

MEDIUM VOLTAGE DIN Fuse-Links

12kV, Current Limiting Back-Up Fuse-Links, 6.3 to 200 Amps

MV DIN



Catalogue Symbol: 12TDLEJ(amp)
12THLEJ(amp)
12TKLEJ(amp)
12TXLEJ(amp)
12TFMSJ(amp)

Class of Operation: Back-up as IEC 60282-1 (2005)

Dimensional Data:

Fuse Reference	A	C	D	Weight (Kg)
TDLEJ	292	54	51	1.7
THLEJ	292	67	64	2.6
TKLEJ	292	80	76	3.5
TXLEJ	292	88	88	3.7
TFMSJ	442	80	76	5.1

Standards/Approvals:

DIN 43625, VDE 0670 part 4, VDE 0670 part 402 and IEC 60282-1 (2005)

Description:

A range of medium voltage DIN Fuses, complete with sealed striker, suitable for transformer protection. The fuses can be used even where there is no secondary LV protection, provided they are used with fuse switches fitted with instantaneous striker tripping.

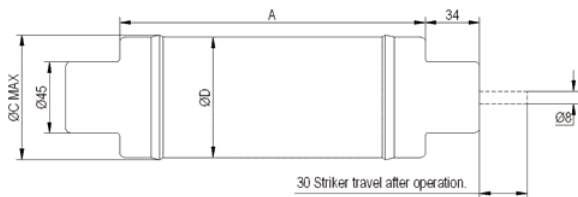
Packaging:

All fuse-links are packed individually.
MOQ: 3
Packaging 100% recyclable

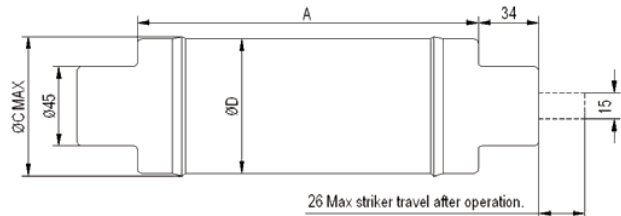
Technical Data:

DIN fuse-links
Rated voltage: 12kV
Amps: 6.3A to 200A
Rated breaking capacity: 50kA
Rated frequency: 50 - 60Hz
Suitable for outdoor and indoor use
RoHS compliant

EJ Outline



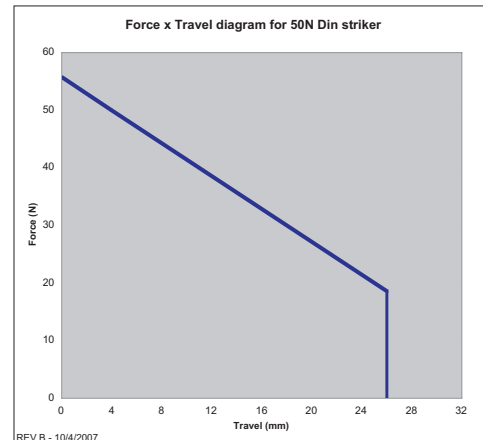
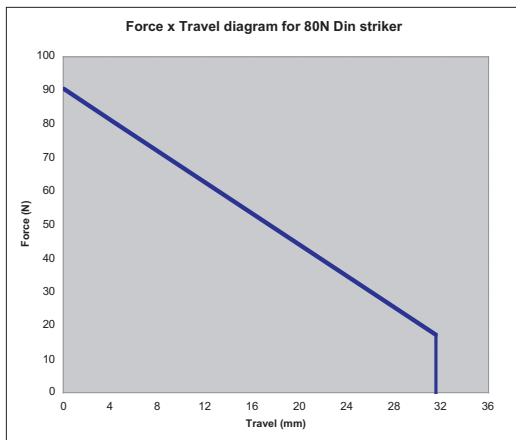
SJ Outline



Striker Diagrams:

E = Spring Striker 80N to IEC 60282-1 designation "medium"

S = Spring Striker 50N to DIN 43625 and IEC 60282-1 designation "medium"



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Table of Ratings:

Standard Approvals: DIN 43625, VDE 0670 part 4, VDE 0670 part 402 and IEC 60282-1 (2005)
Technical Data: 6.3, 10, 16, 20, 25, 31.5, 40, 50, 63, 80, 100, 125, 160 and 200 Amps

Part Number	Current Rating I_n (A)	Breaking Capacity I_1 (kA)	Minimum Breaking Capacity I_3 (A)	Cold Resistance & Watts Loss in Free Air		Joule Integral (I^2t)		Length mm	Diameter mm	Weight kg
				mΩ	W	Minimum Pre-Arcing	Maximum Operating			
12TDLEJ6.3	6.3	63	23	222	10	9.8×10^1	1.0×10^3	292	51	1.7
12TDLEJ10	10	63	35	131	16	2.8×10^2	2.3×10^3	292	51	1.7
12TDLEJ16	16	63	53	54.6	16	2.6×10^2	3.9×10^3	292	51	1.7
12TDLEJ20	20	63	73	39.1	18	5.2×10^2	5.4×10^3	292	51	1.7
12TDLEJ25	25	63	87	31.2	24	8.1×10^2	8.4×10^3	292	51	1.7
12TDLEJ31.5	31.5	63	111	23.4	28	1.4×10^3	1.5×10^4	292	51	1.7
12TDLEJ40	40	63	143	17.2	36	2.4×10^3	2.5×10^4	292	51	1.7
12TDLEJ50	50	63	168	13.5	47	2.8×10^3	3.1×10^4	292	51	1.7
12TDLEJ63	63	63	235	10.6	60	4.3×10^3	4.7×10^4	292	51	1.7
12THLEJ80	80	63	272	7.81	72	7.9×10^3	9.1×10^4	292	64	2.6
12THLEJ100	100	63	388	5.74	85	2.0×10^4	1.4×10^5	292	64	2.6
12TKLEJ125	125	63	687	3.99	93	4.0×10^4	3.5×10^5	292	76	3.5
12TXLEJ160*	160	63	560	4.30	217	1.1×10^5	5.0×10^5	292	88	3.7
12TXLEJ200*	200	63	610	3.80	333	1.5×10^5	6.5×10^5	292	88	3.7
12THMEJ100	100	63	272	5.74	85	2.0×10^4	1.4×10^5	442	64	3.7
12TFMSJ160	160	50	485	3.65	139	5.0×10^4	3.5×10^5	442	76	5.1

* Not compliant with VDE 0670 part 402

Cross-Reference

Bussmann	EFEN	SIBA	MESA	ETI (80N Striker)	ETI (50N Striker)	Merlin Gerin	celimzen	INAEI	ABB
12TDLEJ6.3	67120.0060	3000413	CF-12/6,3	4236005	4235005	51006 511 MO	ES 6509 006	IB-D1	1YMB531042M0001
12TDLEJ10	67120.0100	3000413	CF-12/10	4236006	4235006	51006 512 MO	ES 6509 010	IB-D1	1YMB531042M0002
12TDLEJ16	67120.0160	3000413	CF-12/16	4236007	4235007	51006 513 MO	ES 6509 016	IB-D1	1YMB531042M0003
12TDLEJ20	67120.0200	3000413	CF-12/20	4236008	4235008	51006 514 MO	ES 6509 020	IB-D1	1YMB531042M0004
12TDLEJ25	67120.0250	3000413	CF-12/25	4236009	4235009	51006 515 MO	ES 6509 025	IB-D1 & IB-D2	1YMB531002M0004
12TDLEJ31.5	67120.0320	3000413	CF-12/31,5	4236010	4235010	51006 516 MO	ES 6509 030	IB-D1 & IB-D2	1YMB531002M0014
12TDLEJ40	67120.0400	3000413	CF-12/40	4236011	4235011	51006 517 MO	ES 6509 040	IB-D1 & IB-D2	1YMB531002M0005
12TDLEJ50	67120.0500	3000413	CF-12/50	4236012	4235012	51006 518 MO	ES 6509 050	IB-D2	1YMB531002M0006
12TDLEJ63	67120.0630	3001213	CF-12/63	4236013	4235013	51006 519 MO	ES 6509 063	IB-D2	1YMB531002M0007
12THLEJ80	67120.0800	3001213	CF-12/80	4236014	42350014	51006 520 MO	ES 6509 080	IB-D3	1YMB531002M0021
12THLEJ100	67120.1000	3001213	CF-12/100	4236015	42350015	51006 521 MO	ES 6509 100	IB-D3	1YMB531002M0022
12TKLEJ125	67120.1250	3001213	N/A	4236016	42350016	N/A	N/A	N/A	1YMB531043M0010
12TXLEJ160	67220.1600	3002013	N/A	4236017	4235017	N/A	N/A	N/A	N/A
12TXLEJ200	67220.2000	3002014	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Watts Loss Comparison

Lowest Watts Loss

Bussmann	Bussmann	EFEN	SIBA	MESA Watts loss	ETI Watts Loss	Merlin Gerin	celimzen	INAEI	ABB
Part Number	Watts Loss	Watts Loss	Watts Loss	Watts Loss	Watts Loss	Watts Loss	Watts Loss	Watts Loss	Watts Loss
12TDLEJ6.3	10	19	14	16	15	16	19	12	46
12TDLEJ10	16	29	23	18	10	18	18	19	25
12TDLEJ16	16	21	28	37	19	37	35	27	34
12TDLEJ20	18	25	23	42	23	42	36	28	38
12TDLEJ25	24	31	29	52	33	52	38	29	47
12TDLEJ31.5	28	39	38	59	46	59	41	36	41
12TDLEJ40	36	46	50	74	56	74	56	50	52
12TDLEJ50	47	62	56	70	44	70	74	52	70
12TDLEJ63	60	60	63	82	65	82	89	64	78
12THLEJ80	72	82	76	102	77	102	108	95	82
12THLEJ100	85	96	104	120	104	120	112	120	101
12TKLEJ125	93	117	159	-	152	-	-	-	125
12TXLEJ160	217	217	173	-	200	-	-	-	-
12TXLEJ200	333	333	292*	-	-	-	-	-	-

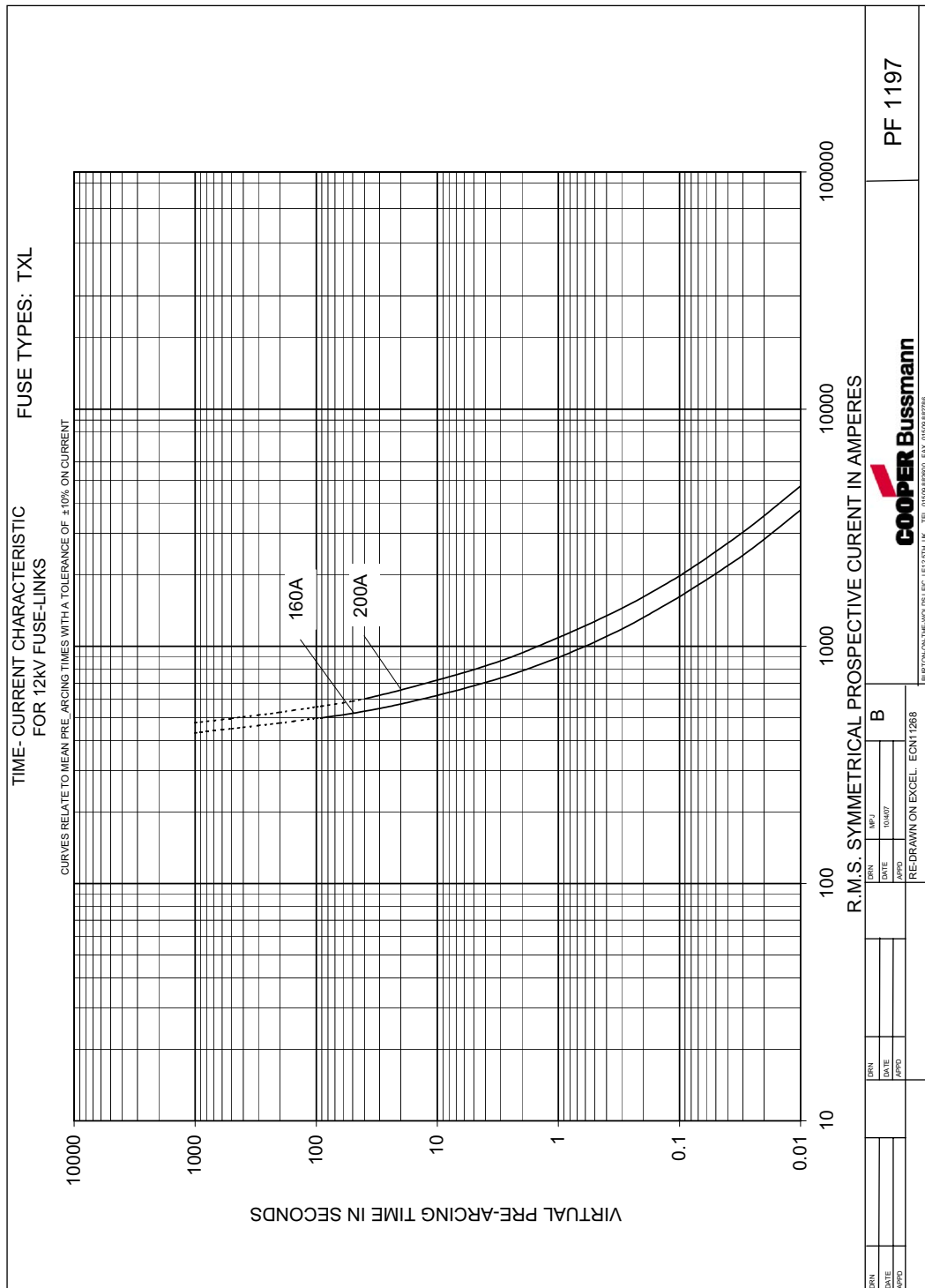
* derating factor apply

MEDIUM VOLTAGE DIN Fuse-Links

12kV, Current Limiting Back-Up Fuse-Links, 6.3 to 200 Amps

MV DIN

Time Current Characteristics

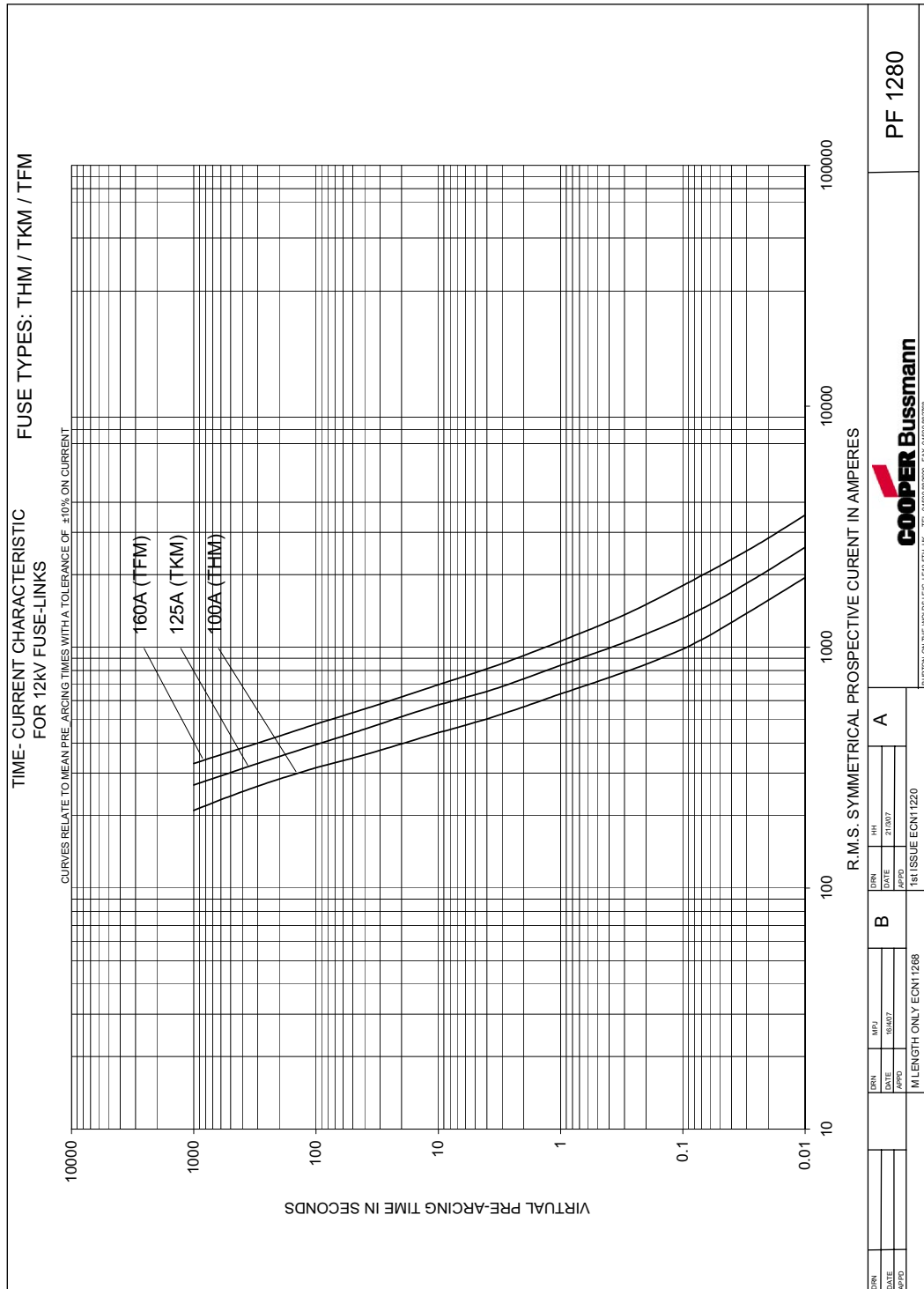


MEDIUM VOLTAGE DIN Fuse-Links

12kV, Current Limiting Back-Up Fuse-Links, 6.3 to 200 Amps

MV DIN

Time Current Characteristics



MEDIUM VOLTAGE DIN Fuse-Links

12kV, Current Limiting Back-Up Fuse-Links, 6.3 to 200 Amps

MV DIN

Cut-Off Curves

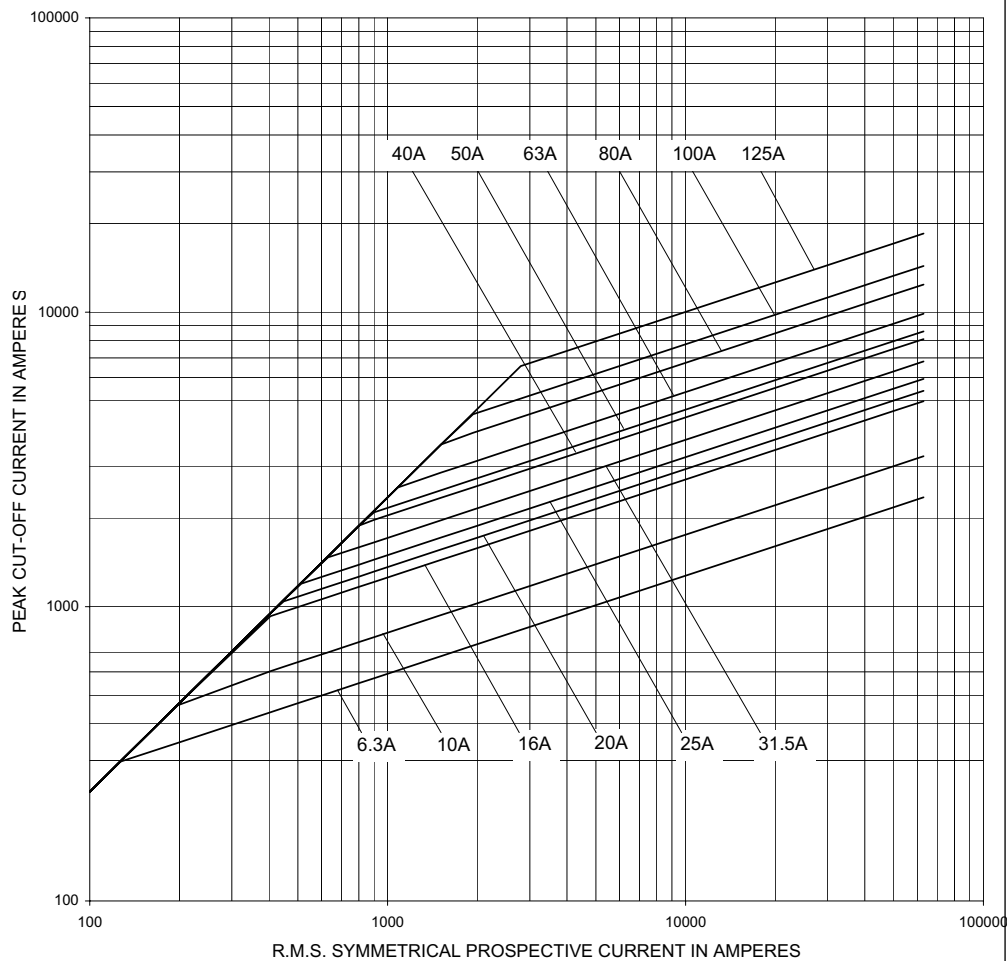
REF. No. PF 2275

CUT-OFF CURRENT
CHARACTERISTIC
FOR 12kV FUSE-LINKS

FUSE TYPE
TDL/THL/TKL

NOTES

1. CURVES SHOW EXTREME MAXIMUM VALUES WHICH WILL NOT BE EXCEEDED UNDER CONDITIONS STATED IN 2 AND 3 BELOW.
2. FOR HIGH VALUES OF PROSPECTIVE CURRENT A SYMMETRICAL FAULT GIVES THE HIGHEST CUT-OFF CURRENT. FOR LOW VALUES OF PROSPECTIVE CURRENT, WHERE THERE IS LITTLE OR NO CURRENT LIMITATION, AN ASYMMETRICAL FAULT PASSES THE HIGHEST PEAK CURRENT. THE CURVES ARE THEREFORE BASED ON THE DEGREE OF ASYMMETRY WHICH GIVES THE MAXIMUM CUT-OFF CURRENT AT ANY PARTICULAR VALUE OF PROSPECTIVE CURRENT.
3. CURVES RELATE TO FREQUENCY OF 50 Hz AND A RECOVERY VOLTAGE EQUAL TO THE FUSE RATED VOLTAGE.



DRN		DRN		DRN	MPJ	A	COOPER Bussmann	PF2275
DATE		DATE		DATE	21/3/07			
APPD	C	APPD	B	APPD				
				1st ISSUE MPJ ECN11220		BURTON-ON-THE-WOLDS, LEICS., LE12 5TH, U.K. TEL +44 (0) 1509 882600 FAX +44 (0) 1509 882786		

MEDIUM VOLTAGE DIN Fuse-Links

12kV, Current Limiting Back-Up Fuse-Links, 6.3 to 200 Amps

MV DIN

Cut-Off Curves

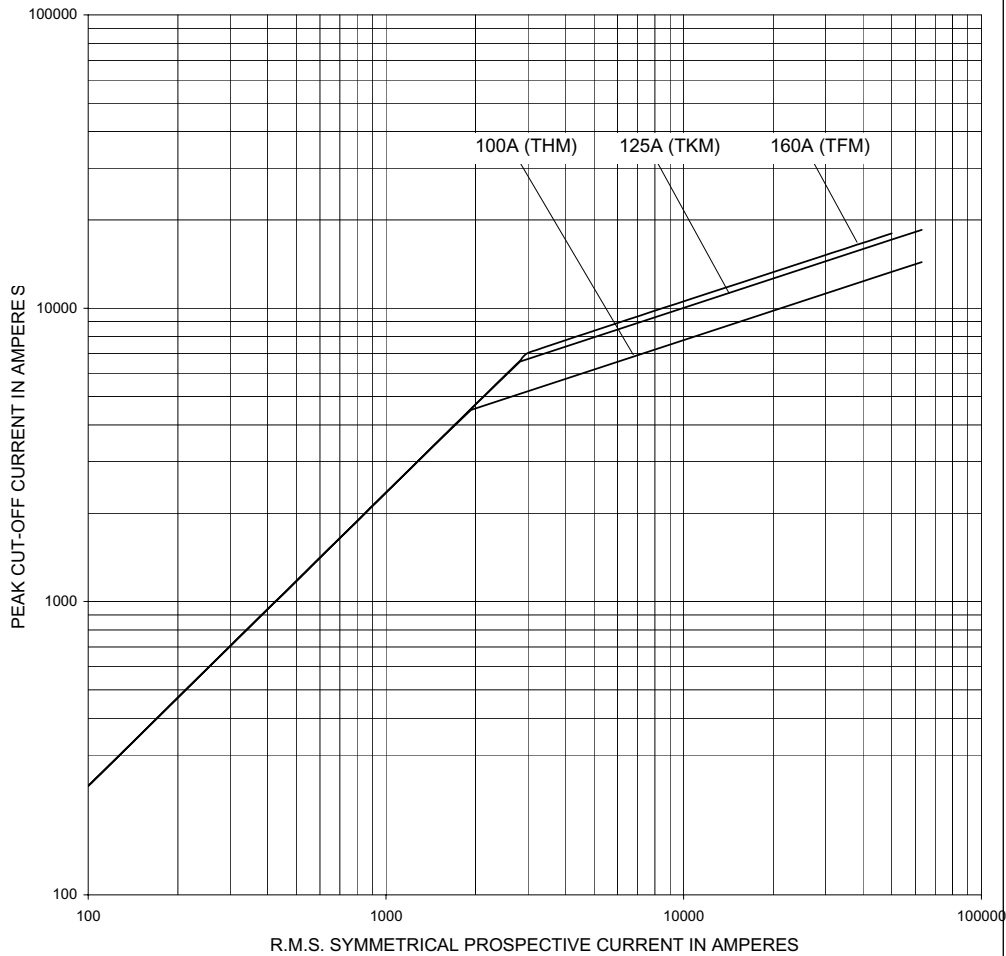
REF. No. PF 2280


**CUT-OFF CURRENT
CHARACTERISTIC
FOR 12kV FUSE-LINKS**

**FUSE TYPE
THM TKM TFM**

NOTES

1. CURVES SHOW EXTREME MAXIMUM VALUES WHICH WILL NOT BE EXCEEDED UNDER CONDITIONS STATED IN 2 AND 3 BELOW.
2. FOR HIGH VALUES OF PROSPECTIVE CURRENT A SYMMETRICAL FAULT GIVES THE HIGHEST CUT-OFF CURRENT. FOR LOW VALUES OF PROSPECTIVE CURRENT, WHERE THERE IS LITTLE OR NO CURRENT LIMITATION, AN ASYMMETRICAL FAULT PASSES THE HIGHEST PEAK CURRENT. THE CURVES ARE THEREFORE BASED ON THE DEGREE OF ASYMMETRY WHICH GIVES THE MAXIMUM CUT-OFF CURRENT AT ANY PARTICULAR VALUE OF PROSPECTIVE CURRENT.
3. CURVES RELATE TO FREQUENCY OF 50 Hz AND A RECOVERY VOLTAGE EQUAL TO THE FUSE RATED VOLTAGE.



DRN		DRN	MPJ	DRN	MPJ		PF2280
DATE		DATE	16/4/07	DATE	21/3/07		
APPD	C	APPD	B	APPD	A		
M LENGTH ONLY			1st ISSUE				
MPJ ECN11268			MPJ ECN11220				
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MEDIUM VOLTAGE DIN Fuse-Links

12kV, Current Limiting Back-Up Fuse-Links, 6.3 to 200 Amps

MV DIN

Cut-Off Curves

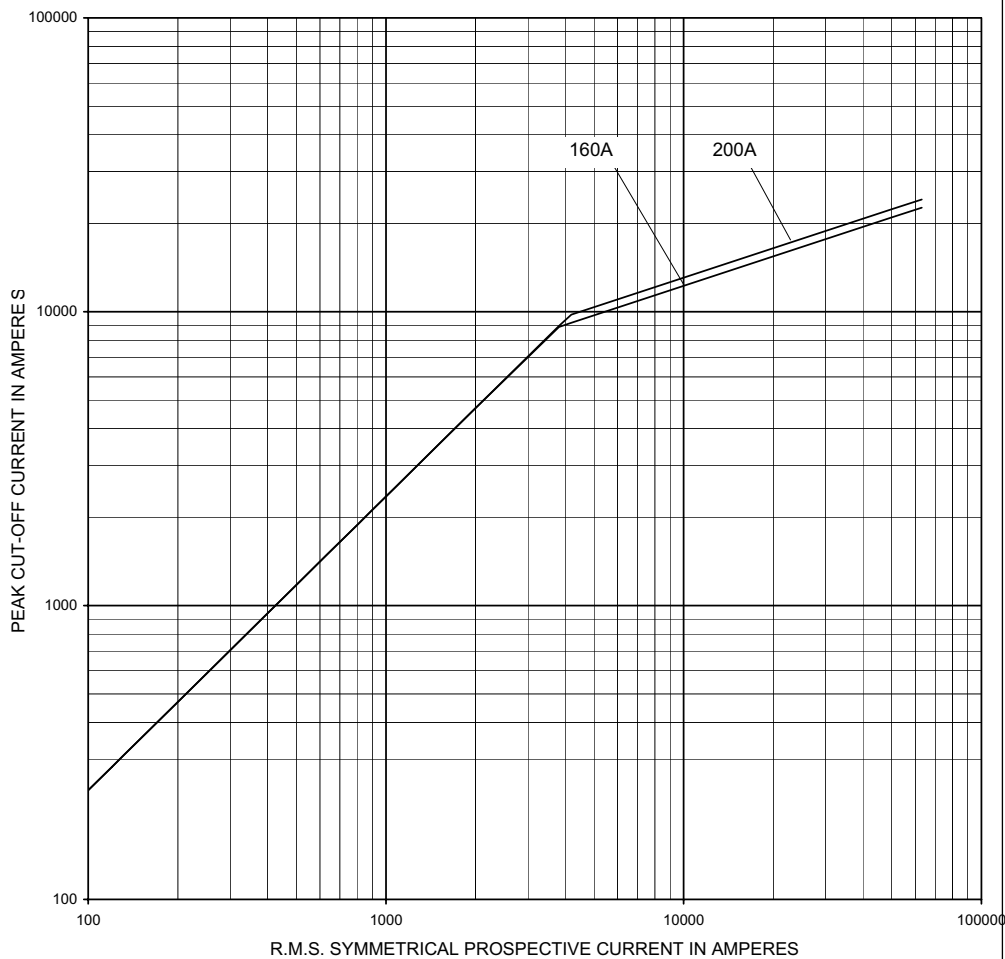
REF. No. PF 2197


CUT-OFF CURRENT
CHARACTERISTIC
FOR 12kV FUSE-LINKS

FUSE TYPE
TXL

NOTES

1. CURVES SHOW EXTREME MAXIMUM VALUES WHICH WILL NOT BE EXCEEDED UNDER CONDITIONS STATED IN 2 AND 3 BELOW.
2. FOR HIGH VALUES OF PROSPECTIVE CURRENT A SYMMETRICAL FAULT GIVES THE HIGHEST CUT-OFF CURRENT. FOR LOW VALUES OF PROSPECTIVE CURRENT, WHERE THERE IS LITTLE OR NO CURRENT LIMITATION, AN ASYMMETRICAL FAULT PASSES THE HIGHEST PEAK CURRENT. THE CURVES ARE THEREFORE BASED ON THE DEGREE OF ASYMMETRY WHICH GIVES THE MAXIMUM CUT-OFF CURRENT AT ANY PARTICULAR VALUE OF PROSPECTIVE CURRENT.
3. CURVES RELATE TO FREQUENCY OF 50 Hz AND A RECOVERY VOLTAGE EQUAL TO THE FUSE RATED VOLTAGE.



DRN		DRN		DRN	MPJ			 PF2197
DATE		DATE		DATE	20/4/07	A		
APPD	C	APPD	B	APPD				
				1st ISSUE				
				MPJ ECN11268				
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MEDIUM VOLTAGE DIN Fuse-Links
12kV, Current Limiting Back-Up Fuse-Links, 6.3 to 200 Amps

MV DIN

ASTA Certificate

ASTA

CERTIFICATE OF SELECTED TYPE TESTS

Laboratory Ref. No: DHK007-01

Certificate No. **16595**

APPARATUS: Eight Homogeneous Series of Air Insulated High Voltage Current Limiting Back-up Fuses Fitted with Spring Operated Medium Striker Devices.

Ratings :-	Series 1. Type 12TDLEJ6.3	Rated Voltage 12kV :	Rated Current 6.3A :	Rated Frequency 50Hz.
	Series 2. Type 12TDLEJ10	Rated Voltage 12kV :	Rated Current 10A :	Rated Frequency 50Hz.
	Series 3. Type 12TDLEJ16	Rated Voltage 12kV :	Rated Current 16A :	Rated Frequency 50Hz.
	Type 12TDLEJ20	Rated Voltage 12kV :	Rated Current 20A :	Rated Frequency 50Hz.
	Type 12TDLEJ25	Rated Voltage 12kV :	Rated Current 25A :	Rated Frequency 50Hz.
	Type 12TDLEJ31.5	Rated Voltage 12kV :	Rated Current 31.5A :	Rated Frequency 50Hz.
	Type 12TDLEJ40	Rated Voltage 12kV :	Rated Current 40A :	Rated Frequency 50Hz.
	Series 4. Type 12TDLEJ50	Rated Voltage 12kV :	Rated Current 50A :	Rated Frequency 50Hz.
	Series 5. Type 12TDLEJ63	Rated Voltage 12kV :	Rated Current 63A :	Rated Frequency 50Hz.
	Series 6. Type 12THLEJ80	Rated Voltage 12kV :	Rated Current 80A :	Rated Frequency 50Hz.
	Series 7. Type 12THLEJ100	Rated Voltage 12kV :	Rated Current 100A :	Rated Frequency 50Hz.
	Series 8. Type 12TKLEJ125	Rated Voltage 12kV :	Rated Current 125A :	Rated Frequency 50Hz.

DESIGNATION: Types "12TDLEJ6.3 to 63, 12THLEJ80 to 100, 12TKLEJ125"

MANUFACTURER: Cooper Bussmann India Private Limited, Evr Street, Sedarapet, Pondicherry - 605111, India.

TESTED BY: Dean H. Klohr Low Power Test Facility, Burton-on-the-Wolds, Loughborough, Leicestershire. LE12 5TH, United Kingdom.

DATE OF TESTS: 10th October 2006 to 15th February 2007

The apparatus, constructed in accordance with the description, drawings and photographs incorporated in this Certificate, has been subjected to the series of proving tests in accordance with

- IEC 60282-1:2005 Sub-clause 6.5 - Temperature-rise tests and power-dissipation measurement
- Sub-clause 6.7 - Tests for time-current characteristics
- Sub-clause 6.8 - Tests of strikers
- Sub-clause 7.3 - Thermal shock tests
- Sub-clause 7.5 - Waterproof test - (ingress of moisture)
- Sub-clause 7.6.2 - Pre-arcing temperature rise tests

The results are shown in the Record of Proving Tests and the oscillograms attached hereto. The values obtained and the general performance are considered to comply with the above Standard(s) and to justify the ratings and characteristics assigned by the manufacturer as listed on page number 1.

The record of Proving Tests applies only to the apparatus tested. The responsibility for conformity of any apparatus having the same designation with that tested rests with the Manufacturer.

This Certificate comprises 55 pages, 1 diagram, 3 oscillograms, 7 photographs, 16 drawings and no other sheets as detailed in page 2

Only integral reproduction of this Certificate, or reproductions of this page accompanied by any page(s) on which are stated the assigned rated characteristics of the apparatus tested, are permitted without written permission from ASTA BEAB Certification Services, Hilton House, Corporation Street, Rugby. CV21 2DN England.



010

J. Gould ASTA Observer
J. Gould
C. Diack-Evans Director
C. Diack-Evans
20th April 2007 Date

MEDIUM VOLTAGE DIN Fuse-Links

12kV, Current Limiting Back-Up Fuse-Links, 6.3 to 200 Amps

MV DIN

KEMA Certificate



Type test Certificate of
breaking performance

**Cooper Bussmann India
Private Limited**
Sedarapet, Pondicherry, India

has successfully passed the type test sequence on

Current limiting fuses

Type: 12TDLEJ6.3, 12TDLEJ10, 12TDLEJ16, 12TDLEJ20,
12TDLEJ25, 12TDLEJ31.5, 12TDLEJ40, 12TDLEJ50,
12TDLEJ63, 12THLEJ80, 12THLEJ100, 12THMEJ100,
12TKLEJ125

Rating: 12 kV – 63 kA – 50 Hz

The test object passed the specification of test duties of

IEC 60282-1

The test results are recorded in Certificate No.

137-06

This Certificate is issued on 17 April 2007

KEMA Nederland B.V.



P.G.A. Bus
KEMA T&D Testing Services
Managing Director



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Please note that this document has been issued for information purposes only, and that the original bound and sealed paper copy of the Certificate including the results of the tests of the apparatus will prevail. This document does not imply that KEMA has certified or approved any apparatus other than the specimen tested.

Experience you can trust.

MEDIUM VOLTAGE DIN Fuse-Links

12kV, Current Limiting Back-Up Fuse-Links, 6.3 to 200 Amps

MV DIN

KEMA Certificate



137-06

TYPE TEST CERTIFICATE OF BREAKING PERFORMANCE

APPARATUS Current limiting fuses

Designation	Rated voltage	Rated breaking capacity	Rated current	Minimum breaking current	Rated frequency
	kV	kA	A	A	Hz
12TDLEJ6.3	12	63	6,3	23	50
12TDLEJ10	12	63	10	35	50
12TDLEJ16 (1)	12	63	16	53	50
12TDLEJ20 (1)	12	63	20	73	50
12TDLEJ25 (1)	12	63	25	87	50
12TDLEJ31,5 (1)	12	63	31,5	111	50
12TDLEJ40 (1)	12	63	40	143	50
12TDLEJ50	12	63	50	168	50
12TDLEJ63	12	63	63	235	50
12THLEJ80	12	63	80	272	50
12THLEJ100, 12THMEJ100 (1)	12	63	100	388	50
12TKLEJ125	12	63	125	687	50

(1) See notes on page 7.

MANUFACTURER Cooper Bussmann India Private Limited,
Sedarapet, Pondicherry, India

TESTED FOR Cooper Bussmann (UK) Limited,
Burton-on-the-Wolds, United Kingdom

TESTED BY KEMA HIGH-POWER LABORATORY
Utrechtseweg 310 - 6812 AR Arnhem - The Netherlands

DATE(S) OF TESTS 25, 26, 27 September, 19 October, 3 November 2006, 16 January, 1 February 2007

The apparatus, constructed in accordance with the description, drawings and photographs incorporated in this Certificate, has been subjected to the series of proving tests in accordance with

IEC 60282-1 clause 6.6 (test duty 1, 2 and 3).

This Type Test Certificate has been issued by KEMA following exclusively the STL Guides.

The results are shown in the record of Proving Tests and the oscillograms attached hereto. The values obtained and the general performance are considered to comply with the above Standard and to justify the ratings assigned by the manufacturer as listed on page 6.

This Certificate applies only to the apparatus tested. The responsibility for conformity of any apparatus having the same designations with that tested rests with the Manufacturer.

This Certificate consists of ... sheets in total.

This certificate falls under the scope of the accreditation certificate L 020 of the Dutch Council for Accreditation. For more information see information sheet (page 2).

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KEMA Nederland B.V.


P.G.A. Bus
KEMA T&D Testing Services
Managing Director

Arnhem, 17 April 2007

MEDIUM VOLTAGE DIN Fuse-Links

12kV, Current Limiting Back-Up Fuse-Links, 6.3 to 200 Amps

KEMA Report



REPORT OF PERFORMANCE

239-07

APPARATUS Current limiting fuses

Designation	Rated voltage	Rated breaking capacity	Rated current	Minimum breaking current	Rated frequency
	kV	kA	A	A	Hz
12TDLEJ63	12	50	63	235	50
12THLEJ100	12	50	100	388	50

CLIENT Cooper Bussmann (UK) Limited,
Burton-on-the-Wolds, United Kingdom

MANUFACTURER Cooper Bussmann India Private Limited,
Sedarapet, Pondicherry, India

TESTED BY KEMA HIGH-POWER LABORATORY
Utrechtseweg 310 - 6812 AR Arnhem - The Netherlands


DATE(S) OF TESTS 16 January 2007

TEST SPECIFICATION The tests have been carried out in accordance with the client's instructions.

This report consists of 21 sheets in total.

This report falls under the scope of the accreditation certificate L 020 of the Dutch Council for Accreditation.
Information sheet (page 2).

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KEMA Nederland B.V.

 P.G.A. Bus
 KEMA T&D Testing Services
 Managing Director

Arnhem, 17 April 2007

This report of performance details tests to IEC60282-1:2005 clause 7.6.3 to demonstrate the fuse-links ability to withstand arcing for greater than 0.1 seconds