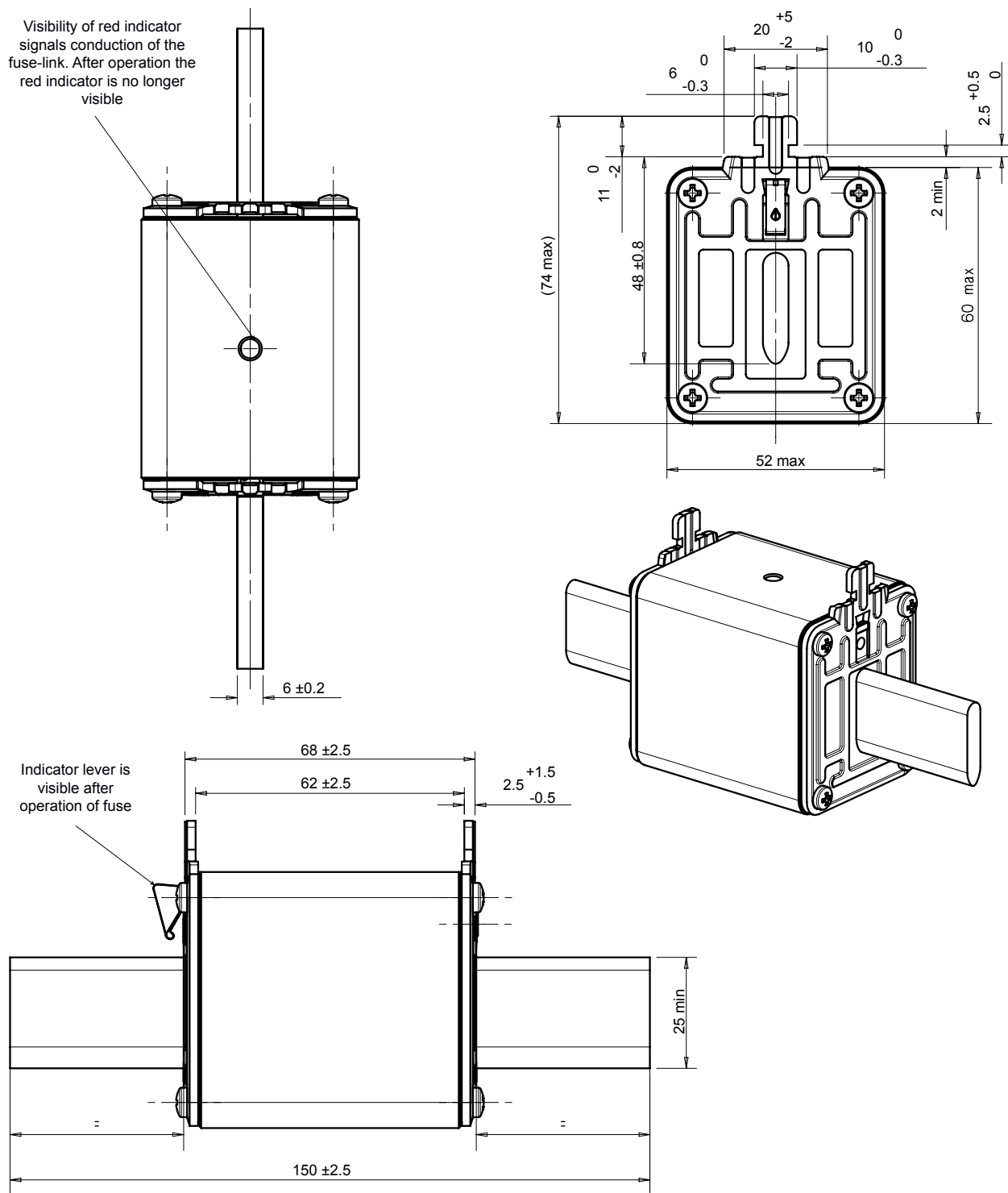
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# Protistor® size NH 000, 00, 1, 2, 3 gS

690VAC

## DIMENSIONS

### Size 2



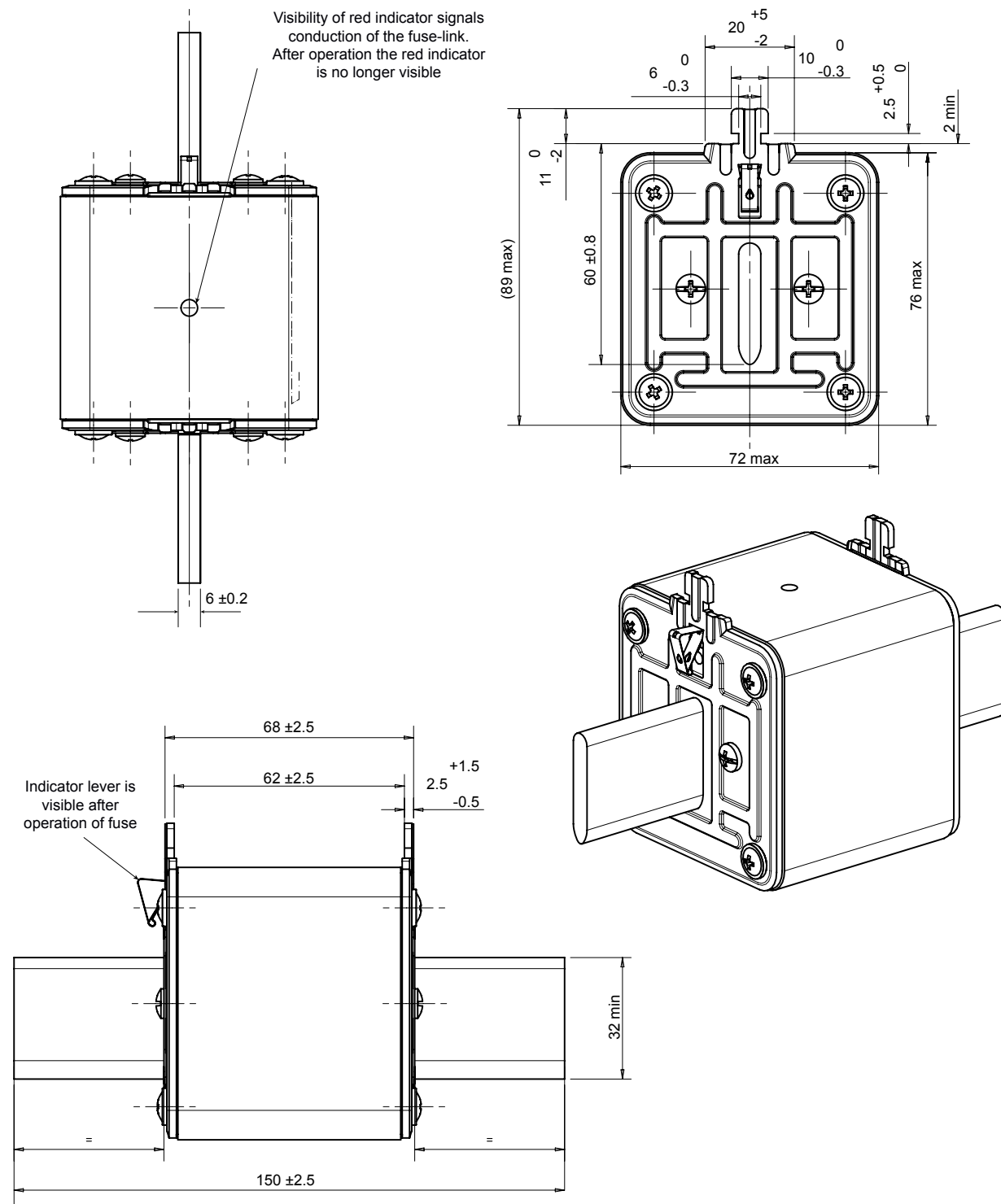
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# Protistor® size NH 000, 00, 1, 2, 3 gS

690VAC

## DIMENSIONS

### Size 3



Dimensions in mm

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