

Eaton's Bussmann series 36 kV Medium voltage fuse links



Product description

Eaton's Bussmann series range of 36 kV DIN Medium voltage fuse links are suitable for transformer protection.

These fuse links can be used even where there is no secondary LV protection, provided they are used with fuse switches fitted with instantaneous striker tripping.

Standard features

- Cool running, low watts loss and power dissipation thanks to the M-effect ensuring high levels of substation utilisation.
- Silver elements ensuring high conductivity and low power (revenue) loss.
- 100% X-ray, all our medium voltage fuse links are X-rayed ensuring the highest possible standards are maintained.

Catalogue symbol:

- 36TDQSJ(amp)
- 36TFQSJ(amp)
- 36TXQEJ(amp)

Technical data:

- Volts: 36 kV
- Amps: 3.15 to 63 A
- Breaking capacity: 20 to 35.5 kA
- Class of operation: Back-up as IEC 60282-1 (2005)
- Suitable for outdoor and indoor use
- RoHS compliant

Standards/Approvals:

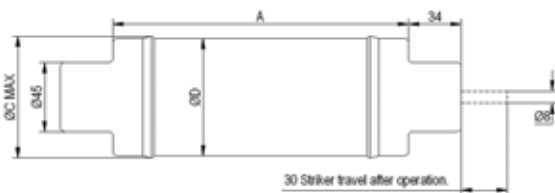
- DIN 43625
- VDE 0670 part 4 and 402
- IEC 60282-1 (2005)

Packaging:

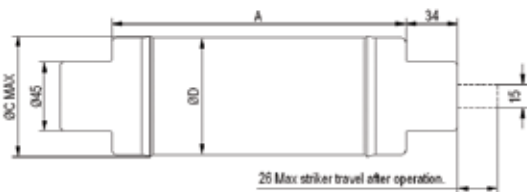
- MOQ 3

Dimensions - mm

EJ Outline



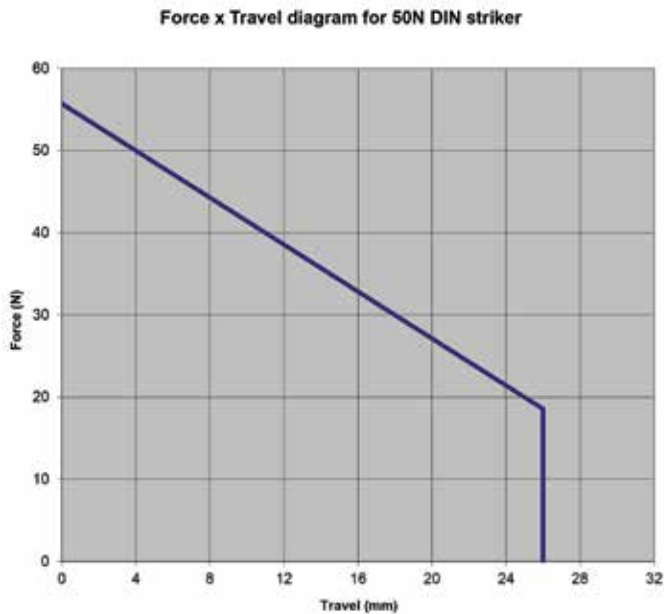
SJ Outline



Fuse reference	A	C	D	Weight (Kg)
TDQSJ	537	54	51	2.9
TFQSJ	537	80	76	6
TXQEJ	537	88	88	6.5

Striker diagram

S = Spring striker 50N to DIN 43625 and IEC 60282-1 designation 'medium'



E = Spring striker 80N to IEC 60282-1 designation 'medium'

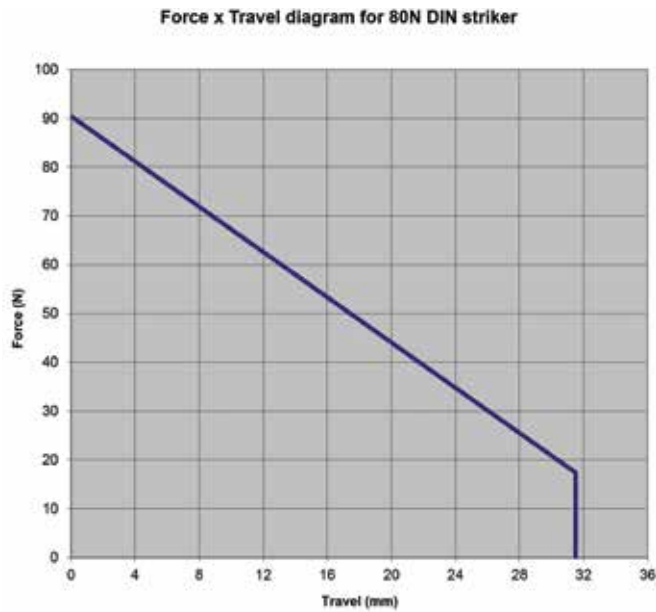


Table 1. Part numbers

Part numbers	Current I_n (A)	Breaking capacity I_b (kA)	Minimum breaking current 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			
36TDQSJ3.15	3.15	20	23	1455	18	2×10^1	2.4×10^2	537	51	2.9
36TDQSJ6.3	6.3	35.5	23	684	34	1×10^2	1.2×10^3	537	51	2.9
36TDQSJ10	10	35.5	35	402	44	3.1×10^2	3.6×10^3	537	51	2.9
36TDQSJ16	16	35.5	70	165	52	4.6×10^2	5.1×10^3	537	51	2.9
36TDQSJ20	20	35.5	98	117	62	8.9×10^2	8.2×10^4	537	51	2.9
36TDQSJ25	25	35.5	112	98	85	1.2×10^3	1.5×10^4	537	51	2.9
36TFQSJ31.5	31.5	35.5	116	73.4	96	2.1×10^3	2.3×10^4	537	51	6
36TFQSJ40	40	35.5	178	52.4	116	4.1×10^3	3.9×10^4	537	76	6
36TFQSJ50	50	35.5	255	36.8	133	8.3×10^3	8.1×10^4	537	76	6
36TXQEJ63*	63	20	360	35	271	1.1×10^4	6.2×10^4	537	88	6.5

* Not compliant with VDE 0670 part 402

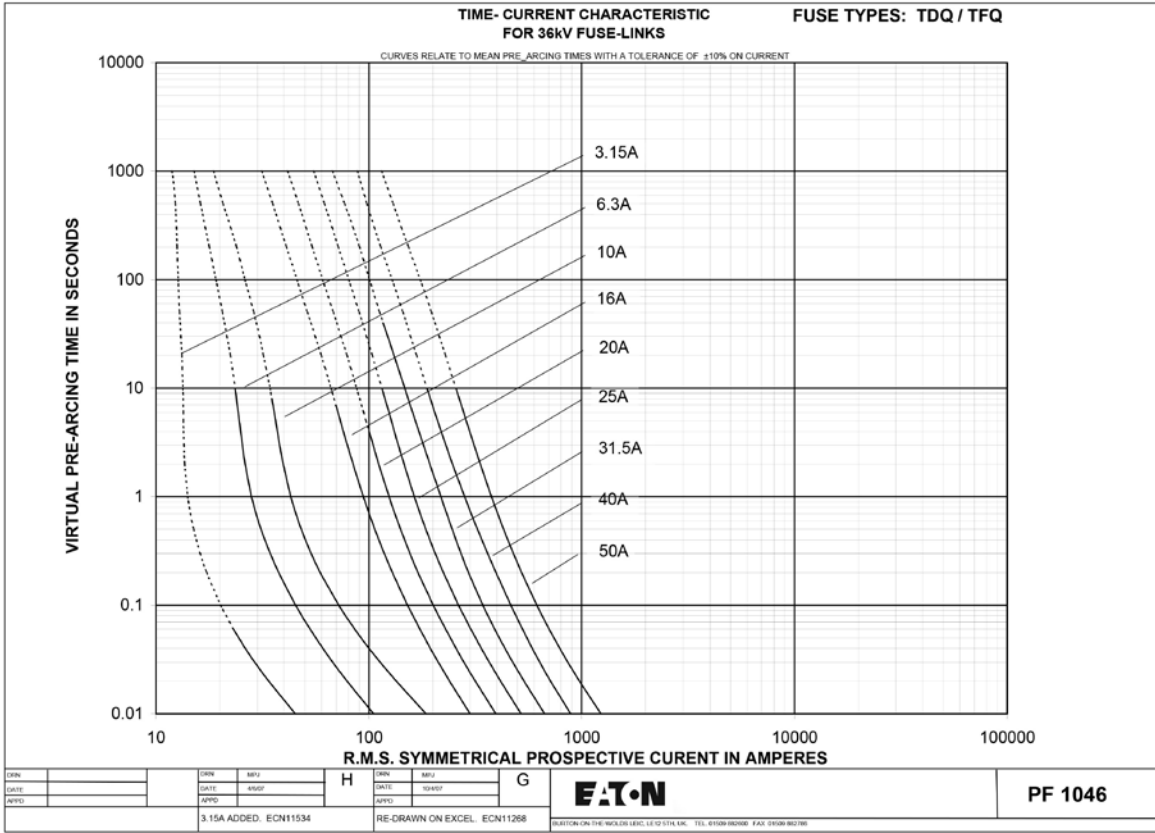
Table 2. Cross reference

Eaton's Bussmann series	EFEN	SIBA	MESA	ETI 80N Striker	ETI 50N Striker	Merlin Gerin	INAEL	ABB
36TDQSJ3.15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
36TDQSJ6.3	67150.0060	3000813	CF-36/6.3	4266005	4265005	51006 549 M0	IB-D1	1YMB531006M0001
36TDQSJ10	67150.0100	3000813	CF-36/10	4266006	4265006	51006 550 M0	IB-D1	1YMB531006M0002
36TDQSJ16	67150.0160	3000813	CF-36/16	4266007	4265007	51006 551 M0	IB-D1	1YMB531006M0003
36TDQSJ20	67150.0200	3000813	CF-36/20	4266008	4265008	51006 552 M0	IB-D1 & IB-D2	N/A
36TDQSJ25	67150.0250	3000813	CF-36/25	4266009	4265009	51006 553 M0	IB-D1 & IB-D2	1YMB531006M0004
36TFQSJ31.5	67150.0320	3001613	CF-36/31.5	4266010	4265010	51006 554 M0	IB-D2	N/A
36TFQSJ40	67150.0400	3001613	CF-36/40	4266011	4265011	51006 555 M0	IB-D2	1YMB531006M0005
36TFQSJ50	67150.0500	3002413	CF-36/50	4266012	4265012	51006 556 M0	IB-D3	N/A
36TXQEJ63	67150.0630	3002413	CF-36/63	4266013	4265013	51006 557 M0	IB-D3	N/A

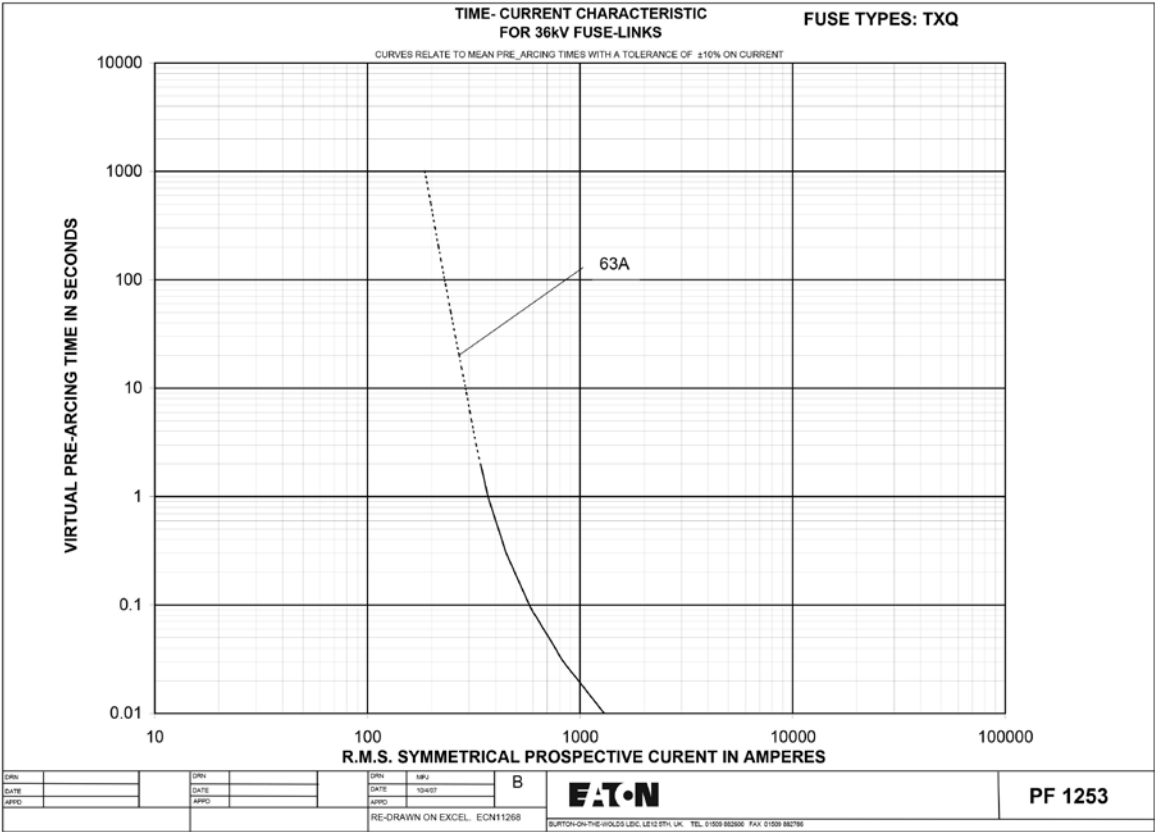
Table 3. Watts loss comparison

Eaton's Bussmann series	Eaton's Bussmann series	EFEN	SIBA	MESA	ETI	Merlin Gerin	INAEL	ABB
36TDQSJ3.15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
36TDQSJ6.3	34	39	42	39	41	39	32	137
36TDQSJ10	44	65	70	50	27	50	55	93
36TDQSJ16	52	67	79	98	46	98	82	109
36TDQSJ20	62	84	66	120	66	120	85	N/A
36TDQSJ25	85	100	87	133	85	133	87	144
36TFQSJ31.5	96	119	102	171	113	171	125	N/A
36TFQSJ40	116	176	144	207	134	207	164	176
36TFQSJ50	133	183	186	198	112	198	195	N/A
36TXQEJ63	271	271	224	240	175	240	235	N/A

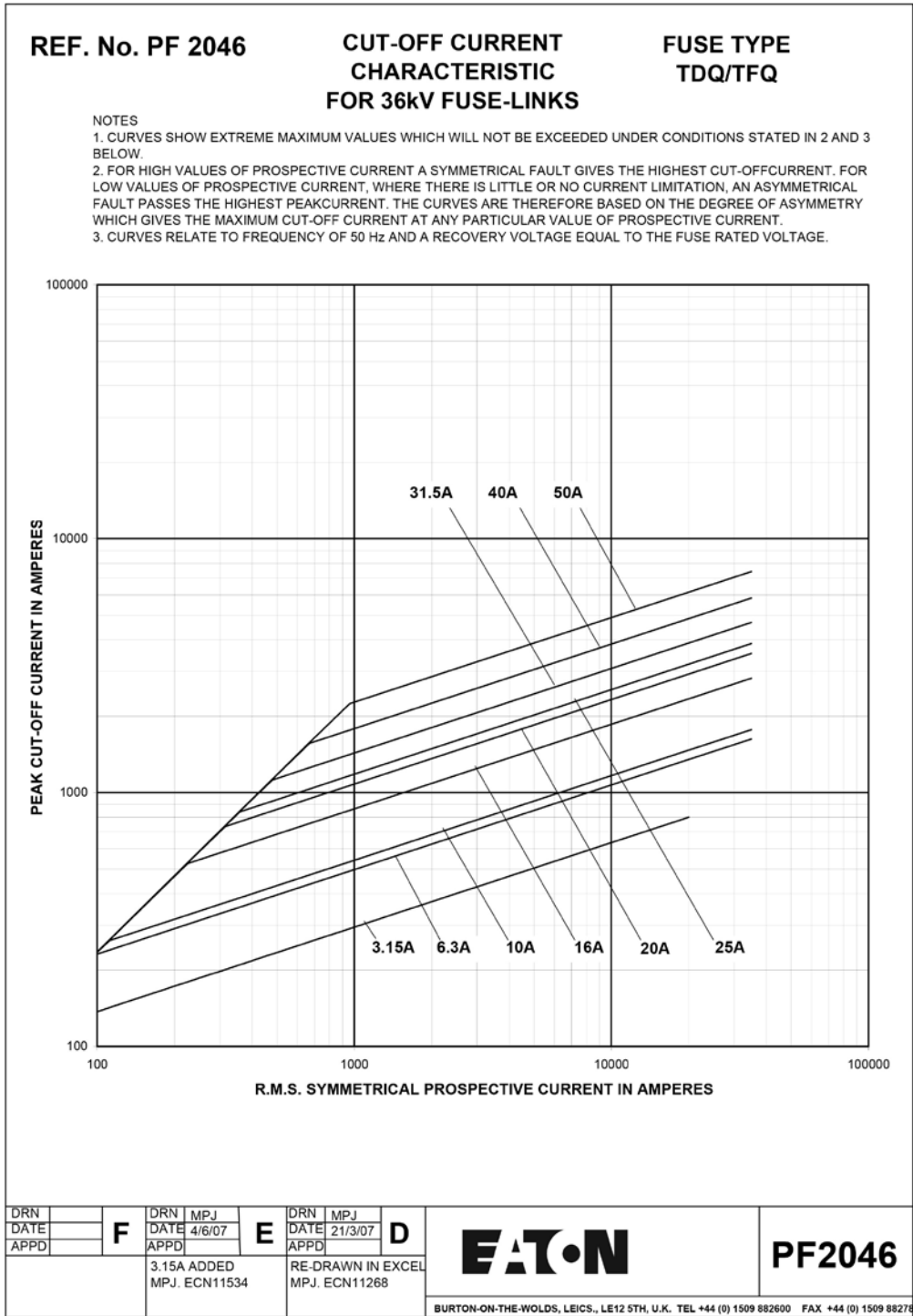
Time current curve - Fuse types TDQ/TFQ



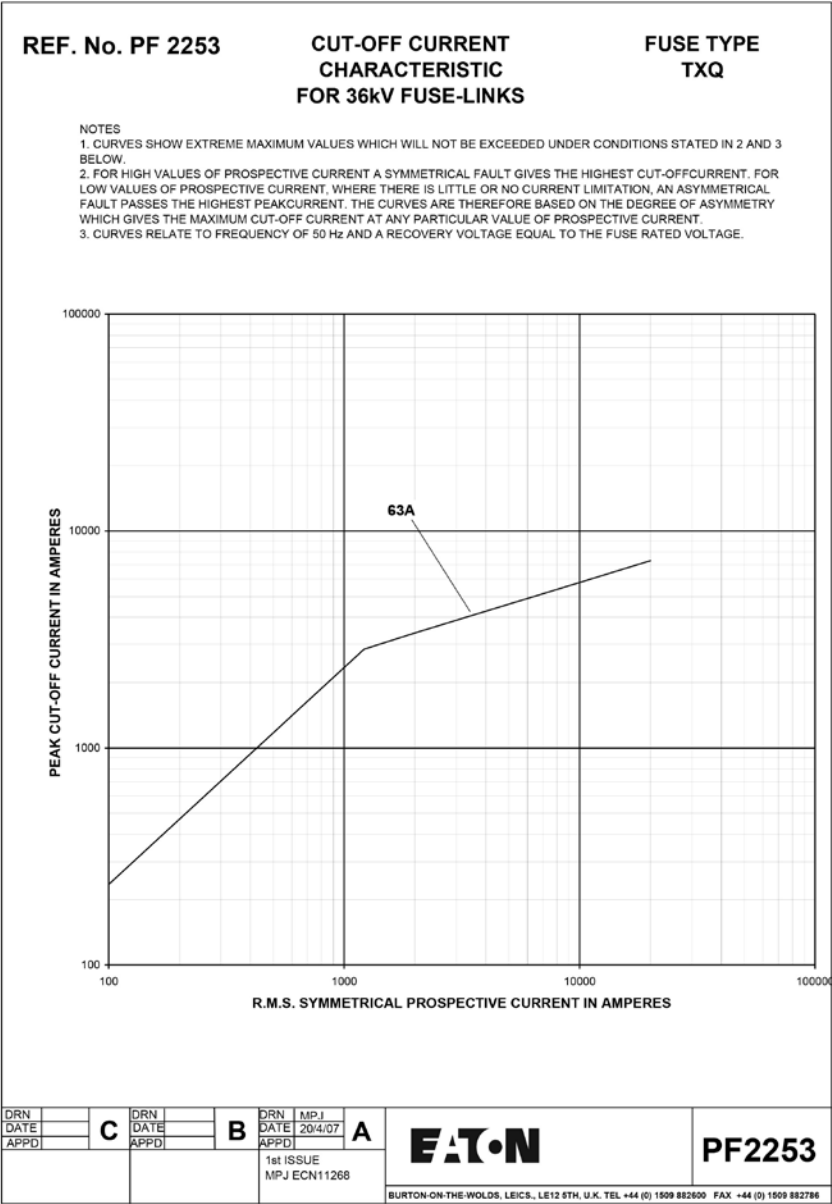
Time current curve - Fuse type TXQ



Cut-off curve - Fuse types TDQ/TFQ



Cut-off curve - Fuse type TXQ



KEMA certificate

N.V. tot Keuring van Elektrotechnische Materialen
Utrechtseweg 310 Arnhem The Netherlands

Certificate no. 2708-79

CERTIFICATE OF COMPLIANCE WITH IEC PUBLICATION 282-1, 1974
WITH RESPECT TO BREAKING TESTS.

APPARATUS High-voltage fuses.
DESIGNATION SFQDJ.
Rated Voltage 36 kV Rated Normal Current 31.5 A Rated Frequency 50 Hz
MANUFACTURER Brush Power Equipment Limited, Bridgend, Mid-Glamorgan, United Kingdom.
TESTED FOR Brush Power Equipment Limited, Bridgend, Mid-Glamorgan, United Kingdom.
DATE(S) OF TESTS 30th and 31st October 1979.

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 Publication 282-1, 1974 Section Four Type Tests, clause 13.

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 1.

The responsibility for conformity of any apparatus having the same designation with that tested does not involve KEMA.

THE DOCUMENTS FORMING PART OF THIS CERTIFICATE ARE:

Record of Proving Tests Nos.: 4 to 6 incl.
Certificate record Nos.: 2708-79-01 to 2708-79-04 incl.
Electromagnetic oscillogram Nos.: 791031-2052-2053.
Cathode-ray oscillogram Nos.: -
Drawings Nos.: 2A 4423/3.
Nos.: -
Photograph Nos.: 790156.

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N.V. KEMA

M.N.D. de Vries.
Arnhem, 11th February 1980

R 101E 1970

This certificate refers to SFQDJ 36kV fuse links, which are electrically identical to the new T range, other than the fuses are sealed for outdoor use, have a brown ceramic body and use a 50N striker.

KEMA certificate

N.V. tot Keuring van Elektrotechnische Materialen
Utrechtseweg 310 Arnhem The Netherlands

Certificate no. 2829-79

CERTIFICATE OF COMPLIANCE WITH IEC PUBLICATION 282-1, 1974
WITH RESPECT TO BREAKING TESTS.

APPARATUS High-voltage fuses.

DESIGNATION SDQDJ.
Rated Voltage 36 kV Rated Normal Current 25 A Rated Frequency 50 Hz

MANUFACTURER Brush Power Equipment Limited, Bridgend, Mid-Glamorgan, United Kingdom.

TESTED FOR Brush Power Equipment Limited, Bridgend, Mid-Glamorgan, United Kingdom.

DATE(S) OF TESTS 30th and 31st October 1979.

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 Publication 282-1, 1974 Section Four Type Tests, clause 13.

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 1.

The responsibility for conformity of any apparatus having the same designation with that tested does not involve KEMA.

THE DOCUMENTS FORMING PART OF THIS CERTIFICATE ARE:

Record of Proving Tests Nos.: 4 to 6 Incl.
Oscilloscope record Nos.: 2829-79-01 to 2829-79-04 Incl.
Electromagnetic oscillogram Nos.: 791031-2050-2051.
X-ray oscillogram Nos.: -
Drawing Nos.: 2A 4421/A.
Diagram Nos.: -
Photograph Nos.: 790156.

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N.V. KEMA

M.N.D. de Vries.
Arnhem, 11th February 1980

R 101E 1978

This certificate refers to SDQDJ 36kV fuse links, which are electrically identical to the new T range, other than the fuses are sealed for outdoor use, have a brown ceramic body and use a 50N striker.

KEMA certificate

N.V. tot Keuring van Elektrotechnische Materialen
Utrechtseweg 310 Arnhem The Netherlands

Certificate no. 272-80

CERTIFICATE OF COMPLIANCE WITH IEC PUBLICATION 282-1: 1974
WITH RESPECT TO BREAKING TESTS.

APPARATUS	High-voltage fuses.
DESIGNATION	SFGDJ.
	Rated Voltage 36 kV Rated Normal Current 50 A Rated Frequency 50 Hz
MANUFACTURER	Brush Power Equipment Ltd., Bridgend, Mid-Glamorgan, United Kingdom.
TESTED FOR	Brush Power Equipment Ltd., Bridgend, Mid-Glamorgan, United Kingdom.
DATE(S) OF TESTS	6th and 7th May and 16th June 1980.

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 Publication 282-1: 1974 clause 13 and the STL Guide as appropriate.

Note: According to STL Objectives and Operating Principles KEMA issues a Certificate of compliance with the above mentioned IEC Publication following exclusively the STL Guide wherever applicable.

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 1.

The responsibility for conformity of any apparatus having the same designation with that tested does not involve KEMA.

THE DOCUMENTS FORMING PART OF THIS CERTIFICATE ARE:

Record of Proving Tests	Nos.: 4 to 7 incl.
Oscilloscope record	Nos.: 272-80-01 to 272-80-07 incl.
Electromagnetic oscillogram	Nos.: 800507-2045-2046; 800616-2045-2046.
Cathode-ray oscillogram	Nos.: -
Drawing	Nos.: 2A 4427/8; 2A 4428/8; PF 2046.
Diagram	Nos.: -
Photograph	Nos.: 800441.

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N.V. KEMA



M.N.D. de Vries.

Arnhem, October 17, 1980

R 101E 1976

This certificate refers to SFGDJ 36kV fuse links, which are electrically identical to the new T range, other than the fuses are sealed for outdoor use, have a brown ceramic body and use a 50N striker.

KEMA report

N.V. tot Keuring van Elektrotechnische Materialen
Utrechtseweg 310 Arnhem The Netherlands

REPORT OF PERFORMANCE No. 318-83

CLIENT Brush Fusegear Ltd., Burton-on-the-Wolds, Leicestershire, United Kingdom.
MANUFACTURER Brush Fusegear Ltd., Burton-on-the-Wolds, Leicestershire, United Kingdom.
APPARATUS High Voltage Fuses.
DESIGNATION SFQAJ. SERIAL NO.

RATINGS ASSIGNED BY THE MANUFACTURER

Voltage	: 36 kV
Normal Current	: 50 A
Breaking Current	: 35,5 kA
Frequency	: 50 Hz

The tests have been made in accordance with client's instructions based on IEC Publication 282-1 (test-duty 1).
Date of tests 21st June 1983.

The performance of the apparatus tested and the observations made during the tests have been recorded in the tables with test results and oscillograms.

THE DOCUMENTS FORMING PART OF THIS REPORT ARE

Table with test results	nos.: 3.
Oscilloscope record	nos.: "
Electromagnetic oscillogram	nos.: "

TRS oscillogram nos.: 830621-2020-2026-2027-2028.

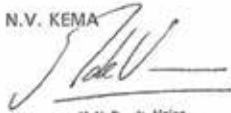
Drawing nos.: C 2 A 1485; PF 1946.

Diagram nos.: "

Photograph nos.: "

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SUMMARY OF TESTS ON PAGE 1

N.V. KEMA

M.N.D. de Vries.
Arnhem, 12th August 1983.

8335E 1074

This certificate refers to SFQAJ 36kV fuse links, which are electrically identical to the new T range, other than the fuses are sealed for outdoor use, have a brown ceramic body and use a 50N striker.

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