

# Eaton's Bussmann series 7.2 kV Medium voltage fuse links



## Product description

Eaton's Bussmann series range of 7.2 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:**

- 7.2TDL SJ(amp)
- 7.2TFL SJ(amp)

**Technical data:**

- Volts: 7.2 kV
- Amps: 6.3 to 160 A
- Breaking capacity: 40 kA
- Class of operation: Back-up as IEC 60282-1 (2005)
- Suitable for outdoor and indoor use
- RoHS compliant

**Standards/Approvals:**

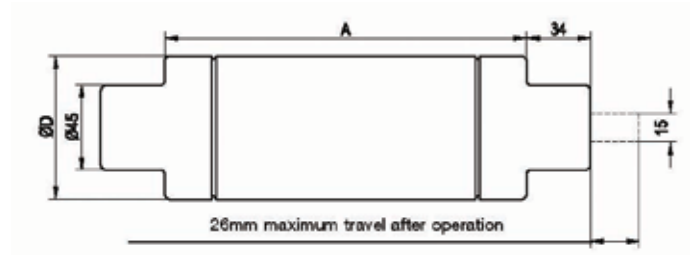
- DIN 43625
- VDE 0670 part 4
- IEC 60282-1 (2005)

**Packaging: MOQ 3**

**Table 1. Technical data**

| Part numbers  | Current<br>$I_n$ (A) | Breaking<br>capacity $I_b$<br>(kA) | Minimum<br>breaking<br>current $I_g$ (A) | Cold resistance & Watts loss<br>in free air |    | Joule integral ( $I^2t$ ) |                      | Length<br>mm | Diameter<br>mm | Weight<br>kg |
|---------------|----------------------|------------------------------------|------------------------------------------|---------------------------------------------|----|---------------------------|----------------------|--------------|----------------|--------------|
|               |                      |                                    |                                          | mΩ                                          | W  | Minimum<br>Pre-arcing     | Maximum<br>operating |              |                |              |
| 7.2TDL SJ6.3  | 6.3                  | 40                                 | 20                                       | 205                                         | 11 | $4.8 \times 10^1$         | $6.5 \times 10^3$    | 292          | 51             | 1.63         |
| 7.2TDL SJ10   | 10                   | 40                                 | 31                                       | 99.7                                        | 19 | $2.5 \times 10^2$         | $2.7 \times 10^3$    | 292          | 51             | 1.63         |
| 7.2TDL SJ16   | 16                   | 40                                 | 49                                       | 65.1                                        | 23 | $5.5 \times 10^2$         | $8.2 \times 10^3$    | 292          | 51             | 1.63         |
| 7.2TDL SJ20   | 20                   | 40                                 | 49                                       | 48.9                                        | 27 | $9.7 \times 10^2$         | $1.1 \times 10^4$    | 292          | 51             | 1.63         |
| 7.2TDL SJ25   | 25                   | 40                                 | 80                                       | 32.6                                        | 28 | $5.7 \times 10^2$         | $8 \times 10^3$      | 292          | 51             | 1.63         |
| 7.2TDL SJ31.5 | 31.5                 | 40                                 | 100                                      | 26                                          | 36 | $8.9 \times 10^2$         | $1 \times 10^4$      | 292          | 51             | 1.63         |
| 7.2TDL SJ40   | 40                   | 40                                 | 114                                      | 16                                          | 36 | $2 \times 10^3$           | $2.2 \times 10^4$    | 292          | 51             | 1.63         |
| 7.2TDL SJ50   | 50                   | 40                                 | 143                                      | 12.9                                        | 46 | $3.2 \times 10^3$         | $3.2 \times 10^4$    | 292          | 51             | 1.63         |
| 7.2TDL SJ63   | 63                   | 40                                 | 180                                      | 8.14                                        | 45 | $8 \times 10^3$           | $7.5 \times 10^4$    | 292          | 51             | 1.63         |
| 7.2TFL SJ80   | 80                   | 40                                 | 264                                      | 61                                          | 54 | $5 \times 10^3$           | $6.5 \times 10^4$    | 292          | 76             | 3.1          |
| 7.2TFL SJ100  | 100                  | 40                                 | 338                                      | 4.65                                        | 64 | $9.1 \times 10^3$         | $1.1 \times 10^5$    | 292          | 76             | 3.1          |
| 7.2TFL SJ125  | 125                  | 40                                 | 375                                      | 3.60                                        | 79 | $1.5 \times 10^4$         | $1.7 \times 10^5$    | 292          | 76             | 3.1          |
| 7.2TFL SJ160  | 160                  | 40                                 | 525                                      | 2.73                                        | 97 | $3 \times 10^4$           | $3.1 \times 10^5$    | 292          | 76             | 3.1          |

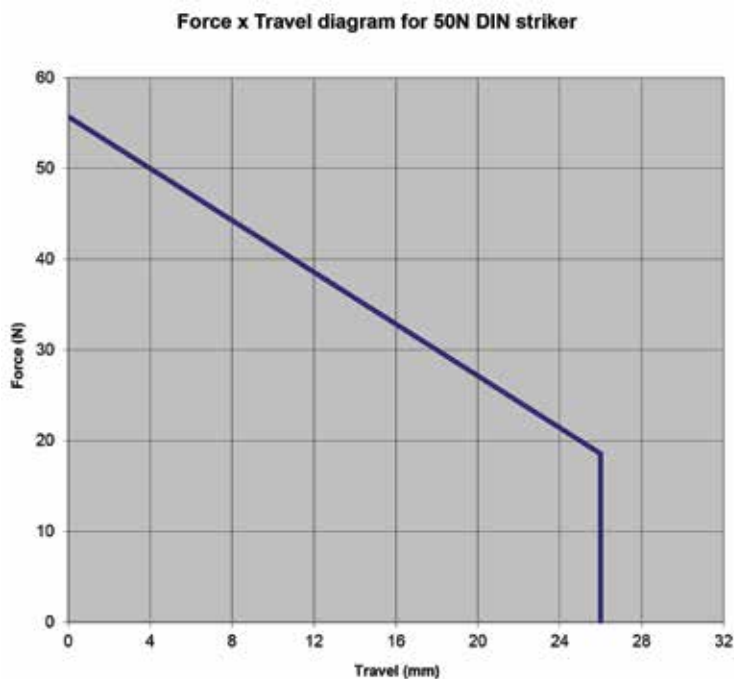
**Dimensions - mm**



| Fuse reference | A   | C  | D  | Weight (Kg) |
|----------------|-----|----|----|-------------|
| TDL SJ         | 292 | 54 | 51 | 1.63        |
| TFL SJ         | 292 | 80 | 76 | 3.1         |

### Striker diagram

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



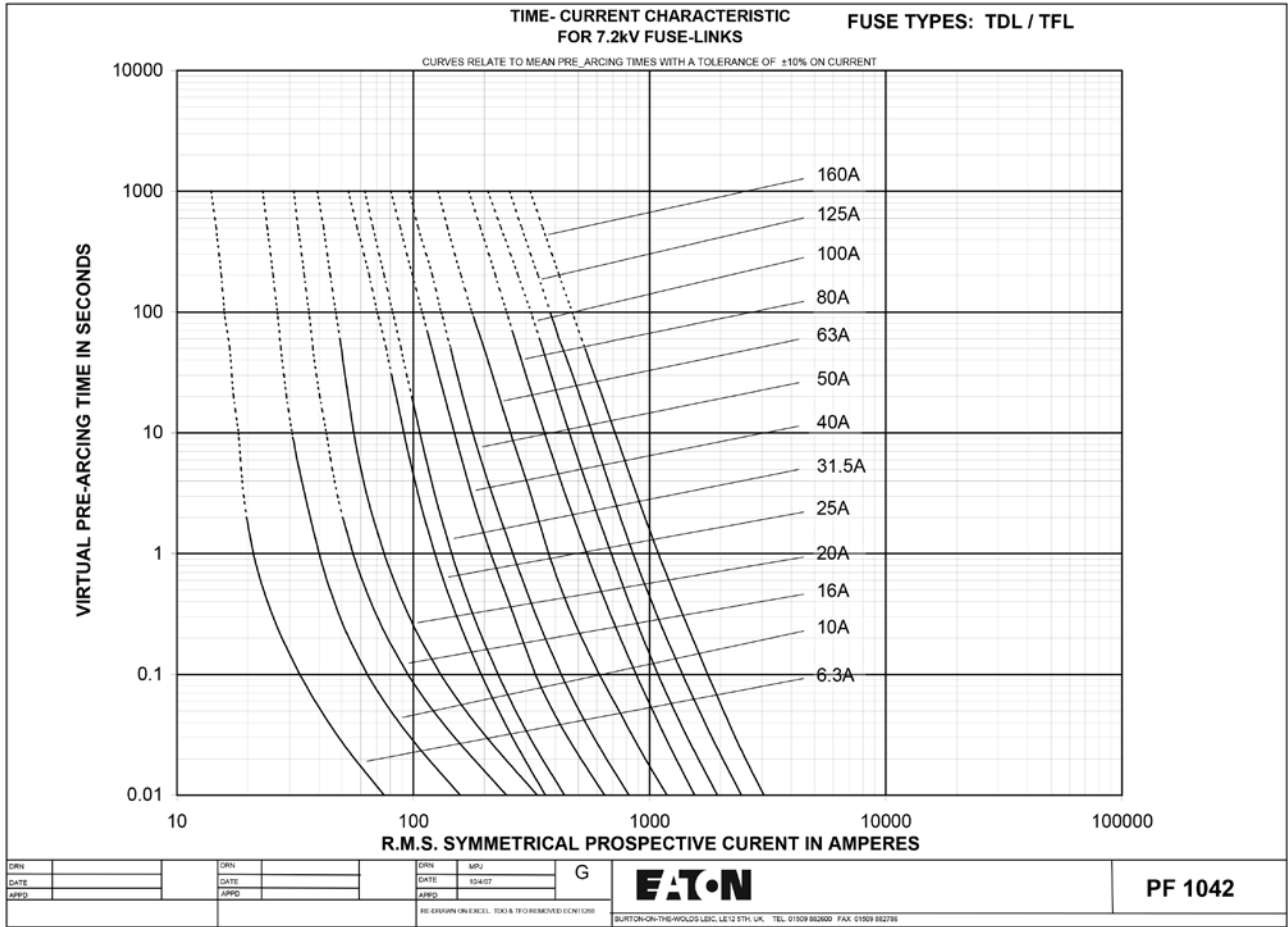
**Table 2. Cross reference**

| Eaton's Bussmann series | SIBA    | MESA       | Merlin Gerin | ABB             |
|-------------------------|---------|------------|--------------|-----------------|
| 7.2TDL SJ6.3            | 3009813 | N/A        | N/A          | 1YMB531034M0001 |
| 7.2TDL SJ10             | 3009813 | N/A        | N/A          | 1YMB531034M0002 |
| 7.2TDL SJ16             | 3009813 | N/A        | N/A          | 1YMB531034M0003 |
| 7.2TDL SJ20             | 3009813 | N/A        | N/A          |                 |
| 7.2TDL SJ25             | 3009813 | N/A        | N/A          | 1YMB531034M0004 |
| 7.2TDL SJ31.5           | 3009813 | N/A        | N/A          |                 |
| 7.2TDL SJ40             | 3009813 | N/A        | N/A          | 1YMB531034M0005 |
| 7.2TDL SJ50             | 3009813 | N/A        | N/A          | 1YMB531034M0006 |
| 7.2TDL SJ63             | 3009913 | N/A        | N/A          | 1YMB531034M0007 |
| 7.2TFL SJ80             | 3009913 | N/A        | N/A          | 1YMB531034M0008 |
| 7.2TFL SJ100            | 3009913 | N/A        | N/A          | 1YMB531034M0009 |
| 7.2TFL SJ125            | 3009913 | CF-7,2/125 | 757352 BN    | 1YMB531034M0010 |
| 7.2TFL SJ160            | 3010013 | CF-7,2/160 | 757352 BP    | 1YMB531034M0011 |

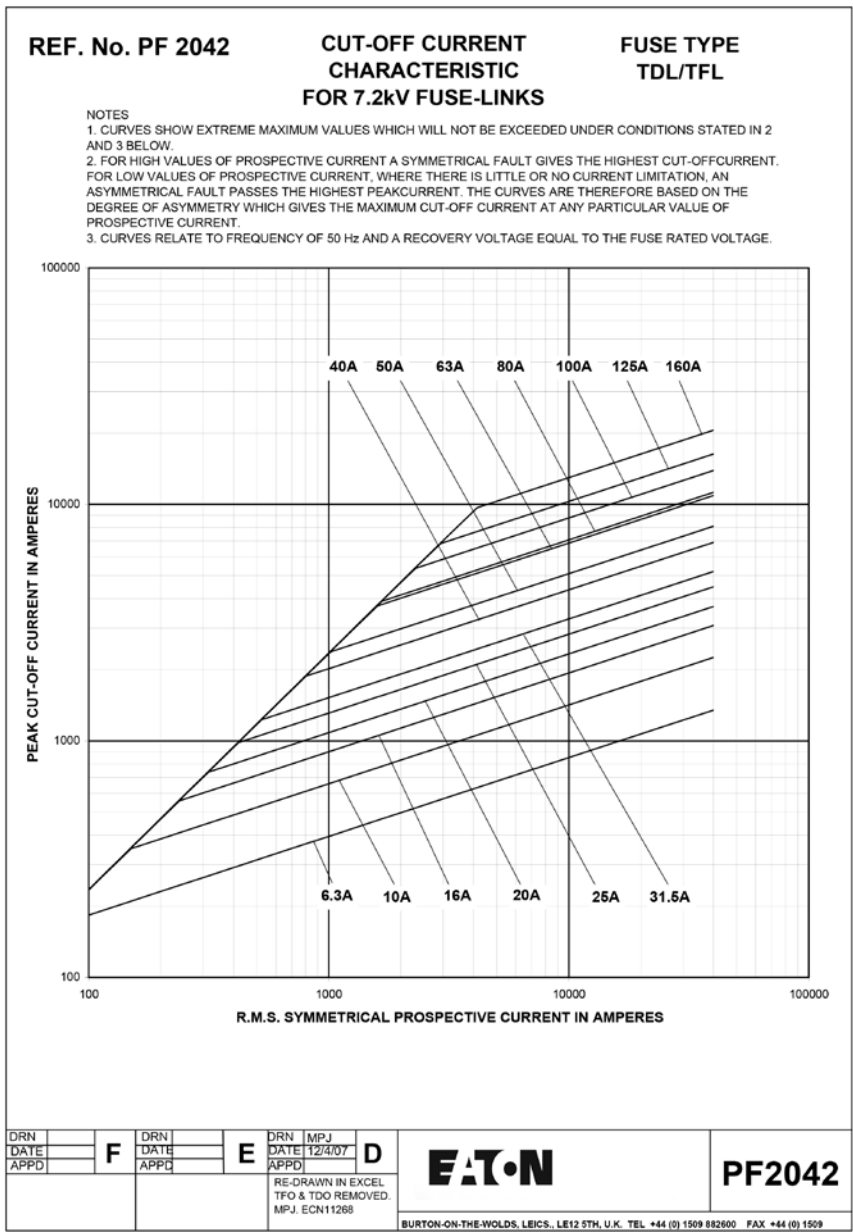
**Table 3. Watts loss**

| Eaton's Bussmann series | Eaton's Bussmann series | SIBA | MESA | Merlin Gerin | ABB |
|-------------------------|-------------------------|------|------|--------------|-----|
| 7.2TDL SJ6.3            | 11                      | 8    |      |              | 26  |
| 7.2TDL SJ10             | 19                      | 13   |      |              | 16  |
| 7.2TDL SJ16             | 23                      | 11   |      |              | 26  |
| 7.2TDL SJ20             | 27                      | 13   |      |              |     |
| 7.2TDL SJ25             | 28                      | 16   |      |              | 24  |
| 7.2TDL SJ31.5           | 36                      | 21   |      |              |     |
| 7.2TDL SJ40             | 36                      | 27   |      |              | 30  |
| 7.2TDL SJ50             | 46                      | 30   |      |              | 35  |
| 7.2TDL SJ63             | 45                      | 34   |      |              | 40  |
| 7.2TFL SJ80             | 54                      | 47   |      |              | 52  |
| 7.2TFL SJ100            | 64                      | 64   |      |              | 57  |
| 7.2TFL SJ125            | 79                      | 98   | 88   | 88           | 76  |
| 7.2TFL SJ160            | 97                      | 103  | 87   | 87           | 101 |

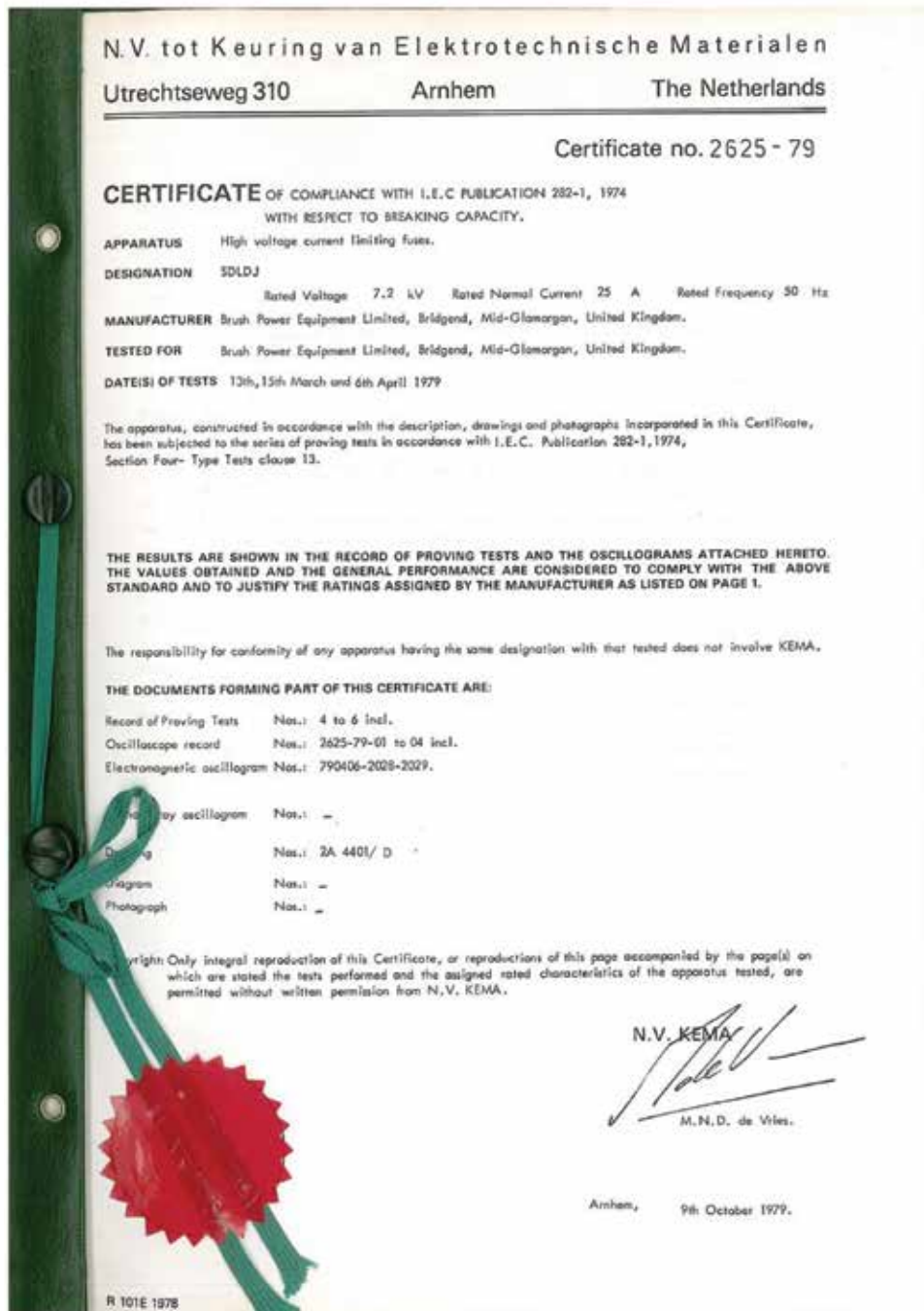
Time current curve - Fuse types TDL/TFL



Cut-off characteristics - Fuse types TDL/TFL



**KEMA certificate**



This certificate refers to **SDLDJ** 7.2 kV 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.10739-78

**CERTIFICATE** OF COMPLIANCE WITH I.E.C. PUBLICATION 282-1, 1974  
WITH RESPECT TO BREAKING CAPACITY.

APPARATUS High-voltage current limiting fuses.

DESIGNATION SDLDJ.  
Rated Voltage 7.2 kV Rated Normal Current 63 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 12th and 13th December 1978.

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 I.E.C. 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.: 10739-78-01 to 10739-78-04 incl.

Electromagnetic oscillogram Nos.: 781212-2022, 781213-2059-2060.

Cathode-ray oscillogram Nos.: -

Photograph Nos.: 2A 4387/B.

gram Nos.: -

Photograph Nos.: -

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N.V. KEMA  
M.N.D. de Vries.

Arnhem, 4th October 1979.

R 101E 1978

This certificate refers to **SDLDJ** 7.2 kV 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**



This certificate refers to SFLDJ 7.2 kV 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. 2624-79

**CERTIFICATE** OF COMPLIANCE WITH I.E.C PUBLICATION 282-1, 1974  
WITH RESPECT TO BREAKING CAPACITY.

APPARATUS High-voltage current limiting fuses.

DESIGNATION SFLDJ

Rated Voltage 7.2 kV Rated Normal Current 160 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 13th March and 6th April, 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 I.E.C 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.: | 2624-79-01 to 2624-79-04 Incl. |
| Electromagnetic oscillogram | Nos.: | 790406-2024-2025.              |
| Cathode-ray oscillogram     | Nos.: | -                              |
| Photograph                  | Nos.: | 2 A 4403/E.                    |
|                             | Nos.: | -                              |
|                             | Nos.: | -                              |
|                             | Nos.: | -                              |

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N.V. KEMA

M.N.D. de Vries

Arnhem, 9th October 1979.

R 101E 1978

This certificate refers to **SFLDJ** 7.2 kV 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**



This certificate refers to **SDLDJ** 7.2 kV 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



This certificate refers to **SDLDJ** 7.2 kV 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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