

Protistor® size 33 aR

450 to 690VAC (IEC) / 700VAC (UL)

SEMICONDUCTOR PROTECTION FUSES

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 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 and IGBT devices. Fuses are assembled with 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

Voltage Range AC	450 ... 690 VAC
Ampere Range (A)	450 ... 2500 A
Speed/Characteristic	aR
I.R. AC	110 ... 200 kA
Product Size	33

FEATURES & BENEFITS

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

APPLICATIONS

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

STANDARDS

- IEC 60269-4 Compliance
- UL/CSA Recognized E76491
- CCC 1359.4



Protistor® size 33 aR

450 to 690VAC (IEC) / 700VAC (UL)

PRODUCT RANGE



PC33UD69V1100A

Size 33 type DIN80 blades

Catalog number	Item number	Rated voltage AC (IEC)	Rated voltage AC (UL)	Rated current I _n	Pre-arcing I ² t	Clearing I ² t at Rated Voltage	Rated breaking capacity AC	Power dissipation at I _n	Weight	Package
Standard Terminal										
PC33UD69V450A	T302168	690 V	700 V	450 A	13.45 kA ² s	87 kA ² s	200 kA	88 W	0.8123 kg	3
PC33UD69V500A	G300248	690 V	700 V	500 A	19 kA ² s	110 kA ² s	200 kA	105 W	0.8123 kg	3
PC33UD69V550A	H300249	690 V	700 V	550 A	27 kA ² s	155 kA ² s	200 kA	110 W	0.8123 kg	3
PC33UD69V630A	J300250	690 V	700 V	630 A	40 kA ² s	230 kA ² s	200 kA	120 W	0.8123 kg	3
PC33UD69V700A	K300251	690 V	700 V	700 A	57 kA ² s	330 kA ² s	200 kA	125 W	0.8123 kg	3
PC33UD69V800A	L300252	690 V	700 V	800 A	93 kA ² s	540 kA ² s	200 kA	130 W	0.8123 kg	3
PC33UD69V900A	M300253	690 V	700 V	900 A	130 kA ² s	770 kA ² s	200 kA	135 W	0.8123 kg	3
PC33UD69V1000A	N300254	690 V	700 V	1000 A	170 kA ² s	990 kA ² s	200 kA	155 W	0.8123 kg	3
PC33UD69V1100A	P300255	690 V	700 V	1100 A	240 kA ² s	1390 kA ² s	200 kA	160 W	0.8123 kg	3
Reinforced Terminal										
PC33UD69V1250A	Q300256	690 V	700 V	1250 A	355 kA ² s	2053 kA ² s	200 kA	180 W	0.8123 kg	3
PC33UD69V1400A	R300257	690 V	700 V	1400 A	465 kA ² s	2700 kA ² s	200 kA	200 W	0.8123 kg	3
PC33UD65V1500A	M235071	600 V	650 V	1500 A	470 kA ² s	2500 kA ² s	160 kA	210 W	0.8123 kg	3
PC33UD60V1600A	X301803	600 V	650 V	1600 A	555 kA ² s	2900 kA ² s	160 kA	240 W	0.8123 kg	3
PC33UD60V1800A	E301971	600 V	650 V	1800 A	720 kA ² s	3870 kA ² s	160 kA	225 W	0.8123 kg	3
PC33UD55V2000A	A302657	550 V	600 V	2000 A	950 kA ² s	4500 kA ² s	150 kA	250 W	0.8123 kg	3

Size 33 type DIN110 blades

Catalog number	Item number	Rated voltage AC (IEC)	Rated voltage AC (UL)	Rated current I _n	Pre-arcing I ² t	Clearing I ² t at Rated Voltage	Rated breaking capacity AC	Power dissipation at I _n	Weight	Package
Standard Terminal										
PC33UD69V450D1A	V302169	690 V	700 V	450 A	13.45 kA ² s	87 kA ² s	200 kA	88 W	0.874 kg	3
PC33UD69V500D1A	S300258	690 V	700 V	500 A	19 kA ² s	110 kA ² s	200 kA	105 W	0.874 kg	3
PC33UD69V550D1A	T300259	690 V	700 V	550 A	27 kA ² s	155 kA ² s	200 kA	110 W	0.874 kg	3
PC33UD69V630D1A	V300260	690 V	700 V	630 A	40 kA ² s	230 kA ² s	200 kA	120 W	0.874 kg	3
PC33UD69V700D1A	W300261	690 V	700 V	700 A	57 kA ² s	330 kA ² s	200 kA	125 W	0.874 kg	3
PC33UD69V800D1A	X300262	690 V	700 V	800 A	93 kA ² s	540 kA ² s	200 kA	130 W	0.874 kg	3
PC33UD69V900D1A	Y300263	690 V	700 V	900 A	130 kA ² s	770 kA ² s	200 kA	135 W	0.874 kg	3
PC33UD69V10CD1A	Z300264	690 V	700 V	1000 A	170 kA ² s	990 kA ² s	200 kA	155 W	0.874 kg	3
PC33UD69V11CD1A	A300265	690 V	700 V	1100 A	240 kA ² s	1390 kA ² s	200 kA	160 W	0.874 kg	3
Reinforced Terminal										
PC33UD69V12CD1A	B300266	690 V	700 V	1250 A	355 kA ² s	2053 kA ² s	200 kA	180 W	0.874 kg	3
PC33UD69V14CD1A	C300267	690 V	700 V	1400 A	465 kA ² s	2700 kA ² s	200 kA	200 W	0.874 kg	3
PC33UD65V15CD1A	H301974	600 V	650 V	1500 A	470 kA ² s	2500 kA ² s	160 kA	210 W	0.874 kg	3
PC33UD60V16CD1A	Z301437	600 V	650 V	1600 A	500 kA ² s	2900 kA ² s	160 kA	240 W	0.874 kg	3
PC33UD55V20CD1A	S1015765	550 V	600 V	2000 A	950 kA ² s	4500 kA ² s	150 kA	290 W	0.874 kg	3

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Protistor® size 33 aR

450 to 690VAC (IEC) / 700VAC (UL)

PRODUCT RANGE

Size 33 type EF style notched blade connections

Catalog number	Item number	Rated voltage AC (IEC)	Rated voltage AC (UL)	Rated current I _n	Pre-arcing I ² t	Clearing I ² t at Rated Voltage	Rated breaking capacity AC	Power dissipation at I _n	Weight	Package
Standard Terminal										
PC33UD69V500EF	Z300218	690 V	700 V	500 A	19 kA ² s	110 kA ² s	200 kA	105 W	0.852 kg	3
PC33UD69V550EF	A300219	690 V	700 V	550 A	27 kA ² s	155 kA ² s	200 kA	110 W	0.852 kg	3
PC33UD69V630EF	B300220	690 V	700 V	630 A	40 kA ² s	230 kA ² s	200 kA	120 W	0.852 kg	3
PC33UD69V700EF	C300221	690 V	700 V	700 A	57 kA ² s	330 kA ² s	200 kA	125 W	0.852 kg	3
PC33UD69V800EF	D300222	690 V	700 V	800 A	93 kA ² s	540 kA ² s	200 kA	130 W	0.852 kg	3
PC33UD69V900EF	E300223	690 V	700 V	900 A	130 kA ² s	770 kA ² s	200 kA	135 W	0.852 kg	3
PC33UD69V1000EF	F300224	690 V	700 V	1000 A	170 kA ² s	990 kA ² s	200 kA	155 W	0.852 kg	3
PC33UD69V1100EF	G300225	690 V	700 V	1100 A	240 kA ² s	1390 kA ² s	200 kA	160 W	0.852 kg	3
Reinforced Terminal										
PC33UD69V1250EF	H300226	690 V	700 V	1250 A	355 kA ² s	2053 kA ² s	200 kA	180 W	0.852 kg	3
PC33UD69V1400EF	J300227	690 V	700 V	1400 A	465 kA ² s	2700 kA ² s	200 kA	200 W	0.852 kg	3

Size 33 type KI short slotted blades

Catalog number	Item number	Rated voltage AC (IEC)	Rated voltage AC (UL)	Rated current I _n	Pre-arcing I ² t	Clearing I ² t at Rated Voltage	Rated breaking capacity AC	Power dissipation at I _n	Weight	Package
Standard Terminal										
A070UD33KI500	W300238	690 V	700 V	500 A	19 kA ² s	110 kA ² s	200 kA	105 W	0.8451 kg	3
A070UD33KI550	X300239	690 V	700 V	550 A	27 kA ² s	155 kA ² s	200 kA	110 W	0.8451 kg	3
A070UD33KI630	Y300240	690 V	700 V	630 A	40 kA ² s	230 kA ² s	200 kA	120 W	0.8451 kg	3
A070UD33KI700	Z300241	690 V	700 V	700 A	57 kA ² s	330 kA ² s	200 kA	125 W	0.8451 kg	3
A070UD33KI800	A300242	690 V	700 V	800 A	93 kA ² s	540 kA ² s	200 kA	130 W	0.8451 kg	3
A070UD33KI900	B300243	690 V	700 V	900 A	130 kA ² s	770 kA ² s	200 kA	135 W	0.8451 kg	3
A070UD33KI1000	C300244	690 V	700 V	1000 A	170 kA ² s	990 kA ² s	200 kA	155 W	0.8451 kg	3
A070UD33KI1100	D300245	690 V	700 V	1100 A	240 kA ² s	1390 kA ² s	200 kA	160 W	0.8451 kg	3
Reinforced Terminal										
A070UD33KI1250	E300246	690 V	700 V	1250 A	355 kA ² s	2053 kA ² s	200 kA	180 W	0.8451 kg	3
A070UD33KI1400	F300247	690 V	700 V	1400 A	465 kA ² s	2700 kA ² s	200 kA	200 W	0.8451 kg	3
A065UD33KI1600	E302063	600 V	650 V	1600 A	555 kA ² s	2900 kA ² s	160 kA	240 W	0.8451 kg	3

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Protistor® size 33 aR

450 to 690VAC (IEC) / 700VAC (UL)

PRODUCT RANGE

Size 33 type LI long slotted blades

Catalog number	Item number	Rated voltage AC (IEC)	Rated voltage AC (UL)	Rated current I _n	Pre-arcing I ² t	Clearing I ² t at Rated Voltage	Rated breaking capacity AC	Power dissipation at I _n	Weight	Package
Standard Terminal										
A069UD33LI450	Y302172	690 V	700 V	450 A	13.45 kA ² s	87 kA ² s	200 kA	88 W	0.8766 kg	3
A070UD33LI500	K300228	690 V	700 V	500 A	19 kA ² s	110 kA ² s	200 kA	105 W	0.8766 kg	3
A070UD33LI550	L300229	690 V	700 V	550 A	27 kA ² s	155 kA ² s	200 kA	110 W	0.8766 kg	3
A070UD33LI630	M300230	690 V	700 V	630 A	40 kA ² s	230 kA ² s	200 kA	120 W	0.8766 kg	3
A070UD33LI700	N300231	690 V	700 V	700 A	57 kA ² s	330 kA ² s	200 kA	125 W	0.8766 kg	3
A070UD33LI800	P300232	690 V	700 V	800 A	93 kA ² s	540 kA ² s	200 kA	130 W	0.8766 kg	3
A070UD33LI900	Q300233	690 V	700 V	900 A	130 kA ² s	770 kA ² s	200 kA	135 W	0.8766 kg	3
A070UD33LI1000	R300234	690 V	700 V	1000 A	170 kA ² s	990 kA ² s	200 kA	155 W	0.8766 kg	3
A070UD33LI1100	S300235	690 V	700 V	1100 A	240 kA ² s	1390 kA ² s	200 kA	160 W	0.8766 kg	3
Reinforced Terminal										
A070UD33LI1250	T300236	690 V	700 V	1250 A	355 kA ² s	2053 kA ² s	200 kA	180 W	0.8766 kg	3
A070UD33LI1400	V300237	690 V	700 V	1400 A	465 kA ² s	2700 kA ² s	200 kA	200 W	0.8766 kg	3
A065UD33LI1500	P300531	600 V	650 V	1500 A	470 kA ² s	2500 kA ² s	160 kA	210 W	0.8766 kg	3
A065UD33LI1600	G301076	600 V	650 V	1600 A	555 kA ² s	2900 kA ² s	160 kA	240 W	0.8766 kg	3
A065UD33LI1800	H301077	600 V	650 V	1800 A	720 kA ² s	3870 kA ² s	160 kA	260 W	0.8766 kg	3
A060UD33LI2000	J301078	550 V	600 V	2000 A	950 kA ² s	4500 kA ² s	150 kA	290 W	0.8766 kg	3



PC33UD69V1400TF

Size 33 type TTF M12 threaded terminals

Catalog number	Item number	Rated voltage AC (IEC)	Rated voltage AC (UL)	Rated current I _n	Pre-arcing I ² t	Clearing I ² t at Rated Voltage	Rated breaking capacity AC	Power dissipation at I _n	Weight	Package
Standard Terminal										
PC33UD69V450TF	W302170	690 V	700 V	450 A	13.45 kA ² s	87 kA ² s	200 kA	84 W	0.8056 kg	3
PC33UD69V500TF	V300076	690 V	700 V	500 A	19 kA ² s	110 kA ² s	200 kA	105 W	0.8056 kg	3
PC33UD69V550TF	W300077	690 V	700 V	550 A	27 kA ² s	155 kA ² s	200 kA	105 W	0.8056 kg	3
PC33UD69V630TF	X300078	690 V	700 V	630 A	40 kA ² s	230 kA ² s	200 kA	110 W	0.8056 kg	3
PC33UD69V700TF	Y300079	690 V	700 V	700 A	57 kA ² s	330 kA ² s	200 kA	115 W	0.8056 kg	3
PC33UD69V800TF	Z300080	690 V	700 V	800 A	93 kA ² s	540 kA ² s	200 kA	120 W	0.8056 kg	3
PC33UD69V900TF	A300081	690 V	700 V	900 A	130 kA ² s	770 kA ² s	200 kA	120 W	0.8056 kg	3
PC33UD69V1000TF	B300082	690 V	700 V	1000 A	170 kA ² s	990 kA ² s	200 kA	135 W	0.8056 kg	3
PC33UD69V1100TF	C300083	690 V	700 V	1100 A	240 kA ² s	1390 kA ² s	200 kA	135 W	0.8056 kg	3
Reinforced Terminal										
PC33UD69V1250TF	D300084	690 V	700 V	1250 A	355 kA ² s	2053 kA ² s	200 kA	150 W	0.908 kg	3
PC33UD69V1400TF	E300085	690 V	700 V	1400 A	465 kA ² s	2700 kA ² s	200 kA	160 W	0.908 kg	3
PC33UD60V1500TF	Y300585	600 V	650 V	1500 A	470 kA ² s	2500 kA ² s	160 kA	210 W	0.908 kg	3
PC33UD60V1600TF	Z300586	600 V	650 V	1600 A	555 kA ² s	2900 kA ² s	160 kA	210 W	0.908 kg	3
PC33UD60V1800TF	A300587	600 V	650 V	1800 A	720 kA ² s	3870 kA ² s	160 kA	225 W	0.908 kg	3
PC33UD55V2000TF	B300588	550 V	600 V	2000 A	950 kA ² s	4500 kA ² s	150 kA	250 W	0.908 kg	3
PC33UD50V2250TF	K300757	500 V	550 V	2250 A	1250 kA ² s	5160 kA ² s	130 kA	280 W	0.908 kg	3
PC33UD45V2500TF	L300758	450 V	500 V	2500 A	1870 kA ² s	6540 kA ² s	110 kA	280 W	0.908 kg	3

Protistor® size 33 aR

450 to 690VAC (IEC) / 700VAC (UL)

PRODUCT RANGE



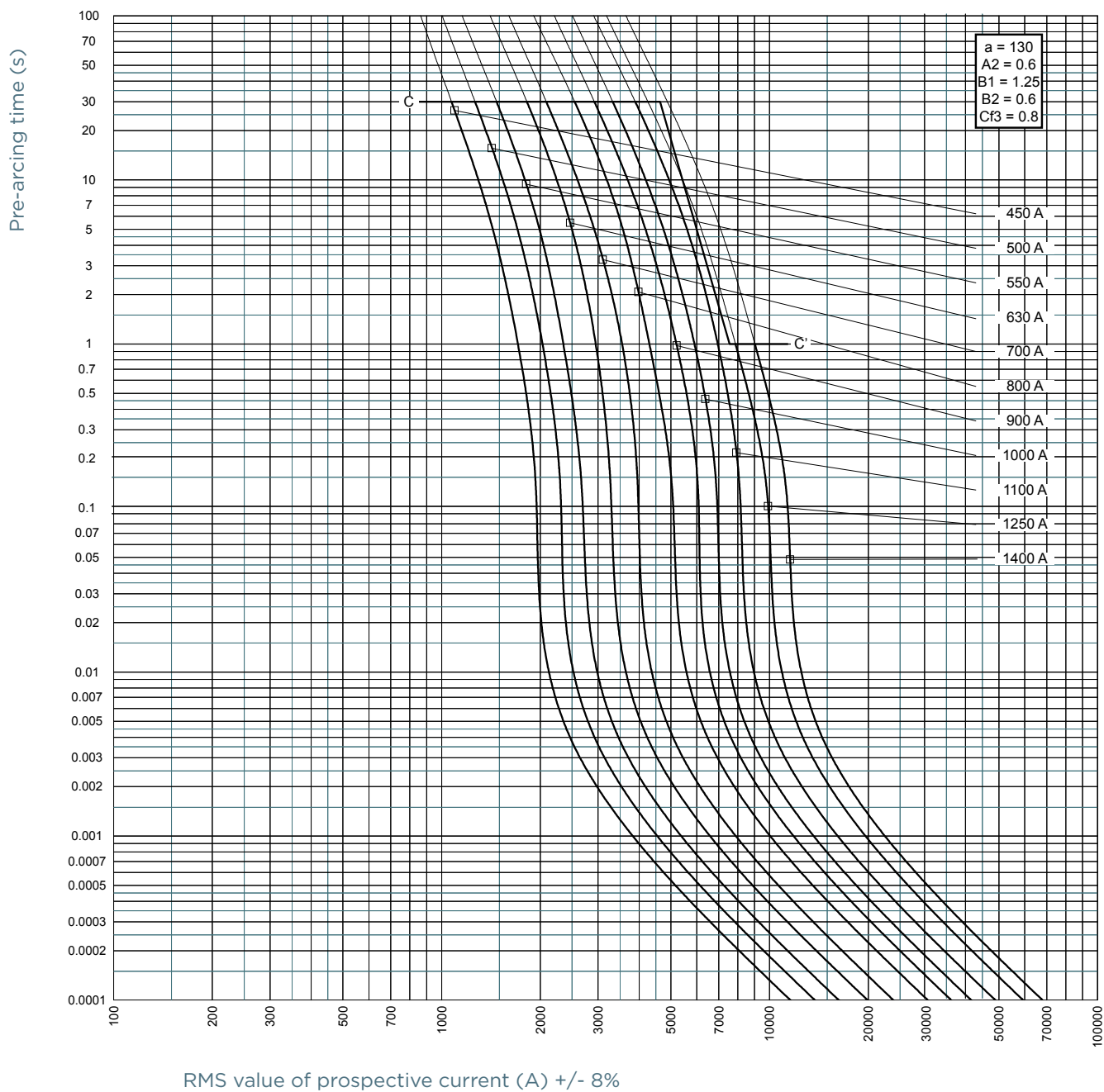
A070UD33TTI450

Size 33 type TTI 1/2"-13 unified coarse threaded terminals

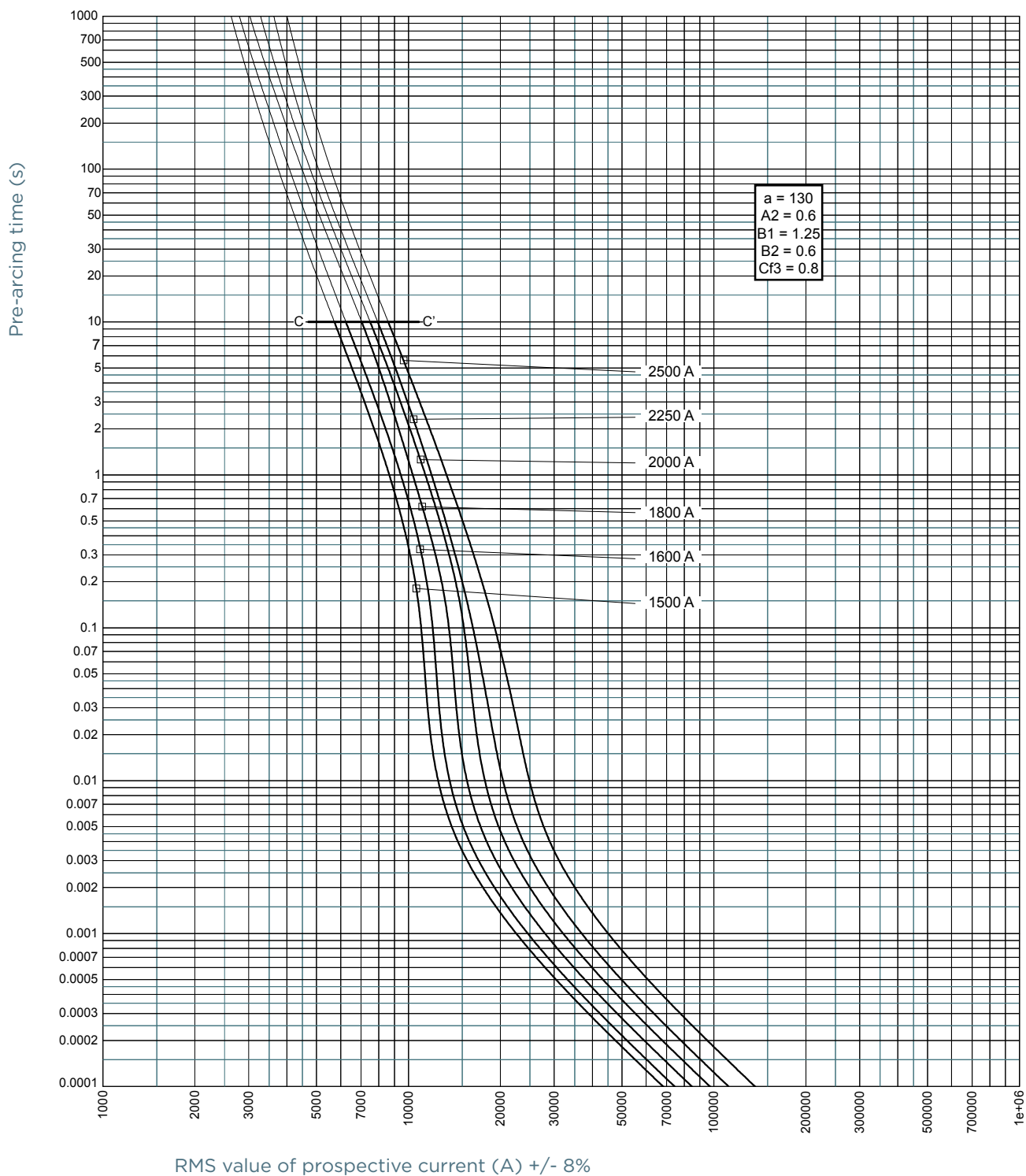
Catalog number	Item number	Rated voltage AC (IEC)	Rated voltage AC (UL)	Rated current I _n	Pre-arcing I ² t	Clearing I ² t at Rated Voltage	Rated breaking capacity AC	Power dissipation at I _n	Weight	Package
Standard Terminal										
A070UD33TTI450	X302171	690 V	700 V	450 A	13.45 kA ² s	87 kA ² s	200 kA	84 W	0.894 kg	3
A070UD33TTI500	X300446	690 V	700 V	500 A	19 kA ² s	110 kA ² s	200 kA	105 W	0.894 kg	3
A070UD33TTI550	Y300447	690 V	700 V	550 A	27 kA ² s	155 kA ² s	200 kA	105 W	0.894 kg	3
A070UD33TTI630	Z300448	690 V	700 V	630 A	40 kA ² s	230 kA ² s	200 kA	110 W	0.894 kg	3
A070UD33TTI700	A300449	690 V	700 V	700 A	57 kA ² s	330 kA ² s	200 kA	115 W	0.894 kg	3
A070UD33TTI800	T300443	690 V	700 V	800 A	93 kA ² s	540 kA ² s	200 kA	120 W	0.894 kg	3
A070UD33TTI900	B300450	690 V	700 V	900 A	130 kA ² s	770 kA ² s	200 kA	120 W	0.894 kg	3
A070UD33TTI1000	C300451	690 V	700 V	1000 A	170 kA ² s	990 kA ² s	200 kA	135 W	0.894 kg	3
A070UD33TTI1100	D300452	690 V	700 V	1100 A	240 kA ² s	1390 kA ² s	200 kA	135 W	0.894 kg	3
Reinforced Terminal										
A070UD33TTI1250	E300453	690 V	700 V	1250 A	355 kA ² s	2053 kA ² s	200 kA	150 W	0.894 kg	3
A070UD33TTI1400	F300454	690 V	700 V	1400 A	465 kA ² s	2700 kA ² s	200 kA	160 W	0.894 kg	3
A065UD33TTI1500	F302064	600 V	650 V	1500 A	470 kA ² s	2500 kA ² s	160 kA	210 W	0.894 kg	3
A065UD33TTI1600	S301086	600 V	650 V	1600 A	555 kA ² s	2900 kA ² s	160 kA	210 W	0.894 kg	3
A065UD33TTI1800	T301087	600 V	650 V	1800 A	720 kA ² s	3870 kA ² s	160 kA	225 W	0.894 kg	3
A060UD33TTI2000	V301088	550 V	600 V	2000 A	950 kA ² s	4500 kA ² s	150 kA	250 W	0.894 kg	3
A055UD33TTI2250	W301089	500 V	550 V	2250 A	1250 kA ² s	5160 kA ² s	130 kA	280 W	0.894 kg	3
A050UD33TTI2500	Y300838	450 V	500 V	2500 A	1870 kA ² s	6540 kA ² s	110 kA	280 W	0.894 kg	3

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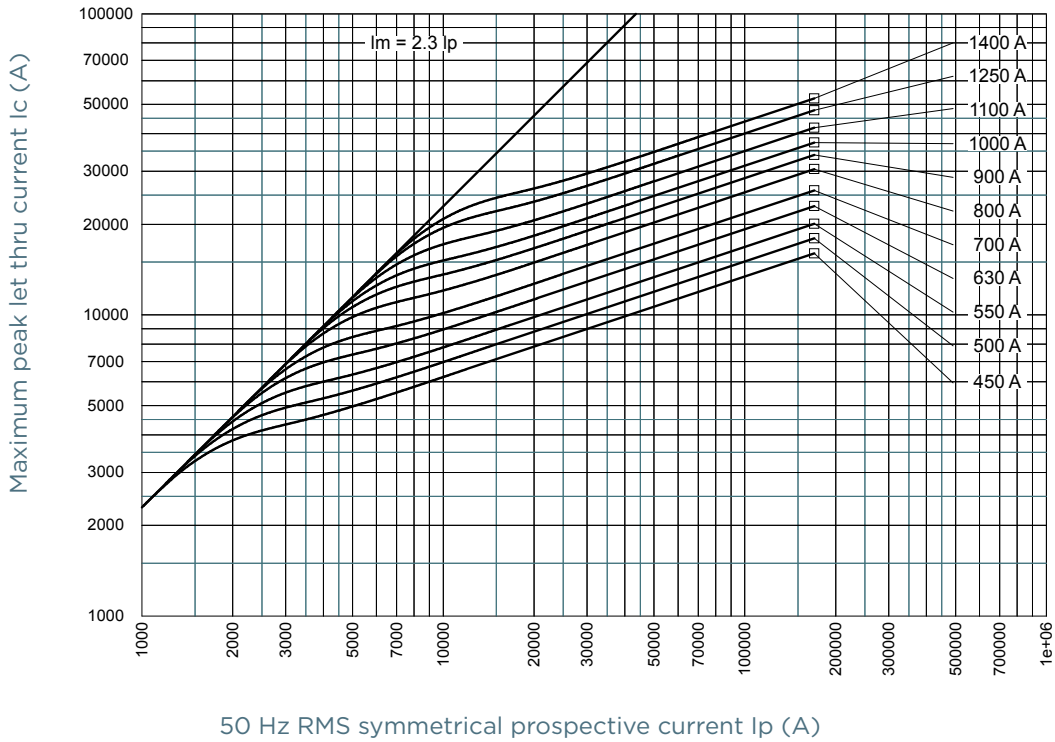
TIME CURRENT CHARACTERISTIC CURVES



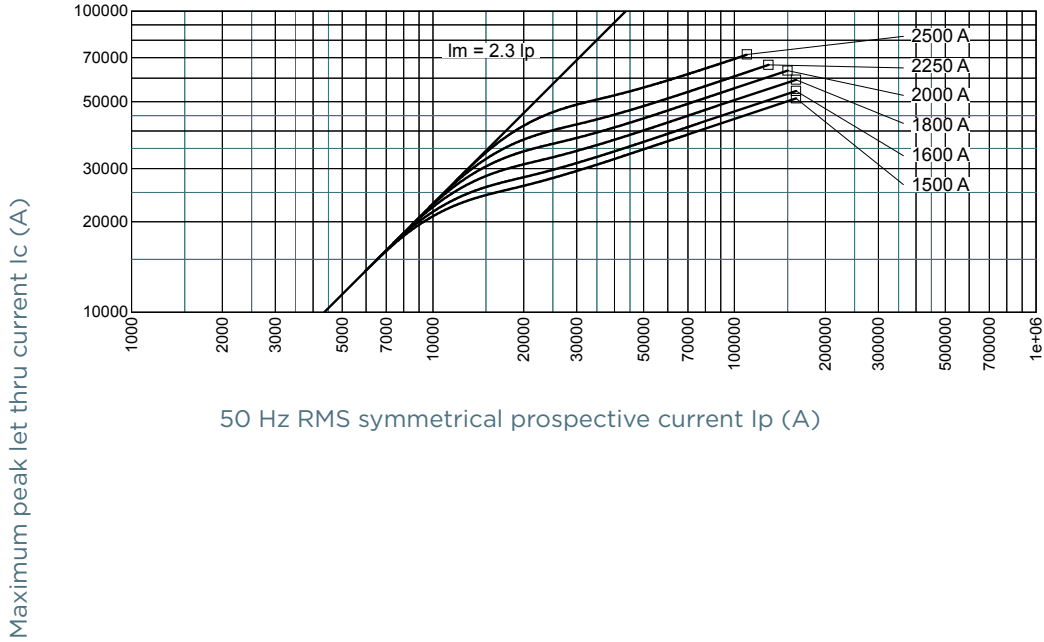
TIME CURRENT CHARACTERISTIC CURVES



CUT-OFF CURRENT CHARACTERISTIC



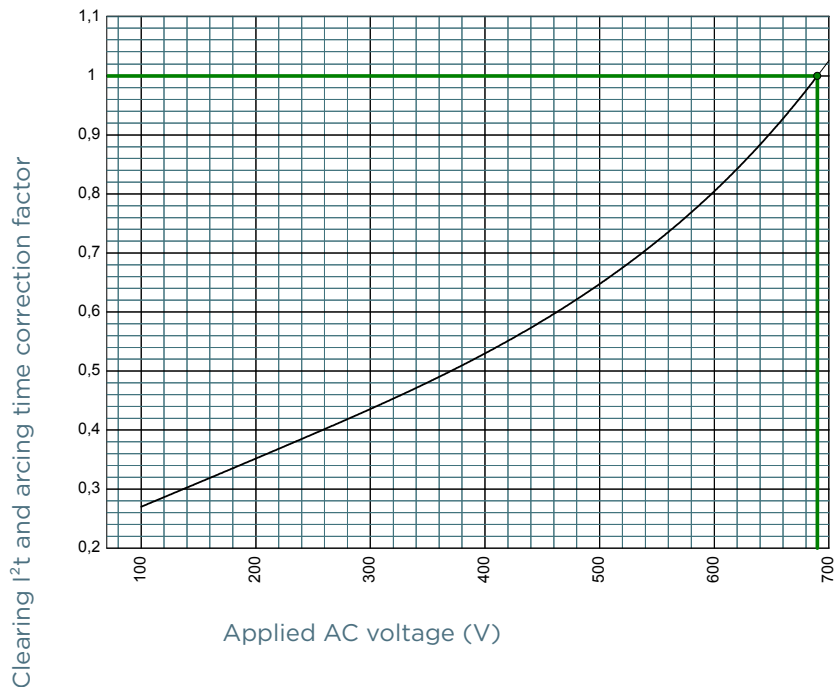
50 Hz RMS symmetrical prospective current I_p (A)



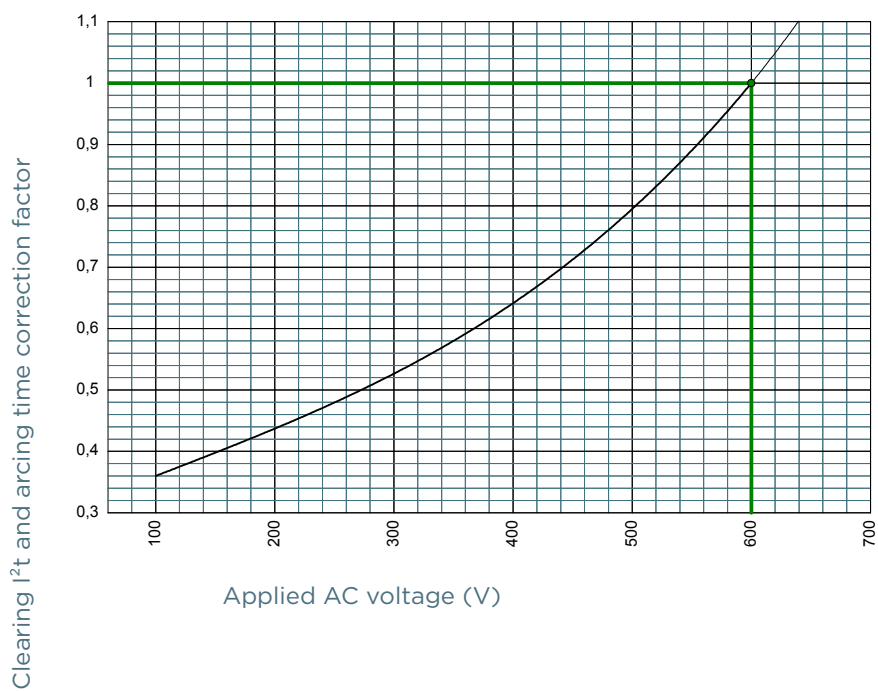
50 Hz RMS symmetrical prospective current I_p (A)

I²T MULTIPLIER COEFFICIENT

Size 33 690V

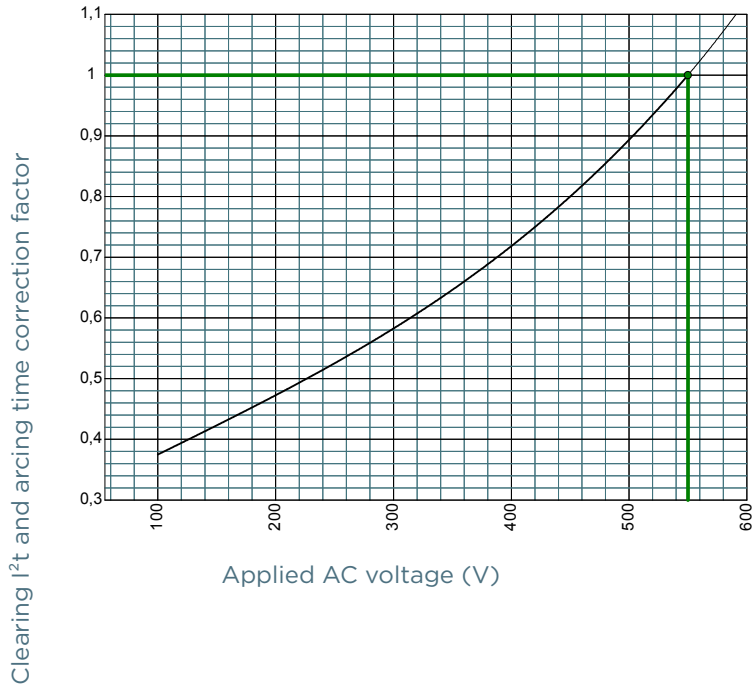


Size 33 600V

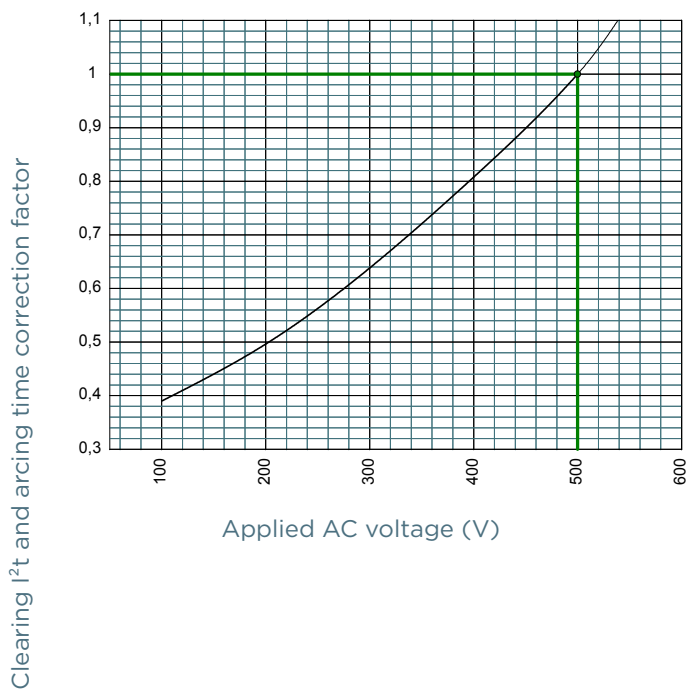


I²T MULTIPLIER COEFFICIENT

Size 33 550V

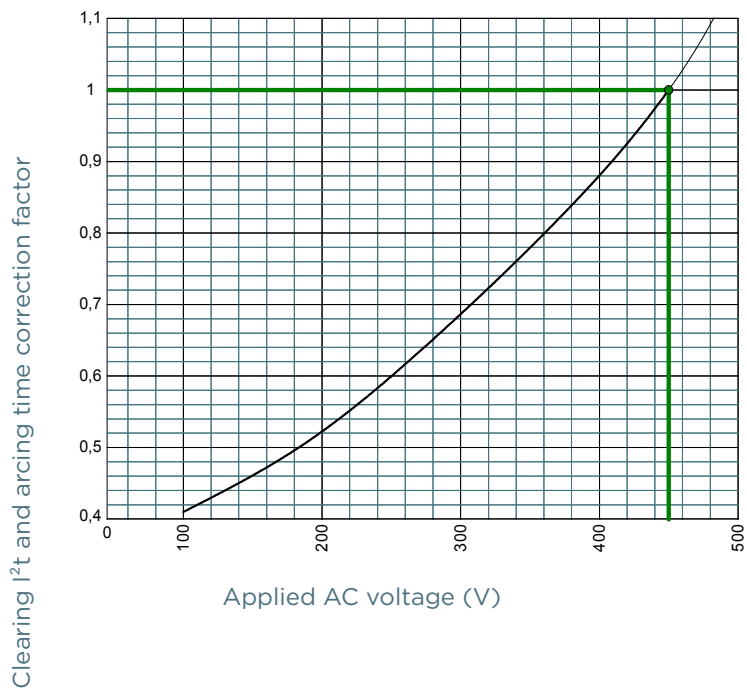


Size 33 500V



I²T MULTIPLIER COEFFICIENT

Size 33 450V

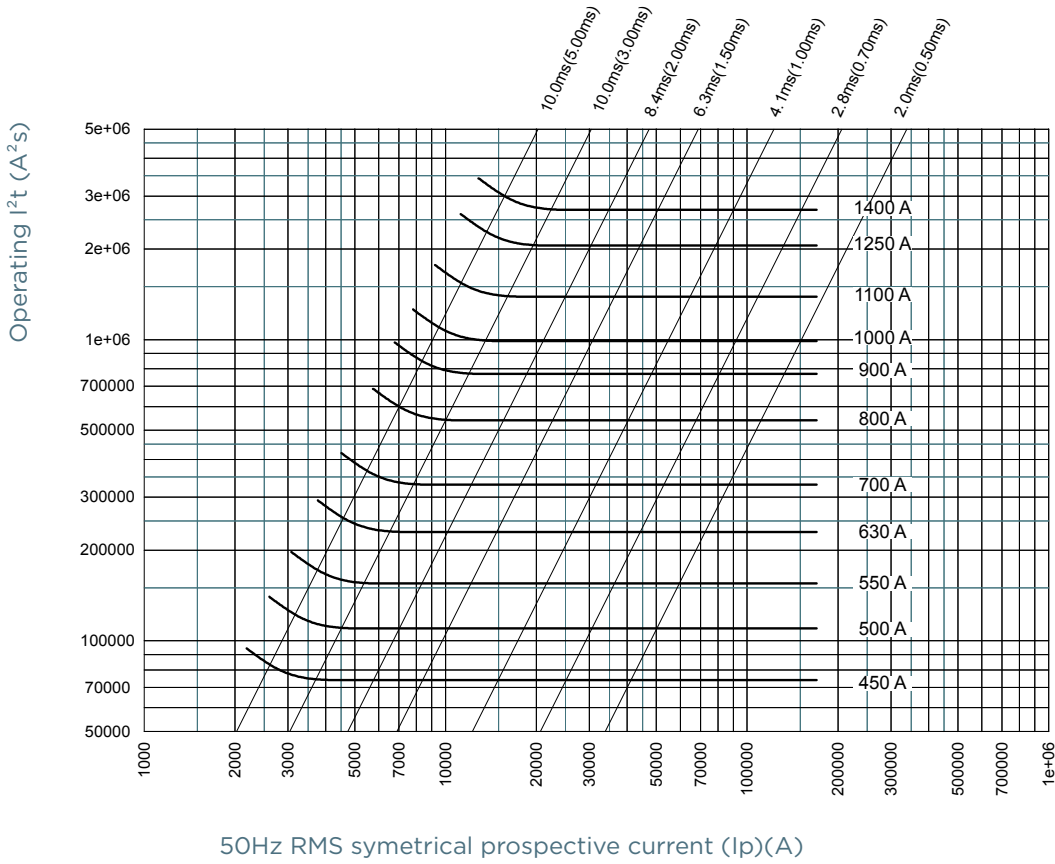


Protistor® size 33 aR

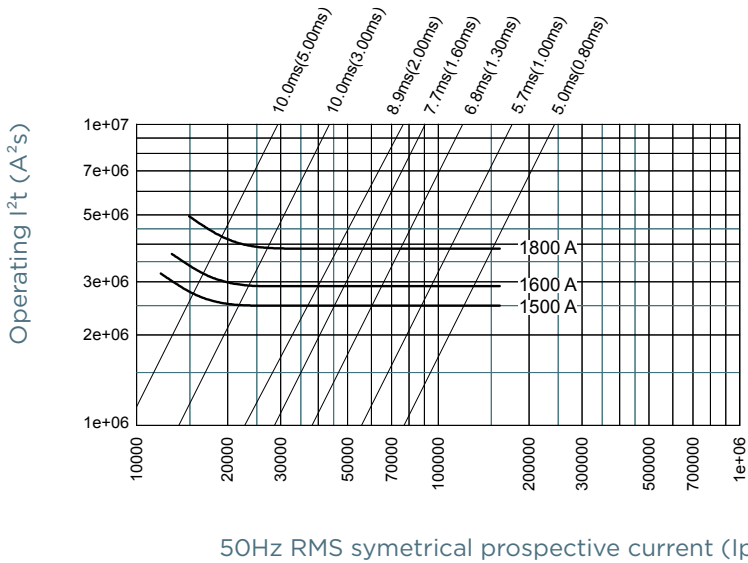
450 to 690VAC (IEC) / 700VAC (UL)

CHARACTERISTICS TOTAL I²T CURVE

Size 33 690V



Size 33 600V



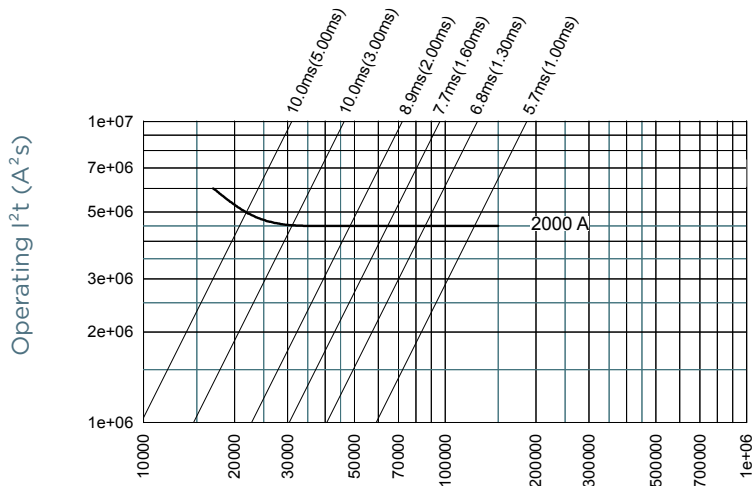
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Protistor® size 33 aR

450 to 690VAC (IEC) / 700VAC (UL)

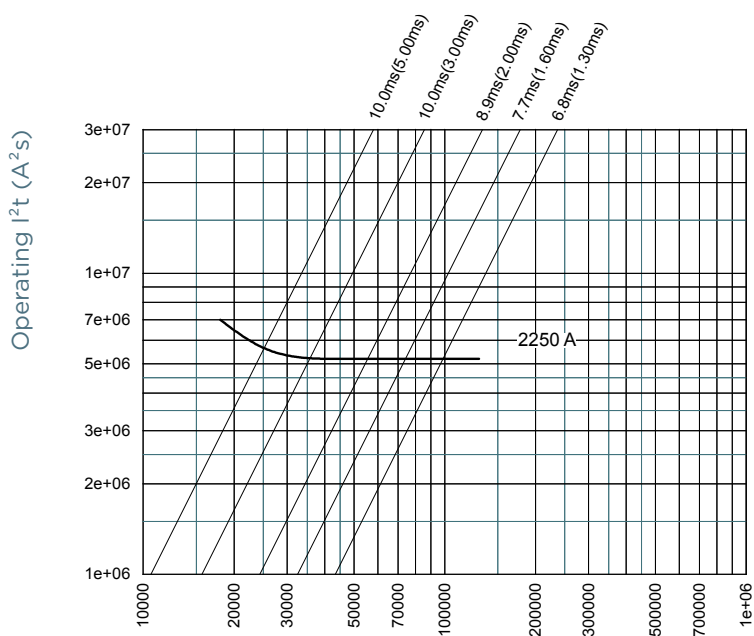
CHARACTERISTICS TOTAL I²T CURVE

Size 33 550V



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

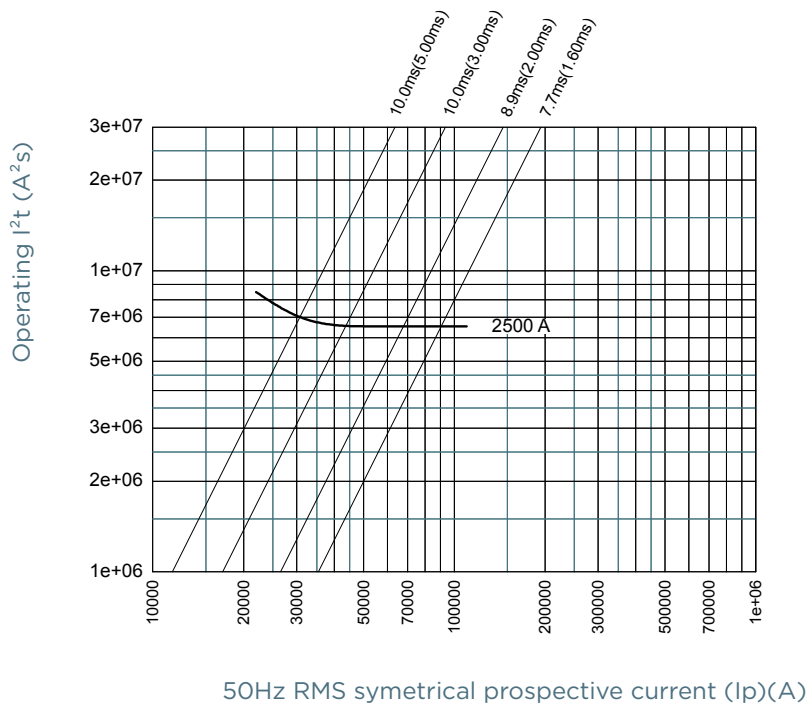
Size 33 500V



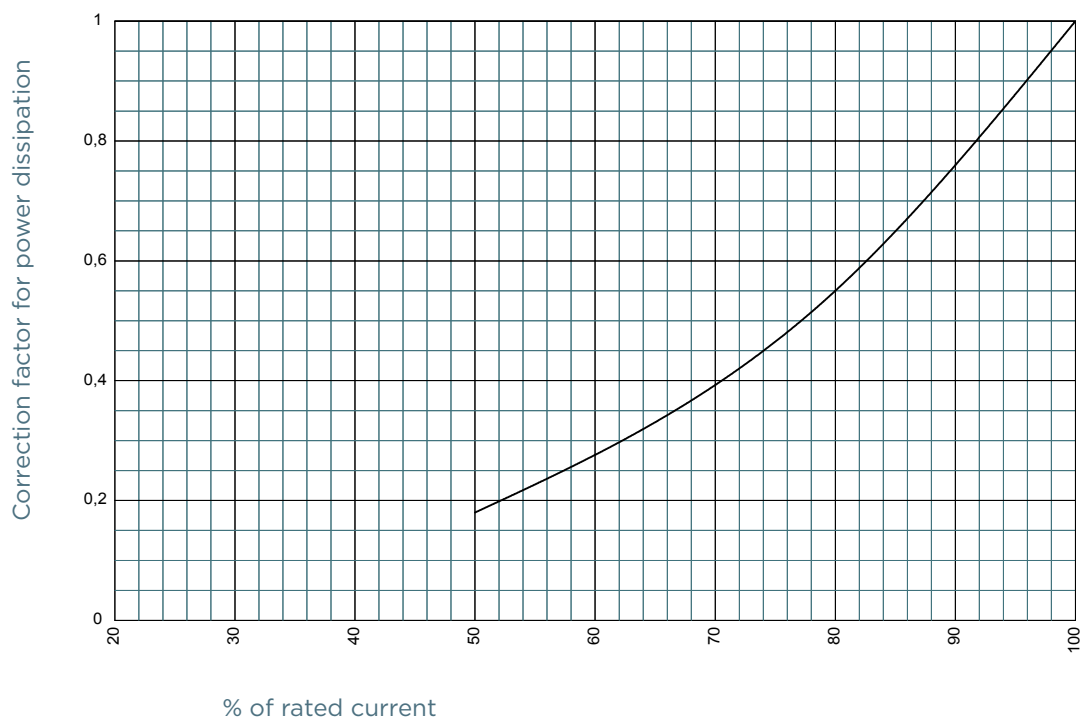
50Hz RMS symmetrical prospective current (Ip)(A)

CHARACTERISTICS TOTAL I²T CURVE

Size 33 450V



POWER DISSIPATION

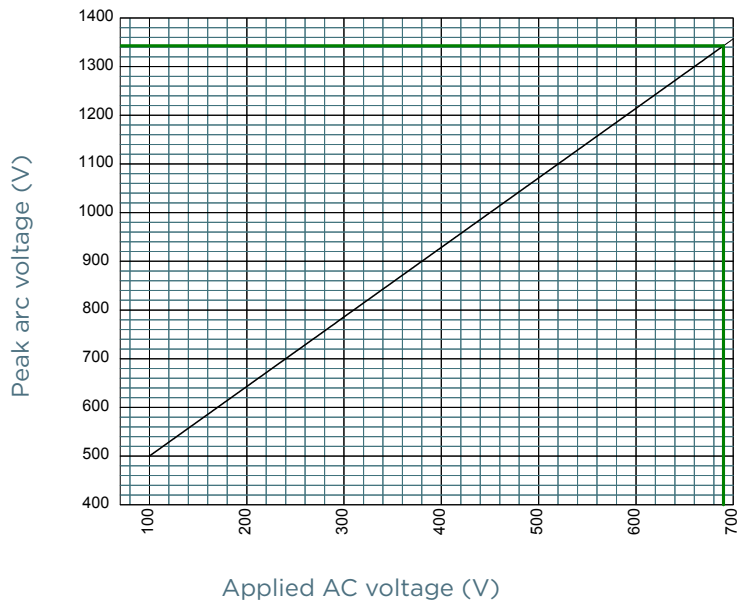


Protistor® size 33 aR

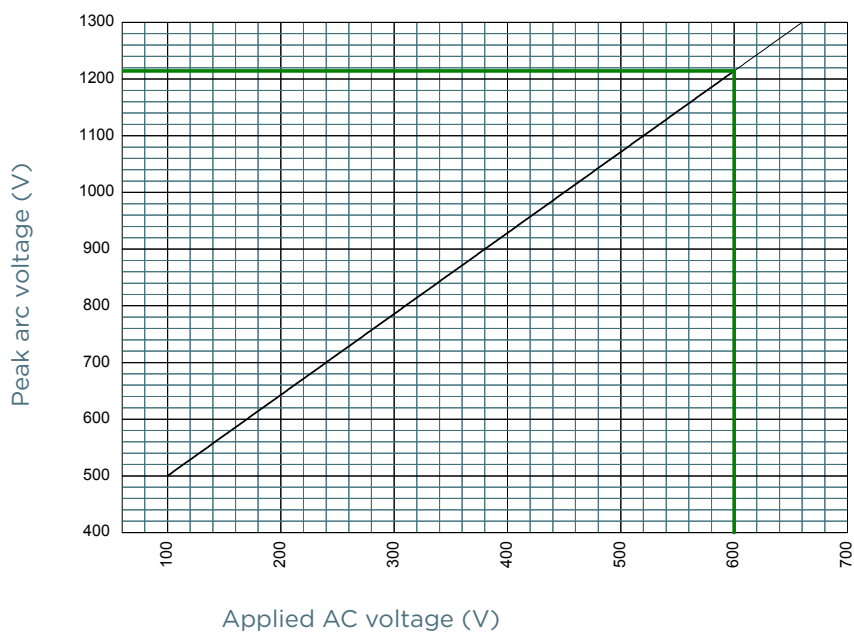
450 to 690VAC (IEC) / 700VAC (UL)

PEAK ARC VOLTAGE

Size 33 690V



Size 33 600V

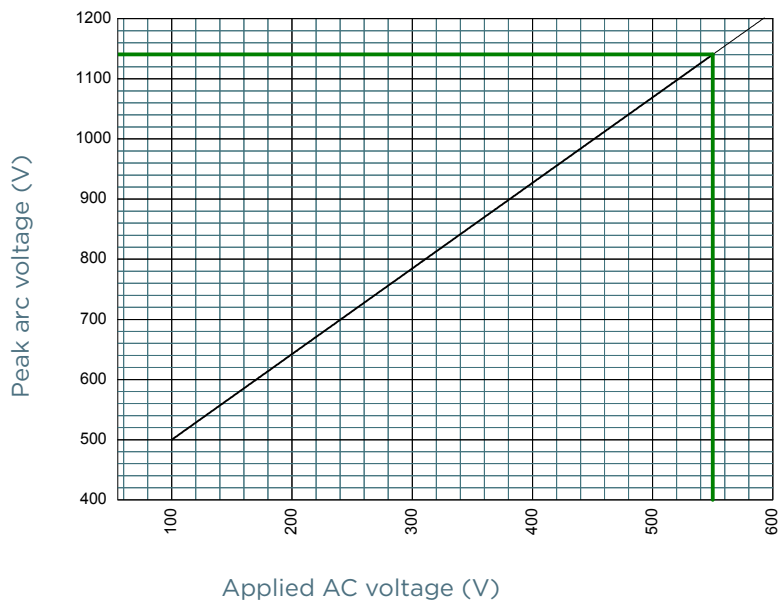


Protistor® size 33 aR

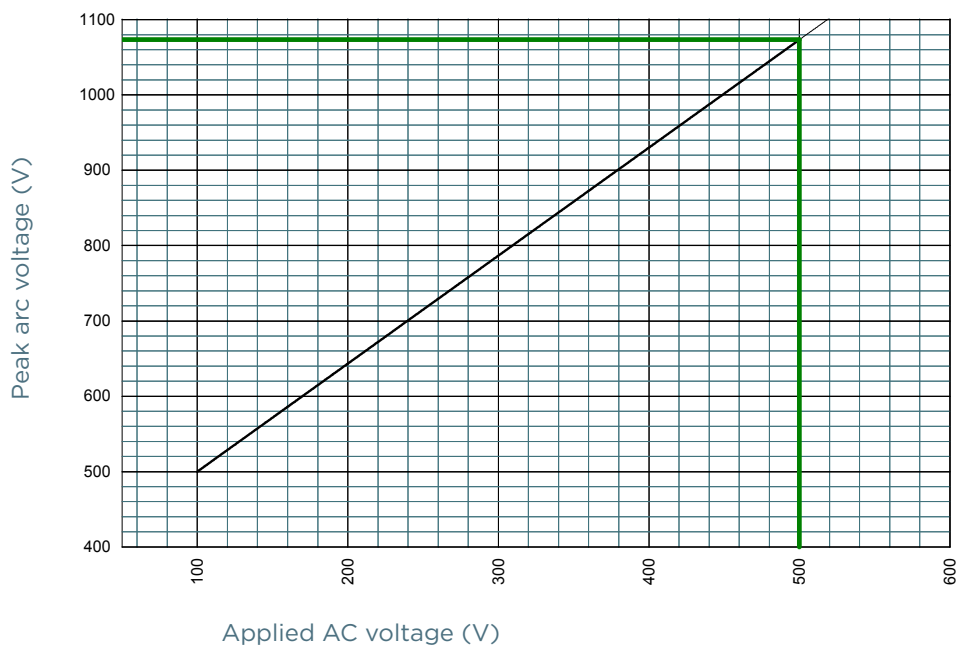
450 to 690VAC (IEC) / 700VAC (UL)

PEAK ARC VOLTAGE

Size 33 550V



Size 33 500V

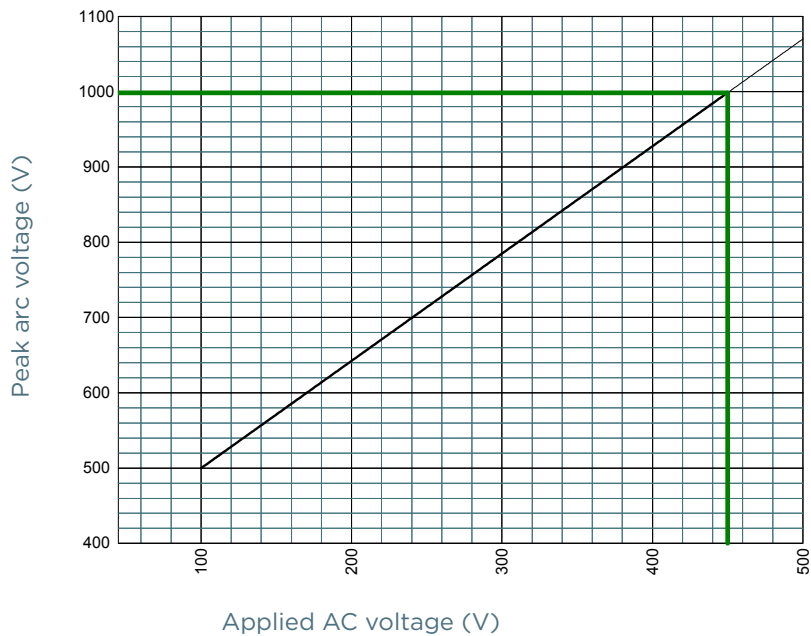


Protistor® size 33 aR

450 to 690VAC (IEC) / 700VAC (UL)

PEAK ARC VOLTAGE

Size 33 450V

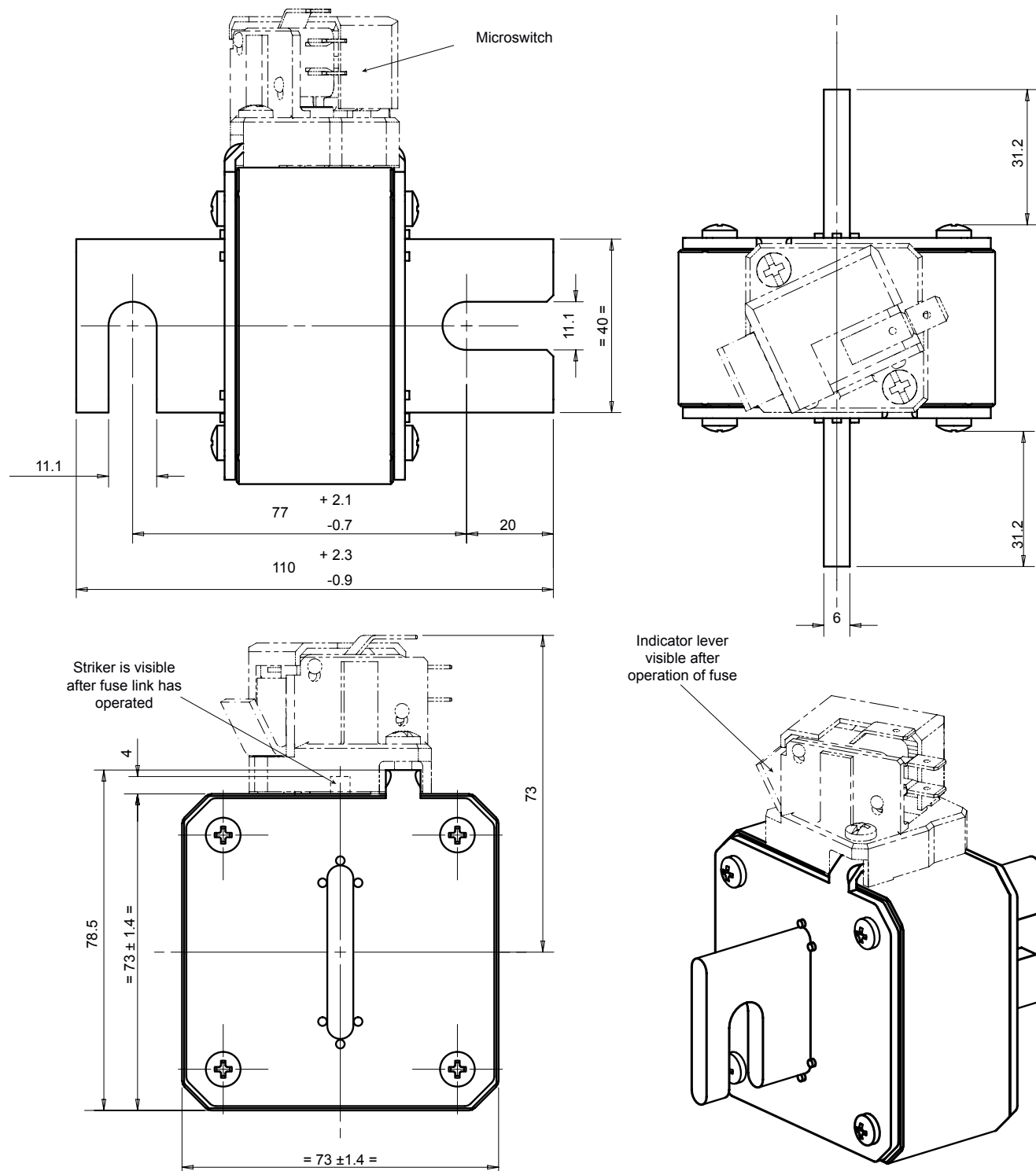


Protistor® size 33 aR

450 to 690VAC (IEC) / 700VAC (UL)

DIMENSIONS

size 33 type DIN 80 (102931)



Dimensions in mm

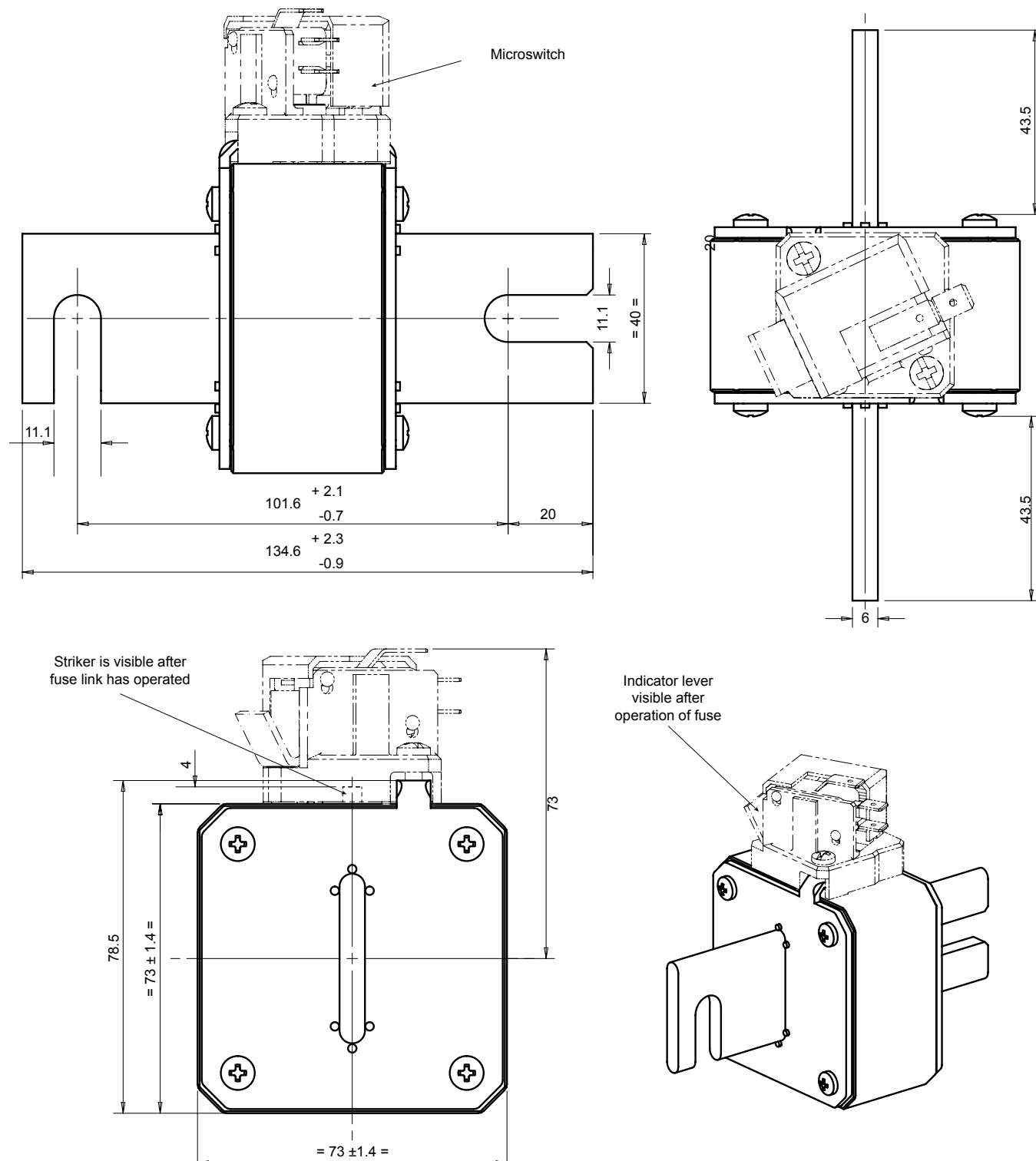
MERSEN reserves the right to change, update or correct, without notice, any information contained in this datasheet.

Protistor® size 33 aR

450 to 690VAC (IEC) / 700VAC (UL)

DIMENSIONS

size 33 type DIN 110 (102932)



Dimensions in mm

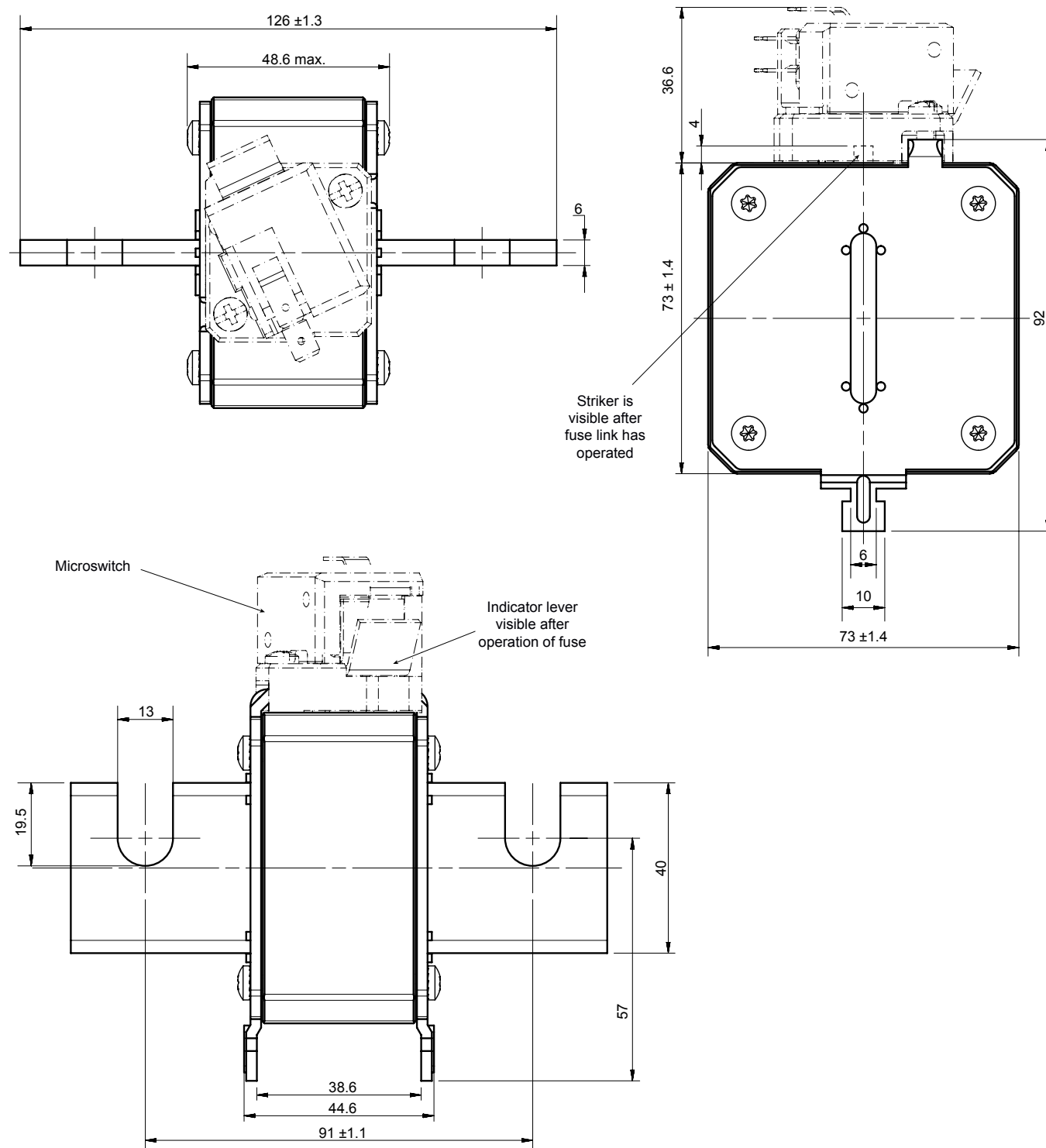
MERSEN reserves the right to change, update or correct, without notice, any information contained in this datasheet.

Protistor® size 33 aR

450 to 690VAC (IEC) / 700VAC (UL)

DIMENSIONS

size 33 type EF (102930)



Dimensions in mm

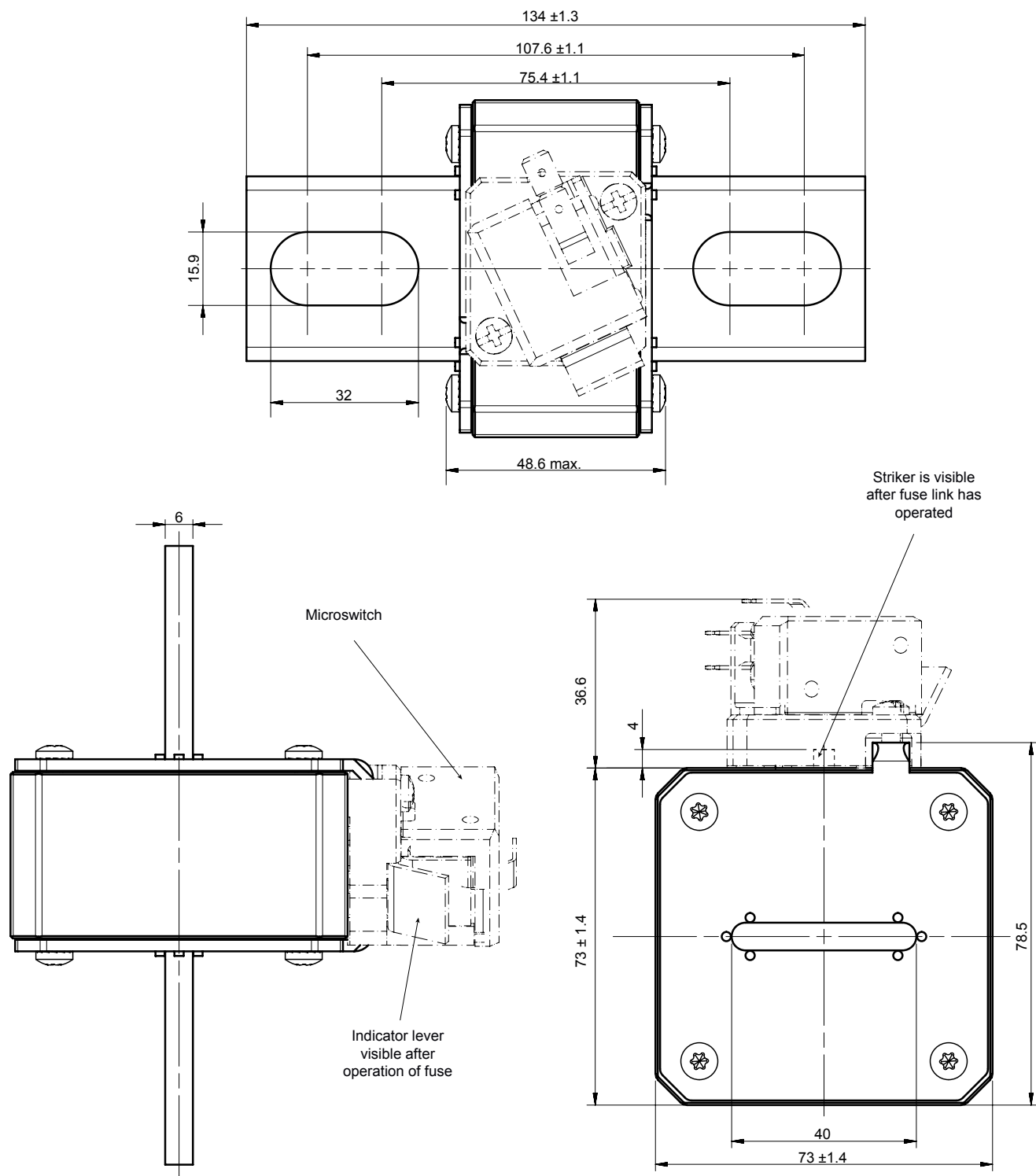
MERSEN reserves the right to change, update or correct, without notice, any information contained in this datasheet.

Protistor® size 33 aR

450 to 690VAC (IEC) / 700VAC (UL)

DIMENSIONS

size 33 type KI (102929)



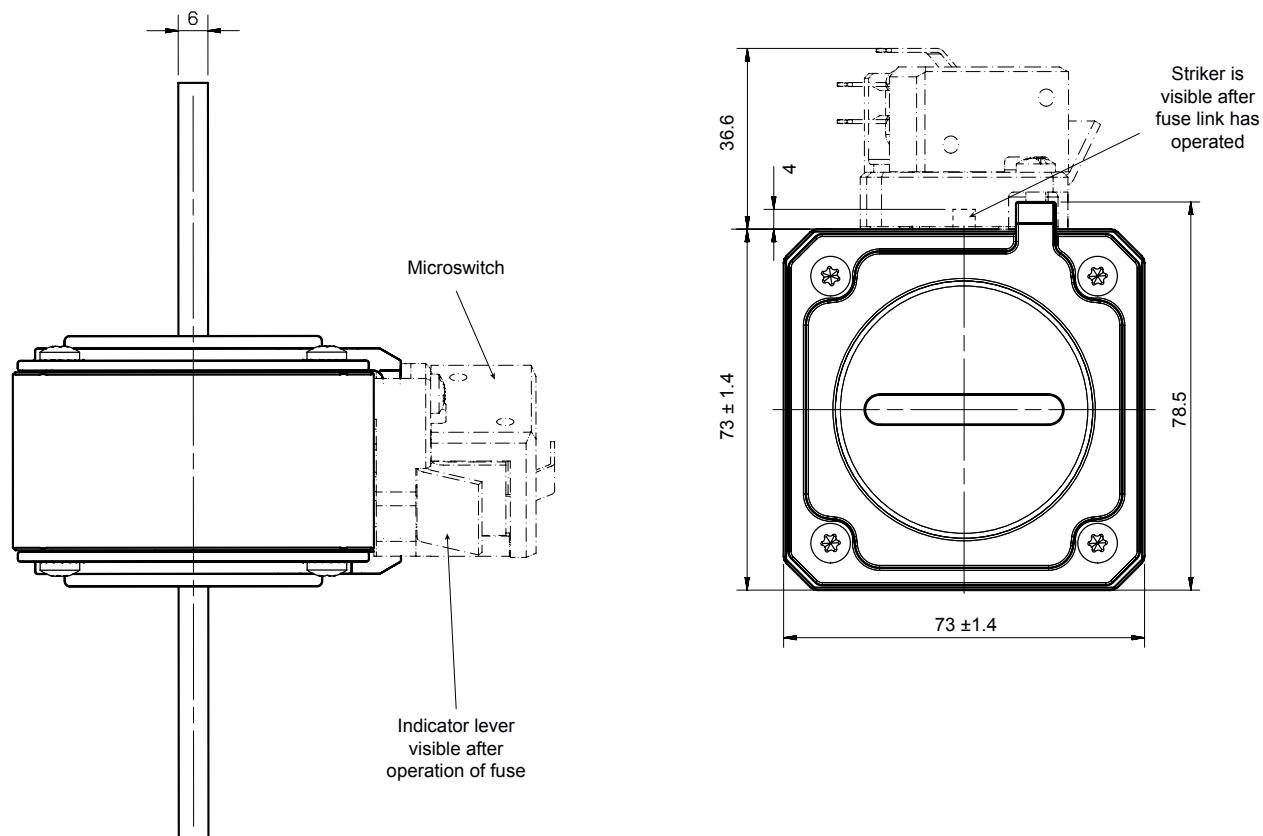
Dimensions in mm

Protistor® size 33 aR

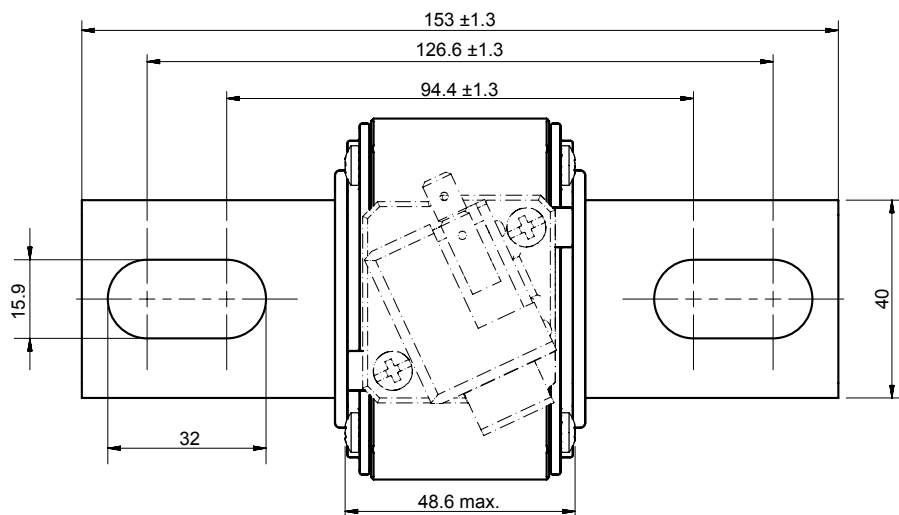
450 to 690VAC (IEC) / 700VAC (UL)

DIMENSIONS

size 33 type LI reinforced (109524)



P300232



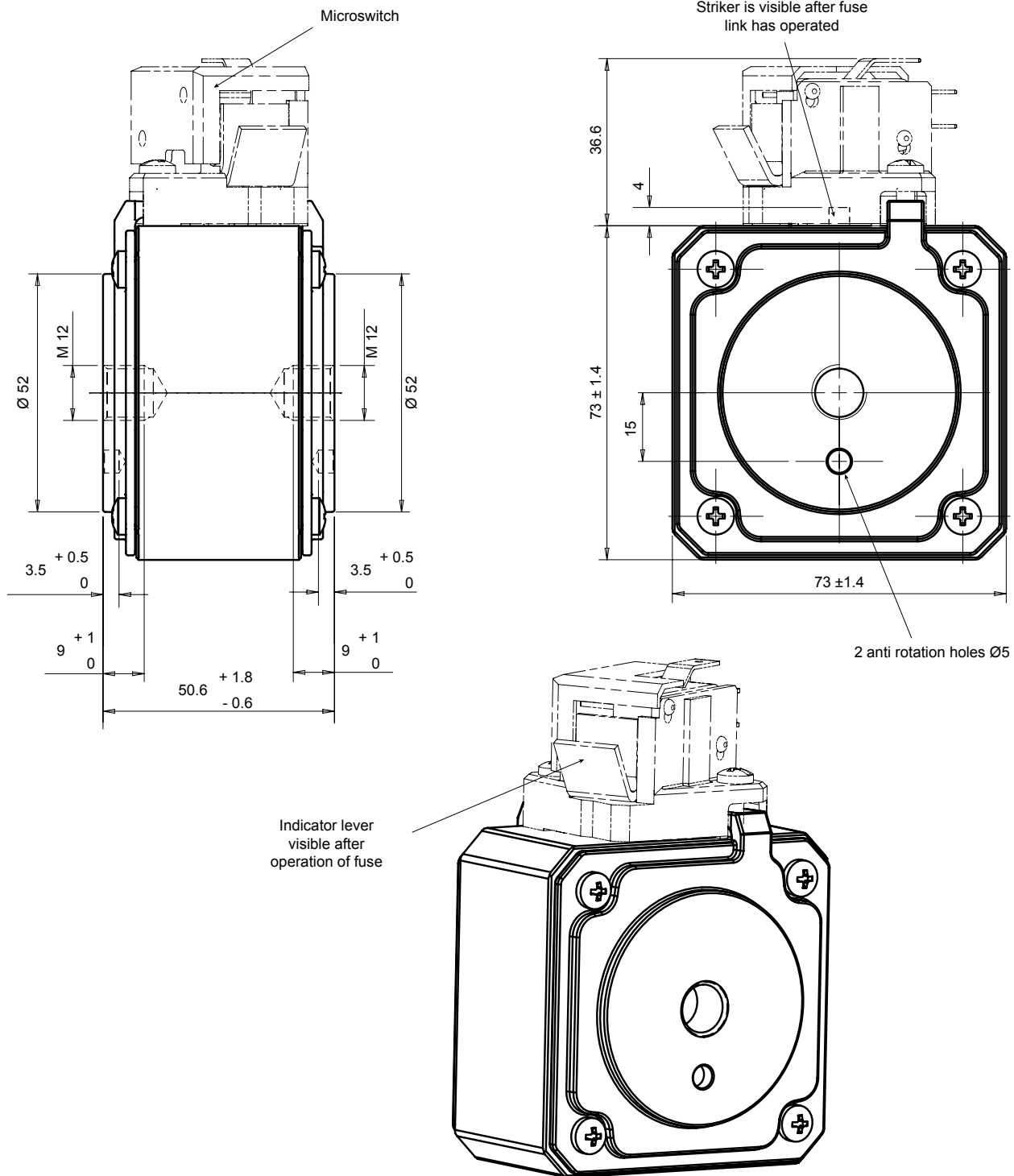
Dimensions in mm

Protistor® size 33 aR

450 to 690VAC (IEC) / 700VAC (UL)

DIMENSIONS

size 33 type TTF reinforced (107900)



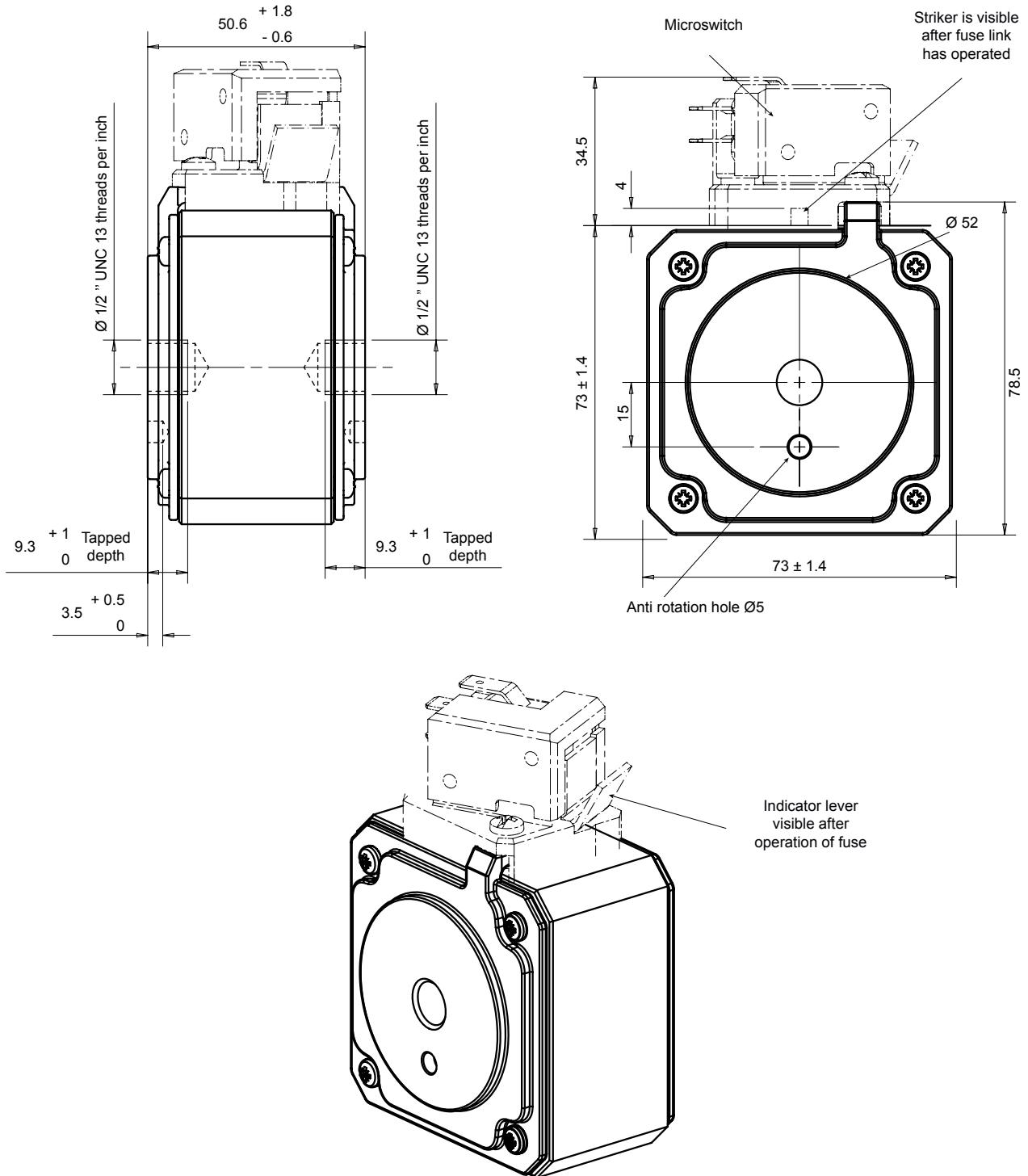
Dimensions in mm

Protistor® size 33 aR

450 to 690VAC (IEC) / 700VAC (UL)

DIMENSIONS

size 33 type TTI reinforced (108835)



Dimensions in mm