## COOPERBussmann

EXPULSION FUSE LINKS FOR USE IN HIGH VOLTAGE DISTRIBUTION CUT-OUTS


Bussmann expulsion fuse-links have been widely used throughout the world for over 40 years. They have in that time built up a formidable reputation and consistency of performance.

Bussmann expulsion fuse-links are designed to be interchangeable with other types of manufacturers cut-out units and are available in several patterns.

- Wide range of options available from 15 kV to 72 kV in ANSI T \&K characteristics
- Extra rapid option also available


## OPTIONS

PATTERN B A fixed NEMA button head link.
PATTERN U A universal link, with double tail and slip-off NEMA button head.
PATTERN D Double tailed link without NEMA button head.
PATTERN BR As pattern B but the button head is attached via a $1 / 4$ UNF thread to allow use of an extension rod.

## EXPULSION LINKS ARE AVAILABLE WITH THREE DIFFERENT TIME-CURRENT CHARACTERISTICS

TYPE T Complies with ANSI C 37-42 requirements for slow acting T characteristics.
TYPE K Complies with ANSI C 37-42 requirements for fast acting K characteristics.
TYPE XA This type of expulsion link has an extra rapid characteristic. It is suitable for applications where a high degree of system protection is required at the expense of discrimination.

The fuse-link assembly for a given range is standard for all rated voltages. The exception is that the tail length is varied to suit the dimensions of expulsion carrier of different ratings.

## ORDERING CODE REFERENCES

When ordering quote the following requirements:

| Example | Example |
| :--- | :--- |
| A Voltage rating in $\mathrm{kV}-15,25,46$ or 72 | 15 |
| B Type of time current characteristics $-\mathrm{T}, \mathrm{K}$ or XA | K |
| C Type of termination - B, U, D or BR | B |
| D Current rating in Amperes | $\mathbf{3 0}$ |

Thus a typical ordering reference for a 15 kV NEMA type K, button head 30A fuse-link would be: 15KB30 Expulsion Link

## SOLID LINKS

Solid links rated at 100A are also available in both button head and universal versions for fitting into expulsion fuse carriers where required. These can be ordered in a similar way using the abbreviation 'S', e.g. 15SB etc.

## PACKAGING

Expulsion fuse-links are packed in quantities of 25 (maximum) to the carton, up to and including 50A. From 60 A to 100 A , are packed in quantities of 10 . Where specially requested they can be individually packed. To avoid incorrect replacement the links have colour coded labels.

KEY: $\quad$ Pink Label: TYPE 'XA' $\mid$ Yellow Label: TYPE 'K' $\mid$ Green Label: TYPE 'T'

## APPLICATION NOTES

1 Expulsion fuse-links current ratings should be selected on the basis of maximum expected transient no-damage currents rather than on full-load current. In addition, the selection of higher current ratings will reduce the possibility of supply interruption due to transient surges such as those due to lightning strikes.

2 Links should be handled with a reasonable degree of care when installing. Excessively rough handling may damage the element.

3 It is normal, under certain fault conditions, for arc extinguishing material and/or metal particles to be expelled from the fuse assembly. It is therefore recommended that reasonable precautions be taken to prevent the installation being approached by unauthorised persons.

## TABLE OF CURRENT RATINGS (AMPERES)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| TYPE T | 1 | 2 | 3 | 5 | 6 | 7.5 | 8 | 10 | 12 | 15 | 20 | 25 | 30 | 40 | 50 | 60 | 65 | 75 | 80 | 100 |
| TYPE K | 1 | 2 | 3 | 5 | 6 | 7.5 | 8 | 10 | 12 | 15 | 20 | 25 | 30 | 40 | 50 | 60 | 65 | 75 | 80 | 100 |
| TYPE XA | 1 | 2 | 3 | 5 | 6 | 7.5 | 8 | 10 | 12 | 15 | 20 | 25 | 30 | 40 | 50 | 60 | 65 | 75 | 80 | 100 |

## TABLE OF LENGTHS MM 1-50 AMP // 60-100 AMP ILLUSTRATED BELOW

## 1-50 Amp



60-100 Amp


## Notes:

Type BR is similar to button head shown, except that the button head is attached via a $1 / 4$ UNF thread.

Tails can be cut to any length.

TIME CURRENT CHARACTERISTICS FOR TYPE 'T' EXPULSION LINKS
CURVES RELATE TO MINIMUM MELTING TIMES WITH VARIATIONS BEING PLUS ON CURRENT


CURRENT IN AMPERES

## TIME CURRENT CHARACTERISTICS FOR TYPE 'K' EXPULSION LINKS

CURVES RELATE TO MINIMUM MELTING TIMES WITH VARIATIONS BEING PLUS ON CURRENT


CURRENT IN AMPERES

