

# Feeder Pillar & House Service Fuse Links



# MERSEN

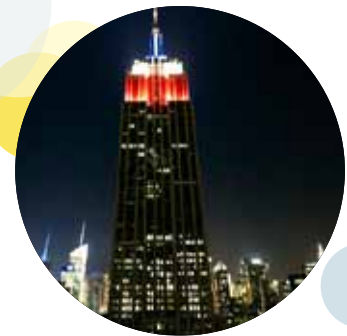
Powerful presence of the world's leader on the circuit protection market Mersen, Electrical Protection Division, offer innovative solutions to enhance the safety of low and medium voltage installations and equipment.

Above and beyond the supply of products, the company also provides added value in the form of technical support for OEMs, electrical contractors, panel builders, plant maintenance department and utilities.

As a global player, Mersen has established production facilities on every continent to optimize the offering (France, Tunisia, United States, Canada, Mexico, India, Japan and P.R. of China). All these locations are united around a global quality, safety and environment policy.

The world-class organization of Mersen offers tried, proven and approved solutions ensuring the integrity of the equipment, their devices protected and the safety of people working around them. To guard customer's electrical equipment and installations over the long term, Mersen markets the widest range of safe, reliable electrical and thermal protection solutions.

Mersen solutions are sold all over the world at 4500 points of sale through professional distributors of electrical components and equipment.



The Mersen range of Low Voltage Feeder Pillar Fuse Links are designed for use with wedge type fuse carriers with fixing centers of 82mm and 92mm. These are primarily for use by Electricity Supply Industries in distribution pillars, open type substation boards, heavy duty service cut-outs and underground disconnecting boxes.

Mersen range of House Service Fuse Links are designed for use in consumer distribution boards, electricity control units, houses and office buildings.

All the Fuse products featured in this catalogue are ASTA 20 certified and comply with the RoHS European Directive.

## INDEX

	Page No.
<b>Feeder Pillar Fuse Links</b>	
Reference Data (415V ac) Breaking Capacity 80kA	<b>04</b>
Dimensions & Electrical Characteristics (415V ac)	<b>05</b>
Time Vs. Current Characteristics	<b>06</b>
Reference Data (415V ac) Breaking Capacity 30kA	<b>07</b>
Time Vs. Current Characteristics	<b>08</b>
<b>Comparison Chart</b>	<b>09</b>
<b>Application Chart</b>	<b>10</b>
<b>Approvals</b>	<b>11</b>

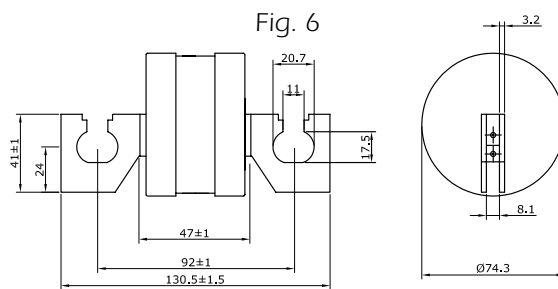
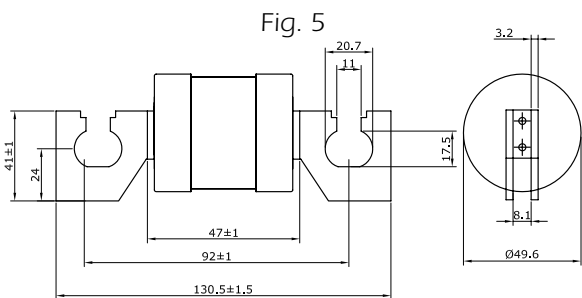
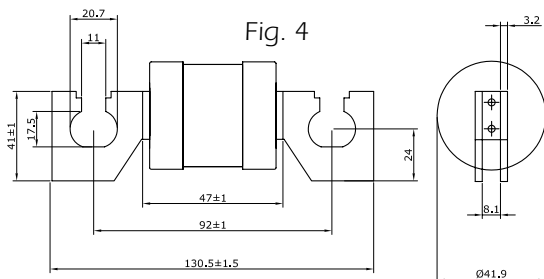
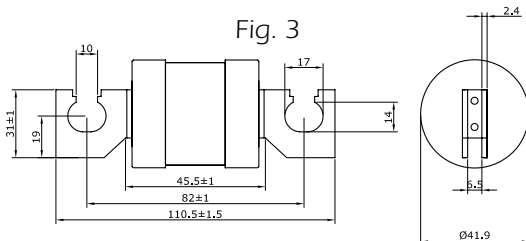
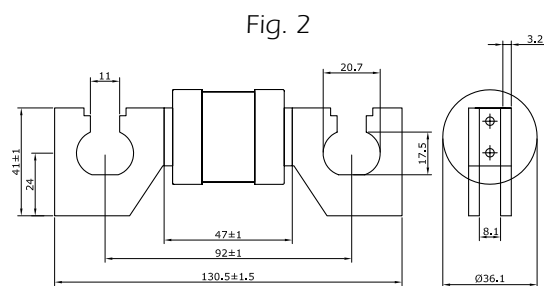
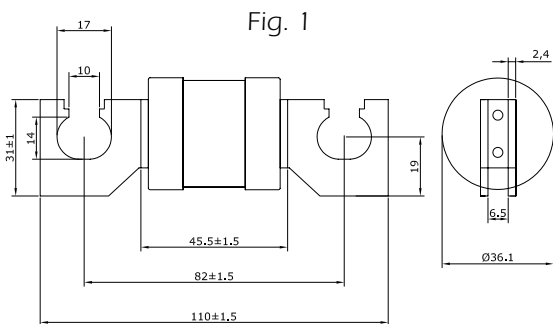
# REFERENCE DATA

Rated Voltage: 415V ac  
 Breaking Capacity: 80kA  
 ASTA 20 Certified



Voltage (V)	Rating (A)	Catalog Number	FS Standard Reference	BS Standard Reference	IEC Standard Reference	Fixing Centre (mm)	Pack.
415	20	BJU42V020PA	H1003888F	BS88-5	IEC60269-2	82	6
	25	BJU42V025PA	J1003889F	BS88-5	IEC60269-2	82	6
	32	BJU42V032PA	K1003890F	BS88-5	IEC60269-2	82	6
	40	BJU42V040PA	L1003891F	BS88-5	IEC60269-2	82	6
	50	BJU42V050PA	M1003892F	BS88-5	IEC60269-2	82	6
	63	BJU42V063PA	N1003893F	BS88-5	IEC60269-2	82	6
	80	BJU42V080PA	P1003894F	BS88-5	IEC60269-2	82	6
	100	BJU42V100PA	Q1003895F	BS88-5	IEC60269-2	82	6
	125	BJU42V125PA	R1003896F	BS88-5	IEC60269-2	82	6
	160	BJU42V160PA	S1003897F	BS88-5	IEC60269-2	82	6
200	BJU42V200PA	T1003898F	BS88-5	IEC60269-2	82	6	
415	20	BJU42V020SA	V1003899C	BS88-5	IEC60269-2	92	3
	25	BJU42V025SA	W1003900C	BS88-5	IEC60269-2	92	3
	32	BJU42V032SA	X1003901C	BS88-5	IEC60269-2	92	3
	40	BJU42V040SA	Y1003902C	BS88-5	IEC60269-2	92	3
	50	BJU42V050SA	Z1003903C	BS88-5	IEC60269-2	92	3
	63	BJU42V063SA	A1003904C	BS88-5	IEC60269-2	92	3
	80	BJU42V080SA	B1003905C	BS88-5	IEC60269-2	92	3
	100	BJU42V100SA	C1003906C	BS88-5	IEC60269-2	92	3
	125	BJU42V125SA	D1003907C	BS88-5	IEC60269-2	92	3
	160	BJU42V160SA	H1003911C	BS88-5	IEC60269-2	92	3
200	BJU42V200SA	V1003922C	BS88-5	IEC60269-2	92	3	
415	250	BJU42V250PB	W1003923C	BS88-5	IEC60269-2	82	3
	315	BJU42V315PB	Y1003925C	BS88-5	IEC60269-2	82	3
	355	BJU42V355PB	Z1003926C	BS88-5	IEC60269-2	82	3
	400	BJU42V400PB	D1003930C	BS88-5	IEC60269-2	82	3
415	250	BJU42V250SB	E1003931C	BS88-5	IEC60269-2	92	3
	315	BJU42V315SB	F1003932C	BS88-5	IEC60269-2	92	3
	355	BJU42V355SB	G1003933C	BS88-5	IEC60269-2	92	3
	400	BJU42V400SB	H1003934C	BS88-5	IEC60269-2	92	3
415	450	BJU42V450SC	J1003935A	BS88-5	IEC60269-2	92	1
	500	BJU42V500SC	F1003955A	BS88-5	IEC60269-2	92	1
415	560	BJU42V560SD	G1003956A	BS88-5	IEC60269-2	92	1
	630	BJU42V630SD	H1003957A	BS88-5	IEC60269-2	92	1

# DIMENSIONS



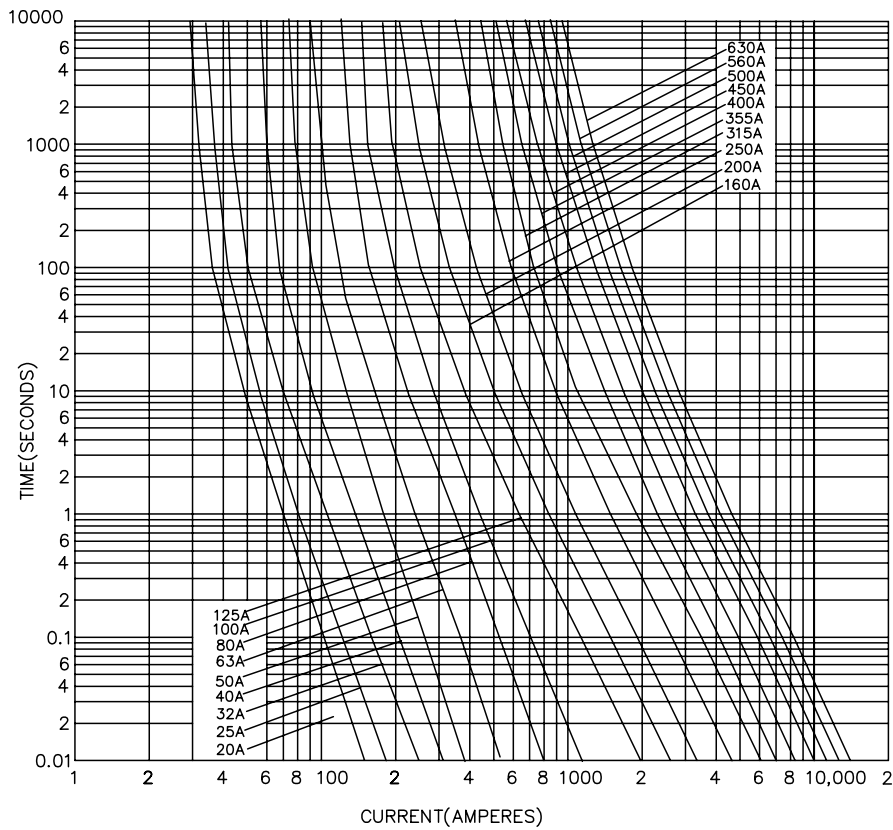
# ELECTRICAL CHARACTERISTICS

Fuse Type	Rating (A)	Curve	I <sup>2</sup> t (Ampere <sup>2</sup> seconds)		Watts Loss
			Pre Arcing	Total	
BJU42V020PA/SA	20	gU	100	1125	2.4
BJU42V025PA/SA	25	gU	250	1890	2.7
BJU42V032PA/SA	32	gU	670	3000	3.2
BJU42V040PA/SA	40	gU	1300	5850	4.5
BJU42V050PA/SA	50	gU	2600	11700	4.8
BJU42V063PA/SA	63	gU	4000	18000	6.2
BJU42V080PA/SA	80	gU	4150	21000	8.4
BJU42V100PA/SA	100	gU	8240	37000	8.7
BJU42V125PA/SA	125	gU	16600	74700	9.3
BJU42V160PA/SA	160	gU	37500	168000	10.7
BJU42V200PA/SA	200	gU	57000	256500	16.2
BJU42V250PB/SB	250	gU	60000	270000	20
BJU42V315PB/SB	315	gU	105000	472500	27
BJU42V355PB/SB	355	gU	134000	603300	29
BJU42V400PB/SB	400	gU	160000	720000	32
BJU42V450SC	450	gU	210000	945000	36
BJU42V500SC	500	gU	302000	1359000	37
BJU42V560SD	560	gU	485000	2910000	35
BJU42V630SD	630	gU	634000	3800000	39

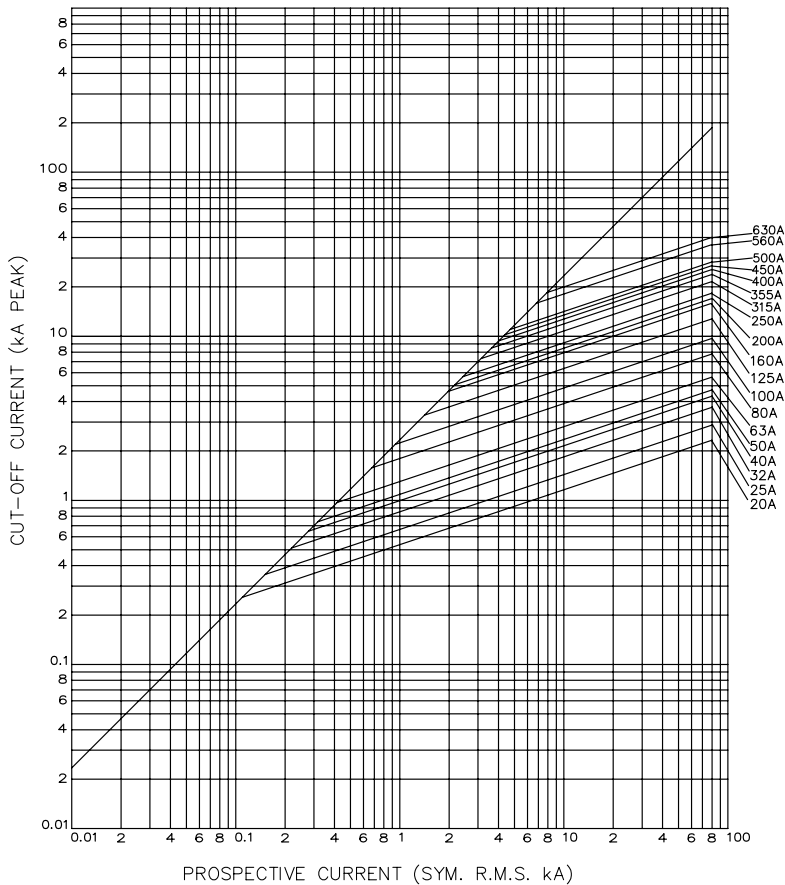
Fig. No.	Catalog Reference
1	BJU42V020PA - BJU42V200PA
2	BJU42V020SA - BJU42V200SA
3	BJU42V250PB - BJU42V400PB
4	BJU42V250SB - BJU42V400SB
5	BJU42V450SC - BJU42V500SC
6	BJU42V560SD - BJU42V630SD

# TIME VS. CURRENT CHARACTERISTICS

gU CURVES - 20 TO 630A - 415VAC



# CUT OFF - CURRENT CHARACTERISTICS



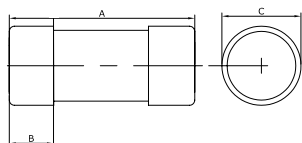
# REFERENCE DATA

Rated Voltage: 415V ac  
 Breaking Capacity: 33kA  
 ASTA 20 Certified



Voltage (V)	Rating (A)	Catalog Number	FS Standard Reference	BS Standard Reference	IEC Standard Reference	Size Standard (mm)	Pack.
415	5	BME42V05	C1003860J	BS1361	IEC60269-3	22x57	10
	10	BME42V10	D1003861J	BS1361	IEC60269-3	22x57	10
	15	BME42V15	E1003862J	BS1361	IEC60269-3	22x57	10
	20	BME42V20	F1003863J	BS1361	IEC60269-3	22x57	10
	25	BME42V25	G1003864J	BS1361	IEC60269-3	22x57	10
	30	BME42V30	H1003865J	BS1361	IEC60269-3	22x57	10
	40	BME42V40	L1003868J	BS1361	IEC60269-3	22x57	10
	45	BME42V45	N1003870J	BS1361	IEC60269-3	22x57	10
	50	BME42V50	Q1003872J	BS1361	IEC60269-3	22x57	10
	60	BME42V60	R1003873J	BS1361	IEC60269-3	22x57	10
415	70	BME42V70	S1003874J	BS1361	IEC60269-3	22x57	10
	80	BME42V80	T1003875J	BS1361	IEC60269-3	22x57	10
	30	BMF42V30	V1003876F	BS1361	IEC60269-3	30x57	6
	40	BMF42V40	W1003877F	BS1361	IEC60269-3	30x57	6
	50	BMF42V50	X1003878F	BS1361	IEC60269-3	30x57	6
	60	BMF42V60	Y1003879F	BS1361	IEC60269-3	30x57	6
	70	BMF42V70	Z1003880F	BS1361	IEC60269-3	30x57	6
	80	BMF42V80	A1003881F	BS1361	IEC60269-3	30x57	6
100	BMF42V100	B1003882F	BS1361	IEC60269-3	30x57	6	

# DIMENSIONS

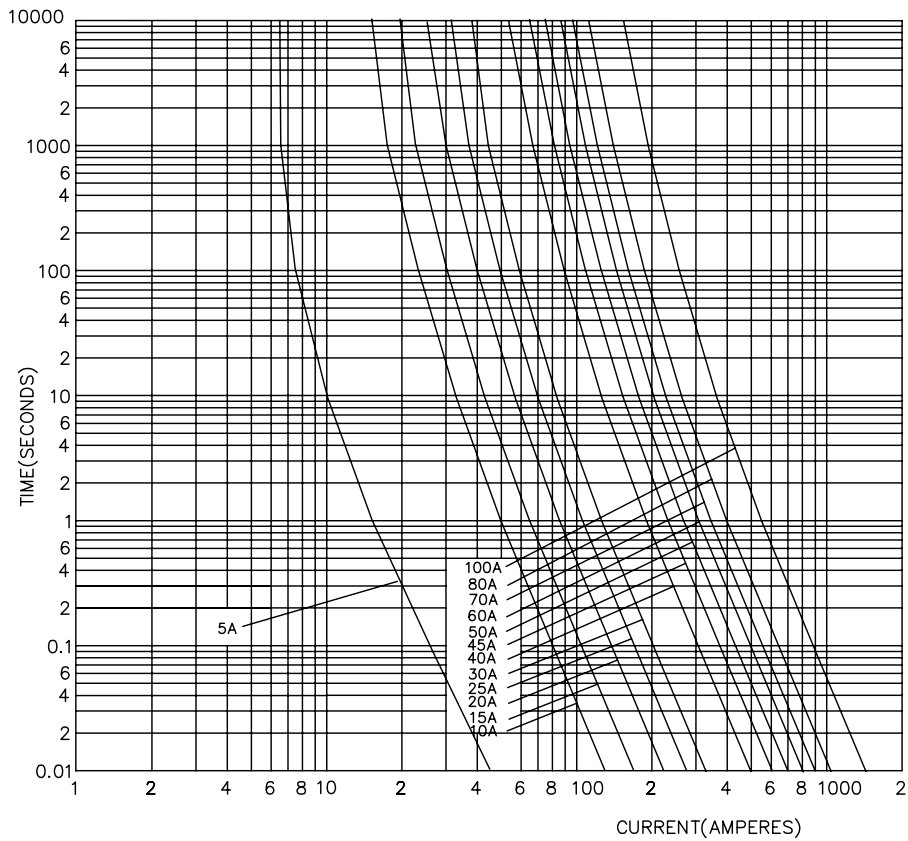


Size (mm)	Fuse Type	Current Rating (A)	Dimensions (mm)		
			A	B	C
22x57	BME	5,10,15,20,25,30,40,45,50,60,70,80	57	16	22.23
30x57	BMF	30,40,50,60,70,80,100	57	16	30.16

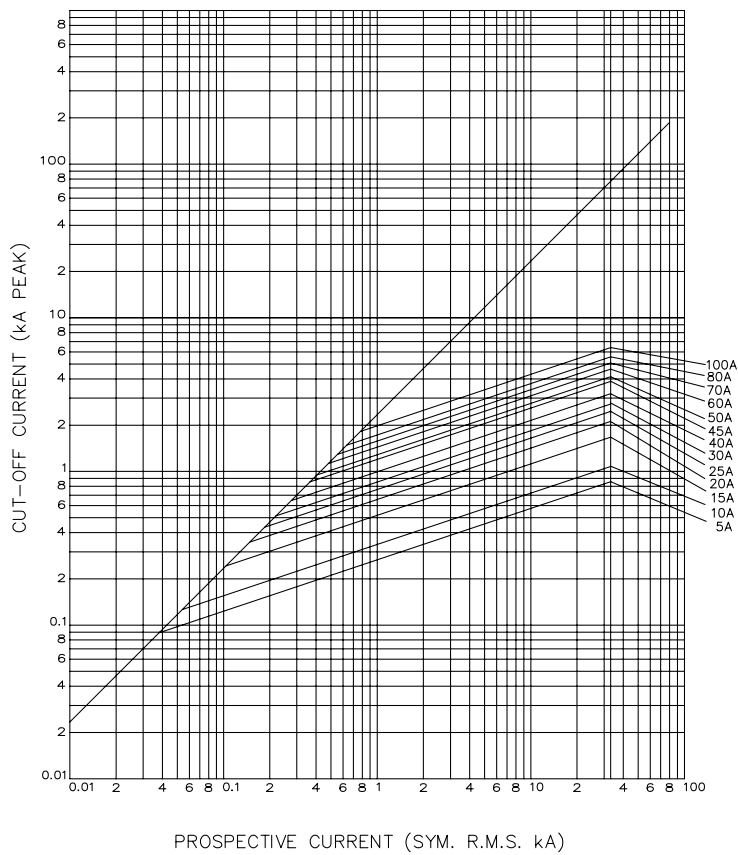
# ELECTRICAL CHARACTERISTICS

Fuse Type	Rating (A)	Size (mm)	I <sup>2</sup> t (Ampere <sup>2</sup> seconds)		Watt Loss
			Pre Arcing	Total	
BME42V05	5	22x57	12	100	1.5
BME42V10	10	22x57	25	185	1.7
BME42V15	15	22x57	120	540	1.9
BME42V20	20	22x57	250	1125	2.1
BME42V25	25	22x57	300	1890	2.3
BME42V30	30	22x57	400	4500	2.65
BME42V40	40	22x57	520	5850	4.4
BME42V45	45	22x57	1250	11700	4.6
BME42V50	50	22x57	1600	16000	4.75
BME42V60	60	22x57	2100	19200	4.8
BME42V70	70	22x57	2600	26250	5.3
BME42V80	80	22x57	4000	30000	5.6
BMF42V30	30	30x57	400	4500	2.6
BMF42V40	40	30x57	520	5850	4.3
BMF42V50	50	30x57	1600	16000	4.6
BMF42V60	60	30x57	2100	19200	4.7
BMF42V70	70	30x57	2600	26250	5.2
BMF42V80	80	30x57	4000	30000	5.5
BMF42V100	100	30x57	8500	68000	5.8

# TIME VS. CURRENT CHARACTERISTICS



# CUT OFF - CURRENT CHARACTERISTICS





# COMPARISON CHART FOR FEEDER PILLAR FUSE LINKS

Competitors		Mersen	Ratings
JPUxx	xxxMJ30-8	BJU42VxxxPA	20 - 200 amps
JPUxx	xxxMJ30-7	BJU42VxxxPA	20 - 200 amps
JSUxx	xxxMJ31-7	BJU42VxxxSA	20 - 200 amps
JPUxx	xxxPJ30-7	BJU42VxxxPB	250 - 400 amps
JSUxx	xxxPJ31-7	BJU42VxxxSB	250 - 400 amps
JPUxx	xxxRJ31-7	BJU42VxxxSC	450 - 500 amps
JSUxx	xxxSJ31-6	BJU42VxxxSD	560 - 630 amps

## MERSEN NUMBERING SYSTEM

B	JU	42V	xxx	PA
BS88	J type utility fuse	Rated Voltage (415V AC)	Current Rating	P-82mm fixing centre, A-Ø36.1mm

B	JU	42V	xxx	SA
BS88	J type utility fuse	Rated Voltage (415V AC)	Current Rating	S-92mm fixing centre, A-Ø36.1mm

Other Diameters : B - Ø41.9mm, C - Ø49.6mm & D - Ø74.3mm

# COMPARISON CHART FOR HOUSE SERVICE CUT OUT FUSE LINKS

Competitors		Mersen	Ratings
MExx	xxKR85	BME42Vxxx	5 - 80 amps
MFxx	xxxLR85	BMF42Vxxx	30 - 100 amps

## MERSEN NUMBERING SYSTEM

B	ME	42V	xxx
BS88	Part Number	Rated Voltage (415V AC)	Current Rating

B	MF	42V	xxx
BS88	Part Number	Rated Voltage (415V AC)	Current Rating

This list is intended for guidance only. Mersen do not guarantee identical performance for the comparative types. It is essential that the performance characteristics are checked to ensure compatibility



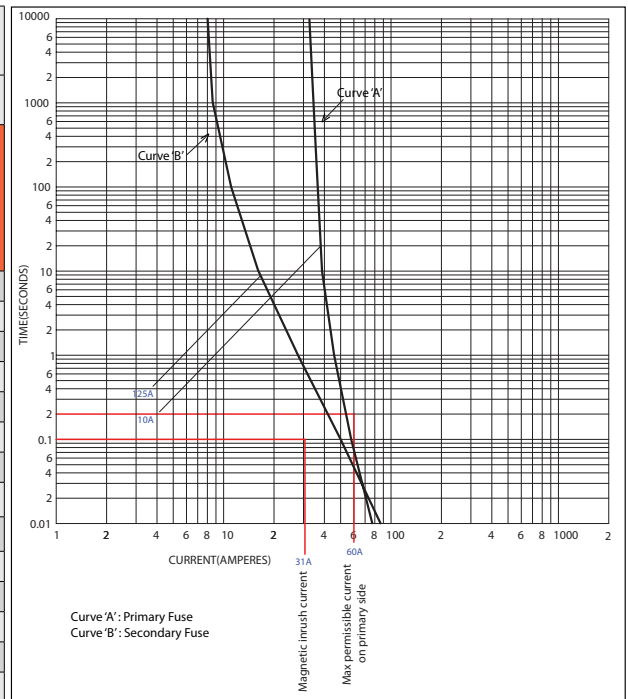
## Selection Procedure for Feeder Pillar Fuse Links for protection of distribution transformer

Mersen range of feeder pillar fuse-links have wedge tightening contacts of standard dimensions (82mm & 92mm) and performance intended for use in a.c. electricity supply networks. These fuses comply as per IEC60269-2, BS: 88 Part 5 requirements.

Selection:

### 1. The primary fuse side is selected as per table below based on transformer ratings.

Rated Voltage range of fuse-link (kV)	3/7.2		6/12		10/24		20/36		
Service Voltage of Transformer (kV)	6		10		20		30		
rel. short circuit voltage	Transformer output (kVA)	Transformer rated current (A)	Rated current of fuse-link (A)	Transformer rated current (A)	Rated current of fuse-link (A)	Transformer rated current (A)	Rated current of fuse-link (A)	Transformer rated current (A)	Rated current of fuse-link (A)
$U_k = 4\%$	50	4.8	16-20	2.9	10	1.5	4	0.96	2-6.3
	100	9.6	20-31.5	5.8	16-20	2.9	10	1.9	6.3-10
	125	12	25-40	7.2	20-25	3.6	10-16	2.4	6.3-10
	160	15.4	31.5-50	9.2	20-31.5	4.6	16-20	3.1	10
	200	19.2	40-63	11.5	25-40	5.8	16-20	3.8	10-16
	250	24.1	40-80	14.4	31.5-50	7.2	20-25	4.8	16-20
	315	30.3	50-100	18.2	40-63	9.1	20-31.5	6.3	16-25
	400	38.5	63-125	23.1	40-80	11.5	25-40	7.7	20-25
	500	8.1	80-160	28.9	50-100	14.4	31.5-50	9.6	20-31.5
$U_k = 5\%$	630	60.6	100-200	36.4	63-100	18.2	40-63	12.1	25-40
	800	77.1	125-200	46.2	80-125	23.1	40-63	15.4	31.5-40
	1000	96.3	125-160	57.7	100-160	28.9	50-80	19.2	40-50
$U_k = 6\%$	1250	120.3	160-200	72.2	125-200	36.1	63-100	24.1	40-50
	1600	154	200	92.4	125-200	46.2	80-100	30.8	50-63



### 2. The following procedure for selecting secondary fuse should be observed (Feeder Pillar fuse):

- Transformer ratings
  - Service voltage (U)
  - Rated output (S)
  - Relative short-circuit voltage ( $U_k$  4%)
  - Inrush current (factor 8...12  $I_N$ )
- Time current characteristics of HV/LV fuse links

### 3. Procedure based on an example:

A 50 kVA transformer has a transformer rated primary full load current of 2.6A with a ratio 11kV/415V. The short circuit current on secondary terminal short-circuit is given from the relative short-circuit voltage. The fuse should be selected to operate within 2 seconds as the transformer is designed to withstand minimum short circuit current ( $25 I_N$ ) for 2 seconds. The primary fuse link is selected to ensure withstand of primary inrush current of  $12 I_N$  for 0.1 seconds.

Selection of secondary fuse is based on the full load current which includes 130% overload withstand for 3 hours (secondary maximum current is 90.5A) and with temperature correction factor, the fuse-link rating of 125A is selected (Please refer to Mersen Feeder Pillar fuse range-BJU42V125PA).

To check whether the selected fuse is ok, the following conditions needs to be satisfied.

- Referring to the curve above which consists of primary fuse time-current curve along with the secondary fuse time-current curve reflected on to primary, it is found that the selected secondary fuse will be operated within 2 seconds for minimum Short Circuit fault current on secondary side, thus protecting transformer from secondary faults.





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