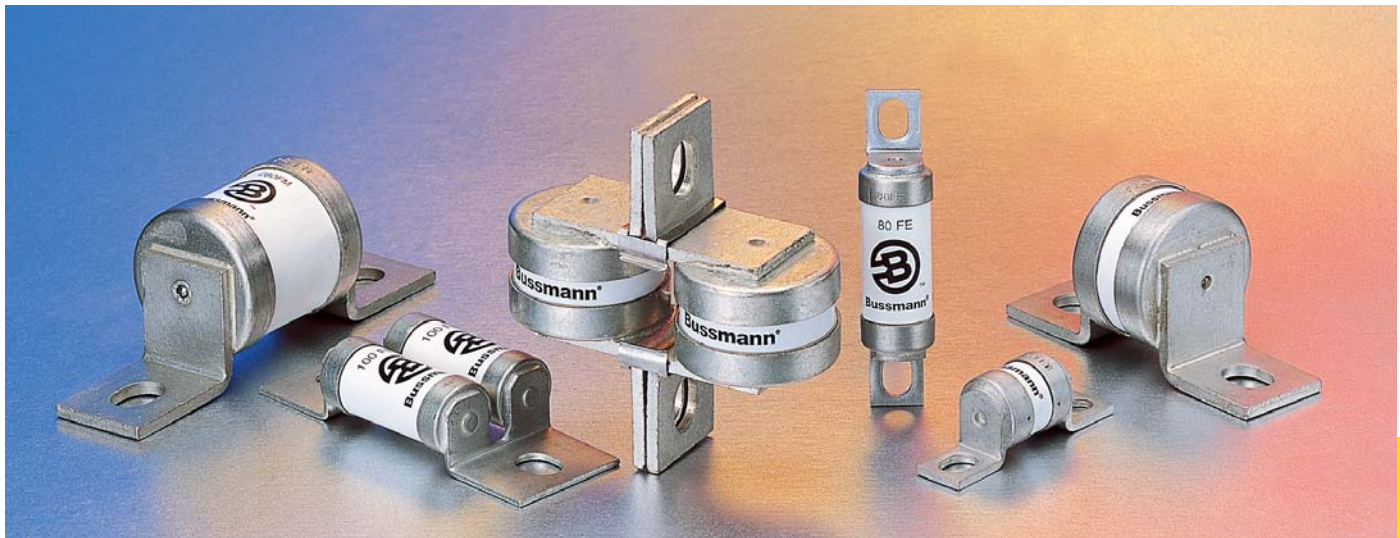


British BS 88 fuses



High Speed
Fuses

Introduction

British BS 88 Contents

Fuse Volts	Amp Range	Page
240	6-900	182-184
690	6-710	185-188

Accessories

Indicator System & Fuse Bases	189
-------------------------------	-----

British BS 88 Fuse Ranges

Amps	Volts	AC	DC
6-900	240	X	—
6-900	150	—	X
6-700	690	X	—
6-700	500	—	X

General Information

Designed and tested to:

- BS 88: Part 4
- IEC 269: Part 4
- UL Recognized

Cooper Bussmann offers the industry's widest range of British style semiconductor fuses and accessories.

Cooper Bussmann® British style products use innovative arc quenching techniques and high grade materials to provide:

- Minimal energy let-through (I^2t)
- Excellent DC performance
- Good surge withstand profile

British style fuses are typically found in equipment manufactured in the United Kingdom or British Commonwealth countries. However, North American manufacturers have begun to specify British style fuses — particularly in UPS applications at 240V or less — to take advantage of their size, performance and cost benefits.

Voltage Rating

All Cooper Bussmann British style fuses are tested to IEC 269: Part 4. This standard requires a test voltage which is 5% higher than the rated voltage. In North America, fuses are required to clear only their rated voltage.

Accessories

Trip-indicator fuses are available for use in parallel with the main fuse. Indicator fuses can be attached to the associated fuselink, or mounted separately in panel-mounted fuseclips. In addition, a push-on adapter and microswitch attachment are available, to provide remote indication. Fuse blocks are also available for most applications.

High Speed Fuses

British BS 88 — 240V: 6-900A

LCT, LET, LMT, LMMT

Specifications

Description: BS 88 style stud-mount fuses.

Dimensions: See Dimensions illustrations.

Ratings:

Volts: — 240Vac/150Vdc

Amps: — 6-900A

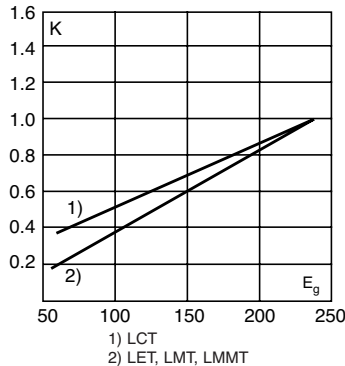
IR: — 200kA RMS Sym.

Agency Information: CE, Designed and tested to: BS 88 Part 4, IEC 269 Part 4, UL Recognized. All fuses above have been tested at 318Vac. Consult Cooper Bussmann for specific UL Recognition status.

Electrical Characteristics

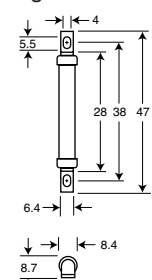
Total Clearing I²t

The total clearing I²t at rated voltage and at power factor of 15% are given in the electrical characteristics. For other voltages, the clearing I²t is found by multiplying by correction factor, K, given as a function of applied working voltage, E_g (rms).



Dimensions (mm)

Fig. 1: LCT



1mm = 0.0394" / 1" = 25.4mm

Fig. 2: LET

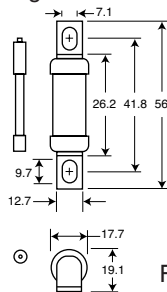


Fig. 3: LMT

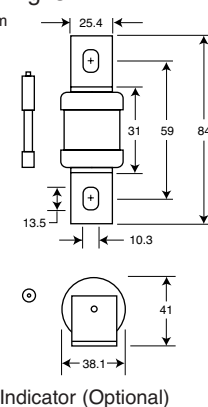
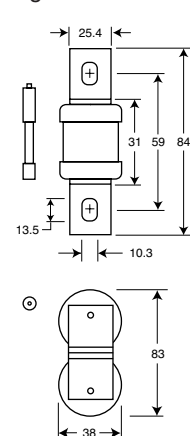
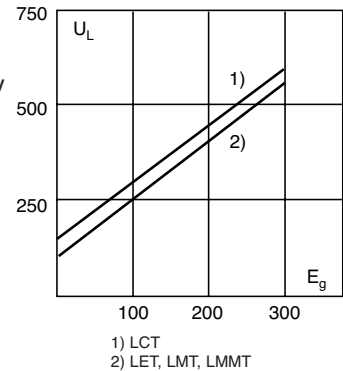


Fig. 4: LMMT



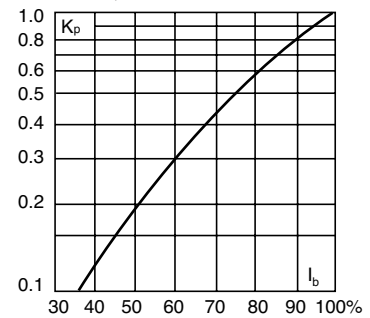
Arc Voltage

This curve gives the peak arc voltage, U_L, which may appear across the fuse during its operation as a function of the applied working voltage, E_g (rms) at a power factor of 15%.



Power Losses

Watts loss at rated current is given in the electrical characteristics. The curve allows the calculation of the power losses at load currents lower than the rated current. The correction factor, K_p, is given as a function of the RMS load current, I_b, in % of the rated current.



Catalog Numbers

Catalog Numbers	Type	Rated Current RMS-Amps	I ² t (A ² Sec)			Watts Loss
			Pre-arc	Clearing at 120V	Clearing at 240V	
6LCT	LCT	6	2	6	9	1.0
10LCT		10	3.8	12	22	2.5
12LCT		12	7	22	32	2.5
16LCT		16	20	50	100	2.5
20LCT		20	25	80	160	4.0
25LET	LET	25	18	120	250	4.0
32LET		32	32	200	450	5.0
35LET		35	50	320	600	5.0
50LET		50	100	500	1400	7.0
63LET		63	180	1100	2200	9.0
80LET		80	300	1900	3800	10.0
100LET		100	600	3800	7500	10.0
125LET		125	600	3800	7500	16.0
160LET		160	1100	7000	16000	20.0
180LETa		180	1600	12000	29000	21.0
160LMT	LMT	160	1100	7000	16000	17.0
200LMT		200	1500	10000	20000	28.0
250LMT		250	3200	20000	40000	28.0
315LMT		315	6000	35000	75000	35.0
355LMT		355	8000	50000	100000	35.0
400LMT		400	14000	70000	160000	40.0
450LMT		450	18000	100000	220000	42.0
400LMMT	LMMT	400	6000	35000	80000	60.0
500LMMT		500	14000	80000	170000	64.0
630LMMT		630	24000	150000	300000	75.0
710LMMT		710	32000	200000	460000	77.0
800LMMT		800	52000	300000	600000	82.0
900LMMT		900	75000	400000	800000	97.0

• Watts loss provided at rated current.
• Note: 7LET, 10LET, 12LET and 16LET are available for replacement purposes on existing equipment.
• See accessories on page 189.

Features and Benefits

- Excellent cycling capability
- Excellent dc performance
- Low arc voltage and low energy let-through (I²t)

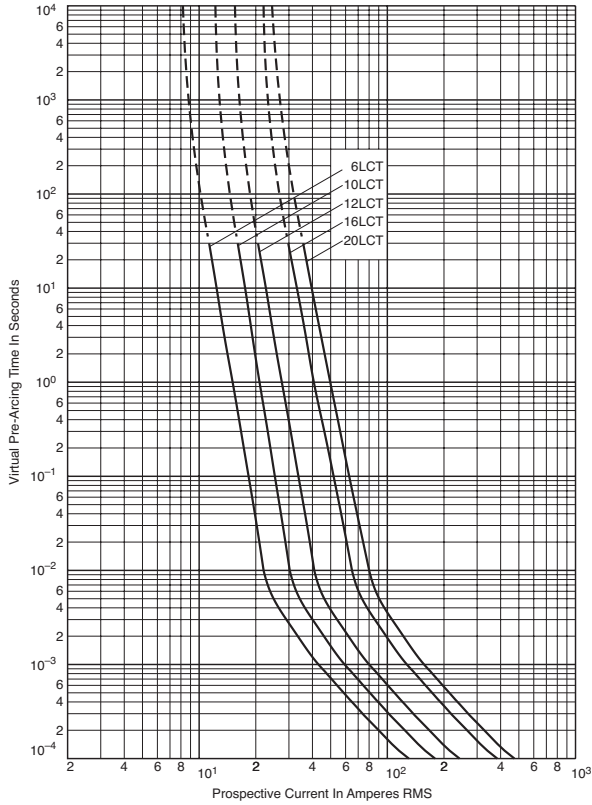
Typical Applications

- DC common bus
- DC drives
- Power converters/rectifiers
- Reduced voltage starters

British BS 88 — 240V: 6-900A

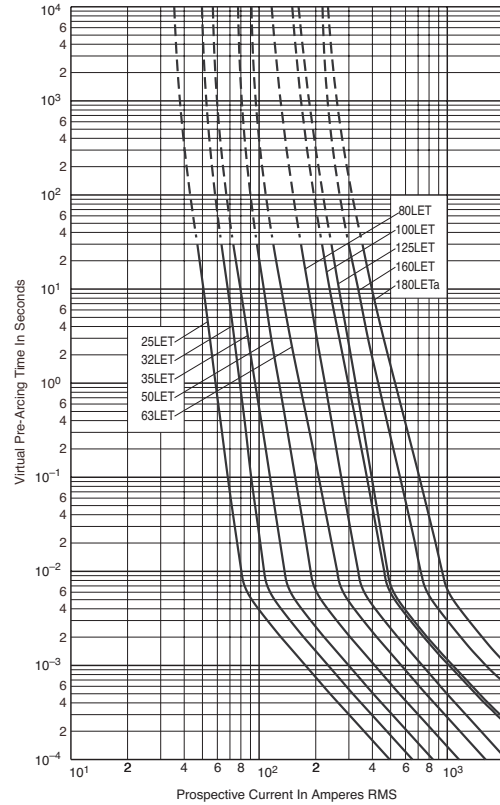
LCT 6-20A: 240V

Time-Current Curve



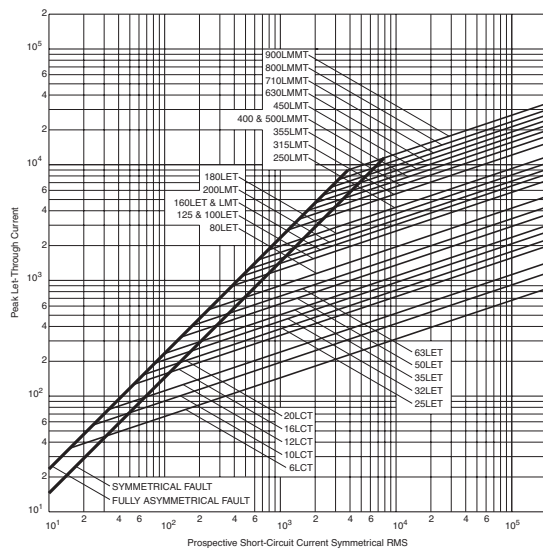
LET 25-180A: 240V

Time-Current Curve

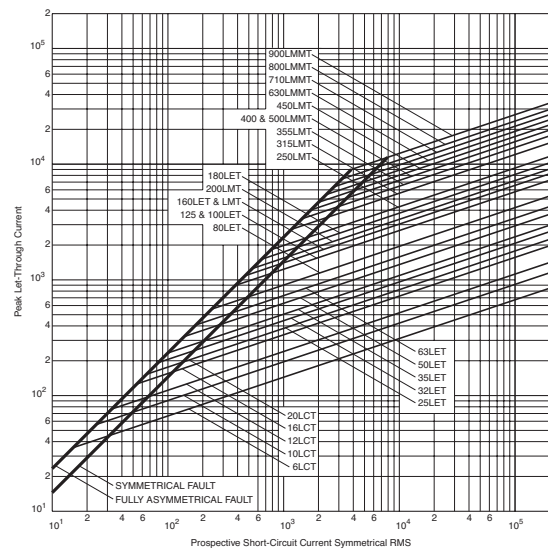


High Speed Fuses

Peak Let-Through Curve



Peak Let-Through Curve



Data Sheet: 35785296

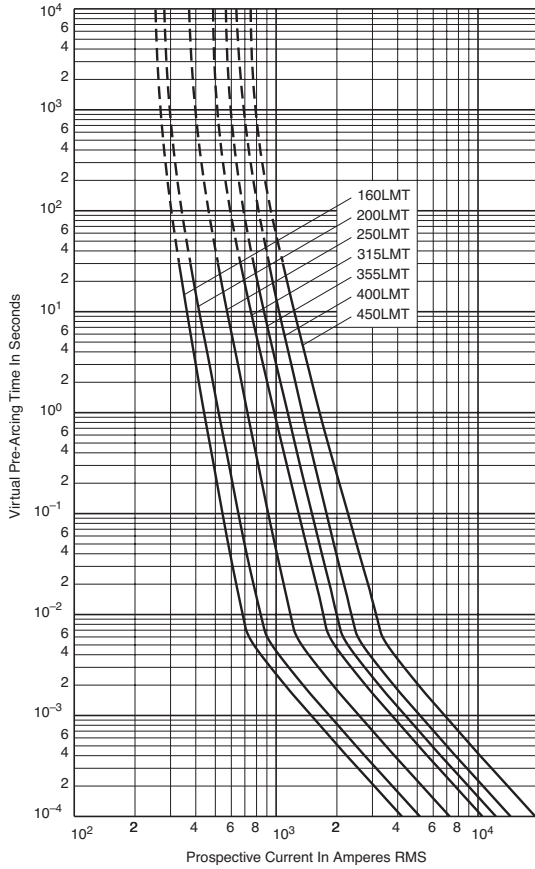
Data Sheet: 35785293

High Speed Fuses

British BS 88 — 240V: 6-900A

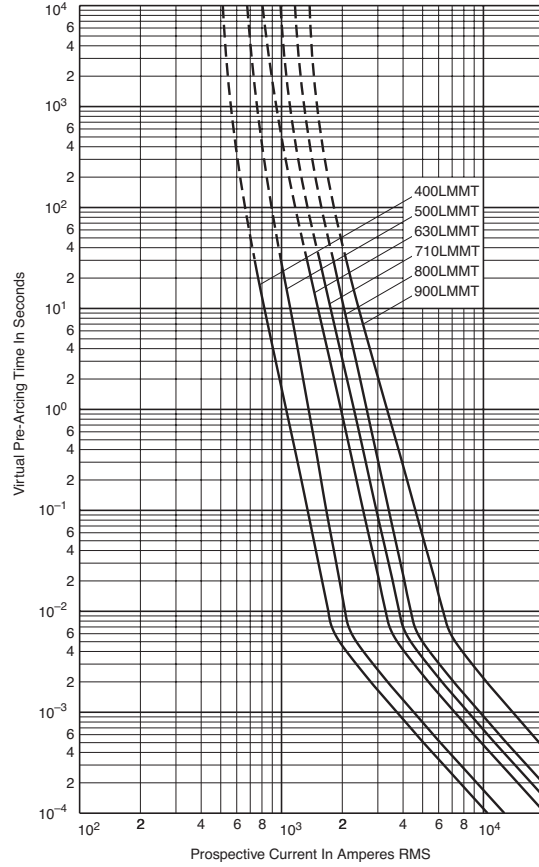
LMT 160-450A: 240V

Time-Current Curve

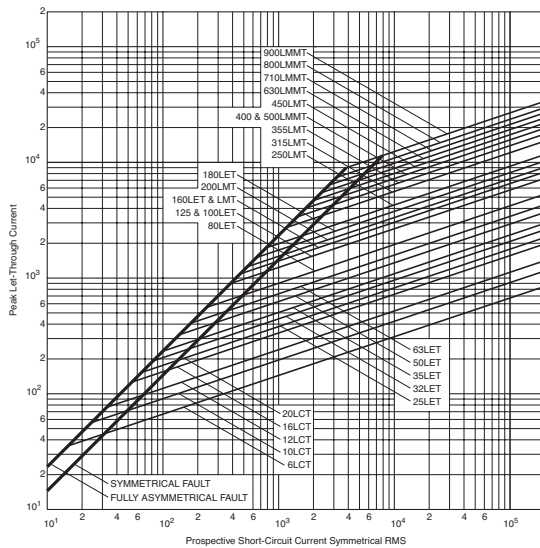


LMMT 400-900A: 240V

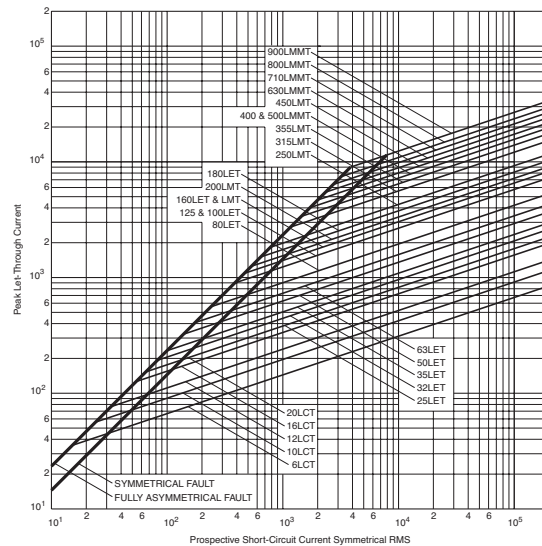
Time-Current Curve



Peak Let-Through Curve



Peak Let-Through Curve



Data Sheet: 35785294

Data Sheet: 35785295

British BS 88 — 690V: 6-710A

CT, ET, FE, EET, FEE, FM, FMM, MT, MMT

Specifications

Description: BS 88 style stud-mount fuses.

Dimensions: See Dimensions illustrations.

Ratings:

Volts: — 690Vac/350Vdc

Amps: — 6-710A

IR: — 200kA RMS Sym.

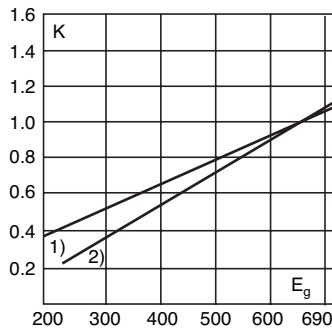
Agency Information: CE, Designed and tested to: BS 88 Part 4, IEC 269 Part 4, UL Recognized. MT and MMT — 350Vdc (IEC) rating. Consult Cooper Bussmann for UL Recognition status.



Electrical Characteristics

Total Clearing I²t

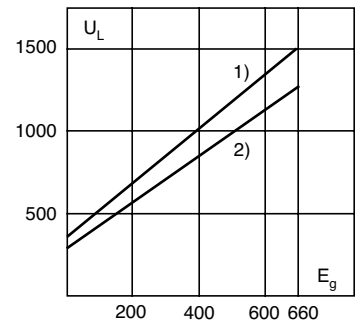
The total clearing I²t at rated voltage and at power factor of 15% are given in the electrical characteristics. For other voltages, the clearing I²t is found by multiplying by correction factor, K, given as a function of applied working voltage, E_g, (rms).



1) CT, ET, EET, FE, FEE, MT, MMT
2) FM, FMM

Arc Voltage

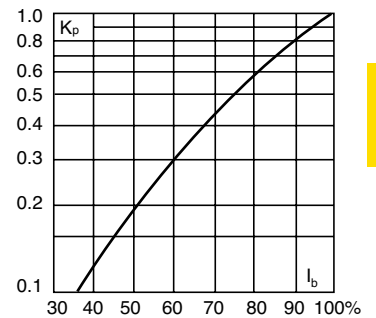
This curve gives the peak arc voltage, U_L, which may appear across the fuse during its operation as a function of the applied working voltage, E_g, (rms) at a power factor of 15%.



1) CT
2) ET, FE, EET, FEE, FM, FMM

Power Losses

Watts loss at rated current is given in the electrical characteristics. The curve allows the calculation of the power losses at load currents lower than the rated current. The correction factor, K_p, is given as a function of the RMS load current, I_b, in % of the rated current.



Features and Benefits

- Excellent cycling capability
- Excellent dc performance
- Low arc voltage and low energy let-through (I²t)
- Low watts loss

Typical Applications

- DC common bus
- DC drives
- Power converters/rectifiers
- Reduced voltage starters

Dimensions (mm)

Fig. 1: CT

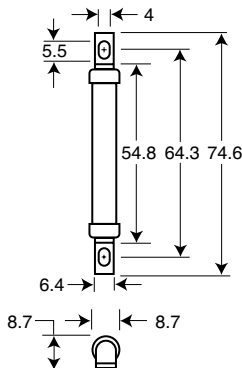


Fig. 2: ET, FE

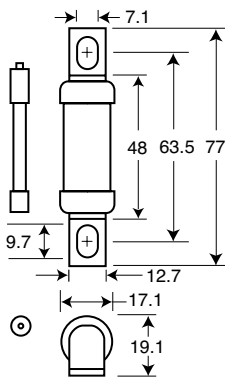


Fig. 3: EET, FEE

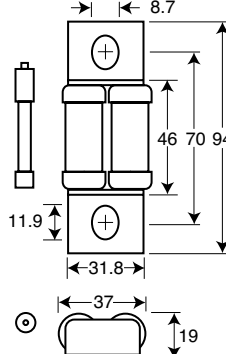


Fig. 4: FM, MT

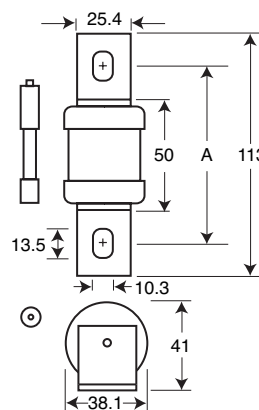
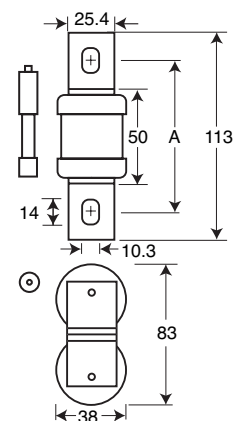


Fig. 5: FMM, MMT



Figs. 4 & 5 "A" Dimensions

Type	"A"
FM	80-85mm
FMM	80-85mm
MT	85mm
MMT	85mm

1mm = 0.0394" / 1" = 25.4mm

High Speed Fuses

British BS 88 — 690V: 6-710A

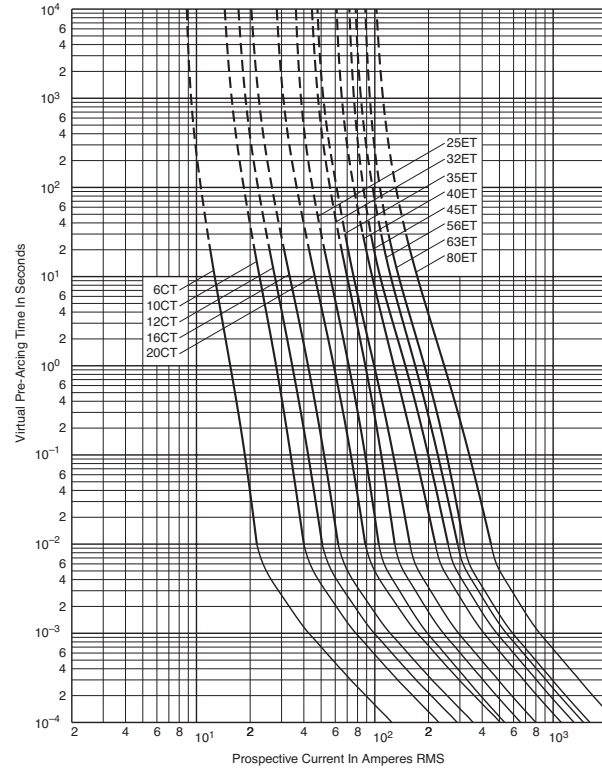
Catalog Numbers

Catalog Numbers	Type	Electrical Characteristics				
		Rated Current RMS-Amps	Pre-arc	I ² t (A ² Sec)		Watts Loss
				Clearing at 415V	Clearing at 660V	
6CT	CT	6	1.8	8.5	12	2
10CT	CT	10	7	30	48	3
12CT	CT	12	10	40	65	3
16CT	CT	16	16	66	110	7
20CT	CT	20	32	150	220	7
25ET	ET	25	25	150	250	7
32ET	ET	32	32	190	350	11
35ET	ET	35	52	310	500	11
40ET	ET	40	103	600	900	9
45ET	ET	45	103	680	1100	11
56ET	ET	56	135	950	1500	14
63ET	ET	63	171	1200	2000	16
80ET	ET	80	360	2500	4000	18
35FE	FE	35	33	130	200	9
40FE	FE	40	52	180	300	9
45FE	FE	45	76	270	450	11
50FE	FE	50	103	380	600	11
63FE	FE	63	135	480	750	12
71FE	FE	71	210	600	950	17
80FE	FE	80	250	900	1500	20
90FE	FE	90	360	1300	2100	20
100FE	FE	100	470	1800	2800	23
90EET	EET	90	490	3000	4500	19
110EET	EET	110	600	4000	6500	27
140EET	EET	140	1050	7000	12000	35
160EET	EET	160	1500	10000	17000	39
100FEE	FEE	100	400	1600	2400	24
120FEE	FEE	120	540	1900	3100	32
140FEE	FEE	140	850	2500	3800	36
160FEE	FEE	160	1000	3700	5700	46
180FEE	FEE	180	1400	5300	8400	46
200FEE	FEE	200	1900	7100	11400	52
180FM	FM	180	1400	7500	13500	40
200FM	FM	200	2600	10500	18500	40
225FM	FM	225	3700	14500	26500	44
250FM	FM	250	5200	20500	37500	48
280FM	FM	280	7000	30500	55000	48
315FM	FM	315	10000	40000	77000	55
350FM	FM	350	15000	60000	105000	55
400FMM	FMM	400	10000	40000	72500	85
450FMM	FMM	450	15000	60000	105000	90
500FMM	FMM	500	20000	82000	150000	100
550FMM	FMM	550	30000	120000	215000	100
630FMM	FMM	630	45000	180000	310000	100
700FMM	FMM	700	60000	245000	420000	120
160MT	MT†	160	2400	15000	25000	26
180MT	MT†	180	3800	25000	38000	26
200MT	MT†	200	6000	40000	58000	27
250MT	MT†	250	11500	80000	110000	32
280MT	MT†	280	16500	100000	150000	35
315MT	MT†	315	19000	125000	180000	42
355MT	MT†	355	22000	160000	200000	51
180MMT	MMT†	180	1650	12000	18000	42
200MMT	MMT†	200	2200	16000	23000	42
225MMT	MMT†	225	3700	26000	40000	42
280MMT	MMT†	280	6600	47000	70000	47
315MMT	MMT†	315	8600	62000	91000	51
355MMT	MMT†	355	13500	97000	140000	54
400MMT	MMT†	400	21000	150000	220000	60
450MMT	MMT†	450	30000	220000	320000	57
500MMT	MMT†	500	42000	300000	450000	64
560MMT	MMT†	560	60000	430000	640000	64
630MMT	MMT†	630	68500	500000	720000	86
710MMT	MMT†	710	78000	600000	850000	105

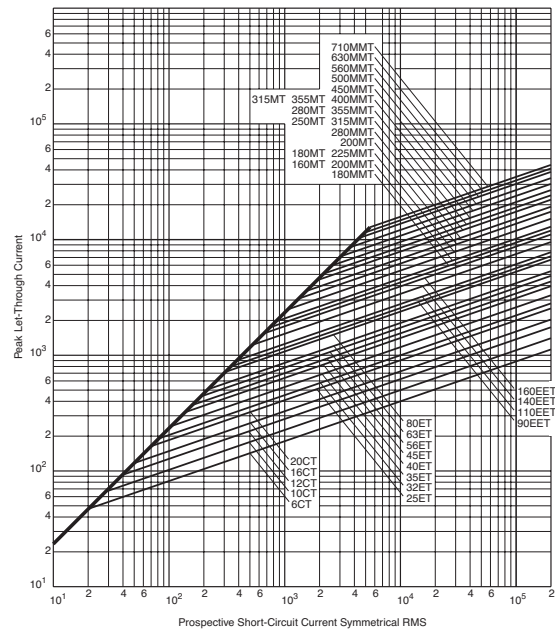
• Watts loss provided at rated current.
• Note: FC, 8ET, 12ET, 15ET, 20ET, 65EET and 75EET are available for replacement purposes on existing equipment.
• See accessories on page 189.

CT 6-20, ET 25-80A: 690V

Time-Current Curve



Peak Let-Through Curve

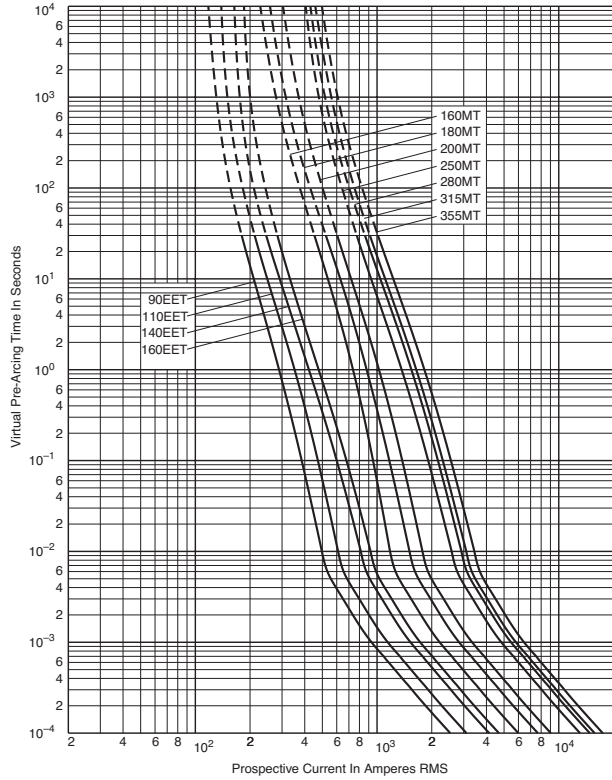


Data Sheet: 35785312

British BS 88 — 690V: 6-710A

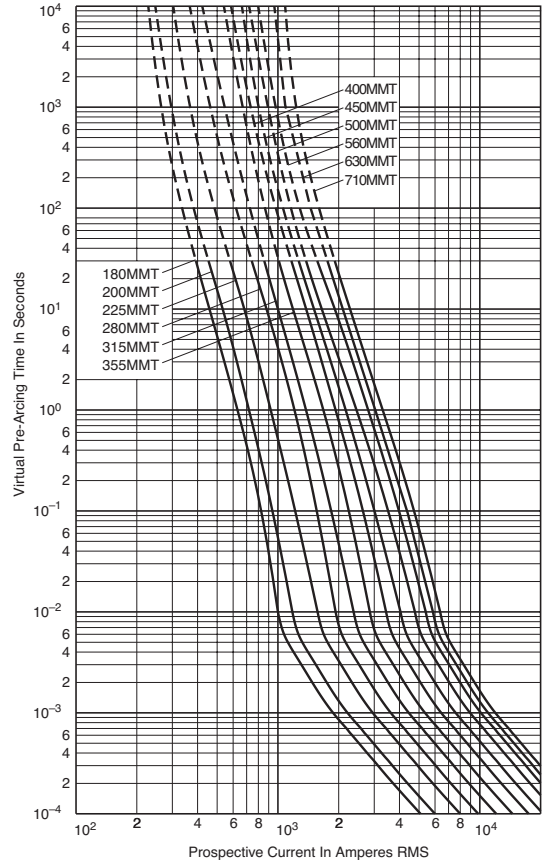
EET 90-160A, MT 160-355A: 690V

Time-Current Curve



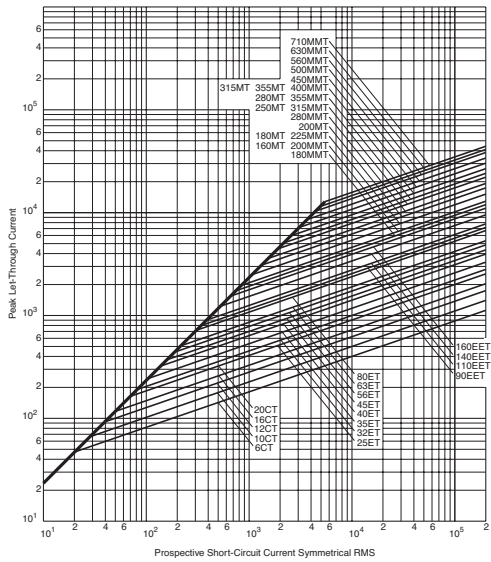
MMT 180-710A: 690V

Time-Current Curve

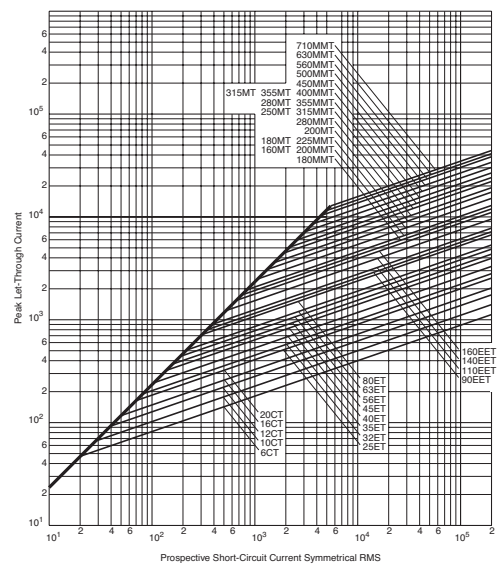


High Speed Fuses

Peak Let-Through Curve



Peak Let-Through Curve



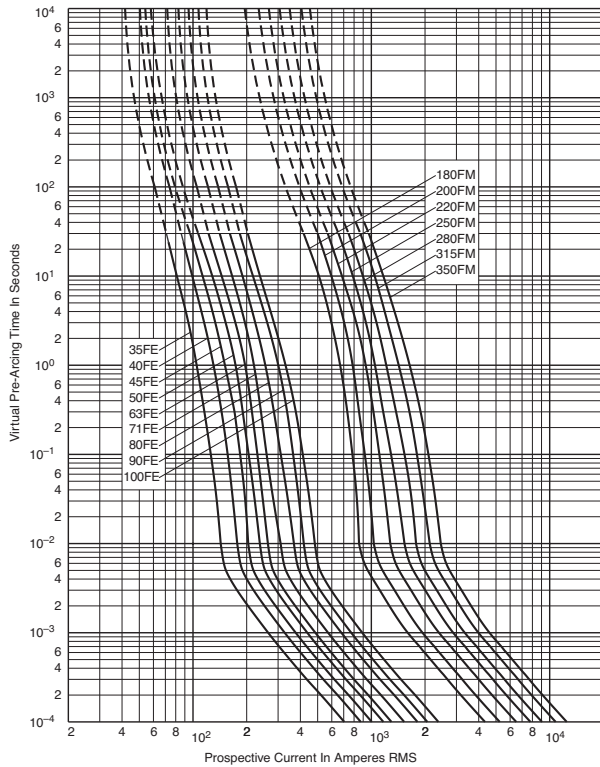
Data Sheet: 35785313

Data Sheet: 35785311

British BS 88 — 690V: 6-710A

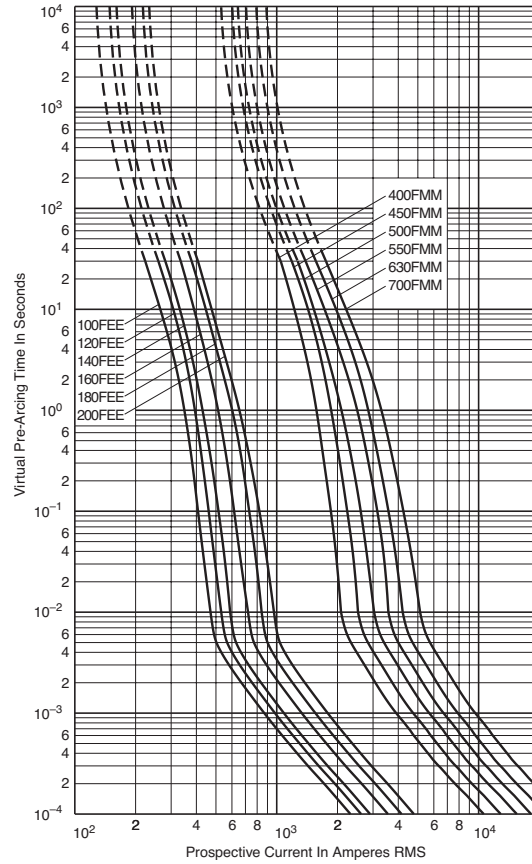
FE 35-100A & FM 180-350A: 690V

Time-Current Curve

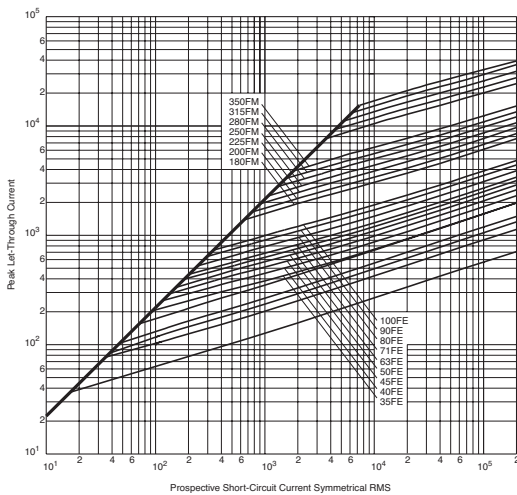


FEE 100-200A & FMM 400-700A: 690V

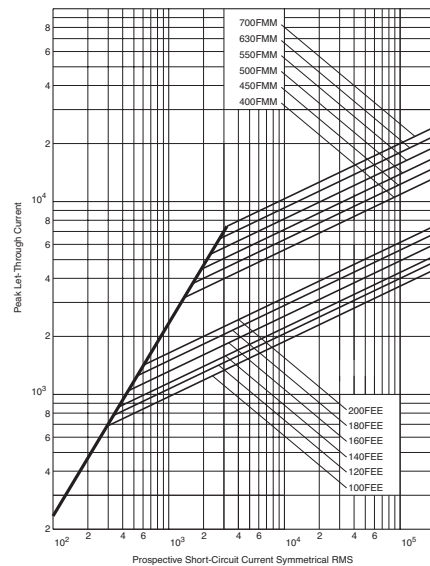
Time-Current Curve



Peak Let-Through Curve



Peak Let-Through Curve



Data Sheet: 35785314

Data Sheet: 35785292

British BS 88 fuse accessories

Trip Indicator



Trip-indicator fuselinks are available for use in parallel with the main fuselinks. They can either be attached to the associated fuselink or mounted separately in panel mounted fuse clips, Part No. CL1. A push-on adapter and microswitch attachment is available for use with the trip indicator to give the facility of remote indication, reference MAI or MBI.

Fuse ratings of 20A and below cannot usually accommodate a trip fuselink in parallel.

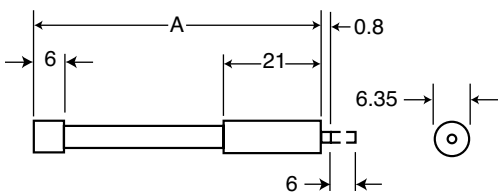
Where trip indicator fuselinks are to be attached to the main fuselink, an accessory pack comprising a pair of mounting clips and an appropriate trip indicator fuselink will be required.

The ordering code references for these packs are listed below:

Fuse Type	Order Ref.	Fuse Type	Order Ref.
ET	EC-600	FM	MC-600
EET	EC-600	FMM	MC-600
FE	EC-600	LMT	MC-250
FEE	EC-600	LMMT	MC-250
LET	EC-250		

Dimensions & Fuselink Data (mm)

Fuse Type	Dim. 'A' Max	Voltage Rating	Fuse Type	Dim. 'A' Max	Voltage Rating
TI250	37.6	250	TI1100	98.4	1100
TI500	47.5	500	TI1500	120.8	1500
TI600	55.7	600	TI2000	147.5	2000
TI700	61.8	700	TI2500	198.3	2500



1mm = 0.0394" / 1" = 25.4mm

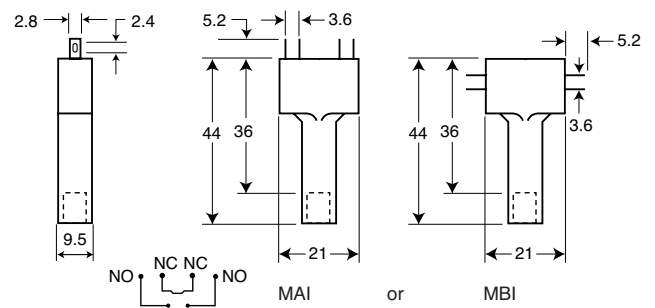
Microswitch and Adapter Type MAI
Current Ratings:

ac 50/60Hz resistive load @ 250Vrms 4A
ac 50/60Hz resistive load @ 127Vrms 6A

Maximum Working Voltage:

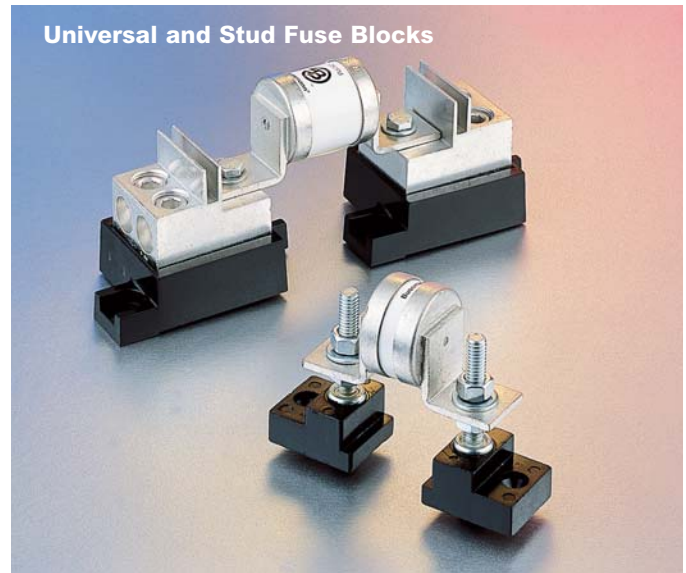
Contact-to-contact (rms) 1000V
Contact-to-contact (rms) 1500V

Dimensions (mm)



High Speed Fuses

Universal and Stud Fuse Blocks



Stud Fuse Blocks

Catalog Numbers	Stud Height (in)	Stud Dia. & Threads
C5268-1	1.00	3/16-18
C5268-2	1.75	3/16-18
C5268-3	0.75	3/16-18
C5268-4	1.00	1/4-20
C5268-5	1.75	1/4-20

Universal Fuse Blocks

Modular Base	Max Voltage	Max Fuse Amp Rating	Data Sheet
1BS101	600	100	1206
1BS102	600	400	1207
1BS103	600	400	1208
1BS104	600	600	1209

COOPER Bussmann



! WARNING

Arc Flash and Shock Hazards
Appropriate PPE Required
Failure to Comply Can result in Death or Injury

34 inch	Flash Hazard Boundary
3 cal/cm ²	Flash Hazard at 18 inches
1	Hazard Risk Category cal/cm ²
480 VAC	Shock Hazard
42 inch	Limited Approach
12 inch	Restricted Approach
1 inch	Prohibited Approach

Equipment Name: Pump 1 Motor Starter

Reduce Liability while Increasing Safety and Productivity.

Cooper Bussmann® Services deliver electrical arc-flash analysis, hazard labeling and training to protect your workers and company.

We offer the most comprehensive approach to electrical system safety solutions, including electrical safety program assessment and development. And, we take the confusion out of OSHA requirements to help you meet NFPA 70E safety standards.

Cooper Bussmann Services plus Cooper Bussmann circuit protection products in one package can help you enhance protection of people and property, thereby improving productivity. No one else can do that.

Contact our services manager today for your own electrically safe working environment at 636-207-3294.

COOPER

The Power Behind The Brands.



COOPER Lighting



COOPER Crouse-Hinds



COOPER Power Systems



COOPER Wiring Devices



COOPER B-Line