

## Professionally approved products.

### Datasheet

## BS88 Industrial Fuse

RS Stock number 413-793



The pullcap range of fuselinks is ASTA CERTIFIED to BS88 Part 1 1975 for a breaking capacity (or rupturing capacity) of 80kA at 415Vac and 40kA at 250Vdc. This means that it is ideal for applications where high prospective fault currents are likely as frequently found in industrial premises and, although not dimensionally standard they meet the supplementary requirements of BS88 Part 2 for industrial fuselinks.

The time current characteristics, as shown, are the nominal pre-arcing time/current relationships including tolerances, which lie within the appropriate standard zones of BS88 Pat 2. The virtual time shown on these graphs (pre-arcing time) is simply related to the more familiar  $I^2t$  value. It is this  $I^2t$  value divided by the square of the prospective breaking current.

All breaking capacity tests are performed at 50Hz but BS88: Part 1:1975 8.5.2.1 AC tests, states that 'when the rated frequency of the fuse is 50Hz...the tests shall be made at a frequency between 45Hz and 62Hz'. For frequencies less than 45Hz a decrease in voltage rating is required, the limiting value being the dc voltage rating. The absence of voltage zeros makes fuse operation more difficult in dc circuits hence the de-rating of voltage. For higher frequencies the  $I^2t$  let-through will decrease but the cut-off current will increase.

### BS88/BS1361 Fuselinks

Because of their higher breaking capacity and greater suitability for industrial use the BS88 cartridge fuselink is more expensive than its BS1361 'Domestic' counterpart. However, the latter type is used in switch fuses and switch splitters commonly found in industrial premises and the 30/A size is dimensionally the same as the 'Pullcap' BS88 type. If a smaller rated fused is required in such equipment, then a suitably rated 'pull-cap' type may be used. 30A fuses to BS1361 include Reyrolle F192, GEC D3030, Dormain Smith DSD30 and MEM 30LC.

### Applications

#### Cable protection

The pullcap industrial fuselinks to BS88:1975 have a class Q1 fusing factor which does not exceed 1.5. This makes them ideally \* suitable for close excess current protection of PVC cables. To comply with the 15th edition of the IEE wiring regulations 1981 section 433-2, the nominal current of the fuse must not exceed the lowest of the current-carrying capacities of any of the conductors of the circuits.

$$*Fusing\ factor = \frac{\text{minimum fusing current}}{\text{nominal current rating}}$$

#### Capacitor circuits

For power factor correction capacitors a current rating of at least 1.5 times the rated capacitor current is advised so as to take into account high inrush currents.

#### Fluorescent lighting, discharge lighting circuits

The normal current rating of the fuselink should be at least twice the maximum full load current to be switched.

#### Transformer loads

For fuselink protection on the primary side, the chosen value should be at least twice the nominal transformer primary current.

#### Motor loads

##### Direct on line start

max. f.l.c. A	recommended rating A	RS stock No.
0.5	2	413-787
1.0	4	413-793
1.5	5	413-800
3.5	10	413-816
6.0	16	413-822
7.5	20	413-838
10.0	25	413-844
13.0	32	413-850

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### Star-delta start

max. f.l.c. A	recommended rating A	RS stock No.
1.1	2	413-787
2.0	4	413-793
2.8	5	413-800
6.3	10	413-816
11.0	16	413-822
14.0	20	413-838
18.0	25	413-844
24.0	32	413-850

### Fuseholder assemblies

In order to facilitate the use of the pullcap range in motor control circuits, a suitable fuseholder assembly is available from RS (see current catalogue) which will fit on the 35mm wide top hat type DIN rail (RS stock no. 424-131) which is also popular for mounting motor control gear. This means that the protective fuse assemblies can be mounted alongside the contactors in small enclosures and in motor control centres.

