

Protistor® Limited Range size 31 aR

690VAC (IEC) / 760VAC (UL)

SEMICONDUCTOR PROTECTION FUSES

SQUARE BODY HIGH-SPEED FUSE-LINKS AC PROTECTION



The 690/760V Protistor® fuse-links “OEM series” is a specific range to offer cost effective protection without concession on performance for power conversion equipment. These fuses have been engineered to provide protection for all semiconductors: diodes, thyristors and IGBT devices. They are assembled with bimetals silver and copper elements embedded in solidified sand, which helps control arcing characteristics for a lower I^2t and high interrupting rating level. Contact surfaces are tin plated to get an optimized interface with the best quality/price ratio.

This OEM range has been specially conceived to match integrators' and OEMs' main requirements while offering a limited number of part values to promote a “one rating, one size” policy that will support the reduction of parts to be stocked.

TECHNICAL DATA OVERVIEW

Voltage AC	690 VAC
Ampere Range (A)	315 ... 500 A
Speed/Characteristic	aR
I.R. AC (IEC)	200 kA
Product Size	31

FEATURES & BENEFITS

- “One rating, one size” range
- aR Class according to IEC 60269-4 and VDE 636-23
- Very low I^2t for improved semiconductor protection
- High speed AC & DC protection
- Current limiting

APPLICATIONS

- Protection of standard power conversion systems such as low voltage drives, UPS, inverter systems and similar
- All AC standard networks (up to 690V) or DC standard networks

STANDARDS

- IEC 60269-1 & -4 Compliance in AC and DC voltage
- UL/CSA Recognized E76491 in AC and DC voltage
- CCC GB 1539.4



Protistor® Limited Range size 31 aR

690VAC (IEC) / 760VAC (UL)

PRODUCT RANGE



SC31AR69V500TFU

Size 31 type TTF without indicator

Catalog number	Item number	Rated voltage AC (IEC)	Rated voltage AC (UL)	Rated voltage DC (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	Package	Weight
SC31AR69V315TFU	B1046915	690 V	760 V	600 V	315 A	7.54 kA ² s	47.5 kA ² s	200 kA	72 W	12	0.34 kg
SC31AR69V350TFU	C1046916	690 V	760 V	600 V	350 A	10.3 kA ² s	65 kA ² s	200 kA	74 W	12	0.34 kg
SC31AR69V400TFU	D1046917	690 V	760 V	600 V	400 A	20 kA ² s	125 kA ² s	200 kA	74 W	12	0.34 kg
SC31AR69V450TFU	E1046918	690 V	760 V	600 V	450 A	26.5 kA ² s	166 kA ² s	200 kA	77 W	12	0.34 kg
SC31AR69V500TFU	F1046919	690 V	760 V	600 V	500 A	36.2 kA ² s	230 kA ² s	200 kA	80 W	12	0.34 kg



SC31AR69V500TF

Size 31 type TTF with indicator

Catalog number	Item number	Rated voltage AC (IEC)	Rated voltage AC (UL)	Rated voltage DC (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	Package	Weight
SC31AR69V315TF	G1046920	690 V	760 V	600 V	315 A	7.54 kA ² s	47.5 kA ² s	200 kA	72 W	12	0.34 kg
SC31AR69V350TF	H1046921	690 V	760 V	600 V	350 A	10.3 kA ² s	65 kA ² s	200 kA	74 W	12	0.34 kg
SC31AR69V400TF	J1046922	690 V	760 V	600 V	400 A	20 kA ² s	125 kA ² s	200 kA	74 W	12	0.34 kg
SC31AR69V450TF	K1046923	690 V	760 V	600 V	450 A	26.5 kA ² s	166 kA ² s	200 kA	77 W	12	0.34 kg
SC31AR69V500TF	L1046924	690 V	760 V	600 V	500 A	36.2 kA ² s	230 kA ² s	200 kA	80 W	12	0.34 kg



SC31AR69V500TFM

Size 31 type TTF with microswitch

Catalog number	Item number	Rated voltage AC (IEC)	Rated voltage AC (UL)	Rated voltage DC (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	Package	Weight
SC31AR69V315TFM	W1046910	690 V	760 V	600 V	315 A	7.54 kA ² s	47.5 kA ² s	200 kA	72 W	12	0.39 kg
SC31AR69V350TFM	X1046911	690 V	760 V	600 V	350 A	10.3 kA ² s	65 kA ² s	200 kA	74 W	12	0.39 kg
SC31AR69V400TFM	Y1046912	690 V	760 V	600 V	400 A	20 kA ² s	125 kA ² s	200 kA	74 W	12	0.39 kg
SC31AR69V450TFM	Z1046913	690 V	760 V	600 V	450 A	26.5 kA ² s	166 kA ² s	200 kA	77 W	12	0.39 kg
SC31AR69V500TFM	A1046914	690 V	760 V	600 V	500 A	36.2 kA ² s	230 kA ² s	200 kA	80 W	12	0.39 kg

Protistor® Limited Range size 31 aR

690VAC (IEC) / 760VAC (UL)

PRODUCT RANGE



SC31AR69V500TIU

Size 31 type TTI without indicator

Catalog number	Item number	Rated voltage AC (IEC)	Rated voltage AC (UL)	Rated voltage DC (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	Package	Weight
SC31AR69V315TIU	W1047048	690 V	760 V	600 V	315 A	7.54 kA ² s	47.5 kA ² s	200 kA	72 W	12	0.34 kg
SC31AR69V350TIU	Y1047050	690 V	760 V	600 V	350 A	10.3 kA ² s	65 kA ² s	200 kA	74 W	12	0.34 kg
SC31AR69V400TIU	Z1047051	690 V	760 V	600 V	400 A	20 kA ² s	125 kA ² s	200 kA	74 W	12	0.34 kg
SC31AR69V450TIU	A1047052	690 V	760 V	600 V	450 A	26.5 kA ² s	166 kA ² s	200 kA	77 W	12	0.34 kg
SC31AR69V500TIU	B1047053	690 V	760 V	600 V	500 A	36.2 kA ² s	230 kA ² s	200 kA	80 W	12	0.34 kg



SC31AR69V500TI

Size 31 type TTI with indicator

Catalog number	Item number	Rated voltage AC (IEC)	Rated voltage AC (UL)	Rated voltage DC (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	Package	Weight
SC31AR69V315TI	Q1047043	690 V	760 V	600 V	315 A	7.54 kA ² s	47.5 kA ² s	200 kA	72 W	12	0.34 kg
SC31AR69V350TI	R1047044	690 V	760 V	600 V	350 A	10.3 kA ² s	65 kA ² s	200 kA	74 W	12	0.34 kg
SC31AR69V400TI	S1047045	690 V	760 V	600 V	400 A	20 kA ² s	125 kA ² s	200 kA	74 W	12	0.34 kg
SC31AR69V450TI	T1047046	690 V	760 V	600 V	450 A	26.5 kA ² s	166 kA ² s	200 kA	77 W	12	0.34 kg
SC31AR69V500TI	V1047047	690 V	760 V	600 V	500 A	36.2 kA ² s	230 kA ² s	200 kA	80 W	12	0.34 kg

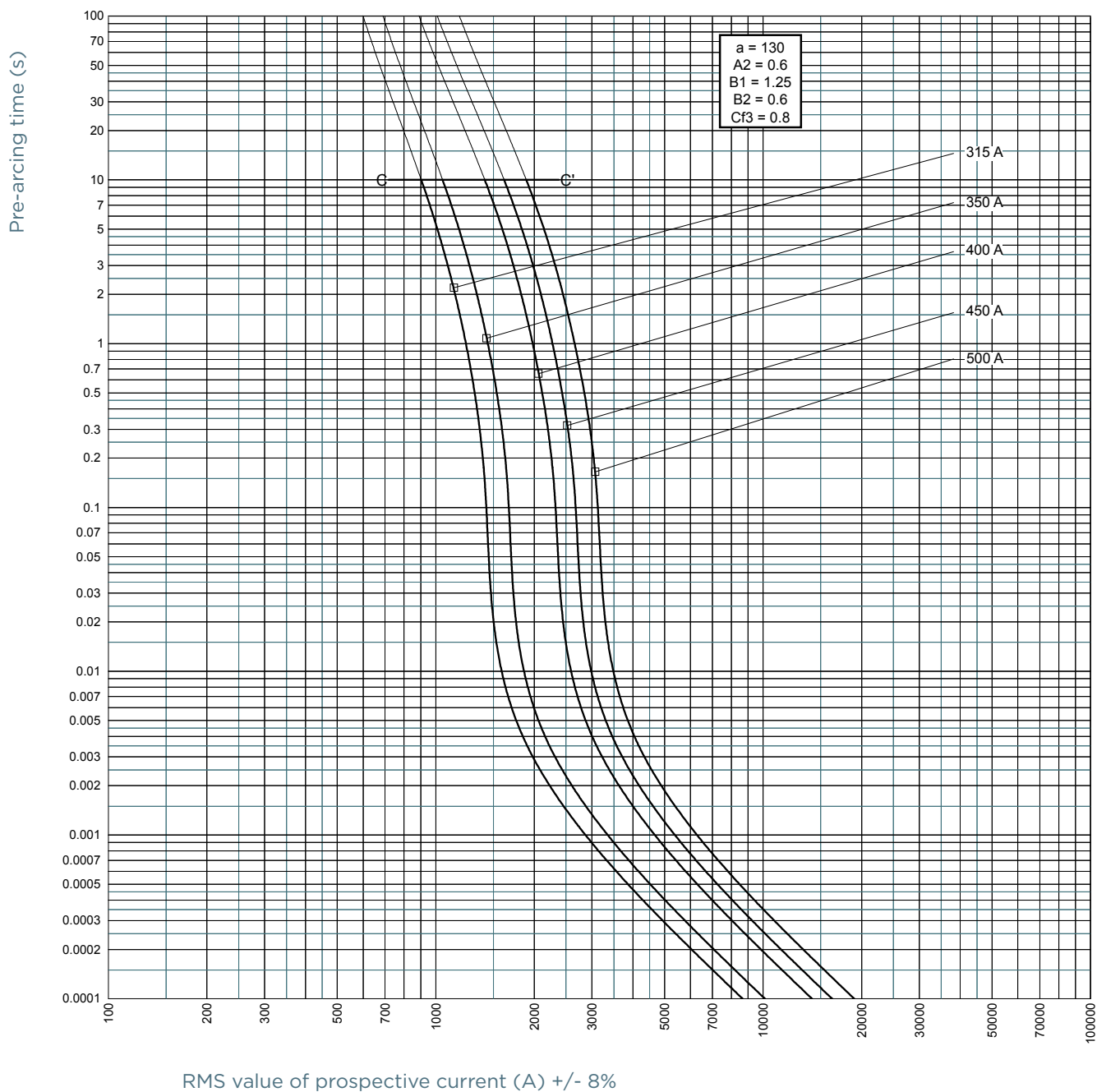


SC31AR69V500TIM

Size 31 type TTI with microswitch

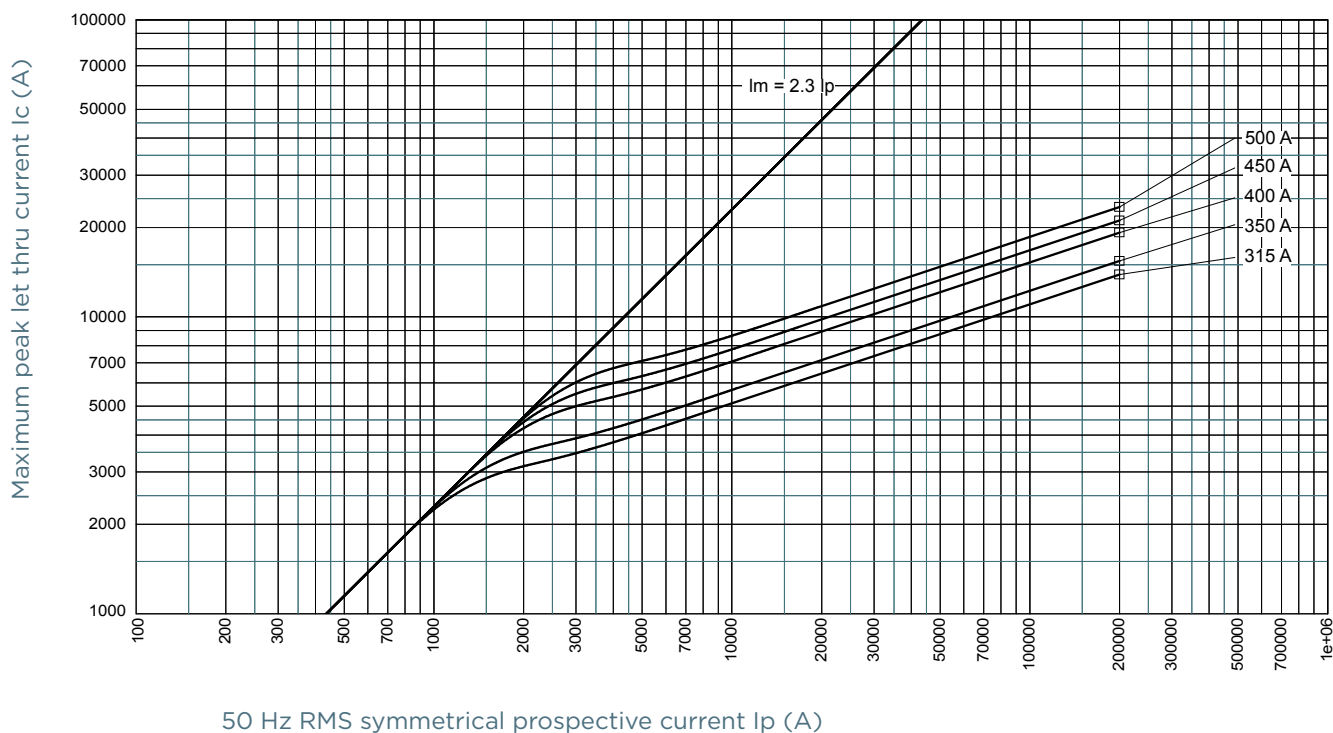
Catalog number	Item number	Rated voltage AC (IEC)	Rated voltage AC (UL)	Rated voltage DC (UL)	Rated current I _n	Pre-arcing I ² t	Clearing I ² t at Rated Voltage	Rated breaking capacity AC	Power dissipation at I _n	Package	Weight
SC31AR69V315TIM	K1047038	690 V	760 V	600 V	315 A	7.54 kA ² s	47.5 kA ² s	200 kA	72 W	12	0.39 kg
SC31AR69V350TIM	L1047039	690 V	760 V	600 V	350 A	10.3 kA ² s	65 kA ² s	200 kA	74 W	12	0.39 kg
SC31AR69V400TIM	M1047040	690 V	760 V	600 V	400 A	20 kA ² s	125 kA ² s	200 kA	74 W	12	0.39 kg
SC31AR69V450TIM	N1047041	690 V	760 V	600 V	450 A	26.5 kA ² s	166 kA ² s	200 kA	77 W	12	0.39 kg
SC31AR69V500TIM	P1047042	690 V	760 V	600 V	500 A	36.2 kA ² s	230 kA ² s	200 kA	80 W	12	0.39 kg

TIME CURRENT CHARACTERISTIC CURVES

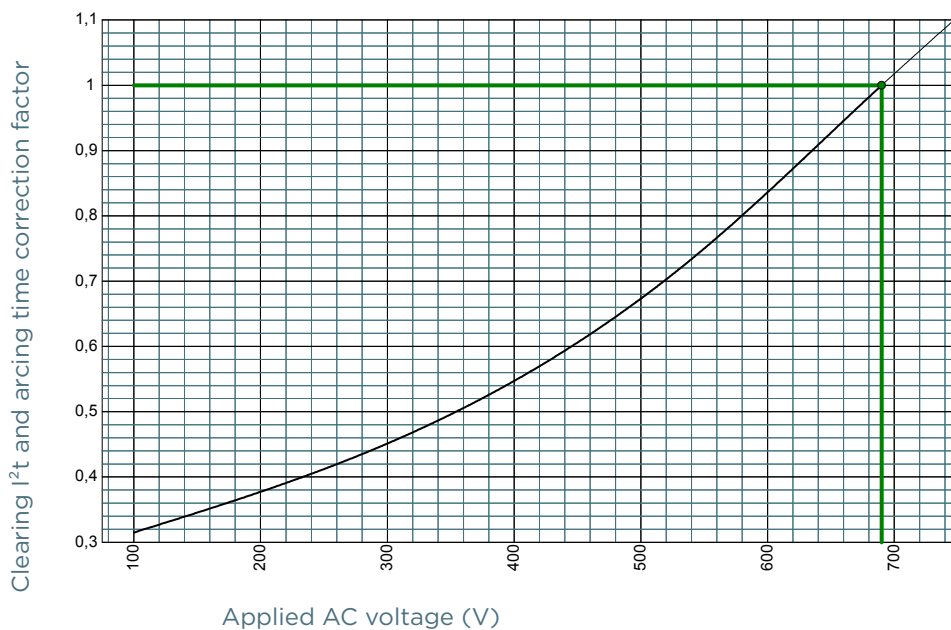


MERSEN reserves the right to change, update or correct, without notice, any information contained in this datasheet.

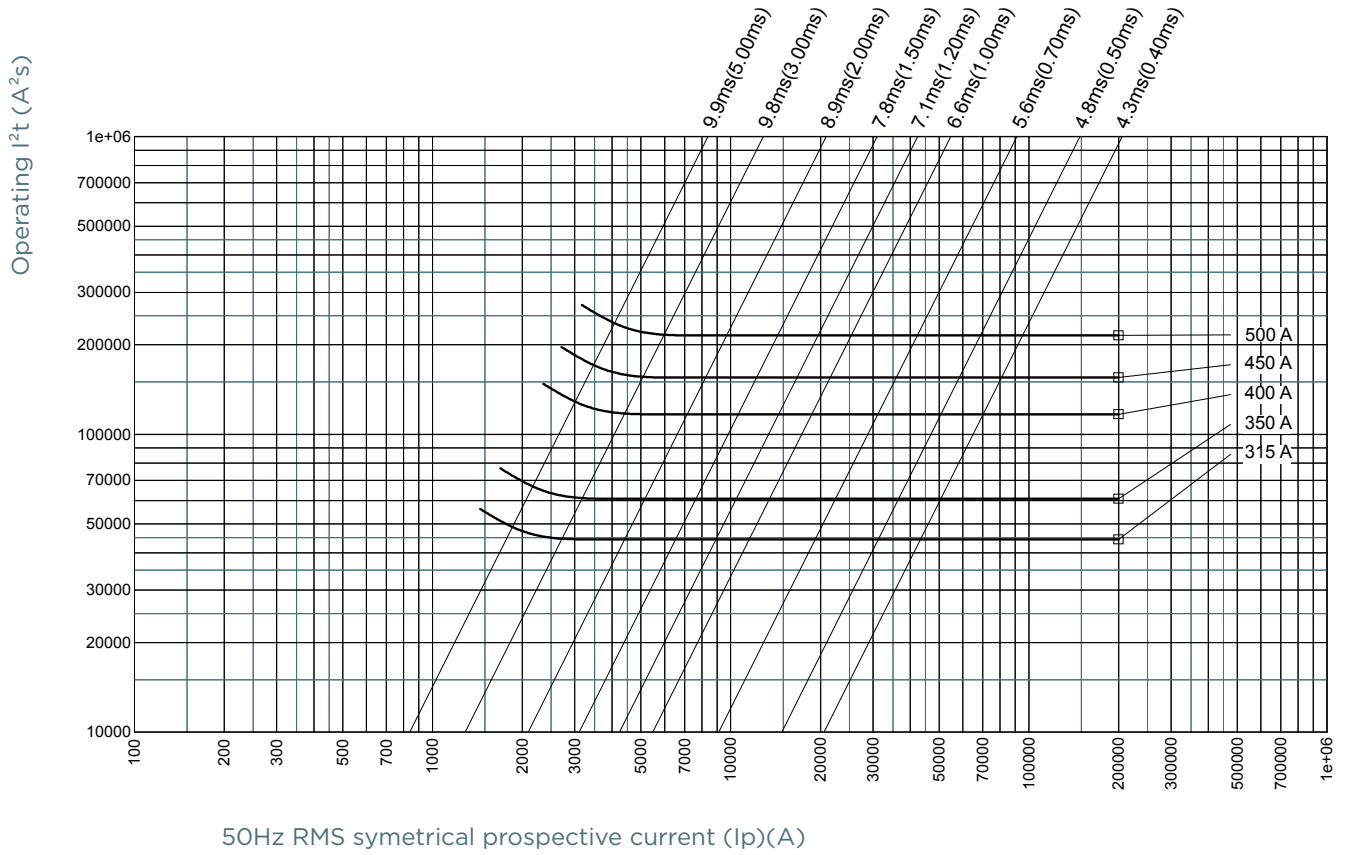
CUT-OFF CURRENT CHARACTERISTIC



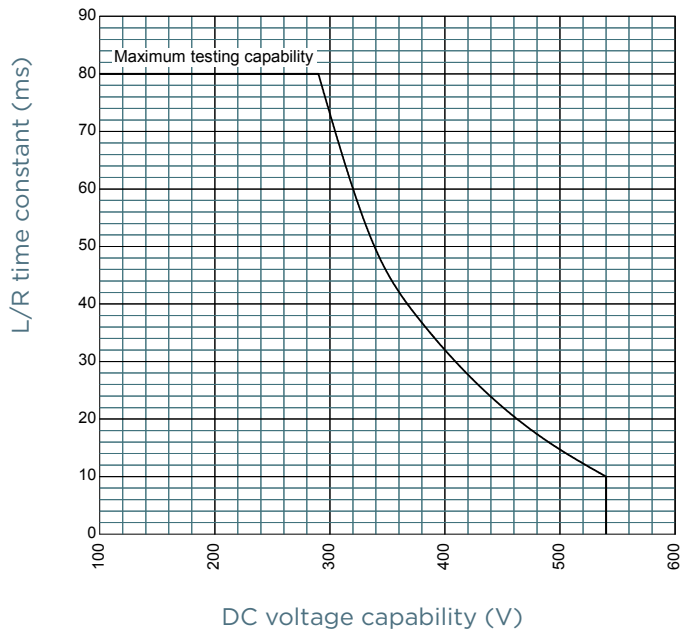
I²T MULTIPLIER COEFFICIENT



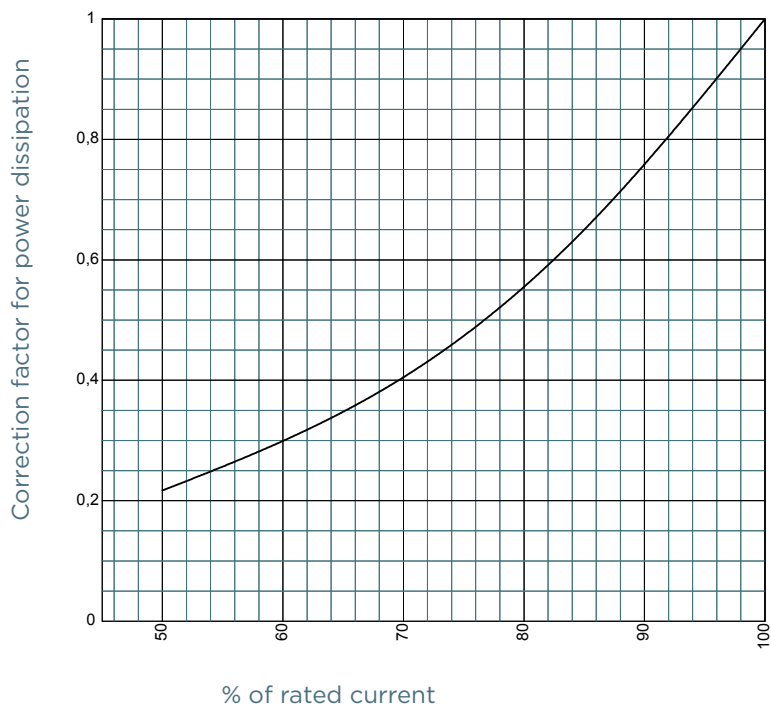
CHARACTERISTICS TOTAL I²T CURVE



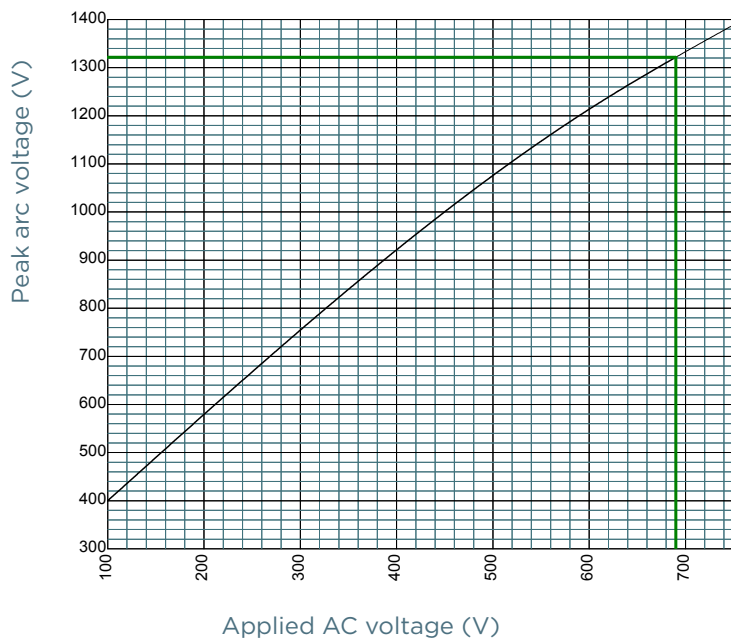
L/R TIME CONSTANT VS DC VOLTAGE CAPABILITY



POWER DISSIPATION



PEAK ARC VOLTAGE

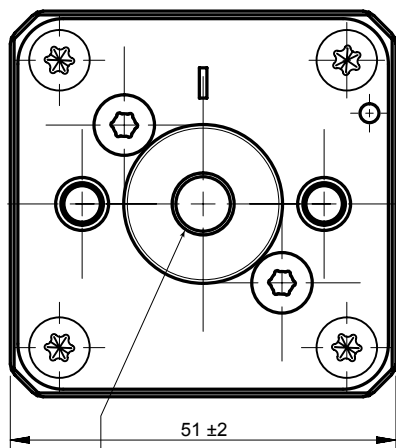


Protistor® Limited Range size 31 aR

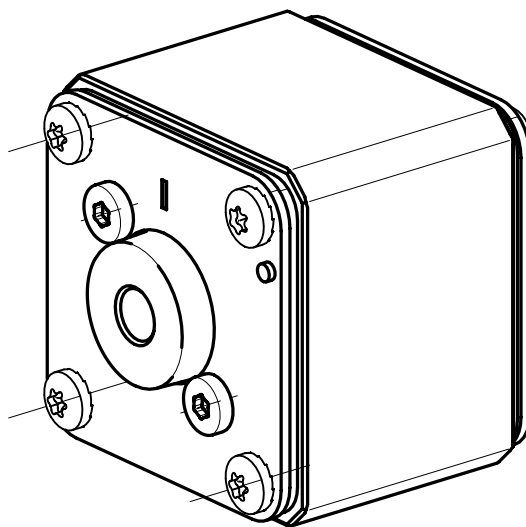
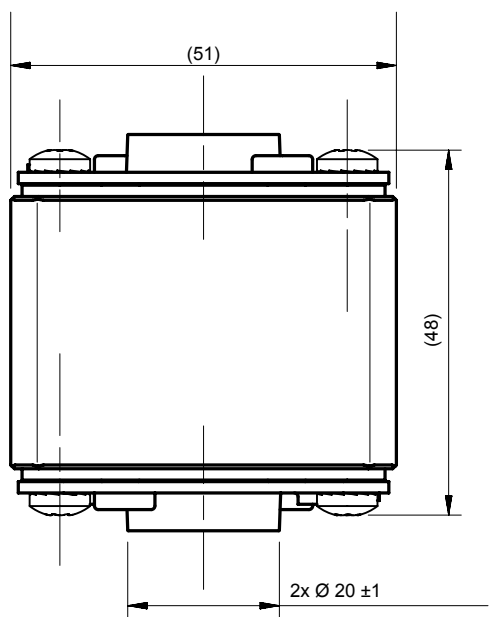
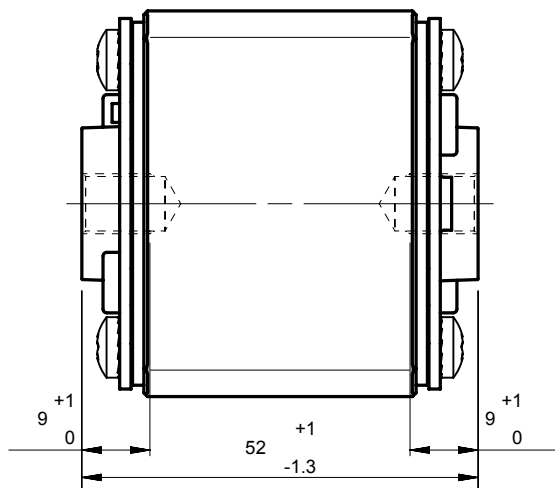
690VAC (IEC) / 760VAC (UL)

DIMENSIONS

TTI & TTF



TTI: 2x Ø 5/16 - 18 UNC
TTF: 2x M 8

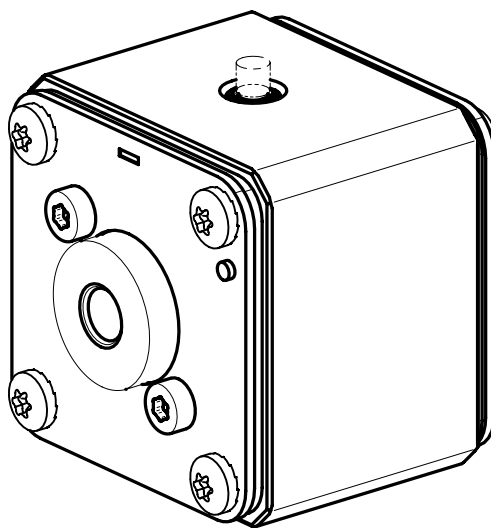
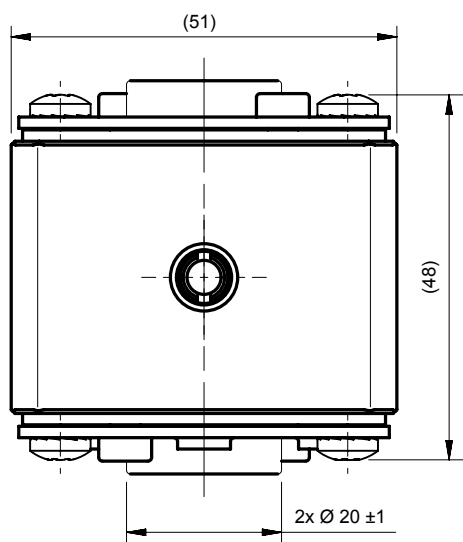
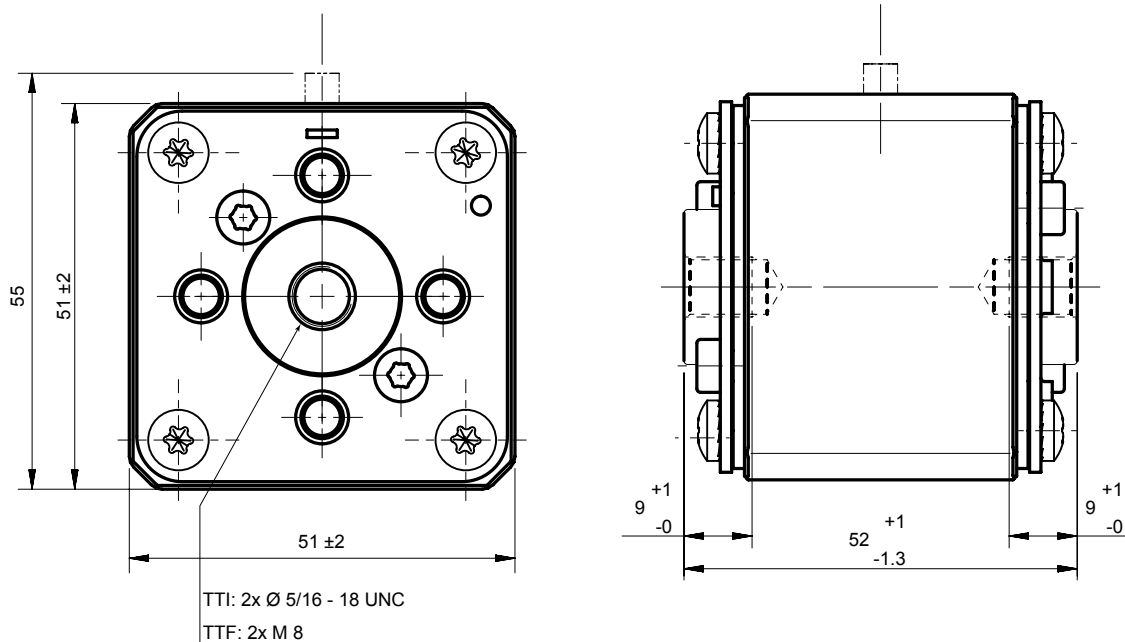


Protistor® Limited Range size 31 aR

690VAC (IEC) / 760VAC (UL)

DIMENSIONS

TTI & TTF with indicator

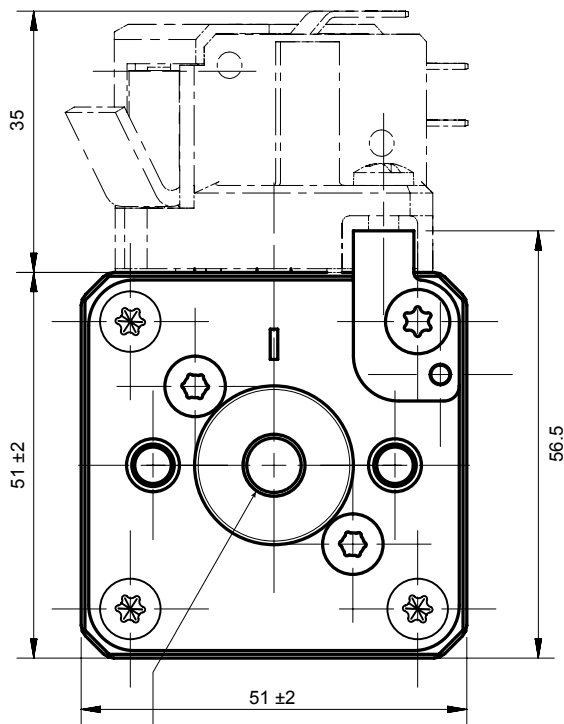


Protistor® Limited Range size 31 aR

690VAC (IEC) / 760VAC (UL)

DIMENSIONS

TTI & TTF with microswitch



TTI: 2x Ø 5/16 - 18 UNC
TTF: 2x M 8

